

# TECHNICAL MANAGEMENT TEAM

**BOR** : John Roache / Mary Mellema / Pat McGrane      **BPA** : Robyn MacKay / Tony Norris / Scott Bettin  
**NOAA-F**: Paul Wagner / Richard Dominique              **USFWS** : David Wills / Steve Haeseker  
**OR** : Rick Kruger / Ron Boyce                              **ID** : Russ Kiefer / Pete Hassemer  
**WDFW** : Cindy LeFleur                                        **MT** : Jim Litchfield / Brian Marotz  
**COE**: Jim Adams / Cathy Hlebechuk / Dan Feil

## TMT CONFERENCE CALL

Wednesday July 1, 2009 09:00 - 12:00

### CONFERENCE PHONE LINE

Conference call line:888-285-4585; PASS CODE = 601714

We have had disruptions on the phone because people are not hitting 'mute' after dial in.  
**Please MUTE your Phone**

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*All members are encouraged to call Robin Gumpert with any issues or concerns they would like to see addressed.  
Please e-mail her at [rgumpert@cnnm.net](mailto:rgumpert@cnnm.net) or call her at (503) 248-4703.*

## AGENDA

1. Welcome and Introductions
2. Finalize June 24 TMT Minutes and Facilitator Notes
3. SOR Treaty fishing - Kyle Dittmer, CRITFC
  - a. [SOR 2009-C2](#)
  - b. [Summer Commercial Gillnet Fishing Period](#)
4. Dworshak/Lower Snake River Temperature Modeling - Steve Hall, COE-NWW
  - a. [EPA Lower Granite](#)
  - b. [29 June 2009 Dworshak Thermocline](#)
  - c. [29 June 2009 Dworshak Temperature Modeling](#)
5. Operations Review
  - a. Reservoirs
  - b. Fish
  - c. Power System
  - d. Water Quality
6. Other
  - a. Set agenda for next meeting - **July 8, 2009**  
[\[Calendar 2009\]](#)

*Questions about the meeting may be referred to:*

*[Dan Feil](#) at (503) 808-3943, or  
[Karl Kanbergs](#) at (503) 808-3941*



## COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION

729 NE Oregon, Suite 200, Portland, Oregon 97232

Telephone 503 238 0667

Fax 503 235 4228

### SYSTEM OPERATIONAL REQUEST: 2009 C-2

TO: Colonel William E. Rapp COE-NWD  
James D. Barton COE-NWD-NP-Water Management  
Dan Feil, Karl Kanbergs COE-NWD-NP-WM-RCC  
Rock D. Peters COE-NWD-CM-F (Fish Management Office)  
Col. Steven R. Miles COE-Portland District  
J. William McDonald USBR—Pacific Northwest Regional Director  
Steven J. Wright BPA Administrator  
Steve Oliver, Greg Delwiche BPA-PG-5  
Robyn MacKay, Scott Bettin BPA-Operations Planning-PGPO  
Stan Speaks, Keith Hatch BIA, Northwest Regional Office

FROM: Rob Lothrop, *Interim Executive Director*

DATE: June 25, 2009

SUBJECT: **Operation of the Lower Columbia Pools for the Summer 2009 Treaty Fishery**

The Columbia River Inter-Tribal Fish Commission, on behalf of its members, the Nez Perce Tribe, the Confederated Tribes of the Umatilla Reservation, the Confederated Tribes of the Warm Springs Reservation, and the Yakama Nation, requests the following reservoir operations in “Zone 6” (Bonneville to McNary dams) during the 2009 summer Treaty fishery. Implement the following hydro-system operations during the summer ceremonial, subsistence, and commercial Treaty fishery times as established by the tribes and the Columbia River Compact.

SPECIFICATIONS: Implement the following operations as a hard system constraint, as follows:

**June 30th, 2009, 6 am, Tuesday, through 6 pm, July 2nd, 2009, Thursday.**

**Bonneville Pool: Operate the pool within a 1.0 foot band.**

**The Dalles (Celilo) Pool: Operate the pool within a 1.0 foot band.**

**John Day Pool: Operate the pool within a 1.0 foot band.**

At this time we anticipate additional treaty fisheries in July. CRITFC will notify the Corps with specific times for the tribal fishery after each Compact hearing, via a new SOR.

**JUSTIFICATION:**

The 2009 summer Treaty fishing season is of critical importance to CRITFC's member tribes. The escapement of an estimated **65,000** (Columbia at Bonneville Dam) adult summer Chinook (slightly above normal rank) and **183,000** sockeye (above normal rank), will create harvest opportunities for tribal fishers, who will exercise their treaty rights by participating in this harvest, using platform and in-river methods. This harvest will provide for the cultural, religious, and economic needs of the treaty tribes.

CRITFC will sponsor net flights each week to count the nets in each Zone 6 pool. The survey data will be shared with COE-RCC staff by early afternoon of the flight day. The June 23<sup>rd</sup>, 2009 survey showed 418 nets in the Zone 6 pools, as follows: 153 (37%) in Bonneville, 88 (21%) in The Dalles, and 177 (42%) in John Day.

Achieving good river conditions through managed river operations during the treaty fishery have been the basis of past litigation that have been supported by federal courts and are consistent with the trust and fiduciary responsibilities that the federal operators have with respect to CRITFC's member tribes. Good river conditions during the treaty fishery are also consistent with the spirit of the 10-year Memorandum of Agreements signed by tribal and Corps, BPA, and BOR officials.

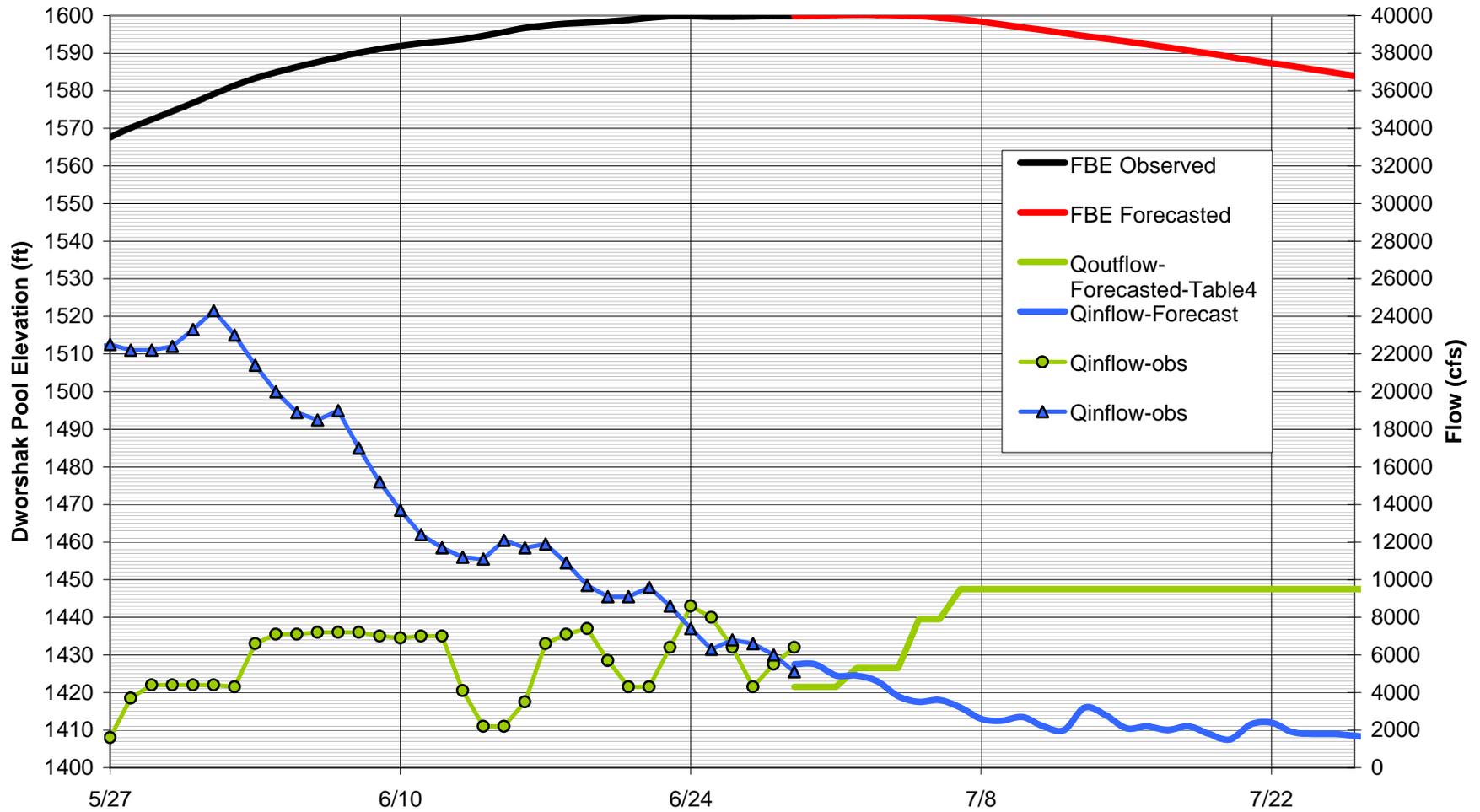
In past meetings with Corps officials, tribal fishers have explained that a pool fluctuation of 1.0 foot or more disrupts tribal fishery operations. Specific problems include: (1) increased local currents that sweep debris into fishing nets, (2) rapid 1-2 hour drops in water level will lead to entanglement of nets, (3) boat access problems, and (4) nets torn from their anchors. Nets and gear are costly to replace. Any delays or disruptions to tribal fishing operations caused by the excessive pool fluctuations in Zone 6 negatively impacts tribal incomes, food resources and cultural practices.

The fishers have also expressed to Corps officials that the loss of fishing opportunity during the extremely limited treaty fishery cannot be replaced. Much of the tribal fishers' annual income and food is generated during the brief treaty fishing season, thus, any delays or disruptions to their fishing operations caused by the excessive pool fluctuations in Zone 6 negatively impacts tribal incomes, food resources, and cultural practices.

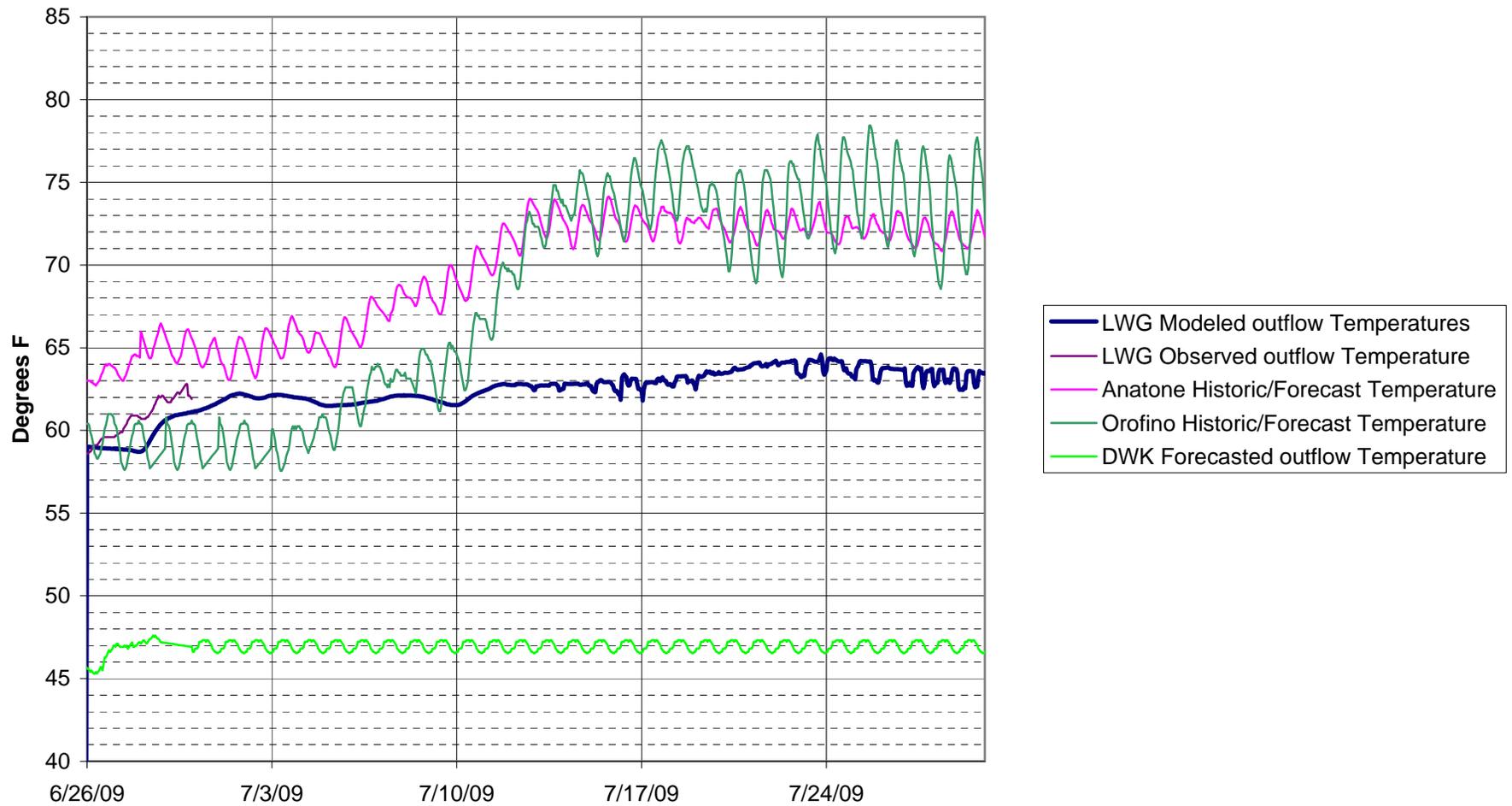
If this SOR cannot be accommodated, CRITFC requests a verbal response with an explanation from the federal operators by COB Friday, June 26, 2009. Thank you for considering this request. Please contact Kyle Dittmer or Bob Heinith should you have any questions at (503) 238-0667.

cc: TMT Members  
Tribal staffs

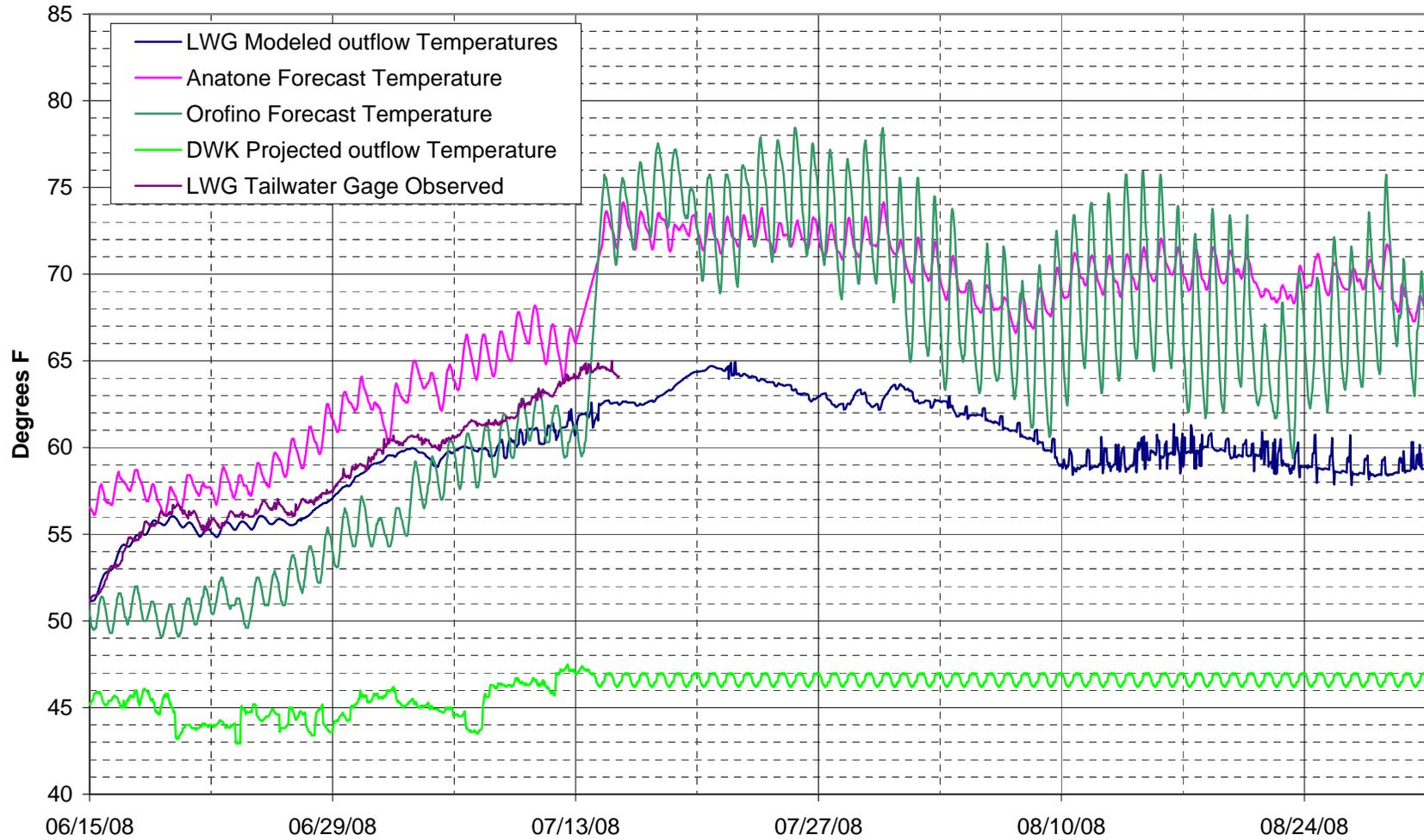
## Dworshak Reservoir June 29, 2009 Flow and Stage Projection



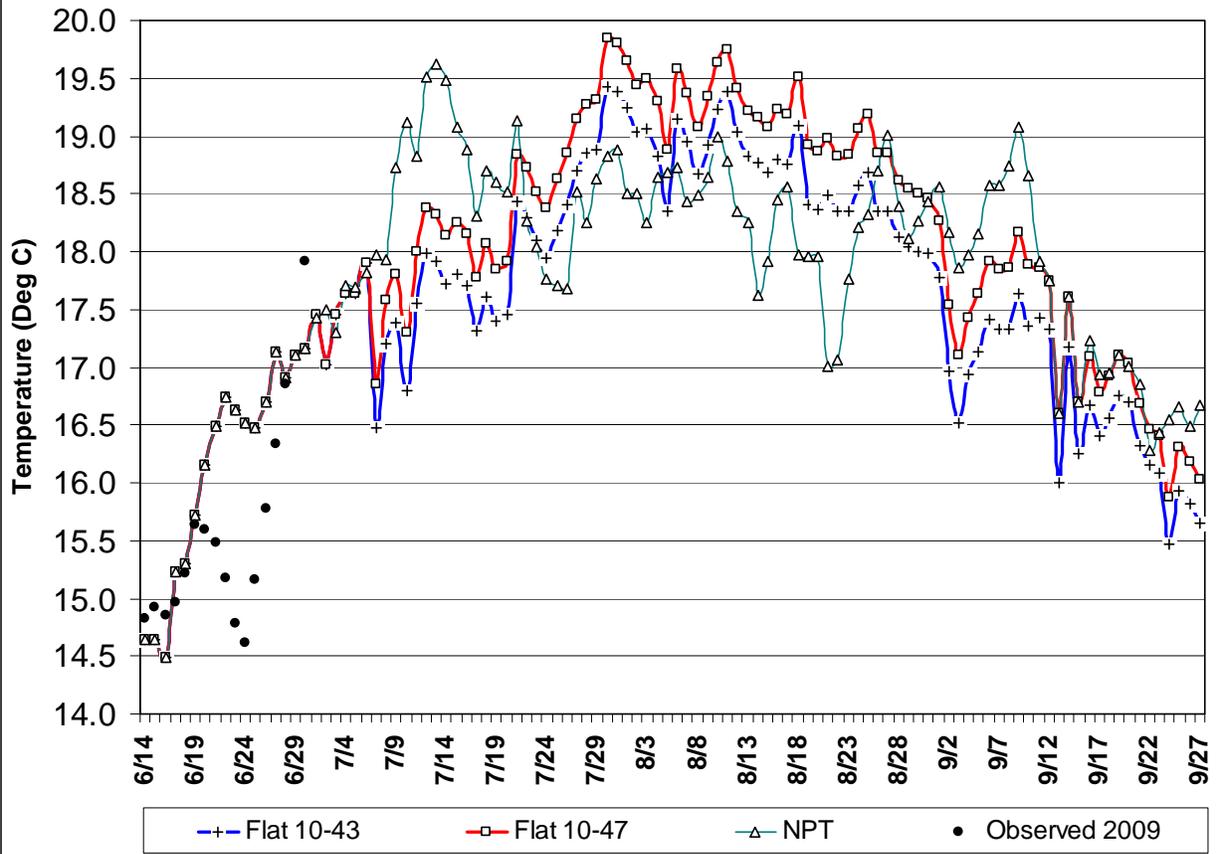
**Water Temperature Comparisons**  
**Observed data thru 6/29/09**  
**Forecast Temperatures from Year 2002 (Anatone and Orofino)**



**Water Temperature Comparisons**  
**Observed data thru 7/13/08**  
**Forecast Temperatures from Year 2002**

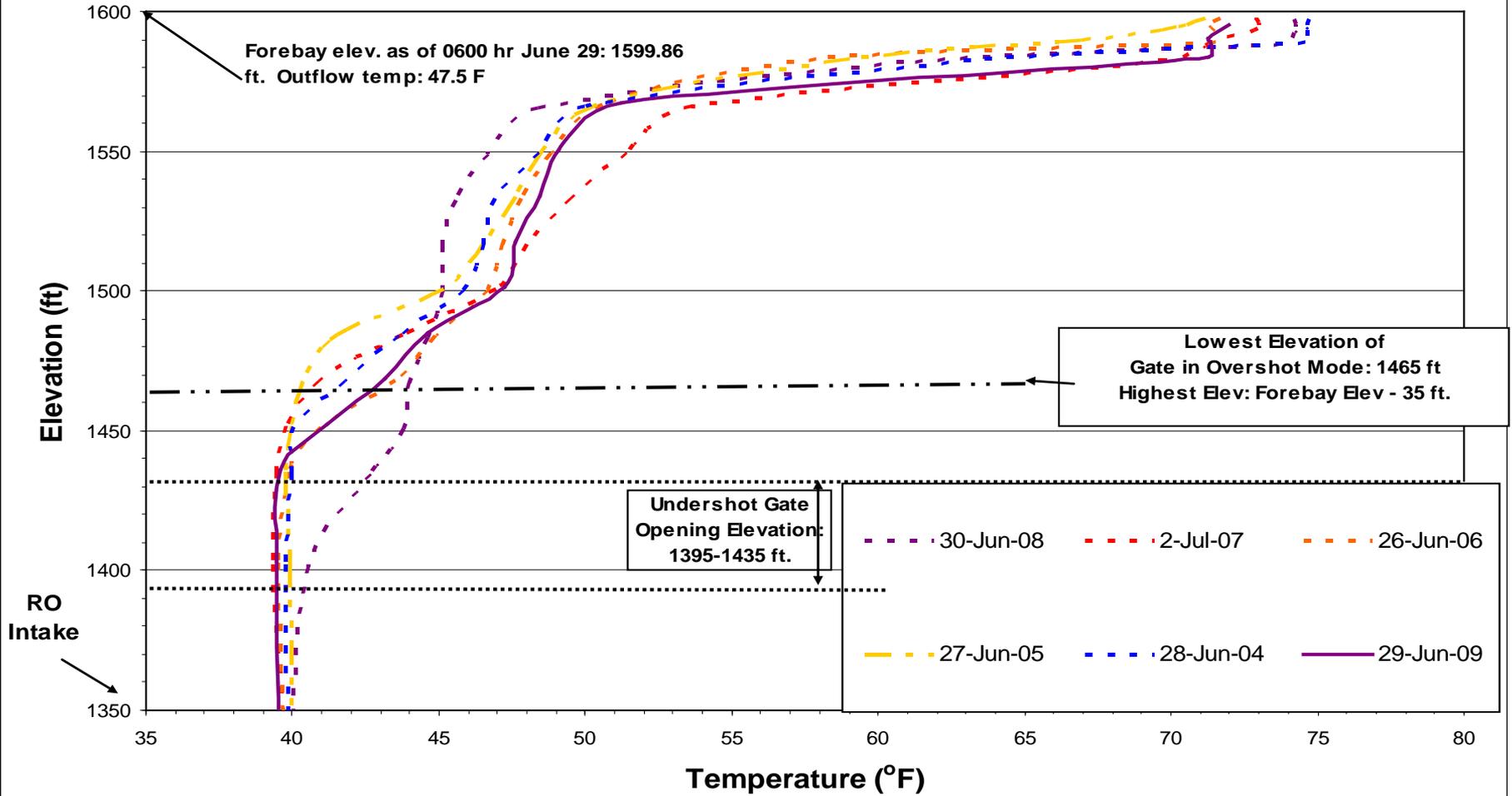


Snake at Lower Granite Dam (1976 & 1991 weather)



# Dworshak Forebay Thermocline 29 June 2009

(Data from Floating Temperature Stringer DWR\_S1 @ 0600 hr)



**Scaffold Fishery Sales Continue**  
**Summer Commercial Gillnet Fishing Period Adopted**  
**June 30 – July 2**  
**Thursday, June 25, 2009**

Today, the Compact states of Oregon and Washington concurred with the tribal regulations for the following Zone 6 spring commercial fishery openings:

**PLATFORM/SCAFFOLD/HOOK AND LINE SALES**

**AREA:** All of Zone 6

**DATES:** Continues until further notice.

**GEAR:** Hoop Net, Dip Net, and Hook and Line.

**ALLOWABLE SALES:** Chinook, steelhead, sockeye, coho, walleye, shad, yellow perch, bass, and carp may be sold or retained for subsistence. Sturgeon may not be sold, but sturgeon from 43 to 54 inches fork length in The Dalles and John Day Pools and from 38 to 54 inches total length in the Bonneville Pool may be kept for subsistence purposes.

**SANCTUARIES:** All dam sanctuaries for these gear types shall remain in effect.

**Subsistence Fishing:**

The scaffold fishery remains open for subsistence use all year.

**COMMERCIAL GILLNET SEASON**

**AREA:** All of Zone 6

**DATES:** 6:00 AM Tuesday June 30 through 6:00 PM Thursday July 2 (2.5 days).

**GEAR:** There will be no minimum mesh size restriction.

**ALLOWABLE SALES:** Chinook, steelhead, sockeye, coho, walleye, shad, yellow perch, bass, and carp may be sold or retained for subsistence. Sturgeon may not be sold, but sturgeon from 43 to 54 inches fork length in The Dalles and John Day Pools and from 38 to 54 inches total length in the Bonneville Pool may be kept for subsistence purposes. Sales of fish caught during the open period for gillnet fishing are allowed after the end of the open period as long as the fish were landed during the open period.

**SANCTUARIES:** All standard river mouth and dam sanctuaries shall remain in effect, with the exception of the Spring Creek Hatchery sanctuary, which is not necessary this time of year.

Additional gillnet fisheries will likely be scheduled at a later date dependant on catches in the first two openings and the actual return of summer Chinook and sockeye.

\*\*\*\*\*

Sales are also allowed for fish caught in overlapping portions regularly scheduled Yakama Nation subsistence fisheries in the Wind River, Big White Salmon River, and the Klickitat River. Please contact the Yakama Fisheries Office (509-865-5121) for exact times and dates.

\*\*\*\*\*

If you have any fishing enforcement problems or need assistance or information, day or night, contact the Columbia River Inter-Tribal Fisheries Enforcement Office, 4270 Westcliff Drive, Hood River, Oregon. Phone: (541)-386-6363 or toll-free (800)-487-FISH (3474). **Please consult your tribal Fish and Wildlife Committee for additional details on tribal regulations. PLEASE WEAR YOUR LIFE JACKETS FOR SAFETY.**

# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

July 1, 2009 Conference Call

### FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Erin Halton

Notes: Christa Leonard

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.

#### **Review of Minutes/Agenda**

No further edits were made to 6/17 and 6/24 the facilitator's notes / official meeting minutes and both sets were considered final.

#### **SOR Treaty fishing**

Kyle Dittmer, CRIFTC, reviewed SOR 2009-C2 posted as a link to the agenda submitted by Tribes requesting that Bonneville, John Day and The Dalles' pools be kept at a one foot hard constraint from 6:00am on 6/30 – 7/2 at 6:00pm. He added that there would be a COMPAC meeting held later in the day on 7/1 and said the COE could expect to see a new SOR to be submitted after 3:00pm. Jim Adams, COE, acknowledged that the COE had yet to post to the web the dispositions on 2009 Treaty Fishing SOR's; he said they would likely be caught up on postings within the next week. Adams clarified that for Saturday July 4<sup>th</sup>, operations will be at full pool at Bonneville to accommodate the Hood River fireworks display.

**Action/Next Steps:** The COE said they planned to operate the pools as they have in years past: Bonneville under a 1' soft / 1.5' hard constraint; The Dalles under a 1.5' soft / 3' hard constraint; and John Day under a 1.5' hard constraint. If there are any issues with operations transitioning out of the holiday weekend, the COE will send out notice via email. This item will be on the agenda for the 7/8 TMT meeting.

#### **Dworshak/Lower Snake River Temperature Modeling**

Kyle Dittmer, CRITFC, referred to an EPA-generated graph posted to agenda. He said that temperatures were a bit higher in the Lower Snake than the model captured. Jim Adams, COE, referred TMT to a thermocline data graph, which showed 2009 temperatures tracking similar to those observed in 2007. Adams said that Dworshak was currently operating with one large unit and outflows of 5.3 kcfs, temperatures were in the range of 46.5-47°F, the pool was at elevation 1600' (full pool.) Temperatures at Lower Granite were at 64°F. Steve Hall, COE, referred TMT to three graphs posted to the agenda and acknowledged that due to technical issues, the modeling had not been completed in time for the FPAC meeting held on 6/30. Hall noted that the first graph showed observed hydrograph data through 6/29, and said the COE expects that cooling releases will be necessary over the 4<sup>th</sup> of July weekend to maintain desired temperatures of below 68°F at Lower Granite with Dworshak discharges in the 45-47°F range. Dave

Wills, on behalf of the Salmon Managers, said that at the FPAC meeting on 6/30, there was regional support (from Nez Perce Tribe, WA, NOAA, ID, USFWS and CRITFC) for a weekend operation that would use temperature triggers for shifts in outflows. Wills described the recommendation as follows: maintain minimum outflows of 5 kcfs (using 1 large or two small units) through midnight 7/5, then increase to full powerhouse (~9.8 kcfs) on 7/6 at 12:00 a.m. Between now and then, use rolling 12 hour average temperatures at Lower Granite as triggers; if temperatures reach 18.5°C/65.3°F, increase outflows to 7.5 kcfs, and if the temperatures reach 19°C/66.3°F, increase outflows to full powerhouse (~9.8 kcfs).

TMT members discussed the most recent temperature data and the likelihood of Lower Granite reaching 65.3°F within the next day or so. Dave Statler, Nez Perce Tribe, noted that the natural flows out of the Clearwater River will continue to warm and suggested drafting the coolest water temperature possible, relative to the volume of water in the Dworshak pool. TMT members discussed using a temperature target of 45° through the weekend. Wills reported that the Dworshak Hatchery was okay with temperatures in the range of 44.5-45.5°F. As such, the COE proposed a slight amendment to the Salmon Managers' proposal: beginning at 0600 hours on 7/2, ramp up Dworshak outflows to ~7.3 kcfs using one large unit and one small unit in undershot and hold steady until midnight on 7/5, with a target temperature of 45°F. If the rolling 12 hour average at Lower Granite begins to exceed 19°C/66.3°F, the COE will ramp up outflows to full powerhouse. If temperatures do not exceed 19°C, the COE will continue operating with outflows at ~7.3 kcfs.

The following parties weighed in on the amended proposed operation for Dworshak:

- USFWS: no objection.
- BPA: no objection.
- NOAA: no objection.
- BOR: no objection.
- ID: no objection.
- MT: no objection.
- Also: Kyle Dittmer, CRITFC: no objection.

**Action:** The COE will operate Dworshak as stated above, beginning at 0600 hours on 7/2.

### **Operations Review**

**Reservoirs:** Grand Coulee was at elevation 1284.3' and on track to reach elevation 1290' by the end of the weekend. Hungry Horse was at 3556.74', with outflows of 2.2 kcfs. Libby was at elevation 2432', with outflows of 12.0 kcfs and planning a slow step down in outflows through July 12<sup>th</sup> to 7 kcfs (Bull Trout minimums.) Albeni Falls was at full pool and passing inflows of about 30 kcfs. Dworshak was at full pool and had outflows of 5.3 kcfs. Lower Granite flows were ranging between 70-75 kcfs, down from 80 kcfs earlier in the week. Regarding the TSW, Adams said that the COE plans to shift to the high crest position once there have been 3 days with flows of 75 kcfs or less. FPOM members Dave Wills and Russ Kiefer had no objections but cautioned the COE to

provide good egress conditions during the shift. McNary flows were between 175-200 kcfs and flows at Bonneville were in the range of 210-245 kcfs.

Fish: Russ Kiefer, ID, noted that PIT tag data for sockeyes over Bonneville were slightly above what they were last year and Dave Statler, Nez Perce Tribe, said that there had been one adult Pacific lamprey observed so far this year.

Power System: Tony Norris, BPA, noted that CGS went down last Friday.

Water Quality: Jim Adams, COE, noted that TDG levels were fairly normal for this time of year. Bonneville planned to lower spill levels to 125 kcfs later in the day on 7/1.

Other:

**TMT Schedule**: Face to Face meeting scheduled for July 8<sup>th</sup> at 9:00am.  
July 8th meeting agenda items include:

- Finalize July 1st TMT Minutes and Facilitator Notes
- Follow up Treaty Fishing SOR's
- Review Dworshak Operations
- Review Libby Operations
- Operations Review

**Columbia River Regional Forum  
Technical Management Team Conference Call  
July 1, 2009**

***1. Introduction***

Today's TMT call was chaired by Jim Adams (COE) and facilitated by Erin Halton (DS Consulting), with representatives of NOAA, COE, Montana, Nez Perce Tribe, BPA, Idaho, BOR, USFWS, CRITFC, FPC and others participating. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

***2. Review Meeting Minutes for June 17 and 24, 2009***

There were no comments on any of these notes today so they are presumed final.

***3. SOR Treaty Fishing***

Kyle Dittmer (CRITFC) presented the SOR submitted by CRITFC last week for an additional week of treaty fishing. It requests a hard system constraint of 1-foot variance at Bonneville, John Day and The Dalles pools from 6 am Tuesday, June 30, to 6 pm Thursday, July 2.

There could be another fishery SOR submitted today or tomorrow, probably late afternoon today. The COE will need time to teletype instructions to project operators before the holiday weekend begins Friday, Adams said.

Dittmer presented the results of CRITFC's latest net flight. There were 418 nets in the three pools, and of these, 153 (37%) were at Bonneville, 88 (21%) were at The Dalles, and 177 (42%) were at John Day. These proportions are typical of summer operations.

The COE plans to provide the same operation it has for past tribal fisheries, Adams said. Bonneville pool will operate within a 1-foot band as a soft constraint and a 1.5-foot band as a hard constraint. The Dalles will operate within a 1.5-foot band as a soft constraint and a 3-foot band as a hard constraint. John Day will operate within a 1.5-foot band as a hard constraint. In addition the Bonneville pool will be kept as full as possible over the 4<sup>th</sup> of July weekend for the sake of fireworks. There was agreement that this operation won't impact treaty fishing, as it's scheduled for after the SOR ends and fishers will be taking the weekend off. Dittmer said he will notify platform fishers, who can fish at any time, to expect water levels to reach 75.8 feet for 1 hour at Bonneville on Saturday, July 4.

CRITFC has several options on the table for handling the transition period from high pool and will communicate offline with the COE later today, Dittmer said. Any further information on this topic will be disseminated via email.

Dave Statler (NPT) asked when dispositions on the treaty fisheries will be available on the TMT page. The work can't be done until the operation is complete and results are tabulated for the times requested by the SOR, Adams said. These will be posted to the TMT website soon. Dittmer will also provide a summary of this year's treaty fishery, probably in July.

#### ***4. Dworshak and Lower Snake River Temperature Modeling***

Dittmer presented a graph of EPA's modeling results of temperatures at Lower Granite Dam. The weather has been warming up the past few days and temperatures on the Snake River are higher than the model predicted.

Adams presented a thermocline of Dworshak temperatures as of June 29, 2009, as compared with temperatures in 5 previous years. This year resembles the 2005 season most closely. Currently Dworshak is operating with one large unit in overshoot mode, producing water of 46.5-47 degrees F. That is perfect for the hatchery, Dave Wills (USFWS) said. Dworshak reservoir is full at 1600 feet elevation and passing inflows. The thermocline, like the EPA modeling results, indicates higher temperatures in upper reservoir elevations this year than in previous years. Observed temperatures are about 2 degrees higher than what the CEQUAL WII model predicted, Steve Hall (COE) said. Flows at Lower Granite have been increasing by about 1 degree F per day over the past few days.

The COE's plan is to ramp Dworshak up to 1 big and 1 small unit, or a little less than 8 kcfs flows in order to maintain appropriate temperatures over the weekend, then potentially step up to full powerhouse flows after the weekend as needed. Early next week is when the COE predicts cooler weather so additional water may not be needed to keep temperatures at Lower Granite from exceeding 68 degrees F.

Dittmer wondered why temperatures are turning out warmer than expected, given this year's cold spring and delayed runoff. It's a function of the upper elevation of the pool, which gets stirred up by wind with the colder spring runoff water sinking to the bottom of the pool as runoff occurs, Hall said.

A third graph attached to this item on the agenda predicts Dworshak temperatures based on the recent sharp rise in temperatures. It shows modeling results based on using 2002, an average year as a forecast of temperatures that generally produces good near-term temperature forecasts. Based on observed data as of June 29, inflows have started dropping off. Operators switched to the big unit last night, or 5.3 kcfs outflows, when the pool reached 1600 feet.

Wills presented the Salmon Managers' recommendation, developed yesterday at FPAC without benefit of these graphs, which couldn't be completed until today due to problems with the model. FPAC's consensus recommendation, endorsed by CRITFC, the Nez Perce, Washington, NOAA, USFWS and Idaho, was to maintain 5 kcfs outflows from Dworshak using either 2 small units or 1 big unit through the weekend, then increase to full powerhouse capacity at midnight Sunday, July 5. The Salmon Managers identified triggers for changing the operation: If temperatures exceed 18.5 degrees C (65.3 degrees F on a 12-hour rolling average) over the weekend, ramp up outflows to a big and small unit (7.5 kcfs). If the rolling 12 hour average temperatures exceed 19 degrees C, ramp up to full powerhouse (10 kcfs) outflows immediately, instead of waiting until midnight Sunday.

In light of the new modeling information, the COE proposed to the Salmon Managers a slight adjustment in this plan: begin ramping up to 1 big and 1 small unit tomorrow morning, then to full powerhouse flows Monday morning, with a provision to start the full powerhouse operation sooner if temperatures exceed 19 degrees C on a 12-hour rolling average before Sunday. The impact of increasing the Dworshak operation to 2 units will probably hit Lower Granite in 2.5 to 4 days at current high flows.

This year has been generally cooler than most of the previous 5-6 years. On June 30, 2005, the temperature of Lower Granite outflows was 63.5 degrees F. On June 30, 2006, it was 66.7 degrees F; in 2007, it was 67.5 degrees F; and in 2008, 55.6 degrees F. This year's temperature of 62.4 degrees F is closest to 2005 conditions.

Apparently there would be no problem at the hatchery if temperatures are 45 degrees F over the weekend, Wills said, with reevaluation as flow augmentation increases next week. The current operation of the big unit in overshot mode is producing water that's about as cold as it can get in that position, but it might be possible to get colder water by mixing other units in undershot mode, Hall said.

Adams suggested operating the small unit in undershot mode and raising the gates in the big unit for more flexibility in temperature management; Hall said that could be done. It's also possible to target 45 degree outflows as the weekend target by adopting a range of 44.5-45.5 degrees F. That would be fine from a hatchery perspective as long as they know, and that 45 degrees is better than 44, Wills replied. It might be better to run the operation on the warmer side rather than use too much cold water now, Karl Kanbergs (COE) advised. This was acceptable to USFWS, so the COE proposed a range of 45.5-46.5 degrees F. Dave Statler said the coldest acceptable water is best because inflows in the Clearwater River above the north fork are declining.

TMT finally settled on a range of 44.5-45.5 degrees F at Lower Granite for the sake of operational flexibility. Idaho, BOR, BPA, Montana, Nez Perce Tribe, NOAA and CRITFC approved of this operation.

Beginning at 6 am July 2, the COE will increase Dworshak outflows to 2 units, with the small unit in undershot mode and the big unit in overshot mode, or approximately 7.3 kcfs outflows with a target of 45 degrees F. That operation will continue until 6 am Monday, July 6, unless the rolling 12-hour average tailwater temperature at Lower Granite exceeds 19 degrees C (around 66.2 degrees F). If that occurs, the operation will increase to full powerhouse capacity over the weekend. If it doesn't occur, the operation will switch to full powerhouse (3 units in optimal range) or 9.8 kcfs outflows Monday morning. It's time to start drafting the reservoir, according to information in the STP runs, in order to meet the 1,535 foot elevation target, Adams said. TMT will revisit the augmentation operations at its July 8 meeting.

## **5. Operations Review**

**a. Reservoirs.** Grand Coulee is at elevation 1,284.3 feet, headed toward full at 1,290 feet by the morning of July 6.

Hungry Horse is at elevation 3,556.74 feet and discharging 2.2 kcfs, with inflows dropping and the reservoir slowly filling. Inflows are now 5.5 to 6 kcfs.

Libby is at elevation 2,432 feet with outflows of 12 kcfs. The operation will slowly step down as part of transitioning from the sturgeon pulse to bull trout minimums of 7 kcfs.

Albeni Falls is full and passing inflows of approximately 30 kcfs.

Dworshak reservoir is full at 1600 feet as discussed earlier, with the operation changing tomorrow morning to 7.4 kcfs outflows.

Inflows have been dropping at Lower Granite from a high of 80 kcfs earlier this week. This affects the Little Goose temporary spillway weir. The TSW crest is supposed to be switched to the high position when there are 3 days of flows of 75 kcfs or less. FPOM sent out a notice asking whether it would be acceptable to change the crest from the high to the low position on Monday, July 6; USFWS found this acceptable while Idaho emphasized the importance of making sure that the low position of the crest would provide good egress conditions in the tailrace over the 4<sup>th</sup> of July weekend. There were no objections to the COE's plan to move the TSW crest into the low position on July 6.

Seven-day averages are 248 kcfs at McNary, 83.7 kcfs at Lower Granite, and 152 kcfs at Priest Rapids.

**b. Fish.** Increases in PIT-tagged adult returns at Lower Granite indicate that sockeye returns to the lower Snake River might be higher this year than last, Russ Kiefer (Idaho) reported.

**c. Power System.** The Columbia generating station went out of service June 26, which is why the Grand Coulee reservoir elevation is lower now than predicted, Tony Norris (BPA) reported.

**d. Water Quality.** TDG levels on the lower Columbia River are rising, which is typical this time of year, Adams said. The Camas Washougal gage becomes the primary gage controlling spill at Bonneville, and potentially even at The Dalles. Due to exceedances of 115.7% TDG at Camas Washougal gage yesterday, spill at Bonneville will be lowered to 125 kcfs tonight.

### **8. Next Meeting**

The next regular TMT meeting will be July 8, 2009. Follow-up on treaty fishing, Dworshak operations, Libby operations, and the usual operations review will be on the agenda. Dan Feil will step into his new role as TMT chair as of the July 8 meeting. This summary prepared by consultant and writer Pat Vivian.

<b>Name</b>	<b>Affiliation</b>
Rich Dominigue	NOAA
Jim Adams	COE
Jim Litchfield	Montana
Dave Statler	Nez Perce Tribe
Mike Butchko	Powerex
Russ George	WMC
Steve Hall	COE Walla Walla
Doug Baus	COE
Laura Hamilton	COE
Kim Johnson	COE
Dan Feil	COE
Karl Kanbergs	COE
Tony Norris	BPA
Russ Kiefer	Idaho
John Roache	BOR
Scott Bettin	BPA
Dave Wills	USFWS
Richelle Beck	DRA
Ruth Burris	PGE
Margaret Filardo	FPC
Eric Volkman	BPA
Tom Le	Puget Sound Energy
Glen Trager	Shell Energy
Tim Heizenrader	Centaurus
Tracy Schwartz	COE Walla Walla
Rudd Turner	COE

# TECHNICAL MANAGEMENT TEAM

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**COE**: Dan Feil / Steve Barton

## TMT MEETING

Wednesday July 8, 2009 09:00 - 12:00

1125 N.W. Couch Street, Suite 4A34  
Portland, Oregon 97209-4142  
Map Quest [\[Directions\]](#)

### CONFERENCE PHONE LINE

Conference call line:888-285-4585; PASS CODE = 601714

To check into the building, take the elevator to the 5th floor and the guard will issue you an ID badge if you need one and will take you down to the meeting room on the 4th floor. If you have NOT attended a TMT meeting in the past you will need to call ahead and let Dan Feil (503) 808-3943 or Steve Barton (503) 808-3945 know, so you can be added to the TMT Visitor List and issued an ID badge. This badge may be used indefinitely. If you have attended TMT in the past you may re-use your ID badge indefinitely. If you are a federal employee you will also need to have an ID badge issued to you which can be used indefinitely.

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**Please MUTE your Phone**

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*All members are encouraged to call Robin Gumpert with any issues or concerns they would like to see addressed.  
Please e-mail her at [rgumpert@cunnv.net](mailto:rgumpert@cunnv.net) or call her at (503) 248-4703.*

## AGENDA

1. Welcome and Introductions
2. Review Meeting Minutes for July 1, 2009 [\[Meeting Minutes\]](#)
3. Review Dworshak Operations - Dan Feil, COE-RCC/Steve Hall, COE-NWW
  - a. [Lower Granite Tailwater Temperature](#)
  - b. [Dworshak Flow and Stage Projection](#)
  - c. [Lower Granite Water Temperature Forecast](#)
4. Follow up on Treaty Fishing SOR's - Kyle Dittmer, CRITFC
  - a. [SOR 2009-C3](#)
5. Review Libby Operations - Dan Feil, COE-RCC/Amy Reese, COE-NWS
  - a. [Libby Forecast Comparison](#)
  - b. [Libby Dam](#)
6. McNary Juvenile Transport - Dan Feil, COE-RCC

7. Little Goose Low Flow Operations - *Dan Feil, COE-RCC*
8. Operations Review
  - a. Reservoirs
  - b. Fish
  - c. Power System
  - d. Water Quality
9. Other
  - a. Set agenda for next meeting - **July 15, 2009**
  - b. [\[Calendar 2009\]](#)

*Questions about the meeting may be referred to:*

*[Dan Feil](#) at (503) 808-3943, or*

*[Steve Barton](#) at (503) 808-3945*

## Dworshak Reservoir July 6, 2009 Flow and Stage Projection

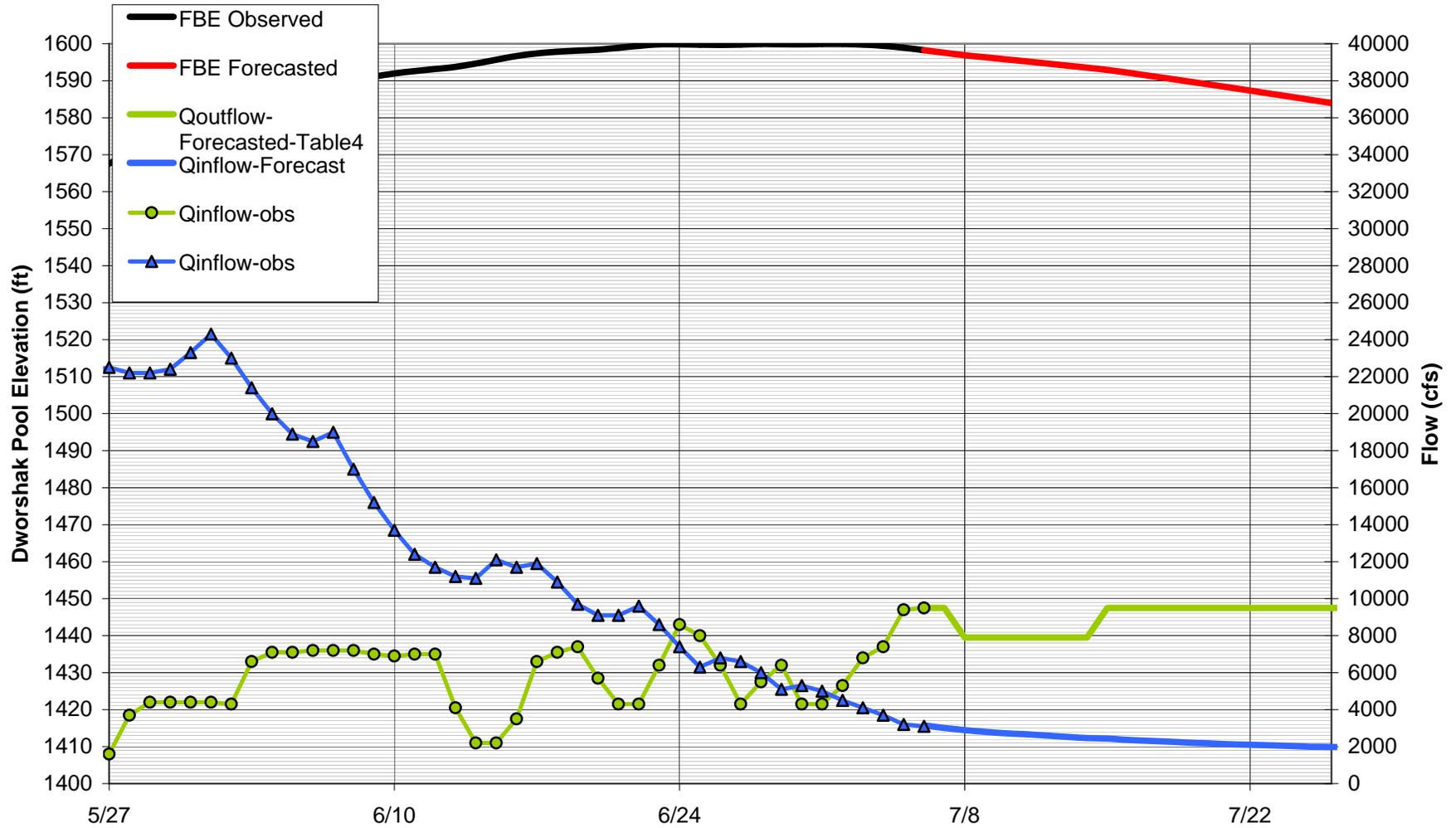
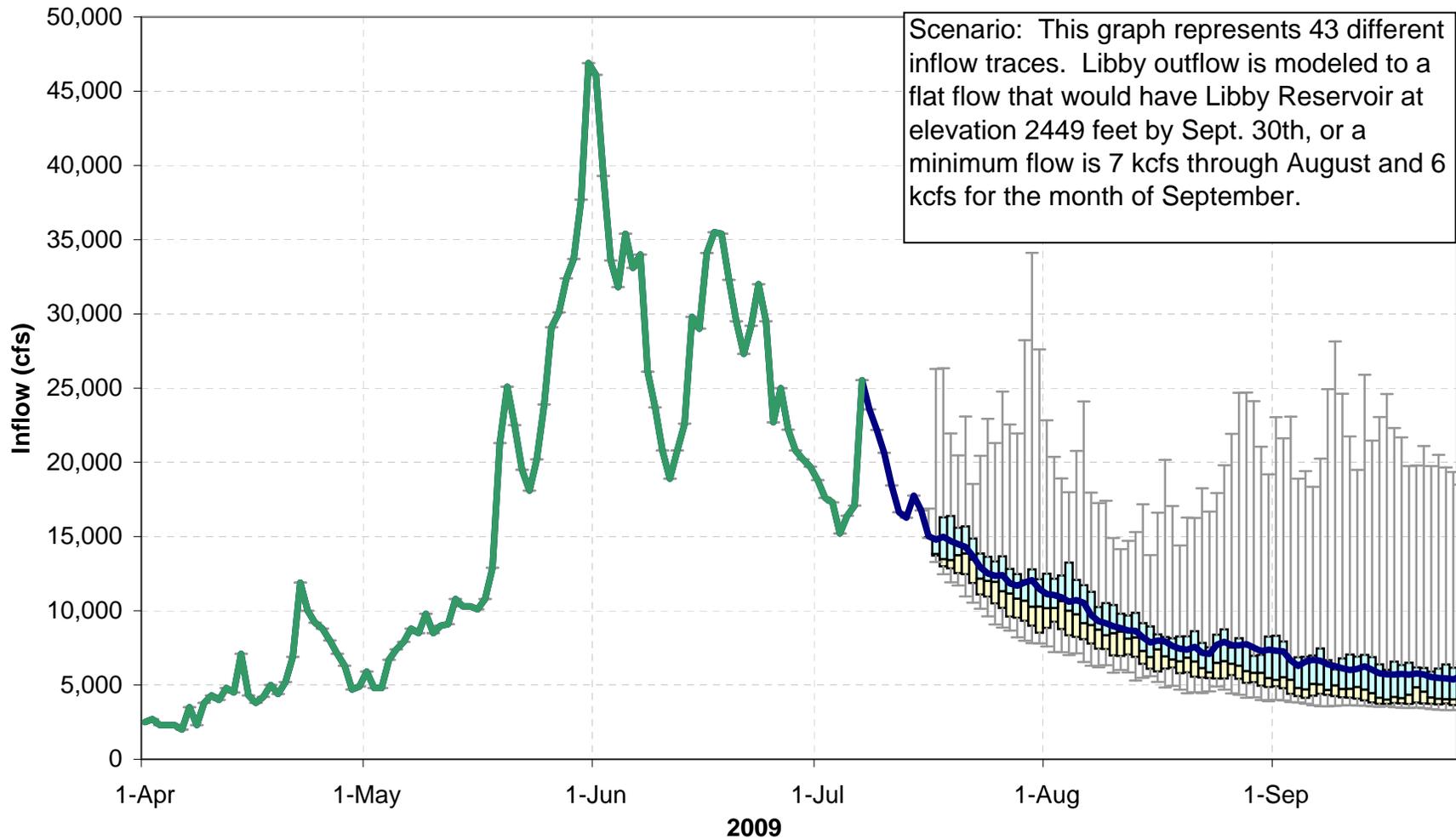


Figure 1: Forecasted Libby Dam Inflow

ESP Traces from 07 July, 2009



25th Percentile

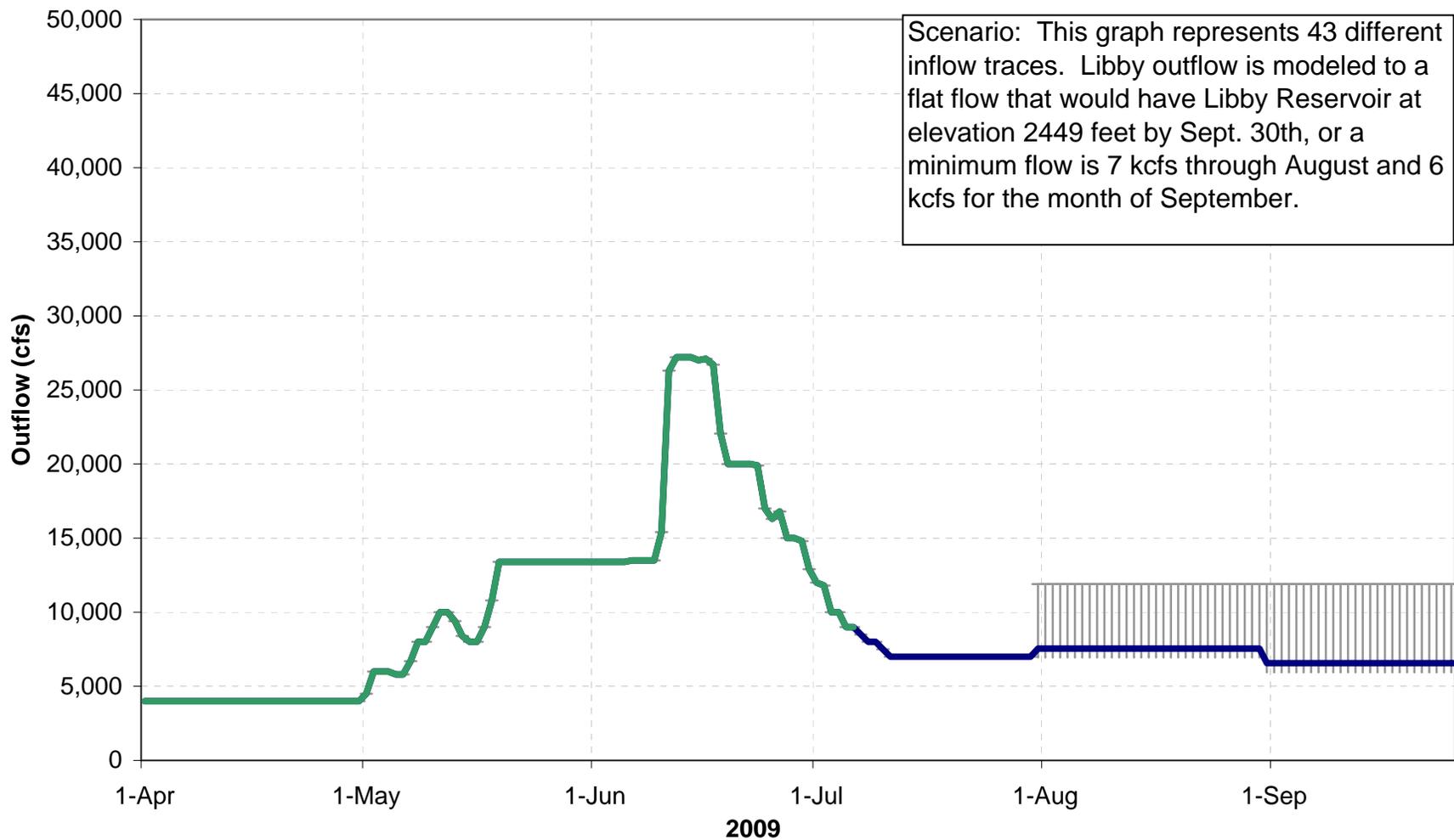
75th Percentile

Daily Mean

Observed Inflow

**Figure 2: Forecasted Libby Dam Outflow**

**ESP Traces from 07 July, 2009**



25th Percentile

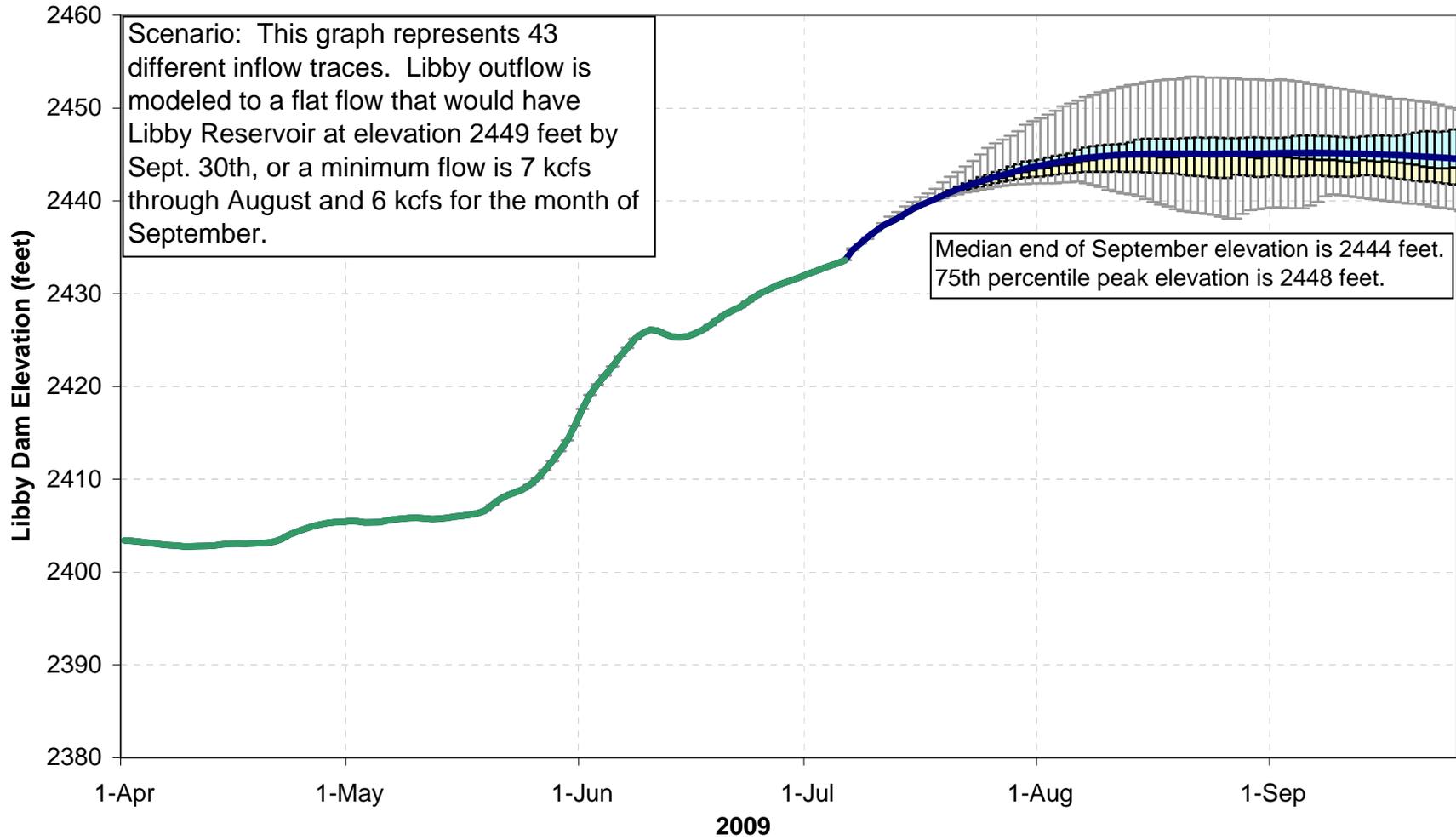
75th Percentile

Daily Mean

Observed Outflow

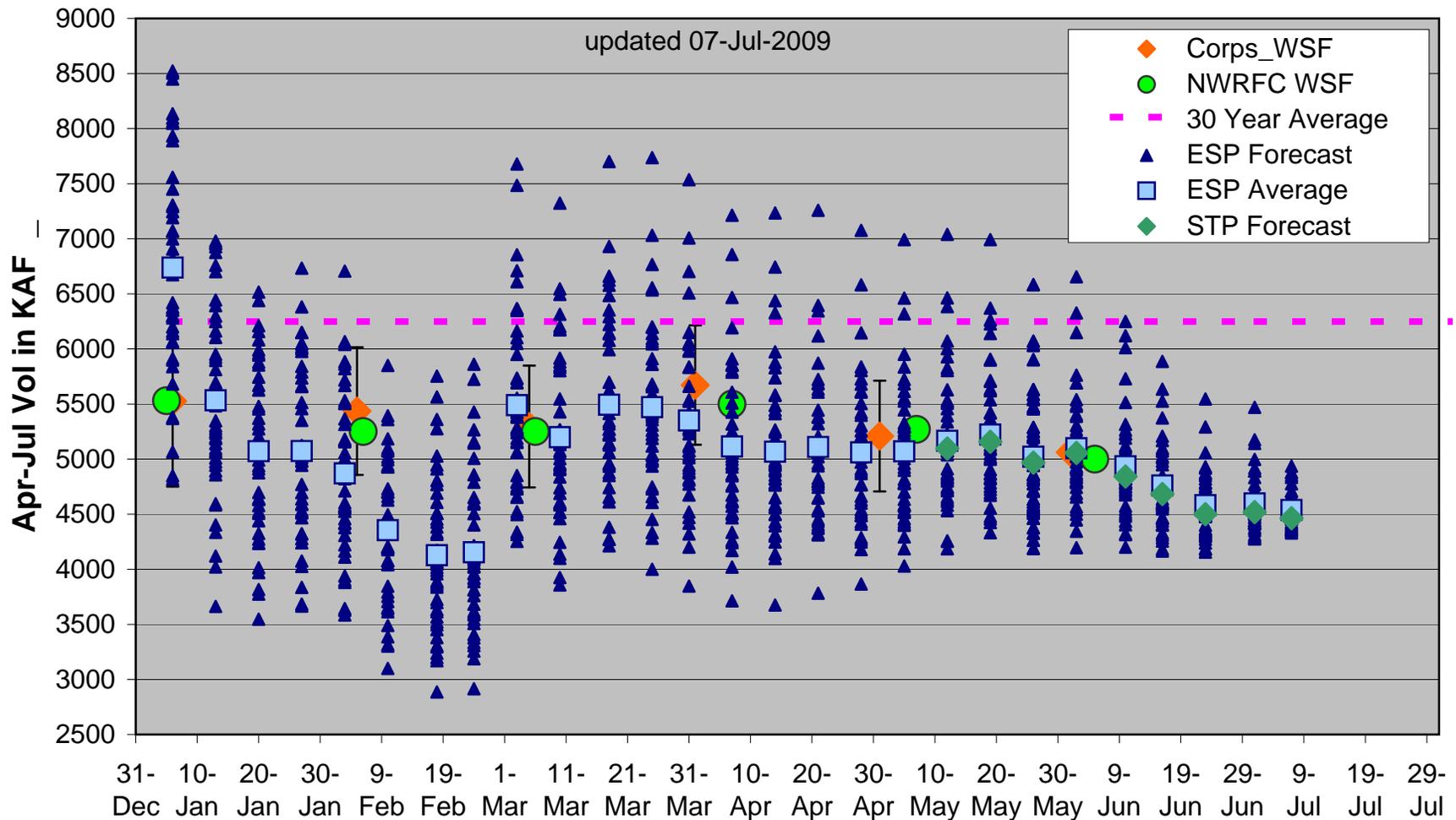
Figure 3: Modeled Libby Dam Elevation

ESP Traces from 07 July, 2009

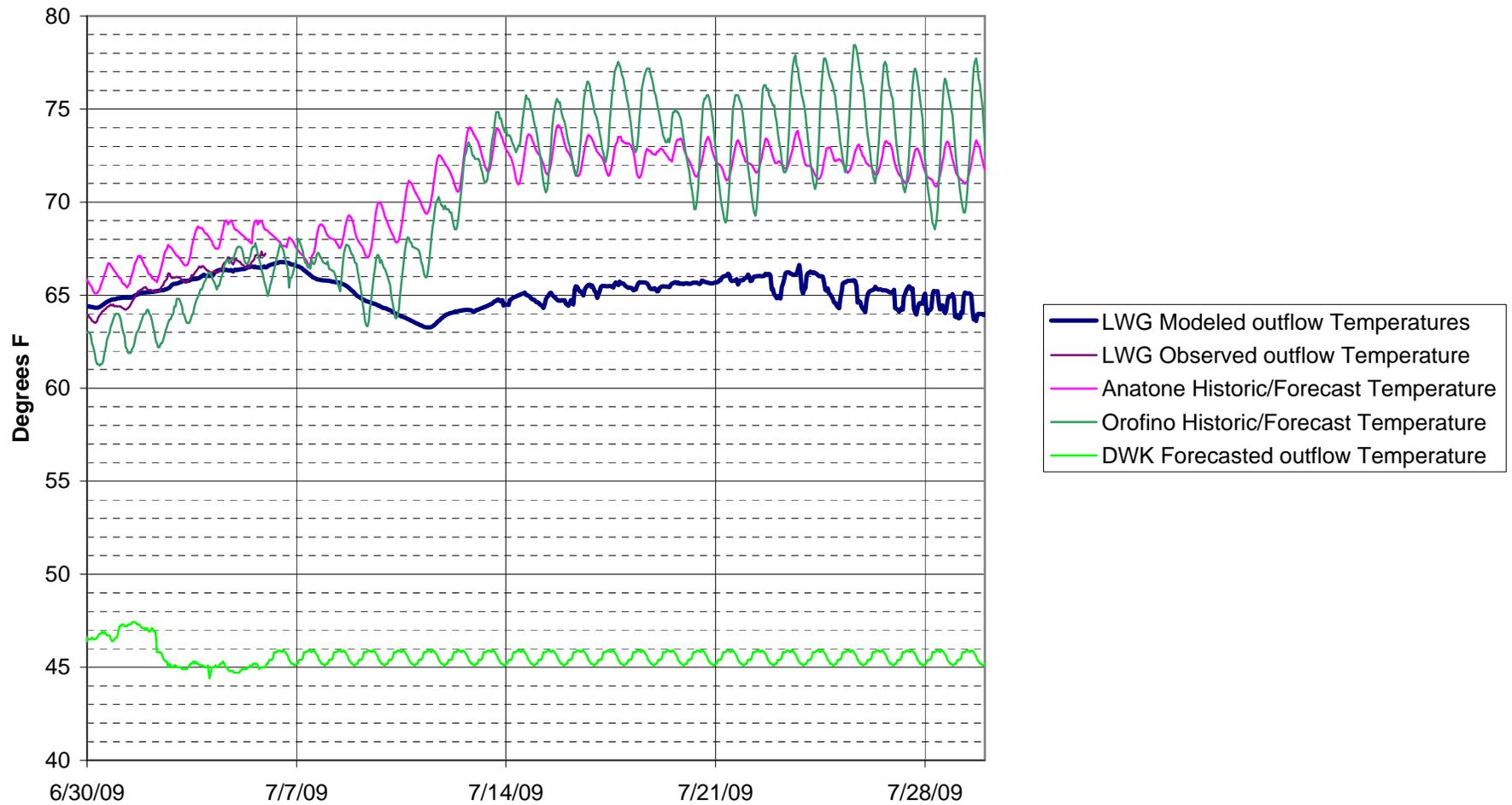


25th Percentile      75th Percentile      Daily Mean      Observed Outflow

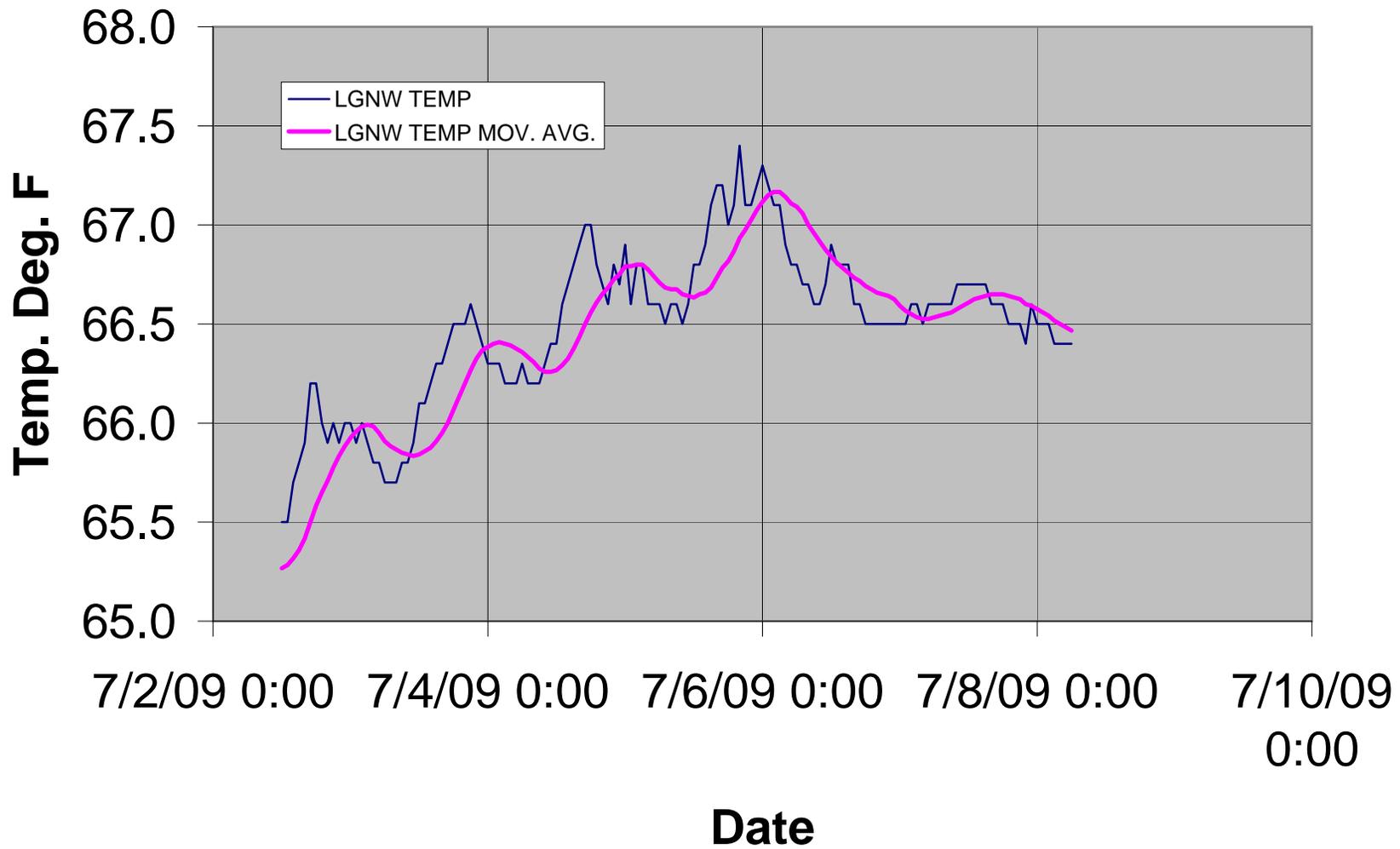
# Libby, MT Water Supply Forecast April-August Forecast Comparison for WY2009



**Water Temperature Comparisons**  
**Observed data thru 7/5/09**  
**Forecast Temperatures from Year 2002 (Anatone and Orofino)**



# Lower Granite TDG Station TW Temperature



# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

July 08, 2009 Meeting

### FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Erin Halton

Notes: Christa Leonard

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.

#### **Review of Minutes/Agenda**

No further edits were made to 6/24 and 7/1 the facilitator's notes / official meeting minutes and both sets were considered final.

#### **Dworshak Operations**

Dan Feil, COE, referred TMT to three links posted to the TMT agenda; he noted that links "b" and "c" were forwarded to FPAC in time for their meeting Tuesday July 7<sup>th</sup>. He clarified that the models assumed 1 large and 1 small unit operating through today. Feil said on the morning of 7/4, the COE increased outflows bumped up to full powerhouse. Current temperatures at Lower Granite tailwater are 66°F, so reducing outflows was deemed appropriate. Paul Wagner, speaking on behalf of the Salmon Mangers, said they supported stepping down to 7.9 kcfs today. He added that if temperatures begin to fluctuate (and rise above 66.0°F) by Friday, then FPAC recommends that the COE return to full powerhouse of ~9.5-10 kcfs. If temperatures do hold steady at 66.0°F, FPAC supports holding outflows of ~8 kcfs.

Feil also raised the issue of the "rate of change" that is, how much are temperatures increasing/ decreasing per day. TMT members discussed the shared desire to stay ahead of warming trends. Feil said, if a rolling 12 hour average increase of .5°F per day (real time) is observed over the next few days, the COE will take action and bump operations back to full powerhouse. The COE's Walla Walla District also offered to re-run the models Thursday and Dan Feil said he could email the results to TMT. TMT members present during the meeting supported this course of action and said they looked forward to reviewing the updated data on Friday.

Steve Hall, COE, reported on the status of Dworshak's unit 3 repairs: seepage has continued to increase, but appears to be leveling off. The COE has installed two - 2" pumps in the turbine pit that should provide assistance needed to get through September operations. Hall said there is a contingency plan in place: higher voltage, large pumps can be brought in if necessary. Alarms will alert operators to any seepage over pump and drainage capacity. The turbine will be closely monitored (repair inspections performed every couple of days) and TMT will continue to receive regular updates. After the September outage window, the COE plans to perform more extensive inspection/repairs.

**Action/Next Steps:** The COE will reduce outflows to 7.9 kcfs today; if temperatures begin to fluctuate (and rise above 66.0°F), the COE will return to full powerhouse of ~10 kcfs. If temperatures do hold steady at 66.0°F, outflows will stay at ~8 kcfs. If there is a 12 hour average increase of .5 degrees per day (real time) over the next few days, the COE will increase outflows to full powerhouse on Friday (7/10) morning. Updated model runs will be performed by Walla Walla District and emailed to TMT members by Friday morning.

### **Treaty Fishing – SOR 2009-C3**

Kyle Dittmer, CRIFTC, referred to SOR 2009-C3, posted as a link to the agenda, and submitted by the Tribes on July 6<sup>th</sup>. Dates to range from July 8<sup>th</sup> at 0600 through July 11<sup>th</sup> at 6:00pm. Dittmer noted that an aerial flight survey earlier in the week observed 385 nets total. Dittmer said that the tribes are close to done with fishing for summer 2009, but that there is a 50% chance that another SOR will be issued next week.

**Action/Next Steps:** The COE said they planned to operate the pools as they have in response to the prior SOR's: Bonneville under a 1' soft / 1.5' hard constraint; The Dalles under a 1.5' soft / 3' hard constraint; and John Day under a 1.5' hard constraint. This item may be on the agenda for the 7/15 TMT conference call.

### **Libby Operations**

Amy Reese, COE, reported that Libby is nearing the tail end of the Sturgeon Pulse operation. She referred TMT to graphs that were linked to the agenda. Reese reported that Libby operations are currently on schedule to meet Bull Trout minimums of 7 kcfs on July 12<sup>th</sup>. Reese noted that the last three forecasts show 4500 KAF for the April-August inflow volume which equals a fairly low water year. The COE plans for outflows to remain at 7 kcfs through July and August then likely shift to 6 kcfs in September. She acknowledged that there have been a few years in the past where operations exceeded 7 kcfs (in August) in order to reach 2449' at the end of September. Reese said she will provide updated graphs/data on July 22<sup>nd</sup> to TMT.

### **McNary Juvenile Transport**

Dan Feil, COE, read from 2009 Fish Operations Plan, which states that McNary transport “will initiate sometime between July 15-30<sup>th</sup>.” Paul Wagner, NOAA, said that the Salmon Managers have been discussing this issue at FPAC for several weeks and will revisit the topic at their July 14<sup>th</sup> meeting. Feil added that he will check with barge operators regarding timing for transport as they may require a 3-4 day lead time.

**Action/Next Steps:** This item will be on the agenda for the next meeting.

### **Little Goose Low Flow Operations**

Dan Feil, COE, reported that they have had barge navigation issues when flows are below the 50 kcfs range. This spring, adjustments were made to operations that would provide a buffer. Feil said flows were currently in the 60 kcfs daily average range. He added that the COE proposes moving to MOP +1 when daily output falls below 50 kcfs and use flat spill pattern if needed. TMT discussed prior years' flows and operating ranges; the flat flow used in 2008 was 11 kcfs which turned out to be about 30% of spill. Feil asked for TMT members to weigh in on the proposed short term operations trigger of daily flows dropping below 50 kcfs:

- NOAA: no objection - will look to review additional data between now and next week's TMT meeting.
- BPA: no objection.
- BOR: no objection.
- ID: no objection.
- Also: Kyle Dittmer, CRITFC: abstain, will take proposal back to CRITFC for management consultation and will report back to the COE.

### **Operations Review**

Reservoirs: Grand Coulee was at elevation 1289.4' and hit full 1290' on July 6th. Hungry Horse was at 3558.28', with inflows of 4 kcfs and outflows of 2.2 kcfs. Libby was at elevation 2434.26', with inflows of 18.6 kcfs, outflows of 9.0 kcfs. Albeni Falls had inflows of 26.8 kcfs, outflows of 30.2 kcfs. Dworshak was at 1596.51' with inflows of 2.7 kcfs and outflows of 9.5 kcfs. Lower Granite flows were at 62 kcfs, McNary had flows of 187.9 kcfs, and Bonneville flows were at 178.6 kcfs.

Fish: Paul Wagner, NOAA, referred TMT to the FPC website regarding adult passage data. Summer Chinook and Sockeye were winding down and Steelhead were picking up. Smolt data showed subyearlings nearly done, with 118,000 per day at McNary and 5,000 per day at Lower Snake River projects. He noted that Sockeye at Boneville and Lower Granite are well above the 10 year average and Summer Chinook and Jacks were both trending well. Paul also referred TMT to the NOAA website's Science Center page; return data shows that good ocean conditions were part of why Jack and Chinook had successful runs.

Power System: Nothing to report.

Water Quality: The spill cap at Bonneville was increased to 125 kcfs; outlook for TDG was good and flows were trending downward.

Other: None

**TMT Schedule:** Conference Call scheduled for July 15<sup>th</sup> at 9:00am.

July 15th meeting agenda items include:

- Treaty Fishing SOR (if needed)
- Dworshak update
- Discuss McNary juvenile transport
- Review Lower Granite low-flow operations

**Columbia River Regional Forum  
Technical Management Team Meeting  
July 8, 2009**

***1. Introduction***

Today's TMT meeting was chaired by Dan Feil (COE) and facilitated by Erin Halton (DS Consulting), with representatives of BPA, COE, NOAA, BOR, Idaho, CRITFC, Montana and others participating. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

***2. Review Meeting Minutes for July 1, 2009***

There were no comments on the facilitator's notes or official minutes.

***3. Dworshak Operations***

Attachments B and C to this item on today's agenda were given to FPAC yesterday so they'd have modeling data for Dworshak over the next 2 to 3 weeks to aid in their discussion, Feil reported. The scenarios assume a reduction in Dworshak outflows beginning today, from full powerhouse (approximately 10 kcfs) to 7.9 kcfs using a big and a small unit. The Dworshak operation ramped up to full powerhouse at 1 am on July 4. The ongoing goal of the Dworshak operation is to keep temperatures at Lower Granite tailwater below 68 degrees F. The current temperature is 66.15 degrees F.

Dworshak inflows are now 3 kcfs, and the box whiskers plot shows little variability in inflows through July and August, Steve Hall (COE) said. Based on this modeling information and given the water year, the COE believes a reduction in flows is appropriate to conserve as much water as possible now for temperature management later, Feil said.

At yesterday's FPAC meeting the Salmon Managers reached consensus on a recommendation to step down to 8 kcfs as planned today and revert to full powerhouse on July 10 or if the Lower Granite tailwater temperature exceeds 66 degrees F, Paul Wagner (NOAA) reported. Attachment B models 10 kcfs outflows through the end of July, except for a brief interlude of 7.9 kcfs outflows, then 12 kcfs outflows through August and 8 kcfs through September. The COE and Salmon Managers agreed that a reduction in flows is appropriate at this time. There was agreement to use 66.0 degrees F at Lower Granite as a trigger for higher Dworshak outflows before July 10 if necessary.

To address timing, Feil proposed calculating the rate of change using a 12-hour rolling average, considering that it takes 2-3 days for water to travel from Dworshak to Lower Granite. An increase of more than half a degree in the 12-

hour rolling average within 24 hours signifies that more flow augmentation is needed.

Given that inflow to Brownlee is higher than expected this year, the contribution of warmer water from Brownlee is likely to be higher in July, so the need for flow augmentation above 10 kcfs from Dworshak is approaching, Wagner said. Hall noted that the Weather Service's long range forecast for July through September predicts above normal temperatures throughout the Columbia basin this summer, especially in southern Idaho.

Attachment B projects outflows of 7.9 kcfs from Dworshak next week. The forecast shows a tendency for temperatures to increase as they did in the summer of 2002, Tracy Schwartz (COE) said. In light of this forecast, significant warming next week would be needed to justify outflows of more than 7.9 kcfs.

The COE will rerun the Dworshak model early tomorrow, July 9, and disseminate the results so that TMT will have the latest forecasting information available to make a decision on July 10, if needed. A possible TMT July 10 conference call was scheduled if necessary to discuss what action to take if temperature is hovering right at 66.0 degrees.

Hall gave an update on the leak at Dworshak unit 3. Seepage has been increasing but appears to be leveling off and the COE is monitoring the situation closely. It appears that the pumps currently installed can handle the seepage and keep unit 3 in operation through end September. A contingency plan calls for installing higher voltage pumps if the seepage increases more than anticipated. The COE will keep TMT informed of any new developments.

#### **4. Treaty Fishery – SOR 2009-C3**

CRITFC submitted SOR 2009-C3 to the COE on July 6, Kyle Dittmer (CRITFC) reported. The SOR requests 1-foot elevation bands as a hard constraint at the three lower river projects from 6 am today, July 8, through 6 pm July 11. CRITFC's latest aerial survey showed 385 nets with 133 (34.5%) of those in the Bonneville pool, 84 (22%) in The Dalles pool, and 168 (43.5%) in the John Day pool. The tribes are close to wrapping up the 2009 fishery season and anticipate a 50-50 chance of more fishing next week.

The COE will operate the three lower river projects as it has for previous treaty fisheries, with a 1 foot soft constraint and 1.5 foot hard constraint on elevation fluctuations at Bonneville, a 1.5 foot soft constraint and 3 foot hard constraint at The Dalles, and a 1.5 foot hard constraint at John Day. The COE sent teletypes to the projects and the operations are currently underway, Fiel said.

#### **5. Libby Operations**

The sturgeon pulse is ending at Libby, Amy Reese (COE Seattle) reported, with water volumes duration extended (but not water volume) so the rampdown is less steep. Outflows are scheduled to hit bull trout minimums (7 kcfs) on July 12. The first link to this item on today's agenda models summarizes recent ESP traces and shows how the this year's Libby forecasts (Both NWS-RFC and Corps) and how the forecasts have changed over time. This information indicates that runoff has ended, and that 2009 will turn out to be a low water year.

The second link to this item on today's agenda shows three sheets that include ESP traces for inflow, modeled outflow, and modeled reservoir elevation. projected Libby outflows. The COE's current plan is to keep outflows at bull trout minimums through July and August. In September the bull trout minimum drops to 6 kcfs.

The third link to this item on today's agenda forecasts The modeled median Libby reservoir elevations based on box whiskers plots of inflows for the past from the 44 years ESP traces is . This scenario projects that the Libby elevation will be 2,444 feet at the end of September, which is 4 5 feet below its elevation target of 2,449 feet. This assumes Libby outflows remain at bull trout minimums of 6 kcfs through September.

TMT will revisit Libby operations in two weeks at its July 22 meeting.

## ***6. Juvenile Transportation at McNary***

Feil advised TMT members to begin thinking about the initiation of transportation at McNary, which could begin any time within the window of July 15-30 as specified in the summer 2009 Fish Operations Plan.

The Salmon Managers began discussing this decision at FPAC two weeks ago, Wagner said. There's no consensus recommendation yet, but FPAC will reconsider on July 14 and Wagner will report to TMT the next day. TMT will address transportation at McNary along with Dworshak operations in its July 15 conference call.

## ***7. Little Goose Low Flow Operations***

Next week will probably be the point at which flows in the Snake River drop to 50 kcfs or less, which has been associated with navigation problems at Lower Granite, Feil reported. A MOP+1 operation was used this past spring to create a buffer at the Lower Granite lock, so the COE is proposing the same operation this summer as specified in the summer Fish Operations Plan. The trigger for the Little Goose low flow operation will be Snake River flows of 50 kcfs (rather than 40 kcfs as stated in the summer FOP). If a MOP+1 operation doesn't provide sufficient navigational buffer, the COE will switch to flat spill at Little

Goose, Feil said. Last year's flat flow was 11 kcfs, which turned out to be about 30% spill, the BiOp target for Little Goose, Tony Norris (BPA) recalled. Karl Kanbergs (COE) reported at least one occurrence of navigation problems when Snake flows were above 50 kcfs as a daily average. The COE is making every effort to ensure that the Lower Granite tailwater gage is accurate.

Wagner said graphs depicting this situation would be helpful in decision making. The COE will provide these for its conference call on July 15. Feil polled TMT members on using 50 kcfs as a trigger for the Little Goose low flow operation in the meantime. NOAA, BPA, and BOR had no objections. CRITFC abstained from voting and will coordinate with the COE later today regarding its view of the Little Goose operation.

## **8. Operations Review**

**a. Reservoirs.** Grand Coulee is at elevation 1,289.4 feet, after reaching 1,290 feet elevation on July 6. Hungry Horse is at elevation 3,558.28 feet and slowly filling, with 2.2 kcfs outflows and 4 kcfs inflows.

Libby is at elevation 2,434.26 feet, with inflows of 18.6 kcfs and outflows of 9 kcfs. Albeni Falls inflows are 26.8 kcfs and outflows are 30.2 kcfs. Dworshak is at elevation 1,596.51 feet, with inflows of 2.7 kcfs and outflows of 9.5 kcfs.

Seven-day average inflows are 62 kcfs at Lower Granite, 187.9 kcfs at McNary, and 178.6 kcfs at Bonneville.

**b. Fish. Adults** – Summer Chinook season is declining as expected for this time of year, Wagner reported. FPC data indicates that 700 fish are passing per day, down from a rate of 1,400 per day earlier this week. Sockeye passage is also declining, with 6,863 fish passing this week. Sockeye had a good year in 2009, with passage counts well above the 10-year average at both Bonneville and Lower Granite dams. Steelhead passage of both hatchery and wild fish is on the increase.

Jack counts in 2009 have been spectacular, and Wagner showed TMT a new ocean index tool on the NOAA website that indicates ocean conditions might be behind the big numbers. Hatchery feeding practices could be another factor.

Smolts – Yearling passage is done, while subyearling passage is in progress throughout the basin, peaking at McNary. Recent counts there, which include fish from Hanford reach as well as the Snake River, were 118,000 fish per day, with a peak count of 311,000 two weeks ago. Subyearlings are passing at the rate of 5,000 fish per day at each of the three lower Snake dams.

**c. Power System.** There was nothing to report today.

**d. Water Quality.** The COE raised the spill cap at Bonneville yesterday from 115 to 125 kcfs, with no exceedances. Flows are trending down, lessening the likelihood of exceedances.

### **9. Next Meeting**

The next scheduled TMT meeting will be a conference call July 15, with a possible call this Friday, July 10, if needed to follow up on flow augmentation. The July 15 conference call will cover treaty fishing, Dworshak operations, McNary transport, and Little Goose low flow operations. This summary prepared by consultant and writer Pat Vivian.

<b><i>Name</i></b>	<b><i>Affiliation</i></b>
Tony Norris	BPA
Doug Baus	COE
Paul Wagner	NOAA
Dan Feil	COE
Eric Volkman	BPA
Rudd Turner	COE
Tim Heizenrader	Centaurus
Karl Kanbergs	COE
Don Faulkner	COE
Jim Litchfield	Montana

#### ***Phone:***

John Roache	BOR
Steve Hassmer	Idaho
Steve Hall	COE Walla Walla
Amy Reese	COE Seattle
Tracy Schwartz	COE Walla Walla
Margaret Filardo	FPC
Russ George	WMC
Barry Espenson	CBB
Richelle Beck	DRA
Dave Benner	FPC
Tom Le	Puget Sound Energy
Kyle Dittmer	CRITFC

# TECHNICAL MANAGEMENT TEAM

**BOR** : John Roache / Mary Mellema / Pat McGrane      **BPA** : Robyn MacKay / Tony Norris / Scott Bettin  
**NOAA-F**: Paul Wagner / Richard Dominique              **USFWS** : David Wills / Steve Haeseker  
**OR** : Rick Kruger / Ron Boyce                              **ID** : Russ Kiefer / Pete Hassemer  
**WDFW** : Cindy LeFleur                                        **MT** : Jim Litchfield / Brian Marotz  
**COE**: Dan Feil / Steve Barton

## TMT CONFERENCE CALL

Wednesday July 15, 2009 09:00 - 12:00

### CONFERENCE PHONE LINE

Conference call line:888-285-4585; PASS CODE = 601714

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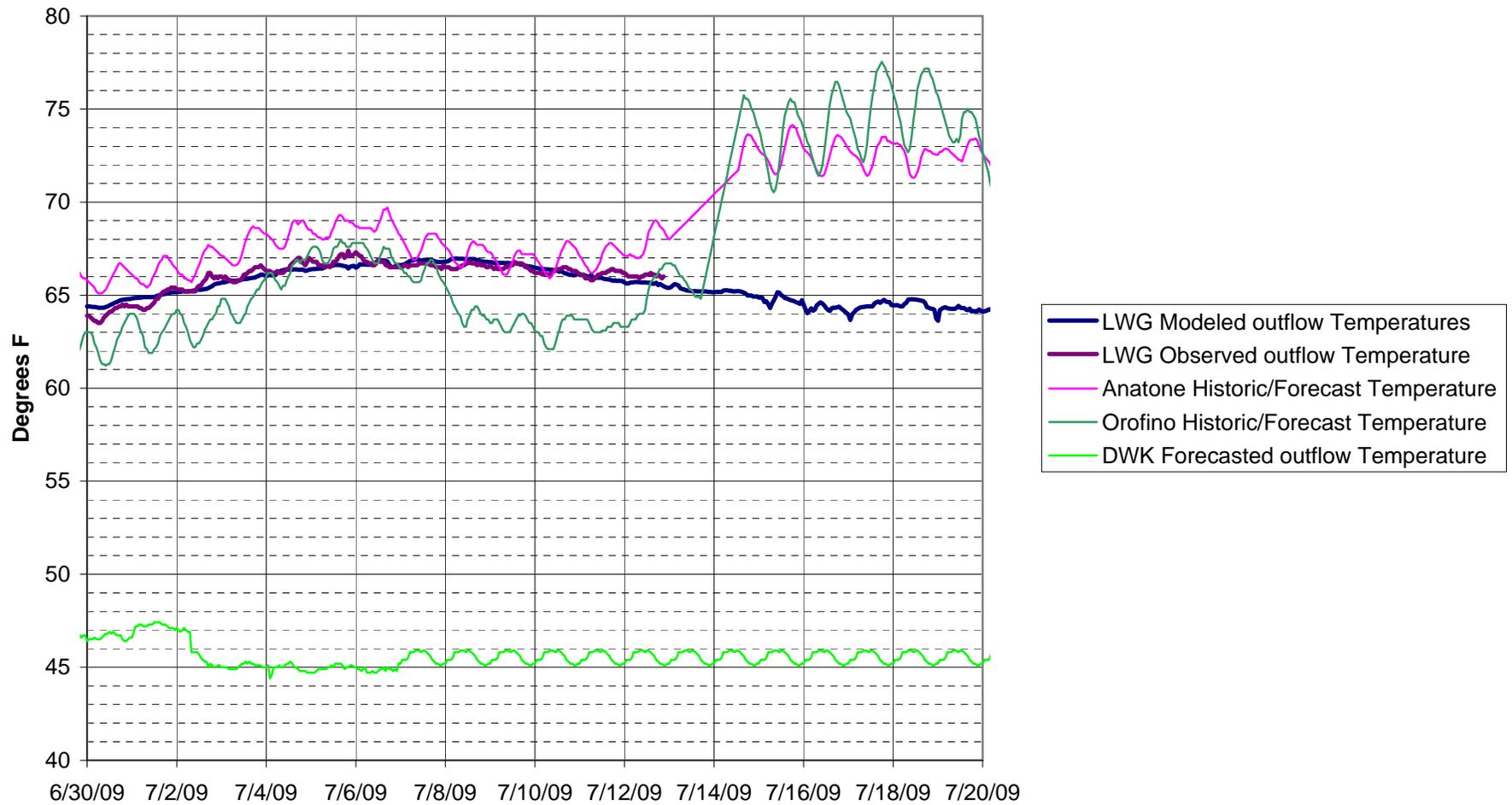
*All members are encouraged to call Robin Gumpert with any issues or concerns they would like to see addressed.  
Please e-mail her at [rgumpert@cnnv.net](mailto:rgumpert@cnnv.net) or call her at (503) 248-4703.*

## AGENDA

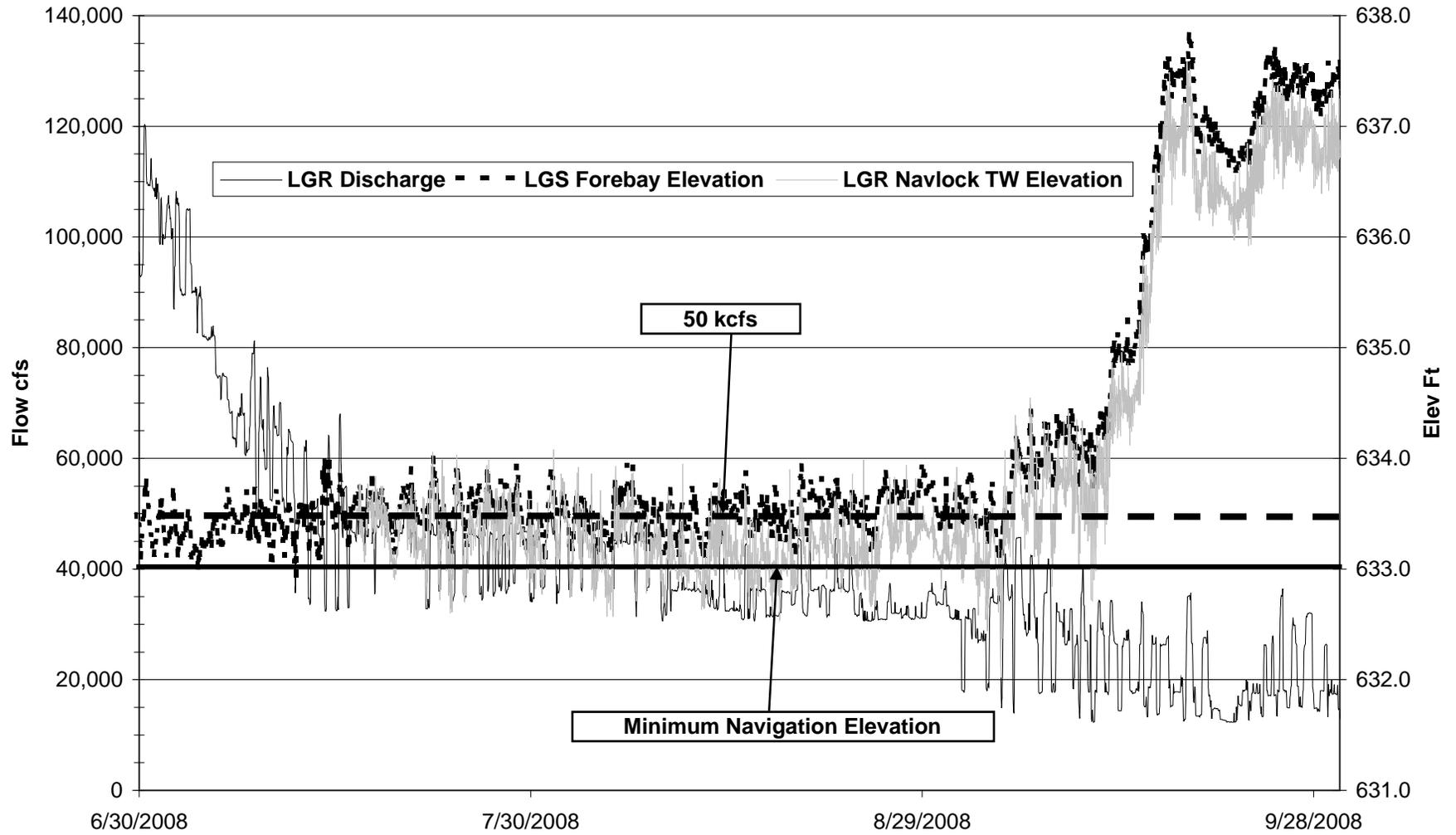
1. Welcome and Introductions
2. Review Meeting Minutes for July 8, 2009 [[Meeting Minutes](#)]
3. Review Dworshak Operations - Dan Feil, COE-RCC/Steve Hall, COE-NWW
  - a. [2009 Water Temperatures](#)
  - b. [Dworshak Summer Operations](#)
  - c. [Dworshak Model Forecast](#)
  - d. [EPA Model Output](#)
4. Treaty Fishing SOR's - Kyle Dittmer, CRITFC
  - a. [SOR 2009-C4](#)
5. McNary Juvenile Transport - Dan Feil, COE-RCC
6. Little Goose Low Flow Operations - Dan Feil, COE-RCC
  - a. [Little Goose 2008 Summer Operations](#)
7. Operations Review
  - a. Reservoirs
  - b. Fish
  - c. Power System
  - d. Water Quality
8. Other
  - a. Set agenda for next meeting - **July 22, 2009**
  - b. [\[Calendar 2009\]](#)

*Questions about the meeting may be referred to:  
[Dan Feil](#) at (503) 808-3943, or  
[Steve Barton](#) at (503) 808-3945*

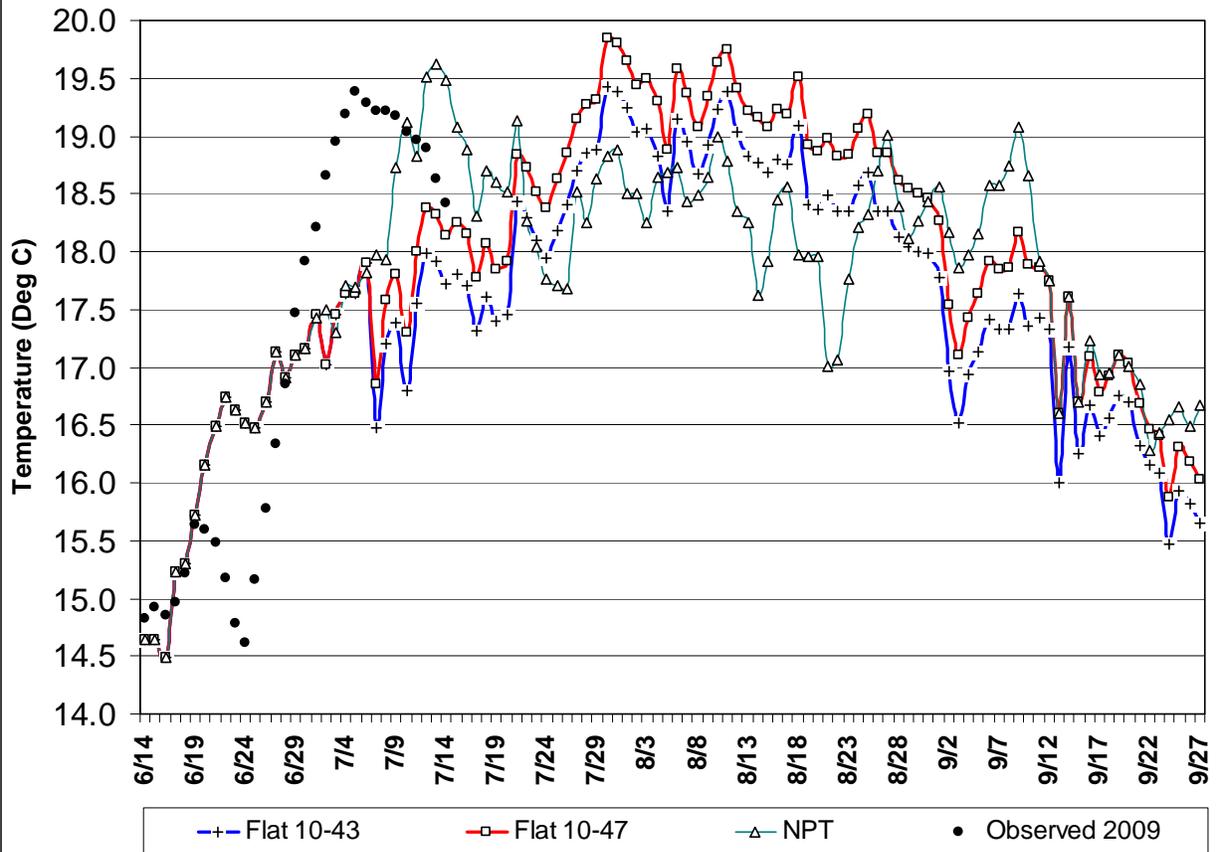
**Water Temperature Comparisons**  
**Observed data thru 7/13/09**  
**Forecast Temperatures from Year 2002 (Anatone and Orofino)**



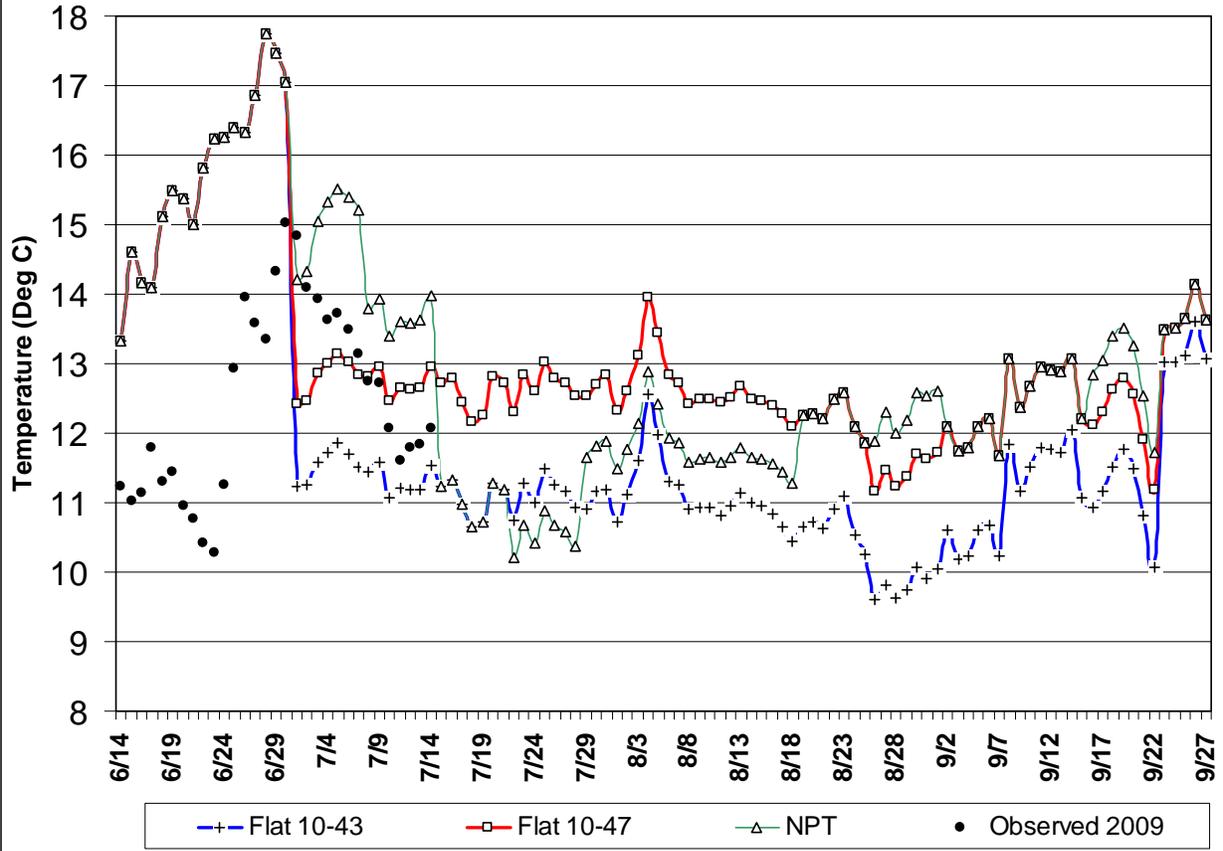
# Little Goose 2008 Summer Operations



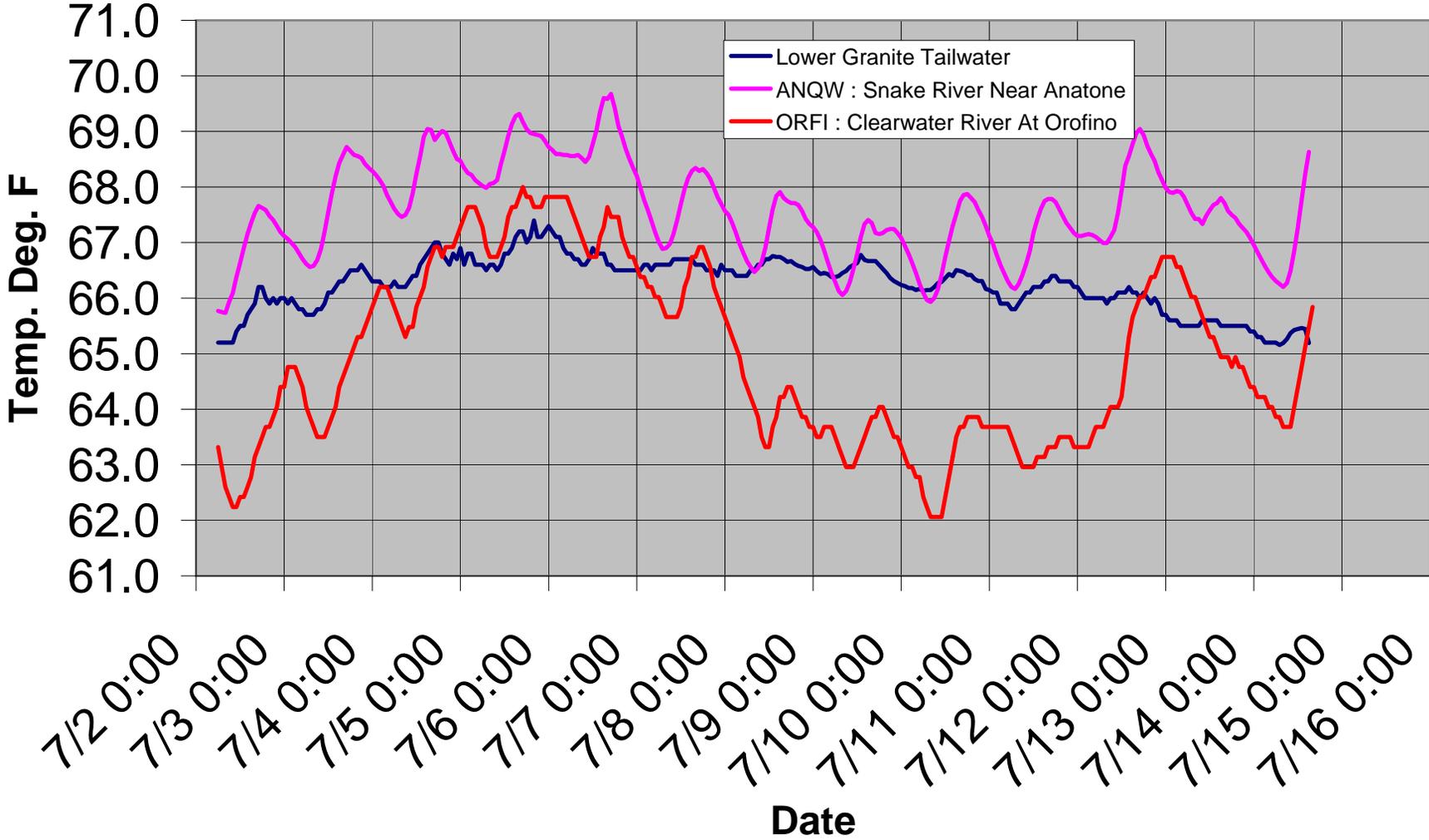
Snake at Lower Granite Dam (1976 & 1991 weather)



### Clearwater River at Peck (1976 & 1991 weather)



# Snake and Clearwater Rivers 2009 Water Temperatures



# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

July 15, 2009 Conference Call

### FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Erin Halton

Notes: Christa Leonard

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the “record” of the meeting, only a reminder for TMT members.

#### **Review of Minutes/Agenda**

No further edits were made to the 7/8 facilitator's notes / official meeting minutes and both sets were considered final.

#### **Review Dworshak Operations**

Dan Feil, COE, reminded TMT members of the prior weeks' operations at Dworshak, per the discussion by TMT members during the July 8<sup>th</sup> TMT meeting. He then referred TMT to three links posted to the TMT agenda which detailed data modeling on water temperatures and forecasting. Feil noted that so far, operations are helping temperatures stay “well ahead of the curve”, with the Lower Granite tailwater at 64.6°F at 0800 hours.

Steve Hall, COE, referred TMT to graphs posted as links to the agenda; he noted that outflows increased out of Dworshak on 7/10 are reflected in Lower Granite temperatures that were observed on 7/13. He added that Mike Schneider, COE, has helped with the modeling and said the forecasting models are predicting/tracking temperatures fairly well. He said the 10-day forecast shows a warming trend and clarified that with the assumed outflows of 9.5 kcfs through 7/20, modeling shows temperatures should stay at or below 64-65°F at Lower Granite tailwater.

Paul Wagner, on behalf of the Salmon Managers, thanked the COE for their modeling work. He noted that FPAC suggests maintaining 9.5 kcfs outflows, with a contingency plan of increasing outflows to 12 kcfs if temperatures at Lower Granite tailwater rise above 66.0°F (instantaneous read.) Wagner clarified that this contingency is recommended to provide a “good buffer” that would cover the trend of increasing temperatures. The two day lag time is also a factor in the decision making. Feil asked, given the model, if temperatures stay steady would the Salmon Managers consider a recommendation to drop outflows by a couple of units? Russ Kiefer, ID, said that as this is a critical time for fish passage, they would prefer to hold at full powerhouse, which provides better flow pattern for fish. Dave Wills, USFWS supported that as well.

**Action/Next Steps:** All TMT members present on the call agreed to the short term plan. The COE will monitor temperatures closely and will send an email if temperatures rise above 66.0°F. This item will be on the agenda for the 7/22 TMT call.

### **Treaty Fishing SOR's**

Kyle Dittmer, CRIFTC, referred to SOR 2009-C4 posted as a link to the agenda, which requested pool elevations for the last week of summer Treaty fishing July 15<sup>th</sup> at 0600 through July 17<sup>th</sup> at 6:00pm. Dittmer noted that an aerial flight survey on July 9<sup>th</sup> observed 283 nets total; 92 at Bonneville, 55 at The Dalles, 136 at John Day. Dittmer said that the tribes are likely now done with fishing for summer 2009 and that he expected the next round of Treaty Fishing SOR's to come as Fall Chinook begin running in mid-August through October.

**Action/Next Steps:** The COE said they planned to operate the pools as they have in response to the prior SOR's: Bonneville under a 1' soft / 1.5' hard constraint; The Dalles under a 1.5' soft / 3' hard constraint; and John Day under a 1.5' hard constraint. Dittmer will provide a summer Treaty Fishing season review for the 7/29 TMT meeting.

### **McNary Juvenile Transport**

Dan Feil, COE, reminded TMT that the FOP calls for transportation operations to initiate between July 15<sup>th</sup>-30<sup>th</sup>; Feil said the COE would like to begin transportation as soon as possible and asked the Salmon Managers for their recommendation. Paul Wagner, representing the Salmon Managers, agreed and added that 500,000 Fall Chinook are tagged for study and collection/ transport will allow for gathering of good data and will help inform management of operations in the years ahead. Feil asked for TMT members to weigh in on initiating transportation on 7/15:

- NOAA: no objection.
- BPA: no objection.
- BOR: no objection.
- USFWS: no objection.
- ID: no objection.
- OR: no objection
- Also: Kyle Dittmer, CRIFTC: no objection.

**Action/Next Steps:** The COE planned to initiate collection/transportation immediately.

### **Little Goose Low Flow Operations**

Dan Feil, COE, referred TMT to a graph posted to the TMT agenda and said the COE recommendation is to increase pool elevation over the next week to MOP + 1, that will keep the pool safely above minimum navigation elevation. Feil acknowledged that the trigger of flows in the range of 50 kcfs is different than what is in the FOP and explained for TMT members that when switching from one to two units, a 1' wave is created which travels at about 10 miles per hour. If a 1' buffer is present then levels will stay above minimum navigation elevation. Rust Kiefer, ID, clarified that salmon managers were more easily amenable to this type of buffer in the spring when the effects on fish migration is likely to be less significant. While the salmon managers recognize the need to provide safe migration, they said they would caution against causing passage delays during this summer migration season. TMT members discussed long term options that may include changing spill operations and also referenced Fish Passage Plan data

(Section B) regarding spillway weir operations. Feil asked for TMT members to weigh in on operating Little Goose pool elevation to MOP+1:

- NOAA: no objection.
- BPA: no objection.
- BOR: no objection.
- USFWS: no objection.
- ID: no objection – plan to continue to review data to see if there might be other options that could be explore for future year’s operations.
- OR: will take proposal back to OR management for consultation and will report back to the COE as soon as possible.
- Also: Kyle Dittmer, CRITFC: has not yet coordinated with CRITFC management - will report back to the COE later in the day.

**Action/Next Steps:** Feil asked for feedback from OR and CRITFC by the end of the day if possible. In the absence of any objections, the COE will operate Little Goose pool elevation to MOP+1

### **Operations Review**

**Reservoirs:** Grand Coulee was at elevation 1288.0'. Hungry Horse was at 3558.89', with outflows of 2.2 kcfs. John Roache, BOR, said that minor adjustments may be made in the next week or two to increase outflows to 2.5 kcfs. Libby was at elevation 2436.97', with inflows of 17.8 kcfs, outflows of 7.0 kcfs, in keeping with Bull Trout minimums. Albeni Falls had inflows of 23.4 kcfs and outflows of 21.5 kcfs. Dworshak was at 1591.71' with inflows of 3.1 kcfs and outflows of 9.6 kcfs. Lower Granite flows were at 49.8 kcfs, McNary had flows of 182.1 kcfs, and Bonneville flows were at 189.1 kcfs.

**Fish:** Paul Wagner, NOAA, reported adult summer Chinook were winding down to approximately 1,000 per day at Bonneville. Conversely, Steelhead were picking up to 2,700 per day. Sockeye were trending down to about 500 per day. Subyearling fall Chinook at Lower Granite were in the range of 3,000-5,000 per day. Little Goose: 1500-2000, McNary: 200,000-300,000. John Day and Bonneville 20,000-50,000 range.

**Power System:** Nothing to report.

**Water Quality:** Laura Hamilton, COE, referred to updated TDG data linked to the TMT webpage and said that all TDG gauges working well.

**TMT Schedule:** Conference Call scheduled for July 22nd at 9:00am.

July 22nd meeting agenda items include:

- Dworshak operations update
- McNary juvenile transport operations update
- Lower Granite low-flow operations update
- Libby operations update
- Seasonal Treaty Fishing Review

**Columbia River Regional Forum  
Technical Management Team Conference Call  
July 15, 2009**

***1. Introduction***

Today's TMT call was chaired by Dan Feil (COE) and facilitated by Erin Halton (DS Consulting), with representatives of COE, BPA, Idaho, Oregon, USFWS, NOAA, BOR, CRITFC, and others participating. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

***2. Review Meeting Minutes for July 8, 2009***

There were no comments on the facilitator's notes or official minutes today.

***3. Dworshak Operations***

Dan Feil (COE) gave an update on Dworshak operations. At the last TMT meeting July 8, TMT members agreed that Dworshak outflows should be stepped down from full powerhouse to 7.5 kcfs, with a contingency of returning to full powerhouse if Lower Granite tailwater temperatures exceeded 66 degrees F by July 10. That morning the Lower Granite tailwater temperature hit 66.2 degrees F, and the Dworshak operation reverted to full powerhouse at 11 am.

The first link to this item on today's agenda shows that the Lower Granite tailwater temperature is now 64.5 degrees, and river temperatures remain low. Attachment A also demonstrates that, assuming 2 days' travel time from Dworshak to Lower Granite, temperatures at the Anatone and Clearwater gages responded quickly to the cooler flows, although the reservoir temperature did not.

Steve Hall (COE) directed TMT to attachment C for this item on today's agenda, and explained that the COE has modified its model to provide more accurate forecasts when river temperatures are low. Attachment C shows the forecasts and actual temperatures, using flat 10 kcfs flows and the year 2002 as a model (which was quite a bit warmer than 2009 is turning out to be). This graph depicts how accurately the model has been predicting Lower Granite temperatures, Hall said. It stops after 8 days because weather conditions can't be reliably predicted beyond that. The model assumes that Dworshak operation will continue at full powerhouse flows of 9.5-10 kcfs and takes into account the warm weather expected this next week. Even so, the model shows Lower Granite tailwater temperatures will remain between 64-65 degrees F. The message here, Hall said, is that the cooling effect of increased flows from Dworshak probably won't be needed next week despite the coming heat wave.

Kyle Dittmer (CRITFC) gave TMT an update on EPA's temperature modeling using the RBM-10 forecasting method. Both model runs are tracking well, Dittmer said. Dworshak outflows could increase to 12 kcfs, depending on whether Dworshak goes to flat flows or the Nez Perce operation.

The Salmon Managers' consensus at FPAC yesterday, absent this modeling information, was to keep current discharges at 9.5 kcfs or full powerhouse, while maintaining the 66-degree threshold as a contingency for increasing Dworshak discharges to 12 kcfs, Paul Wagner (NOAA) said. An hourly reading of higher than 66 degrees would trigger these increased flows.

Feil suggested that, since temperatures are low, water could be saved by ramping down somewhat. Russ Kiefer (Idaho) responded that both flow and temperature are important, and dropping Dworshak back to 2 units now would mean having to spill later in order to use the full amount of flow augmentation from Dworshak reservoir. Spill at this stage of the season would slow down fall Chinook migration. Kiefer therefore opposed conserving water now for that reason, and Dave Wills (USFWS) supported this reasoning. The flows are needed now, and minimizing excessively large spill volumes later is a good thing.

The latest STP run and box whiskers plot (available on the TMT web page under ESP forecasts for Dworshak Dam) projects an average of 11.5 kcfs outflows through August, Hall said. He emphasized that water used now won't be available later in July or the first half of August to help keep Lower Granite temperatures below 68 degrees F. The volume available could be shaped in a variety of ways – 15 days of 14 kcfs flows, for example, or 22 days of 12 kcfs. Kiefer assured Feil that FPAC members considered this as part of their discussion yesterday.

The ESP traces show little variation in projected average inflows for the rest of the summer. Feil will notify TMT if temperatures at Lower Granite reach 66 degrees F, triggering an increase to 12 kcfs outflows from Dworshak. There were no objections to this operation.

#### ***4. Treaty Fishery – SOR 2009-C4***

SOR 2009-C4 requests 1-foot stable elevation bands at the three lower Columbia River pools from 6 am on July 15 to 6 pm on July 17, Kyle Dittmer (CRITFC) reported. CRITFC's latest aerial survey found 283 nets in the lower river pools, with 92 (32.5%) of those in the Bonneville pool, 55 (19.5%) in The Dalles pool, and 136 (48%) in the John Day pool. The tribes anticipate that SOR 2009-C4 will be the last SOR of the summer, Dittmer said. Fall fishing season usually begins in mid to late August, depending on the fall Chinook run.

The COE will operate the three lower river projects as it has for previous treaty fisheries, Doug Baus (COE) said. There will be a 1.5-foot hard constraint on elevation fluctuations at Bonneville, a 1.5-foot soft constraint at The Dalles,

and a 1.5-foot hard constraint at John Day. These instructions have already been teletyped to project operators.

### **5. Juvenile Transportation at McNary**

The summer Fish Operations Plan states that TMT will consider initiating transportation at McNary Dam any time between July 15 and July 30, Feil said. The COE proposed to begin transportation as soon as possible.

FPAC discussed transportation yesterday and agreed to begin collection now, Wagner said, for the main purpose of collecting fish for a large transportation study of Snake River projects. The tagging of 500,000 fall Chinook is the largest effort undertaken to date to examine the effects of transportation at all projects. Beginning collection now will provide information on how to handle transportation better in future. As the configuration of all the projects changes, what's needed is a clearer picture of how transportation fits in, and this study will be a big help.

The COE proposed to begin collection and transportation activities every other day at McNary. Representatives of Idaho, Oregon, USFWS, CRITFC, BOR and BPA had no objections to this operation. There were no Montana or Washington representatives present today.

### **6. Little Goose Low Flow Operations**

Feil showed TMT a graph of 2008 summer operations at Little Goose, linked to today's agenda. The graph indicates that the Lower Granite navigation lock hits its minimum elevation of 633 feet when flows at Lower Granite dip below 50 kcfs. So that's the rationale for using 50 kcfs flows as a threshold for bumping up the Lower Granite pool elevation to MOP+1, although a trigger of 40 kcfs was identified in the summer Fish Operations Plan before this analysis was conducted. The navigation problem is caused by wave action that starts at Little Goose when the operation switches back and forth from 1 to 2 units at low flows and the trough of the wave hits the Lower Granite navigation lock.

With Lower Granite outflows at 56 kcfs today, the COE is watching the situation closely and expects to shift from MOP to a MOP+1 elevation sometime next week. Feil recalled that members at last week's TMT meeting did not object to this operation, with the possible exception of CRITFC pending internal discussion. Today, CRITFC and Oregon representatives both said they would need to confer internally before they could support this operation.

Russ Kiefer explained why a MOP+1 operation is easier for fish managers to accept in April than it is now. Delaying spring migrants has little impact on their arrival at the ocean, whereas the life history of fall Chinook summer migrants is altered if summer migration is delayed. Raising the pool elevation by a foot might only slow them down a bit, but it could still have adverse effects. Kiefer sought a solution that would meet navigation and power needs without delaying migration.

He said he wouldn't object to the MOP+1 operation at this time, but voiced an intention to spend more time seeking a better solution.

There was discussion of switching from 30% spill to flat spill via one unit at Little Goose, a tactic that has been used in previous years to deal with the navigation issue. Tony Norris (BPA) asked about training spill, and Feil directed him to Table LGS-11 in Section 8 of the Fish Passage Plan for detailed information. The only way to keep the river flat at a standard MOP operation would be to alter the spill percentages daily, Norris observed.

USFWS, NOAA, BOR, and BPA voiced no objections to the COE's trigger for switching to a MOP+1 operation at Lower Granite. Oregon and Idaho will confer with the COE later today. Montana and Washington representatives weren't present.

## **8. Operations Review**

**a. Reservoirs.** Grand Coulee is at elevation 1,288 feet. Hungry Horse is at elevation 3,558.89 feet, with 2.2 kcfs outflows. Kiefer asked whether Hungry Horse outflows will be increased this season. There may be a small increase, say from 2.2 to 2.5 kcfs, John Roache (BOR) replied.

Libby is at elevation 2,436.97 feet, with inflows of 17.8 kcfs and outflows of 7 kcfs. The sturgeon pulse ended July 12 and the operation switched to bull trout minimum flows. Albeni Falls inflows are 23.4 kcfs and outflows are 21.5 kcfs. Dworshak is at elevation 1,591.71 feet, with inflows of 3.1 kcfs and outflows of 9.6 kcfs.

Seven-day average inflows are 49.8 kcfs at Lower Granite, 182.1 kcfs at McNary, and 189.1 kcfs at Bonneville.

**b. Fish. Adults** – Summer Chinook are still passing Bonneville at the rate of just under 1,000 fish per day. Steelhead passage is picking up, with 2,700 fish per day as of yesterday. Sockeye passage is down to 500 fish per day.

**Juveniles** – Subyearling fall Chinook are the most active, with a rate of 3,000-5,000 fish per day passing both Lower Granite and Little Goose. Counts are 1,500-2,000 fish per day at Lower Monumental; 200,000-300,000 fish per day at McNary; and 20,000-50,000 fish per day at both John Day and Bonneville. Subyearling passage is expected to continue at these rates through July and decline quickly in August.

**c. Power System.** There was nothing to report today.

**d. Water Quality.** Laura Hamilton (COE) gave an update. The COE posts the number and location of total dissolved gas exceedances on a page linked to the TMT site. There is also a link on the TMT page that shows spill caps for all of the projects. All of the TDG gages are up and running.

## **9. Next Meeting**

The next scheduled TMT meeting will be a conference call July 22, with Dworshak operations, transportation planning, navigation at Lower Granite, Libby operations, and review of meeting minutes for today on the agenda. The next meeting will be in person July 29. This summary prepared by consultant and writer Pat Vivian.

<b>Name</b>	<b>Affiliation</b>
Dan Feil	COE
Kim Johnson	COE
Doug Baus	COE
Tony Norris	BPA
Steve Barton	COE
Steve Hall	COE Walla Walla
John Heitstuman	COE Walla Walla
Russ Kiefer	Idaho
Tim Heizenrader	Centaurus
Rick Kruger	Oregon
Laura Hamilton	COE
Rudd Turner	COE
Dave Wills	USFWS
Scott Bettin	BPA
Paul Wagner	NOAA
John Roache	BOR
Kyle Dittmer	CRITFC
Eric Volkman	BPA
Richelle Beck	DRA
Barry Espenson	CBB
Russ George	WMC
Ruth Burris	PGE
Rob Diaz	Integral Renewables
Tom Le	Puget Sound Energy
Ian Berg	Velocity Energy

# TECHNICAL MANAGEMENT TEAM

**BOR** : John Roache / Mary Mellema / Pat McGrane      **BPA** : Robyn MacKay / Tony Norris / Scott Bettin  
**NOAA-F**: Paul Wagner / Richard Dominique              **USFWS** : David Wills / Steve Haeseker  
**OR** : Rick Kruger / Ron Boyce                              **ID** : Russ Kiefer / Pete Hassemer  
**WDFW** : Cindy LeFleur                                         **MT** : Jim Litchfield / Brian Marotz  
**COE**: Dan Feil / Steve Barton

## TMT CONFERENCE CALL

Wednesday July 22, 2009 09:00 - 12:00

### CONFERENCE PHONE LINE

Conference call line:888-285-4585; PASS CODE = 601714

We have had disruptions on the phone because people are not hitting 'mute' after dial in.  
**Please MUTE your Phone**

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*All members are encouraged to call Robin Gumpert with any issues or concerns they would like to see addressed.  
Please e-mail her at [rgumpert@cnnv.net](mailto:rgumpert@cnnv.net) or call her at (503) 248-4703.*

## AGENDA

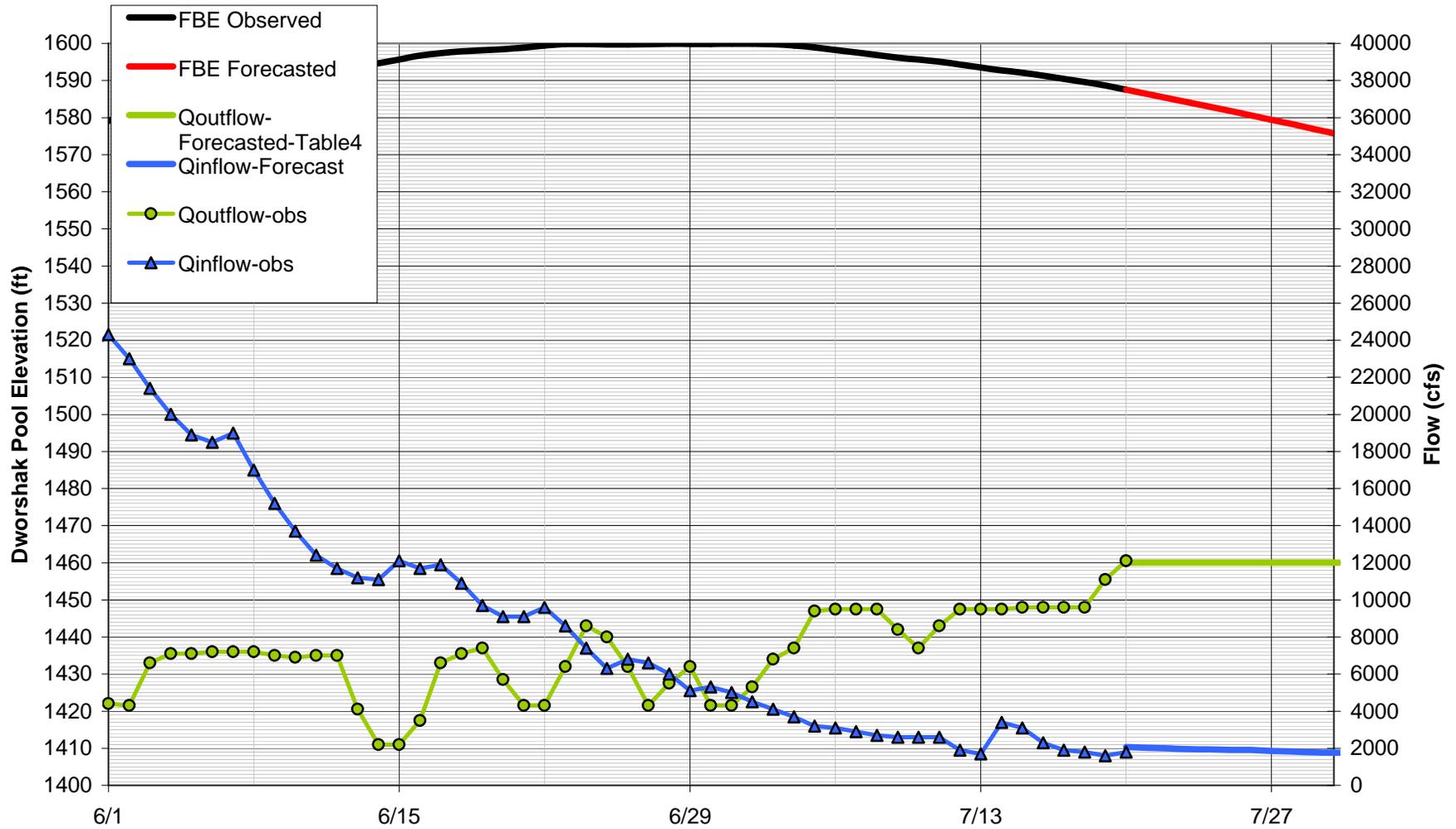
1. Welcome and Introductions
2. Review Meeting Minutes for July 15, 2009 [[Meeting Minutes](#)]
3. McNary Dam Project Fish Emergency Operations - Tom Lorz, CRITFC
  - a. [SOR 2009-03](#)
4. Review Dworshak Operations - Dan Feil, COE-RCC / Steve Hall, COE-NWW
  - a. [Dworshak Release 2009](#)
  - b. [Water Temperature Comparisons](#)
5. Little Goose Low Flow Operations - Dan Feil, COE-RCC
6. Other
  - a. Set agenda for next meeting - **July 29, 2009**
  - b. [[Calendar 2009](#)]

*Questions about the meeting may be referred to:*

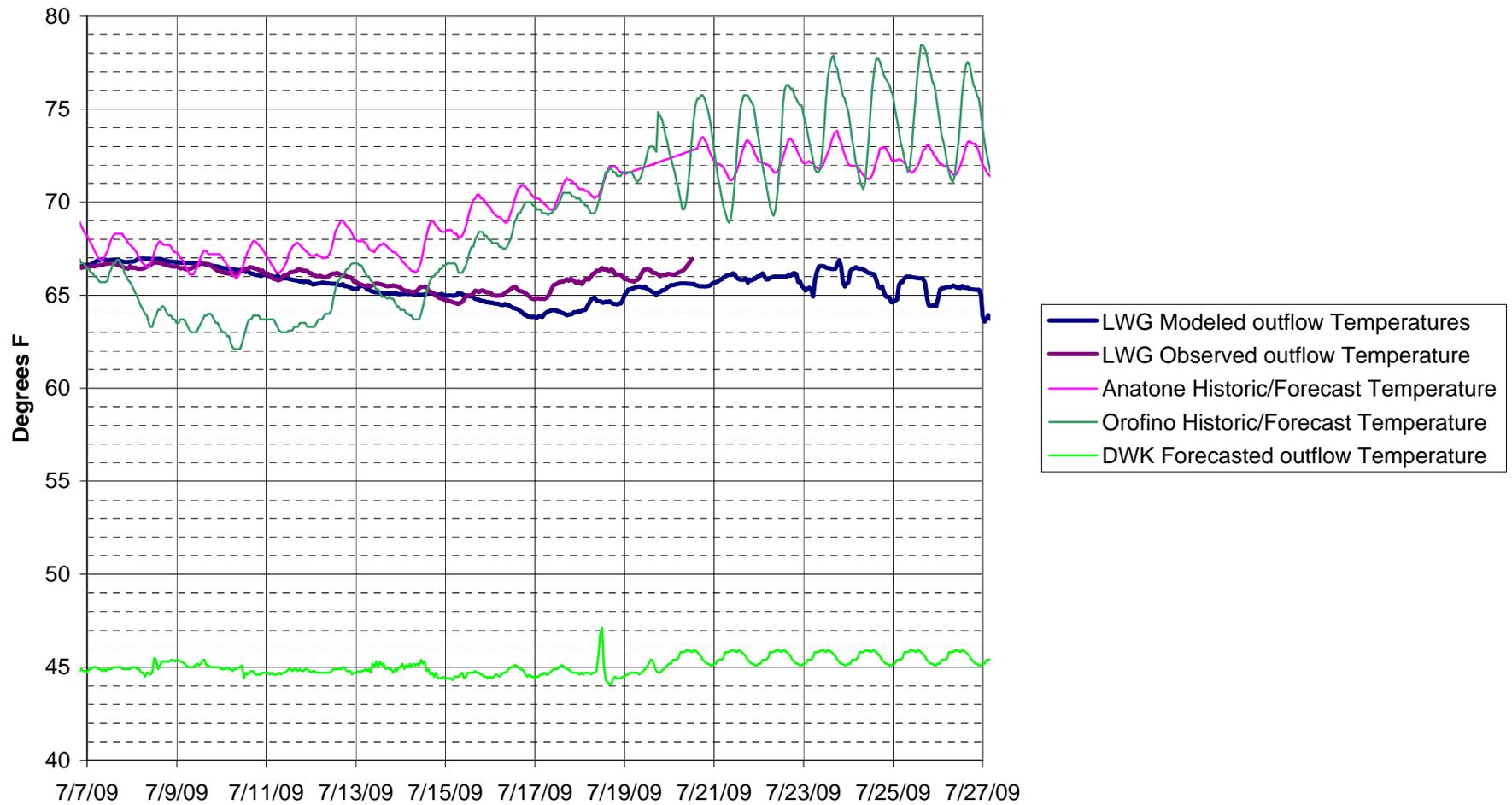
*[Dan Feil](#) at (503) 808-3943, or*

*[Steve Barton](#) at (503) 808-3945*

## Dworshak Reservoir July 20, 2009 Flow and Stage Projection



**Water Temperature Comparisons**  
**Observed data thru 7/19/09**  
**Forecast Temperatures from Year 2002 (Anatone and Orofino)**



# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

July 22, 2009 Conference Call

### FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator/Notes: Erin Halton

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the “record” of the meeting, only a reminder for TMT members.

#### **Review of Minutes/Agenda**

Russ Kiefer, ID, made the following edit to the 7/15 facilitator's notes:

- In the third paragraph under Dworshak operations, clarify that Kiefer said outflows of 12 kcfs also provides a benefit for power production.

No other changes to the facilitator summary or official meeting minutes were mentioned during the meeting. TMT will look to confirm these sets as “final” at the 7/29 face-to-face TMT meeting.

#### **Dworshak Operations**

Dan Feil, COE, reminded TMT members of the prior weeks' operations for Dworshak, per the discussion by TMT members during the July 15<sup>th</sup> TMT meeting. He noted that on Monday, the COE dropped the temperature target for outflows from 45°F down to 43°F. The COE clarified that the most recent modeling results had been emailed to FPAC members but had not yet been posted to the TMT agenda. Steve Hall, COE, said that the COE had discussed outflow and temperature target options with FPAC members. Hall clarified that the models emailed to FPAC members had assumed outflows of 12 kcfs and outflow temperatures of 45°F. Feil reported that temperatures at the Lower Granite tailrace were 67.7°F on 7/21 and said that modeling results indicated that temperatures would continue to rise up to the 68°F criteria.

Dave Wills, USFWS, and Russ Kiefer, ID, said on behalf of the Salmon Managers that the discussion of Dworshak operations at the FPAC meeting on 7/21 included considerations of reducing the outflow temperature target to 39°F and of increasing outflows to 14 kcfs. Kiefer acknowledged the challenge in making operational recommendations on how much water to release at this point in the season, given the uncertainty of how much longer the hot weather will continue and the knowledge that increasing outflows to 14 kcfs would drain a cool water resource that could last a little longer if outflows were held at 12 kcfs for another week. Dworshak Hatchery staff clarified that they would prefer cooler temperatures rather than elevated gas levels. The FPAC conversation resulted in a consensus recommendation to drop the temperature target for Dworshak outflows 41°F, with the hope that the cooling releases will keep temperatures at the Lower Granite tailrace below the 68°F criteria. The COE responded that they agreed with the recommendation, especially given the temperatures in the Brownlee/Lewiston area, which are expected to be over 100°F through the weekend.

TMT members discussed data/modeling that would be helpful for future Dworshak discussions; the COE offered to produce updated mass/balance and remaining volume data and also updated models that assume outflows of 12 kcfs and the shaping that would be associated with holding those outflows for shorter/longer amounts of time.

**Action/Next Steps:**

- The COE will reduce the Dworshak outflow temperature target to 41°F with outflows of 12 kcfs and the big unit in undershot mode.
- TMT members agreed to continue discussion of Dworshak operations via a conference call at 9 a.m. on Friday morning.
- Between now and then, the COE will be closely monitoring temperatures at the Lower Granite tailrace and will be watching for instantaneous reads on whether temperatures rise above 68.0°F.
- Additional data produced by the COE's Walla Walla District office will support TMT's discussion and help them determine criteria for the COE to use in managing Dworshak.

**SOR 2009-3**

Tom Lorz, on behalf of the signatories to SOR #2009-3 (IDFG, ODFW, the Shoshonne-Bannock Tribes, CRITFC and the Nez Perce Tribe), reviewed the request which was posted as link to the TMT agenda. The request was drafted in response to McNary's observed mortality rates of 17% on 7/20 and 9% observed on 7/21. Lorz clarified that the request to increase spill at McNary was intended to remain in effect until such time that mortality rates returned to historical average mortality rates of ~ 3% and that the signatories to the SOR felt that increasing spill would be the best way to remedy the high mortality rate.

The COE responded by saying they would increase spill to the gas cap (155 kcfs) beginning immediately. Dan Feil, COE, clarified that efforts to clear debris screens were underway at the project and noted that the COE suspected that heat shock was playing a role in the high mortality rates observed on 7/20 and that temperatures had since returned to closer to average levels. He also said that the COE was working on amending the transportation contract, to enable transportation to occur every day instead of every other day. Feil said that the contract might be in place by as early as 7/25. Feil said that once transportation is taking place everyday, the COE proposed triggers as follows: if the temperature gradient in the bypass system was greater than 3°C, or – per the Fish Passage Plan's Appendix B – if there are mortalities of 6% or greater observed for 3 consecutive days, the COE will return to spilling to the gas cap. The COE asked for TMT members to weigh in on the COE's response to the SOR:

- NOAA: no objection
- BOR: no objection
- BPA: no objection
- USFWS: no objection, appreciate the COE's ability to respond quickly to the request.
- ID: no objection, and recommend that the COE consider using three day average mortality rates for criteria described in the 2010 FPP.
- Also: CRITFC: no objection.

**Action:** The COE planned to spill to the gas cap at McNary beginning immediately. Updates regarding McNary Fish Operations will be shared by the COE as they are known.

**Little Goose Low Flow Operations**

Dan Feil, COE, reported that flows at Little Goose were at 46 kcfs and that operations have not reached MOP +1 as previously discussed at TMT meetings. He clarified that the COE planned to operate Little Goose at MOP and noted that the unit switch performed at 0800 hours on the morning of 7/22 had not presented any navigation issues thus far. The COE clarified that the minimum elevation for safe navigation – per the Fish Operation Plan - was 633' and said they would take whatever action(s) necessary to make sure conditions at Little Goose was safe for navigation.

**Action/Next Steps:** the COE will operate Little Goose pool elevation to MOP.

**TMT Schedule:**

- Conference call to discuss Dworshak operations at 9 am on 7/24.
  
- Face-to-face on July 29th at 9:00am.  
Agenda items will include:
  - Dworshak operations update
  - Libby operations update
  - Seasonal Treaty Fishing Review
  - Operations Review

**Columbia River Regional Forum  
Technical Management Team Conference Call  
July 22, 2009**

***1. Introduction***

Today's TMT call was chaired by Dan Feil (COE) and facilitated by Erin Halton (DS Consulting), with representatives of COE, BPA, NOAA, BOR, USFWS, CRITFC and others participating. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

***2. Review Meeting Minutes for July 15, 2009***

Russ Kiefer (Idaho) commented on the July 15 facilitators' notes under Dworshak Operations. When the COE asked the Salmon Managers whether they would recommend dropping outflows to a two-unit operation, Kiefer gave two reasons for maintaining full powerhouse. Reducing outflows to two units would have meant more spill later, which is bad for both fish operations and power production, but only fish benefits were mentioned in the notes. They will be reposted to the TMT web page with this change.

***3. Dworshak Operations***

Last week's TMT discussion recommended a full powerhouse operation at Dworshak, with an increase in flows to 12 kcfs if temperatures at Lower Granite tailrace increased to 66 degrees F (45 degrees F at Dworshak), Dan Feil (COE) said. Lower Granite tailrace temperature reached 66 degrees on July 18<sup>th</sup>. Due to rising temperatures, the COE dropped Dworshak outflows to the 42.5-43.5 degrees F range in light of rising temperatures on July 20th. This operation continues, with Dworshak outflows remaining at 12 kcfs.

Both the COE and Idaho modeled Dworshak operational scenarios, which were not yet posted online as of this meeting. The COE model is based on Dworshak outflows of 45 degrees F, while the Idaho model is based on outflows of 41 degrees F.

Steve Hall (COE Walla Walla) described the COE modeling results. The model is tracking about one degree F below observed temperatures at Lower Granite tailwater, which have been hovering above 67 degrees F and could potentially to hit 68 degrees F in the coming heat wave this week. Under these conditions, the COE planned to drop Dworshak outflows temperatures even further to a 41 degrees F target. The main consideration is limited volume, Karl Kanbergs (COE) said. The modeling indicates there may be a few more weeks left of 12 kcfs outflows, and maybe one week of 14 kcfs outflows at best.

A review of the COE modeling results found that flows this year at Anatone gage are quite a bit higher than average (about 10 kcfs higher), Hall said. When STP flow projections were blended into this analysis, a drop of about 10 kcfs over a few days occurred in the model forecast, which is unlikely. What is more likely to occur during this heat wave is sustained high volume warm releases of Snake River flows from the Brownlee and Hells Canyon reservoirs, which will have a negative (bad) effect on temperatures downstream. The most recent Weather Service forecast indicates that temperatures over 100 degrees F are expected in the Hells Canyon area and downstream to Lewiston, Idaho.

Feil asked the Salmon Managers for their recommendation on Dworshak operations at this point, with the possibility of dropping Dworshak outflow temperatures even further. Yesterday the Salmon Managers modeled several different scenarios, including gas cap spill (14 kcfs spill), and dropping outflows to 39 degrees F, Kiefer said. There was a tentative recommendation to maintain 12 kcfs outflows and drop the outflow temperature target from 43 to 41 degrees F.

The COE is in agreement with this recommendation and will implement it as soon as possible, Feil said. There was no clear FPAC consensus on an operational recommendation, but there was general agreement to wait until the 43 degrees F outflows from Dworshak take effect downriver before considering using 68 degrees F at Lower Granite tailwater as the trigger to increase Dworshak outflows to 14 kcfs, Kiefer and Dave Wills (USFWS) noted.

TMT members agreed that Friday morning two days from now is a good time to check in on how the outflow temperature changes are affecting Lower Granite outflows. There was discussion of whether the 68-degree trigger at Lower Granite tailwater should be an instantaneous reading or a 12-hour rolling average. An instantaneous reading of 68 degrees was chosen as the trigger to hold a Friday morning meeting. In the meantime, exceedances of 68 degrees F in the Lower Granite tailwater will be considered acceptable until cooler outflows have had a chance to take effect. The current tailwater reading at Lower Granite is 67.5 degrees F.

Until Friday, the COE will operate Dworshak at 12 kcfs outflows and drop outflow temperatures to 41 degrees F, using both the spillway and the regulated outlet gates and pulling more water from the RO gates as cooler temperatures as needed. Current operations are; Full powerhouse flows (9.5 kcfs) plus 2.3 kcfs through the spillway and 2.3 kcfs through the RO gates. Attention turned to the effects of such low water temperatures on fish production at the Dworshak hatchery. A loss of growth now would be preferable to the TDG effects of spilling to the gas cap, a hatchery spokesperson said. TMT scheduled a conference call for 9 am, July 24, to revisit the Dworshak operation in light of current data.

#### ***4. McNary Emergency Fish Operations – SOR 2009-09***

Tom Lorz (CRITFC) presented this SOR, which is a response to increases in mortality at the McNary Dam juvenile bypass system. Mortalities have been as high as 17% of the fish passing in one day (the average is about 9% of fish passing per day), as compared to a typical background level of 3% mortality. The SOR asks the COE to increase spill at McNary until the rate of mortalities returns to normal. Fish are arriving downstream dead or morbid, but not descaled, which indicates that the mortalities are not caused by debris that has accumulated in the trash racks and juvenile bypass system. While the trash racks are now being cleaned of debris, that is not the primary issue, Feil agreed. The likely cause of the deaths is heat shock due to a temperature gradient of 6 degrees C throughout the bypass system.

In response to the SOR, the COE plans to begin spilling to the gas cap at McNary as soon as possible, Feil said. Also, the COE is working toward daily transportation of fish at McNary. Transported every other day now, fish wait longer in the raceways at McNary than at any other project. Until daily barging begins, the COE plans to bypass fish to the river.

The COE will use the trigger established in appendix B to the transportation portion of the Fish Passage Plan, which is 6% mortality for 3 consecutive days. If that occurs, the COE will consider spilling to the gas cap at McNary. The current McNary gas cap is 155 kcfs, Laura Hamilton (COE) said. Spill will range between 80-110 kcfs, with resulting TDG levels of around 115% in the tailrace, which is below the 120% state water quality limit. Once daily barging begins, which is expected July 24-27, the COE will end gas cap spill.

CRITFC, NOAA, BOR, BPA, USFWS, and Idaho expressed support for this plan. In addition, Idaho recommended that the COE consider making the 6% trigger a 3-day moving average, with the prospect of making this amendment to the Fish Passage Plan when it is updated.

### ***5. Little Goose Low Flow Operations***

The total river flow is now 46 kcfs, but the COE has not moved Little Goose to a MOP+1 operation yet, Dan Feil (COE) said. The Lower Granite tailrace gage has been adjusted and appears to be providing adequate depth over the sill for barges to pass the navigation lock. Therefore, the COE is not proposing a MOP+1 operation at this time. However, that could change at any time with an instantaneous reading of 633 feet elevation at the Lower Granite tailrace gage.

There was discussion of the effects of switching back and forth between a 1- and 2-unit operation at Lower Granite, which began at 8 am today. The resulting waves in the Little Goose pool could cause the elevation to dip below 633 feet, Feil said. The COE will monitor these data very closely and go to a MOP+1 operation at Little Goose if the tailwater elevation hits 633 feet as specified in the Fish Operations Plan.

There was a suggestion that barges be asked to wait if necessary, but the COE said that's not feasible for two reasons. There's no provision in the agreement with tow boaters allowing the COE to ask them to wait, and even if there were, it would be difficult for project operators to predict wave effects.

Feil reminded everyone why this came to TMT for discussion. Problems were occurring when river flows hit 50 kcfs instead of the 40 kcfs trigger identified in the Fish Operations Plan. Adjustments to the Lower Granite tailrace gage seems to have solved that problem at present, but the COE emphasized that a reading of 633 feet elevation would trigger the MOP+1 operation.

## **6. Next Meeting**

The next scheduled TMT meeting will be a conference call on July 24 if needed to revisit Dworshak operations. The next meeting will be in person July 29, with transportation planning, navigation at Little Goose, Libby operations, and review of meeting minutes on the agenda. This summary prepared by consultant and writer Pat Vivian.

<b>Name</b>	<b>Affiliation</b>
Tony Norris	BPA
Rich Dominigue	NOAA
John Roache	BOR
Dan Feil	COE
Steve Barton	COE
Laura Hamilton	COE
Steve Hall	COE
Tracy Schwartz	COE
Dave Wills	USFWS
Kyle Dittmer	CRITFC
Barry Espenson	CBB
Ruth Burris	PGE
Tim Heizenrader	Centaurus
Richelle Beck	DRA
Karl Kanbergs	COE
Margaret Filardo	FPC
Dave Benner	FPC
Rob Diaz	Integral Renewables
Tom Le	Puget Sound Energy
Rob Allerman	Deutsche Bank
Scott Bettin	BPA
Russ Kiefer	Idaho
Rudd Turner	COE
Tom Lorz	CRITFC
Glen Trager	Shell Energy

# TECHNICAL MANAGEMENT TEAM CANCELLED

**BOR** : John Roache / Mary Mellema / Pat McGrane      **BPA** : Robyn MacKay / Tony Norris / Scott Bettin  
**NOAA-F**: Paul Wagner / Richard Dominigue              **USFWS** : David Wills / Steve Haeseker  
**OR** : Rick Kruger / Ron Boyce                              **ID** : Russ Kiefer / Pete Hassemer  
**WDFW** : Cindy LeFleur                                         **MT** : Jim Litchfield / Brian Marotz  
**COE**: Dan Feil / Steve Barton

## TMT CONFERENCE CALL

Friday July 24, 2009 09:00 - 11:00

### CONFERENCE PHONE LINE

Conference call line:(877)807-5706; PASS CODE = 117051

We have had disruptions on the phone because people are not hitting 'mute' after dial in.  
**Please MUTE your Phone**

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*All members are encouraged to call Robin Gumpert with any issues or concerns they would like to see addressed.  
Please e-mail her at [rgumpert@cnmv.net](mailto:rgumpert@cnmv.net) or call her at (503) 248-4703.*

## AGENDA

1. Welcome and Introductions
2. McNary Dam Project Fish Emergency Operations Update - Tom Lorz, CRITFC
3. Dworshak Operations Update- Dan Feil, COE-RCC / Steve Hall, COE-NWW
  - a. [Snake and Clearwater Rivers Water Temperatures](#)

*Questions about the meeting may be referred to:*

*[Dan Feil](#) at (503) 808-3943, or*

*[Steve Barton](#) at (503) 808-3945*

# TECHNICAL MANAGEMENT TEAM

**BOR** : John Roache / Mary Mellema / Pat McGrane      **BPA** : Robyn MacKay / Tony Norris / Scott Bettin  
**NOAA-F**: Paul Wagner / Richard Dominique              **USFWS** : David Wills / Steve Haeseker  
**OR** : Rick Kruger / Ron Boyce                              **ID** : Russ Kiefer / Pete Hassemer  
**WDFW** : Cindy LeFleur                                         **MT** : Jim Litchfield / Brian Marotz  
**COE**: Dan Feil / Steve Barton

## TMT MEETING

Wednesday July 29, 2009 09:00 - 12:00

1125 N.W. Couch Street, Suite 4A34  
Portland, Oregon 97209-4142  
Map Quest [\[Directions\]](#)

### CONFERENCE PHONE LINE

Conference call line:888-285-4585; PASS CODE = 601714

To check into the building, take the elevator to the 5th floor and the guard will issue you an ID badge if you need one and will take you down to the meeting room on the 4th floor. If you have NOT attended a TMT meeting in the past you will need to call ahead and let Dan Feil (503) 808-3943 or Steve Barton (503) 808-3945 know, so you can be added to the TMT Visitor List and issued an ID badge. This badge may be used indefinitely. If you have attended TMT in the past you may re-use your ID badge indefinitely. If you are a federal employee you will also need to have an ID badge issued to you which can be used indefinitely.

We have had disruptions on the phone because people are not hitting 'mute' after dial in.  
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Please e-mail her at [rgumpert@cnnv.net](mailto:rgumpert@cnnv.net) or call her at (503) 248-4703.*

## AGENDA

1. Welcome and Introductions
2. Review Meeting Minutes for July 22, 2009 [\[Meeting Minutes\]](#)
3. Review Libby Operations - Joel Fenolio, COE-NWS
  - a. [Libby Inflow](#)
4. Review Dworshak Operations - Dan Feil, COE-RCC / Steve Hall, COE-NWW
  - a. [SOR 2009-04](#)
  - b. [DWR Model Results](#)
  - c. [DWR Flow & Stage Projection](#)
5. Seasonal Treaty Fishing Review - Kyle Dittmer, CRITFC
  - a. [2009 Summer Treaty Fishery](#)
6. Corps Seasonal Treaty Fishing Review - Dan Feil, COE-RCC
  - a. [2009 Corps Summer Treaty Fishery](#)

7. McNary Emergency OP SOR Follow Up - *Dan Feil, COE-RCC*
8. Operations Review
  - a. Reservoirs
  - b. Fish
  - c. Power System
    - i. [Energy Savers](#)
  - d. Water Quality
9. Other
  - a. Set agenda for next meeting - **August 5, 2009**
  - b. [\[Calendar 2009\]](#)

*Questions about the meeting may be referred to:*  
*[Dan Feil](#) at (503) 808-3943, or*  
*[Steve Barton](#) at (503) 808-3945*

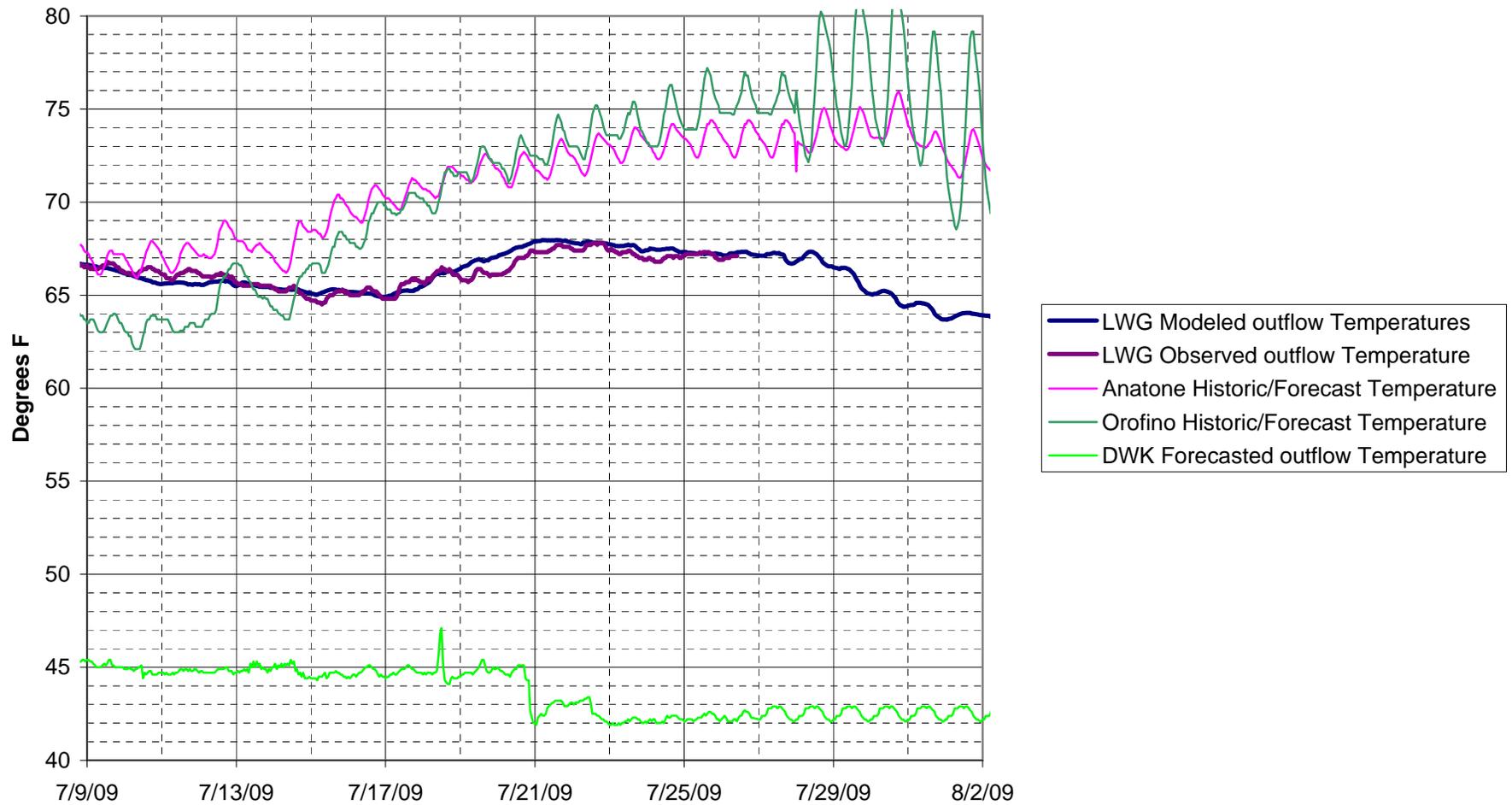
## Summary of Corps Operations for the 2009 Summer Treaty Fishery

- 802 out of 803 (99.9%) Tribal Fisheries SOR Hours for BON, TDA, and JDA, remained within the hard constraint specified in TMT

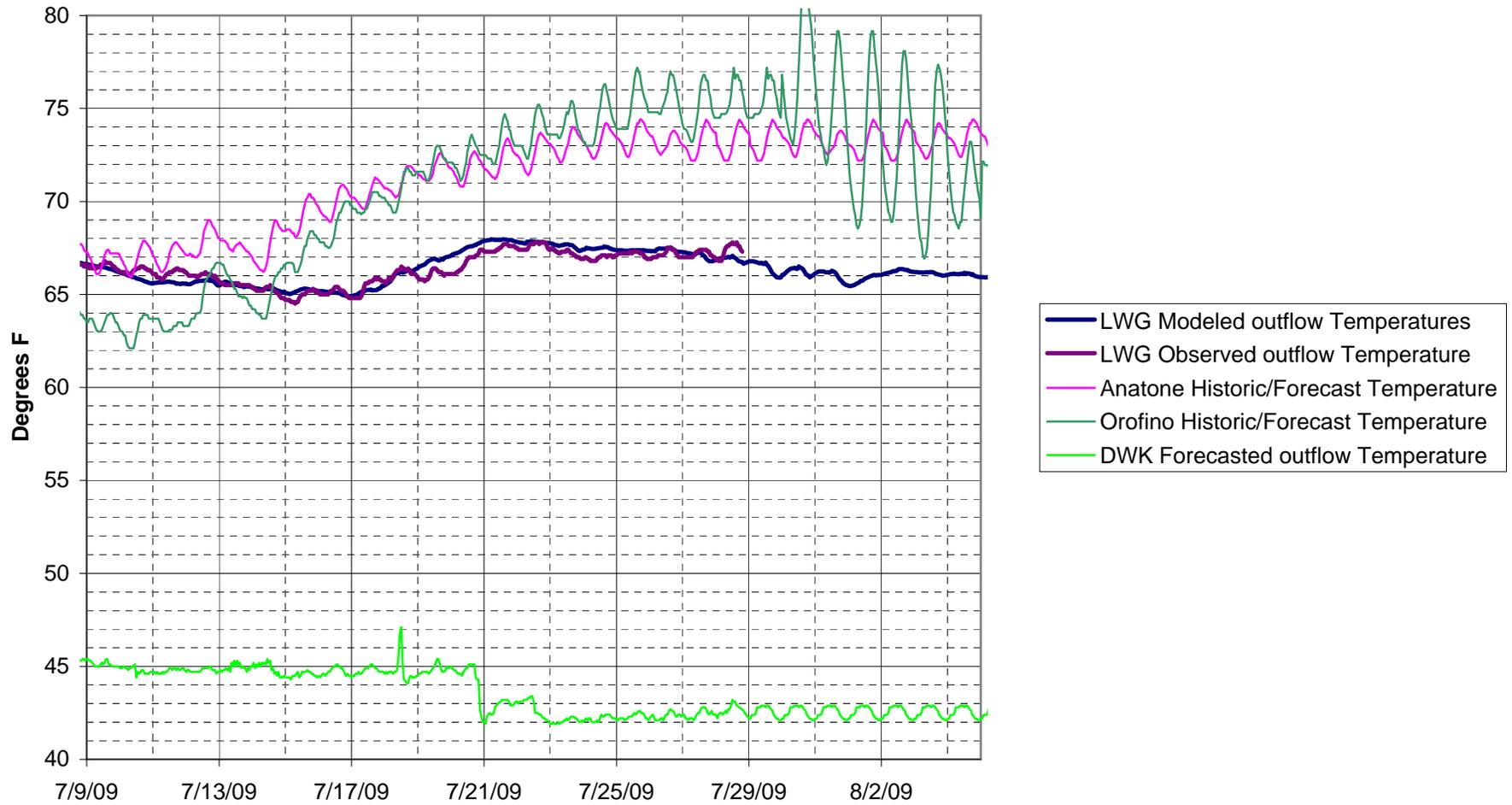
	BON	TDA	JDA
1.5' Hard (BON, JDA), 3' Hard TDA			
JUNE 16-19	100	100	100
JUNE 22-25	100	100	100
JUNE 30 - JULY 2	100	100	100
JULY 8 - 11	99	100	100
JULY 15 - 17	100	100	100
average	100	100	100

- SOR 2009 - C1: 1) BON, Hard Constraint, Elev. 75.0' - 76.5'; 2) TDA, Hard Constraint, 3', and; 3) JDA, Hard Constraint, 1.5'. Average hours within hard constraint = 100%.
- SOR 2009 - C2: 1) BON, Hard Constraint, Elev. 75.0' - 76.5'; 2) TDA, Hard Constraint, 3', and; 3) JDA, Hard Constraint, 1.5'. Average hours within hard constraint = 100%.
- SOR 2009 - C3: 1) BON, Hard Constraint, Elev. 75.0' - 76.5', Exceeded Hard Constraint one hour attempting to move a grounded fuel barge near Hood River; 2) TDA, Hard Constraint, 3', and; 3) JDA, Hard Constraint, 1.5'. Average hours within hard constraint = 100%.
- SOR 2009 - C4: 1) BON, Hard Constraint, Elev. 75.0' - 76.5'; 2) TDA, Hard Constraint, 3', and; 3) JDA, Hard Constraint, 1.5'. Average hours within hard constraint = 100%.

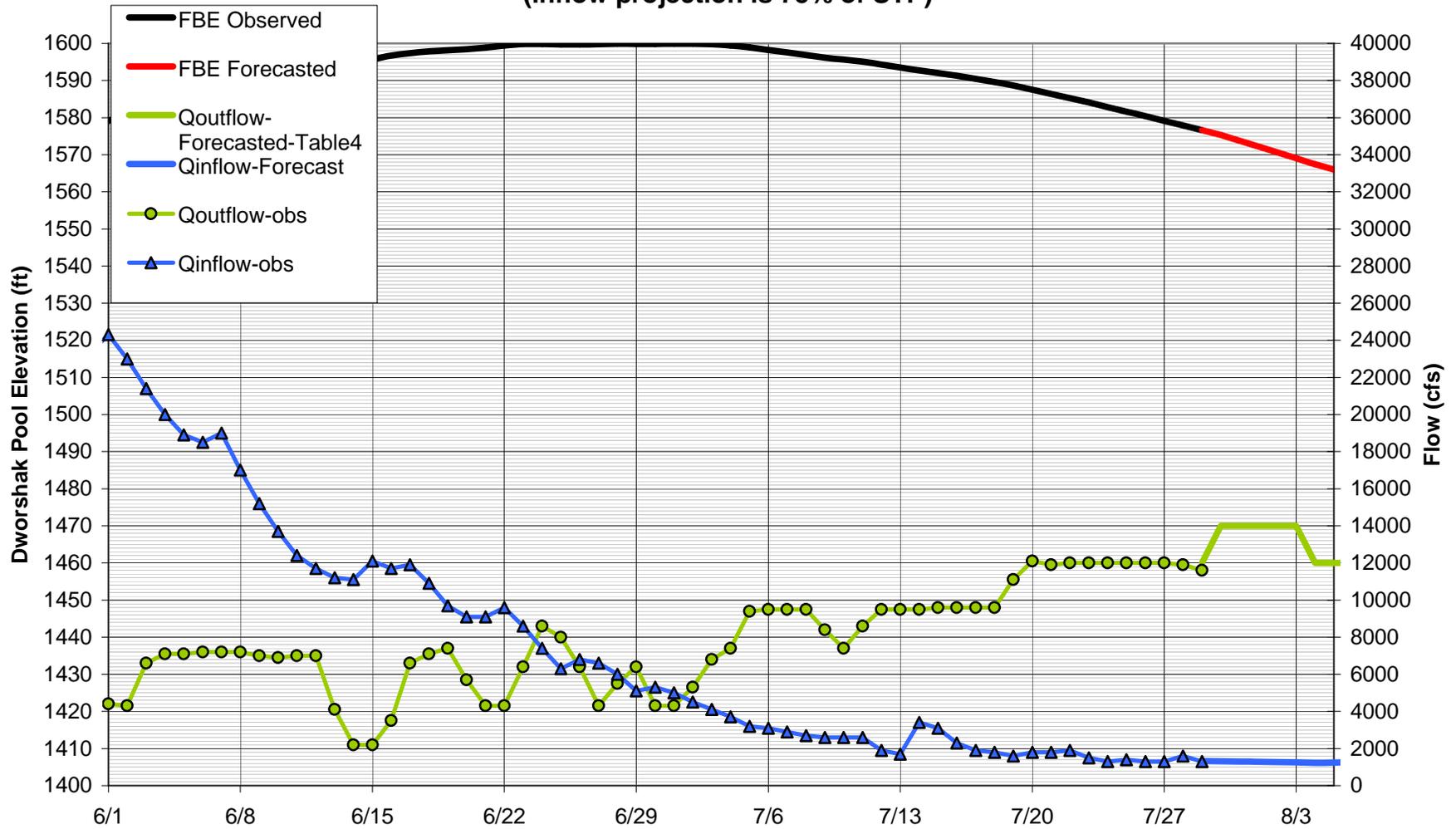
**Water Temperature Comparisons**  
**Observed data thru 7/26/09**  
**Forecast Temperatures from Year 2002 Plus 2 degree F (Anatone and Orofino)**



### Water Temperature Comparisons Observed data thru 7/28/09

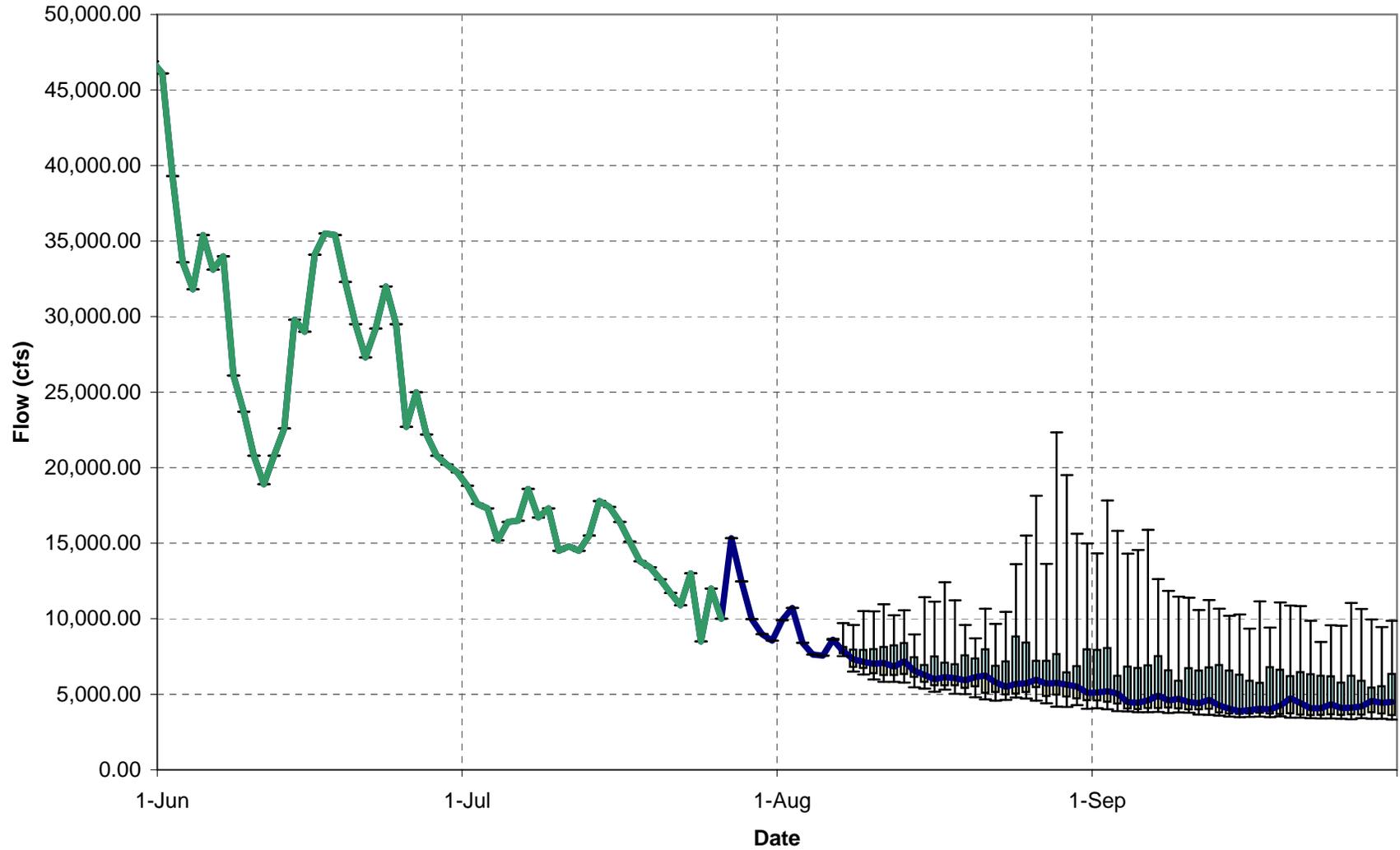


### Dworshak Reservoir July 29, 2009 Flow and Stage Projection (inflow projection is 75% of STP)



# Libby Inflow From ESP Traces

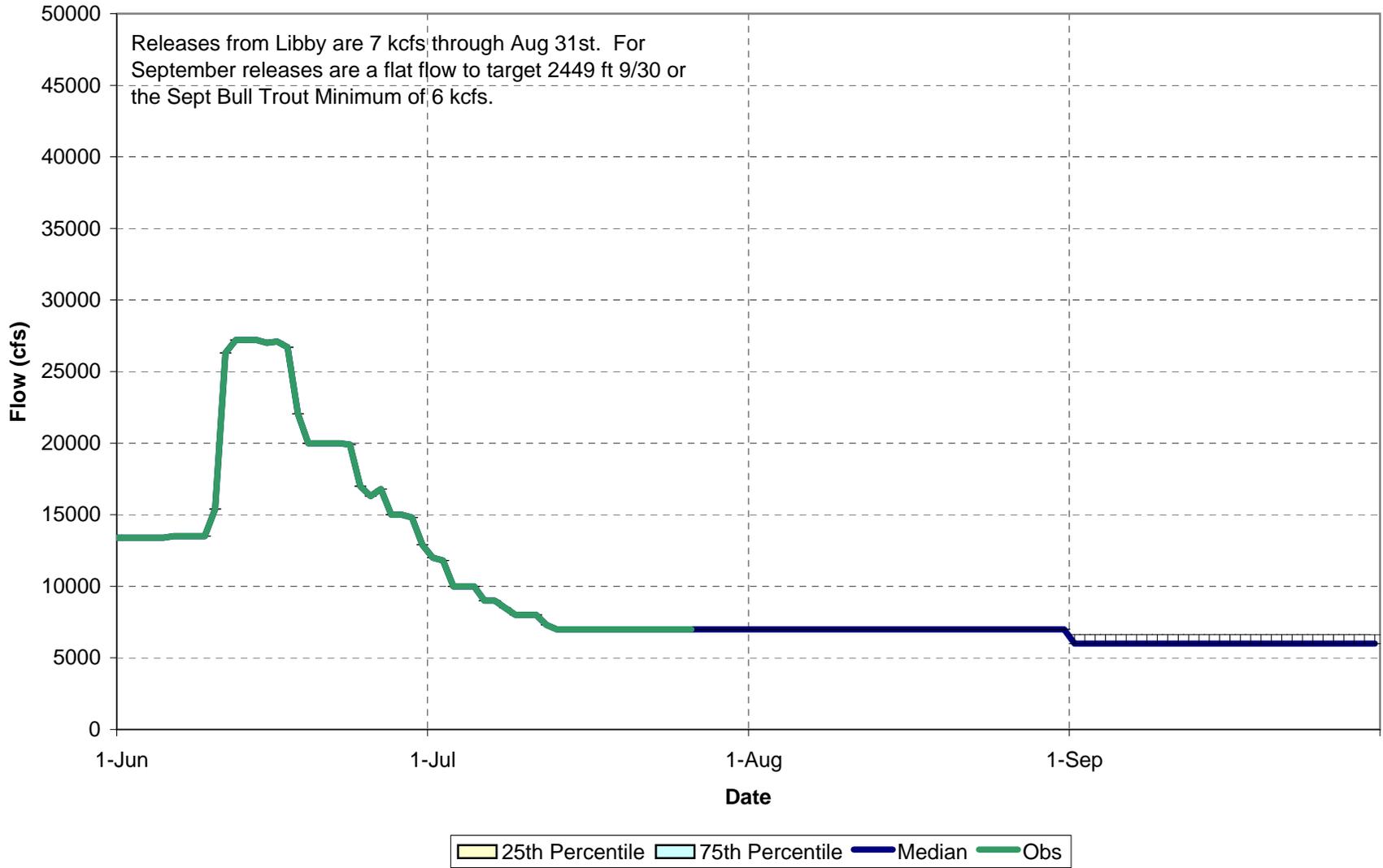
ESP Traces From July 28th, 2009



25th Percentile 75th Percentile Daily Median Obs

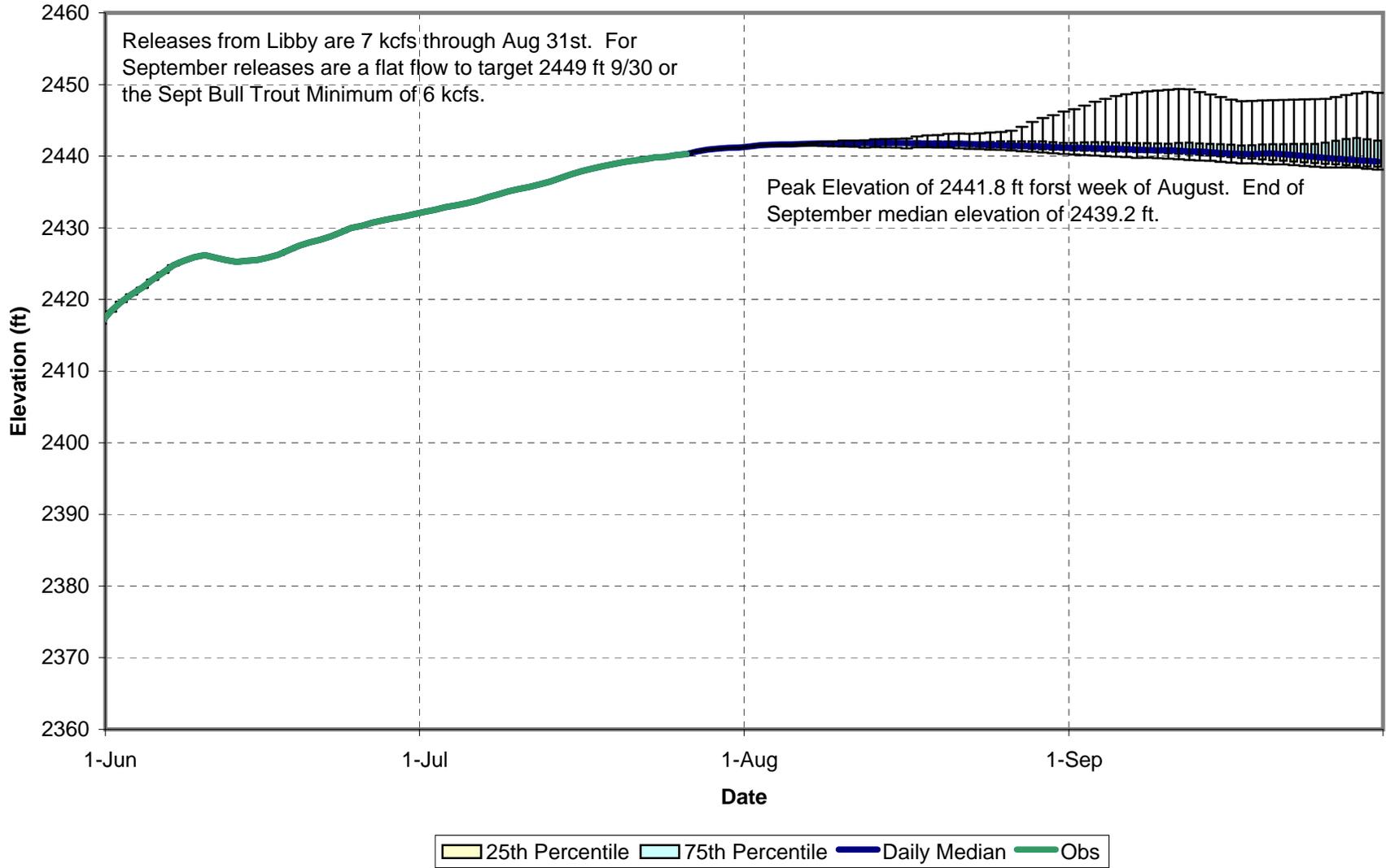
# Libby Outflow From ESP Traces

ESP Traces From July 28th, 2009



# Libby Elevation From ESP Traces

ESP Traces From July 28th, 2009





## COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION

729 N.E. Oregon, Suite 200, Portland, Oregon 97232

Telephone (503) 238-0667

Fax (503) 235-4228

www.critfc.org

TO: Technical Management Team (TMT)  
 FROM: Kyle Dittmer, *Hydrologist - Meteorologist*, CRITFC Hydro Program  
 DATE: July 29, 2009  
 SUBJECT: Summary of Pool Operations – 2009 Summer Treaty Fishery

CRITFC submitted four System Operation Requests (2009-C1 to C4) via the NMFS' TMT forum to support 2009 summer treaty fishing. CRITFC requested two criteria: (1) one-foot elevation bands and (2) stable pool elevations during each week of treaty fishing. Criterion #1 asked to operate the pools as a hard constraint within a one-foot elevation range for all of the Zone 6 pools (i.e., Bonneville, The Dalles, and John Day). The Corps committed to a 1.5-foot range hard constraint and 1-foot soft constraint. The table summarizes the hourly compliance of CRITFC's 1-foot elevation band criteria and the Corps' 1.5-foot criteria during the 2009 treaty fisheries. Even though compliance levels were 9-10% less than those achieved in 2008, we appreciate the Corps' efforts in coming close to meeting the CRITFC specified criteria.

<b>2009</b>	<b>Bonneville Pool</b>	<b>The Dalles Pool</b>	<b>John Day pool</b>
<b>1 foot range (CRITFC):</b>	<b>75.5-76.5</b>		
JUNE 16 - 19	65%	66%	100%
JUNE 22 - 25	46%	66%	100%
JUNE 30 - JULY 2	87%	51%	100%
JULY 8 - 11	89%	75%	99%
JULY 15 -17	85%	79%	100%
average:	<b>74%</b>	<b>67%</b>	<b>100%</b>
2008 average:	83%	77%	99%
<b>1.5 foot range (COE):</b>	<b>75-76.5</b>		
JUNE 16 - 19	100%	92%	100%
JUNE 22 - 25	100%	82%	100%
JUNE 30 - JULY 2	100%	80%	100%
JULY 8 - 11	99%	94%	100%
JULY 15 -17	100%	90%	100%
average:	<b>100%</b>	<b>88%</b>	<b>100%</b>
2008 average:	100%	91%	100%

Pool elevation data is a good objective measure as to the absolute pool fluctuations (Criterion #2) as shown in Figures 1 through 15. The Bonneville pool saw 0.2 – 1.5 foot swings (compared to 0.2 – 1.5 foot swings in summer 2008). The Dalles pool saw 0.2 – 2.5 foot swings (compared to 0.2 – 2.0 foot swings in summer 2008). John Day pool saw 0.1 – 1.0 foot swings (compared to 0.1 – 0.9 foot swings in summer 2008). The fishing effort was focused in the Bonneville and John Day pools. Tribal harvest: 11,710 Summer Chinook, 11,800 sockeye, and 2690 steelhead.

cc: CRITFC Hydro Program (Heinith, Lorz) and Fish Management Department (Ellis, Matylewich)

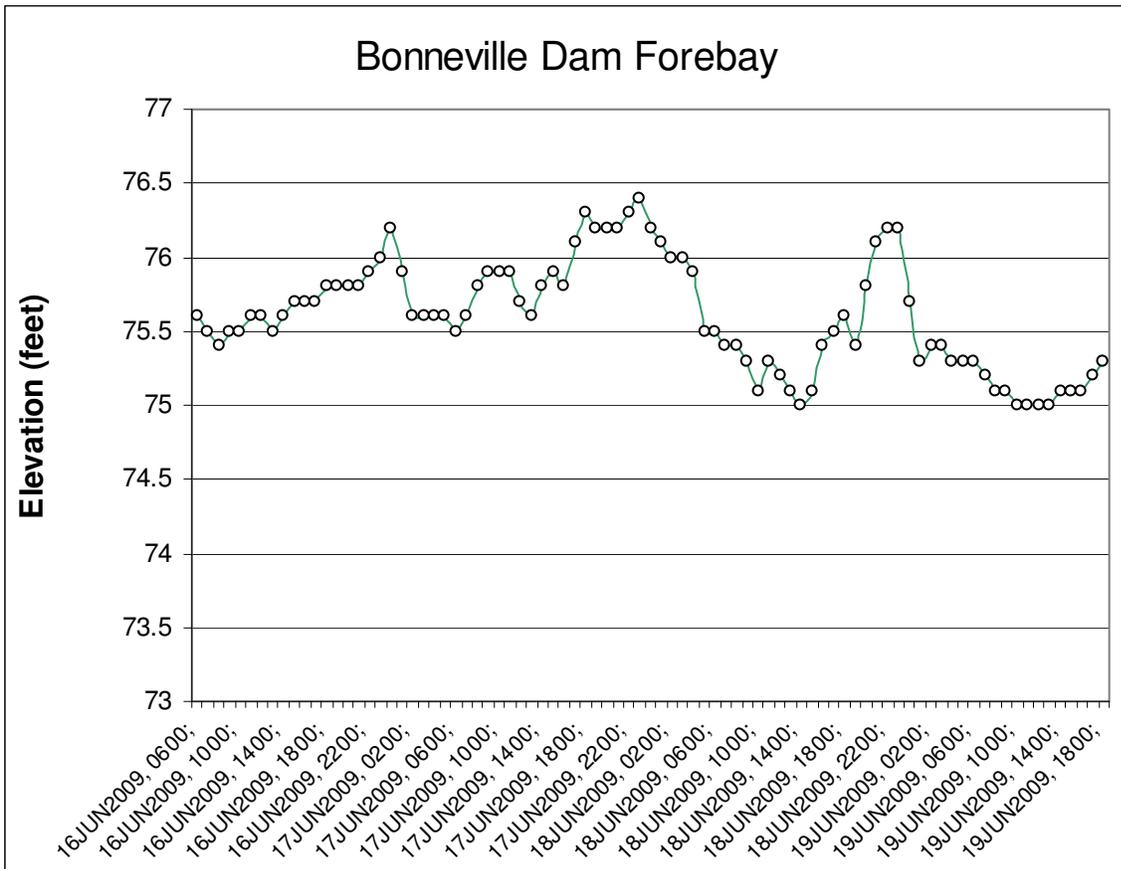


Figure 1. Observed BON pool elevations during June 16-19, 2009 summer treaty fishing.

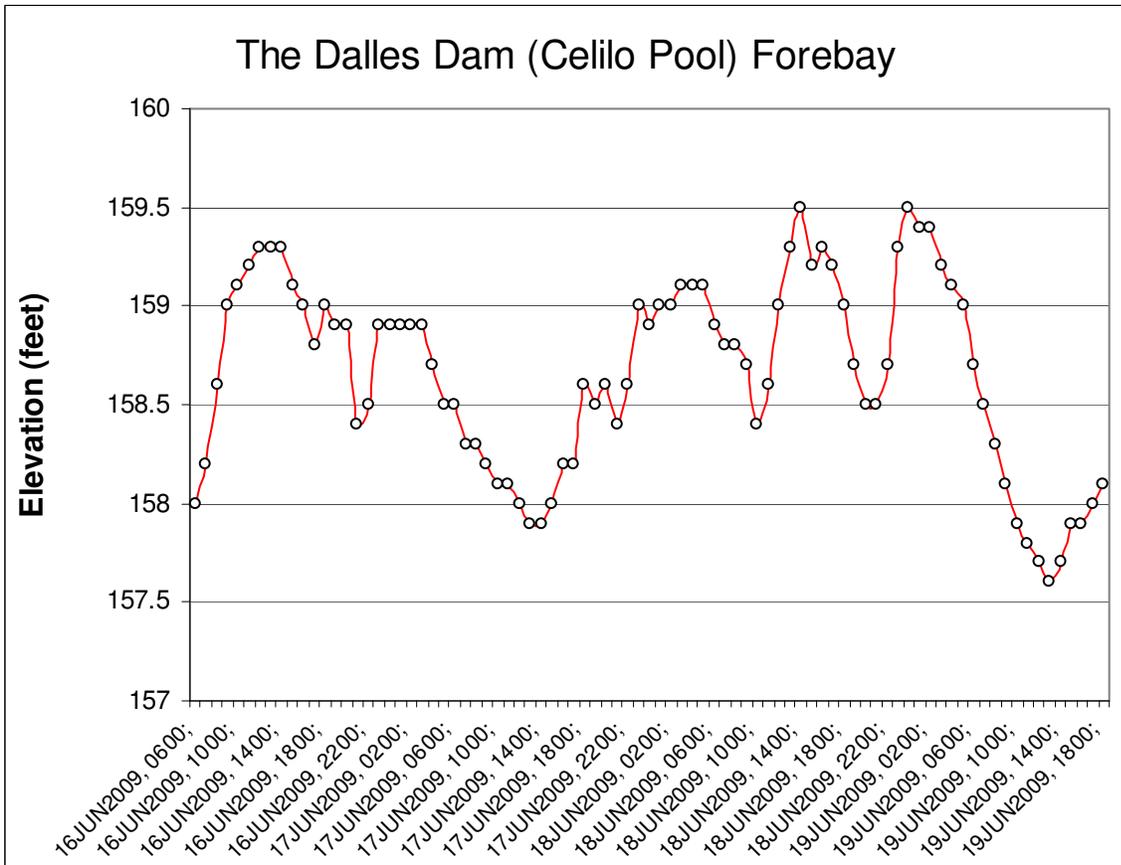


Figure 2. Observed TDA pool elevations during June 16-19, 2009 summer treaty fishing.

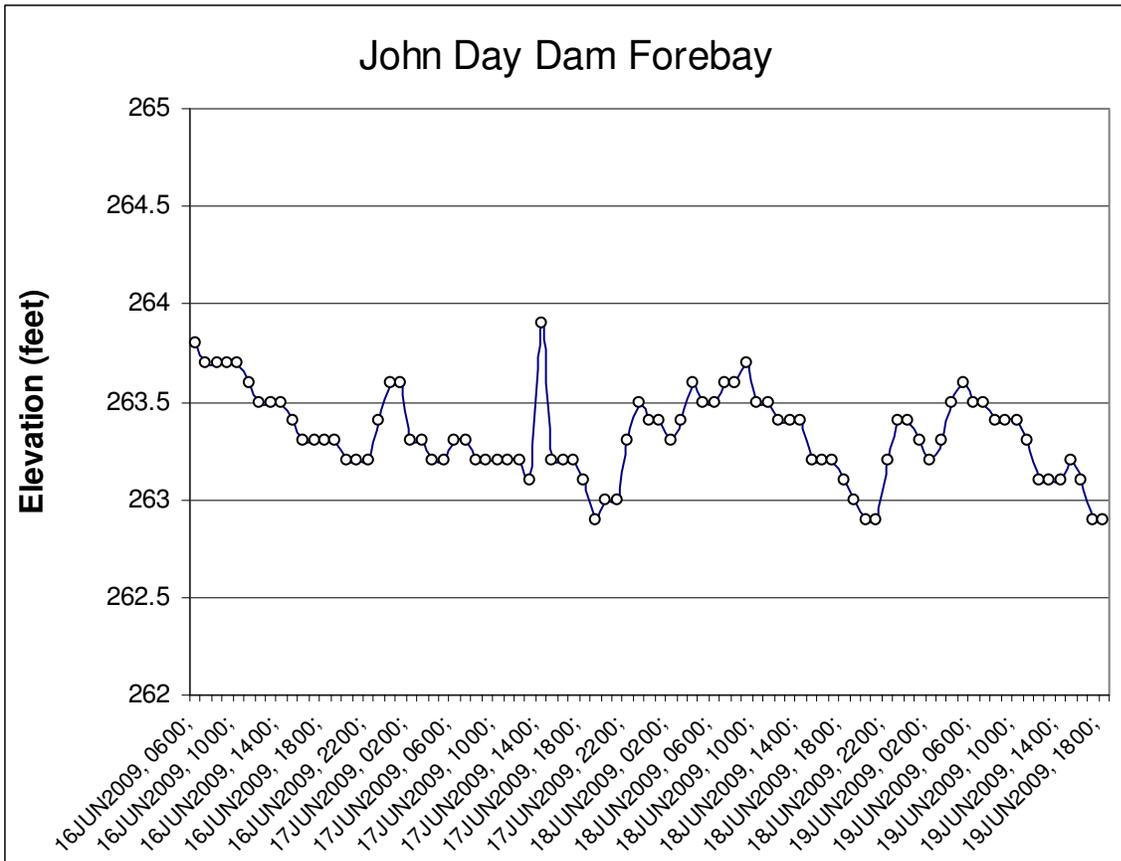


Figure 3. Observed JDA pool elevations during June 16-19, 2009 summer treaty fishing.

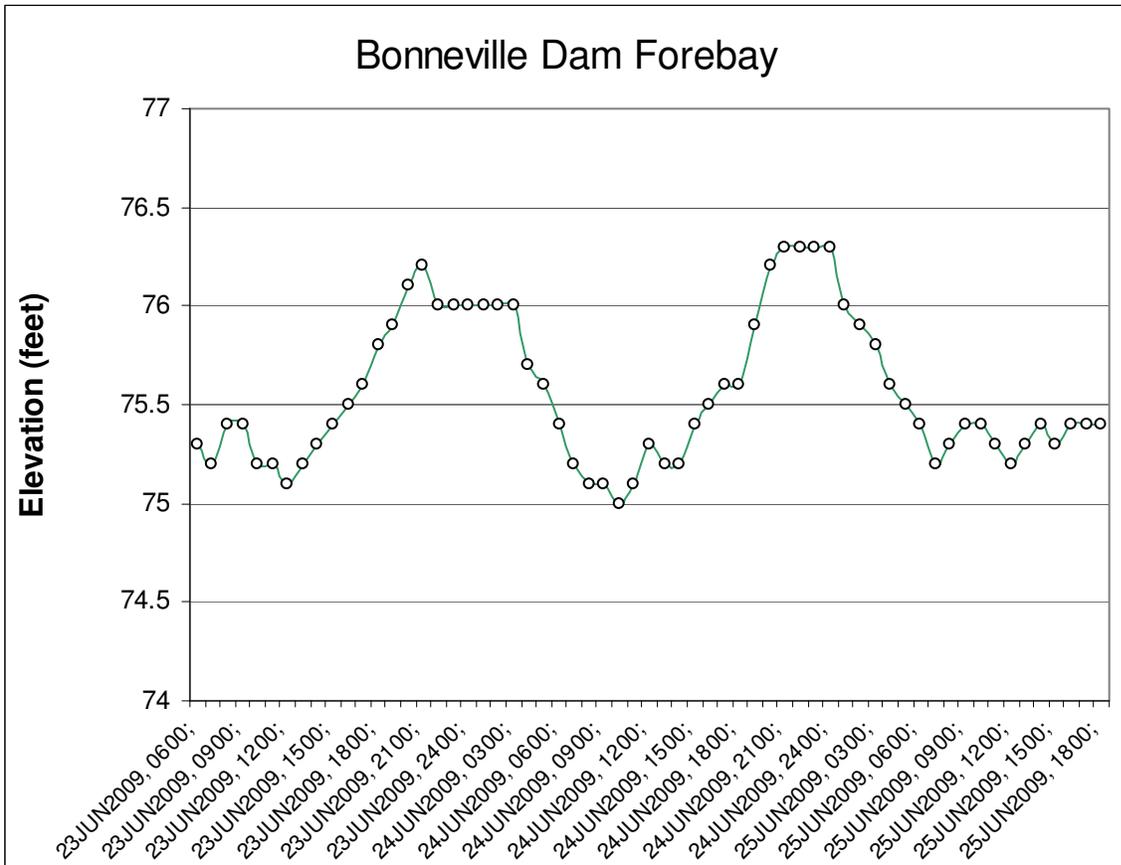


Figure 4. Observed BON pool elevations during June 23-25, 2009 summer treaty fishing.

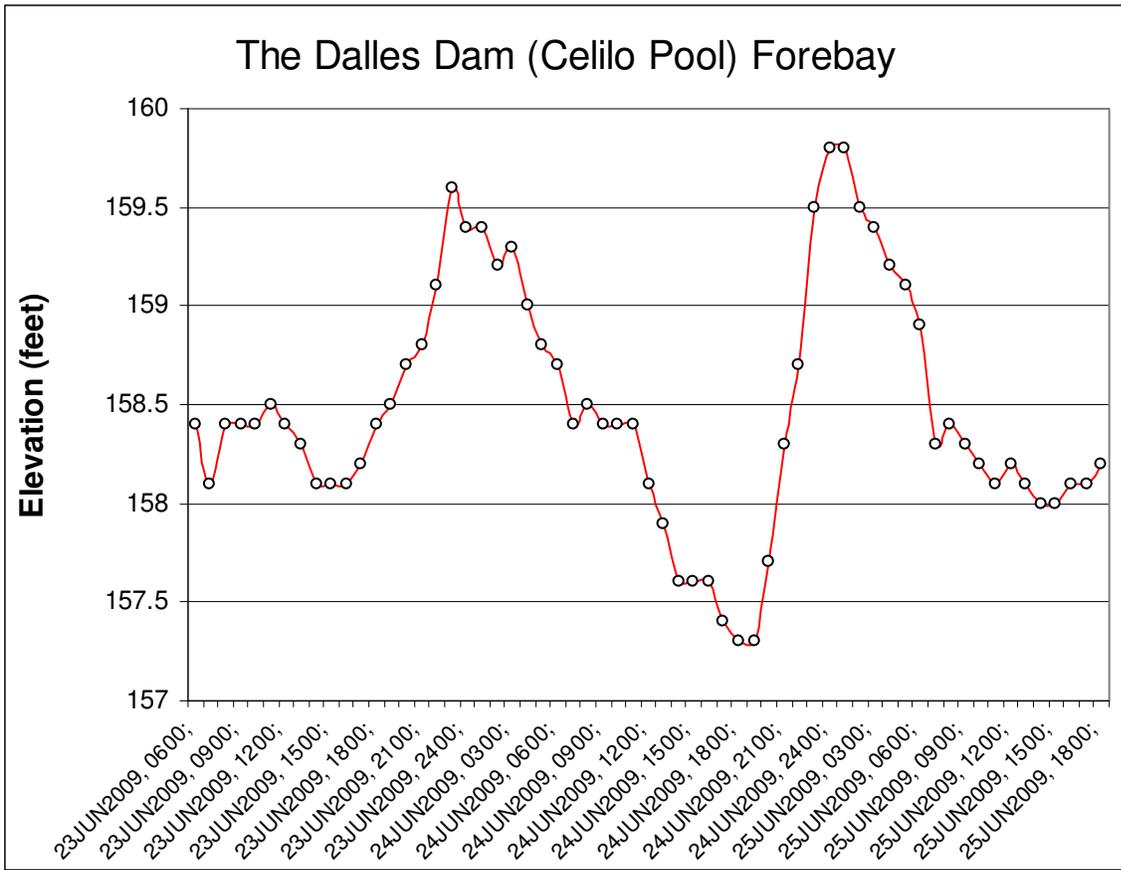


Figure 5. Observed TDA pool elevations during June 23-25, 2009 summer treaty fishing.

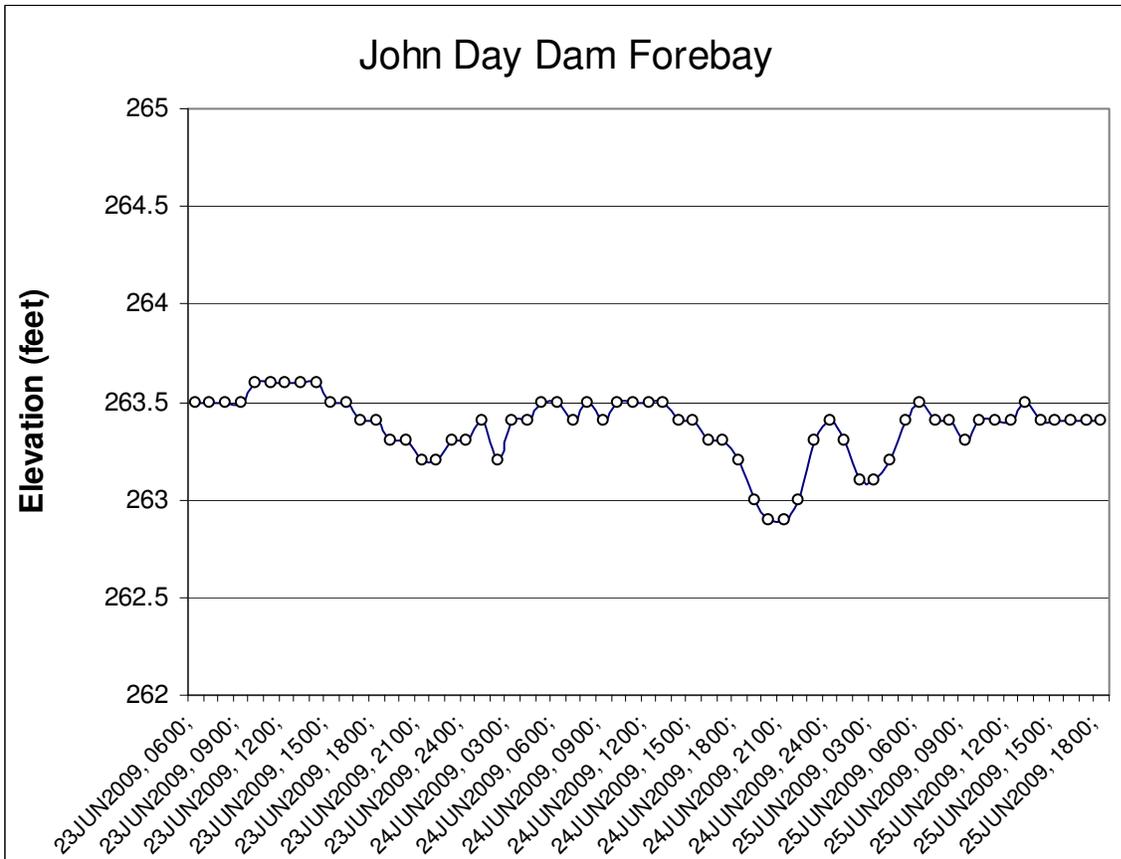


Figure 6. Observed JDA pool elevations during June 23-25, 2009 summer treaty fishing.

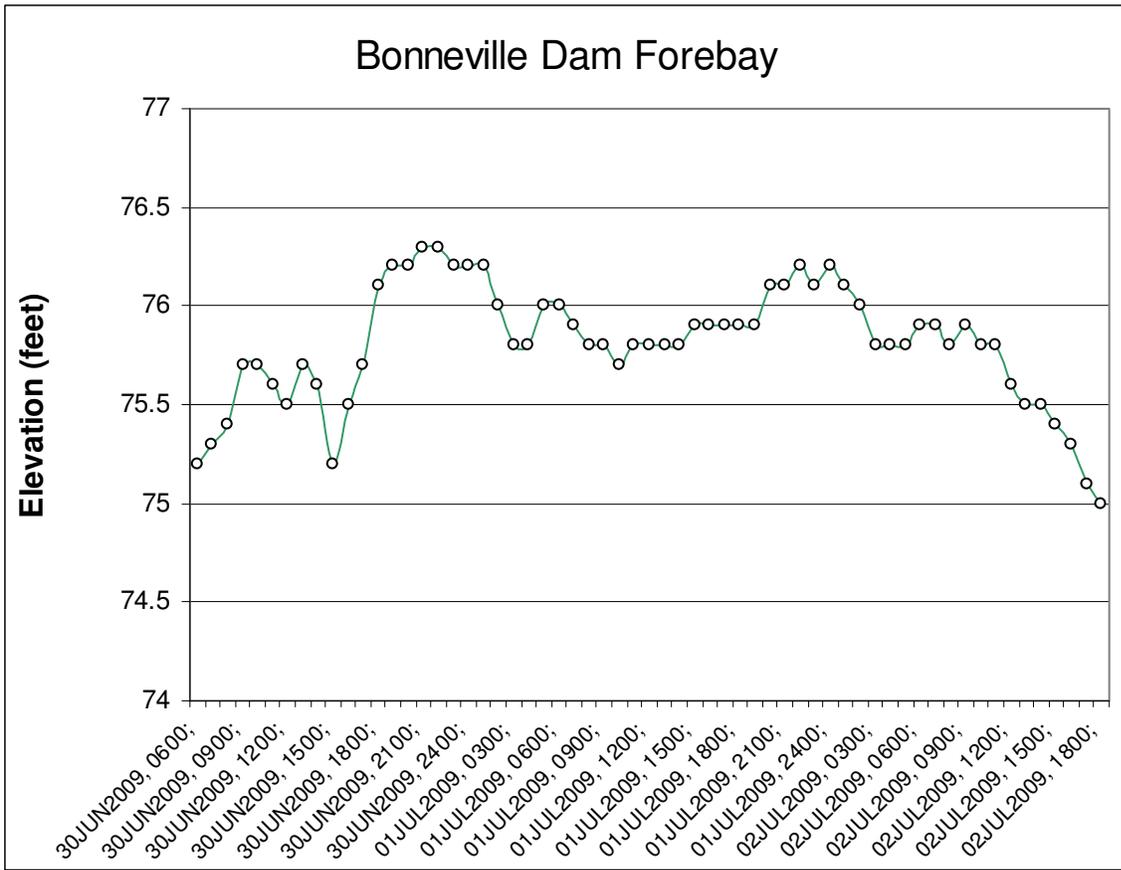


Figure 7. Observed BON pool elevations during June 30 - July 2, 2009 summer treaty fishing.

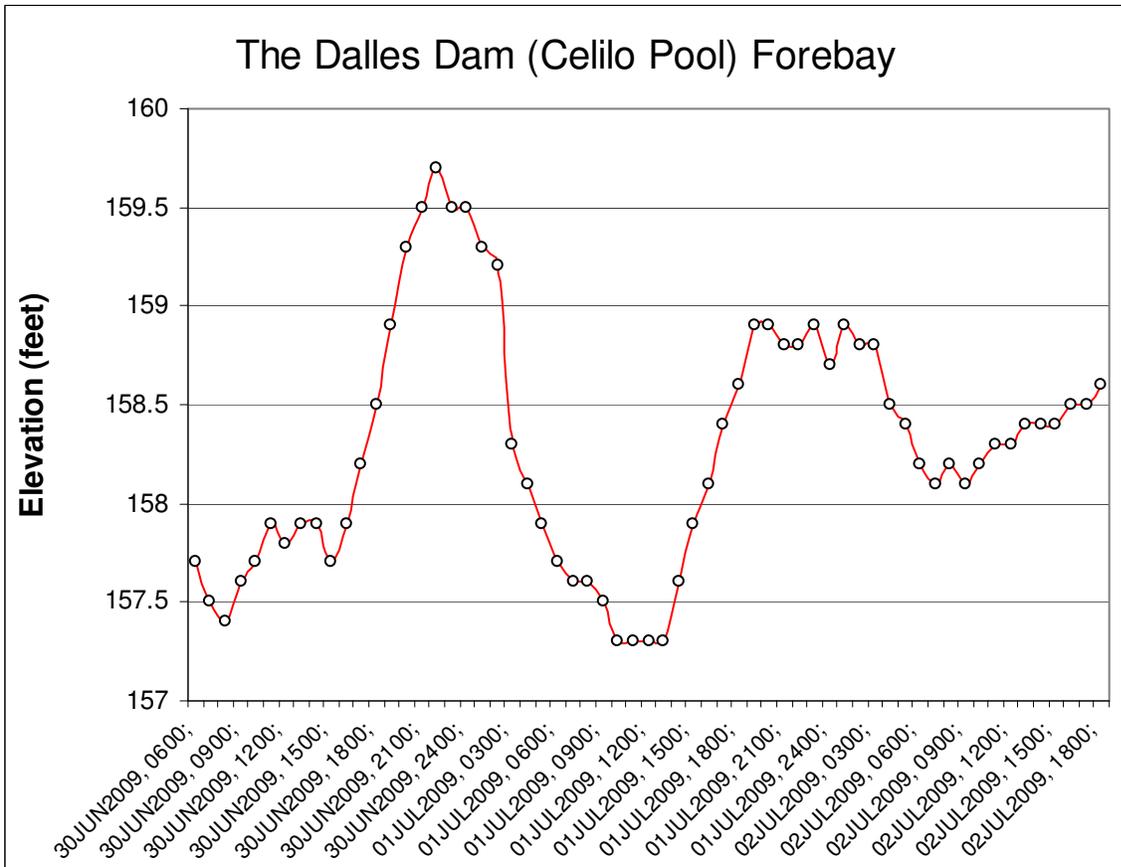


Figure 8. Observed TDA pool elevations during June 30 - July 2, 2009 summer treaty fishing.

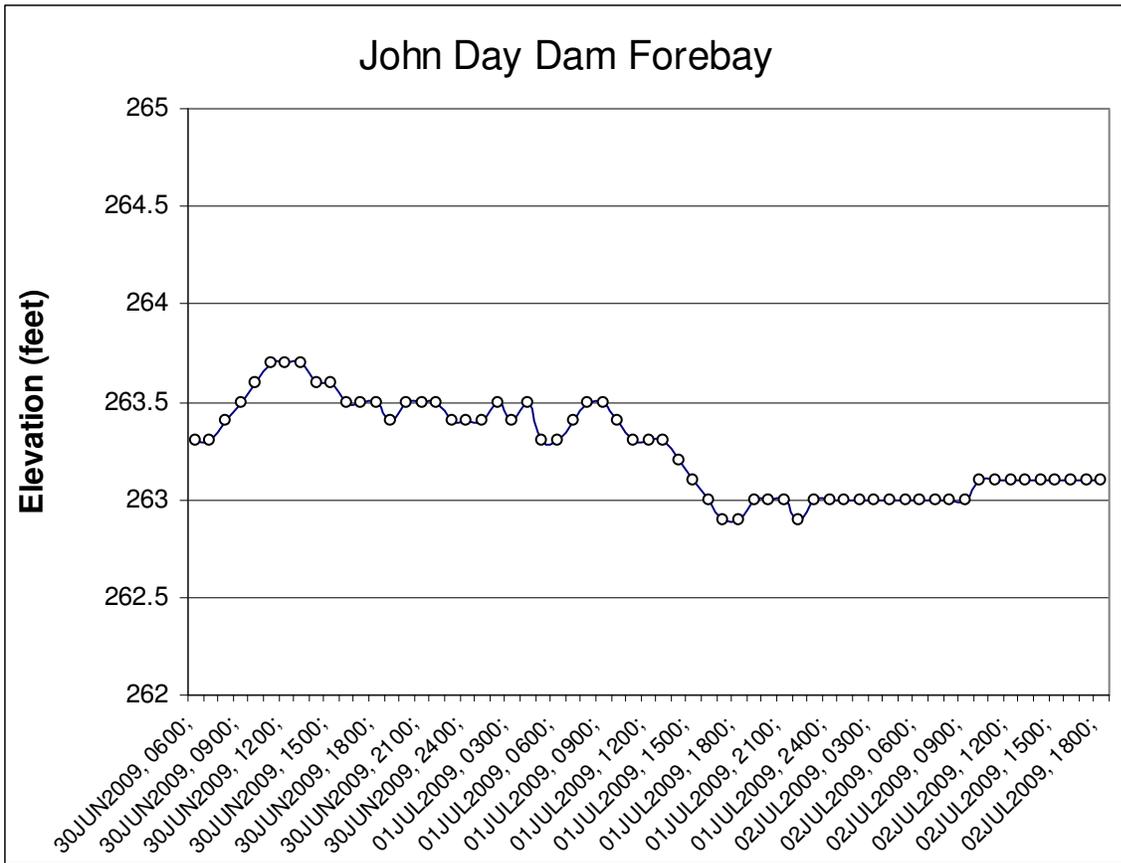


Figure 9. Observed JDA pool elevations during June 30 - July 2, 2009 summer treaty fishing.

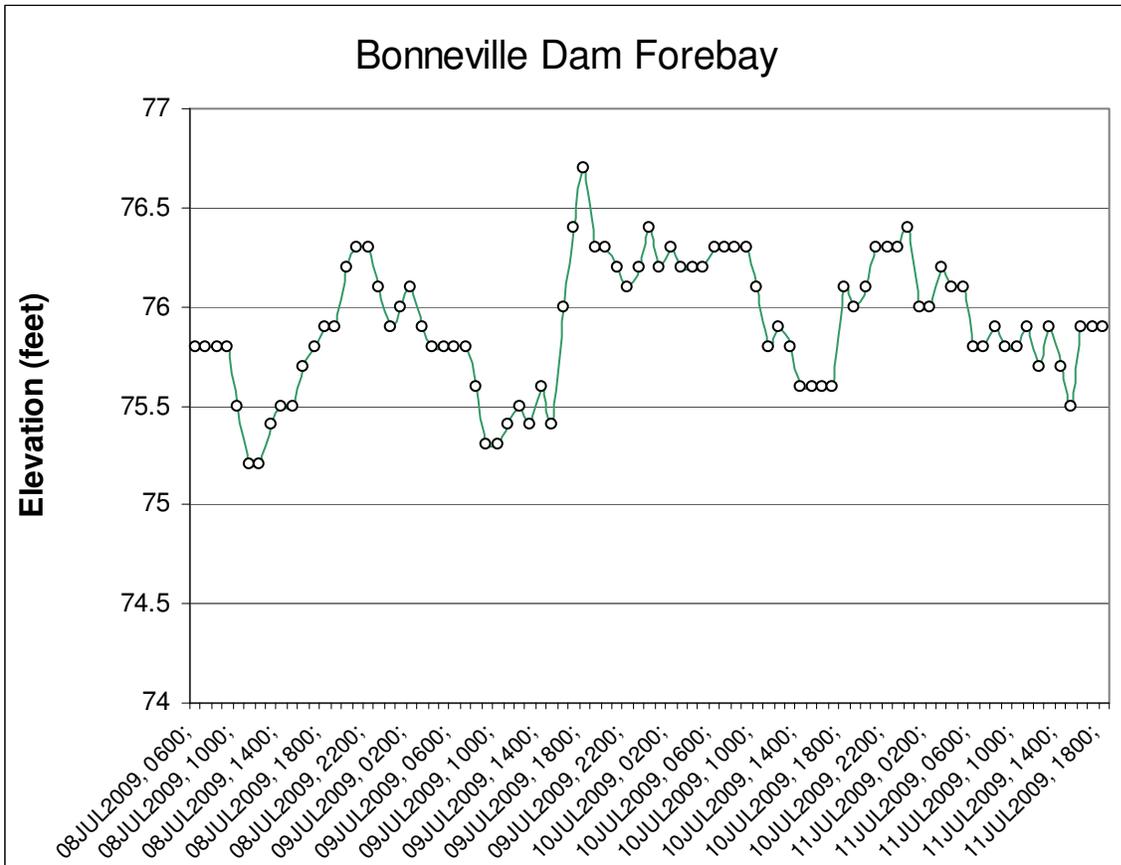


Figure 10. Observed BON pool elevations during July 8-11, 2009 summer treaty fishing.

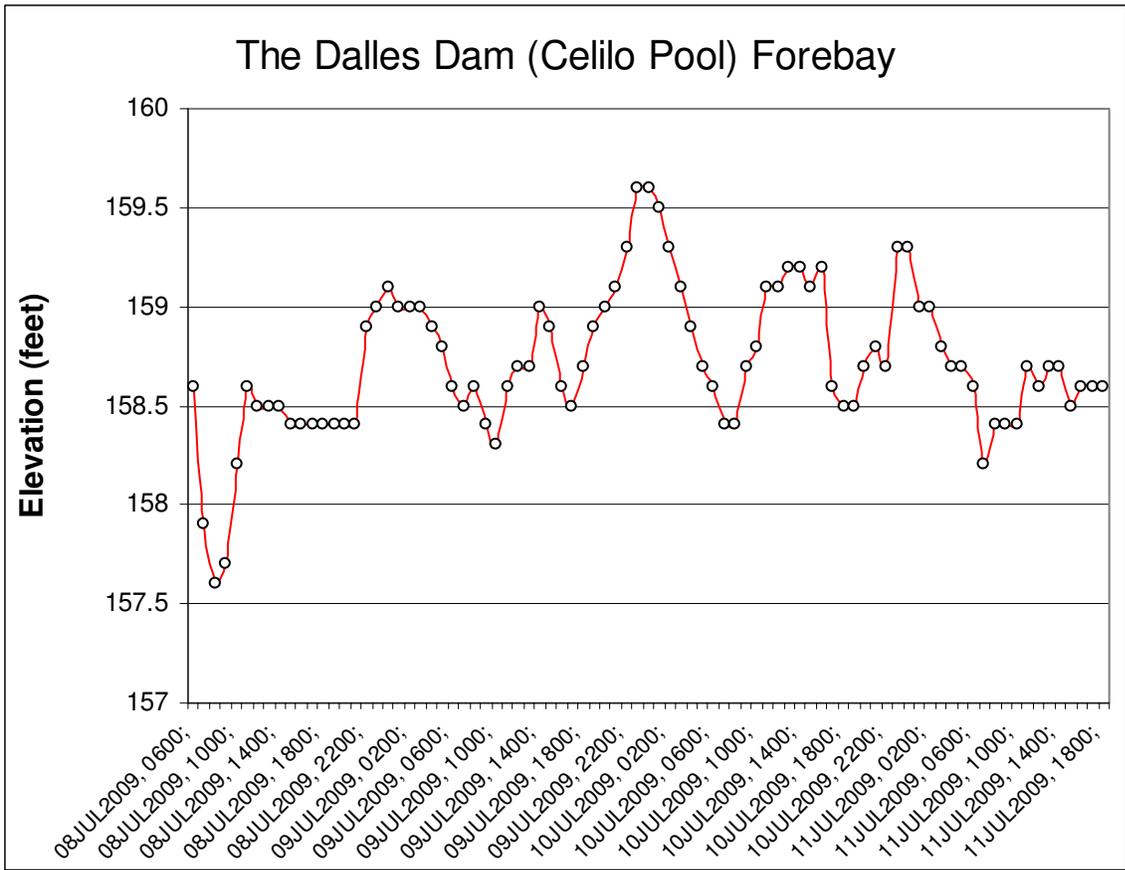


Figure 11. Observed TDA pool elevations during July 8-11, 2009 summer treaty fishing.

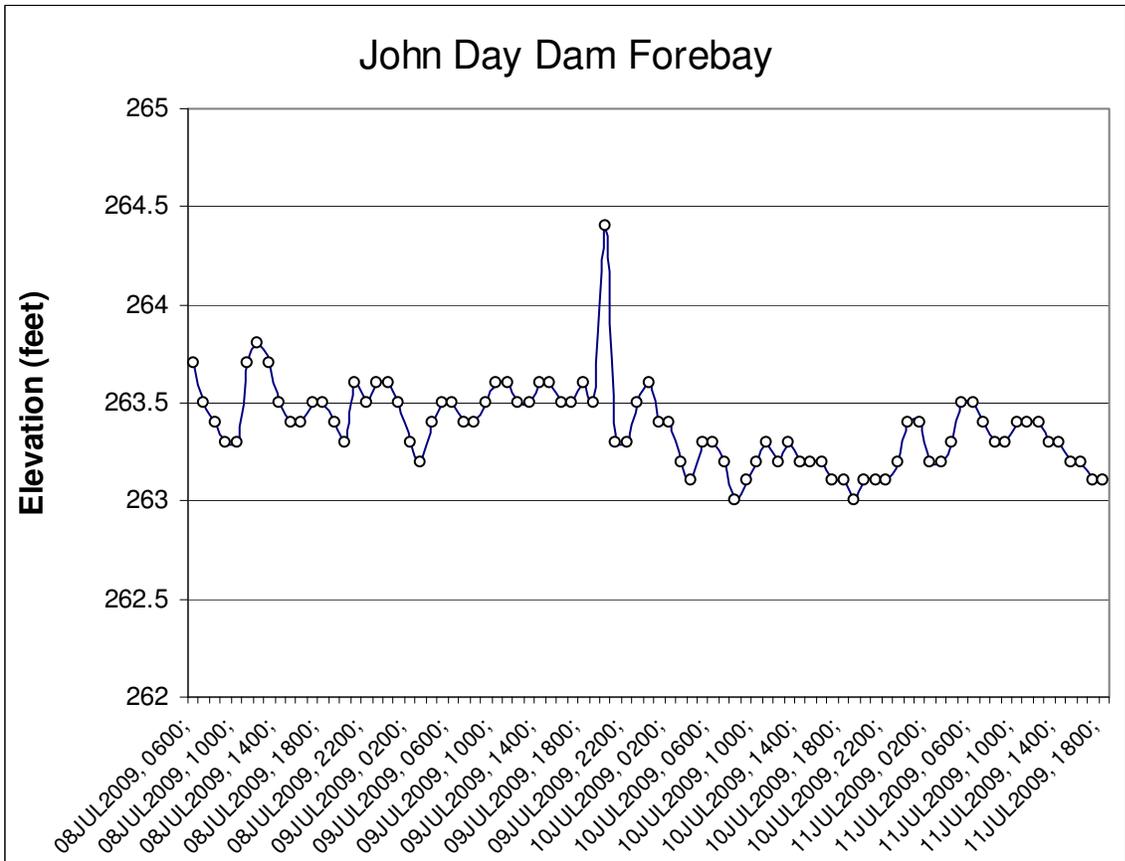


Figure 12. Observed JDA pool elevations during July 8-11, 2009 summer treaty fishing.

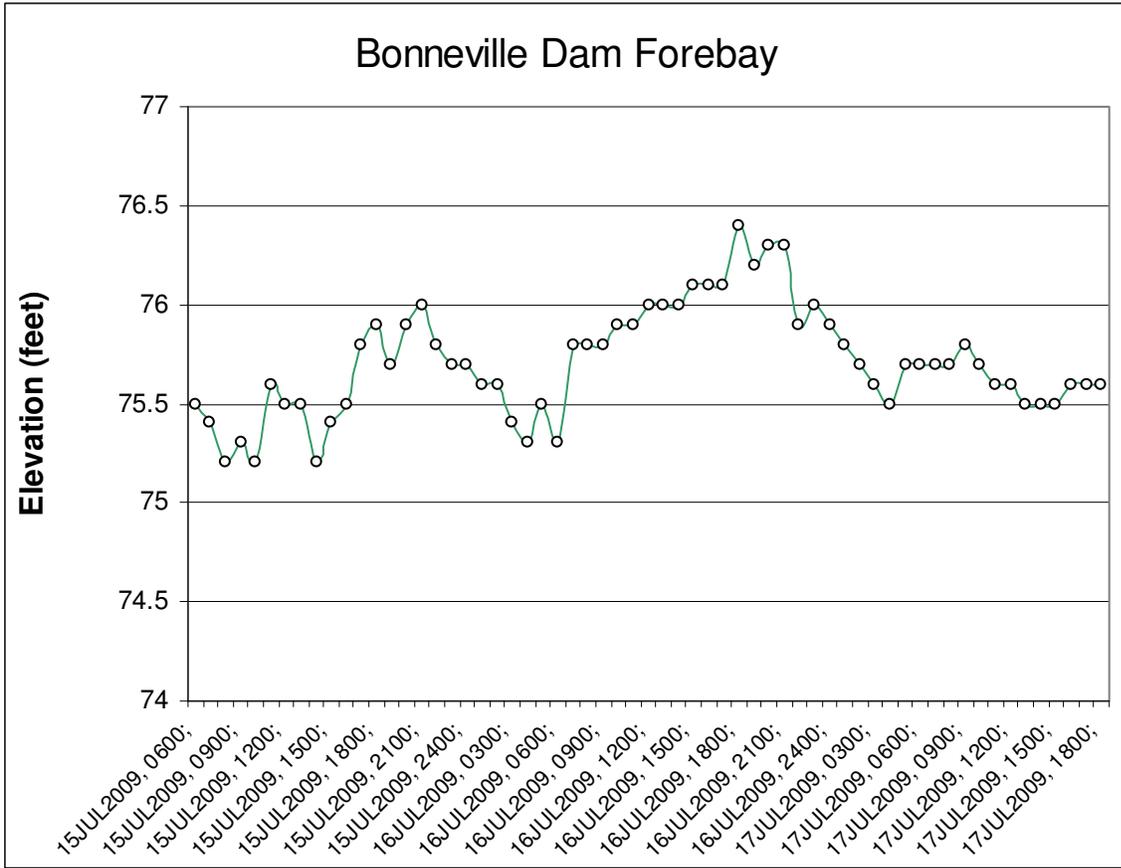


Figure 13. Observed BON pool elevations during July 15-17, 2009 summer treaty fishing.

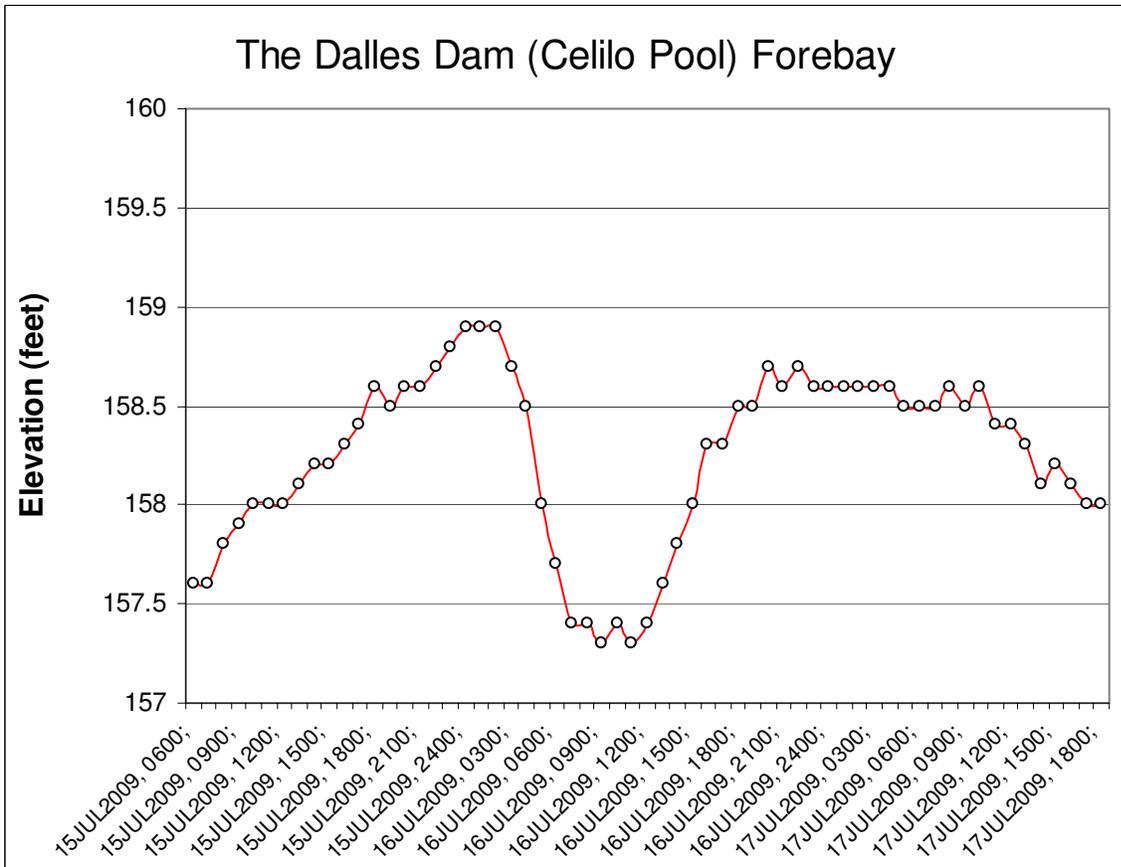


Figure 14. Observed TDA pool elevations during July 15-17, 2009 summer treaty fishing.

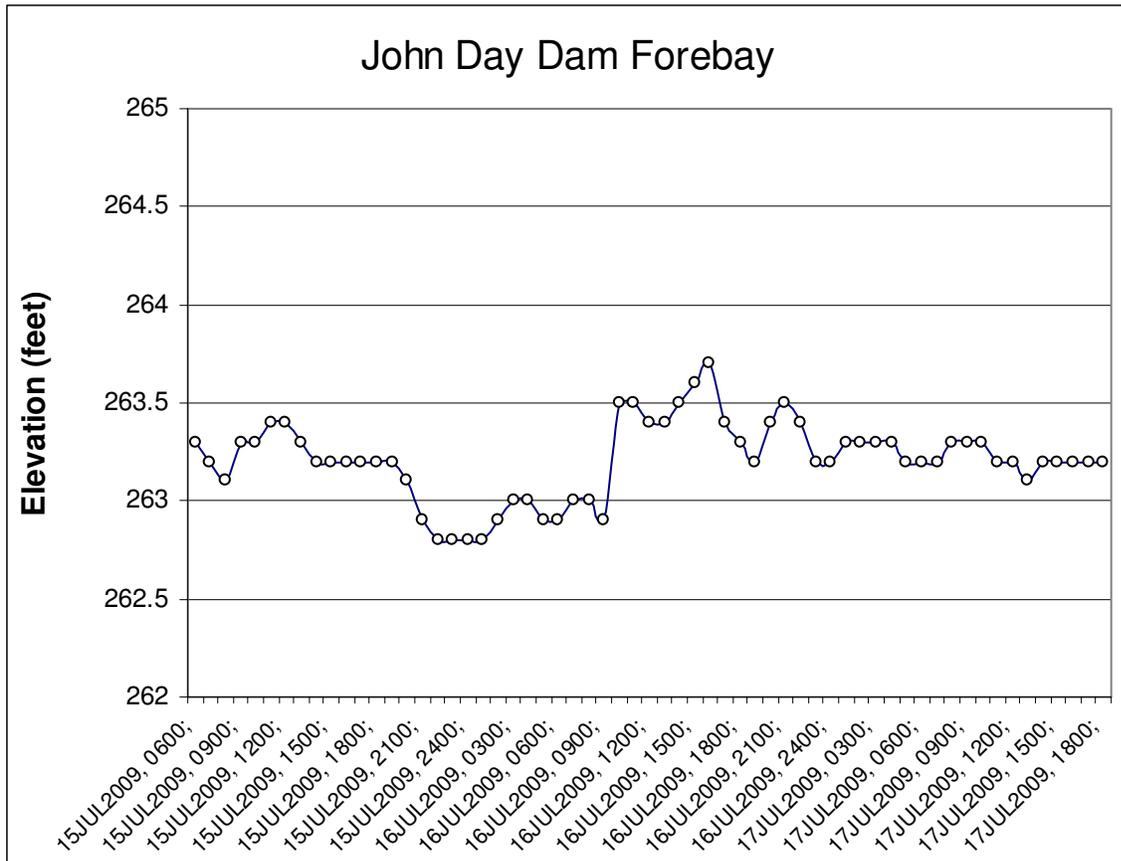


Figure 15. Observed JDA pool elevations during July 15-17, 2009 summer treaty fishing.

# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

July 29, 2009 Meeting

### FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Erin Halton

Notes: Christa Leonard

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.

#### **Review of Minutes/Agenda**

No changes were made to the July 22<sup>nd</sup> facilitator's summary notes or official meeting minutes and both sets were considered final.

#### **Review Libby Operations**

Joel Fenolio, COE, reviewed last month's data with TMT members. He reported that Libby outflows were at 7 kcfs and that the COE plans to hold through August, and then shift down to 6 kcfs through September. Elevation is currently at 2439.25'. Libby's elevation is projected to be 2441.8' during the first week of August.

**Action/Next Steps:** TMT will revisit Libby operations in two weeks. The COE planned to post graphs regarding Libby operations to the agenda after the meeting.

#### **Review Dworshak Operations**

Dan Feil, COE, reported that Dworshak operations had outflows of 12 kcfs and spill levels were ranging between 2.1-2.2 kcfs. Dworshak outflow temperatures had been holding well to the 41 F degree target discussed at the last TMT meeting, but the last few days of hotter weather had driven temperatures into the 42-43 F degree range.

Temperatures at Lower Granite tailwater were 67.9 F degrees as of 9 am the morning of the meeting.

Paul Wagner, on behalf of the Salmon Managers, presented SOR 2009-04, posted as a link on the agenda. Wagner acknowledged that temperature reduction was not possible to meet the required 40 degree Dworshak outflow temperature mark as outlined in the SOR; the SOR requested that the COE immediately increase total outflow to 14 kcfs when there are three consecutive hours of 68.0 degrees F or higher. He acknowledged criteria for backing off from increased outflows/spill had not been included in the SOR and said the Salmon Managers were open to discussion of this with TMT members.

One option considered by TMT was to reduce outflows to 12 kcfs if temperatures drop to 67 degrees F. TMT members acknowledged that minimizing the time spent at 14 kcfs would allow for more time at 12 kcfs before ultimately shifting to 10 kcfs. However, as temperatures had already reached 67.9 degrees, it was clear that temperatures would most certainly reach the 68 degrees F criteria on 7/29. TMT members also noted that Hells

Canyon is releasing more warm water over the next few days; TMT recognized that those releases may shift and will need to be factored into future models. Kyle Dittmer, CRITFC, suggested watching the 10 day weather trends very closely.

Feil said that the COE proposed increasing Dworshak outflows to 14 kcfs at 11:00 am and suggested a conference call at 1 pm on 7/31 would allow for continued discussion and for updated model runs. TMT members present were polled on the COE's proposed response to the SOR:

- NOAA: support the COE's response
- BOR: support the COE's response
- BPA: support the COE's response
- USFWS: support the COE's response
- ID: support the COE's response
- OR: support the COE's response
- MT: support the COE's response
- Also: CRITFC: support the COE's response

**Action/Next:** The COE will increase outflows to 14 kcfs at 11 am; they will closely monitor outflows/temperatures and will rerun the models so that updated results can be discussed during a TMT conference call at 1:00 pm on Friday 7/31 (and possibly for another TMT call on Monday 8/3.)

### **Seasonal Treaty Fishing Review:**

Kyle Dittmer, CRITFC, referred TMT to memo posted as link to the agenda, reviewing the four SOR's that were submitted during the five week 2009 Summer Treaty Fishing season. Pool observations were noted as follows; Bonneville averaged 74% compliance (down 7% from last year). Dittmer noted that The Dalles had the "widest swing" in compliance this year compared to last year; he noted that The Dalles had the fewest fishing nets in its pool. He also reviewed catch data and noted that navigation issues at The Dalles in July a likely contributor to swing. It was noted however that overall it was a great season and he thanked the COE for their cooperation, adding that COE specification of soft and hard constraints are helpful for operators and appreciated by Tribes. He was pleased to announce that local law enforcement reported no net damage. Both CRITFC and COE acknowledged that the historical agreement was 10 years old and that Treaty Fishing has evolved over the years adding new seasons. Tribes are pleased with the progress over the last couple of years and noted a desire to have good, consistent fishing conditions and are looking forward to continued progress. Kyle suggested that given the new CRITFC leadership, it may be time for a new MOA.

Dan Feil, COE, referred TMT to a document posted as a link to the agenda, summarizing how well the COE achieved their operations as they responded to each SOR. Doug Baus, COE, presented this disposition data to TMT members. He noted over the 803 total project hours, 99.7% of the time the COE met all hard constraints. Karl Kanbergs, COE, reported that a barge navigation issue on July 9<sup>th</sup> at 1700hrs may have affected The Dalles pool and been the reason the COE compliance was just under 100%.

## **McNary Emergency Operations Follow Up**

Dan Feil, COE, recalled the SOR issued to address juvenile mortality rates during transportation. He reported that operations did go up to gas cap spill for a couple of days and that as stated in an email sent out by the COE on 7/27, juvenile transport did begin daily starting Friday 7/24. Feil said that mortality rates had dropped significantly and the temperature gradient has been remaining under 3 degrees C and fish are not believed to be experiencing thermal shock. Dave Wills, USFWS, asked if the exact problem had been identified. Scott Bettin, BPA, noted that transportation drew mainly from the North side, and Feil explained that rapid water warming near the project and on the South side (where currents are slower) led to warmer water moving through the bypass system. The question was raised regarding whether there was a lesson to be learned for future year's operations: Karl Kanbergs, COE, suggested that there may need to be changes made to the Fish Passage Plan. FPOM will likely need to discuss this issue and TMT may revisit this discussion at a future meeting.

## **Operations Review**

**Reservoirs:** Grand Coulee was at elevation 1286.5'. Hungry Horse was at 3558.87', with outflows of 2.36 kcfs. Libby was at elevation 2440.65', with inflows of 8.5 kcfs and outflows of 7.0 kcfs. Albeni Falls was at elevation 2062.3', with inflows of 21.8 kcfs and outflows of 15.1 kcfs. Dworshak was at 1576.4' with inflows of 1.3 kcfs and outflows of 14 kcfs; Steve Hall, COE, mentioned that the leak in Unit 3 has not progressed to the point of needing pumps, which is good news. Average flows at Lower Granite flows were 40.4 kcfs, McNary had flows of 173.7 kcfs, and Bonneville flows were 165.2 kcfs.

**Fish:** Paul Wagner, NOAA, referred to Fish Passage Center website data; adult passage counts are continuing to decrease overall, but Steelhead, Sockeye and Lamprey are increasing. Subyearlings were passing Bonneville at 15,000, per day and about 1000 per day at Lower Snake River projects. DART seasonal data showed total adult passage of 177,000 Sockeye. Smolt passage was tapering off at McNary, and numbers were below the 10 year average.

**Other:** Paul Wagner, NOAA, noted that spill at Bonneville reduced to 70kcfs. The COE responded that TDG levels at Camas/Washougal were reading 119%, likely due to hot weather temperatures and lack of wind. The COE said that it proposed setting the Bonneville spill at no lower than 75kcfs as an interim operation and if TDG levels rise above 120%, the COE will need to revisit and consider dropping below 75 kcfs. Ron Boyce, OR, responded that 75 is acceptable for daytime, but also recognized technical issues of Camas/ Washougal gauge and the relationship to Bonneville spill management. The COE asked TMT members to weigh in on setting 75 kcfs as the lowest level of spill at Bonneville as an interim operation:

- BPA: no objection to the 75 kcfs as an interim operation
- BOR: no objection
- NOAA: no objection to the 75 kcfs as an interim operation; recognize this as a reasonable step per the FOP and suggest that more work is needed on this issue.
- USFWS: no objection, but have the same concerns as expressed by NOAA.
- MT: no objection to 75 kcfs as interim

- ID: no objection to 75 kcfs as an interim - but disappointed that technicalities are a factor in providing less than could be provided for fish.
- OR: would prefer to spill to gas cap at night...*[NOTE: OR asked what other TMT members had said and then phone line dropped off at this point. OR connected with COE staff by phone following the meeting and had no objection to the 75 kcfs spill as an interim operation.]*
- Also: CRITFC: no objection to the 75 kcfs as an interim, but don't want to go below 75 kcfs

Power System: Record breaking temperatures in Portland however, are not too high in other regions. A document, linked to agenda, was presented detailing energy saving tips.

Water Quality: TMT was referred to Water Quality link off of home page. It was noted that temperature levels are mostly due to hot weather. It was also noted that July temperatures had reached up to 74 degrees at John Day.

### Other

Russ Kiefer, ID, noted that in reviewing the FPP and FOP in regards to Little Goose Low Flow operations, he saw that a discrepancy exists between FPP's table LGS-11 and language found in the FOP. The FPP tables indicate only operating spillway weir with out any "training spill". The question was raised: which document takes precedent? Dan Feil, COE, noted that adjustments were made at Lower Granite where the tail water gauge was recalibrated earlier in the season; operations and pool elevations were being observed closely monitored and will be bumped up as necessary. A brief caucus was taken, after which the Feil recognized that issues have arisen with the gauge and that there is no easy fix. He said that per the FOP, if spill is below 30%, then an 11.5 kcfs flat spill will be used as the COE has done in years past. Kiefer said ID prefers this operation.

### TMT Schedule:

- Conference call to discuss Dworshak operations at 1:00pm on 7/31.
- Possible follow call on Monday 8/3. TBD
- Possible conference call on Wednesday 8/5 9:00 am
- 8/19 face-to-face meeting 9 am

Agenda items for future meetings will include:

- Notes Review
- Dworshak operations update
- Operations Review
- The Dalles Spillwall update (may be scheduled for the face-to-face on 8/19).

**Columbia River Regional Forum  
Technical Management Team Conference Call  
July 29, 2009**

***1. Introduction***

Today's TMT call was chaired by Dan Feil (COE) and facilitated by Erin Halton (DS Consulting), with representatives of COE, NOAA, USFWS, BPA, CRITFC, BOR, Montana, Idaho, Oregon, the Nez Perce Tribe and others participating. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

***2. Review Meeting Minutes for July 22, 2009***

There were no comments on the facilitator's notes or official minutes.

***3. Libby Operations***

Last month the COE showed TMT slides of ESP traces showing the potential for up to 7.5 kcfs outflows from Libby in August, Joel Fenolio (COE) reported. That was predicated on getting a spike of 25 kcfs in July which didn't pan out, so Libby is back to flat flows of 7 kcfs through August and 6 kcfs through September (these are bull trout minimums). The peak elevation of 2,441.8 feet will most likely occur the first week of August. TMT will revisit Libby operations on August 12.

***4. Dworshak Operations***

Dworshak is discharging 12 kcfs, with 2.1-2.2 kcfs of that as spill, Dan Feil (COE) reported. Previously TMT agreed to 41-degrees F for Dworshak outflows, but the coldest possible water combination from all reservoir layers is producing water of 42-43 degrees F. If all 12 kcfs outflows were spilled, water temperature would probably drop to 40 degrees F, but that would exceed the gas cap, Steve Hall (COE) said. The Dworshak units are operating in undershot mode, which produces outflows of 43-44 degrees F.

Temperatures at the Lower Granite tailwater had remained below 68 degrees F until just prior to today's meeting. At yesterday's FPAC meeting the Salmon Managers reached near-consensus on 68 degrees for 3 consecutive hours as a criteria for taking action to prevent further warming, especially with a heat wave on the way. The COE estimates a week of 14 kcfs flows at most in the water supply, followed by a week of 12 kcfs, then powerhouse minimums for the rest of the season. A healthy supply of warm water from Hells Canyon and the upper Snake – 22-23 kcfs instead of the typical 15 kcfs – is making temperature control more challenging this year.

The COE agreed with the Salmon Managers' inclination to increase flows and will ramp up to 14 kcfs at 11 am today, Feil replied. There was discussion of when to back off 14 kcfs, with underlying agreement that every effort should be made to conserve water now in case it's needed later. The Lower Granite tailwater hit 68 degrees F today. Concern about the effects of Hells Canyon flows on Lower Granite tailwater temperatures during the coming heat wave led TMT to schedule two Dworshak operations follow-up calls on July 31 and August 3.

Idaho, Oregon, BOR, BPA, NOAA, USFWS, Montana and CRITFC supported the COE operation of 14 kcfs outflows beginning at 11 am today, with a conference call at 1 pm Friday.

### ***5. Seasonal Treaty Fishing Review***

Kyle Dittmer (CRITFC) gave a report on this year's treaty fishing season. The Bonneville pool had 74% compliance (9% less than last year) with CRITFC's request for 1-foot stable elevation bands. The Dalles pool had 67% compliance (10% less than last year), and John Day pool had 100% compliance (vs. 99% last year). However, all of the pools had a high degree of compliance with the COE's 1.5-foot fluctuation targets. The elevation swings in John Day and Bonneville pools ranged from two-tenths of a foot to half a foot at Bonneville; a tenth of a foot to a foot at John Day; and as high as 2.5 feet in an hour at The Dalles. That exceedance no doubt was related to a fuel barge that was stranded on July 9.

The trend in recent years has been for tribal fishers to set their nets in the Bonneville and John Day pools, with 80% of nets there this year. There were no damaged nets as a result of reservoir operations. As of July 27, tribal fishers had caught 11,700 summer Chinook, 11,800 sockeye, and nearly 2,700 steelhead.

Doug Baus (COE) presented a summary of compliance with the hard and soft elevation constraints the COE had presented to TMT in response to each treaty fishery SOR. According to the COE's elevation constraints, the three lower river projects were in compliance for 99.99% of the treaty fishing season, with the only exception being the stranded fuel barge on July 9. The elevation constraints for treaty fishing season are based on the 10-year old Ted Strong agreement, which is outdated. COE and CRITFC representatives agreed that it needs to be updated.

### ***6. McNary Emergency Operations – SOR Follow Up***

At the last TMT meeting, the COE received a SOR requesting spill to the gas cap at McNary in response to high mortalities at the project, Dan Feil (COE) reported. Daily barging began July 24 and mortalities have gone down since then. The temperature gradient through the system has also moderated. Apparently the fish, acclimated to 66 degrees F water, encountered 72 degrees F water in the McNary bypass system and suffered from thermal shock.

McNary operations have since returned to 50% spill, and mortalities have returned to the normal range for this time of year. Fish passage in general has dropped off at McNary. The COE will continue to monitor this situation, and FPOM will address it in detail.

## **7. Operations Review**

**a. Reservoirs.** Libby is at elevation 2,440.65 feet, with inflows of 8.5 kcfs and outflows of 7.0 kcfs. Albeni Falls inflows are 21.8 kcfs and outflows are 15.1 kcfs. Dworshak is at elevation 1,576.04 feet, with inflows of 1.3 kcfs and outflows of 14 kcfs beginning at 11 am today.

Seven-day average inflows are 40.4 kcfs at Lower Granite, 173.7 kcfs at McNary, and 165.2 kcfs at Bonneville. Inflows are declining.

Grand Coulee is at elevation 1,286.5 feet. Hungry Horse is at elevation 3,558.87 feet, with 2.36 kcfs outflows.

**b. Fish. Adults** – Chinook passage has decreased to a few hundred fish per day, with jack passage at 150 per day, Paul Wagner (NOAA) reported. Steelhead passage is most plentiful now, with 6,500 per day passing Bonneville, 2,500 of them wild. Sockeye passage is down to 20-50 fish per day. Lamprey passage is 100 per day, 7,000 to date for the 2009 season. Total sockeye passage for the season was 177,000 fish at Bonneville and 1,157 at Lower Granite.

Juveniles – Subyearlings are passing Lower Granite at the rate of 1,500 fish per day; 1,000 per day at both Little Goose and Lower Monumental; 14,000 per day at McNary; 5,000 per day at John Day; and 15,000 per day at Bonneville. Chinook subyearling passage has peaked and is tapering off at Lower Granite, Little Goose, Lower Monumental and McNary.

Spill at Bonneville has been reduced to 70 kcfs because of water quality issues. While total dissolved gas below the project is 115%, Camas Washougal gage readings have been in the 118-119% range mostly due to high temperatures. There are contradictory directions in the Fish Operations Plan on this, Wagner noted.

In response to this dilemma, the COE will continue to manage to Camas Washougal gage, with a floor of 75 kcfs spill at Bonneville in light of historical survival data, Feil said. The 75 kcfs floor will be reconsidered if Camas Washougal readings exceed 120% TDG which seems unlikely. In that case, the floor for spill at Bonneville would be 50 kcfs.

While spill of 75 kcfs is sufficient for daytime passage, dropping spill at night will adversely affect fish, Ron Boyce (Oregon) said. He requested spill to the gas cap at night. A true gas cap operation using Camas Washougal gage would set spill levels lower, Feil replied. Tom Lorz (CRITFC) asked why Camas

Washougal gage is used to regulate Bonneville operations when state agencies don't use it in their gas monitoring programs. Essentially this is a rollover issue applying to this year only, per agreement in the Fish Operations Plan, Feil explained. NOAA, BPA, BOR, USFWS, Montana, Idaho and CRITFC expressed support for this operation as an interim measure only.

**c. Power System.** Energy use is high due to the heat. Scott Bettin (BPA) presented energy saving tips posted to today's agenda.

**d. Water Quality.** Laura Hamilton (COE) presented water quality data available on the TMT web page. There have been a number of TDG exceedances due to high water temperatures recently. John Day tailwater temperatures rose to 74 degrees F for two days. By contrast, temperatures in the Snake basin have been 68-71 degrees F.

### **8. Other – Little Goose Summer Spill Operations**

Russ Kiefer (Idaho) highlighted a discrepancy between Table LGS-1 in the Fish Passage Plan and the Little Goose spill pattern table in the Fish Operations Plan. According to the FPP, when flows are in the mid-30 kcfs range, the Action Agencies' plan is to operate the spillway weir with spill of about 23% of flows and no training spill. According to the FOP, however, spill will resemble last year's operation, with about 11.6 kcfs spill and no attempt to maintain an hourly rate of 30% spill.

Kiefer asked whether the FPP or the FOP would take precedence in this case. Feil recalled that recalibration of the Lower Granite tailrace gage seems to have reduced the navigation problems at Little Goose. More work remains to be done on the accuracy of the Lower Granite tailrace gage. The FOP stipulates that if river flows are 40 kcfs or less, and there are problems with navigation, the COE will raise the pool elevation. The COE is monitoring this situation very closely and will consider a flat spill operation of around 11 kcfs if necessary. Kiefer expressed support for this plan.

### **9. Next Meeting**

The next scheduled TMT meeting will be a conference call on July 31, followed by potential calls on August 3, 5 and 12. The next meeting in person will be August 19. This summary prepared by consultant and writer Pat Vivian.

<b>Name</b>	<b>Affiliation</b>
Dan Feil	COE
Kim Johnson	COE
Doug Baus	COE
Tony Norris	BPA
Steve Barton	COE
Steve Hall	COE Walla Walla
John Heitstuman	COE

Russ Kiefer	Idaho
Tim Heizenrader	Centaurus
Rick Kruger	Oregon
Laura Hamilton	COE
Rudd Turner	COE
Dave Wills	USFWS
Scott Bettin	BPA
Paul Wagner	NOAA
Mary Mellema	BOR
Kyle Dittmer	CRITFC
Eric Volkman	BPA
Richelle Beck	DRA
Barry Espenson	CBB
Russ George	WMC
Ruth Burris	PGE
Rob Diaz	Integral Renewables
Tom Le	Puget Sound Energy
Ian Berg	Velocity Energy
Joel Fenolio	COE

# TECHNICAL MANAGEMENT TEAM

**BOR** : John Roache / Mary Mellema / Pat McGrane      **BPA** : Robyn MacKay / Tony Norris / Scott Bettin  
**NOAA-F**: Paul Wagner / Richard Dominique              **USFWS** : David Wills / Steve Haeseker  
**OR** : Rick Kruger / Ron Boyce                              **ID** : Russ Kiefer / Pete Hassemer  
**WDFW** : Cindy LeFleur                                        **MT** : Jim Litchfield / Brian Marotz  
**COE**: Dan Feil / Steve Barton

## TMT CONFERENCE CALL

Friday July 31, 2009 13:00 - 14:30

CONFERENCE PHONE LINE

Conference call line:(888)296-1938; PASS CODE = 148974

We have had disruptions on the phone because people are not hitting 'mute' after dial in.  
**Please MUTE your Phone**

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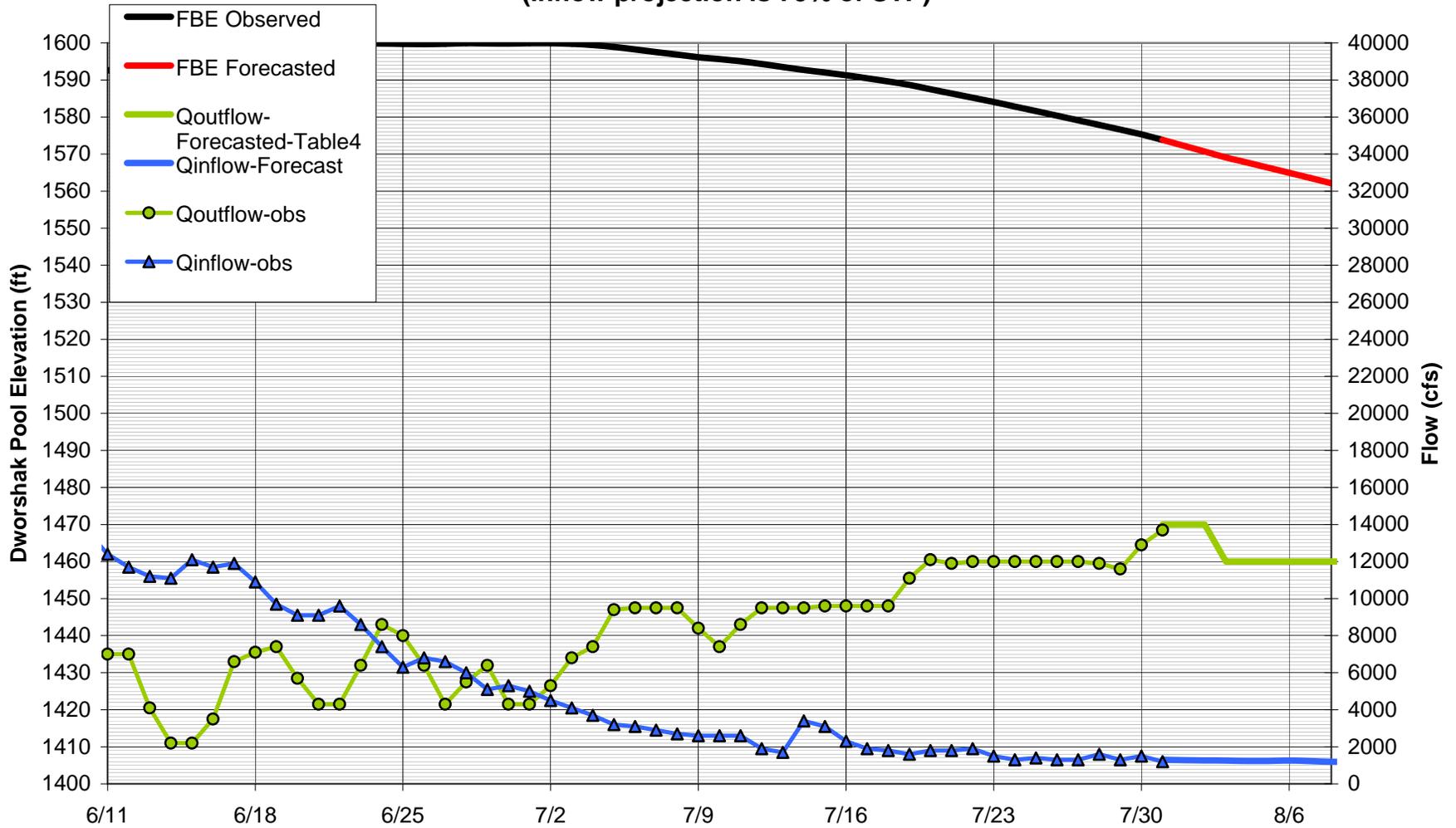
*All members are encouraged to call Robin Gumpert with any issues or concerns they would like to see addressed.  
Please e-mail her at [rgumpert@cnnw.net](mailto:rgumpert@cnnw.net) or call her at (503) 248-4703.*

## AGENDA

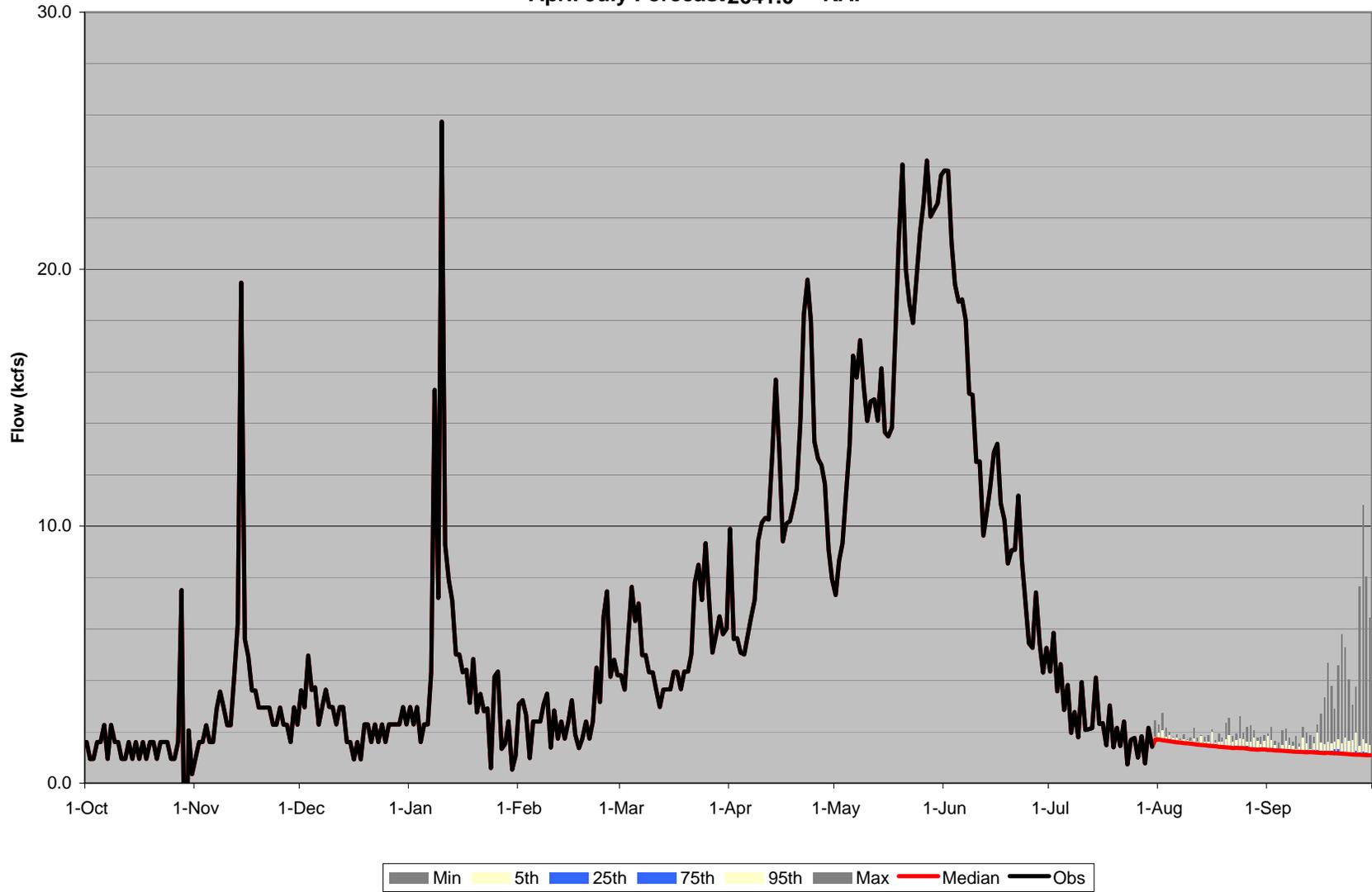
1. Welcome and Introductions
2. Review Dworshak Operations - Dan Feil, COE-RCC / Steve Hall, COE-NWW
  - a. [DWR ESP Remaining Volume](#)
  - b. [DWR Flow & Stage Projection](#)
  - c. [DWR Model Results](#)
3. Other
  - a. Set agenda for next meeting - **August 3, 2009**
  - b. [\[Calendar 2009\]](#)

*Questions about the meeting may be referred to:  
[Dan Feil](#) at (503) 808-3943, or  
[Steve Barton](#) at (503) 808-3945*

**Dworshak Reservoir**  
**July 31, 2009 Flow and Stage Projection**  
**(inflow projection is 75% of STP)**

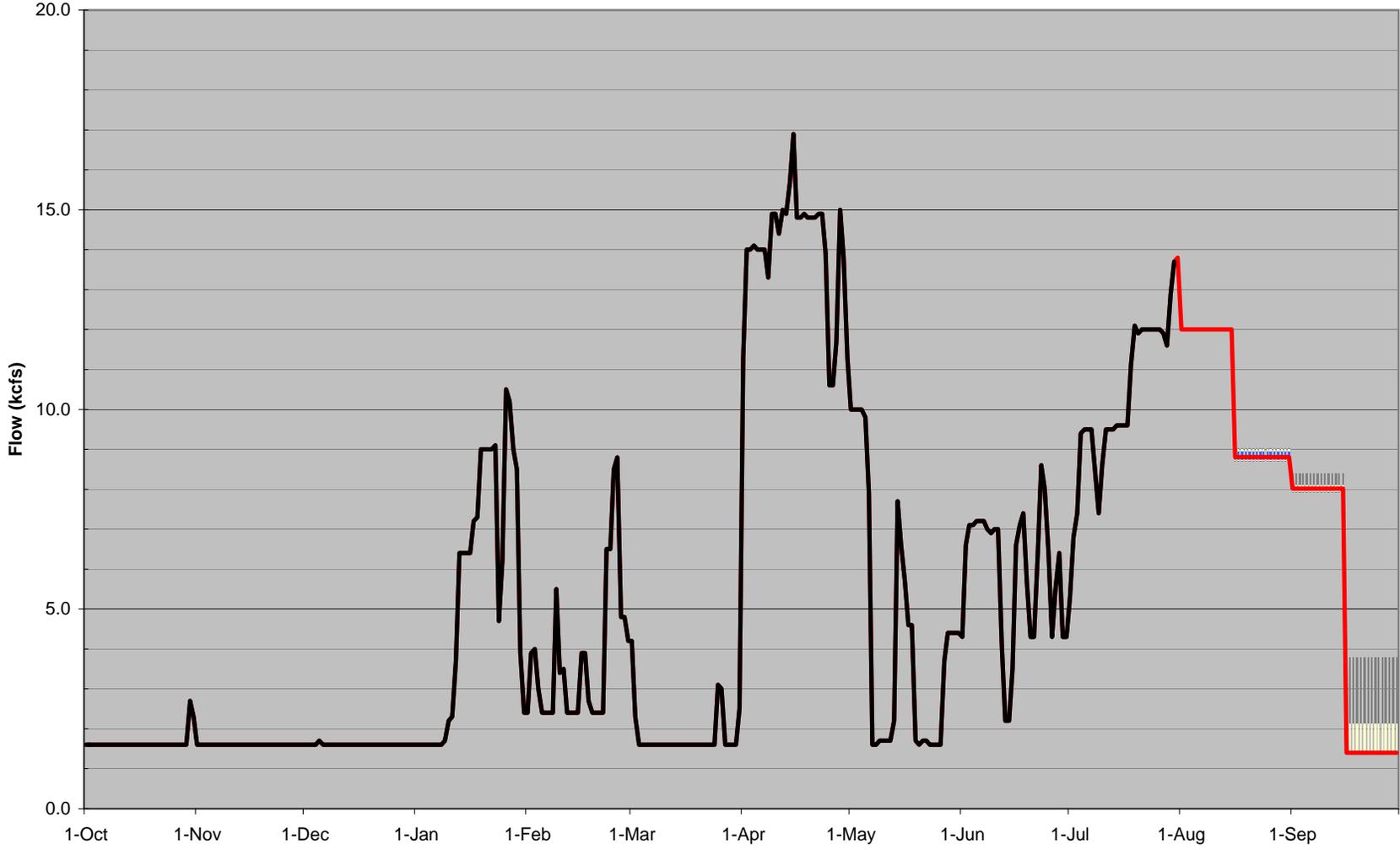


ESP Inflow Statistics  
44 ESP Inflows  
April July Forecast 2641.0 KAF



# ESP Outflow Statistics

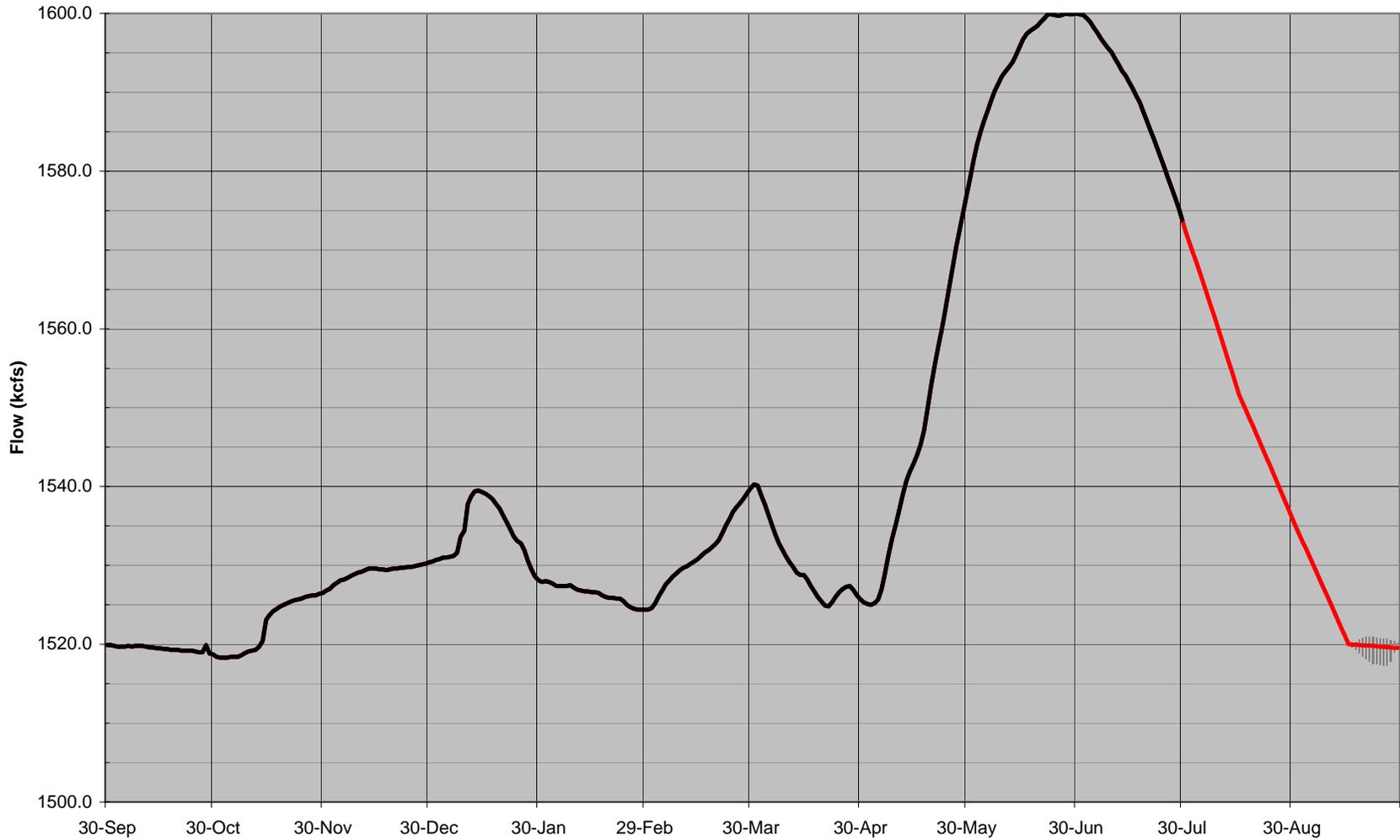
April July Forecast 2641. KAF



Min 5th 25th 75th 95th Max Median Obs

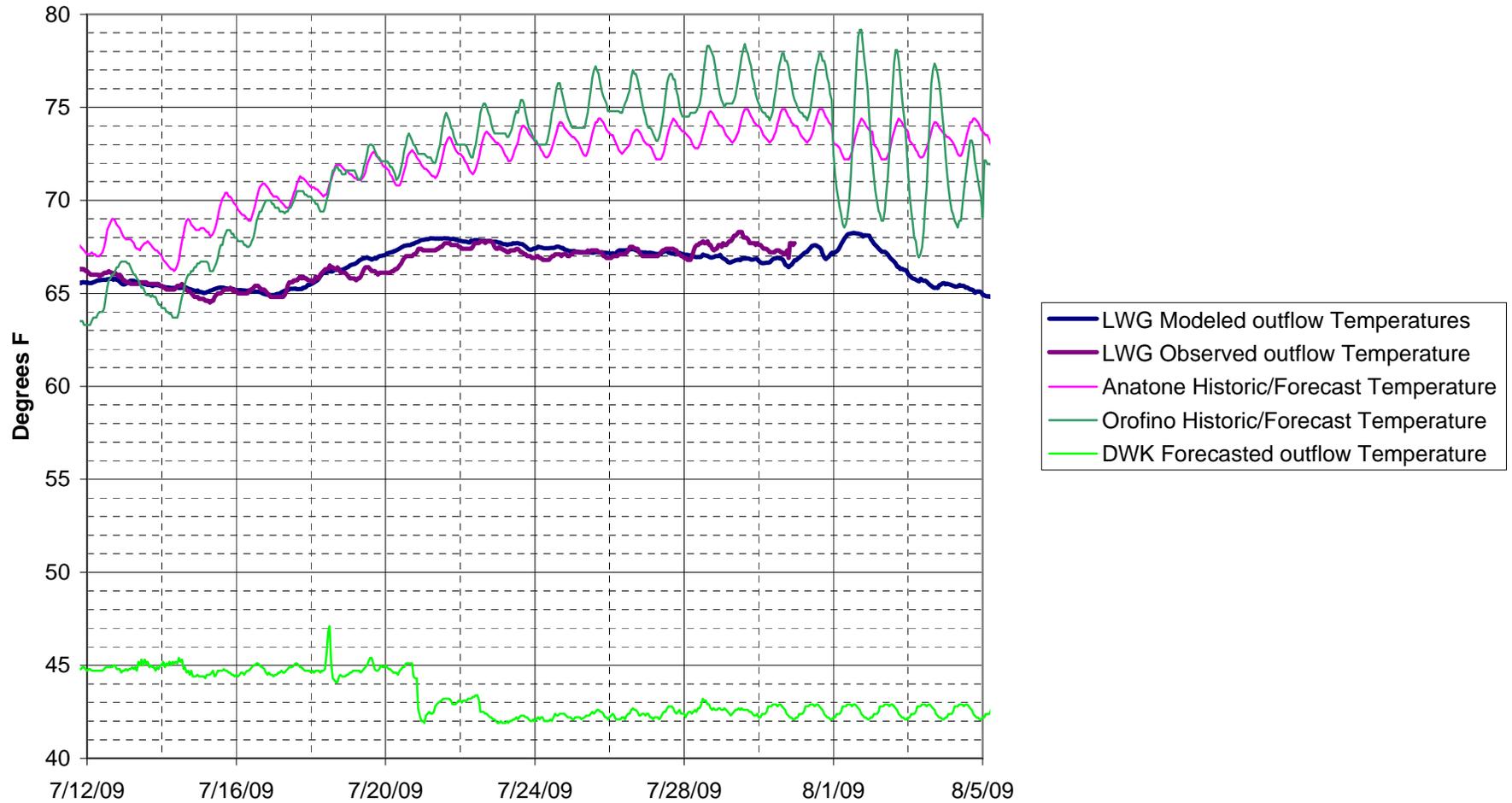
### ESP Elevation Statistics

April July Forecast 2641. KAF



Legend: Min (grey), 5th (yellow), 25th (blue), 75th (blue), 95th (yellow), Max (grey), Median (red), Obs (black)

### Water Temperature Comparisons Observed data thru 7/30/09



# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

July 31, 2009 Conference Call

### FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Erin Halton

Notes: Christa Leonard

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.

#### **Review Dworshak Operations**

Dan Feil, COE, reported that Lower Granite tailwater temperature is currently at 67.7 degrees F with outflows of 14 kcfs (as decided at TMT face-to-face meeting on Wednesday 7/29). Steve Hall, COE, presented TMT with multiple ESP graphs, emailed to TMT distribution list prior to the meeting, detailing several modeling scenarios. He noted that the model was tracking 1 degree F below observed temperatures, indicating that temperatures could reach 68-69 degrees F by Sunday, 8/2. He further explained that every day that Dworshak outflows are at 14 kcfs, 27 KAF are used. Dworshak currently has 575 KAF total, with assumed inflows of 1.1 kcfs. It was stressed that staying too long at 14 kcfs will reduce the ability to stay at 12 kcfs for very long in August (likely no more than two weeks), and increases the amount of time operations will need to be below full powerhouse through the second half of August. The COE proposed holding outflows at 14 kcfs through the weekend and holding a conference call on Monday so that TMT members can consider how to maintain desired temperatures to the extent possible while also considering how to best distribute the remaining KAF through the month of August. TMT members on the call supported the short-term plan.

**Action/Next Steps:** The COE will maintain Dworshak outflows of 14 kcfs until future action is discussed during a TMT conference call Monday 8/3 at 2:00 p.m. Updated modeling runs will be provided via email/web.

**Columbia River Regional Forum  
Technical Management Team Conference Call  
July 31, 2009**

**1. Introduction**

Today's TMT call was chaired by Dan Feil (COE) and facilitated by Erin Halton (DS Consulting), with representatives of NOAA, Idaho, COE, Oregon, CRITFC, BPA and others participating. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

**2. Dworshak Operations**

Prior to the meeting, TMT members received information via email on the status of Dworshak operations. Feil presented the new ESP information. The first graph, titled Dworshak ESP Remaining Volume, is an elevation summary. The second shows operations to date according to the ESP traces. If Dworshak flows drop immediately from 14 to 12 kcfs for the next 2 weeks, then flows would have to be reset to approximately 8.8 kcfs for the rest of August. The final graph shows Libby elevation ending at 1,535 feet on August 31 and at 1,520 feet by mid September. These ESP elevations may be high compared with observed conditions.

Steve Hall (COE) presented the latest Dworshak modeling results. The model shows a current discharge from Dworshak of 14 kcfs continuing through the weekend, then dropping to 12 kcfs on August 3. Dworshak outflow temperatures continue to be around 42 degrees F and are expected to peak on August 2. The model, which is tracking about a degree below observed values, shows the Lower Granite tailwater peaking at 68 degrees F on August 2. Given that actual temperatures are about a degree higher than the model, the Lower Granite temperature is expected to peak at 69 degrees F on August 2. The current temperatures reflect a lack of wind, which could cool things down when it blows. Another modeling scenario shows 14 kcfs outflows until August 5.

There was discussion of the remaining volume. It appears that 575 kaf is available, assuming an average of 1.1 kcfs inflows at Dworshak through August. Even if average inflows are 1.3 kcfs, which seems high, there wouldn't be enough volume to maintain a full powerhouse operation at Dworshak through the rest of August. Each day of 14 kcfs outflows now means 27.8 kaf that's not available later. If the remaining volume is 490 kaf after flows drop to 12 kcfs on August 3, that means about 14 days of full powerhouse will be left for the rest of August. In other words, there's 580-600 kaf of water volume available, and full powerhouse requires 620 kaf for 31 days.

Wagner suggested 14 kcfs outflows through early next week, then dropping down to 12 or even 10 kcfs outflows on August 4-5, and again to 8 kcfs outflows on August 18-19.

The COE plans to continue 14 kcfs outflows at Dworshak through the weekend and check in again with TMT members on August 3. NOAA, Idaho, CRITFC and Oregon supported that operation.

### ***3. Next Meeting***

The next scheduled TMT meetings will be conference calls on August 3, 5 and 12. The next meeting in person will be August 19. This summary prepared by consultant and writer Pat Vivian.

<b><i>Name</i></b>	<b><i>Affiliation</i></b>
Paul Wagner	NOAA
Russ Kiefer	Idaho
Dan Feil	COE
Doug Baus	COE
Ron Boyce	Oregon
Kyle Dittmer	CRITFC
Steve Hall	COE Walla Walla
John Heitstuman	COE Walla Walla
Eric Volkman	BPA
Robyn MacKay	BPA
Margaret Filardo	FPC
Richelle Beck	DRA

# TECHNICAL MANAGEMENT TEAM

**BOR** : John Roache / Mary Mellema / Pat McGrane      **BPA** : Robyn MacKay / Tony Norris / Scott Bettin  
**NOAA-F**: Paul Wagner / Richard Dominique              **USFWS** : David Wills / Steve Haeseker  
**OR** : Rick Kruger / Ron Boyce                              **ID** : Russ Kiefer / Pete Hassemer  
**WDFW** : Cindy LeFleur                                         **MT** : Jim Litchfield / Brian Marotz  
**COE**: Dan Feil / Steve Barton

## TMT CONFERENCE CALL

Friday August 3, 2009 14:00 - 16:00

### CONFERENCE PHONE LINE

Conference call line:(888)285-4585; PASS CODE = 218868

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**Please MUTE your Phone**

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*All members are encouraged to call Robin Gumpert with any issues or concerns they would like to see addressed.  
Please e-mail her at [rgumpert@cnnm.net](mailto:rgumpert@cnnm.net) or call her at (503) 248-4703.*

## AGENDA

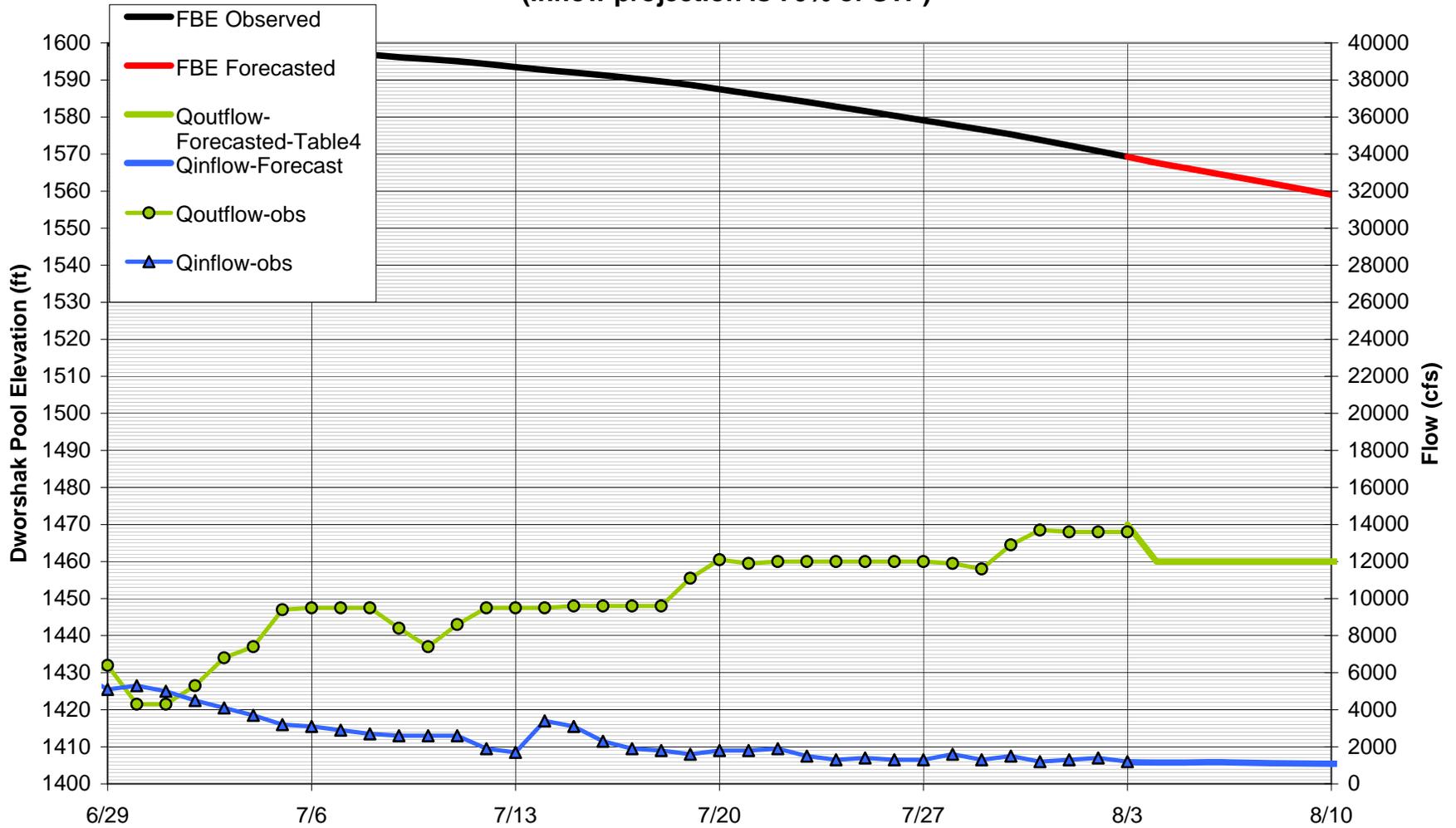
1. Welcome and Introductions
2. Review Dworshak Operations - Dan Feil, COE-RCC / Steve Hall, COE-NWW
  - a. [Model Results through August 10th, 2009](#)
  - b. [Flow & Stage Projection](#)
3. Bonneville Spill - Dan Feil, COE-RCC
4. Other
  - a. Set agenda for next meeting - **August 5, 2009**
  - b. [\[Calendar 2009\]](#)

*Questions about the meeting may be referred to:*

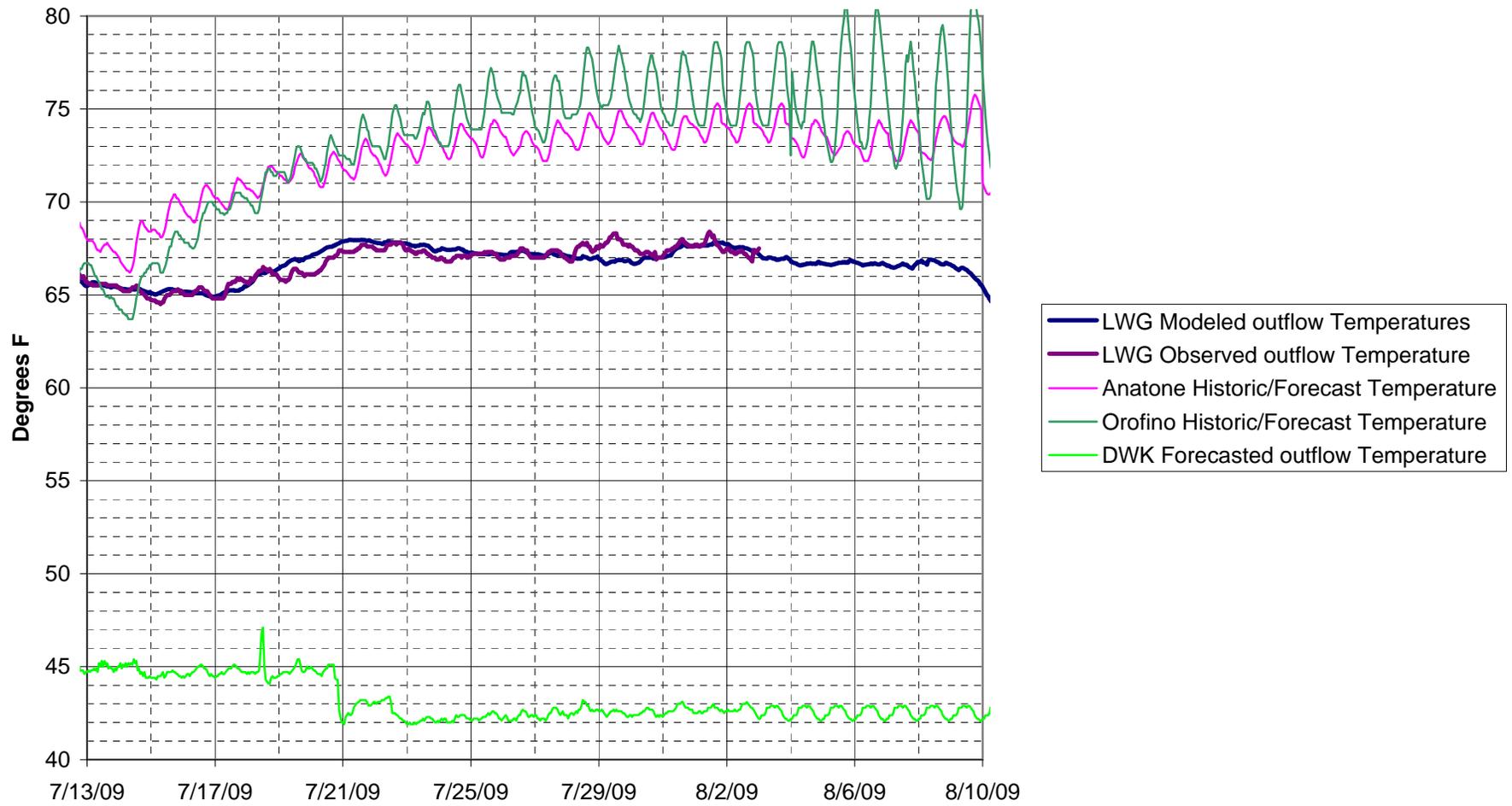
*[Dan Feil](#) at (503) 808-3943, or*

*[Steve Barton](#) at (503) 808-3945*

### Dworshak Reservoir August 3, 2009 Flow and Stage Projection (inflow projection is 70% of STP)



### Water Temperature Comparisons Observed data thru 8/2/09



# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

August 3, 2009 Conference Call

### FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Erin Halton

Notes: Christa Leonard

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.

#### **Review Dworshak Operations**

Dan Feil, COE, reviewed weekend operations for Dworshak (as discussed during the 7/31 TMT call) and triggers leading to 14 kcfs operation. Current operations are still holding based on required trigger of temperatures above 68.0 degrees F. Dan reported that temperatures were above 68F for 2-3 hours on Friday 7/31 and also for 6 hours on Saturday 8/1, before they dropped back below 68 degrees F on Sunday and Monday. Steve Hall reviewed the latest modeling results as posted to the TMT agenda. He reported that the observed temperatures tracked close to predicted over the weekend and said that the model, based on dropping to 12 kcfs, predicts temperatures at Lower Granite will bounce around the mid 66 degree F range. It was noted that the modeling was based on Hells Canyon outflows of 20 kcfs, which have since shifted down to 12-13 kcfs over the weekend and are expected to drop further, to 10-11 kcfs by Thursday 8/6.

Paul Wagner, on behalf of salmon managers, proposed holding outflows at 14 kcfs through 12:00 pm PST Tuesday 8/4, then shift outflows down to 12kcfs. The Salmon Managers also proposed another drop in outflows, down to ~10 kcfs (full powerhouse) at 12:00pm PST Wednesday 8/5. Russ Kiefer, ID, noted that the forecast is showing cooler temperatures with cloud cover and precipitation expected later in the week (around Thursday). Steve Hall clarified that there may have been an error in the modeling inputs and said that the sharp decreases in temperatures on 8/8 are not expected as shown.

Paul Wagner and Dan Feil discussed the current decrease in fish passage rates. The COE noted their preference to move to 12 kcfs immediately, but deferred to the Salmon Managers' preference of waiting until desired time of 12:00 pm PST Tuesday 8/4. Dworshak outflow temperatures are expected to remain between 42-43 degrees F.

**Action/Next Steps:** The COE will maintain Dworshak outflows of 14 kcfs through 12:00 pm PST Tuesday 8/4, then drop outflows to 12kcfs. TMT will revisit Dworshak operations during the conference call scheduled for 8/5 and will likely drop outflows to 10ksfs (full powerhouse) at 12:00pm PST Wednesday 8/5. Updated modeling runs will be provided via email/web.

### **Bonneville Spill Update**

Dan Feil, COE, alerted TMT to an incident on Saturday 8/1 in which Bonneville's gate 13 experienced an outage at 1600 hours. There was slightly reduced spill during this time and spill was shifted to the spillway and consequently gate was closed in the interest of human safety. He also clarified that the spill cap will be revised today and that TDG was at an average of 112% as of 8/3.

### **Ice Harbor**

Scott Bettin, BPA, noted that Ice Harbor had to pick up transmission as preemptive step (per pg. 11 of the Fish Operations Plan). Bettin said that BPA was hopeful that the new Sacajawea line will be back in service soon.

**Next Meeting:** TMT will have a conference call at 9 am on August 5, 2009.

**Columbia River Regional Forum  
Technical Management Team Conference Call  
August 3, 2009**

***1. Introduction***

Today's TMT call was chaired by Dan Feil (COE) and facilitated by Erin Halton (DS Consulting), with representatives of CRITFC, COE, FPC, BPA, USFWS, BOR, the Nez Perce Tribe, NOAA and others participating. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

***2. Dworshak Operations***

Dworshak outflows have been 14 kcfs since July 29 in response to high temperatures. The main purpose of today's call was to check in on this operation. Tailwater temperatures at Lower Granite exceeded 68 degrees F for 2 hours on July 31 and for 6 hours on August 1, Feil reported. Since then, Lower Granite tailwater temperatures have been under 68 degrees.

The modeling results attached to today's agenda assume 20 kcfs flat flows from Hells Canyon Dam, Steve Hall (COE) reported. The model also assumes that Dworshak outflows will drop to 12 kcfs today and remain there for the rest of the forecast period. This operation can be expected to produce temperatures in the 66 degrees F range at Lower Granite tailwater. The model is based on a conservative assumption of 20 kcfs releases from Hells Canyon Dam, while their extended forecast calls for an average of only 11 kcfs through August 6.

One factor in the COE's recommendation on July 29 to bump up Dworshak outflows to 14 kcfs was increased outflows from Hells Canyon Dam, Feil said. Now that their flow forecast is dropping, it would be prudent to drop Dworshak outflows to 12 kcfs today. The Salmon Managers agreed with that recommendation but preferred to maintain the current operation until midnight August 4, one day later than the COE recommendation, a change to which the COE was amenable. The tentative plan after that is to reduce Dworshak outflows to full powerhouse at midnight August 5. TMT will check in via conference call that morning to confirm that conditions are as expected. Weather after August 6 is expected to be slightly cooler and cloudier than normal for this time of year, Russ Kiefer (Idaho) said. It will be important to confirm that as well.

Reducing spill through the Dworshak regulating outlet gates on August 4 and again August 5 might cause a slight increase in water temperatures at Lower Granite, Hall said. Dworshak outflows have been in the 42-43 degrees F range, using the coldest water available. Cutting back on current discharges will probably cause Dworshak outflow temperatures to increase to 43.5 degrees F. Full powerhouse during the forecast period will be in the 9.8-10 kcfs range.

TMT agreed on the following Dworshak operation: August 4 at midnight, drop current outflows of 13.6 kcfs to 12 kcfs. The following morning, TMT will check in via conference call to confirm Hells Canyon releases and weather predictions. At that point, probably Dworshak outflows will drop to full powerhouse at midnight August 5.

It's time to begin working on the Nez Perce plan for Dworshak operations in September, Hall said.

### **3. Bonneville Spill**

On August 1, gate 14 at Bonneville had to be shut down for about 50 minutes for human health and safety reasons, Feil informed TMT. The average spill for that time was 73.9 kcfs, rather than 75 kcfs, due to shifting of spill to other gates while gate 14 was shut.

Russ Kiefer (Idaho) asked whether the Bonneville spill cap would be recalculated now that TDG readings at Camas Washougal gage have dropped. Yesterday the high 12-hour average TDG reading at Camas Washougal was 115%; today's average reading is 112%, Feil said. The Bonneville spill cap will therefore be increased today.

### **4. Ice Harbor Update**

BPA has had to increase power generation at Ice Harbor in response to the heat wave, Scott Bettin (BPA) said. When local temperatures rise, the transmission system can overheat, which requires more power generation at Ice Harbor to avoid an emergency. This problem is covered in both the 2009 Fish Operations Plan and the 2009 Fish Passage Plan. The new Sacajawea transformer is scheduled to go into service August 7, which should put an end to the transmission problem.

### **5. Next Meeting**

The next scheduled TMT meeting will be a conference call on August 5. The following TMT meeting will be August 12 in person, with Dworshak operations and an update on the Dworshak board's plans for September on the agenda. This summary prepared by consultant and writer Pat Vivian.

<b>Name</b>	<b>Affiliation</b>
Kyle Dittmer	CRITFC
Dan Feil	COE
Margaret Filardo	FPC
Scott Bettin	BPA
Steve Hall	COE Walla Walla
John Heitstuman	COE Walla Walla
Doug Baus	COE
Dave Wills	USFWS

John Roache  
Russ Kiefer  
Dave Statler  
Paul Wagner  
Karl Kanbergs

BOR  
Idaho  
NPT  
NOAA  
COE

# TECHNICAL MANAGEMENT TEAM

**BOR** : John Roache / Mary Mellema / Pat McGrane      **BPA** : Robyn MacKay / Tony Norris / Scott Bettin  
**NOAA-F**: Paul Wagner / Richard Dominique              **USFWS** : David Wills / Steve Haeseker  
**OR** : Rick Kruger / Ron Boyce                              **ID** : Russ Kiefer / Pete Hassemer  
**WDFW** : Cindy LeFleur                                         **MT** : Jim Litchfield / Brian Marotz  
**COE**: Dan Feil / Steve Barton

## TMT CONFERENCE CALL

Wednesday August 5, 2009 09:00 - 12:00

### CONFERENCE PHONE LINE

Conference call line:888-285-4585; PASS CODE = 601714

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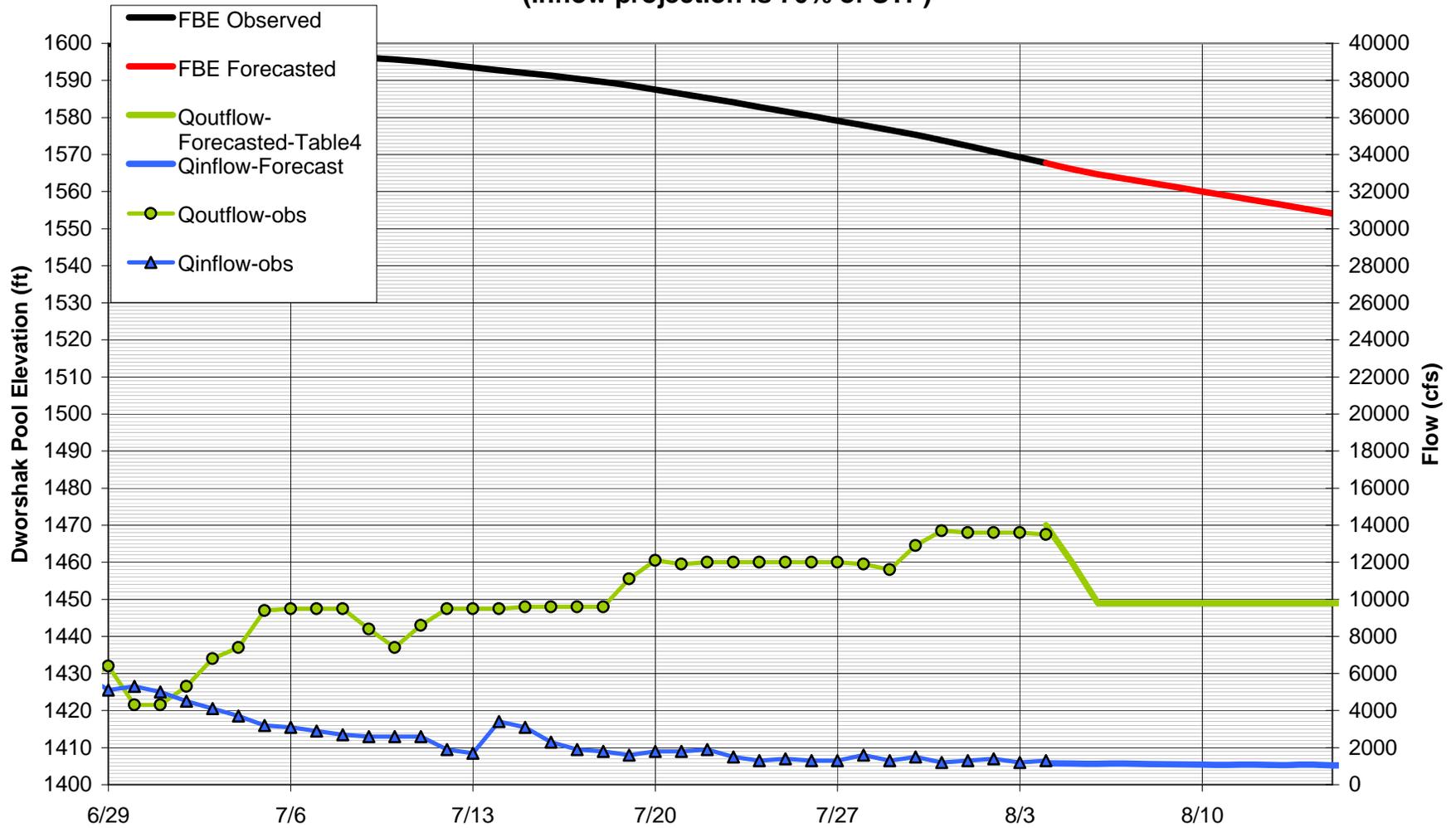
*All members are encouraged to call Robin Gumpert with any issues or concerns they would like to see addressed.  
Please e-mail her at [rgumpert@cnnm.net](mailto:rgumpert@cnnm.net) or call her at (503) 248-4703.*

## AGENDA

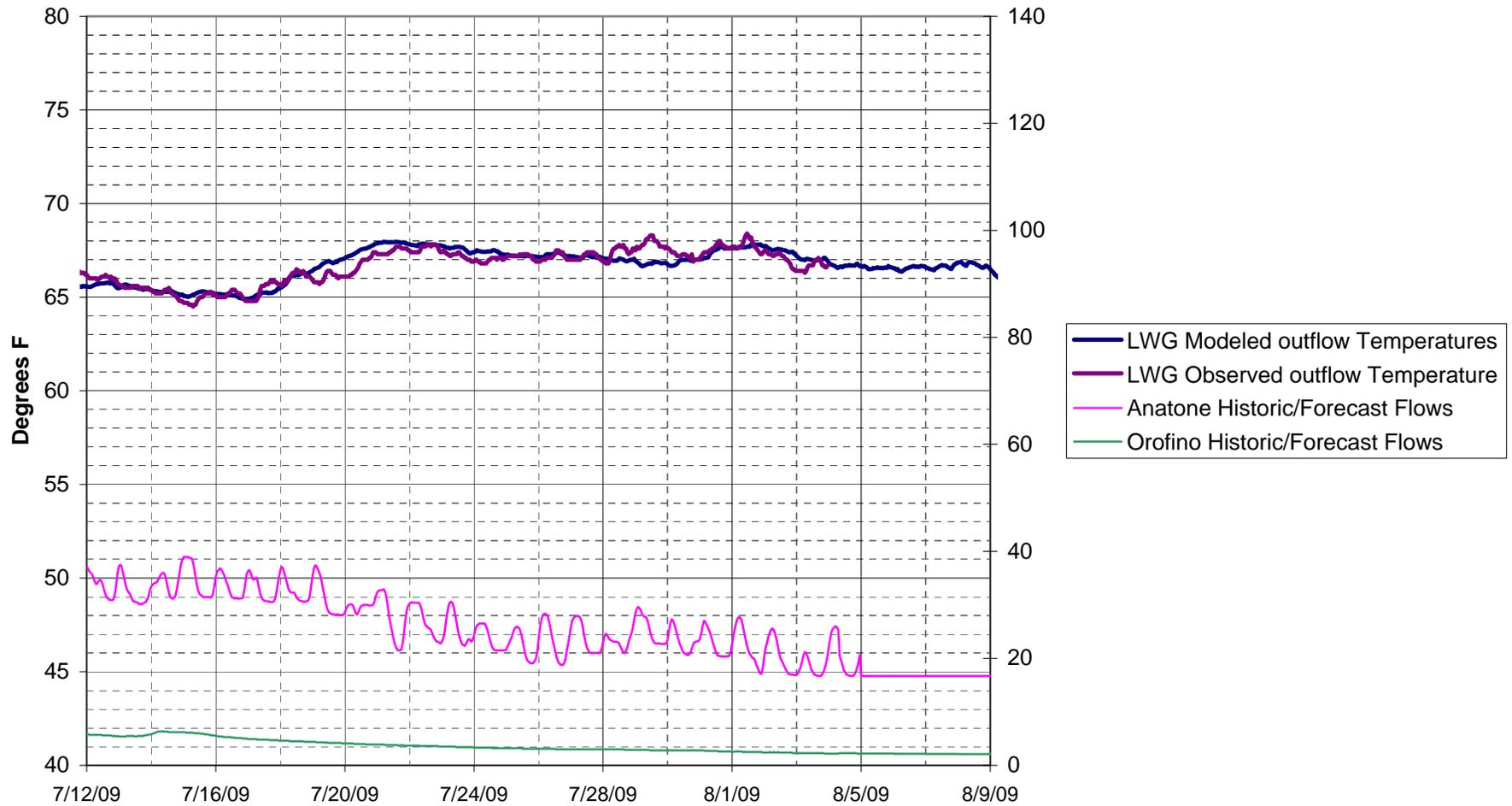
1. Welcome and Introductions
2. Review Meeting Minutes for July 29,31, August 3, 2009 [[Meeting Minutes](#)]
3. Review Dworshak Operations - Dan Feil, COE-RCC / Steve Hall, COE-NWW
  - a. [Current Temperature Readings](#)
  - b. [DWR Flow and Stage Projection](#)
  - c. [DWR Water Temperature Comparisons](#)
  - d. [DWR Flow-Temperatue Comparisons](#)
4. Operations Review
  - a. Reservoirs
  - b. Fish
  - c. Power System
  - d. Water Quality
5. Other
  - a. Set agenda for next meeting - **August 12, 2009**
  - b. [[Calendar 2009](#)]

*Questions about the meeting may be referred to:  
[Dan Feil](#) at (503) 808-3943, or  
[Steve Barton](#) at (503) 808-3945*

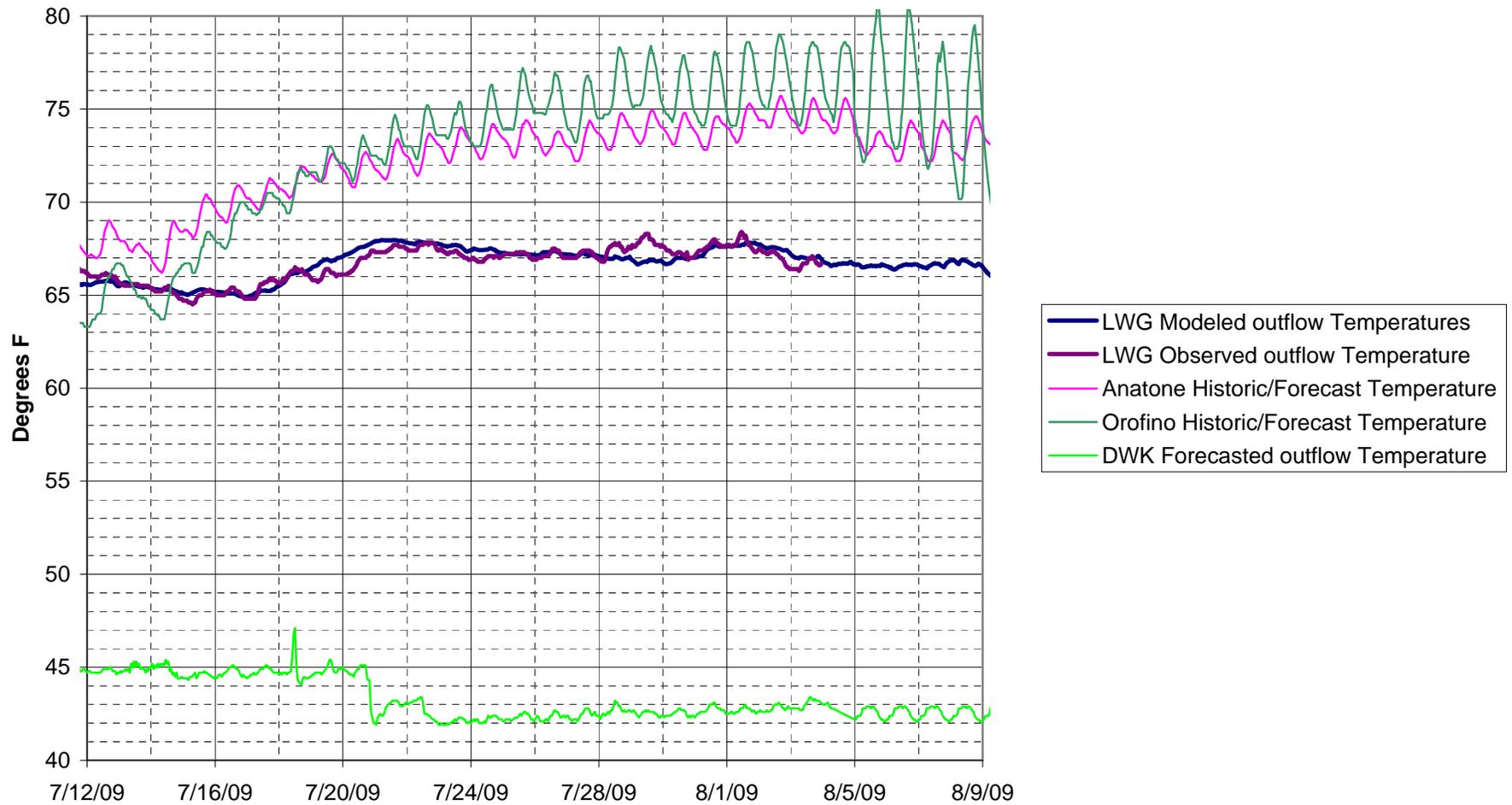
### Dworshak Reservoir August 4, 2009 Flow and Stage Projection (inflow projection is 70% of STP)



**Water Flow/Temperature Comparisons**  
**Observed data thru 8/3/09**  
**Forecast Flows for (Anatone and Orofino)**



### Water Temperature Comparisons Observed data thru 8/3/09



# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

August 5, 2009 Conference Call

### FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Erin Halton

Notes: Christa Leonard

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.

#### **Review of Meeting Minutes**

Paul Wagner, NOAA, provided the following edit to the facilitator's summary notes from the 7/29 TMT meeting:

- In the "fish" section of Operations Review, subyearling numbers should be 15,000 not 1500.

No other changes were mentioned during the meeting and the facilitator's summary notes and official meeting minutes for both 7/29 and 7/31 were considered final.

#### **Review Dworshak Operations**

Dan Feil, COE, recalled the 8/3 TMT conference call and reminded TMT members that outflows shifted down to 12 kcfs as of midnight on 8/4. Outflow temperatures were currently at 43 degrees F and the Lower Granite tail race was at 66.4 degrees F. Feil referred TMT to four links, posted to the agenda, detailing temperature and flow modeling results. Steve Hall, COE, reviewed the models/graphs, explaining that the forecast model showed temperatures were likely to stay in the 66.5 degree F range. He explained that the modeling assumed Anatone reducing flows to 18 kcfs based on Hells Canyon releases which were 11 kcfs on 8/4, and expected to drop to 9 kcfs over the next few days. Paul Wagner, on behalf of the Salmon Managers, reported that their recommendation was to continue reducing Dworshak outflows as discussed during the 8/3 TMT conference call.

**Action/Next Steps:** The COE will hold Dworshak outflows at 12 kcfs until midnight tonight, Wednesday 8/5, when they will shift down to full powerhouse (9.8/9.9 kcfs) and will likely hold through the next 10 days. There is a tentative conference call set for 8/12 at 9:00 a.m. to discuss Dworshak operations if necessary. Confirmation will be sent out via email on Tuesday 8/11.

#### **Operations Review**

**Reservoirs:** Grand Coulee was at elevation 1285.2'. Hungry Horse was at 3558.3' with outflows of 2.6 kcfs. Libby was at elevation 2441.7', with inflows of 9 kcfs and outflows of 7 kcfs (expected to hold through August). Albeni Falls was at elevation 2061.97', with inflows of 13.4 kcfs and outflows of 12.5 kcfs. Dworshak was at 1565' with inflows of 1.4 kcfs and outflows of 12 kcfs (30 feet to draft through the end of August.) Lower

Granite flows were at 37 kcfs, McNary had flows of 117 kcfs, and Bonneville flows were 125 kcfs. Dan Feil, COE, noted with the weather temperature cooling there had been no gas cap exceedances over the past few days. Bonneville gas caps were 75kcfs during the day and 95 kcfs at night.

Fish: Paul Wagner, NOAA, referred TMT to Fish Passage Center data and reported that at Bonneville Fall Chinook and Jacks were in the 100 per day range, Steelhead were in the range of 3800-3600 per day and trending down; Wagner noted that temperatures were fairly warm, around 75 degrees F.) Smolt passage data showed subyearling Chinook also trending down, in the 250-550 per day range at Lower Granite, 600-800 per day at Little Goose, 3800 per day at McNary and about 1000 per day at John Day.

Power System: Nothing to report.

Water Quality: Nothing to report.

**TMT Schedule**: Conference call tentatively scheduled for 9:00 am PST Wednesday 8/12. (Email confirmation will be sent out on Tuesday 8/11.)

**8/19 face-to-face TMT**

Agenda items for future meetings will include:

- Notes Review
- Dworshak Operations/Dworshak Board preview of September operations
- Libby Operations update
- The Dalles Spillwall update
- Operations Review

**Columbia River Regional Forum  
Technical Management Team Conference Call  
August 5, 2009**

***1. Introduction***

Today's TMT call was chaired by Dan Feil (COE) and facilitated by Erin Halton (DS Consulting), with representatives of BPA, CRITFC, NOAA, BOR, Idaho, COE, Montana, USFWS, FPC and others participating. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

***2. Review Meeting Minutes for July 29 and 31***

There was a small change to the July 29 facilitator's notes in the Fish section of the Operations Review. The number of fall Chinook subyearlings passing was 15,000, not 1,500 as written. The notes will be reposted with this change. There were no other comments on facilitator's notes or official minutes.

***3. Dworshak Operations***

Dworshak outflows have been about 13.3-13.4 kcfs for the past few days, Feil reported. On its August 3 conference call, TMT agreed to drop Dworshak outflows to 12 kcfs at midnight August 4, so outflows are currently around 12.1 kcfs. The current Dworshak outflow temperature is 43 degrees F, and the temperature at Lower Granite tailwater is 66.4 degrees F.

Steve Hall (COE) presented three graphs of modeling results linked to today's agenda. The first graph shows Dworshak outflows dropping to 10 kcfs at midnight tonight. The second graph compares modeled and actual Lower Granite water temperatures; the model is tracking actual temperatures closely. From today on, the model shows Lower Granite temperatures in the 66.5 degrees F range, which the COE believes is a reasonable expectation in light of the cooling trend and a forecast of rain tomorrow. The final attachment shows flows at Anatone and Orofino gages on the Clearwater. The COE has reduced its projection of flows for Anatone to 18 kcfs, based on Idaho Power's estimated releases over the next three days: an average of 11 kcfs for today, then dropping to 9 kcfs per day on August 6 and 7. Based on this information, it's reasonable to expect releases of 9-10 kcfs per day from Hells Canyon Dam for the rest of August, Hall said.

FPAC discussed Dworshak operations yesterday, Wagner said. The Salmon Managers agreed on a recommendation to maintain 12 kcfs outflow through midnight tonight, then drop to full powerhouse, currently 9.8-9.9 kcfs for the next week. Management of Dworshak flows won't be as critical as it has been over the past few weeks, Russ Kiefer (Idaho) observed. TMT scheduled a tentative conference call in a week, if needed. The August 12 meeting will be

confirmed via email on August 11. COE, BPA, BOR, Idaho, Montana and CRITFC representatives voiced agreement with this plan.

#### **4. Operations Review**

**a. Reservoirs.** Libby is at elevation 2,441.7 feet, with inflows of 9 kcfs and outflows of 7 kcfs. Albeni Falls is at elevation 2,061.97 feet; inflows are 13.4 kcfs and outflows are 12.5 kcfs. Dworshak is at elevation 1,565 feet, with inflows of 1.4 kcfs and outflows of around 12 kcfs, which will drop to full powerhouse at midnight tonight.

Seven-day average inflows are 37 kcfs at Lower Granite, 117 kcfs at McNary, and 125 kcfs at Bonneville. Inflows continue to decline.

Feil provided follow-up on last week's conversation regarding spill at Bonneville. Since the weather has cooled, the rate of exceedances at the Camas Washougal gage has gone down, consequently the gas cap is now 95 kcfs. Daytime spill at Bonneville is 75 kcfs.

Grand Coulee is at elevation 1,285.2 feet. Hungry Horse is at elevation 3,558.3 feet. Discharges were increased from 2.4 to 2.6 kcfs this morning.

**b. Fish. Adults** – Fall Chinook (by definition any fish passing after August 1) are passing Bonneville at the rate of about 100 per day. There are 35-78 jacks per every 100 adults, so the plentiful jack trend continues. Steelhead are passing at the rate of 3,800 to 8,600 fish per day, with numbers trending downward.

**Smolts** – Subyearling Chinook numbers are trending down at Snake River projects, with less than 1,000 fish per day at Lower Granite, 6-800 per day at Little Goose, and 200-1,000 per day at Lower Monumental. The McNary passage index has dropped from the 10,000-20,000 per day range to 3,800 fish per day as of August 4. Fish Passage Center numbers for John Day and Bonneville are not full index counts, just conditions sampling: 1,000 fish per day at John Day, and 7,000 per day at Bonneville.

**c. Power.** There was nothing to report.

**c. Water Quality.** TDG levels are comparatively low.

#### **5. Next Meeting**

A tentative TMT conference call was scheduled for August 12, with email notification on August 11. The next TMT meeting after that will be August 19 in person, with Dworshak operations, Libby operations, an update on The Dalles spill wall construction, the standard operations review, and possibly an update on the Dworshak board's plans for September on the agenda. This summary prepared by consultant and writer Pat Vivian.

<b>Name</b>	<b>Affiliation</b>
Scott Bettin	BPA
Kyle Dittmer	CRITFC
Paul Wagner	NOAA
Mary Mellema	BOR
Russ Kiefer	Idaho
Tim Heizenrader	Centaurus
Steve Hall	COE Walla Walla
Dan Feil	COE
Jim Litchfield	Montana
Richelle Beck	DRA
Russ George	WMC
Dave Wills	USFWS
Dave Benner	FPC
Steve Barton	COE
Barry Espenson	CBB
Margaret Filardo	FPC
Kim Johnson	COE
Rudd Turner	COE
Karl Kanbergs	COE
Doug Baus	COE
Tom Le	Puget Sound Energy

# TECHNICAL MANAGEMENT TEAM

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**NOAA-F**: Paul Wagner / Richard Dominique              **USFWS** : David Wills / Steve Haeseker  
**OR** : Rick Kruger / Ron Boyce                              **ID** : Russ Kiefer / Pete Hassemer  
**WDFW** : Cindy LeFleur                                         **MT** : Jim Litchfield / Brian Marotz  
**COE**: Dan Feil / Steve Barton

## TMT CONFERENCE CALL

Wednesday August 12, 2009 09:00 - 12:00

### CONFERENCE PHONE LINE

Conference call line:888-285-4585; PASS CODE = 601714

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Please e-mail her at [rgumpert@cnnv.net](mailto:rgumpert@cnnv.net) or call her at (503) 248-4703.*

## AGENDA

1. Welcome and Introductions
2. Review Meeting Minutes for August 5, 2009 [[Meeting Minutes](#)]
3. Review Dworshak Operations - Dan Feil, COE-RCC / Steve Hall, COE-NWW
4. The Dalles Spillwall Construction Update - Pat Duyck, COE-NWP
5. Libby Operation Update - Dan Feil, COE-RCC / Joel Fenolio, COE-NWS
6. Operations Review
  - a. Reservoirs
  - b. Fish
  - c. Power System
  - d. Water Quality
7. Other
  - a. Set agenda for next meeting - **August 19, 2009**
  - b. [[Calendar 2009](#)]

*Questions about the meeting may be referred to:  
[Dan Feil](#) at (503) 808-3943, or  
[Steve Barton](#) at (503) 808-3945*

# TECHNICAL MANAGEMENT TEAM

**BOR** : John Roache / Mary Mellema / Pat McGrane      **BPA** : Robyn MacKay / Tony Norris / Scott Bettin  
**NOAA-F**: Paul Wagner / Richard Dominique              **USFWS** : David Wills / Steve Haeseker  
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**WDFW** : Cindy LeFleur                                         **MT** : Jim Litchfield / Brian Marotz  
**COE**: Dan Feil / Steve Barton

## TMT MEETING

Wednesday August 19, 2009 09:00 - 12:00

### CONFERENCE PHONE LINE

Conference call line:888-285-4585; PASS CODE = 601714

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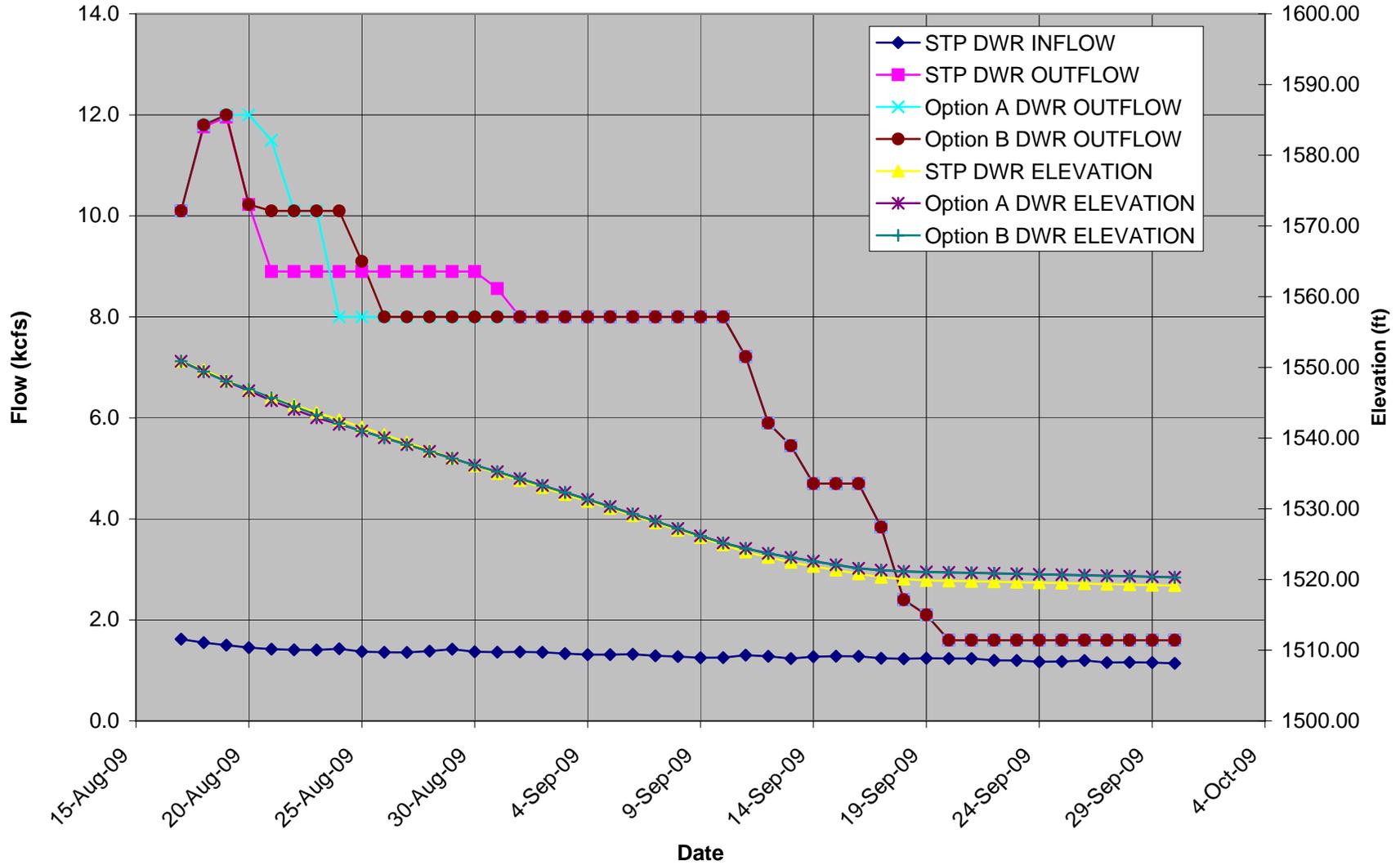
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Please e-mail her at [rgumpert@cnnm.net](mailto:rgumpert@cnnm.net) or call her at (503) 248-4703.*

## AGENDA

1. Welcome and Introductions
2. Review Meeting Minutes for August 5, 2009 [[Meeting Minutes](#)]
3. Review Dworshak Operations - Dan Feil, COE-RCC / Steve Hall, COE-NWW
  - a. [Current Temperature](#)
  - b. [Dworshak Operations](#)
4. The Dalles Spillwall Construction Update - Pat Duyck, COE-NWP
5. 2009 Autumn Treaty Fishery - Kyle Dittmer, CRITFC
  - a. [SOR 2009-C5](#)
6. Libby Operation Update - Dan Feil, COE-RCC / Joel Fenolio, COE-NWS
7. Operations Review
  - a. Reservoirs
    - i. [Revelstoke Turbine Runner](#)
  - b. Fish
  - c. Power System
  - d. Water Quality
8. Other
  - a. Set agenda for next meeting - **August 26, 2009**
  - b. [[Calendar 2009](#)]

*Questions about the meeting may be referred to:  
[Dan Feil](#) at (503) 808-3943, or  
[Steve Barton](#) at (503) 808-3945*

### Dworshak Operations Scenarios August 19, 2009







## **COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION**

729 NE Oregon, Suite 200, Portland, Oregon 97232

Telephone 503 238 0667

Fax 503 235 4228

### **SYSTEM OPERATIONAL REQUEST: 2009 C-5**

TO: Brig. General William E. Rapp COE-NWD  
James D. Barton COE-NWD-NP-Water Management  
Dan Feil, Steve Barton COE-NWD-NP-WM-RCC  
Rock D. Peters COE-NWD-CM-F (Fish Management Office)  
Col. Steven R. Miles COE-Portland District  
J. William McDonald USBR—Pacific Northwest Regional Director  
Steven J. Wright BPA Administrator  
Steve Oliver, Greg Delwiche BPA-PG-5  
Robyn MacKay, Scott Bettin BPA-Operations Planning-PGPO  
Stan Speaks, Keith Hatch BIA, Northwest Regional Office

FROM: Paul Lumley, *Executive Director*

DATE: August 18, 2009

SUBJECT: **Operation of the Lower Columbia Pools for the Autumn 2009 Treaty Fishery**

The Columbia River Inter-Tribal Fish Commission, on behalf of its members, the Nez Perce Tribe, the Confederated Tribes of the Umatilla Reservation, the Confederated Tribes of the Warm Springs Reservation, and the Yakama Nation, requests the following reservoir operations in “Zone 6” (Bonneville to McNary dams) during the 2009 autumn ceremonial, subsistence, and commercial Treaty fishery times as established by the tribes and the Columbia River Compact.

SPECIFICATIONS: Implement the following operations as a hard system constraint, as follows:

**August 24th, 2009, 6 am, Monday, through 6 pm, August 27th, 2009, Thursday.**

**Bonneville Pool: Operate the pool within a 1.0 foot band.**

**The Dalles (Celilo) Pool: Operate the pool within a 1.0 foot band.**

**John Day Pool: Operate the pool within a 1.0 foot band.**

**August 31, 2009, 6 am, Monday, through 6 pm, September 4th, 2009, Friday.**

**September 8th, 2009, 6 am, Tuesday, through 6 pm, September 12th, 2009, Saturday.**

**Bonneville Pool: Operate the pool within 1.0 foot from full pool (msl elevation 76.5 – 75.5).**

**The Dalles (Celilo) Pool: Operate the pool within 1.0 foot (msl elevation 159.5 - 158.5).**

**John Day Pool: Operate the pool within 1.0 foot (msl elevation 264.5 - 263.5).**

At this time we anticipate additional treaty fisheries in September. CRITFC will notify the Corps with specific times for the tribal fishery after each Compact hearing, via a new SOR.

**Bonneville pool elevations, relative to The Dalles Spillwall Construction:** The Tribes request that any needed changes to the BON pool be made between Saturday, Sept. 5, and Monday, Sept. 7. Any changes need to be completed by the start of the Sept. 8 treaty fishery. This action will help to minimize the risk of the loss of tribal fishing gear, as a result of COE operations.

#### JUSTIFICATION:

The 2009 autumn Treaty fishing season is of critical importance to CRITFC's member tribes. The forecast escapement of **322,500** (Columbia at Bonneville Dam) adult fall Chinook (normal rank) and **335,800** steelhead (normal rank), will create harvest opportunities for tribal fishers, who will exercise their treaty rights by participating in this harvest, using platform and in-river methods. This harvest will provide for the cultural, religious, and economic needs of the treaty tribes.

CRITFC will sponsor net flights each week, starting the week of August 24, to count the number of nets in each Zone 6 pool. The survey data will be promptly shared with COE-RCC staff.

Achieving good river conditions through managed river operations during the treaty fishery have been the basis of past litigation that have been supported by federal courts and are consistent with the trust and fiduciary responsibilities that the federal operators have with respect to CRITFC's member tribes. Good river conditions during the treaty fishery are also consistent with the spirit of the 10-year Memorandum of Agreements signed by tribal and Corps, BPA, and BOR officials.

In past meetings with Corps officials, tribal fishers have explained that a pool fluctuation of 1.0 foot or more disrupts tribal fishery operations. Specific problems include: (1) increased local currents that sweep debris into fishing nets, (2) rapid 1-2 hour drops in water level will lead to entanglement of nets, (3) boat access problems, and (4) nets torn from their anchors. Nets and gear are costly to replace. Any delays or disruptions to tribal fishing operations caused by the excessive pool fluctuations in Zone 6 negatively impacts tribal incomes, food resources and cultural practices.

The fishers have also expressed to Corps officials that the loss of fishing opportunity during the extremely limited treaty fishery cannot be replaced. Much of the tribal fishers' annual income and food is generated during the brief treaty fishing season, thus, any delays or disruptions to their fishing operations caused by the excessive pool fluctuations in Zone 6 negatively impacts tribal incomes, food resources, and cultural practices.

If this SOR cannot be accommodated, CRITFC requests a verbal response with an explanation from the federal operators by COB Friday, August 21, 2009. Thank you for considering this request. Please contact Kyle Dittmer or Bob Heinith should you have any questions: 503-238-0667.

cc: TMT Members  
Tribal staffs

# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

August 19, 2009 Meeting

### FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Erin Halton

Notes: Christa Leonard

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the “record” of the meeting, only a reminder for TMT members.

#### **Review of Meeting Minutes for August 3<sup>rd</sup> and 5<sup>th</sup>, 2009**

No changes were made to the facilitator's summary notes/official meeting minutes and both sets were considered final.

#### **Review Dworshak Operations**

Dan Feil, COE, referred TMT members to a link, posted to the agenda, detailing temperature modeling. He said temperatures at the Lower Granite tailwater have been holding to the 65-66°F range with Dworshak operations at full powerhouse (10 kcfs). Feil reported that the warmer weather temperatures expected this week, coupled with Hells Canyon discharges doubling to 16 kcfs, will bring warmer water temperatures from the Snake River. In anticipation of this shift, the COE coordinated with the Salmon Managers and ramped up Dworshak outflows to 12 kcfs at 1:00 pm on 8/18. Feil said current Dworshak outflow temperatures were 44.4°F, so as cold as possible given current circumstances.

Due to technical difficulties, Steve Hall, COE, was unable to email modeling results prior to the TMT meeting. Russ Kiefer, ID, reported that his modeling showed that outflows of 12 kcfs should keep water temperatures at Lower Granite tailwater below the 68°F criteria through this short hot spell. Feil posed a question to TMT as to how long they would recommend holding Dworshak outflows at 12 kcfs, given the end of August target elevation of 1535'. TMT members discussed issues surrounding this decision; the first Hells Canyon increase was made on 8/17, so the first slug of water is expected to reach Lower Granite on 8/20. Subsequent releases from Hells Canyon on Tuesday and Wednesday were not likely to be reflected in Lower Granite temperatures until Friday morning, 8/21. Hall presented TMT with three scenarios that were to be posted to the agenda later in the day; he described the expected step down in outflows for the rest of the month that would be associated with dropping outflows to full powerhouse on 8/19, 8/21 or 8/23.

Dave Statler, Nez Perce Tribe, expressed concern for the lack of options for water usage later in August. Feil noted that there is only one more week left in August and Kyle Dittmer, CRITFC, noted that the forecast shows that this is most likely the hottest week we'll see before the end of the month and that there is even some precipitation in the

forecast. Dave Wills, USFWS, recommended holding Dworshak outflows at 12 kcfs until Friday morning when TMT could review updated temperature data; TMT members concurred.

**Action/Next Steps:** The COE will maintain Dworshak operations at 12kcfs for the short term. Operations will be reevaluated during a conference call set for Friday 8/21 at 8:00 am where next steps will be discussed.

### **Other/Dworshak**

Steve Hall, COE, and Dave Statler, Nez Perce Tribe, shared information with TMT members detailing the Dworshak Operations Board Committee's draft plan for September operations to provide 200 KAF. The tentative plan is to hold outflows at 8 kcfs for the first 10 days of September, then reduce outflows to 5.9 kcfs for two days, then 4.7 kcfs for three days, then 2.4 kcfs/minimum outflows until the elevation of 1520' is achieved.

### **The Dalles Spillwall Construction Update**

Pat Duyck, COE, presented TMT with an update on this project, which was last discussed at TMT in April 2009. He reviewed the last phase of construction, noting that the contractor fell 80' short of the wall target length at the end of the 2008-09 work season. Work on the project will resume on September 8<sup>th</sup>, about one month earlier than previously planned, in the hopes of gaining ground lost during the last work phase. Duyck reported that a deviation request signed by the COE-RCC and BPA was about to be submitted to the court, to officially authorize the minimum Bonneville pool elevation of 76.5'. Duyck acknowledged the potential impacts to Tribal Fishing season ahead and noted that the Action Agencies are working closely with CRIPFC to minimize impacts to the extent possible. Duyck mentioned that the contractor learned valuable lessons during the last session as to how best approach the project and consequently has performed an equipment and staff re-organization in order to provide the best team possible during this next phase. Duyck clarified that the new spillwall is expected to provide better juvenile egress; modeling helped determine the best placement and showed that egress would be dramatically improved if this construction is completed. Dave Statler, Nez Perce Tribe, asked about the anticipated effects construction will have on Lamprey; Duyck reported that biologists foresee little or no impact to fish ladders and said continual evaluation and monitoring of juveniles will continue through construction. Regarding the exact time the COE expects to fill the Bonneville pool, Greg Bowers, COE, said that it should reach 76.5' between 0000 hours – 0600 hours on September 8<sup>th</sup>.

Dan Feil, COE, reported that the COE would like use a John Day pool operating range of 262.5' - 265' for September only, as a last resort that would help provide flexibility at Bonneville. He asked TMT members for their initial feedback: Dave Wills, USFWS, said he was amenable to the COE using this as their last option and expressed his concern about fish passing John Day during September. Russ Kiefer, ID, said that he needed more time to consider the COE's potential use of this option but that it seemed reasonable to have as a last resort. Ron Boyce, OR, asked how often this operation will be performed; Feil said that the need was unclear at this time but that it will be evaluated on a week-to-week basis.

**Action/Next Steps:** The COE will notify TMT regularly as operations and construction progress. Duyck invited TMT members to listen in on planning meetings that will take place throughout the season. An update on this item may be on the agenda for the 9/2 TMT meeting.

### **2009 Autumn Treaty Fishing – SOR 2009-C5**

Kyle Dittmer, CRITFC, referred TMT to SOR 2009-C5, posted as a link to the agenda. Dittmer said the Autumn Treaty Fishing season is expected to span a three or four week period. Dittmer reviewed the dates/times and pool elevations for John Day, Bonneville and The Dalles as specified in the SOR and clarified that a follow-up SOR is expected to be issued after 9/7. Dittmer relayed a message from Paul Lumley, the new Executive Director of CRITFC: CRITFC will hold the COE personally responsible for any damage to net or platform gear. Dan Feil, COE, reminded TMT that the Summer Treaty Fishing Season was without incident and that the COE met all obligations as requested. Doug Baus, COE, said that the COE planned to operate the pools as they have in previous years and Greg Bowers, COE, said that the COE would be coordinating closely with CRITFC as the season progresses.

**Action/Next Steps:** COE teletypes will be shared with CRITFC and updates on the Autumn Treaty Fishing season may be on the agenda for the 9/2 TMT meeting.

### **Libby Operations Update**

Dan Feil, COE, reported that operations are currently at the Bull Trout minimums and said the current elevation was 2443' (86% full.) Operations will move to outflows of 7 kcfs for the remainder of August, then shift to 6kcfs outflows to move toward the end of September target elevation of 2441.3'. Feil added that average inflows were 9.8 kcfs as of 8/18.

### **Operations Review**

**Reservoirs:** Libby was at elevation 2443', with inflows of 9.8 kcfs and outflows of 7.0 kcfs. Albeni Falls was at elevation 2062.3', with inflows of 12.2 kcfs and outflows of 13.2 kcfs. Dworshak was at 1549.2' with inflows of 1.5 kcfs and outflows of 12.1 kcfs. Lower Granite outflows were 34.5 kcfs, McNary had flows of 107.9 kcfs, and Bonneville flows were 93.9 kcfs.

**Other / Little Goose Low Flow spill operations update:** Feil reported that the COE moved from 30% spill to an 11.6 kcfs flat spill level and the COE planned to continue this pattern through August. Also, the COE said they would like to shut off the spillway weir during the daytime shift on 8/31, while work crews are on shift. He clarified that the net spill volume of 11.6 kcfs will be maintained on the 31<sup>st</sup> with the use of other bays. It was noted that fish passage is likely to be very low at the project. The COE asked for TMT feedback on the proposed daytime closure of the spillway weir:

- ID: no objection
- USFWS: no objection
- OR: no objection

- NOAA: no objection
- Nez Perce: no objection
- Also: CRITFC: no objection

Other / Ice Harbor Update: Sacagawea is back online; however, there is a need for unit 1 to run for four days next week.

Reservoirs continued: Hungry Horse was at 3556.82' with outflows of 2.5 kcfs, reaching 3550' end of September. Grand Coulee was at elevation 1282.6'.

Tom Lorz, speaking on behalf of FPAC, said that FPAC members were curious about operations at Grand Coulee during the last week. Tony Norris, BPA, explained that Canadian dams ramped up discharge to aid Columbia River barge navigation, which affected inflow to McNary. Dave Wills, USFWS, said he appreciated the explanation but expressed concern that there was no coordination between the Action Agencies and the Salmon Managers. Wills added that the Salmon Managers found it remarkable that there appeared to be a refill pattern at Grand Coulee at the same time flows at McNary were decreasing. He said that given the low water year and the challenge in meeting flow/elevation targets, it seemed like the Action Agencies had missed an opportunity to have good regional coordination with their partners. Looking ahead, Wills made a request that the Action Agencies use a gradually decreasing, uniform flow pattern in the near term and asked if the Action Agencies would consider meeting the end of August elevation target two days earlier than planned, on August 29<sup>th</sup>. Gary Fredericks, NOAA, and Tom Lorz, CRITFC, supported Wills' request for better regional coordination and Russ Kiefer, ID, clarified that he did not see that fish protection measures were being met during the timeframe of August 13-18<sup>th</sup>.

Norris responded that the Action Agencies planned to meet the end of August elevation target on August 31. He acknowledged that the Action Agencies could have done a better job in communicating with the Salmon Managers on this issue. Ron Boyce, OR, said that he shared the concerns expressed by CRITFC, NOAA, and USFWS regarding the lack of communication. John Roache, BOR, said that he did want to implement the best possible operation for fish protection. Boyce said that he planned to submit a formal letter regarding this issue. Norris and Roache committed to better communicate with their regional partners when there are similar issues that arise in the future.

Fish: Gary Fredericks, NOAA (on behalf of Paul Wagner), reported to TMT that there were 205,000 Steelhead per day at Bonneville. Dave Wills, USFWS, referred TMT to the Fish Passage Center website data; Fall Chinook are getting started and shads are at a 10 year low. Subyearling Chinook 100-200 at Lower Granite, the numbers at McNary are fluctuating to 6000, 1000 at John Day, 1200-1500 at Bonneville.

Power System: Nothing to report.

Water Quality: Laura Hamilton, COE, reported that malfunction at Bonneville and McNary now fixed. She noted no exceedances except at Camas/ Washougal where TDG levels are fluctuating oddly despite low spill and only a slight temperature change. She is

investigating the potential that algae oxygen production could be affecting TDG readings at that guage.

**TMT Schedule:**

- Conference call scheduled for 8:00 am Friday 8/21

9/2: face-to-face TMT meeting 9:00 am

Agenda items will include:

- Notes Review
- AutumTreaty Fishing Update
- Libby operations update
- End of MOP

**Columbia River Regional Forum  
Technical Management Team Meeting  
August 19, 2009**

***1. Introduction***

Today's TMT meeting was chaired by Dan Feil (COE) and facilitated by Erin Halton (DS Consulting), with representatives of COE, BOR, USFWS, BPA, CRITFC, the Nez Perce Tribe, NOAA, Idaho, Oregon, and others participating. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

***2. Review Meeting Minutes for August 5, 2009***

There were no comments on the facilitator's notes or official minutes.

***3. Dworshak Operations***

With full-powerhouse discharges out of Dworshak reservoir, Lower Granite tailrace temperatures have held steady at 65-66 degrees F, well below the 68-degree criterion, Feil reported. Earlier this week Hells Canyon Dam discharges doubled from 8 kcfs to 16 kcfs of warmer flows coming into the Columbia from the upper Snake basin. Concerned about meeting the Lower Granite tailwater criterion of 68 degrees F later this week, the COE conferred with FPAC regarding Dworshak discharges prior to today's meeting.

To counteract the potential for increasing water temperatures in the Lower Granite tailwater from increased Hells Canyon outflows and head off problems during the coming heat wave, the COE recommended and FPAC agreed to bump outflows up to 12 kcfs for a few days. Consequently, at 1 pm August 18, Dworshak outflows increased to 12 kcfs. Hells Canyon flows hit 14 kcfs on August 17 and continued to rise, hitting 18 kcfs on August 18, a major reason for increasing Dworshak outflows that day. Dworshak releases are currently around 44 degrees F using the RO gates, which produce the coldest water available.

Feil asked TMT to consider how much longer Dworshak outflows should continue at 12 kcfs. How should the available water volume be shaped for the rest of August in light of higher temperatures predicted this week? FPAC's recommendation to the COE was to check in on the operation via conference call on Friday, August 21, in light of actual Lower Granite tailwater temperatures. This time of year it typically takes 2-3 days for flows from Hells Canyon to reach Lower Granite, Steve Hall (COE Walla Walla) said. The warmer water released from Hells Canyon on August 17 can be expected to hit Lower Granite today or tomorrow. The higher releases of cool water from Dworshak beginning yesterday, August 18, should reach Lower Granite by Friday morning, August 21.

Hall described to TMT three scenarios he modeled, with graphs to be posted to the TMT web page later today:

1. Drop Dworshak outflows from 12 kcfs to average flows of 9 kcfs through the end of August. This would achieve the end of month elevation target of 1,535 feet at Dworshak reservoir.
2. Hold 12 kcfs outflows through August 21, drop to full powerhouse by August 23, and reset flows to 8 kcfs from August 24 through the end of August.
3. Drop outflows today, August 19, from 12 kcfs to full powerhouse or 10 kcfs through August 23 or 24, then reset the operation to 8 kcfs on August 25 through the end of the month.

Dave Statler (NPT) expressed concern that running 12 kcfs out of Dworshak for the rest of this week (scenario 2) would leave flows of only 8 kcfs or so for the rest of August, which doesn't leave much operating flexibility. Setting Dworshak flows back to full powerhouse now would leave more options for the Dworshak operation through the rest of August. Statler advocated keeping Dworshak outflows at 8 kcfs or more through the end of August, while also meeting the 1,535 foot end-of-month elevation target.

Dave Wills (USFWS) shared Statler's concern about potential problems with temperature management in the latter part of August if water isn't conserved now. Wills was reluctant to recommend dropping Dworshak flows below 12 kcfs before Friday. He and Russ Kiefer (Idaho) agreed that the Salmon Managers' recommendation should still hold: Keep Dworshak outflows at 12 kcfs until Friday morning, August 21.

Cutting flows back to full powerhouse earlier than August 21 might extend full powerhouse flows longer, Kyle Dittmer (CRITFC) said. The heat wave later this week is expected to be the last of the season. Idaho's main concern was temperature management during the heat wave. The Nez Perce Tribe's main concern was keeping water volume in mind as decisions are made on how much water to release from Dworshak. There were no comments from Oregon.

The Salmon Managers considered a COE proposal to establish criteria for changing Dworshak outflows on August 21 and scheduled an 8 am conference call August 21 instead. Until then, Dworshak outflows will remain at 12 kcfs.

The Dworshak operations board has a draft plan for managing the Nez Perce 200 kaf operation in September, Hall announced. The plan at present is to run Dworshak outflows at 8 kcfs for the first 10 days of September, then drop outflows to 5.9 kcfs outflows for 2 days; to 4.7 kcfs for 3 days; to 2.4 kcfs for another 2-3 days; and finally to 2.4 kcfs until elevation 1,520 feet is attained. At that point, the project would go to minimum flows.

#### ***4. The Dalles Spill Wall Construction***

Pat Duyck (COE) gave an update on The Dalles spill wall construction schedule. Last year the contractor finished work on the spill wall 80 feet short of initially planned. That led to an extension of the in-water work period to September 8 this year, about a month early. The contractor has modified equipment being used to work on the shallow rock shelf so that the depth requirement is only 6.5 feet instead of 13 feet. With a 2-foot buffer, that equates to a required forebay elevation at Bonneville of 78 feet throughout the construction period.

The Action Agencies made a deviation request to raise the Bonneville pool maximum elevation from 76.5 feet to 78 feet. That will give BPA and the RCC more flexibility to manage power generation and the chum operation. The main concern with the deviation request is potential impacts to tribal fisheries. The COE and tribal public affairs officers are working on this.

Duyck expressed confidence that the contractor will finish on schedule despite setbacks last year, as long as the COE provides adequate water depth. The consequence of not providing enough water and pushing construction into a third year would be devastating financial impacts to the CRFM program.

The spill wall between bays 7 and 8 is needed to improve juvenile salmon egress downstream, moving them into swift currents faster and away from predators, Duyck explained. Statler noted that Pacific lamprey passage is good at The Dalles and wondered how modifications might impact it. Initial testing shows little if any impact to lamprey passage at either ladder entrance, Duyck said. The COE will continue to evaluate lamprey passage as construction progresses.

The COE will maintain a 76.5' tailwater elevation at The Dalles by 6 am on September 8<sup>th</sup>. Between midnight and 6 am, BPA will make the transition in power operations. Tribal fisheries would prefer that the pool not be filled while nets are out, Tom Lorz (CRITFC) said. There was further discussion of this under agenda item 5 below.

The current operation at John Day pool is for a minimum elevation of 262.5 to 264 feet, or a 1.5 foot operating range. To provide extra operational flexibility if needed in September, the COE might briefly increase the John Day operation range to 2.5 feet, or from 262.5 to 265 feet elevation. Feil asked whether any TMT members would object to this.

Idaho said it was probably a reasonable action, but more thought was needed. CRITFC expressed concern about elevation changes during tribal fishing season. Oregon asked for more clarity on how often the greater operating range might be invoked, and requested notification a week in advance of any changes in pool elevation. Duyck will continue to give TMT regular updates as the construction season progresses.

##### ***5. 2009 Autumn Treaty Fishery – SOR 2009-C5***

Kyle Dittmer (CRITFC) presented this SOR for tribal fishing during the first 3 weeks of fall season. The SOR covers August 24-27; August 31-Sept 4; and Sept 8-12. During those times, the tribes are requesting a 1 foot band as a hard elevation constraint on operations Bonneville, The Dalles and John Day pools, within specified elevations.

- Bonneville pool – 76.5 to 75.5 feet
- The Dalles pool – 159.5 to 158.5 feet
- John Day pool – 264.5 to 263.5 feet

SOR 2009-C5 covers the first 3 weeks of fall fishing, with further fisheries likely after this one. This SOR includes specifics for dealing with the elevation constraints for construction at The Dalles, which Dittmer quoted verbatim, “At the tribes’ request, any changes to the Bonneville pool will be made between September 5 and 7. Any changes need to be completed by the start of the September 8 fishery. This action will help to minimize the loss of tribal fishing gear.” Dittmer emphasized that the tribes will hold the COE responsible for any damages and loss due to changes in pool elevation. This time of year is the main fishing season, and the tribes want good flow conditions for treaty fishing. Run sizes are anticipated to be 322,000 to 500,000 fall Chinook and 335,800 steelhead at Bonneville.

The COE has provided a 1.5 foot operating range for previous fisheries at Bonneville and there have been no complaints of damaged equipment, Feil said. After more internal coordination, the COE will most likely provide a 1.5 foot operating constraint at Bonneville, 3 feet at The Dalles, and 1.5 feet at John Day, as it has for past fisheries, Doug Baus said. TMT will revisit treaty fishing at its next regularly scheduled meeting September 2.

## ***6. Libby Operations Update***

The current elevation at Libby reservoir is 2,443 feet, which is also the maximum elevation, Feil reported. That elevation will most likely hold until sometime next week. The end of September estimated elevation is 2,441.3 feet, putting outflows at 7 kcfs for the rest of August and 6 kcfs through September. Libby inflows are currently averaging 9.8 kcfs per day. There were no questions regarding this operation.

## ***7. Operations Review***

**a. Reservoirs.** Libby is at elevation 2,443 feet, with inflows of 9.8 kcfs and outflows of 7 kcfs, as noted above. Albeni Falls is at elevation 2,062.3 feet, with inflows of 12.2 kcfs and outflows of 12.1 kcfs. Dworshak is at elevation 5,049.2 feet, with inflows of 1.5 kcfs and outflows of 12.1 kcfs.

Mean daily discharges are 34.5 kcfs at Lower Granite, 107.9 kcfs at McNary, and 93.3 kcfs at Bonneville.

At 8 am yesterday, August 18, spill at Little Goose went from 30% of flows to 11.6 kcfs for a constant spill level for the rest of the season as long as 11.6 kcfs remains close to 30%, Feil reported. The COE made this change to help smooth out the system because it can be difficult to maintain both the MOP operation and the BiOp spill percentage during low flow times when the units at Little Goose are being switched on and off. Flattening out the operation to a constant spill of 11.6 kcfs eases operations not only the Little Goose but downstream at Lower Monumental and Ice Harbor. The 11.6 kcfs spill rate is expected to continue through the end of spill season unless flows go higher or lower than they are now.

Because a crane and crew are required to shut off spill at the Little Goose spillway weir, the COE plans to end spill during working hours rather than at midnight on August 31. The same amount of water will be spilled through the regular bays while the spillway weir is closed. Idaho, USFWS, NOAA, CRITFC, Oregon, and the Nez Perce Tribe agreed to this operation.

Hungry Horse is at elevation 3,556.82 feet, with 2.5 kcfs outflows, headed for a target elevation of 3,550 feet at the end of September, John Roache (BOR) reported.

Grand Coulee is at elevation 1,282.6 feet, drafting to a BiOp target of 1,278 feet by August 31 based on forecasts at The Dalles. This year, BOR is releasing about an additional 14 kaf by August 31 in accordance with Washington's Columbia River Water Management Program (CRWMP). That equates to about 0.2 foot in Lake Roosevelt. As a result the revised target elevation for Grand Coulee is 1277.8 feet on August 31.

The Salmon Managers (USFWS, NOAA, CRITFC, Idaho, and Oregon) expressed concern that Grand Coulee appeared to be refilling during a week when flows were needed downstream for migration especially at McNary and Bonneville. Over the past 7 days the average discharge at Grand Coulee was 63.2 kcfs, while for the previous 7 days it was 78.6 kcfs, and 92.3 kcfs for July. The Action Agencies (BOR and BPA) said it's typical for inflows to decline at that rate at this time of year. During the week in question, there was a 15% decrease in inflows at McNary from the previous 7-day average. There was some refill at the rate of 1.2 feet for 5 days, but such variations are common at this time of the year and are covered in the FOP.

At the time of the refill, the Canadians were moving a very large turbine runner for Revelstoke Dam upstream through the Columbia system, Norris noted. To provide adequate depth for navigation, they ramped up discharges from Canadian reservoirs by 15 kcfs. This was water that we did not expect to be released that week and contributed to water stored at Grand Coulee and would have come out more evenly through the month.

Flows at Grand Coulee dropped to 50 kcfs during the week in question. Because Grand Coulee is not a headwater project, variations in flows are to be expected. The drop in weekly average flows at McNary (15% compared to the previous week's average) was consistent with the continuous decline in inflows expected through the end of spill season. The flows on the weekend at McNary were also within the 80% of the weekday flows.

The Salmon Managers noted that coordination was lacking for this operation. When spill dropped to below 50% at McNary because water was being stored upstream at Grand Coulee, survival rates at Bonneville were impacted. BOR was unaware at the time that spill downriver was affected. Oregon is in the process of preparing a letter to be sent to the Action Agencies on this situation. BPA and BOR acknowledged that the Action Agencies could have done a better job in communicating with the Salmon Managers on this issue. BPA and BOR also committed to provide more coordination in the future during summer low flow conditions.

Going forward, the Salmon Managers requested a gradual ramp down of Grand Coulee pool to elevation 1,278 feet by August 29 instead of August 31, the typical target date. This would allow an extra 2 days for flows to reach Bonneville. The Action Agencies committed to a continuous draft of Grand Coulee reservoir toward an elevation target of 1,277.8 feet by August 31, not August 29.

**b. Fish. Adults** – Steelhead passage is strong, with over 12,000 fish passing Bonneville yesterday, Wills reported. As of yesterday, 205,000 steelhead had passed Bonneville in August. Fall Chinook passage is just getting started. So far, 16,000 fall Chinook have passed Bonneville this year compared to 11,500 last year.

**Juveniles** – Subyearling Chinook are passing Lower Granite at a rate of 100-200 fish per day; earlier numbers this week were over 200 fish per day. Passage counts at Bonneville hovered in the range of 2,000 fish per day for 3 days, then bounced back to 6,000 yesterday. Juvenile passage counts at Bonneville are in the range of 1,500 fish per day.

**c. Power System.** There was nothing to report today.

**d. Water Quality.** Laura Hamilton (COE) presented information on TDG exceedances in August. The McNary gage malfunctioned and has been repaired. She is investigating an anomaly at Camas Washougal gage. Apparently changes of 1 degree F in water temperatures are causing a 3% increase in TDG readings. This could be related to algae growth, which plays a role in oxygen production. A more typical ratio is 1% increase in TDG levels for every 1 degree of increased water temperature. The current ratio of approximately 1:3 is very unusual.

## **8. Next Meeting**

The next scheduled TMT meeting will be a conference call at 8 am Friday, August 21 to discuss Dworshak operations. The next regularly scheduled meeting will be in person on September 2, with a possible conference call August 28 if needed. The September 2 agenda will include updates on autumn treaty fishing, Libby operations, the WMP and the end of MOP. This summary prepared by consultant and writer Pat Vivian.

<b><i>Name</i></b>	<b><i>Affiliation</i></b>
Dan Feil	COE
John Roache	BOR
Dave Wills	USFWS
Doug Baus	COE
Tony Norris	BPA
Kyle Dittmer	CRITFC
Steve Barton	COE
Steve Hall	COE Walla Walla
Dave Statler	Nez Perce Tribe
Jeremy Giovando	COE
Pat Duyck	COE
Greg Bauer	COE
Laura Hamilton	COE

*Phone:*

Rich Dominigue	NOAA
Scott Bettin	BPA
Russ Kiefer	Idaho
Ron Boyce	Oregon
Shane Scott	PPC
Margaret Filardo	FPC
Dave Benner	FPC
Ruth Burris	PGE
Russ George	WMC
Tom Le	Puget Sound Energy
Barry Espenson	CBB
Tim Heizenrader	Centaurus
Tom Lorz	CRITFC

# TECHNICAL MANAGEMENT TEAM

**BOR** : John Roache / Mary Mellema / Pat McGrane      **BPA** : Robyn MacKay / Tony Norris / Scott Bettin  
**NOAA-F**: Paul Wagner / Richard Dominique              **USFWS** : David Wills / Steve Haeseker  
**OR** : Rick Kruger / Ron Boyce                              **ID** : Russ Kiefer / Pete Hassemer  
**WDFW** : Cindy LeFleur                                         **MT** : Jim Litchfield / Brian Marotz  
**COE**: Dan Feil / Steve Barton

## TMT CONFERENCE CALL

Friday August 21, 2009 08:00 - 09:00

### CONFERENCE PHONE LINE

Conference call line:888-422-7124; PASS CODE = 808436

We have had disruptions on the phone because people are not hitting 'mute' after dial in.  
**Please MUTE your Phone**

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*All members are encouraged to call Robin Gumpert with any issues or concerns they would like to see addressed.  
Please e-mail her at [rgumpert@cnnw.net](mailto:rgumpert@cnnw.net) or call her at (503) 248-4703.*

## AGENDA

1. Welcome and Introductions
2. Review Dworshak Operations - Dan Feil, COE-RCC / Steve Hall, COE-NWW
3. Review Grand Coulee Operations - John Roache, BOR / Tony Norris, BPA

*Questions about the meeting may be referred to:  
[Dan Feil](tel:(503)808-3943) at (503) 808-3943, or  
[Steve Barton](tel:(503)808-3945) at (503) 808-3945*

# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

August 21, 2009 Conference Call

### FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator/Notes: Erin Halton

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.

#### **Review Dworshak Operations**

As follow up to the TMT discussion of Dworshak operations on 8/19, Dan Feil, COE, referred TMT members to web pages on the Idaho Power website that showed data on Hells Canyon releases; Feil noted outflows had been as high as 21 kcfs on Thursday, 8/20. Feil added that temperatures at Lower Granite tailwater were at 64.9°F and asked the TMT members for their input on when to begin the step-down of Dworshak outflows. Russ Kiefer, ID, said that based on the most recent temperature information, he supported a shift down to 10 kcfs at noon on 8/21 and another step down to 8 kcfs on 8/24. All other TMT members present on the call (OR, Nez Perce, USFWS, BPA and BOR) supported the shifts as well.

**Action/Next Steps:** The COE planned to shift Dworshak outflows down to 10 kcfs at noon on 8/21 and planned to shift down to 8 kcfs (1 big and 1 small unit) at 0600 hours on 8/24.

#### **Review Grand Coulee Operations**

As follow up to the 8/19 TMT discussion of Grand Coulee operations, Tony Norris, BPA, reported that the intention of the Action Agencies was and still is to maintain flow objectives of daily averages of 105 kcfs with 50 kcfs spill at McNary and coordinate with the Salmon Managers if the operation cannot be met. Salmon Managers Dave Wills, USFWS and Russ Kiefer, ID, said that meeting this objective would satisfy their recommendation to hit elevation 1278' on 8/29 at Grand Coulee, as was discussed during the 8/19 TMT meeting. Norris acknowledged the Salmon Manager's concerns regarding flows that were expressed during the meeting on 8/19 and added that communication around this issue could have been managed in a better way.

**Action/Next Steps:** Norris said that TMT could expect to see a steady draft of Grand Coulee pool between now and the end of the month and committed to communicating updates to the Salmon Managers through Paul Wagner, Chair of FPAC, who was scheduled to return from vacation the week of 8/24.

### **Bonneville Spillway**

Dan Feil, COE, reported that maintenance on a spillway gate at Bonneville would require three days of a pool elevation of 72', which is 4.5' lower than the pool will need to be by September 8, when in water work is scheduled to begin for the second phase of The Dalles' spillwall construction. Feil acknowledged the challenge in bringing the pool down to that elevation, given the tight timeframe and overlap with Autumn Treaty Fishing. He said that the COE was exploring the possibility of using John Day pool to store water, which would likely result in going above elevation 265' at John Day. Feil clarified that there would be no net effects on flows at Bonneville associated with this proposed maintenance operation. TMT members discussed effects that might be associated with this operation for maintenance, including delays to fish passage at John Day, as well as effects on flows at McNary, Grand Coulee and The Dalles. Rick Kruger, OR, said that he would need a written description of the proposed operations (including a justification and description of anticipated effects) that he could share with his fellow ODFW staff before he could weigh in on the proposed operation. As to whether this maintenance could be performed any other time of the year, the COE responded that it would need to occur outside of the in-water work season at The Dalles.

### **Little Goose Spillway Weir Update**

Dan Feil, COE, recalled the discussion around timing for closure of the spillway weir planned for 8/31. Feil gave TMT a head's up that if river flows drop such that the spillway weir needs to be closed earlier than planned, that there will need to be a TMT call to discuss the issue. Feil noted that TMT members should reference table 11 in footnote 5 in the Fish Operations Plan to find the guidance that relates to this issue. Rick Kruger, OR, responded that the COE should make work crews available to close the weir when/if that scenario occurs and also said that he would need to see a written description of the proposed operations (including a justification and description of anticipated effects) that he could share with his fellow ODFW staff before he could weigh in on the proposed operation.

**TMT Schedule: 9/2:** face-to-face TMT meeting 9:00 a.m.

Agenda items will include:

- Notes Review
- Autumn Treaty Fishing Update
- Libby Operations update
- End of MOP
- Operations Review

**Columbia River Regional Forum  
Technical Management Team Conference Call  
August 21, 2009**

**1. Introduction**

Today's TMT call was chaired by Dan Feil (COE) and facilitated by Erin Halton (DS Consulting), with representatives of BPA, COE, USFWS, BOR, Idaho, Oregon, the Nez Perce Tribe and others participating. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

**2. Dworshak Operations**

On August 18, the COE increased Dworshak outflows to 12 kcfs in anticipation of warmer weather this week, Feil recalled. At its August 19 meeting TMT decided to continue 12 kcfs flows until today, when further decisions would be made. The tentative plan was to back off to full powerhouse flows of around 10 kcfs today and run that through the weekend, then drop outflows to 8 kcfs on Monday, August 24.

Yesterday, August 20, releases from Hells Canyon Dam peaked at 21 kcfs and at 18.5 kcfs on August 19, according to the Idaho Power web page. These are peak flows, not daily averages. Idaho Power's forecast through the weekend is for a daily average of 16 kcfs flows from Hells Canyon, although daily averages have yet to go that high. Brownlee reservoir is currently at elevation 2,060 feet, forecasted to be down to 2,056 feet by August 23.

Feil asked TMT whether the tentative plan for Dworshak still holds in light of this new information. Not only is Lower Granite tailwater cooling off, locations downriver are cooling as well, Dave Statler (Nez Perce Tribe) said. That appears to be a natural cooling effect. Dave Wills (USFWS) asked whether the COE is confident that water released from Hells Canyon Dam on August 17 or 18 has actually reached the Lower Granite tailwater gage.

Temperatures at Anatone gage have been gradually increasing to 73 degrees F over the past few days, Steve Hall (COE Walla Walla) reported. Over the weekend of August 15-16, temperatures dipped to 72.5 degrees, a sign that Hells Canyon water has reached the Anatone gage. Hall didn't think Anatone temperatures have peaked yet because Idaho Power discharges from Hells Canyon continue to increase. Therefore, temperatures from the Anatone portion of Hells Canyon are likely to continue to increase. Nevertheless, the 12 kcfs releases from Dworshak appear to have tempered the heat well, and temperatures overall are decreasing. Hall and Statler estimated that it takes 3 to 3.5 days for flows from Hells Canyon to reach Lower Granite tailwater under present conditions. The Orofino gage is on the mainstem Clearwater River but upstream of the north fork of the Clearwater, which is where cooler water from

Dworshak enters the Columbia system, Russ Kiefer (Idaho) explained. For that reason, Orofino readings tend to be warmer than those further downstream.

The Salmon Managers (Idaho, Nez Perce Tribe, USFWS, and Oregon) all agreed on a recommendation to drop Dworshak outflows to full powerhouse this evening, then drop again to 8 kcfs on August 23 until the end of August or elevation 1,535 feet is attained, whichever comes first. The COE assumed a daily average outflow of 11 kcfs today, not 12 kcfs, with the change happening at noon. Oregon, USFWS, the Nez Perce Tribe, and Idaho did not object to that. The COE plan is to ramp down Dworshak outflows from 11 kcfs to full powerhouse at noon today, then step down again to 8 kcfs at 6 am, August 23, using a big and small unit. BPA and USFWS approved of this operation.

### **3. Grand Coulee Operations**

Wills reported on the Salmon Managers' discussion of Grand Coulee operations yesterday. There was a general preference [among the Salmon Managers](#) for flattening Grand Coulee flows ~~between now~~ and to draft the reservoir to elevation 1,278 feet on August 29-30, although concurrence on that wasn't complete. Tony Norris (BPA) asked whether that means that the draft objective was met and any refill over the weekend would be considered irrelevant. Wills expressed a preference for hitting the target elevation on August 29 and not refill over the weekend.

Norris asked what result the Salmon Managers want at McNary. He suggested a daily average flow of 105 kcfs with a weekly mean of 50 kcfs spill at Bonneville and coordinate with the Salmon Managers if it cannot be met. That sounds reasonable, Kiefer said. The Action Agencies' primary objective all along has been to maintain flows of 105 kcfs at McNary and 50 kcfs spill at Bonneville, Norris emphasized. The plan is to provide enough water for both during the rest of August. Average flows this week were around 115 kcfs at McNary, largely attributable to unexpected increases in flow from Brownlee Dam and Dworshak Dam. From now until the end of spill season, our current estimates show that there will be enough water to maintain the 50% operation at McNary through the end of the month.

The Action Agencies will communicate with TMT if there are any changes to Grand Coulee operations between now and the next TMT meeting on September 2. USFWS, Oregon and Idaho had no objections to that plan.

### **4. Spill at Bonneville**

Feil gave TMT a heads-up that the Bonneville pool needs to be full, i.e. at elevation 76.5 feet, beginning September 8 when in-water construction starts on The Dalles spill wall. After spill ends August 31, and before September 8, the COE needs to perform maintenance on the spill gates. This presents a challenge because the repair requires a low pool elevation of around 72 feet, meaning the pool needs to rise by 4.5 feet in 4 days (September 4-8) after the repair is

finished. Because there won't be much water in the system between now and when the pool needs to be full, the COE is planning how to manage flows to accomplish this. The COE is working with the tribes on ways to get it done without impacting treaty fishing.

There has been discussion of using John Day reservoir to store 2 feet of water which would add flexibility during the lengthy construction period. It appears that raising the Bonneville pool elevation from 72 to 76.5 feet in 4 days will be easier if John Day reservoir is used to store extra water beginning August 24. Feil asked TMT whether they approve of using storage at John Day to help fill Bonneville pool by the morning of September 8.

Wills asked about potential impacts of the spill gate repair on Bonneville flows. The repair will take 2-4 days (from August 31 to September 4) after spill season ends. Spill for the refill will occur at John Day on September 4-8. No reduction in flows at Bonneville is expected.

Kiefer asked how this operation will affect fish protection measures at John Day. Spill there now is 30% of flows, which are 90-100 kcfs, Feil replied. Rick Kruger (Oregon) asked what flows are expected to be next week, particularly at McNary. They might be slightly reduced if Hells Canyon flows back off, Feil replied. The COE estimates that total river flows could drop by 15-20 kcfs next week, but that would be sufficient for full powerhouse flows at John Day as well as 30% spill. The spill rate at The Dalles is 40% so that would be harder to maintain, Kiefer added.

If migration time is decreased by spilling John Day for this operation during the migration period prior to August 31, Oregon and other litigants will probably object to it, Kruger said. More information is needed. Kruger requested a written description of the operation and its effects. Travel time through John Day pool as well as travel time through the river below John Day should be considered. The COE will take these comments into account, Feil said.

### ***5. Little Goose Spillway Weir***

The current plan, as discussed at the last TMT meeting August 19, was to spill approximately 11.6 kcfs through the Little Goose spillway weir and other bays and maintain that level unless river flows change. Feil asked TMT whether that plan should continue until the close of business August 31, at which time the spillway weir will be shut down and 11.6 kcfs spilled through the remaining bays until midnight.

Yesterday at FPAC, the possibility of shutting the spillway weir down during working hours on August 27, 3 days early, was discussed, Kruger said. If spill can be maintained through the remaining bays, Oregon would not object to this operation, but Kruger expressed concern about spillway efficiency if the weir is removed early. He asked the COE for a written description of this operation, including the reasons for it, the anticipated change in fish passage efficiency, the

numbers of fish expected to pass over the spillway, and its compliance with the Fish Passage Plan.

The FPP calls for closing the spillway weir when river discharges are less than 39.6 kcfs, per Little Goose table 11, Feil replied. The spillway weir is currently operating in the high crest position, and table 11 gives the appropriate spill amounts. Oregon's view is that if flows drop over the weekend to a level at which a change in spillway weir operation needs to occur, the COE should make work crews available on the weekend.

The COE plans to run the spillway weir until August 31, Feil said. If that changes, the COE will notify TMT via email and schedule further discussion as needed. USFWS and Idaho did not object to this operation.

Yesterday's flow average at Lower Granite was 37 kcfs, Tony Norris (BPA) noted. The next regularly scheduled TMT meeting will be September 2. This summary prepared by consultant and writer Pat Vivian.

<b><i>Name</i></b>	<b><i>Affiliation</i></b>
Tony Norris	BPA
Jeremy Giovando	COE
Steve Hall	COE Walla Walla
Rob Diaz	Integral Renewables
Russ Kiefer	Idaho
Tom Le	Puget Sound Energy
Dave Wills	USFWS
Dan Feil	COE
Doug Baus	COE
Margaret Filardo	FPC
Rick Kruger	Oregon
Scott Bettin	BPA
Dave Statler	NPT
Mary Mellema	BOR

# TECHNICAL MANAGEMENT TEAM

**BOR** : John Roache / Mary Mellema / Pat McGrane      **BPA** : Robyn MacKay / Tony Norris / Scott Bettin  
**NOAA-F**: Paul Wagner / Richard Dominique              **USFWS** : David Wills / Steve Haeseker  
**OR** : Rick Kruger / Ron Boyce                              **ID** : Russ Kiefer / Pete Hassemer  
**WDFW** : Cindy LeFleur    **MT** : Jim Litchfield / Brian Marotz  
**COE**: Dan Feil / Steve Barton

## TMT MEETING

Wednesday September 2, 2009 09:00 - 12:00

1125 N.W. Couch Street, Suite 500, Columbia Room  
Portland, Oregon 97209-4142  
Map Quest [\[Directions\]](#)

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*All members are encouraged to call Robin Gumpert with any issues or concerns they would like to see addressed.  
Please e-mail her at [rgumpert@cnnv.net](mailto:rgumpert@cnnv.net) or call her at (503) 248-4703.*

## AGENDA

1. Welcome and Introductions
2. Review Meeting Minutes for August 19 and 21, 2009 [\[Meeting Minutes\]](#)
3. End of MOP - Dan Feil, COE-RCC
4. Autumn Treaty Fishing Update - Kyle Dittmer, CRITFC/Doug Baus, COE-RCC
  - a. [SOR 2009-C5](#)
5. Review Libby Operations - Dan Feil, COE-RCC/Joel Fenolio, COE-NWS
6. Operations Review
  - a. Reservoirs
  - b. Fish
  - c. Power System
  - d. Water Quality
7. Other

- a. Set agenda for next meeting - **September 9, 2009**
- b. [\[Calendar 2009\]](#)

*Questions about the meeting may be referred to:*

*[Dan Feil](#) at (503) 808-3943, or*

*[Steve Barton](#) at (503) 808-3945*

# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

September 2, 2009 Meeting

### FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Robin Gumpert

Notes: Christa Leonard

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.

#### **Review of Meeting Minutes for August 19, 21, 2009**

Russ Kiefer, ID, corrected a misspelling of his last name.

Revisions to the official notes of 8/19, regarding discussions surrounding Grand Coulee, will be shared with Pat Vivian, official note taker, for correction at which point the notes will be considered final. The COE will send an email notice when the finalized notes have been posted to the web.

#### **End of MOP**

Dan Feil, COE, referred TMT members to BiOp RPA table #5 (pages 7 and 8). He quoted criteria for end of MOP operations including the September 1<sup>st</sup> date and the presence of a small number of juveniles, and contingent on other system needs such as navigation safety. Feil explained that the COE would like to raise the Little Goose pool with a buffer of .5' to 1' to assist with navigation safety needs. Pools will continue to fill through out September as water becomes available from expected precipitation.

It was noted that this issue had been discussed at FPAC but that consensus had not yet been reached. TMT members were polled for feedback:

- Dave Wills, **USFWS**, agreed that the BiOp and FOP criteria had been met for end of MOP. While the preference would be to use water from natural flows rather than augmentation water from Lower Granite, he acknowledged the COE's need for flexibility to meet navigation safety requirements. After Little Goose, he preferred to begin filling at Ice Harbor and on upstream.
- Rick Kruger, **Oregon**, agreed with the comments from USFWS.
- Paul Wagner, **NOAA**, concurred noting that there is no definitive data on higher pool levels aiding fish passage and that emphasis needs to lie in water temperature control. It was noted that temperatures are expected to drop as rain moves into the forecast over the Labor Day holiday. NOAA did not object to the COE's proposed operation.
- Jim Litchfield, **Montana**, agreed to the proposed operation.
- Russ Kiefer, **Idaho**, said the COE's proposal was reasonable. He also noted a concern that language re: MOP operations remained the same in the RPA while flow augmentation from Dworshak was extended into September. This could lead to use of flow augmentation water to fill pools, and this would be a conflict. Russ

suggested changes need to be made to the WMP to ensure the two operations do not come into conflict.

- Kyle Dittmer, CRITFC, noted no objection to the proposed operation.

### **Action/Next Steps:**

As water becomes available, the COE will begin filling Little Goose, then Ice Harbor, and on upstream. This operation will likely begin in a few weeks; however, a caveat was noted that if navigation safety at Little Goose becomes an issue, the COE may need to take steps to provide elevation at the pool (which may require use of augmentation water from Lower Granite).

### **Autumn Treaty Fishing Update**

Kyle Dittmer, CRITFC, referred TMT to SOR 2009-C5, posted as a link to the agenda. He reviewed progress of this three week Treaty Fishing period, which is scheduled to be completed September 8<sup>th</sup> – 12<sup>th</sup>. He noted that no issues have been reported by local law enforcement officials. Kyle reported that the request for steady pools have been met successfully, with a range of .5-1' held steady at all three pools (Bonneville, John Day and The Dalles). A meeting is scheduled for September 10<sup>th</sup> where catch data will be analyzed and additional fishing needs will be assessed, possibly prompting the release of a new SOR. Dan Feil, COE, noted that drafting transitions for construction activities will occur as able over the Labor Day holiday by 0630 Tuesday morning 9/8 in order to avoid impacting the fishery.

The COE also noted deferred maintenance at Bonneville to accommodate the treaty fishery, and this maintenance will need to be revisited just prior to the spill season in 2010.

Kyle closed by sharing net flight counts from August 26<sup>th</sup>: 532 nets were counted; 248 on the Oregon side and 284 on the Washington side; 39% at Bonneville, 20% at The Dalles and 41% at John Day.

### **Review Libby Operation**

Dan Feil, COE, noted that Libby operated at bull trout minimums for all of August at 7 kcfs outflows. On September 1<sup>st</sup>, outflows were reduced to 6kcfs where they will remain through the rest of the month. TMT members present raised no questions regarding this operation.

### **Operations Review**

**Reservoirs:** Grand Coulee elevation was at 1277.1' with 1283' or higher being the target for end of September. Hungry Horse was at 3554.76' moving toward 3550' by September 30th. Libby was at elevation 2443.1', with inflows of 6.3 kcfs and outflows of 6 kcfs. Albeni Falls was at elevation 2062.3', with inflows of 8.7kcfs and outflows of 10.7 kcfs. Dworshak met the 1535' elevation target on 8/31 and was currently at 1533.1' with inflows of 1.1 kcfs and outflows of 8 kcfs. Lower Granite daily average outflows were 28.2 kcfs- the tailwater temperature was 66.3 degrees. McNary daily average flows were 83.7 kcfs, and Bonneville daily average flows were 93 kcfs. Russ Kiefer pointed out that the Dworshak augmentation flows provided into September proved necessary and useful

this year. Dan Feil complimented the team on doing a great job of working together this summer toward the goal of maintaining water temperatures below 68 degrees F at Lower Granite.

Fish: Paul Wager, NOAA, referred TMT to information posted to the Fish Passage Center site (DART data). Adult Fall Chinook running around 10,000 per day (122,300 total for the season); jack numbers were very strong, with counts at 3,000 per day (39,000 total); steelhead counts dropped from 34,000 per day to 6,000 per day (500,000 total). Russ Kiefer, Idaho, reported that the sockeye count was 664 at the Stanley Basin traps. Juvenile subyearling Chinook are trending down with less than 100 per day passing at Snake River projects and less than 1,000 at Columbia River projects. Paul noted that steelhead are trending well above the 10 year average, as are Chinook, although not by as much.

Power System: Nothing to report; managing low flow conditions through Fall until more precipitation enters the system.

Water Quality: It was noted that water quality is currently the best of 2009.

**TMT Schedule**: Face-to-face meeting scheduled for 9:00 am PST Wednesday 9/16

Agenda items will include:

- Notes Review
- End of MOP update
- Autumn Treaty Fishing recap with possible SOR presented
- Dalles Spillwall construction update

**Columbia River Regional Forum  
Technical Management Team Meeting  
September 2, 2009**

**1. Introduction**

Today's TMT meeting was chaired by Dan Feil (COE) and facilitated by Robin Gumpert (DS Consulting), with representatives of COE, Oregon, USFWS, NOAA, Montana, BPA, BOR, Idaho, CRITFC and others participating. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

**2. Review Meeting Minutes for August 19 and 21, 2009**

August 19 official minutes, Operations Review – John Roache (BOR) added to the fifth paragraph on Grand Coulee operations, “BPA and BOR acknowledged that the Action Agencies could have done a better job in communicating with the Salmon Managers on this issue. BPA and BOR also committed to provide more coordination in the future during summer low flow conditions.”

August 19 facilitator's notes and official minutes, Operations Review – Russ Kiefer (Idaho) asked whether a reference to a letter Oregon was preparing to send the Action Agencies regarding Grand Coulee operations really refers to a letter FPAC was drafting to the joint chiefs of staff. Rick Kruger (Oregon) will check on this and let TMT know if the official record needs to be amended.

With these changes, the August 19 and 21 official minutes and facilitator's notes were deemed final.

**3. End of MOP Operations**

Feil read TMT an excerpt from RPA #5 on pages 7-8 of the RPA table in the BiOp, “Lower Snake projects will be operated at minimum operating pool within a 1-foot operating range from April 3 until small numbers of juvenile migrants are present, approximately September 1 unless adjusted to meet authorized purposes, primarily navigation. The Lower Granite reservoir may be raised as needed after September 1 to operate the fish facility to support broodstock collection.”

Small numbers of juveniles are definitely present in the Snake River system, and it's after September 1, so the Action Agencies would like to add water to the Little Goose pool as a buffer against potential problems at the Lower Granite navigation lock, Feil said. He asked TMT for feedback on a proposal to fill Little Goose reservoir by half a foot to a foot as a first priority as soon as water becomes available, then fill the reservoirs from Ice Harbor on upriver to support

adult migration. Filling Lower Granite reservoir will hinge on resolving adult passage issues at the holding tank.

Dave Wills (USFWS) and Paul Wagner (NOAA) agreed that FPAC had not reached consensus on this. TMT members did reach consensus today on an operation. They gave their views:

**USFWS** – Supported filling Little Goose reservoir by up to a foot, but any water beyond that should go to other projects in ascending order up the river.

**NOAA and Oregon** – Approved of the operation as USFWS stated it.

**Montana, CRITFC, BOR and BPA** – Approved of the operation.

**Idaho** – Approved of the operation. Language in the Water Management Plan should be changed to reflect this new consensus on extending Dworshak flow augmentation into September so there's no conflict with provisions in the WMP for MOP operations to end as of August 31. Updating the WMP will allow TMT to end MOP operations when there are still low numbers of juveniles in the river without violating BiOp criteria. The draft WMP will be out for review at the end of September, Feil added.

Karl Kanbergs (COE) cautioned that flows in the Lower Granite navigation lock entrance are so low that the COE might have to take action before fall rains begin. The consequences of not doing so could be a ruptured fuel barge.

TMT will revisit MOP operations at its next two regular meetings on September 16 and 30.

#### ***4. Autumn Treaty Fishing Update – SOR 2009-C5***

Kyle Dittmer (CRITFC) gave a review of the first week of 2009 fall treaty fishing. There have been no reports of problems caused by river operations, and compliance with elevation criteria has been high. Using CRITFC's criteria of a 1-foot stable elevation band at all three pools, compliance last week was 98% for Bonneville pool, 77% for The Dalles, and 100% for John Day during the first week of fishing. Using the COE criteria of 1.5 feet elevation bands at Bonneville and John Day pools and 3 feet at The Dalles, compliance was 100% at Bonneville and John Day and 100% at The Dalles.

Fishing will continue this week and the next as specified in SOR 2009-C5. The tribes will decide at a September 10 hearing whether to schedule additional fisheries beyond that.

Discussion turned to the effects on fishing of operational constraints on The Dalles tailwater beginning at 6 am September 8 for spill wall construction. The COE will hold firm to at least 76.5 feet elevation throughout the construction

period. Dittmer said the tribes are expecting the transition to this operation will occur over Labor Day weekend.

For the September 8-12 fishery, the COE will maintain the same elevation hard constraints as it has for previous fisheries, 1.5 feet at Bonneville 3.0 feet at The Dalles, and 1.5 feet at John Day, Doug Baus (COE) said. Bonneville pool may be higher due to The Dalles Spillwall Construction Project, but the the COE will still attempt to stay within a 1.5 foot range at Bonneville. The COE has deferred greasing the dogging pockets until next spring because of the potential impact on treaty fishing. Project staff are not happy, as this is the second time the work has been deferred. The COE plans to ask TMT for flexibility in spring 2010 to get the work done. The timeframe will be tight due to construction of The Dalles spill wall.

On August 26, CRITFC counted 532 nets in the lower Columbia pools, 248 on the Oregon shore and 284 on the Washington shore, Dittmer said. Of those, 39% were at Bonneville, 20% at The Dalles, and 41% at John Day. TMT will revisit treaty fishing at its next two regular meetings.

## **5. Review Libby Operations**

Feil gave a brief update on Libby operations. For all of August, the project released 7 kcfs bull trout minimums as expected. On September 1, the project stepped down to 6 kcfs bull trout minimums. The 6 kcfs outflows will continue through September.

## **6. Operations Review**

**a. Reservoirs.** Grand Coulee is at elevation 1,277.1 feet, targeting an end of September elevation of 1,283 feet or higher. Hungry Horse is at elevation 3,554.76 feet, with outflows of 2.5 kcfs, headed for an end of September elevation of 3,550 feet.

Libby is at elevation 2,443.1 feet, with inflows of 6.3 kcfs and outflows of 6 kcfs. Albeni Falls is at elevation 2,062.3 feet, with inflows of 8.7 kcfs and outflows of 10.7 kcfs. Dworshak reached elevation 1535 feet on August 31. The current Dworshak elevation is 1,553.1 feet, with inflows of 1.1 kcfs and outflows of 8 kcfs.

Mean daily discharges are 28.2 kcfs at Lower Granite, 83.7 kcfs at McNary, and 98 kcfs at Bonneville. Flows remain low. Temperatures are slightly above 68 degrees F in Lower Granite forebay and 66.3 degrees in the tailrace.

This was a good year to reserve some cool water from Dworshak for September, Kiefer said. His modeling indicates that if Dworshak had gone to minimum outflows at the end of August, temperatures at Lower Granite would have exceeded 68 degrees within a few days. Idaho, COE, NOAA, USFWS and Montana all agreed that this year's operations of managing Dworshak flows and keeping temperatures at Lower Granite below the 68-degree limit has gone well.

**b. Fish. Adults** – Fall Chinook have been passing Bonneville at the rate of 10,000 fish per day for the past week, with a cumulative total of 122,000 fish for the season, Wagner reported. Jack counts remain high at 3,000 per day, with a cumulative total of 39,000 jacks for the season. This is significantly above the 10-year average of 8,000 jacks.

Steelhead passage peaked at 34,000 fish per day and is now 5-6,000 fish per day. A total of 146,000 wild steelhead have passed Bonneville this season, and 200,000 steelhead have passed John Day. As of August 30, 664 sockeye had reached the Stanley basin, and they're still arriving at the rate of 10-15 per day.

**Juveniles** – Subyearling Chinook passage is trending down, with less than 100 fish per day at all of the Snake River projects, and less than 1,000 fish per day at the lower river projects. It's been a good year for Chinook, with a total of 91,000 fish for the season, 133% of the 10-year average. This year has been an outstanding one for steelhead, with a total of 455,000 fish as compared to 247,000 fish in 2008. The 2009 steelhead count is well above the 10-year average. Although it's been a warm summer, temperatures (which are currently hovering around 70 degrees F at Bonneville and the Camas Washougal gage) haven't been much higher than the 10-year average.

**c. Power System.** There was nothing to report except that BPA is working hard to manage low flows through fall.

**d. Water Quality.** Spill has ended and gas levels are down, with temperatures beginning to decline, Feil said.

## ***7. Next Meeting***

The next scheduled TMT meetings will be on September 16 and 30. The September 16 agenda will include the end of MOP operations, a recap of treaty fishing with perhaps another SOR, and an update on The Dalles spill wall construction. This summary prepared by consultant and writer Pat Vivian.

<b><i>Name</i></b>	<b><i>Affiliation</i></b>
Dan Feil	COE
Rick Kruger	Oregon
Dave Wills	USFWS
Paul Wagner	NOAA
Doug Baus	COE
Jim Litchfield	Montana
Robyn MacKay	BPA
Steve Barton	COE
Rob Diaz	Integral Renewables
Rudd Turner	COE
Karl Kanbergs	COE

Ruth Burris

PGE

Phone:

John Roache

BOR

Russ Kiefer

Idaho

Kyle Dittmer

CRITFC

Shane Scott

PPC

Rob Allerman

Deutschebank

Dave Benner

FPC

Richelle Beck

DRA

Tom Le

Puget Sound Energy

# TECHNICAL MANAGEMENT TEAM

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**NOAA-F**: Paul Wagner / Richard Dominique              **USFWS** : David Wills / Steve Haeseker  
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**WDFW** : Cindy LeFleur                                        **MT** : Jim Litchfield / Brian Marotz  
**COE**: Dan Feil / Steve Barton

## TMT MEETING

Wednesday September 16, 2009 09:00 - 12:00

1125 N.W. Couch Street, Suite 500, Columbia Room  
Portland, Oregon 97209-4142  
Map Quest [\[Directions\]](#)

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*All members are encouraged to call Robin Gumpert with any issues or concerns they would like to see addressed.  
Please e-mail her at [rgumpert@cunnv.net](mailto:rgumpert@cunnv.net) or call her at (503) 248-4703.*

## AGENDA

1. Welcome and Introductions
2. Review Meeting Minutes for September 2, 2009 [\[Meeting Minutes\]](#)
3. End of MOP - Dan Feil, COE-RCC
4. Autumn Treaty Fishing Update - Kyle Dittmer, CRITFC
  - a. [SOR 2009-C5](#)
  - b. [SOR 2009-C6](#)
5. The Dalles Spillwall Construction Update - Dan Feil, COE-RCC/Pat Duyck, COE-NWP
6. Albeni Falls SOR - Amy Reese, COE-NWS
7. Operations Review
  - a. Reservoirs
  - b. Fish
  - c. Power System

- d. Water Quality
- 8. Other
  - a. Set agenda for next meeting - **September 23, 2009**
  - b. [\[Calendar 2009\]](#)

*Questions about the meeting may be referred to:*

*[Dan Feil](#) at (503) 808-3943, or*

*[Steve Barton](#) at (503) 808-3945*



## COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION

729 NE Oregon, Suite 200, Portland, Oregon 97232

Telephone 503 238 0667

Fax 503 235 4228

### SYSTEM OPERATIONAL REQUEST: 2009 C-6

TO: Brig. General William E. Rapp COE-NWD  
James D. Barton COE-NWD-NP-Water Management  
Dan Feil, Steve Barton COE-NWD-NP-WM-RCC  
Rock D. Peters COE-NWD-CM-F (Fish Management Office)  
Col. Steven R. Miles COE-Portland District  
J. William McDonald USBR—Pacific Northwest Regional Director  
Steven J. Wright BPA Administrator  
Steve Oliver, Greg Delwiche BPA-PG-5  
Robyn MacKay, Scott Bettin BPA-Operations Planning-PGPO  
Stan Speaks, Keith Hatch BIA, Northwest Regional Office

FROM: Paul Lumley, *Executive Director*

DATE: September 10, 2009

SUBJECT: **Operation of the Lower Columbia Pools for the Autumn 2009 Treaty Fishery**

The Columbia River Inter-Tribal Fish Commission, on behalf of its members, the Nez Perce Tribe, the Confederated Tribes of the Umatilla Reservation, the Confederated Tribes of the Warm Springs Reservation, and the Yakama Nation, requests the following reservoir operations in “Zone 6” (Bonneville to McNary dams) during the 2009 autumn ceremonial, subsistence, and commercial Treaty fishery times as established by the tribes and the Columbia River Compact.

SPECIFICATIONS: Implement the following operations as a hard system constraint, as follows:

**September 14th, 2009, 6 am, Monday, through 6 pm, September 18th, 2009, Friday.**

**Bonneville Pool: Operate the pool within 1.0 foot from full pool (msl elevation 76.5 – 75.5).**

**The Dalles (Celilo) Pool: Operate the pool within 1.0 foot (msl elevation 159.5 - 158.5).**

**John Day Pool: Operate the pool within 1.0 foot (msl elevation 264.5 - 263.5).**

We realize that the Corps may run the Bonneville pool at slightly higher than normal elevations, due to construction activities at The Dalles dam spillwall.

At this time we anticipate additional treaty fisheries in September. CRITFC will notify the Corps with specific times for the tribal fishery after each Compact hearing, via a new SOR.

**JUSTIFICATION:**

The 2009 autumn Treaty fishing season is of critical importance to CRITFC's member tribes. The forecast escapement of **278,000** (Columbia at Bonneville Dam) adult fall Chinook (near normal rank) and nearly **600,000** steelhead (near record high), will create harvest opportunities for tribal fishers, who will exercise their treaty rights by participating in this harvest, using platform and in-river methods. This harvest will provide for the cultural, religious, and economic needs of the treaty tribes.

CRITFC will sponsor net flights each week to count the number of nets in each Zone 6 pool. The survey data will be promptly shared with COE-RCC staff. The September 9<sup>th</sup>, 2009 survey showed 706 nets in the Zone 6 pools, as follows: 268 (38%) in Bonneville, 157 (22%) in The Dalles, and 281 (40%) in John Day.

Achieving good river conditions through managed river operations during the treaty fishery have been the basis of past litigation that have been supported by federal courts and are consistent with the trust and fiduciary responsibilities that the federal operators have with respect to CRITFC's member tribes. Good river conditions during the treaty fishery are also consistent with the spirit of the 10-year Memorandum of Agreements signed by tribal and Corps, BPA, and BOR officials.

In past meetings with Corps officials, tribal fishers have explained that a pool fluctuation of 1.0 foot or more disrupts tribal fishery operations. Specific problems include: (1) increased local currents that sweep debris into fishing nets, (2) rapid 1-2 hour drops in water level will lead to entanglement of nets, (3) boat access problems, and (4) nets torn from their anchors. Nets and gear are costly to replace. Any delays or disruptions to tribal fishing operations caused by the excessive pool fluctuations in Zone 6 negatively impacts tribal incomes, food resources and cultural practices.

The fishers have also expressed to Corps officials that the loss of fishing opportunity during the extremely limited treaty fishery cannot be replaced. Much of the tribal fishers' annual income and food is generated during the brief treaty fishing season, thus, any delays or disruptions to their fishing operations caused by the excessive pool fluctuations in Zone 6 negatively impacts tribal incomes, food resources, and cultural practices.

If this SOR cannot be accommodated, CRITFC requests a verbal response with an explanation from the federal operators by COB Friday, September 11, 2009. Thank you for considering this request. Please contact Kyle Dittmer or Bob Heinith should you have any questions: 503-238-0667.

cc: TMT Members  
Tribal staffs

# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

September 16, 2009 Meeting

### FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Erin Halton

Notes: Christa Leonard

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.

#### **Review of Meeting Minutes for September 2, 2009**

Paul Wagner, NOAA, corrected data presented in the 9/2 facilitator's notes: Adult Fall Chinook were at 122,300- not 12,300 as erroneously recorded.

#### **End of MOP**

Dan Feil, COE, reminded TMT members of the September 2<sup>nd</sup> discussion surrounding MOP operations and the COE suggestion to fill the Little Goose pool for navigational needs. This operation did occur on September 4<sup>th</sup>. Also at the September 2<sup>nd</sup> meeting, TMT members had expressed preference to wait to fill other pools until Dworshak augmentation water was out. Fill did start on September 9<sup>th</sup>, starting at Ice Harbor and working up stream. Since then, accumulated waters have been or will be drafted back out. The Action Agencies expressed the need for flexibility around water movement and noted that fill will resume as water becomes available.

Russ Kiefer, ID and Paul Wagner, NOAA said that the Salmon Managers had observed that pool elevations had increased at Ice Harbor and Lower Monumental. Tony Norris, BPA, explained the plan was to use greater pool elevation flexibility to better meet demand and have the pools back down in the MOP range after flow augmentation from Dworshak has ended so that this water is not used to refill the reservoirs. Norris noted that low natural flows and the need to meet Bonneville minimums added to the complexities for this year. Kiefer said that he believed Idaho would not have significant concerns with this plan of operation. Salmon Managers also expressed the need to include clarifying guidance language in next year's Water Management Plan. They explained that there is a need to aid fish through water flow while avoiding thermal block on adults.

Dave Statler asked what the operating range is for the end of MOP; Norris explained the "MOP to Top" model. Statler described specifics regarding juvenile Pacific Lamprey habitat, growth and passage needs. He noted the need for more studies in the future and recommended inclusion of Lamprey considerations in future operational decision making.

### **Autumn Treaty Fishing Update**

Kyle Dittmer, CRITFC, reviewed specifics of SOR 2009-C5 and SOR 2009-C6, posted as a links to the agenda. Current operations began on Monday 9/14 at 0600 and will continue through Friday 9/18 at 6:00; Dittmer noted that and the fishing effort will be rigorous. Dittmer noted that three Zone 6 pools were held within a 1 ft constraint. He acknowledged the COE's need to have specific elevations during The Dalles spillwall construction. The COE noted that SOR 2009-C5 was especially challenging; thanks went out to Kyle Dittmer and the Action Agencies for their excellent coordination. Dittmer said that using 1ft band criteria, compliance was close to 100% at Bonneville and John Day and 77% at The Dalles. The COE responded that they will operate the pools as they have for the previous SOR's and that hard constraints will be maintained for this weeks fishing; Doug Baus, COE, clarified that no unusual operations are expected for the near term. Dittmer noted that the forecast for passage numbers are expected to be fairly high compared to previous years. Catch data will be analyzed and additional fishing needs will be assessed, possibly prompting the release of a new SOR. Net flight data was recorded on Wednesday 9/9 as follows: 709 nets; 268 at Bonneville (38%), 157 at The Dalles (22%), 281 at John Day (40%).

Kyle also reported a boat capsizing on Monday involving the family of Bruce Jim of the Warm Springs Tribe. He noted that two crew members were still missing. Questions can be directed to Sara Thompson (CRITFC PR) at 503.238.3567. TMT members were reminded of the dangers of river fishing and noted that their thoughts were with the affected communities during this difficult time.

### **The Dalles Spillwall Construction Update**

Dan Feil, COE, reviewed recent activities at The Dalles spillwall construction site: the contractor mobilized to the work site during the last week of August. Feil noted that the maximum draft when there is a "loaded pick" is 6.5'. A deviation request for Bonneville pool went into effect on 9/8. Inspection of work area (specifically sediment) was reported as looking good and no excess debris was observed. Workers started setting pre-cast blocks yesterday and expect to set 4-6 per week. Feil reminded TMT that construction completion is expected the first part of April 2010 and also that critical maintenance at Bonneville spill gates (pool to be at 72'+) will be scheduled for 2-4 days prior to 4/10/10 before spill season commences.

Dave Statler asked about the purpose of the wall construction; Dan responded that the new wall will improve juvenile fish survival as spill will move from simultaneous operation of 6 bays to 8 (though quantity of spill will remain the same- 40 % of total river flow). In addition, egress will shift to the North side (away from predators) and to facilitate down stream conveyance better than current spill pattern. Dan also reminded TMT of past discussions of using John Day pool as reserve during construction in order to reserves the right to do so and will coordinate with TMT if they need to put this operation into effect.

**Action/Next:** Further updates on The Dalles Spillwall construction will be presented to TMT every two weeks.

### **Albeni Falls**

Amy Reese, COE, reported that there is a meeting scheduled for 9/17 to discuss winter lake level operations. Multiple agencies, including the Lake Pend Oreille Commission, will craft an SOR prior to next Wednesday, 9/23. The SOR will be posted as a link to the TMT agenda by Tuesday 9/22.

**Action/Next:** TMT will discuss the SOR during a conference call next Wednesday, 9/23.

### **Operations Review**

**Reservoirs:** Grand Coulee was at elevation 1280.2', with an end of September elevation target of 1283' or higher. Hungry Horse was at 3552.42' with outflows of 2.5 kcfs and an end of September elevation target of 3550'. (John Roache, BOR, noted that of the two gauges for Hungry Horse, the USGS gauge is the "official" gauge.) Libby was at elevation 2442.6', with inflows of 5.1 kcfs and outflows of 6 kcfs, where they will likely remain through September. Albeni Falls was at elevation 2061.9', with inflows of 10.7 kcfs and outflows of 15 kcfs. Dworshak 1520.2' with inflows of .9 kcfs and outflows of 2.4 kcfs; outflows at Dworshak will drop to 1.5 kcfs in the next day or two. TMT reviewed temperature data for Dworshak tail race where water temperature was noted as 49 degrees F. Lower Granite daily average flows were 23.5 kcfs. McNary daily average flows were 78 kcfs; Bonneville average flows were 93 kcfs, but were near minimums of 70 kcfs this week. It was noted that Bonneville minimum is set at 70' for public safety.

**Fish:** Paul Wager, NOAA, referred TMT to information posted to the Fish Passage Center site (DART data). Subyearling passage was low at all projects, signaling the end of juvenile migration. Bonneville Fall Chinook were in the range of 5,000-8,000 over the past week at a total of 233,000 to date. Fall Chinook Jacks trend continued to 1-4,600. Steelhead were winding down to 4,000 per day, with a total so far of 555,700 for the season (nearing record high!) Wild Steelhead 160,000 passing Bonneville. Shads reported in lower numbers this year, with 1.3 million so far. Wagner reviewed 10 year average data; Fall Chinook were bit lower than the 10-year averages and Jacks were way above average. TMT looked at timing trends; overall, Steelhead are on time, Fall Chinook began and ending early (mid point likely September 2<sup>nd</sup> or 3<sup>rd</sup>). Russ Kiefer noted sockeye returns to the Stanley Basin are close to done, with Lower Granite to basin conversion rates similar to last year. Although he did not have exact numbers, Russ said that close to 800 of the 1200 passing Granite have been trapped to date. Note: Russ provided an update that 777 sockeye have been trapped to date. It was also noted that only 13 adult Pacific Lamprey have been observed passing Lower Granite so far during 2009. Dave Statler noted that this year will likely be the worst of a series of consecutive abysmal counts and another reminder why Lamprey are important to monitor and operate for Lamprey protection.

**Power System:** Nothing to report.

**Water Quality:** No issues to report; TMT did review temperature data at Lower Granite, which were just below 65°F.

**TMT Schedule**: Conference call scheduled for 9:00 am PST Wednesday, 9/23

Agenda items will include:

- Notes Review
- Albeni Falls SOR
- Treaty Fishing SOR

**Columbia River Regional Forum  
Technical Management Team Meeting  
September 16, 2009**

**1. Introduction**

Today's TMT meeting was chaired by Dan Feil (COE) and facilitated by Erin Halton (DS Consulting), with representatives of COE, BPA, USFWS, the Nez Perce Tribe, BOR, Montana, Idaho, NOAA, CRITFC and others participating. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

**2. Review Meeting Minutes for September 2, 2009**

Facilitator's notes under Operations Review – Fish. The total index count for fall Chinook should be 122,000 fish, not 12,000, Paul Wagner (NOAA) said.

**3. End of MOP Operations**

At the last TMT meeting on September 2, TMT discussed the end of MOP operations, and the COE proposed storing water in Little Goose pool to help with elevation issues at the navigation lock entrance, Feil said. TMT members preferred to fill Little Goose pool only and not the other pools, waiting instead until after Dworshak augmentation water had passed to fill them. Some filling of the pools already occurred in part due to increased flows from the middle Snake River. Little Goose went out of MOP on September 4, while Ice Harbor and Lower Monumental went out of MOP on September 9. Most of that water has or will be drafted out and pool elevations will likely be down to the MOP-MOP+1 foot range again soon. The pools will be gradually refilled in September as water becomes available.

Tony Norris (BPA) asked whether drafting the water back out of the system prior to the end of the Dworshak augmentation release was a satisfactory operation. Russ Kiefer (Idaho) and Paul Wagner (NOAA) said that it was. The Action Agencies held off on moving water out of Lower Granite in particular, but drafted all water out before augmentation flows ended. The reason for this was to avoid refilling the reservoirs using water from Dworshak, Norris said.

The Salmon Managers have no objection to this, Wagner and Kiefer said. Idaho is in favor of extending flow augmentation into early September, which was especially useful this summer because it was so hot. The Salmon Managers are trying to figure out how to manage the system so flow augmentation can be extended as needed without raising concerns about using flow augmentation water for refill purposes instead of for fish, Kiefer added.

We can talk further about how we might include language in the Water Management Plan, Norris said. But being released from the prescriptive MOP requirements provides the flexibility to operate above MOP and get back to MOP before the augmentation release is complete. If that is satisfactory, it allows flexibility and lowers the level of scrutiny for operating precisely within a narrow range. BPA has to thread that needle every day during the fish passage season. Having the flexibility to fill and draft out of MOP helps BPA position the system for the fall season. It should be easy to draft the projects back to MOP prior to the Dworshak augmentation release.

Norris and Kiefer agreed to discuss this further in terms of operations in future years – this year worked out fine. Discussion turned to the role flow augmentation plays in creating better conditions for fish. First, it helps to avoid a thermal block on adults, and secondly, it aids migration downriver, particularly for fish whose growth has been slowed by the cooler water from Dworshak, Kiefer said. Fish from the Clearwater River have high smolt to adult return rates, which makes them particularly valuable.

Dave Statler (Nez Perce Tribe) requested that the last of the stored water in Dworshak be released gradually in order to avoid potential impacts to juvenile Pacific lamprey. They rear in tributaries as larvae, gradually migrating downriver over the course of 6 to 8 years and living in the mud along shallow edges of reservoirs. Rapid fluctuations could displace them. Residents along the Clearwater have reported stranding of young lamprey when Dworshak outflows are sharply reduced. As more becomes known about the lamprey life cycle, it will be easier to tailor operational decisions to their needs.

#### **4. Autumn Treaty Fishing – SOR 2009-C5 and SOR 2009-C6**

Kyle Dittmer (CRITFC) presented SOR 2009-C6, submitted to the COE last week for treaty fishing from 6 am on September 14 through 6 pm on September 18. During that period, CRITFC requested that the three lower Columbia River pools be operated within 1-foot elevation bands of 76.5-75.5 feet at Bonneville, 159.5-158.5 feet at The Dalles, and 264.5-263.5 feet at John Day. The tribes are aware that the Bonneville pool might be operated at slightly higher elevations for The Dalles spill wall construction. There could be more fishing in September following this SOR; Dittmer will keep TMT informed.

The tribes are forecasting 278,000 adult fall Chinook at Bonneville, and 600,000 steelhead, which is a near-record forecast. CRITFC's most recent net flight counted 258 nets (38%) in Bonneville pool, 157 nets (22%) in The Dalles pool, and 281 nets (40%) in John Day pool.

A recent capsizing on the river serves as a reminder that fishing is a dangerous activity. Some crew members of that boat are still missing. Anyone wanting more information on the status of the missing fishers should contact CRITFC's information officer, Sarah Thompson, at 503-238-3567.

The COE will provide the same operation as it has for previous fisheries, with a 1.5-foot elevation band at Bonneville and John Day, and a 3-foot elevation band at The Dalles, Doug Baus (COE) said. The COE appreciates all the coordination that went into a successful operation for SOR 2009-C5 despite multiple activities on the river. Dittmer noted that compliance has been close to 100% for either the 1-foot bands or the 1.5- and 3-foot bands, making this a very successful fishery operation.

### ***5. The Dalles Spill Wall Construction Update***

Feil gave a brief update on behalf of project manager Pat Duyck, who could not attend today. The 2009-10 construction season is progressing smoothly at this point. During the last week of August, the contractor mobilized equipment to the site and found that modifications to the large crane barge last year were successful in reducing the vessel draft to 6.5 feet. In-water work started as scheduled on September 8, the same day the deviation request to operate Bonneville pool up to 78 feet elevation went into effect. Inspection of the work area showed little or no real impact to the site from spill in terms of debris being deposited or damage done. The Dalles tailwater has remained at approximately 76-77 feet elevation, hitting 78 feet only briefly, Karl Kanbergs (COE) reported. It was fortunate for this operation that 2009 turned out to be a low water year.

Feil alerted TMT that in early April 2010, the COE will need to complete postponed maintenance on the Bonneville spill gates in the brief window between the end of spill wall construction and the beginning of spill on April 10. The spill gate maintenance will require a Bonneville pool elevation of 72 feet and take approximately 2-4 days. It cannot be completed while spill is occurring due to safety concerns.

All spill wall construction will take place on the shallow rock shelf, Feil said, making the elevation constraints an ongoing requirement until the wall is completed. The spill percentage will remain the same, 40% of total river flow at The Dalles. This operational change will require that new spill patterns be developed and will help guide fish away from the bridge islands and into fast-moving deeper water along the north shore, away from predators.

At the August 19 meeting, Feil recalled, TMT discussed using the John Day pool for storage during September to provide added flexibility for spill wall construction. That would involve exceeding the 1.5-foot elevation constraint, to be exceeded only if absolutely necessary to maintain the conditions required for construction. The COE hasn't pursued this and doesn't foresee a need to so at this time, but it remains an option of last resort. TMT will be notified if the need arises. The pool elevation constraint will end on October 1.

## **6. Albeni Falls SOR**

The SOR for winter operations wasn't posted to the TMT page today because it is still in process, Amy Reese (COE Seattle) reported. Signed on USFWS letterhead, the SOR represents a collaboration of USFWS, NOAA, BPA, the COE, the Pend Oreille Lake Commission, and local PUDs. The SOR will be released September 22. TMT members scheduled a conference call on September 23 to discuss it.

## **7. Operations Review**

**a. Reservoirs.** Libby is at elevation 2,442.6 feet, with inflows of 5.1 kcfs and outflows of 6 kcfs. Albeni Falls is at elevation 2,061.9 feet, with inflows of 10.7 kcfs and outflows of 15 kcfs, Feil reported.

Dworshak is at elevation 120.17 feet, with inflows of 0.9 kcfs and outflows of 2.4 kcfs. TMT members observed that Dworshak forebay elevations were incorrect as posted to the TMT page. Temperatures at Dworshak tailwater are currently around 49 degrees F.

Daily flow averages are 23.5 kcfs at Lower Granite, 78 kcfs at McNary, and 93 kcfs at Bonneville. On September 13, Bonneville flows were 72 kcfs, followed by 71 kcfs on September 14, and 93 kcfs on September 15. The instantaneous minimum at Bonneville Dam is 70 kcfs, Tony Norris said. This limit was written into the Water Control Manual for public safety purposes.

Grand Coulee is at elevation 1,280.2 feet, headed to 1,283 feet or higher by the end of September, John Roache (BOR) reported. Hungry Horse is at elevation 3,552.42 feet, with outflows of 2.5 kcfs. The operation is on target to hit elevation 3,550 feet by the end of September. There are two forebay gages at Hungry Horse, Roache and Norris said, with the official USGS gage reporting the elevation as 3,552.42 feet. The other gage, used by project staff for real-time information, tends to drift off and give inaccurate readings.

**b. Fish. Juveniles** – The juvenile migration has all but ended, with subyearling index counts of less than 100 fish per day at Lower Snake projects (Lower Granite, Little Goose, Lower Monumental), Wagner reported. Index counts at McNary and Bonneville have been less than 500 fish per day for the past week.

Adults – Fall Chinook are passing Bonneville at the rate of 5,000-8,000 fish per day, or 233,000 fish to date for 2009. Fall Chinook jacks are still following a trend of nearly a 1:1 ratio for jacks to adults, or 4,600 adults and 3,000 jacks. In past years, jack counts have been only 30-40% of adult counts. Last year at this time, the fall Chinook count was 262,000 fish, and the 10-year average is 284,000 fish, so this year's count of 233,000 fish is low. This year's count of 85,000 jacks is far above the 2008 count of 29,000 jacks and the 10-year average of 24,000 jacks.

Steelhead passage is winding down, with 4,000 fish per day over the past week. The count to date is 555,700 fish, which could set a record. Last year's count was 323,000 fish, and the 10-year average is 309,000 fish. To date, 160,000 wild steelhead have passed Bonneville this year.

In terms of timing, steelhead passage is following its typical pattern, tapering off through the end of September. Fall Chinook passage came a bit early and is ending early. The mid-passage date is usually September 7; this year it was September 2 or 3.

This year's redbfish return will probably be close to 800 fish in the Stanley River basin, Kiefer said. Idaho is doing genetic sampling of adults which allows tracking of individuals through the end of the season.

Shad counts were relatively low this year at 1.4 million fish. Last year's count was 2.14 million fish, and the 10-year average is 3.1 million, Wagner said.

While salmon and steelhead passage counts are looking good this year, if Snake basin adult pacific lamprey counts continue in the same direction, 2009 will be one of the most abysmal years on record for the Snake, Statler said. Every fish in this area is precious in terms of reproduction.

Water temperatures in the Clearwater and Snake rivers are down to 65 degrees F as of this morning, Kiefer said. Wagner wondered whether water temperatures at Lower Granite Dam would rise above their current level of 65 degrees F when Dworshak flow augmentation ends. Statler wondered what the impact would be on temperatures in the lower Snake during a warm year like 2009 if Dworshak discharges must be reduced due to water quality concerns.

**c. Power System.** There was nothing to report today.

**d. Water Quality.** Because spill has ended, there were no water quality issues to report today.

## ***7. Next Meeting***

The next scheduled TMT meeting will be a conference call on September 23 to discuss the Albeni Falls SOR for winter operations. This summary prepared by consultant and writer Pat Vivian.

<b><i>Name</i></b>	<b><i>Affiliation</i></b>
Dan Feil	COE
Tony Norris	BPA
Dave Wills	USFWS
Paul Wagner	NOAA
Doug Baus	COE
Dave Statler	Nez Perce Tribe

John Roache	BOR
Jim Litchfield	Montana
Russ Kiefer	Idaho
Rob Diaz	Integral Renewables
Karl Kanbergs	COE
Laura Hamilton	COE
Russ George	WMC
Steve Barton	COE

Phone:

Cindy LeFleur	Washington
Amy Reese	COE Seattle
Margaret Filardo	FPC
Tim Heizenrader	Centaurus
Glen Trager	Shell Energy
Ruth Burris	PGE
Shane Scott	PPC
Dave Benner	FPC
Richelle Beck	DRA
Barry Espenson	CBB
Tom Le	Puget Sound Energy
Kyle Dittmer	CRITFC

# TECHNICAL MANAGEMENT TEAM

**BOR** : John Roache / Mary Mellema / Pat McGrane      **BPA** : Robyn MacKay / Tony Norris / Scott Bettin  
**NOAA-F**: Paul Wagner / Richard Dominique              **USFWS** : David Wills / Steve Haeseker  
**OR** : Rick Kruger / Ron Boyce                              **ID** : Russ Kiefer / Pete Hassemer  
**WDFW** : Cindy LeFleur    **MT** : Jim Litchfield / Brian Marotz  
**COE**: Dan Feil / Steve Barton

## TMT CONFERENCE CALL

Wednesday September 23, 2009 09:00 - 12:00

### CONFERENCE PHONE LINE

Conference call line:888-285-4585; PASS CODE = 601714

We have had disruptions on the phone because people are not hitting 'mute' after dial in.  
**Please MUTE your Phone**

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*All members are encouraged to call Robin Gumpert with any issues or concerns they would like to see addressed.  
Please e-mail her at [rgumpert@cnnm.net](mailto:rgumpert@cnnm.net) or call her at (503) 248-4703.*

## AGENDA

1. Welcome and Introductions
2. Review Meeting Minutes for September 16, 2009 [[Meeting Minutes](#)]
3. Albeni Falls SOR - Dan Feil, COE-RCC / Amy Reese, COE-NWS
4. Operations Review
  - a. Reservoirs
  - b. Fish
  - c. Power System
  - d. Water Quality
5. Other
  - a. Set agenda for next meeting - **September 30, 2009**
  - b. [[Calendar 2009](#)]

*Questions about the meeting may be referred to:*

*[Dan Feil](#) at (503) 808-3943, or*

*[Steve Barton](#) at (503) 808-3945*

# TECHNICAL MANAGEMENT TEAM

**BOR** : John Roache / Mary Mellema / Pat McGrane      **BPA** : Robyn MacKay / Tony Norris / Scott Bettin  
**NOAA-F**: Paul Wagner / Richard Dominique              **USFWS** : David Wills / Steve Haeseker  
**OR** : Rick Kruger / Ron Boyce                              **ID** : Russ Kiefer / Pete Hassemer  
**WDFW** : Cindy LeFleur                                        **MT** : Jim Litchfield / Brian Marotz  
**COE**: Dan Feil / Steve Barton

## TMT CONFERENCE CALL

Friday September 25, 2009 1:00 - 3:00

### CONFERENCE PHONE LINE

Conference call line:888-422-7124; PASS CODE = 955814

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Please e-mail her at [rgumpert@cnnm.net](mailto:rgumpert@cnnm.net) or call her at (503) 248-4703.*

## AGENDA

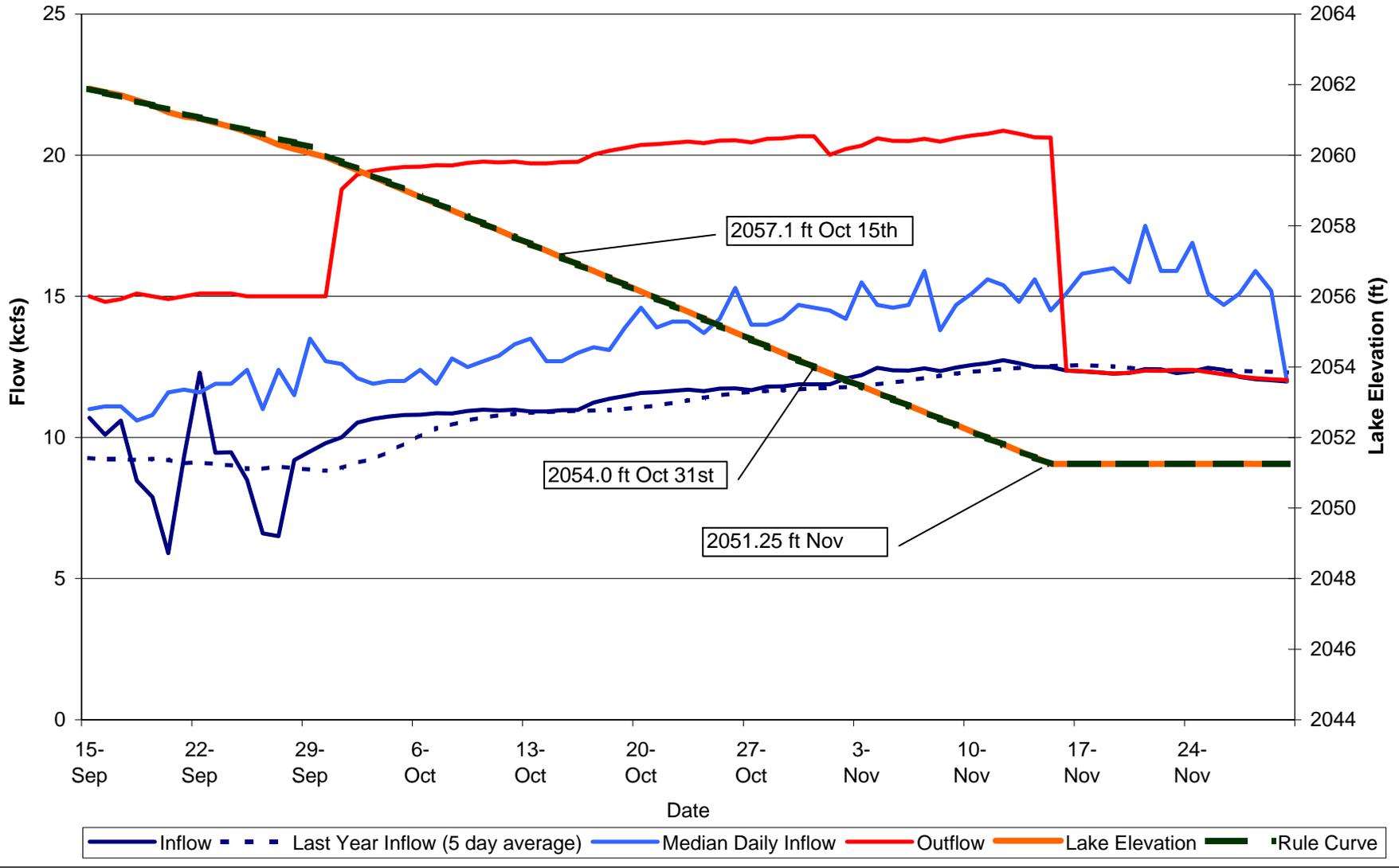
1. Welcome and Introductions
2. Review Meeting Minutes for September 16, 2009 [[Meeting Minutes](#)]
3. Lake Pend Oreille - Russ Kiefer, IDF&G
  - a. [Albeni Falls Drawdown](#)
4. Other
  - a. Set agenda for next meeting - **September 30, 2009**
  - b. [[Calendar 2009](#)]

*Questions about the meeting may be referred to:*

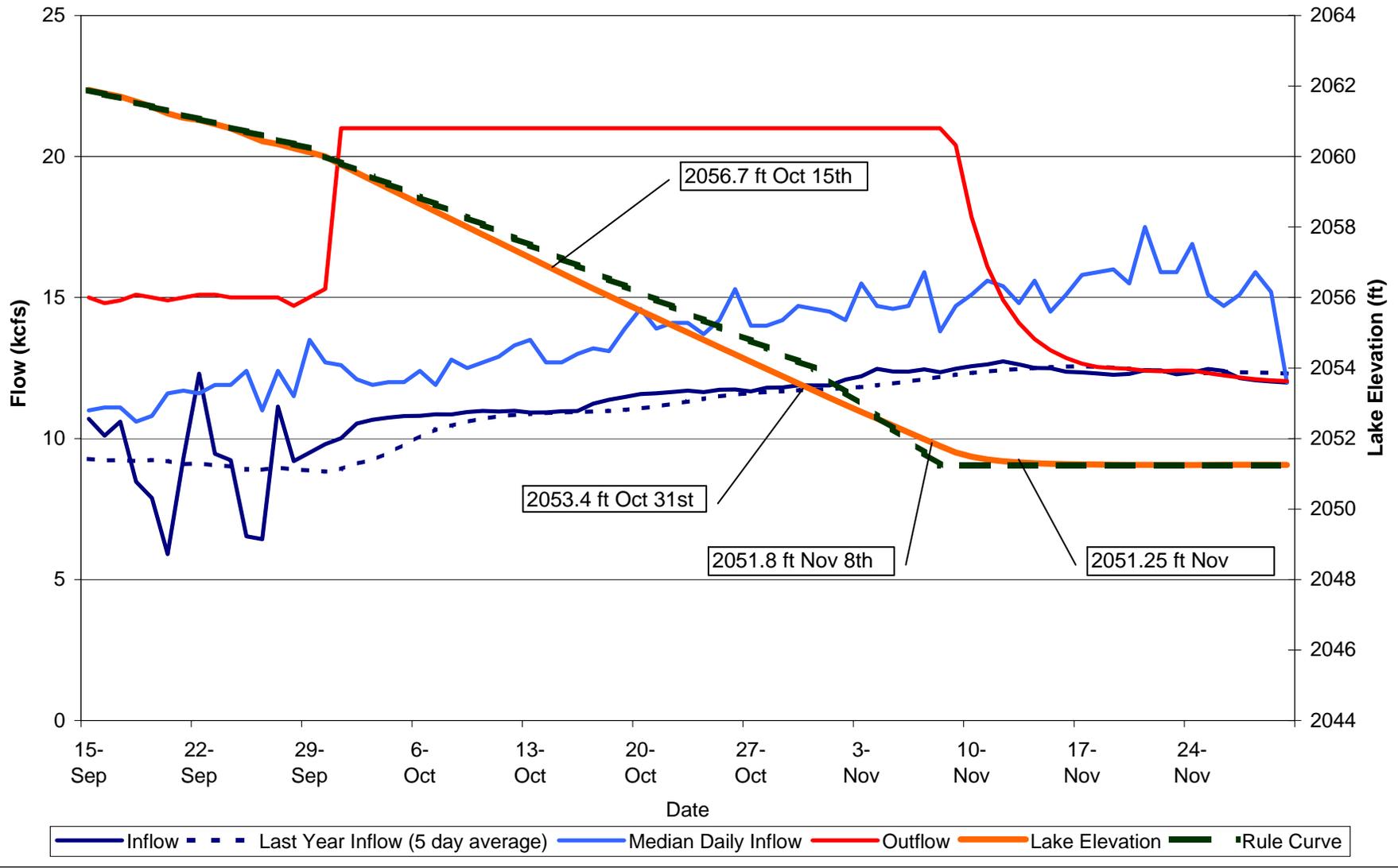
*[Dan Feil](#) at (503) 808-3943, or*

*[Steve Barton](#) at (503) 808-3945*

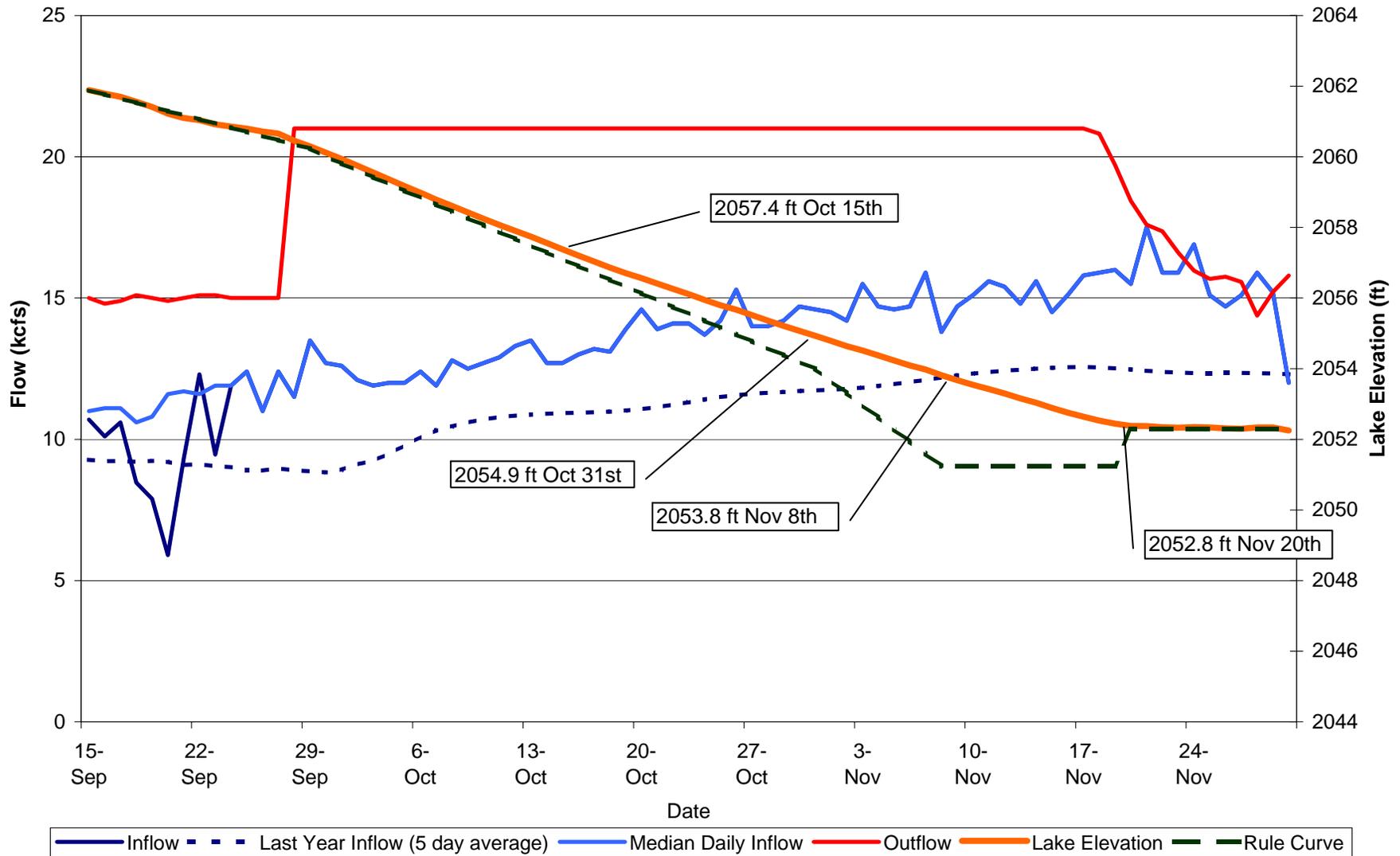
### Albeni Falls Operations STP Inflows, Target MCE Nov 15th and Max Release 21 kcfs



### Albeni Falls Operations STP Inflows, Target MCE Nov 8th and Max Release 21 kcfs



### Albeni Falls Operations Median Historical, Target MCE Nov 8th and Max Release 21 kcfs



**SYSTEM OPERATIONAL REQUEST # \_\_\_ - USFWS/IDFG -2009-1**

**TO:** B. G. William E. Rapp COE-NWD  
Jim Barton COE-Water Management  
Dan Feil COE- RCC  
Steve Barton COE- RCC  
David Ponganis COE-PDD  
Col. Anthony Wright COE-Seattle District  
William McDonald USBR-Boise Regional Director  
Steven Wright BPA-Administrator  
Steve Oliver BPA-PG-5  
Tony Norris BPA-PGPO-5  
Scott Bettin BPA- KEWR-4

**FROM:** Chip Corsi, Regional Supervisor, Idaho Department of Fish and Game  
Rich Torquemada, Assistant Project Leader, U.S. Fish and Wildlife Service

**SUBJECT:** Request to implement a 2009-2010 winter lake elevation of 2051' for Lake Pend Oreille, Idaho.

**SPECIFICATIONS:**

Draw Lake Pend Oreille down to a winter minimum control elevation (MCE) no lower than 2051' by November 15, while minimizing or eliminating the need to spill at Albeni Falls Dam, and only if attainable without exceeding state maximum total dissolved gas standards at downstream projects. Kokanee spawning has commenced earlier the past three years than in previous years (about November 8 instead of historically typical November 20). We therefore request that as much of the draw down occur by November 8 as reasonably possible. Idaho Department of Fish and Game (IDFG) will monitor arrival time of kokanee at shoreline spawning areas. If kokanee spawning is in progress prior to November 15 and occurs in locations and depths that are deemed vulnerable to continued drawdown, then the Corps of Engineers shall, within 5 days of notification (but not later than November 15), cease drawdown activities even if 2051' has not been reached. The elevation reached under this scenario would then become the MCE for this winter. The lake will then be held within 0.5' of MCE to the end of spawning (monitored by IDFG) or December 31, whichever comes first.

Bonneville Power Administration (BPA) has requested additional flexibility (beyond the normal 1.0 foot operating range) in the operating range after the end of kokanee spawning (approximately January 1 thru March 31). The proposed operating range would be between MCE elevation 2051.0 and elevation 2056.0 until April 1 when flood control operations begin. As described by BPA, the project would follow all of the current ramp rate restrictions of increasing or decreasing releases, no more than 10,000 cfs per day, and drafting the lake no more than a maximum of 0.5 feet/day while maintaining the minimum flow of 5 kcfs. At the September 17 meeting, the parties discussed potential impacts of utilizing the entire range. The potential impacts of this operation on bull trout are being discussed with USFWS. The Kalispel Tribe expressed concerns about the possible impacts to cultural resource sites. IDFG has several concerns regarding these proposed winter operations. Potential impacts that these operations may have for wildlife, wildlife based recreation, and wildlife habitat are not well understood. As such, IDFG and BPA are working together to determine if monitoring for potential impacts is possible, and if monitoring reveals negative impacts to fish, wildlife, or habitat, how operations could be managed to minimize those impacts. Until such time as a monitoring plan is agreed upon, this SOR is simply requesting that the winter MCE at Lake Pend Oreille be managed at 2051', and within the normal 1.0 foot operating range after kokanee spawning is completed.

## **JUSTIFICATION:**

In Lake Pend Oreille, bull trout are heavily dependent upon kokanee as forage. Without kokanee, the Lake Pend Oreille bull trout population is at risk of becoming severely depressed, threatening recovery efforts in both the Idaho and Montana portions of the Pend Oreille basin. Examples of this negative population interaction include Flathead Lake, Montana and Priest Lake, Idaho. Adult kokanee in Lake Pend Oreille are at low levels. The estimated number of female kokanee expected to spawn this fall is about 40,000 fish. Research indicates three decades of annual deep drawdowns during the winter months is the primary contributing factor to the large declines in kokanee abundance observed from the 1970's into the 1990's. More recently, the combined predation effects of lake trout and rainbow trout have limited kokanee recovery, despite improved egg-to-fry survival as a result of the modified winter lake level management. Both populations of predators are being intensively researched, managed, and controlled to reduce their impacts on kokanee abundance, but kokanee recovery efforts will require adequate egg-to-fry survival to be successful.

A decision tree has been developed (included below) to help guide selection of Lake Pend Oreille winter elevation. This decision tree recommends an elevation for this winter of 2051'. The primary factors guiding this recommendation are as follows:

First, the National Weather Service's Climate Prediction Center forecast on September 17 was for below normal precipitation during November, December, January. Providing the additional flow augmentation from Lake Pend Oreille in years with below average November – January precipitation may help provide river flows below Bonneville Dam that are more advantageous for chum salmon spawning before increased flows from winter flood control drafts at upstream reservoirs arrive. The decision tree was designed to use the October weather forecast for the winter months, but this year was based on the September forecast. This was done to provide as much advanced notice as possible for various agencies to plan for the winter MCE. Reduced turbine capacity at Box Canyon Dam, construction of The Dalles spillwall, and possible earlier than normal spawning by kokanee are examples of activities that require planning if a 2051' MCE is decided. The current forecast suggests strong El Nino conditions, which is likely to lead to dry conditions and not change the October forecast.

Second, Lake Pend Oreille adult kokanee abundance is estimated to be below 70,000 females, and IDFG research currently suggests there is adequate spawning gravel for this low female abundance at elevation 2051'.

Third, IDFG lake surveys indicate a dramatic increase in kokanee survival rates and an increase in sub-adult kokanee abundance. Thus, it is likely that upcoming years will provide substantially more kokanee spawners than in recent years. While it is undesirable to have back-to-back years of draw down which could impact consecutive year classes of kokanee, IDFG recognizes that the kokanee population likely will gain more by higher lake elevation during upcoming years when spawner abundance is projected to be higher. Drafting Lake Pend Oreille to 2051' this winter will set the decision tree to provide a high likelihood of a 2055' elevation next winter.

For these reasons, we recommend drafting Lake Pend Oreille to elevation 2051' during the upcoming winter.

# TECHNICAL MANAGEMENT TEAM

**BOR** : John Roache / Mary Mellema / Pat McGrane      **BPA** : Robyn MacKay / Tony Norris / Scott Bettin  
**NOAA-F**: Paul Wagner / Richard Dominique              **USFWS** : David Wills / Steve Haeseker  
**OR** : Rick Kruger / Ron Boyce                              **ID** : Russ Kiefer / Pete Hassemer  
**WDFW** : Cindy LeFleur                                         **MT** : Jim Litchfield / Brian Marotz  
**COE**: Dan Feil / Steve Barton

## TMT MEETING

Wednesday September 30, 2009 09:00 - 12:00

1125 N.W. Couch Street, Suite 500, Columbia Room  
Portland, Oregon 97209-4142  
Map Quest [\[Directions\]](#)

### CONFERENCE PHONE LINE

Conference call line:877-807-5706; PASS CODE = 442788

To check into the building, take the elevator to the 5th floor and the guard will issue you an ID badge if you need one and will take you down to the meeting room on the 4th floor. If you have NOT attended a TMT meeting in the past you will need to call ahead and let Dan Feil (503) 808-3943 or Steve Barton (503) 808-3945 know, so you can be added to the TMT Visitor List and issued an ID badge. This badge may be used indefinitely. If you have attended TMT in the past you may re-use your ID badge indefinitely. If you are a federal employee you will also need to have an ID badge issued to you which can be used indefinitely.

We have had disruptions on the phone because people are not hitting 'mute' after dial in.  
**Please MUTE your Phone**

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*All members are encouraged to call Robin Gumpert with any issues or concerns they would like to see addressed.  
Please e-mail her at [rgumpert@cnnv.net](mailto:rgumpert@cnnv.net) or call her at (503) 248-4703.*

## AGENDA

1. Welcome and Introductions
2. Review Meeting Minutes for September 16, 2009 [\[Meeting Minutes\]](#)
3. Lake Pend Oreille SOR - Russ Kiefer, IDF&G
  - a. [SOR 2009-1](#)
  - b. [Albeni Falls Drawdown](#)
4. Autumn Treaty Fishing Update - Kyle Dittmer, CRITFC
  - a. [SOR 2009-C8](#)
5. Preliminary Spring Juvenile Salmonid Survival - Paul Wagner, NOAA
  - a. [Survival Memo](#)
6. Operations Review
  - a. Reservoirs
  - b. Fish

- c. Power System
- d. Water Quality
- 7. Other
  - a. Set agenda for next meeting - **October 7, 2009**
  - b. [\[Calendar 2009\]](#)

*Questions about the meeting may be referred to:*

*[Dan Feil](#) at (503) 808-3943, or*

*[Steve Barton](#) at (503) 808-3945*

**SYSTEM OPERATIONAL REQUEST # \_\_\_ - USFWS/IDFG -2009-1**

**TO:** B. G. William E. Rapp COE-NWD  
Jim Barton COE-Water Management  
Dan Feil COE- RCC  
Steve Barton COE- RCC  
David Ponganis COE-PDD  
Col. Anthony Wright COE-Seattle District  
William McDonald USBR-Boise Regional Director  
Steven Wright BPA-Administrator  
Steve Oliver BPA-PG-5  
Tony Norris BPA-PGPO-5  
Scott Bettin BPA- KEWR-4

**FROM:** Chip Corsi, Regional Supervisor, Idaho Department of Fish and Game  
Rich Torquemada, Assistant Project Leader, U.S. Fish and Wildlife Service

**SUBJECT:** Request to implement a 2009-2010 winter lake elevation of 2051' for Lake Pend Oreille, Idaho.

**SPECIFICATIONS:**

Draw Lake Pend Oreille down to a winter minimum control elevation (MCE) no lower than 2051' by November 15, while minimizing or eliminating the need to spill at Albeni Falls Dam. This proposed operation is not anticipated to cause exceedence of the state maximum total dissolved gas standards at downstream projects barring unforeseen circumstances. Kokanee spawning has commenced earlier the past three years than in previous years (about November 8 instead of historically typical November 20). We therefore request that as much of the draw down occur by November 8 as reasonably possible. Idaho Department of Fish and Game (IDFG) will monitor arrival time of kokanee at shoreline spawning areas. If kokanee spawning is in progress prior to November 15 and occurs in locations and depths that are deemed vulnerable to continued drawdown, then the Corps of Engineers shall, within 5 days of notification (but not later than November 15), cease drawdown activities even if 2051' has not been reached. The elevation reached under this scenario would then become the MCE for this winter. The lake will then be held within 0.5' of MCE to the end of spawning (monitored by IDFG) or December 31, whichever comes first.

**JUSTIFICATION:**

In Lake Pend Oreille, bull trout are heavily dependent upon kokanee as forage. Without kokanee, the Lake Pend Oreille bull trout population is at risk of becoming severely depressed, threatening recovery efforts in both the Idaho and Montana portions of the Pend Oreille basin. Examples of this negative population interaction include Flathead Lake, Montana and Priest Lake, Idaho. Adult kokanee in Lake Pend Oreille are at low levels. The estimated number of female kokanee expected to spawn this fall is about 40,000 fish. Research indicates three decades of annual deep drawdowns during the winter months is the primary contributing factor to the large declines in kokanee abundance observed from the 1970's into the 1990's. More recently, the combined predation effects of lake trout and rainbow trout have limited kokanee recovery, despite improved egg-to-fry survival as a result of the modified winter lake level management. Both populations of predators are being intensively researched, managed, and controlled to reduce their impacts on kokanee abundance, but kokanee recovery efforts will require adequate egg-to-fry survival to be successful.

A decision tree has been developed (included below) to help guide selection of Lake Pend Oreille winter elevation. This decision tree recommends an elevation for this winter of 2051'. The primary factors guiding this recommendation are as follows:

First, the National Weather Service's Climate Prediction Center forecast on September 17 was for below normal precipitation during November, December, January. Providing the additional flow augmentation from Lake Pend Oreille in years with below average November – January precipitation may help provide river flows below Bonneville Dam that are more advantageous for chum salmon spawning before increased flows from winter flood control drafts at upstream reservoirs arrive. The decision tree was designed to use the October weather forecast for the winter months, but this year was based on the September forecast. This was done to provide as much advanced notice as possible for various agencies to plan for the winter MCE. Reduced turbine capacity at Box Canyon Dam, construction of The Dalles spillwall, and possible earlier than normal spawning by kokanee are examples of activities that require planning if a 2051' MCE is decided. The current forecast suggests strong El Nino conditions, which is likely to lead to dry conditions and not change the October forecast.

Second, Lake Pend Oreille adult kokanee abundance is estimated to be below 70,000 females, and IDFG research currently suggests there is adequate spawning gravel for this low female abundance at elevation 2051'.

Third, IDFG lake surveys indicate a dramatic increase in kokanee survival rates and an increase in sub-adult kokanee abundance. Thus, it is likely that upcoming years will provide substantially more kokanee spawners than in recent years. While it is undesirable to have back-to-back years of draw down which could impact consecutive year classes of kokanee, IDFG recognizes that the kokanee population likely will gain more by higher lake elevation during upcoming years when spawner abundance is projected to be higher. Drafting Lake Pend Oreille to 2051' this winter will set the decision tree to provide a high likelihood of a 2055' elevation next winter.

For these reasons, we recommend drafting Lake Pend Oreille to elevation 2051' during the upcoming winter and maintaining the spawning elevation as the minimum through kokanee emergence.



## COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION

729 NE Oregon, Suite 200, Portland, Oregon 97232

Telephone 503 238 0667

Fax 503 235 4228

### SYSTEM OPERATIONAL REQUEST: 2009 C-8

TO: Brig. General William E. Rapp COE-NWD  
James D. Barton COE-NWD-NP-Water Management  
Dan Feil, Steve Barton COE-NWD-NP-WM-RCC  
Rock D. Peters COE-NWD-CM-F (Fish Management Office)  
Col. Steven R. Miles COE-Portland District  
J. William McDonald USBR—Pacific Northwest Regional Director  
Steven J. Wright BPA Administrator  
Steve Oliver, Greg Delwiche BPA-PG-5  
Robyn MacKay, Scott Bettin BPA-Operations Planning-PGPO  
Stan Speaks, Keith Hatch BIA, Northwest Regional Office

FROM: Paul Lumley, *Executive Director*

DATE: September 25, 2009

SUBJECT: **Operation of the Lower Columbia Pools for the Autumn 2009 Treaty Fishery**

The Columbia River Inter-Tribal Fish Commission, on behalf of its members, the Nez Perce Tribe, the Confederated Tribes of the Umatilla Reservation, the Confederated Tribes of the Warm Springs Reservation, and the Yakama Nation, requests the following reservoir operations in “Zone 6” (Bonneville to McNary dams). This effort supports the 2009 autumn ceremonial, subsistence, and commercial Treaty fishery times as established by the tribes and the Columbia River Compact.

SPECIFICATIONS: Implement the following operations as a hard system constraint, as follows:

**September 29th, 2009, 6 am, Tuesday, through 6 pm, October 1st, 2009, Thursday.**

**Bonneville Pool: Operate the pool within 1.0 foot from full pool (msl elevation 76.5 – 75.5).**

**The Dalles (Celilo) Pool: Operate the pool within 1.0 foot (msl elevation 159.5 - 158.5).**

**John Day Pool: Operate the pool within 1.0 foot (msl elevation 264.5 - 263.5).**

We realize that the Corps may run the Bonneville pool at slightly higher than normal elevations, due to construction activities at The Dalles dam spillwall. At this time, we do not anticipate additional treaty fisheries in October, but cannot be totally certain. CRITFC will notify the Corps with specific times for the tribal fishery after each Compact hearing, via a new SOR.

**JUSTIFICATION:**

The 2009 autumn Treaty fishing season is of critical importance to CRITFC's member tribes. The forecast escapement of **200,000** (Columbia at Bonneville Dam) adult fall Chinook (near normal rank) and nearly **605,000** steelhead (near record high), will create harvest opportunities for tribal fishers, who will exercise their treaty rights by participating in this harvest, using platform and in-river methods. This harvest will provide for the cultural, religious, and economic needs of the treaty tribes.

CRITFC will sponsor net flights each week to count the number of nets in each Zone 6 pool. The survey data will be promptly shared with COE-RCC staff. The September 24<sup>th</sup>, 2009 survey showed 707 nets in the Zone 6 pools, as follows: 214 (32%) in Bonneville, 131 (20%) in The Dalles, and 326 (48%) in John Day.

Achieving good river conditions through managed river operations during the treaty fishery have been the basis of past litigation that have been supported by federal courts and are consistent with the trust and fiduciary responsibilities that the federal operators have with respect to CRITFC's member tribes. Good river conditions during the treaty fishery are also consistent with the spirit of the 10-year Memorandum of Agreements signed by tribal and Corps, BPA, and BOR officials.

In past meetings with Corps officials, tribal fishers have explained that a pool fluctuation of 1.0 foot or more disrupts tribal fishery operations. Specific problems include: (1) increased local currents that sweep debris into fishing nets, (2) rapid 1-2 hour drops in water level will lead to entanglement of nets, (3) boat access problems, and (4) nets torn from their anchors. Nets and gear are costly to replace. Any delays or disruptions to tribal fishing operations caused by the excessive pool fluctuations in Zone 6 negatively impacts tribal incomes, food resources and cultural practices.

The fishers have also expressed to Corps officials that the loss of fishing opportunity during the extremely limited treaty fishery cannot be replaced. Much of the tribal fishers' annual income and food is generated during the brief treaty fishing season, thus, any delays or disruptions to their fishing operations caused by the excessive pool fluctuations in Zone 6 negatively impacts tribal incomes, food resources, and cultural practices.

If this SOR cannot be accommodated, CRITFC requests a verbal response with an explanation from the federal operators by COB Friday, October 2, 2009. Thank you for considering this request. Please contact Kyle Dittmer or Bob Heinith should you have any questions: 503-238-0667.

cc: TMT Members  
Tribal staffs



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE

Northwest Fisheries Science Center  
Fish Ecology Division  
2725 Montlake Boulevard East  
Seattle, Washington 98112-2097

September 14, 2009

MEMORANDUM FOR: F/NWR5 - Bruce Suzumoto

FROM: F/NWC3 - John W. Ferguson *John W. Ferguson*

SUBJECT: Preliminary survival estimates for passage during the spring migration of juvenile salmonids through Snake and Columbia River reservoirs and dams, 2009

This memorandum summarizes conditions in the Snake and Columbia Rivers and preliminary estimates of survival of PIT-tagged juvenile salmonids passing through reservoirs and dams during the 2009 spring outmigration. We also provide preliminary estimates of the proportion of Snake River smolts that were transported from Snake River dams in 2009. Our complete detailed analyses and report for the spring migration will be available by the end of the year. As in past years, changes in the database between the time of our annual summer memo and the publication of our final report may result in differences of up to 3 or 4% in estimated survival values.

### **Summary of Research**

For survival studies funded by BPA in 2009, NOAA Fisheries PIT tagged approximately 16,860 river-run hatchery steelhead, 15,230 wild steelhead, and 13,790 wild yearling Chinook salmon for release into the tailrace of Lower Granite Dam. From studies funded by the USACE, we used about 121,000 hatchery yearling Chinook salmon PIT tagged by NOAA Fisheries at Lower Granite Dam for evaluation of "extra" or "latent" mortality related to passage through Snake River dams.

Survival estimates provided in this memorandum are derived from PIT-tag data from fish PIT tagged by or for NOAA Fisheries, as described above, along with fish PIT tagged by others within the Columbia River Basin.



For yearling Chinook salmon from Snake River Basin hatcheries, estimated survival to Lower Granite Dam tailrace has been relatively stable since 1998 (Figure 1, Table 1). Mean estimated survival was a composite of production releases from hatcheries Dworshak, Kooskia, Lookingglass/Imnaha Weir, Rapid River, McCall/Knox Bridge, Pahsimeroi, and Sawtooth and has ranged from 54.9 to 69.7% since 1998. Mean estimated survival to Lower Granite Dam tailrace for the index hatchery release groups in 2009 was 59.0%.

Estimated survival for Snake River yearling Chinook salmon (hatchery and wild combined) in 2009 was close to the 6-year average (2003-2008) in every reach (Table 2, Figures 2 and 3). Mean estimated survival for yearling Chinook salmon from Lower Granite Dam tailrace to McNary Dam tailrace in 2009 was 78.8% (95% CI: 77.4, 80.2%). Mean estimated survival in 2009 from McNary Dam tailrace to Bonneville Dam tailrace was 70.6% (95% CI: 63.7, 77.5%). Mean estimated survival for yearling Chinook salmon from Lower Granite Dam tailrace to Bonneville Dam tailrace in 2009 was 55.6% (95% CI: 50.1, 61.1%). Estimated survival for the Lower Granite project (head of reservoir to tailrace) was 95.7%, based on fish PIT tagged at and released from the Snake River trap. The combined yearling Chinook salmon survival estimate from the trap to the Bonneville Dam tailrace in 2009 was 53.2% (95% CI: 47.9, 58.5%).

For Snake River steelhead (hatchery and wild combined), mean estimated survival in 2009 was higher than the 6-year average in every reach, although not all mean survival estimates were higher than previous individual years (Table 3, Figures 2 and 3). Mean estimated survival for steelhead from Lower Granite Dam tailrace to McNary Dam tailrace in 2009 was 80.0% (95% CI: 77.3, 82.7%). This estimate was higher than those in all years from 1995-2008, with statistical significance<sup>1</sup> in all years after 1997. Mean estimated survival in 2009 from McNary Dam tailrace to Bonneville Dam tailrace was 86.4% (95% CI: 71.5, 101.2%). The 2009 McNary-to-Bonneville estimate was higher than those from 1998-2008. Mean estimated survival from Lower Granite Dam tailrace to Bonneville Dam tailrace was 69.1% (95% CI: 56.9, 81.3%), which is significantly higher than that in years after 1998. Estimated survival for the Lower Granite project (head of reservoir to tailrace) was 100% (actual model calculation was 100.2%), based on fish PIT tagged at and released from the Snake River trap. The combined steelhead survival estimate from the trap to the Bonneville Dam tailrace in 2009 was 69.3% (95% CI: 57.0, 81.6%).

For PIT-tagged hatchery yearling Chinook salmon originating from the upper Columbia River in 2009, estimated survival from McNary Dam tailrace to Bonneville Dam tailrace was 84.3% (95% CI: 63.7, 105.0%; see Table 4). This is the highest survival estimate in

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<sup>1</sup> Statistical significance informally assessed by examining whether confidence intervals overlap.

the historical data set for this group in the McNary to Bonneville reach (2002-2008, no estimate possible in 2005 or 2006). It is significantly higher than estimates from both 2004 and 2008.

For PIT-tagged hatchery steelhead originating from the upper Columbia River in 2009, estimated survival from McNary Dam tailrace to Bonneville Dam tailrace was 72.5% (95% CI: 52.1, 92.9%; Table 5). This is also the highest point estimate we have seen for this group in the McNary to Bonneville reach (2002-2008, no estimate possible in 2002, 2006, or 2008). It is significantly higher than only that in 2007. For fish released from upper Columbia River hatcheries, we cannot estimate survival in reaches upstream from McNary Dam (other than the overall reach from release to McNary Dam tailrace) because of limited PIT-tag detection capabilities at Mid-Columbia River PUD dams.

Table 6 shows estimated survival for hatchery sockeye salmon from Snake River Basin release sites to the tailraces of Lower Granite Dam and McNary Dam for 2007-2009.

Our preliminary estimates of the proportion transported of non-tagged wild and hatchery spring-summer Chinook salmon smolts are 40% and 38%, respectively. For steelhead, the estimates are 46% and 43% for wild and hatchery smolts, respectively. These estimates represent the proportion of smolts that arrived at Lower Granite Dam that were subsequently transported, either from Lower Granite Dam or from one of the downstream collector dams. The estimates for both hatchery and wild Chinook are lower than those in 2008 and higher than those in 2007. The estimates for both hatchery and wild steelhead are lower than those in 2008 and similar to those in 2007. The differences among years for both Chinook and steelhead are mostly due to differences in timing of the smolt migrations and differences in collection probabilities at the collector dams.

## Discussion

Snake River flow volume was near average throughout April and May 2009 (Figure 4), with the exception of a surge in flow from April 20-30. Flow increased fairly steadily from early to late May. Flow in 2009 was higher than that in 2008 during April, and then was similar to that in 2008 during May. Mean spill as a percentage of flow at the Snake River Dams in 2009 was close to the average of recent years and remained fairly constant throughout the season (Figure 5). Spill percentages in 2009 were much like those in 2006 until mid-May, from which point they were more like 2007. Spill percentages in 2009 were lower than those in 2008 for most of the season. Water temperatures in the Snake River were on the low side of recent years during April, but became more similar to the average of recent years during May (Figure 6).

Operations at most dams in 2009 were similar to those in 2008. One exception occurred at Little Goose Dam which had an operating temporary spillway weir (TSW) in 2009. The removable spillway weir (RSW) at Lower Monumental Dam and the TSW at John Day Dam were in their second year of operation in 2009. Also a new spillway guidance wall at the The Dalles Dam was partially completed during winter of 2008.

Within the season, estimated survival from Lower Granite Dam to McNary Dam for daily groups of yearling Chinook remained relatively constant from early April through the end of May, except for a increase over 1-2 week period in late May (Figure 7). A series of peaks in the smolt passage index at Lower Granite corresponded with periods of increased flow. Estimated survival from Lower Granite Dam to McNary Dam for daily groups of steelhead was variable across the season (Figure 8).

The high estimated survival of steelhead through the hydropower system in 2009 is particularly noteworthy. Reaches with unusually high estimated survival were Lower Granite tailrace to Little Goose tailrace, and John Day tailrace to Bonneville tailrace. Unusually high annual estimated survival in these reaches combined with high estimated survival in other reaches resulted in a hydropower system survival estimate of 69.3%. We can only speculate about reasons for the increased survival at this point. One possible contributing factor is the new TSW at Little Goose Dam. Assuming passage survival was higher through the TSW and steelhead were disproportionately attracted to it as a passage route, the result would be an increase in survival at Little Goose Dam. The survival estimate from Lower Granite to Little Goose in 2009 was the highest we have recorded, which suggests the TSW may have contributed. Results from a radio-telemetry study conducted there in 2009 may inform this conjecture, but results are not yet available.

Timing of steelhead smolt passage at Lower Granite Dam in 2009 was much earlier than in 2007 and 2008 (see Figure 9). By 30 April 2009, approximately 44% of the steelhead run had passed Lower Granite Dam. In contrast, only about 18% of the run had passed by the same date in both 2007 and 2008. Yet, daily survival estimates were a bit lower early in the season than in late April (Figure 8). Because transportation did not begin in the Snake River until 1 May at Lower Granite Dam (5 May at Little Goose Dam and 8 May at Lower Monumental Dam), most of those fish were not transported, leaving a much larger number of steelhead migrating in-river in 2009 than in 2007 or 2008. As we have demonstrated in previous reports, if the total number of fish lost to predation remained relatively constant between years, years with more fish migrating downstream will lead to higher survival estimates, as the proportion of PIT-tagged fish taken by predators would decrease. Other possible factors contributing to increased steelhead survival include a reported reduction from 2008 in avian predation at John Day Dam, and the presence of the partially completed spillway guidance wall at The Dalles Dam. We will gather further supporting information from other studies conducted in 2009 before we develop a final report in late 2009.

cc: F/NWC3 - Smith  
F/NWC3 - Muir  
F/NWC3 - Faulkner  
F/NWC3 - Zabel  
F/NWC3 - Williams

Table 1. Mean estimated survival and standard error (s.e.) for yearling Chinook salmon released at Snake River Basin and Upper Columbia River hatcheries to Lower Granite Dam tailrace (LGR) and McNary Dam tailrace (MCN), 2007 through 2009.

Hatchery	2007		2008		2009	
	Survival to LGR (s.e.)	Survival to MCN (s.e.)	Survival to LGR (s.e.)	Survival to MCN (s.e.)	Survival to LGR (s.e.)	Survival to MCN (s.e.)
Dworshak	0.817 (0.007)	0.662 (0.004)	0.737 (0.011)	0.534 (0.016)	0.693 (0.007)	0.539 (0.010)
Kooskia	0.654 (0.015)	0.523 (0.019)	0.631 (0.015)	0.509 (0.052)	0.628 (0.012)	0.466 (0.023)
Lookingglass (Catherine Cr.)	0.340 (0.007)	0.285 (0.009)	0.455 (0.008)	0.379 (0.028)	0.370 (0.006)	0.299 (0.013)
Lookingglass (Grande Ronde)	0.495 (0.022)	0.396 (0.024)	0.416 (0.016)	0.352 (0.050)	0.444 (0.022)	0.295 (0.036)
Lookingglass (Imnaha River)	0.682 (0.010)	0.582 (0.010)	0.694 (0.008)	0.518 (0.022)	0.698 (0.009)	0.550 (0.018)
Lookingglass (Lostine River)	0.594 (0.013)	0.482 (0.016)	0.600 (0.012)	0.480 (0.036)	0.585 (0.010)	0.476 (0.024)
McCall (Johnson Cr.)	0.319 (0.024)	0.260 (0.014)	0.330 (0.030)	0.317 (0.052)	0.309 (0.019)	0.326 (0.072)
McCall (Knox Bridge)	0.554 (0.007)	0.474 (0.006)	0.578 (0.007)	0.403 (0.013)	0.513 (0.005)	0.412 (0.008)
Rapid River	0.748 (0.004)	0.616 (0.005)	0.801 (0.004)	0.593 (0.012)	0.726 (0.005)	0.636 (0.010)
Entiat	---	0.321 (0.035)	---	---	---	---
Winthrop	---	0.492 (0.022)	---	0.574 (0.074)	---	0.372 (0.043)
Leavenworth	---	0.594 (0.011)	---	0.567 (0.022)	---	0.478 (0.020)

Table 2. Mean estimated survival and standard error (s.e.) through various reaches of the Snake and Columbia River hydropower system for yearling Chinook salmon originating in the Snake River, 2003 through 2009. Hatchery and wild fish combined.

Reach	Mean							2009
	2003	2004	2005	2006	2007	2008	2003-08	
Snake Trap-LGR	0.993 (0.023)	0.893 (0.009)	0.919 (0.015)	0.952 (0.011)	0.943 (0.028)	0.992 (0.018)	0.949 (0.008)	0.957 (0.010)
LGR-LGO	0.946 (0.005)	0.923 (0.004)	0.919 (0.003)	0.923 (0.003)	0.938 (0.006)	0.939 (0.006)	0.931 (0.002)	0.941 (0.007)
LGO-LMO	0.916 (0.011)	0.875 (0.012)	0.886 (0.006)	0.934 (0.004)	0.957 (0.010)	0.950 (0.011)	0.920 (0.004)	0.985 (0.011)
LMO-MCN	0.904 (0.017)	0.818 (0.018)	0.903 (0.010)	0.887 (0.008)	0.876 (0.012)	0.878 (0.016)	0.878 (0.006)	0.853 (0.014)
MCN-JD	0.893 (0.017)	0.809 (0.028)	0.772 (0.029)	0.881 (0.020)	0.920 (0.016)	1.073 (0.058)	0.891 (0.013)	0.865 (0.043)
JD-BON	0.818 (0.036)	0.735 (0.092)	1.028 (0.132)	0.944 (0.030)	0.824 (0.043)	0.558 (0.082)	0.818 (0.032)	0.824 (0.045)
LGR-MCN	0.731 (0.010)	0.666 (0.011)	0.732 (0.009)	0.764 (0.007)	0.783 (0.006)	0.782 (0.011)	0.743 (0.004)	0.788 (0.007)
MCN-BON	0.728 (0.030)	0.594 (0.074)	0.788 (0.092)	0.842 (0.021)	0.763 (0.044)	0.594 (0.066)	0.718 (0.024)	0.706 (0.035)
LGR-BON	<b>0.532</b> <b>(0.023)</b>	<b>0.395</b> <b>(0.050)</b>	<b>0.577</b> <b>(0.068)</b>	<b>0.643</b> <b>(0.017)</b>	<b>0.597</b> <b>(0.035)</b>	<b>0.465</b> <b>(0.052)</b>	<b>0.535</b> <b>(0.018)</b>	<b>0.556</b> <b>(0.028)</b>
Snake Trap-BON	<b>0.528</b> <b>(0.023)</b>	<b>0.353</b> <b>(0.045)</b>	<b>0.530</b> <b>(0.063)</b>	<b>0.612</b> <b>(0.016)</b>	<b>0.563</b> <b>(0.037)</b>	<b>0.461</b> <b>(0.052)</b>	<b>0.508</b> <b>(0.017)</b>	<b>0.532</b> <b>(0.027)</b>

Table 3. Mean estimated survival and standard error (s.e.) through various reaches of the Snake and Columbia River hydropower system steelhead originating in the Snake River, 2003 through 2009. Hatchery and wild fish combined.

Reach	Mean							2009
	2003	2004	2005	2006	2007	2008	2003-08	
Snake Trap-LGR	0.932 (0.015)	0.948 (0.004)	0.967 (0.004)	0.920 (0.013)	1.016 (0.026)	0.995 (0.018)	0.963 (0.006)	1.002 (0.011)
LGR-LGO	0.947 (0.005)	0.860 (0.006)	0.940 (0.004)	0.956 (0.004)	0.887 (0.009)	0.935 (0.007)	0.921 (0.002)	0.977 (0.006)
LGO-LMO	0.898 (0.012)	0.820 (0.014)	0.867 (0.009)	0.911 (0.006)	0.911 (0.022)	0.961 (0.014)	0.895 (0.006)	0.937 (0.009)
LMO-MCN	0.708 (0.018)	0.519 (0.035)	0.722 (0.023)	0.808 (0.017)	0.852 (0.030)	0.776 (0.017)	0.731 (0.010)	0.870 (0.016)
MCN-JD	0.879 (0.032)	0.465 (0.078)	0.595 (0.040)	0.795 (0.045)	0.988 (0.098)	0.950 (0.066)	0.779 (0.026)	0.950 (0.026)
JD-BON	0.630 (0.066)	-----	-----	0.813 (0.083)	0.579 (0.059)	0.742 (0.045)	0.691 (0.026)	0.910 (0.080)
LGR-MCN	0.597 (0.013)	0.379 (0.023)	0.593 (0.018)	0.702 (0.016)	0.694 (0.020)	0.716 (0.015)	0.614 (0.007)	0.800 (0.014)
MCN-BON	0.518 (0.015)	-----	-----	0.648 (0.079)	0.524 (0.064)	0.671 (0.034)	0.590 (0.022)	0.864 (0.076)
LGR-BON	<b>0.309</b> <b>(0.011)</b>	-----	-----	<b>0.455</b> <b>(0.056)</b>	<b>0.364</b> <b>(0.045)</b>	<b>0.480</b> <b>(0.026)</b>	<b>0.402</b> <b>(0.016)</b>	<b>0.691</b> <b>(0.062)</b>
Snake Trap-BON	<b>0.288</b> <b>(0.011)</b>	-----	-----	<b>0.418</b> <b>(0.052)</b>	<b>0.369</b> <b>(0.047)</b>	<b>0.478</b> <b>(0.028)</b>	<b>0.388</b> <b>(0.016)</b>	<b>0.693</b> <b>(0.063)</b>

Table 4. Mean estimated survival and standard error (s.e.) through reaches of the lower Columbia River hydropower system for yearling Chinook salmon originating in the upper Columbia River, 2005 through 2009. All estimates are for hatchery fish only.

Reach	2005	2006	2007	2008	2009
Release-MCN	0.546 (0.048) <sup>a</sup>	0.499 (0.039) <sup>a</sup>	0.512 (0.050) <sup>a</sup>	0.503 (0.015) <sup>b</sup>	0.493 (0.012)
MCN-JD	0.801 (0.056)	0.861 (0.060)	0.919 (0.049)	1.200 (0.080) <sup>b</sup>	0.852 (0.044)
JD-BON	NA	NA	0.780 (0.166)	0.496 (0.097) <sup>b</sup>	0.989 (0.129)
MCN-BON	NA	NA	0.709 (0.157)	0.593 (0.112) <sup>b</sup>	0.843 (0.105)

a. mean of estimates for fish released from Entiat, Winthrop, and Leavenworth hatcheries.

b. pooled estimates for fish released from East Bank, Leavenworth, Wells, and Winthrop hatcheries.

Table 5. Mean estimated survival and standard error (s.e.) through reaches of the lower Columbia River hydropower system for steelhead originating in the upper Columbia River, 2005 through 2009. All estimates are for hatchery fish only.

Reach	2005	2006	2007	2008	2009
Release-MCN	0.449 (0.080) <sup>a</sup>	0.497 (0.057) <sup>b</sup>	0.467 (0.058) <sup>c</sup>	0.519 (0.017) <sup>d</sup>	0.521 (0.019)
MCN-JD	0.749 (0.047)	0.826 (0.092)	0.799 (0.038)	NA	0.799 (0.049)
JD-BON	0.755 (0.167)	NA	0.459 (0.019)	NA	0.908 (0.133)
MCN-BON	0.533 (0.119)	NA	0.392 (0.059)	NA	0.725 (0.104)

- a. mean of estimates for fish from Chelan, East Bank, Ringold, Wells, and Winthrop hatcheries released at various locations.
- b. mean of estimates for fish from Turtle Rock hatchery released in Chiwawa and Wenatchee rivers and in Nason Creek.
- c. mean of estimates for fish from Chelan and East Bank hatcheries released in the Wenatchee River and fish from Turtle Rock hatchery released in Chiwawa and Wenatchee rivers and in Nason Creek.
- d. pooled estimates for fish from Winthrop hatchery, East Bank hatchery released in the Wenatchee River, and fish from Turtle Rock hatchery released in Chiwawa and Wenatchee rivers and in Nason Creek.

Table 6. Estimated survival and standard error (s.e.) for hatchery sockeye salmon from release sites in the Snake River Basin to Lower Granite Dam tailrace (LGR) and McNary Dam tailrace (MCN) for migration years 2007 through 2009.

Release Site	Release Month	2007		2008		2009	
		Survival to LGR (s.e.)	Survival to MCN (s.e.)	Survival to LGR (s.e.)	Survival to MCN (s.e.)	Survival to LGR (s.e.)	Survival to MCN (s.e.)
Alturus Lake	Sep-Oct	0.174 (0.019)	0.129 (0.023)	0.248 (0.021)	0.203 (0.068)	0.183 (0.019)	0.129 (0.033)
Pettit Lake	Sep-Oct	0.123 (0.024)	0.088 (0.042)	0.281 (0.044)	0.222 (0.139)	0.370 (0.028)	0.306 (0.108)
Redfish Lake	Sep-Oct	0.204 (0.026)	0.173 (0.040)	0.207 (0.033)	0.163 (0.068)	0.096 (0.016)	0.144 (0.132)
Redfish Lk, Cr. Trap	May	0.571 (0.070)	0.259 (0.080)	0.455 (0.038)	0.243 (0.051)	0.288 (0.020)	0.180 (0.029)
Sawtooth Trap	May	0.776 (0.133)	0.363 (0.076)	0.449 (0.074)	0.661 (0.346)	0.467 (0.006)	0.347 (0.015)

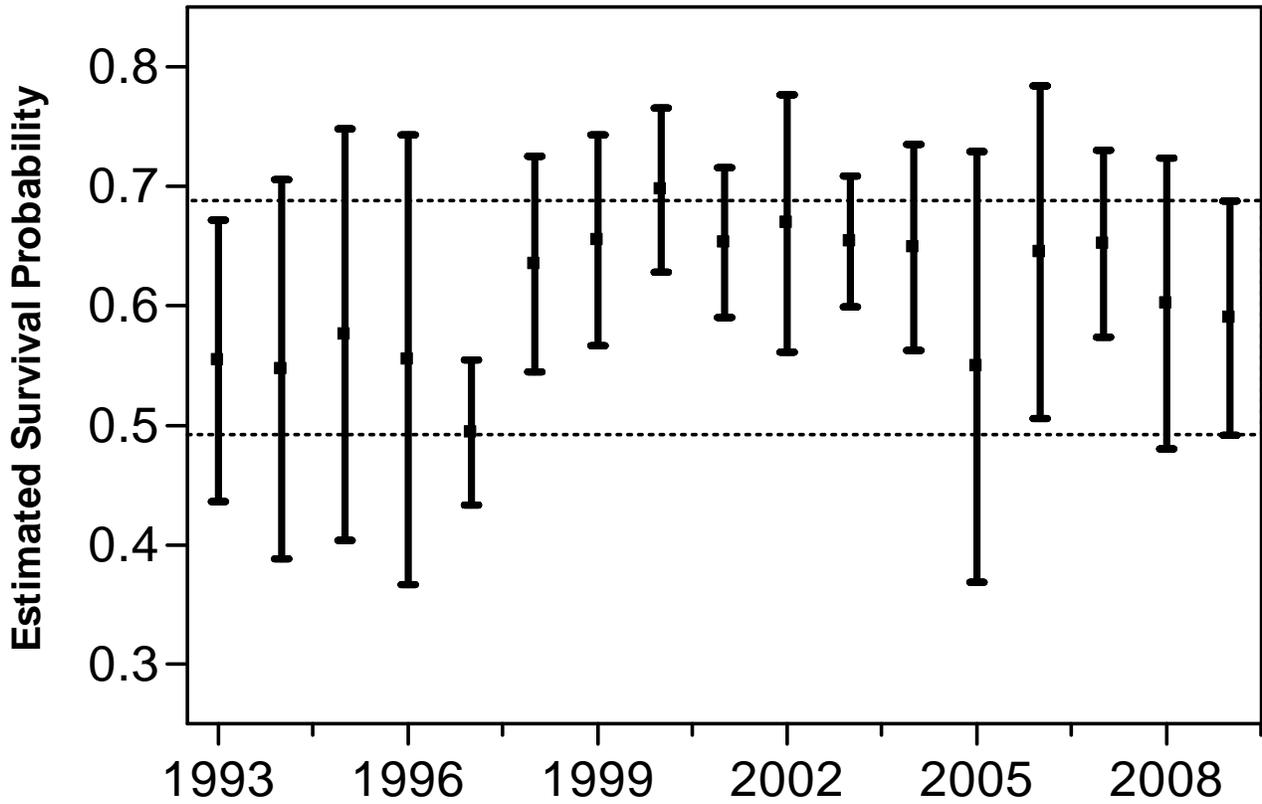


Figure 1. Annual average survival estimates for PIT-tagged yearling Chinook salmon released from Snake River Basin hatcheries, 1993-2009. Hatcheries used for average (index groups) are those with PIT-tag releases through a long series of years. Vertical bars represent 95% confidence intervals. Horizontal dashed lines are the 2009 confidence interval endpoints and are shown for comparison to other years.

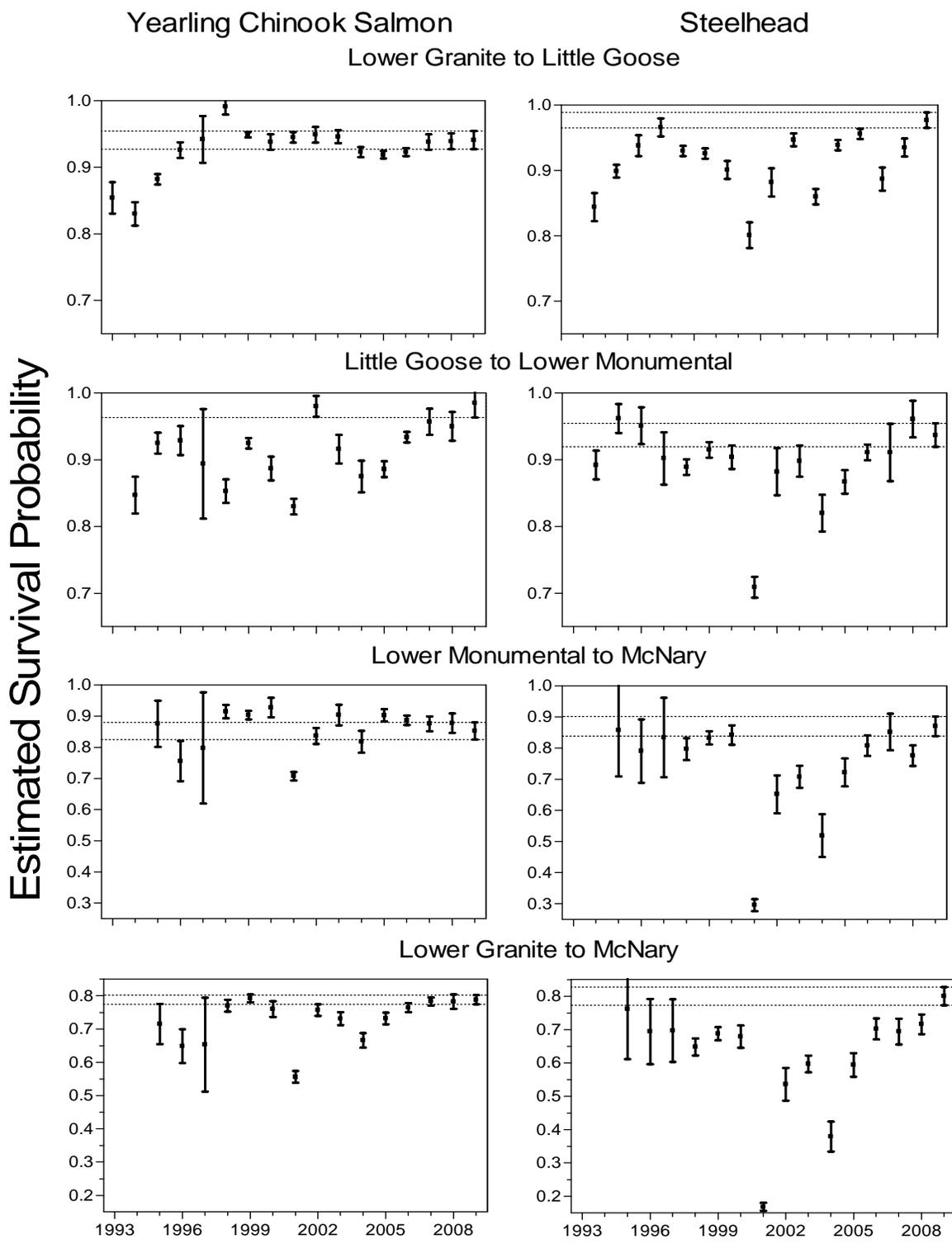


Figure 2. Annual average survival estimates for PIT-tagged yearling Chinook salmon and steelhead, hatchery and wild fish combined. Vertical bars represent 95% confidence intervals. Horizontal dashed lines are 95% confidence interval endpoints for 2009 estimates.

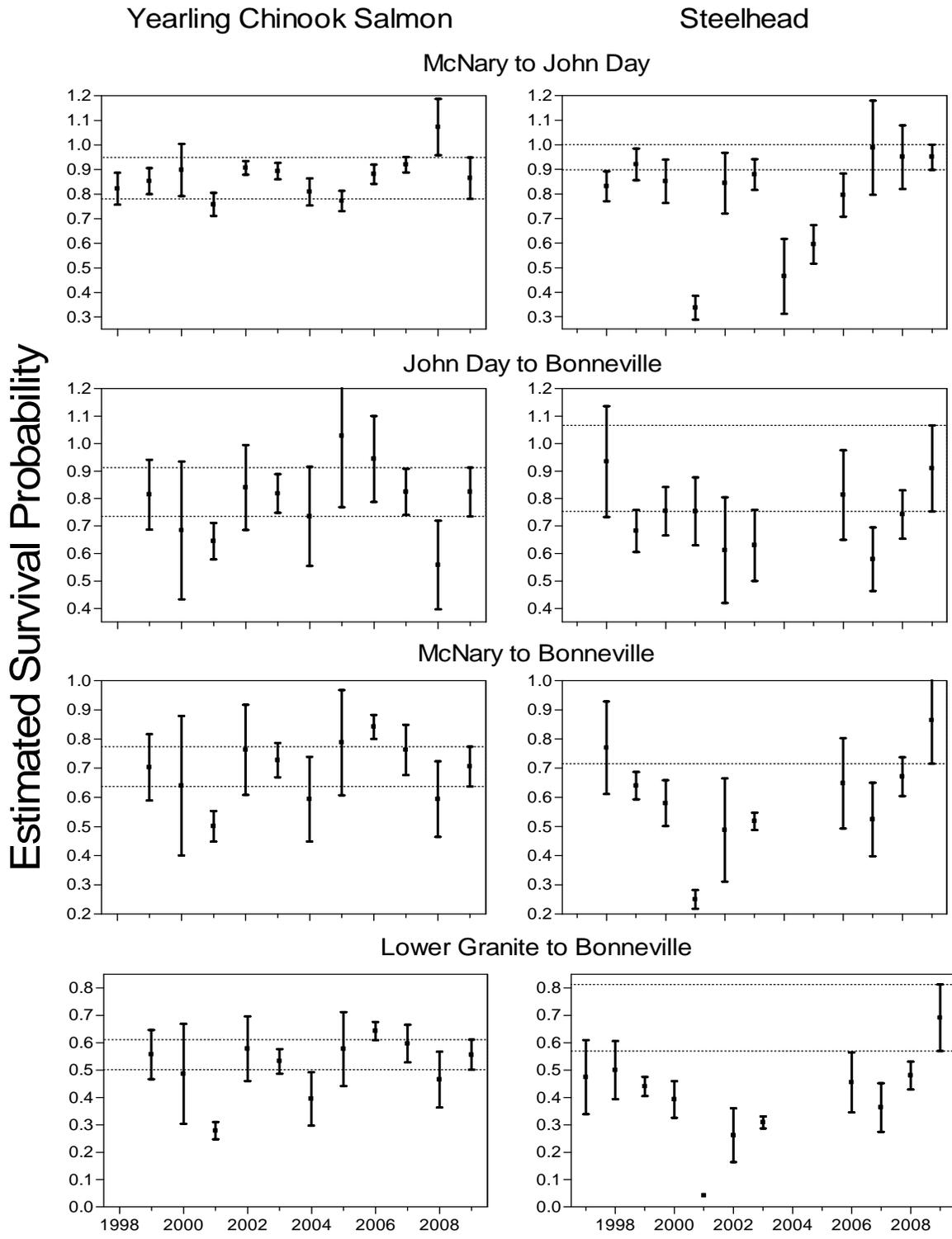


Figure 3. Annual average survival estimates for PIT-tagged yearling Chinook salmon and steelhead, hatchery and wild fish combined. Vertical bars represent 95% confidence intervals. Horizontal dashed lines are 95% confidence interval endpoints for 2009 estimates.

# Little Goose Dam

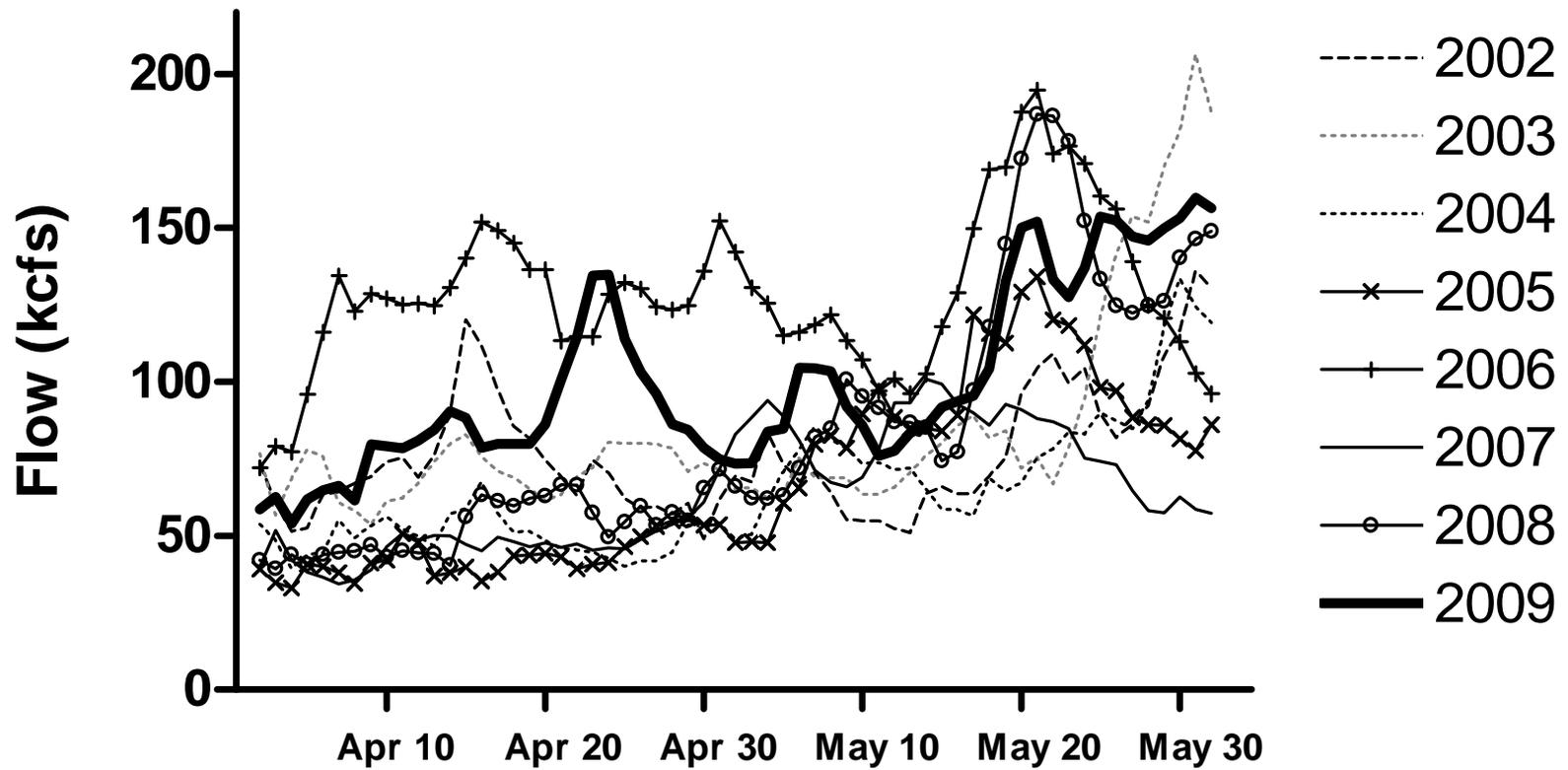


Figure 4. Snake River flow (kcfs) measured at Little Goose Dam during April and May, 2002-2009.

### Mean at LGR, LGO, LMN

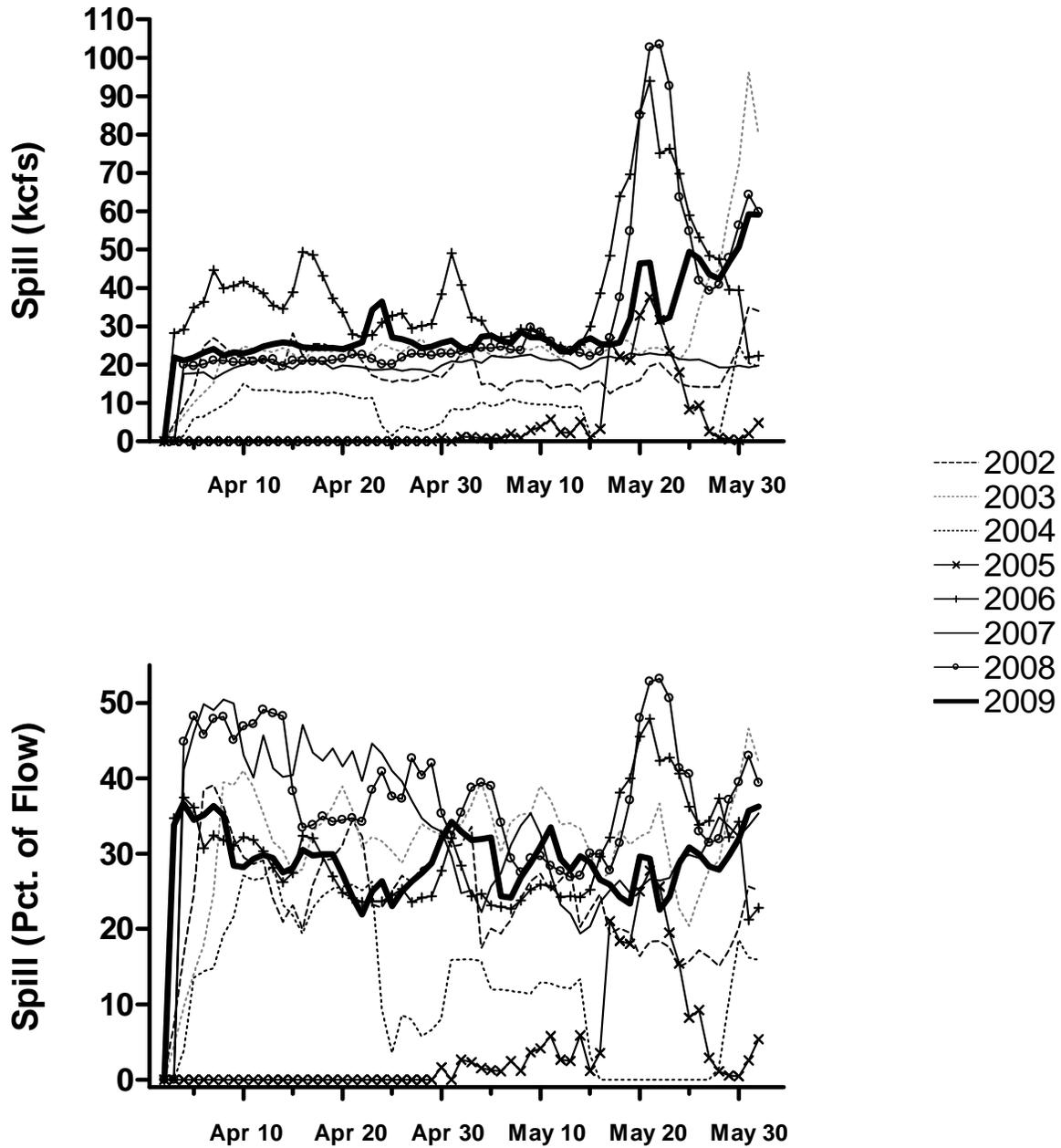


Figure 5. Mean spill (top=kcfs; bottom=percentage of total flow) at Snake River dams during April and May, 2002-2009.

# Little Goose Dam

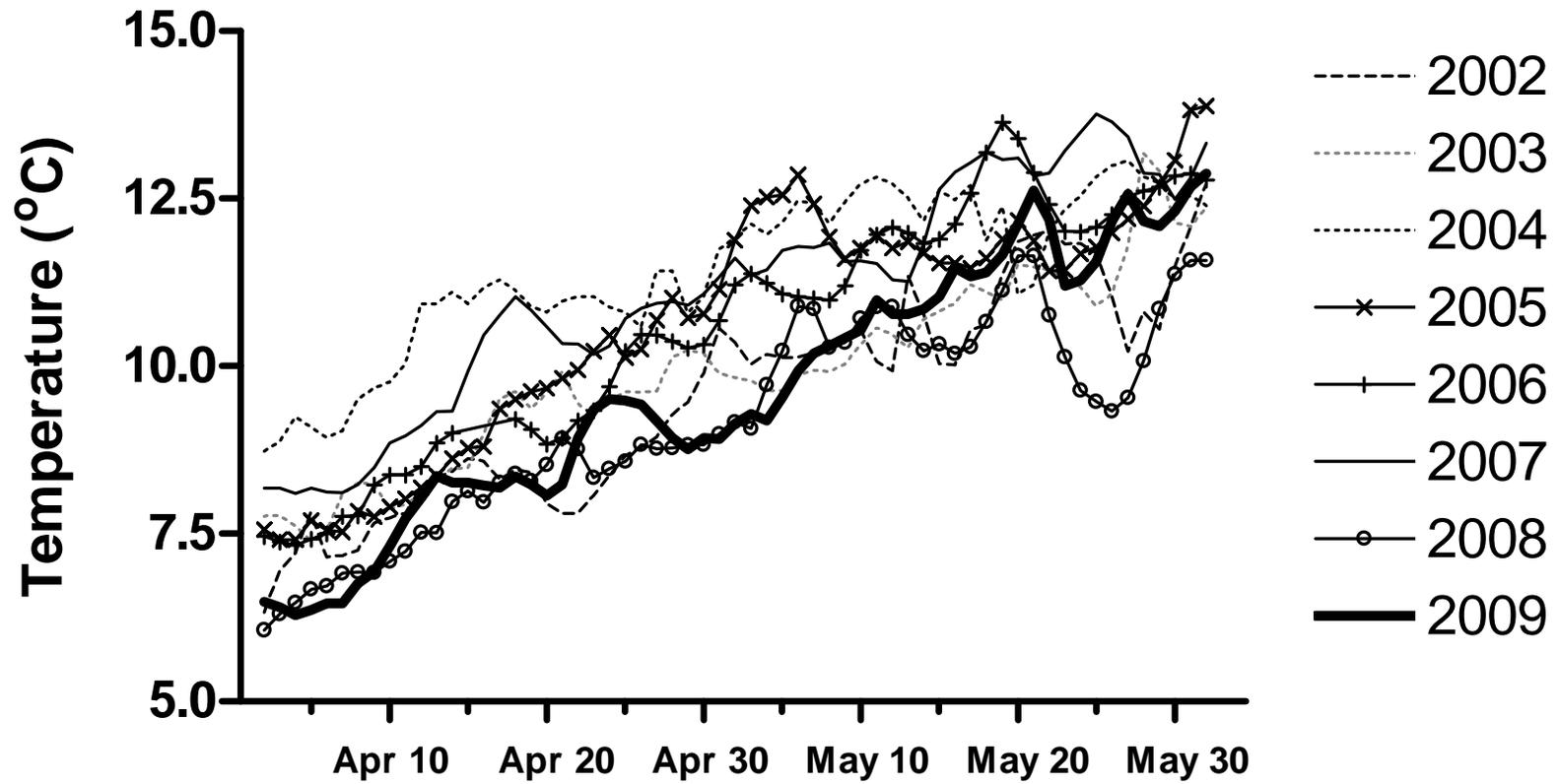


Figure 6. Snake River water temperature ( $^{\circ}\text{C}$ ) measured at Little Goose Dam during April and May, 2002-2009.

## Survival, Flow, Passage Index Yearling Chinook 2009

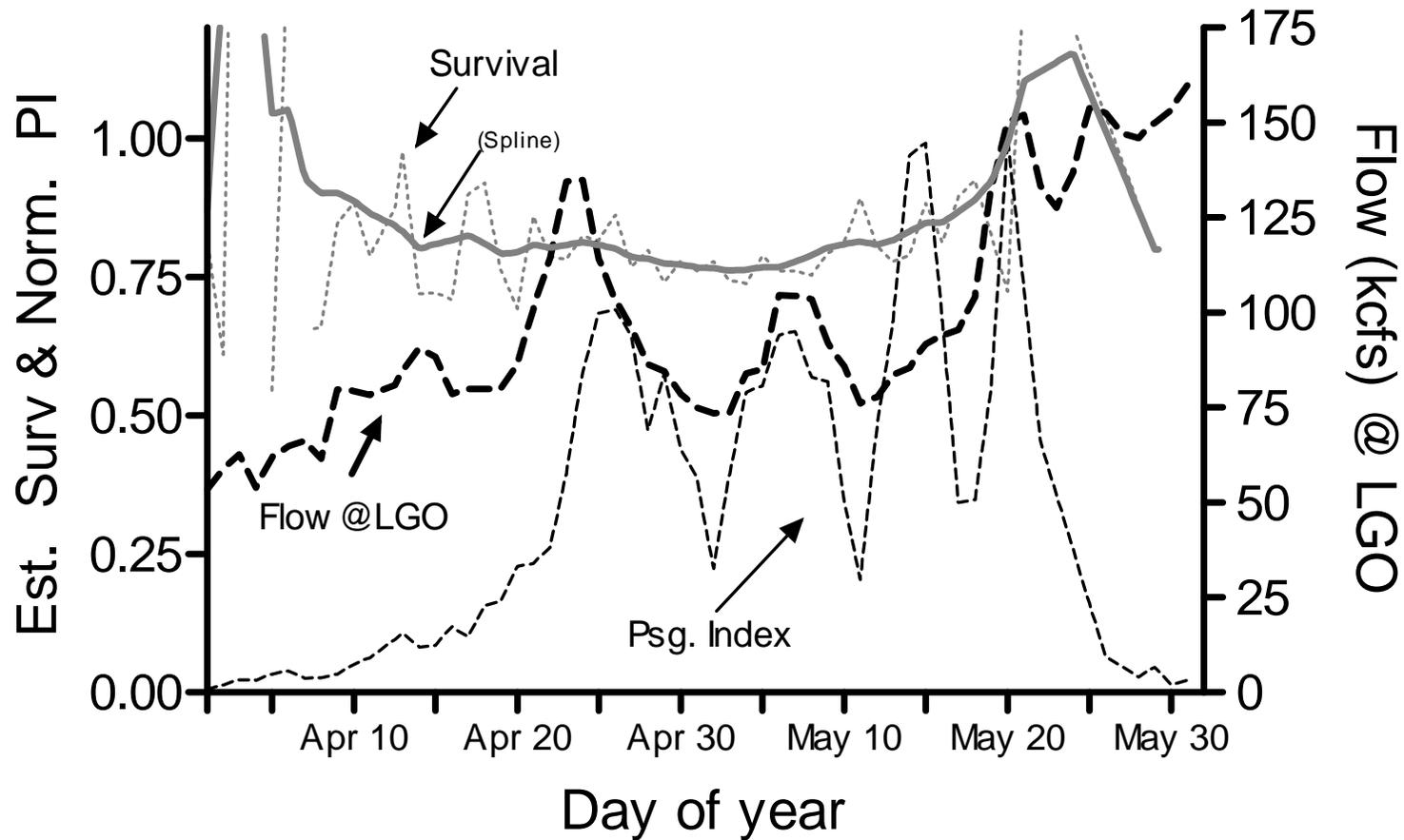


Figure 7. Estimated survival probability for yearling Chinook salmon from Lower Granite Dam to McNary Dam, flow volume at Little Goose Dam, and passage index at Lower Granite Dam (normalized: peak day = 1.0) by day of year, 2009. A curve showing a spline smooth of estimated survival is included.

## Survival, Flow, Passage Index Steelhead 2009

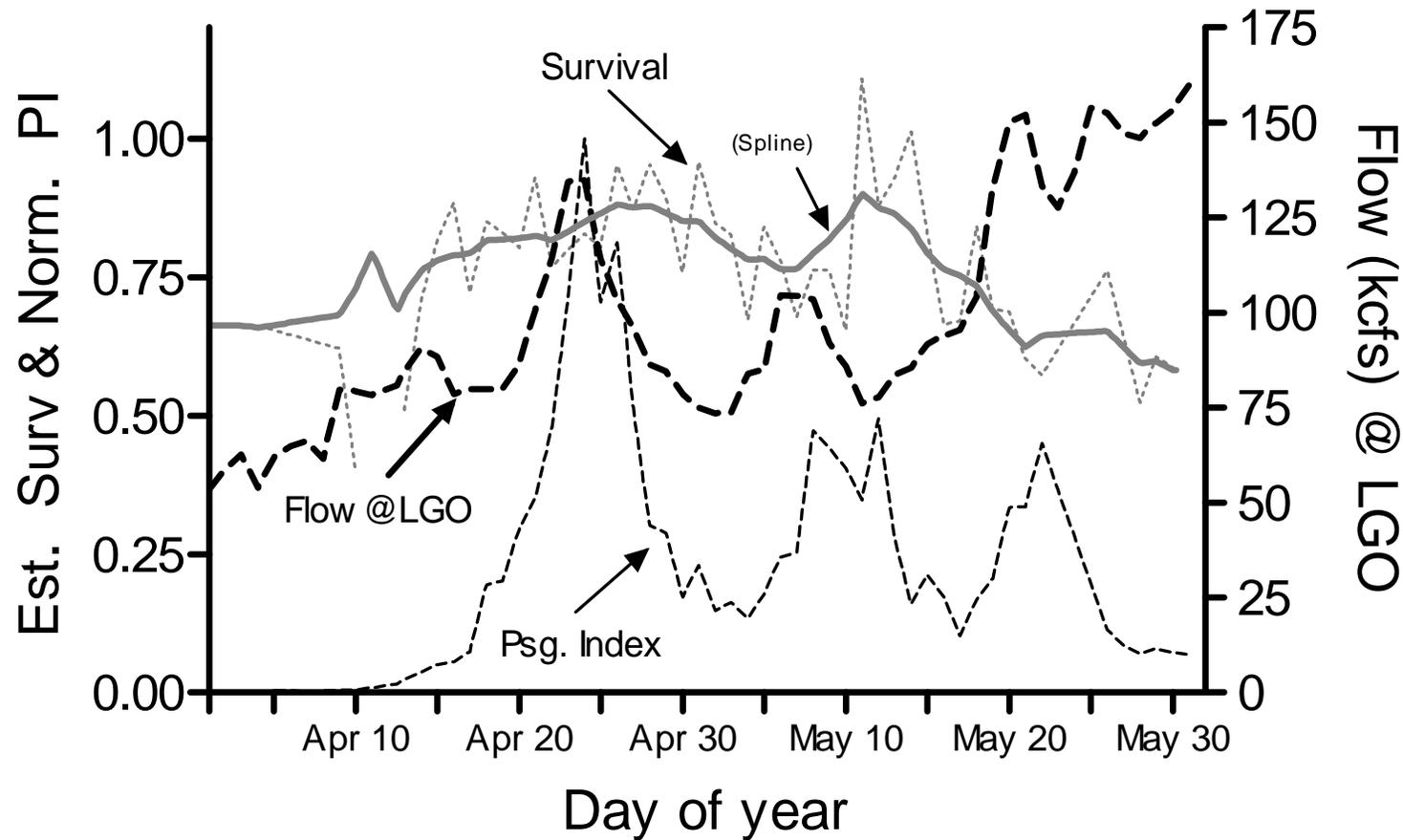
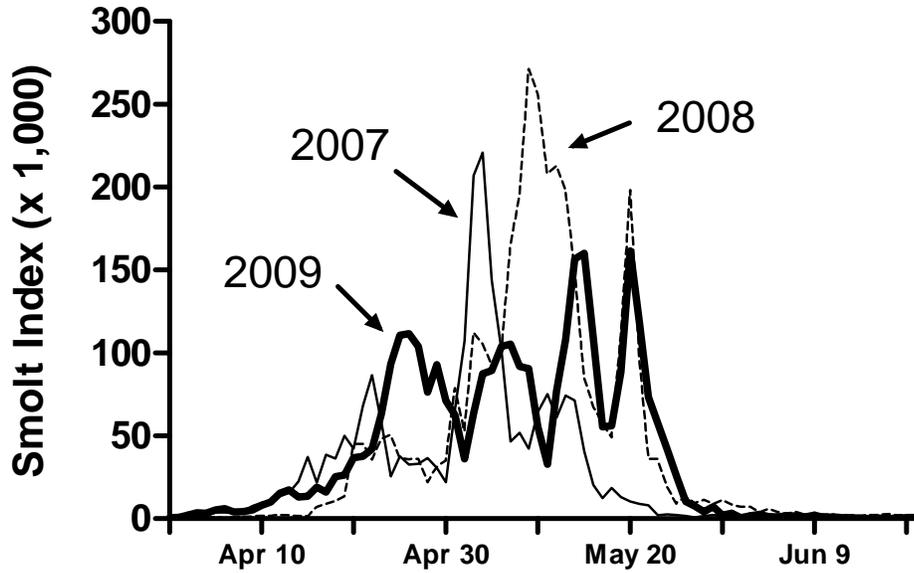


Figure 8. Estimated survival probability for steelhead from Lower Granite Dam to McNary Dam, flow volume at Little Goose Dam, and passage index at Lower Granite Dam (normalized: peak day = 1.0) by day of year, 2009. A curve showing a spline smooth of estimated survival is included.

## Lower Granite Dam Yearling Chinook



## Steelhead

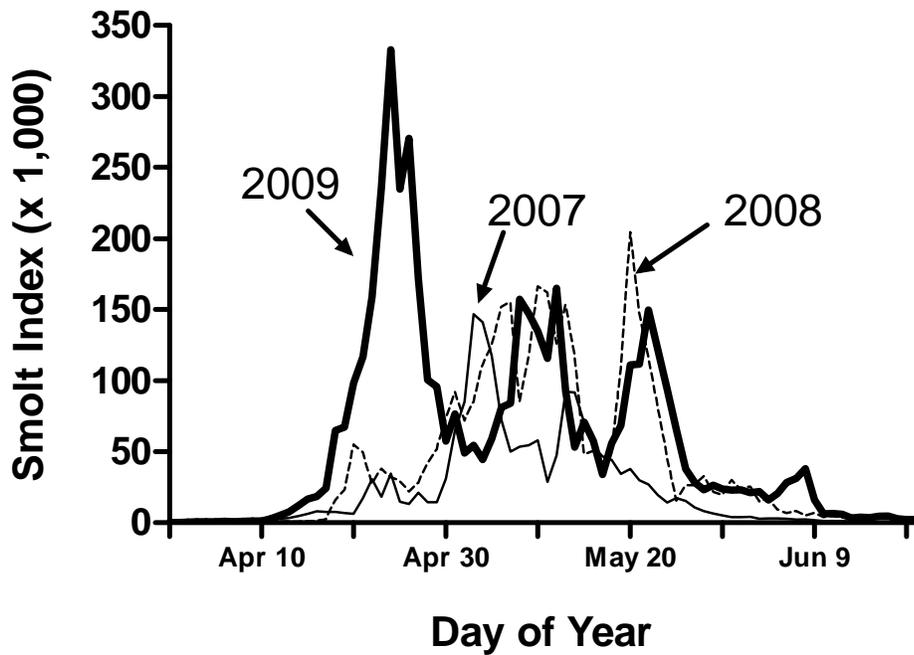


Figure 9. Smolt index in thousands at Lower Granite Dam 2007-2009 for hatchery and wild combined yearling Chinook and steelhead.

# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

September 30, 2009 Meeting

### FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Robin Gumpert

Notes: Christa Leonard

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the “record” of the meeting, only a reminder for TMT members.

#### **Review Meeting Minutes for September 16, 2009**

The team had no changes to either the facilitator notes or meeting minutes- both are considered final.

#### **Lake Pend Oreille SOR**

Russ Kiefer, ID, presented SOR 2009-1, posted as a link to the agenda, which detailed the proposed winter lake elevation of Lake Pend Oreille. Using the operational Decision Tree (which can be viewed at the TMT home page) as guidance, this year's recommended operation is to target elevation of 2051 feet by 11/15. Russ acknowledged the complexity of the tree and explained several factors leading to the recommendation:

- Forecasters are calling for a dry fall with El Nino conditions (Russ noted the September forecast was used instead of the decision tree recommended October 15th forecast)
- The additional water can be re-regulated to help meet conditions for chum, given the low flow conditions and added system constraints from The Dalles spill wall construction and turbine work.
- Kiefer further explained other factors such as early kokanee spawning- the COE can begin positioning the lake for this occurrence.
- It was clarified that the recommendation is for a minimum elevation of 2051 feet.

The recommendation also took into account what occurred last year and planning for future years – with expected higher numbers of kokanee next year, the recommendation will likely be to hold the lake higher. (Lake management over the last few years, Kiefer offered, has been good resulting in egg to fry survival and ultimately an increase in adult Kokanee.)

TMT members discussed the SOR. Tony Norris, BPA, asked how frequently Idaho will be monitoring for end of spawning. Kiefer responded that monitoring will occur every few days and that operations will conclude on 12/31/09 or end of spawning (whichever comes first). Norris reported that BPA plans to request increased flexibility after the end of spawning for winter operations. Discussions are ongoing between BPA, IDFG, USFWS and others to determine a plan that will provide the needed flexibility for power without adversely impacting fish – and this will likely include some monitoring. TMT will revisit winter operations at a future meeting.

Dan Feil, COE, asked Joel Fenolio, COE, to review draw down scenarios, posted as a link to the agenda. Joel proceeded to explain the three scenarios, noting that inflows are similar to last year and that outflows are lower than the median average. In summary, all scenarios (given current inflow forecasts) show the project reaching 2051 feet by November 8 or November 15. Joel Fenolio will present updated data at the next TMT meeting.

TMT members provided a response to the recommendation:

- NOAA: no objection
- MT: no objection
- OR: no objection (though noted that had not yet reviewed the document)
- ID: no objection- and stated a preference for draw down scenario #2 as the most beneficial to fish and power production balance.
- Nez Perce: no objection
- BOR: no objection
- BPA: no objection
- COE: no objection- Feil noted that the COE does not see any issues getting to 2051' as requested, and plans to implement operations as stated in the SOR.
- CRITFC: no objection. Kyle Dittmer noted that "strong El Nino" is not guaranteed for winter but that the near future forecast calls for a dry early autumn.

**Action:** The COE will implement the request and operate to meet a 2051 foot target elevation by November 15.

#### **Autumn Treaty Fishing Update**

Kyle Dittmer, CRITFC, reviewed specifics of SOR 2009-C8 requested Friday 9/25, posted as a link to the agenda. Current operations began on Tuesday 9/29 at 0600 and will continue through Thursday 10/1 at 1800 hours. The requested elevation at the three pools was: The Dalles 264.5-263.5, Bonneville 76.5-75.5, and John Day 159.5-158.5. Net flight data was recorded on Thursday 9/24 as follows: Of 779 nets, 214 were located at Bonneville, 131 at The Dalles and 326 at John Day.

The COE responded that the three project were being operated to: 3' hard constraint at The Dalles, 1.5' hard constraint at John Day and 1.5' hard constraint at Bonneville. The COE continued to commit to a 1' soft constraint at all projects to support the treaty fishing request.

Dan Feil, COE, requested catch data as it becomes available – Kyle will provide information to TMT when available.

#### **Preliminary Spring Juvenile Salmonid Survival**

Paul Wagner, NOAA, directed TMT to the Survival Memo linked to the agenda. He noted that the annual memo, produced by the NMFS Science Center, is a preliminary estimate only (not all data has come in) and that final estimates could vary by 3-4%. Additional data will be presented at the TMT Year End Review. Wagner pointed out several key points in the document:

- Mean estimated survival at Lower Granite tailrace was 59%
- Spring Chinook were similar to the 6yr average of 55.6%
- Snake River Steelhead survival was above average in every reach, at 69.1%
- Upper Columbia hatchery Spring Chinook survival was 84%
- Upper Columbia hatchery Steelhead survival was 72.5%
- Proportion of transported chinook was 40% wild and 38% hatchery; and for steelhead, 46% wild and 43% hatchery.

The memo speculated that this year's survival could be accounted for by several factors:

- Early steelhead smolt passage at Lower Granite
- Many more fish left in river
- Less avian predation @ John Day
- Partially created spillwall at The Dalles
- Surface passage at all project
- Good ocean conditions

Wagner noted wide confidence range for steelhead due to limited tagged fish and that there are plans to tag more hatchery and wild fish in 2010. The group discussed flows and spill passage over the last few years. A suggestion for future analysis was made to look at spillway proportion as well of total spill, to account for surface bypass now in place.

### **Operations Review**

**Reservoirs:** Grand Coulee was at elevation 1283.4'. Hungry Horse was at 3549.87' at minimum outflows of 2.5 kcfs. Libby was at elevation 2441.5', with inflows of 3.8 kcfs and outflows of 6 kcfs. Albeni Falls was at elevation 2060', with inflows of 8.4 kcfs and outflows of 15.1 kcfs. Dworshak 1518.4' with inflows of 1 kcfs and at minimum outflows of 1.7 kcfs to manage TDG. Lower Granite daily average flows were 17.6 kcfs. McNary daily average flows were 86.6 kcfs; Bonneville average flows were 92.6 kcfs.

**Fish:** Paul Wager, NOAA, referred TMT to information posted to the Fish Passage Center site (DART data). Sub yearling Chinook numbers spiked up to the 200s range for a few days. Adult fall chinook counts at Bonneville were 1,000-2,000 per day, with a total count of 269,000 (this is below the 10 year average). Jack counts were high at 108,000. Steelhead total numbers were 583,000 (wild counts were 166,000- this high number was good news). At Ice Harbor 10,000 steelhead were counted.

**Power System:** Nothing to report.

**Water Quality:** Laura Hamilton reported that the COE is now into wintertime operations so forebay gauges on the Lower Columbia River are no longer in use and Warrendale has been turned on.

**TMT Schedule:** The 10/14 meeting was cancelled. The next meeting was tentatively scheduled for 10/21 – time TBD depending on the FFDRWG schedule. TMT will receive confirmation in the near future.

Agenda items may include:

- Notes Review
- Chum Operations
- The Dalles spillwall construction update
- Albeni Falls operations
- Water Management Plan (draft)
- Autumn Treaty Fishing- possible preliminary catch numbers
- Vernita Bar update
- Burbot SOR
- Year-end-review planning (The Year End Review is currently being scheduled – an update will be provided to the group as soon as possible.)

**Columbia River Regional Forum  
Technical Management Team Meeting  
September 30, 2009**

**1. Introduction**

Today's TMT meeting was chaired by Dan Feil (COE) and facilitated by Robin Gumpert (DS Consulting), with representatives of COE, NOAA, BPA, BOR, Idaho, IDFG, the Nez Perce Tribe, CRITFC, USFWS, Montana, Oregon, and others participating. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

**2. Review Meeting Minutes for September 16, 2009**

There were no comments on either the meeting minutes or facilitator's notes for September 16 so both were deemed final.

**3. Lake Pend Oreille SOR 2009-1**

Russ Kiefer (Idaho and IDFG) introduced this SOR signed by Idaho and the USFWS. The 2009 final Water Management Plan, available via the TMT web page, includes on page 30 the decision tree that Idaho and USFWS use to develop recommendations for the winter operation of Lake Pend Oreille. Kiefer explained how the decision tree helped shape the request conveyed in SOR 2009-1, linked to today's agenda.

Idaho and USFWS are asking that the 2009 winter operation target a minimum control elevation (MCE) of 2,051 feet at Lake Pend Oreille for the winter of 2009-10. This is based on forecasts of a dry fall, which is the type of season when extra water stored in the lake helps to provide good spawning conditions for chum salmon below Bonneville Dam.

For several reasons, Idaho and USFWS agreed to make an early recommendation this year for winter operations, basing the recommendation on the September long-range winter forecast. The reasons for the early recommendation are: (1) it appears to be an El Nino year, which increases the likelihood of a dry fall; (2) the Action Agencies will need time to plan this winter's operation around elevation requirements for The Dalles spill wall construction; (3) kokanee spawning is likely to occur earlier this year, therefore it is important to coordinate in advance how the drawdown of Lake Pend Oreille may affect kokanee spawning; (4) a disabled turbine at Box Canyon Dam will make it more difficult this season to meet the needs of both resident fish in Lake Pend Oreille without exceeding state water quality standards.

When female kokanee abundance is low, as it is now, a lower lake elevation leads to better spawning and egg-to-fry survival. IDFG research confirms that predatory fish populations have been successfully reduced, which should result in improved kokanee abundance.

Idaho will monitor kokanee spawning activities once every few days during the spawning season. Once the end of spawning has been declared, or December 31 arrives, whichever comes first, the SOR includes a provision that sets the minimum lake elevation at 2051.0 feet until kokanee emergence is complete. Internal discussions between BPA, the Corps and signatories to the SOR are underway with a goal of possibly operating the lake within its full winter operating range between 2051.0 and 2056.0 feet, after spawning is over, with a goal of minimal restrictions on power production while avoiding impacts to operations for listed fish. The spawning elevation will become the minimum elevation, Tony Norris (BPA) said. The SOR contains a provision for the draft to be stopped if wave action disturbs eggs in their gravel beds and establishes that point as the minimum elevation, Kiefer added. The details of that provision are specified in the SOR.

Andy Dux (IDFG) reported to TMT the preliminary analysis of kokanee surveys that ended in August. There are an estimated 40,000 females in the lake this year, up from 22,000 from last year. Even more encouraging are the survival rates for age-1 to age-2 fish, the age most vulnerable to predators. Compared to the all-time low of 10% in 2007, then 32% in 2008, the 77% survival rate this year is a phenomenal improvement. IDFG believes these increases are the result of successful reductions in predatory lake trout and rainbow trout populations.

Joel Fenolio (COE Seattle) presented three inflow scenarios for the Lake Pend Oreille drawdown, linked to today's agenda. All three graphs cover the period from September 15 to November 30 and are based on last week's inflow projections. The first graph depicts a maximum outflow of 21 kcfs, assuming that all 3 units at Box Canyon Dam are operating. It shows that inflows for the past two years have been lower than average.

The second graph targets the Minimum Control Elevation (MCE) by November 8, with a maximum of 21 kcfs flows. There is actually more flexibility under this scenario than the graph shows because Box Canyon Dam operators say they can spill up to 8 kcfs without violating state water quality standards. This makes it feasible to release up to 30 kcfs from the lake.

The third graph shows median inflows through the end of November and indicates that the lake would not reach the MCE by either November 8 or 15, hitting instead an elevation of 2,052.8 feet on November 15. Fenolio characterized this last scenario as highly unlikely. The scenarios do not include releases from Priest Rapids Dam.

Because it would be very likely possible to spill enough water to reach the MCE by November 8 or 15 without exceeding the state water quality standards, the COE will implement the SOR as written. Idaho preferred to implement scenario 2 if possible. If not, Idaho's second choice would be to meet fishery needs as fully as possible without exceeding state water quality standards below Box Canyon Dam. NOAA, Montana, Oregon, the Nez Perce Tribe, BOR, and CRITFC had no objections to implementing the SOR as written.

BPA also had no objections to implementing the SOR, but notified TMT that it is requesting the COE to allowing BPA to utilize the full winter operating range once kokanee spawning has ended. This would result in pool elevations ranging from 2051 to 2056. This would be of significant benefit to the region from a power rates standpoint. There will be further discussions of the monitoring portion of the operation before implementation this winter.

#### ***4. Autumn Treaty Fishing Update – SOR 2009-C8***

Kyle Dittmer (CRITFC) presented this SOR to TMT, which requests 1-foot elevation bands of 76.5-75.5 feet at Bonneville, 159.5-158.5 feet at The Dalles, and 264.5-263.5 feet at John Day. The fishery started at 6 am on September 29 and will run through 6 pm on October 1. This could be the last treaty fishery of the 2009 season.

CRITFC's latest net flight survey found 214 nets (32%) in the Bonneville pool, 131 nets (20%) in The Dalles pool, and 326 nets (48%) at John Day pool. Feil expressed interest in seeing total fish counts at the end of the season.

Due to The Dalles spill wall construction the COE is targeting 77.5-76.0 feet elevation at Bonneville pool as a hard constraint, Doug Baus said. The Dalles is operating under the usual 3-foot hard constraint and John Day under a 1.5-foot hard constraint as well. Soft constraints are for the 1-foot elevation bands as requested.

#### ***5. Preliminary Spring Juvenile Salmonid Survival***

Paul Wagner (NOAA) gave TMT highlights from a survival memo prepared by the NOAA Science Center on survival rates for juveniles throughout the hydro system. These estimates are preliminary, based on tags processed to date; the final estimates could vary by up to 3-4% of current estimated values.

The mean estimated survival rate through Lower Granite tailrace for all hatchery release groups was 59% in 2009, which is typical of prior years. The mean estimated survival rate for spring Chinook traveling from Lower Granite tailwater to Bonneville tailwater was 55.6% with a confidence interval of 50-61%, which is also typical.

For Snake River steelhead, the mean estimated survival rate in 2009 was higher than the 6-year average for every reach, and 69.1% from Lower Granite tailwater to Bonneville tailwater – a big improvement over past years. Steelhead counts have wider confidence intervals than those for Chinook – a span of 57%-82% for steelhead, as compared to only a 6% spread for Chinook. This is because there are fewer tagged steelhead in the river. In 2010 tagged steelhead numbers will increase, so their survival estimates will become more precise.

PIT-tagged hatchery yearling Chinook originating in the upper Columbia has an estimated survival rate of 84% at the McNary tailrace. For PIT-tagged hatchery steelhead, the estimated survival rate from McNary to Bonneville tailwaters was 72.5%.

Regarding transport, the preliminary estimated proportions of transported to non-tagged wild and hatchery spring/summer Chinook were 40% and 38%, respectively. For steelhead, the estimates were 46% and 43% for wild and hatchery smolts, which is in line with estimates for recent years but much lower than in the past. The historical average is well over 80% of steelhead transported. Now a much lower percentage of steelhead are being transported.

Reaches with unusually high survival estimates were Lower Granite to Little Goose tailwaters, and John Day to Bonneville tailwaters. Peak steelhead smolt passage was much earlier this year than in 2007 or 2008. By April 30, approximately 44% of steelhead had passed Lower Granite Dam, as compared to only 18% on the same date in 2007 and 2008.

If the total number of fish lost to predation remains relatively constant, increased numbers of fish migrating downstream will lead to higher survival estimates as the percentages of PIT-tagged fish taken by predators drops. In terms of estimated survival for yearling Chinook passing through the hydro system, the Lower Granite to Bonneville reach is of greatest interest.

Estimated survival rates for steelhead are not available for all years because in some years PIT tag detection was unavailable at the Bonneville corner collector. Estimated steelhead survival rates are 30% for 2003; 45% for 2006; 36% for 2007; 48% for 2008; and 69.1% for 2009. This is the first year all Snake River projects have surface passage, which steelhead strongly prefer.

For yearling Chinook originating in the upper Columbia, the reach of greatest interest is McNary to Bonneville, where estimated survival was 84%, a higher rate than for Snake River spring Chinook. Steelhead survival in the lower Columbia was less at 72.5%. Sockeye survival rates remain considerably lower at 29% from McNary to Bonneville and 18% at McNary – no improvement over prior years.

Reach survival rates for yearling Chinook are similar to past rates from Lower Granite to Little Goose, but higher for steelhead. From Little Goose to Lower Monumental, survival rates are consistently high for both steelhead and spring Chinook. From Lower Monumental to McNary, spring Chinook survival was high, and for steelhead consistently higher throughout the reaches. From Lower Granite to McNary, spring Chinook survival was typical of previous years. From McNary to John Day, spring Chinook survival rates are unchanged, but steelhead rates are higher. Steelhead survival rates are the highest from John Day to Bonneville and from McNary to Bonneville.

In terms of environmental conditions at the projects, flows were in line with prior years, and spill was also in line with prior years. Temperatures in 2009 were cooler than in previous years. In general, the reach estimates are good news for the 2009 passage season, much better than expected.

Because the purpose of installing spillway weirs was to move more fish over the dam spillway for the amount of water spilled, at some point we need to transition from tracking percentage of flows spilled to tracking the spillway passage of fish, Kiefer and Wagner agreed. Norris wondered whether any of the peaks in survival estimates were coincident with hatchery releases; Wagner wasn't sure. These are reach survival estimates, not project survival estimates, pursuant to BiOp requirements.

Discussion of the implications for future returns led to ocean productivity, which appears to be declining compared to last year's green-light conditions. The trend will become more apparent by the end of 2009. More definitive findings on juvenile survival will be available at TMT's year-end review in November.

## **6. Operations Review**

**a. Reservoirs.** Libby is at elevation 2,441.5 feet, with inflows of 3.8 kcfs and outflows of 6 kcfs. Albeni Falls is at elevation 2,060 feet, with inflows of 8.4 kcfs and outflows of 15.1 kcfs, Feil reported.

Dworshak is at elevation 1,518.4 feet, with inflows of 1 kcfs and outflows of 1.7 kcfs.

Daily discharge averages are 17.6 kcfs at Lower Granite, 86.6 kcfs at McNary, and 92.6 kcfs at Bonneville.

Grand Coulee is at elevation 1,283.4 feet, John Roache (BOR) reported. Hungry Horse is at elevation 3,549.87 feet, with discharges of 2.5 kcfs. Discharges will be managed to meet the Columbia Falls minimum flow requirement of 3.5 kcfs.

**b. Fish. Juveniles** – There’s been a slight resurgence of migration activity, with a few hundred fish per day passing Lower Granite, up from the teens. The reason for the resurgence might be temperature increases that occurred when Dworshak flow augmentation ended. A similar increase at Bonneville raised passage numbers from a few hundred to 500 fish per day.

**Adults** – Fall Chinook have been passing at the rate of 1,000-2,000 per day for the past week. The total count for 2009 to date is 269,000 fish, a little below the 10-year average. Jack counts are a record-setting 108,000 to date, way above the 10-year average. The steelhead count is 582,000, a bit short of the 2001 record. Wild steelhead set a record this year of 166,000 fish.

**c. Power System.** There was nothing to report today.

**d. Water Quality.** The water quality fixed-monitoring network has transitioned to winter operations, which includes removal of the forebay gages from the lower Columbia projects and turning on the Warrandale gage, Laura Hamilton (COE) reported.

## **7. Next Meeting**

The next scheduled TMT meeting will be in person in the afternoon of October 21, with a construction update on The Dalles spill wall, drafting Albeni Falls, autumn treaty fishing, chum spawning, and plans for the TMT year-end review on the agenda. Possible dates for the year-end review are November 20, December 11, and December 17. This summary prepared by consultant and writer Pat Vivian.

<b>Name</b>	<b>Affiliation</b>
Dan Feil	COE
Paul Wagner	NOAA
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Doug Baus	COE
Tony Norris	BPA
Scott Bettin	BPA
Tim Heizenrader	Centaurus
Laura Hamilton	COE
Jim Litchfield	Montana

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Kyle Dittmer	CRITFC
Jason Flory	USFWS
Andy Dux	IDFG
Dave Statler	Nez Perce Tribe

Joel Fenolio  
Margaret Filardo  
Barry Espenson  
Richelle Beck  
Rob Allerman  
Tom Le  
Ruth Burris  
Rick Kruger

COE  
FPC  
CBB  
DRA  
Deutsch Bank  
Puget Sound Energy  
PGE  
Oregon

# TECHNICAL MANAGEMENT TEAM

**BOR** : John Roache / Mary Mellema / Pat McGrane      **BPA** : Robyn MacKay / Tony Norris / Scott Bettin  
**NOAA-F**: Paul Wagner / Richard Dominique              **USFWS** : David Wills / Steve Haeseker  
**OR** : Rick Kruger / Ron Boyce                              **ID** : Russ Kiefer / Pete Hassemer  
**WDFW** : Cindy LeFleur    **MT** : Jim Litchfield / Brian Marotz  
**COE**: Dan Feil / Steve Barton

## TMT MEETING

Wednesday October 21, 2009 13:00 - 16:00

1125 N.W. Couch Street, Suite 500, Columbia Room  
Portland, Oregon 97209-4142  
Map Quest [\[Directions\]](#)

### CONFERENCE PHONE LINE

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**Please MUTE your Phone**

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*All members are encouraged to call Robin Gumpert with any issues or concerns they would like to see addressed.  
Please e-mail her at [rgumpert@cnnv.net](mailto:rgumpert@cnnv.net) or call her at (503) 248-4703.*

## AGENDA

1. Welcome and Introductions
2. Review Meeting Minutes for September 30, 2009 [\[Meeting Minutes\]](#)
3. Vernita Bar Update - Russell Langshaw, Grant PUD
4. Lake Pend Oreille Operations - Joel Fenolio, COE-NWS
  - a. [Lake Pend Oreille Draft](#)
5. Chum Operations - Dan Feil, COE-RCC
  - a. [Chum Spawning Surveys](#)
6. The Dalles Spillwall Constructions Update - Dan Feil, COE-RCC/Pat Duyck, COE-NWP
7. Water Management Plan - Dan Feil, COE-RCC
  - a. [Draft 2010 Water Management Plan](#)
8. Operations Review
  - a. Reservoirs

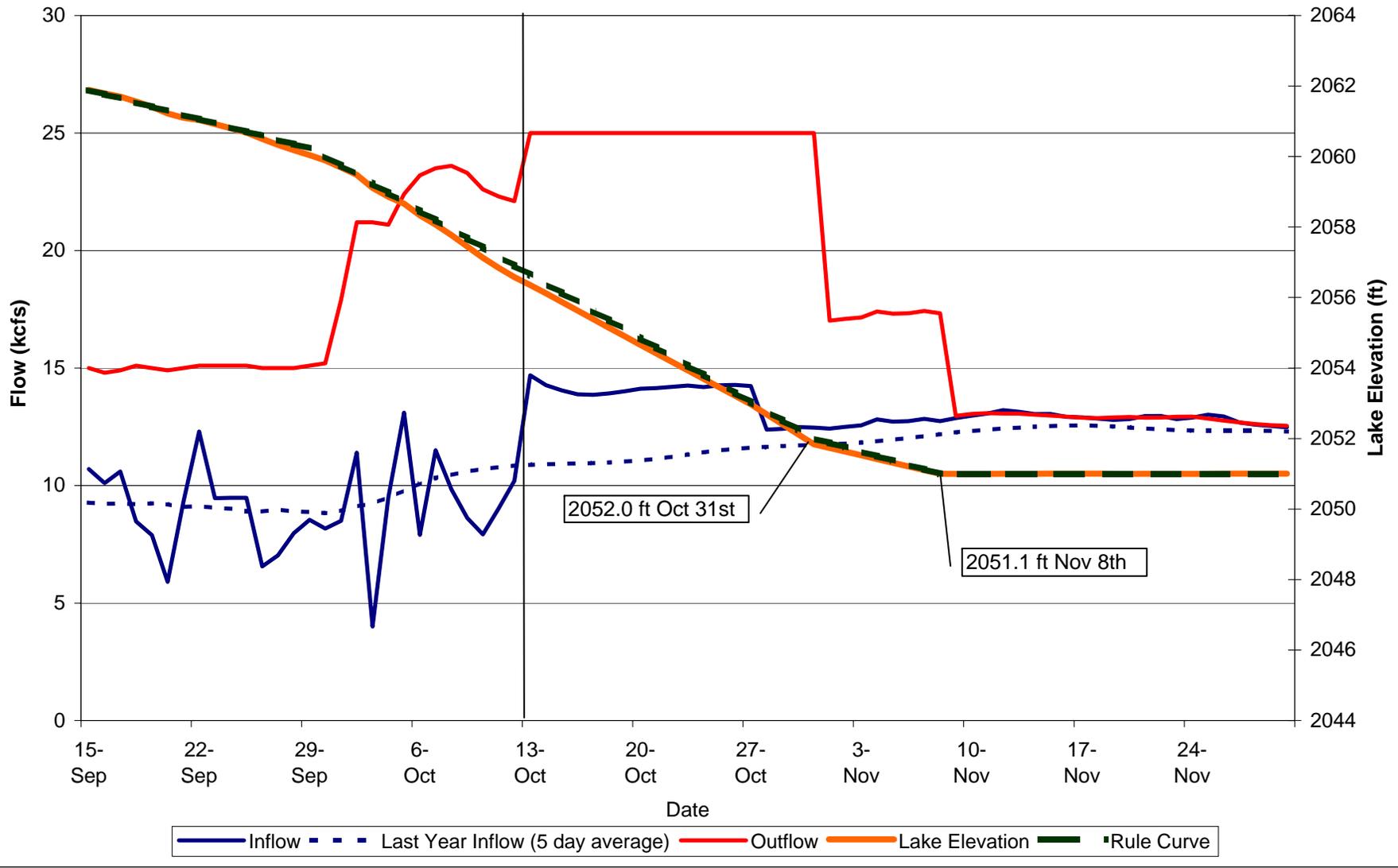
- b. Fish
  - c. Power System
  - d. Water Quality
9. Other
- a. Set agenda for next meeting - **October 28, 2009**
  - b. [\[Calendar 2009\]](#)

*Questions about the meeting may be referred to:*

*[Dan Feil](#) at (503) 808-3943, or*

*[Steve Barton](#) at (503) 808-3945*

### Albeni Falls Operations STP Inflows, Target 2052 ft by Oct 31st, and MCE Nov 8th



# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

October 21, 2009 Meeting

### FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Erin Halton

Notes: Christa Leonard

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.

#### **Review Meeting Minutes for September 30, 2009**

Facilitator Erin Halton noted that Kyle Dittmer's edits Autumn Treaty Fishing section of the 9/30 facilitator notes had been posted to the web. No further changes to the facilitator notes or official meeting minutes were made during the meeting and both sets are considered final.

#### **Lake Pend Oreille Operations**

Joel Fenolio, COE, directed TMT members to a graph posted as a link to the agenda that detailed operations at Lake Pend Oreille. He noted the target elevation of 2052' to be reached by 10/31 and an elevation of 2051' is targeted for 11/8, using outflows of 17 kcfs between 11/1-11/8. Fenolio shared that operations were going well thus far and Russ Kiefer, ID concurred.

#### **Chum Operations**

Dan Feil, COE, directed TMT members to spawning data from the Fish Passage Center website, posted as a link to the agenda. According to the graph, there are no fish present as of yet. He reminded members that the BiOp states that Chum Operations begin when chum arrive or the first week of November, whichever comes first. Tony Norris, BPA, noted that Grand Coulee is at elevation 1288' and that they are ready to augment flows from reservoir at .5' per day. Dan Feil noted that in 2008, chum operations began on 11/7 and that flows of 11.7 kcfs were held for approximately 10 days. Russ Kiefer, ID, asked if there was a correlation between the presence of chum in the Bonneville ladder and the start of spawning season. It was noted that there were none had been observed so far.

**Action/Next Steps:** This item will be discussed at the TMT meeting scheduled for 11/4. Cindy LeFleur, WDFW, will provide Grey's River chum counts for discussion at the meeting.

#### **Vernita Bar Update**

Russell Langshaw, Grant PUD, reported that spawning surveys began on 10/15 although no redds were present. They will continue redd counts until the initiating of spawning is identified. He noted outflows at Priest are at 55 kcfs with low nighttime flows and that inflows have picked up (the opposite trend from last year.)

**Action/Next Step** There were no questions from the group and another update will be presented at the 11/4 meeting.

### **The Dalles Spillwall Construction Update**

Pat Duyck, COE-NWP, brought TMT members up to speed on construction at The Dalles. He began by explaining that the current process of curing leveling slabs is critical. Segment number 14 was placed on 10/20 and there is only one more section to place, which will happen in the next 10 days. He reminded TMT members that the wall length is 830' and that 15 blocks were placed last year. Given that 14 have already been placed this year (up to 28 blocks now) this puts the project way ahead of last year's progress. The COE is tracking the contractor's progress and they are 1-2 days ahead of schedule. Water operations are going well and providing the flexibility needed for both the contractor's demands and meeting chum targets. He clarified that most of the equipment and tugs being used at the project draft between 6-6.5' so there will not likely be any shift to the operating range constraints during the in-water work period. Duyck added that anchor drilling and installation will begin in mid-November.

**Action/Next Steps:** Duyck will provide an update at the 11/18 TMT meeting or as requested.

### **Water Management Plan**

Dan Feil, COE, directed TMT members to the Draft 2010 Water Management Plan, posted as a link to the agenda. He reminded members that a draft was sent out on 10/1 requesting comments be submitted by 11/13. Tony Norris reminded Salmon Managers to review the Draft Action and Emergency Plan appendices for the next spill season.

**Action/Next Steps:** Feil will post relevant appendices on the same page as the draft WMP. TMT members will review. Also, Feil will email and post the Draft Fall/ Winter WMP update as soon as it is ready (and by 11/1 at the latest.)

### **Operations Review**

**Reservoirs:** Libby was at elevation 2440.7', with inflows of 4.5 kcfs and outflows of 4.5 kcfs. Albeni Falls was at elevation 2054.6', with inflows of 14.7 kcfs and outflows of 25.1 kcfs. Dworshak was at an elevation of 1516.2' with inflows of 1.2 kcfs and outflows of 1.6 kcfs. Lower Granite daily average flows were 21 kcfs. McNary daily average flows were 85.5 kcfs, Bonneville average flows were 92.3 kcfs. Grand Coulee was at elevation 1287.4'. Hungry Horse was at 3545.84' with inflows of 500 cfs and outflows of 2.5 kcfs.

Paul Wagner, NOAA, asked if it was necessary to spill at Box Canyon due to a unit outage. Tony Norris, BPA, confirmed yes but that TDG was unknown. He noted that the power houses are being rehabbed over a three year project and that one unit will be continuously out, keeping spill in the 8-9 kcfs range.

**Fish:** Paul Wager, NOAA, referred TMT to information posted to the Fish Passage Center site. He noted that juveniles are running in the 100-500 per day range at Lower Granite, Little Goose and Bonneville. He noted that Clearwater fish are picking up. Regarding Adult data, Fall Chinook are passing at Bonneville in decreasing numbers ranging from 100-500 per day, signaling the end of the season. Coho are very strong, in the 2500-5000 per day range.

Russ Kiefer, ID, noted that steelhead returns at Lower Granite are good: 2500-5000 per day and wild/unmarked fish are also running well. He also noted that there are 2.5 times the number of Jacks passing as adult Fall Chinook this year, which bode well for the 2010 Fall Chinook returns. Good numbers and quality of smolts, in-river migration conditions, and ocean conditions were cited as factors.

Power System: Nothing to report.

Water Quality: No issued to discuss.

**TMT Schedule**: The next meeting is scheduled for 11/4.

Agenda items may include:

- Notes Review
- Autumn Treaty Fishing Review
- Chum Operations
- Water Management Plan
- Vernita Bar update

NOTE: The TMT Year-End-Review has been scheduled for **Friday, 12/11** at the City of Portland Building in downtown Portland at 1121 SW 5<sup>th</sup> Avenue. The meeting agenda will be shared with all TMT interested parties as soon as it is available.

**Columbia River Regional Forum  
Technical Management Team Meeting  
October 21, 2009**

***1. Introduction***

Today's TMT meeting was chaired by Dan Feil (COE) and facilitated by Erin Halton (DS Consulting), with representatives of COE, USFWS, NOAA, Oregon, BPA, Idaho, BOR, Montana, Washington, CRITFC, and others participating. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

***2. Review Meeting Minutes for September 30, 2009***

The facilitator's notes for September 30 have been re-posted with edits to the autumn treaty fishing update. There were no comments on the revised notes or the official minutes for September 16, so both were deemed final.

***3. Vernita Bar Update***

Russell Langshaw (Grant PUD) gave the first report of the Priest Rapids Dam operation for the 2009 fall Chinook spawning season. Grant PUD began reverse load factoring operations on October 15. The first redd count on October 18 showed no redds present on Vernita Bar itself, but Battelle's annual aerial survey identified 5 redds throughout the reach. This signified the initiation of spawning in the areas outside Vernita Bar. Redd counts will continue until the initiation of spawning is documented both on Vernita Bar and throughout the reach. This year's dry conditions have made it difficult for Grant PUD to meet the daytime flow target of 55 kcfs at Priest Rapids Dam. Langshaw will provide another update on the Priest Rapids operation at the November 4 TMT meeting.

***4. Lake Pend Oreille Operations Update***

Joel Fenolio (COE Seattle) showed TMT flow projections for drafting Lake Pend Oreille, depicted in a link to today's agenda which incorporates the Priest Lake draft as well. The elevation target for Lake Pend Oreille is 2,052 feet on October 31, and 2051.1 feet on November 8. Current outflows at Albeni Falls are 25 kcfs, which will probably drop to 22.5 kcfs tomorrow in order to achieve the 2,052 to 2,053-foot end-of-month elevation target, with an average of 17 kcfs outflows between November 1 and 8 to get to 2,051.1 feet elevation by November 8. TMT will revisit this topic at its next meeting November 4.

***5. Chum Spawning Operations***

Chum spawning will be TMT's next major decision process, Feil said. The BiOp states that chum spawning operations will begin either when chum arrive or

during the first week of November. Grand Coulee elevation is currently 1,288 feet in preparation for flow augmentation, Tony Norris (BPA) reported. A draft of 20 kcfs is equivalent to half a foot of elevation lost per day, an important factor in the planning to initiate chum operations. Last year, the chum operation started on November 7, Feil recalled. The COE targeted an elevation of 11.5 feet below Bonneville Dam, within a range of 11.3-11.7 feet.

Russ Kiefer (Idaho) asked whether the presence of chum in the Bonneville fish ladder relates to spawning activity. Feil replied that no chum have shown up below the dam yet, so there's no apparent correlation. Spawning starts about a week after chum are present in Gray's River, Scott Bettin (BPA) said. Sometimes they show up in fish ladders as early as August, Paul Wagner (NOAA) said.

TMT will revisit this issue at its next meeting November 4. Cindy LeFleur (Washington) will provide chum counts for Gray's River.

### ***6. The Dalles Spill Wall Construction Update***

Pat Duyckj (COE), spill wall construction manager, gave a positive report on work to date this season. The contractor is 1-2 days ahead of the work schedule and has already placed 14 of 15 concrete segments of the leveling slab, with about 80-100 more feet to complete this critical element of wall construction. The total length of the completed wall will be 830 feet. Last year the contractor placed 15 blocks or about 200 feet. By contrast, in the first month and a half of this year's construction season alone, the contractor has placed another 14 blocks. Some of the increased speed is because these units are only 25 feet deep as compared to 43 feet for the units placed last year.

The anchor drilling and installation portion – another critical element of wall construction – will start in mid November. Meanwhile, the COE's deviation request has been well received. Successful coordination of that request will allow the COE to meet the contractor's water demands and still meet the bulk of chum targets below Bonneville Dam. Wagner asked whether the depth requirements can be relaxed yet. Although this year's construction is less demanding than last year's, the contractor still needs the full volume of water to keep equipment afloat in 6-6.5 feet of water, Duyck replied. The COE will revisit this question when the largest barge is demobilized from the site. Further TMT updates on this will be scheduled as needed, most likely in mid November during chum season.

### ***7. 2010 Draft Water Management Plan***

Feil reminded TMT that the deadline for comments on the 2010 draft WMP is November 13. Norris asked the Salmon Managers to review the emergency action list in the generation emergency action plan and provide comments. Also, BPA requested comments on the draft transmission emergency action plan submitted last June. The goal is to finalize the transmission plan at the same time the WMP is finalized.

The focus turned to Appendix 3 of the WMP, which hasn't been updated for 5 years, Laura Hamilton (COE) noted. Wagner commented that sections of the WMP covering operations at The Dalles and Bonneville need to reflect the difficulties this year of integrating the chum operation with construction activities at The Dalles. Norris asked whether in-season chum management information should be included in this iteration of the WMP or the fall/winter update. Wagner and Dave Wills (USFWS) agreed that both documents should reflect it as part of 2009-10 operations. The fall/winter update to the WMP will be emailed to TMT and posted to the TMT page on November 1. TMT will revisit the WMP at its next meeting November 4.

## **8. Operations Review**

**a. Reservoirs.** Libby is at elevation 2,440.7 feet, with inflows of 4.5 kcfs and outflows of 4.5 kcfs, Feil reported.

Albeni Falls is at elevation 1,054.6 feet, with inflows of 14.7 kcfs and outflows of 25.1 kcfs, Feil reported. Wagner asked whether the Box Canyon project downstream of Albeni Falls has had to spill or not, due to a unit outage reported at the last TMT meeting. The project is definitely spilling, but the TDG levels being produced are unknown, Norris replied. The powerhouse has 4 units, which are being rehabilitated one unit at a time. Three of the four units are now in operation, based on project flow and spill information.

Dworshak is at elevation 1,516.2 feet, with inflows of 1.2 kcfs and outflows of 1.6 kcfs. Mean daily discharges are 21 kcfs at Lower Granite, 85.5 kcfs at McNary, and 92.3 kcfs at Bonneville.

Grand Coulee is at elevation 1,287.4 feet, John Roache (BOR) reported. Hungry Horse is at elevation 3,545.84 feet, with inflows of 500 cfs and discharges of 2.5 kcfs.

**b. Fish. Juveniles** – Counts at Lower Granite, Little Goose and Bonneville are in the range of 300-500 fish per day, which is typical for this time of year, Wagner reported. These are the only projects currently in sampling mode.

Adults – Fall Chinook numbers at Bonneville are steadily decreasing, with 150-500 fish per day passing the project now. Coho passage is still amazingly strong at 2,000-2,500 fish per day, while steelhead passage is trending down to 500-800 fish per day. This year's count of 620,000-630,000 steelhead set a record, beating the 2001 count of 150,000-160,000 fish. Steelhead are still passing Lower Granite at a rate of 2,500-5,000 fish per day, Kiefer reported. Two and a half times as many fall Chinook jacks as adults are passing Granite, which bodes well for next year's adult fall Chinook returns. Last year's fall Chinook jack count was 10,000 as compared to 40,000 for this year, with a 10 year average of 6,500 fish, per the FPC website. In general, outmigration conditions for salmonids in 2009 were very good.

**c. Power System.** There was nothing to report today.

**d. Water Quality.** There was nothing to report today.

After the meeting ended, Dave Wills showed several TMT members photographs of streambed reconstruction work being done at Hamilton Creek in the vicinity of Bonneville Dam.

### ***7. Next Meeting***

The next scheduled TMT meeting will be November 4. The agenda will be similar to today's, minus an update on The Dalles spill wall construction. The TMT 2009 year-end review will be December 11. This summary prepared by consultant and writer Pat Vivian.

<b><i>Name</i></b>	<b><i>Affiliation</i></b>
Dan Feil	COE
David Wills	USFWS
Paul Wagner	NOAA
Laura Hamilton	COE
Rick Kruger	Oregon
Tony Norris	BPA
Russ Kiefer	Idaho
Krista Leonard	DS Consulting
Scott Bettin	BPA
Kim Johnson	COE
Karl Kanbergs	COE
Pat Duyck	COE

#### ***Phone:***

Joel Fenolio	COE
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Barry Espenson	CBB
XXX	Seattle City Light
Cindy LeFleur	Washington
Tom Lorz	CRITFC

# TECHNICAL MANAGEMENT TEAM

**BOR** : John Roache / Mary Mellema / Pat McGrane      **BPA** : Robyn MacKay / Tony Norris / Scott Bettin  
**NOAA-F**: Paul Wagner / Richard Dominique              **USFWS** : David Wills / Steve Haeseker  
**OR** : Rick Kruger / Ron Boyce                              **ID** : Russ Kiefer / Pete Hassemer  
**WDFW** : Cindy LeFleur                                         **MT** : Jim Litchfield / Brian Marotz  
**COE**: Dan Feil / Steve Barton

## TMT MEETING

Wednesday November 4, 2009 09:00 - 12:00

1125 N.W. Couch Street, Suite 500, Columbia Room  
Portland, Oregon 97209-4142  
Map Quest [\[Directions\]](#)

### CONFERENCE PHONE LINE

Conference call line:877-807-5706; PASS CODE = 442788

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Please e-mail her at [rgumpert@cunnv.net](mailto:rgumpert@cunnv.net) or call her at (503) 248-4703.*

## AGENDA

1. Welcome and Introductions
2. Review Meeting Minutes for October 21, 2009 [\[Meeting Minutes\]](#)
3. Vernita Bar Update - Russell Langshaw, Grant PUD
4. Lake Pend Oreille Operations - Dan Feil, COE-RCC
5. Chum Operations - Dan Feil, COE-RCC
  - a. [Chum Spawning Surveys](#)
6. Autumn Treaty Fishing Review -
  - a. [Kyle Dittmer, CRITFC](#)
  - b. [Dan Feil, COE-RCC](#)
7. Operations Review
  - a. Reservoirs
  - b. Fish

- c. Power System
  - d. Water Quality
8. Other
- a. Set agenda and date for next meeting?
  - b. [\[Calendar 2009\]](#)

*Questions about the meeting may be referred to:*

*[Dan Feil](#) at (503) 808-3943, or*

*[Steve Barton](#) at (503) 808-3945*

# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

November 4, 2009 Meeting

### FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Erin Halton

Notes: Christa Leonard

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.

#### **Review Meeting Minutes for October 21, 2009**

Dave Wills, USFWS, provided an edit surrounding fish counts in the Operations review of the official meeting minutes; Steelhead count was for all Steelhead, not just "wild" as erroneously noted. Regarding the Chinook counts; Last year's count of 10,000 referred to the Jack Fall count, specifically. No further changes to the facilitator notes or official meeting minutes were made during the meeting and both sets will be considered final once the above changes are made and posted to the web.

#### **Lake Pend Oreille Operations**

Dan Feil, COE, reviewed the current operations for TMT. He noted the target elevation of 2051.'5' was reached yesterday, 11/3, a few days ahead of schedule to accommodate a unit 2 outage. Elevation is currently at 2051.45' and will hold between 2051' – 2051.5' through the end of December. Feil reported that unit 2 will undergo annual maintenance beginning 11/24. Russ Kiefer, ID, offered his congratulations on a job well done and is looking forward to a great spawning season.

#### **Chum Operations**

Dan Feil, COE, directed TMT members to a document posted as a link to the agenda that detailed survey data as of yesterday, 11/3. He noted that two fish were observed. Paul Wagner, NOAA, directed TMT members to the Fish Passage Center site's adult passage data. 40 fish have been observed at Bonneville, which suggests that chum are in the area. Per the BiOp, the first week of November and chum in the area are indicators for beginning chum operations; FPAC, members suggested starting operations this week if possible.

Feil confirmed that the COE is tentatively planning to begin operations this Friday 11/6 at 0600 hours. He reminded TMT of the specifications that were used to guide 2008 chum operations: an elevation of 11.5' was the target, with an 11.3-11.7' operating range and higher flows and excess water passed at night. Feil said that for 2009, the Action Agencies would like to propose a similar operation with a 1700-0600 hour "nighttime" range. Tony Norris, BPA, clarified that proposed operations are based on the last teletype of 2008. He added that limits/ range will be assessed as they move ahead and as expected precipitation builds over the next few days. He further noted the presence of

water in the Hamilton Creek channel as of last week. Norris then asked if there was any radio tagging data to review; Wagner said he would see if the report data was available.

**Action/Next Steps:** Feil noted COE will send out a teletype this afternoon with the operation details: Chum Operations to commence Friday 11/6 at 0600 hours. This item will be reviewed at the TMT meeting scheduled for 11/18 or sooner if requested.

### **Autumn Treaty Fishing Review**

Kyle Dittmer, CRITFC, reviewed detailed of this most recent fishing season. He noted the season was especially long (six weeks) and that four SORs were submitted: 2009 C5-C8. He then referred TMT to a graph detailing COE compliance, posted as a link to the agenda. He noted this year had lower than normal flows, with an average of 70 kcfs. He detailed compliance for all the affected projects and reported that there were no complaints, accidents or mishaps on the river reported to law enforcement officials. Catch numbers are as follows; Fall Chinook: 83,000, Steelhead: 41,000, Coho: 14,500. Dittmer noted that CRITFC management would like to discuss operations for next year as the low flows caused a different set of platform hydraulics for fishers. They'd like to analyze what constitutes adequate minimum flows and what mechanical issues at the three Lower Columbia River projects keep COE from complying with the 1' hard constraint request. And the possibility of augmenting flows during Treaty Fishing periods. Dan Feil, COE, offered to pass the message on to COE representatives involved with the Fish Accords. Tony Norris, BPA, asked what time frame CRITFC is inquiring about. Dittmer responded that both day and night operations are in question.

Dan Feil and Doug Baus, COE, presented a document posted as a link to the TMT agenda detailing COE compliance statistics, posted as a link to the agenda. He noted that operations have been adequate the last few years and they felt that compliance of hard constraints went well. Baus noted COE was only off one hour due to the fuel barge grounding at Hood River. Feil asked Dittmer what criteria CRITFC's SOR specified hard constraints were based on. Feil further noted that the operations the Corps has been implementing throughout the season are providing good conditions for tribal fishers and that no issues or problems with the operations and conditions the Corps has provided have been identified. Dittmer indicated that while monitoring is better, not all issues get reported. CRITFC would like to see inter-agency talks develop, as it's been 11 years since the last field meetings.

**Action/Next Step:** Federal Partners will discuss issues surrounding Treaty Fishing through the Fish Accords meetings.

### **Vernita Bar Update**

Tony Norris, BPA, reported that spawning surveys showed enough redds found to initiate spawning. Official date was set as 10/20.

**Action/Next Step** Additional surveys are scheduled ahead, with the final Survey planned for the Sunday before Thanksgiving. This item will be on the agenda for the 11/18 TMT meeting.

## **Operations Review**

**Reservoirs:** Libby was at elevation 2440.5', with inflows of 4.3 kcfs and outflows of 4.5 kcfs. Albeni Falls was at elevation 2051.45', with inflows of 10.9 kcfs and outflows of 20.6 kcfs. Dworshak was at elevation of 1516.3' with inflows of 1.4 kcfs and outflows of 1.6 kcfs. Lower Granite daily average flows were 25.5 kcfs. McNary daily average flows were 118.5 kcfs, Bonneville average flows were 121 kcfs. Grand Coulee was at elevation 1288.6'. Hungry Horse was at 3544.7' with inflows around 1.0 kcfs and outflows of 1.0 kcfs.

Karl Kanbergs, COE, noted that Albeni Falls outflows were down to 14 kcfs as of 11/4. The group discussed the Libby draft methodology and that the December early bird forecast is used to determine drafts. Dworshak pre-season forecast was noted as being 104% normal, which is average but subject to change and based on SOI. Kanbergs also provided a brief update on The Dalles Spillwall; Block #35 was done today with 10 more pre-cast blocks to go. It is projected that 14 of 15 segments will be done by the end of November and the project expected to be done before the end of March.

**Fish:** Paul Wager, NOAA, referred TMT to information posted to the Fish Passage Center site. He noted that there is no juvenile monitoring at this time as facility has closed down and transport has stopped for the season. Adults are trending down: Bonneville- Fall Chinook running less than 100 per day, Jacks less than 10 per day and Steelhead 25-100 per day (wild 2 per day). He noted agencies are very optimistic for year. Cindy LeFleur, WDFW, noted that the Spring/Summer forecasts will be available in December. The Fall Coho forecast will be available in February. The group discussed how forecasting data is analyzed. Dave Wills, USFWS, asked to look at Lower Granite numbers; Fall Chinook trending down while Steelhead still going strong at 310,000 and counting.

**Power System:** Nothing to report.

**Water Quality:** No comments to discuss.

**Other/Announcements:** The TMT Year-End-Review has been scheduled for Friday, 12/11 at the City of Portland Building in downtown Portland at 1121 SW 5<sup>th</sup> Avenue. The final agenda will be shared with the full TMT distribution list as soon as it is ready. Dan Feil noted that Water Management Plan comments are due next Friday 11/13. The Fall/Winter update is also up for review comments requested by 12/4, and the final version scheduled for release 1/1/2010. Dan Feil announced that he has taken a job with the Corps' Northwestern Division fish policy group. Feil will continue as the TMT chair until the December 11 year-end review, at which time Steve Barton will take over as chair thereafter, with Doug Baus as the alternate chair representing the Corps.

**TMT Schedule:** The next meeting is scheduled for 11/18.

Agenda items may include:

- Notes Review
- Chum Operations
- Vernita Bar update

**Columbia River Regional Forum  
Technical Management Team Meeting  
November 4, 2009**

**1. Introduction**

Today's TMT meeting was chaired by Dan Feil (COE) and facilitated by Erin Halton (DS Consulting), with representatives of COE, BOR, USFWS, NOAA, BPA, CRITFC, Washington, Idaho and others participating. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

**2. Review Meeting Minutes for October 21, 2009**

David Wills (USFWS) made two revisions to the official minutes posted for October 21, under Operations Review - Fish:

- Regarding steelhead, the third sentence beginning, "This year's count of 620,000 wild steelhead," refers to all steelhead; delete "wild."
- Regarding fall Chinook, the sentence reading, "Last year's fall Chinook count was 10,000," refers to fall Chinook jacks; add "jacks."

**3. Lake Pend Oreille Operations**

Lake Pend Oreille reached 2,051.45 feet elevation on November 3, a few days earlier than the SOR requested, Feil said. Project operators scheduled the operation early so they could take unit 2 offline because it was malfunctioning. Annual maintenance for unit 2 will begin on November 24, which should have no affect on the lake elevation. Project staff plan to maintain elevation 2,051-2,051.5 feet through the end of December. Russ Kiefer (Idaho) expressed appreciation for how well this operation has been managed.

**4. Chum Spawning Operations**

Chum surveys to date for the 2009 spawning season show that 2 fish were observed yesterday, as depicted in a graph linked to today's agenda. According to data on the FPC adult passage site, 40 chum have been observed at Bonneville Dam. Within the past week, 30 fish have been seen passing the dam, although no spawning locations above it were documented.

These findings suggest sufficient presence of chum in the area to initiate the chum spawning operation, Paul Wagner (NOAA) said. Field surveys give another indication that chum have arrived. The BiOp says the chum operation should start during the first week of November or when chum are observed in the area. FPAC recommends the 2009 chum spawning operation begin this week.

The COE plans to begin the 2009 chum operation at 6 am this Friday, November 6, Feil replied. TMT will review this operation at its next meeting November 18.

For the 2008 chum operation, the COE kept the Bonneville daytime tailwater within the range of 11.3-11.7 feet elevation, targeting 11.5 feet, Feil recalled. Last year's river flows resulted in a need to release excess water, so from 3 pm to 6 am, the tailwater elevation was allowed to rise as high as 18.5 feet. The Salmon Managers expressed a possible preference to accept the risk of having redds established at a higher elevation than 11.5 feet if some of the excess water were released during daytime hours, rather than allowing the nighttime elevation to rise excessively, Tony Norris (BPA) recalled. If a high flow situation recurs this year, it will be referred to TMT for further discussion and resolution. Heavy rains are expected over the next 4 days.

### ***5. Autumn Treaty Fishing Review***

Kyle Dittmer (CRITFC) gave a review of the 2009 treaty fishing season operation, which spanned 6 weeks this summer. CRITFC submitted four SORs to the Action Agencies requesting two conditions – 1-foot elevation bands and stable pool elevations – throughout the weeks of treaty fishing. Compliance with CRITFC's 1-foot elevation band request, which the COE adopted as a soft constraint, was very high despite the summer's low flows of around 70 kcfs:

- Bonneville Dam – 100% compliance, a 2% increase over 2008
- The Dalles Dam – 83% compliance, a 3% decrease from 2008
- John Day Dam – 100% compliance, a 6% increase over 2008.

Compliance with the 1.5-foot hard constraint was also very high:

- Bonneville Dam – 100% compliance, same as 2008
- The Dalles Dam – 97% compliance, a 1% decrease from 2008
- John Day – 100% compliance, a 1% increase over last year

Overall, the 2009 treaty fishery was a successful operation, Dittmer said. In terms of CRITFC's second request regarding absolute pool fluctuations:

- Bonneville – Had swings of 0.1 to 0.4 foot, compared to 0.1 to 1.4 foot in 2008
- The Dalles – Had swings of 0.1 to 1.8 feet, a slight increase over 2008
- John Day – Had swings of 0.1 to 0.3 feet, about 0.5 foot less than 2008

Elevation fluctuations have been reduced, Dittmer reported. Although The Dalles seemed to have the most variability, tribal fishers have not complained to date about the elevation fluctuations. There were no accidents or mishaps on the river.

Overall, the 2009 treaty fishing season was highly successful. Tribal fishers caught a total of 83,000 fall Chinook, 41,000 steelhead and 14,500 coho. CRITFC managers are nonetheless concerned about what could be done during future years like 2009 to mitigate the impacts of low-flow hydraulics on fishing platforms and nets. Dittmer conveyed a request that agency and CRITFC representatives meet to discuss options. He asked what specific mechanical and physical barriers prevent the COE from adopting a 1-foot hard constraint on elevation fluctuations at the three lower Columbia projects as requested during tribal fishing season.

Tony Norris (BPA) asked whether CRITFC envisions flow augmentation as a possible response to low flows. Over the past few years, a lot of effort has gone into managing the river for high spring flows, which tends to result in lower flows during August and September. Feil asked what drives CRITFC's request for a 1-foot elevation band as a hard constraint instead of 1.5 feet, as the operation provided appears to have been adequate, with no complaints. The 1-foot elevation band request originated in a 1998 meeting between agency officials and tribal fishers, Dittmer recalled. A lack of complaints doesn't necessarily mean there were no problems. He suggested another field meeting soon, possibly in Cascade Locks or Hood River. CRITFC and the Action Agencies will follow up on these concerns.

Doug Baus (COE) presented a spreadsheet showing that of the 2,544 hours specified in tribal fishery SORs, for 2,543 of those hours elevations at the three lower Columbia projects remained within the 1.5-foot hard constraint. The one-hour exception was due to a grounded fuel barge near Hood River.

## **6. Vernita Bar Update**

Norris gave a report on the Hanford reach fall spawning operation on behalf of Russell Langshaw (Grant PUD). A November 1 spawning survey found enough redds in the 36-50 kcfs elevation band to declare initiation of spawning. Another survey this weekend will determine whether there are any redds in the 50-55 kcfs elevation band. Initiation of the Hanford reach fall protections for spawning has begun. Russell Langshaw will give another update on spawning protections at the next TMT meeting November 18.

## **7. Other Topics**

Norris suggested that the TMT year-end review include an update on streambed reconstruction work that's been completed recently in the Hamilton Creek area.

Karl Kanbergs (COE) gave an update on The Dalles spill wall construction, which continues ahead of schedule. The leveling slab has been poured, with 10 more pre-cast blocks to be placed over the next 10 days. When that work is done, the framework will be essentially finished. Section 11 of 15

segments should be sealed off by the end of November. The wall will be officially done in March, but it could be done earlier.

## **8. Operations Review**

**a. Reservoirs.** Grand Coulee is at elevation 1,288.6 feet, ready to supply water for the chum operation. Hungry Horse is at elevation 3,544.7 feet, with inflows of 1.0-1.5 kcfs and discharges of 1.0 kcfs. It has been slowly filling over the past few days.

Libby is at 2,440.5 feet elevation, with inflows of 4.3 kcfs and outflows of 4.5 kcfs. Wagner asked when the early season calculation of the need for flood control drafts at Libby will occur. TMT will discuss this further in December, as the methodology is developed during the first week of December.

Albeni Falls is at elevation 2,051.45 feet, with inflows of 10.9 kcfs and outflows of 20.6 kcfs. Lake Pend Oreille outflows were 16 kcfs yesterday and 14 kcfs today.

Dworshak is at elevation 1,516.3 feet, with inflows of 1.4 kcfs and outflows of 1.6 kcfs. Norris asked when the Dworshak preseason forecast will be available. It's based on the September SOI (southern oscillation index) forecast which is 0.3, Steve Hall (COE) replied. The Dworshak inflow forecast is 104% of normal for 2009, which is average.

Daily flow averages are 25.5 kcfs at Lower Granite, 118.5 kcfs at McNary, and 121 kcfs at Bonneville.

**b. Fish. Juveniles** – This is the last report on juvenile passage for the season; all monitoring facilities closed for the winter as of October 31. There was a sudden uptick in smolt passage at Lower Granite over the past few days, with 656 smolts passing on October 31. More are likely still passing, and the bypass is still operating, but there will be no more official fish counts this year. Smolt passage at Bonneville continues at the rate of a few hundred fish per day.

Adults – Adult passage is trending down as well. Fall Chinook are nearing the end of their run, down to 100 fish per day at Bonneville over the past couple days. Fall Chinook jack counts are down to less than 10 fish passing per day. Steelhead passage has dropped from around 100 fish per day to 24, with just 2 of these being wild or unmarked fish.

It's been a noteworthy 2009 season, Wagner said, with jack counts auguring well for next year's returns. The spring/summer 2010 forecast for fall Chinook and coho runs will be available in mid February, Cindy LeFleur (Washington) said. Steelhead passage is still going strong at Lower Granite, Kiefer said, with 310,000 fish passing to date.

**c. Power System.** There was nothing to report today.

**d. Water Quality.** There was nothing to report today.

### **9. Next Meeting**

The next scheduled TMT meeting will be November 18. The TMT annual year-end review will be December 11. This summary prepared by consultant and writer Pat Vivian.

<b><i>Name</i></b>	<b><i>Affiliation</i></b>
Dan Feil	COE
John Roache	BOR
Dave Wills	USFWS
Paul Wagner	NOAA
Doug Baus	COE
Cindy LeFleur	Washington
Tony Norris	BPA
Russ Kiefer	Idaho
Kyle Dittmer	CRITFC
Steve Barton	COE
Steve Hall	COE Walla Walla
Bob Diaz	Integral Renewables
Tim Heizenrader	Centaurus
Don Faulkner	COE
Laura Hamilton	COE
Russ George	WMC
Karl Kanbergs	COE

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## COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION

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TO: Technical Management Team (TMT)  
 FROM: Kyle Dittmer, *Hydrologist - Meteorologist*, CRITFC Hydro Program  
 DATE: November 4, 2009  
 SUBJECT: Summary of Pool Operations – 2009 Autumn Treaty Fishery

CRITFC submitted four System Operation Requests (2009-C5 to C8) via the NMFS' TMT forum to support 2009 autumn treaty fishing. CRITFC requested two criteria: (1) one-foot elevation bands and (2) stable pool elevations during each week of treaty fishing. Criterion #1 asked to operate the pools as a hard constraint within a one-foot elevation range for all of the Zone 6 pools (i.e., Bonneville, The Dalles, and John Day). The Corps committed to a 1.5-foot range hard constraint and 1-foot soft constraint. The table summarizes the hourly compliance of CRITFC's 1-foot elevation band criteria and the Corps' 1.5-foot criteria during the 2009 treaty fisheries. Even though river flows were very low this year, as compared with most years, we appreciate the Corps' efforts in coming close to meeting the CRITFC specified criteria.

<b>2009</b>	<b>Bonneville Pool</b>	<b>The Dalles Pool</b>	<b>John Day pool</b>
1 foot range (CRITFC):	75.5-76.5	158.5-159.5 feet	263.5-264.5 feet
AUG 24 - 27	98%	77%	100%
AUG 31 - SEP 4	100%	58%	100%
SEP 8 - 12	100%	97%	100%
SEP 14 - 18	100%	88%	100%
SEP 22 - 25	100%	81%	100%
SEP 29 - OCT 1	100%	95%	100%
average:	<b>100%</b>	<b>83%</b>	<b>100%</b>
2008 average:	98%	86%	94%
1.5 foot range (COE):	75-76.5	158-159.5 feet	263-264.5 feet
AUG 24 - 27	100%	96%	100%
AUG 31 - SEP 4	100%	87%	100%
SEP 8 - 12	100%	100%	100%
SEP 14 - 18	100%	100%	100%
SEP 22 - 25	100%	100%	100%
SEP 29 - OCT 1	100%	100%	100%
average:	<b>100%</b>	<b>97%</b>	<b>100%</b>
2008 average:	100%	98%	99%

Pool elevation data is a good objective measure as to the absolute pool fluctuations (Criterion #2) as shown in Figures 1 through 18. The Bonneville pool had 0.1 – 0.4 foot swings (compared to 0.1 – 1.4 foot swings in autumn 2008). The Dalles pool had 0.1 – 1.8 foot swings (versus 0.1 – 1.5 foot swings in autumn 2008). John Day pool had 0.1 – 0.3 foot swings (versus 0.1 – 0.8 foot swings in autumn 2008). The main fishing effort was at the Bonneville and John Day pools. Tribal fishers caught (preliminary) 83,000 fall Chinook, 41,000 steelhead, and 14,500 Coho.

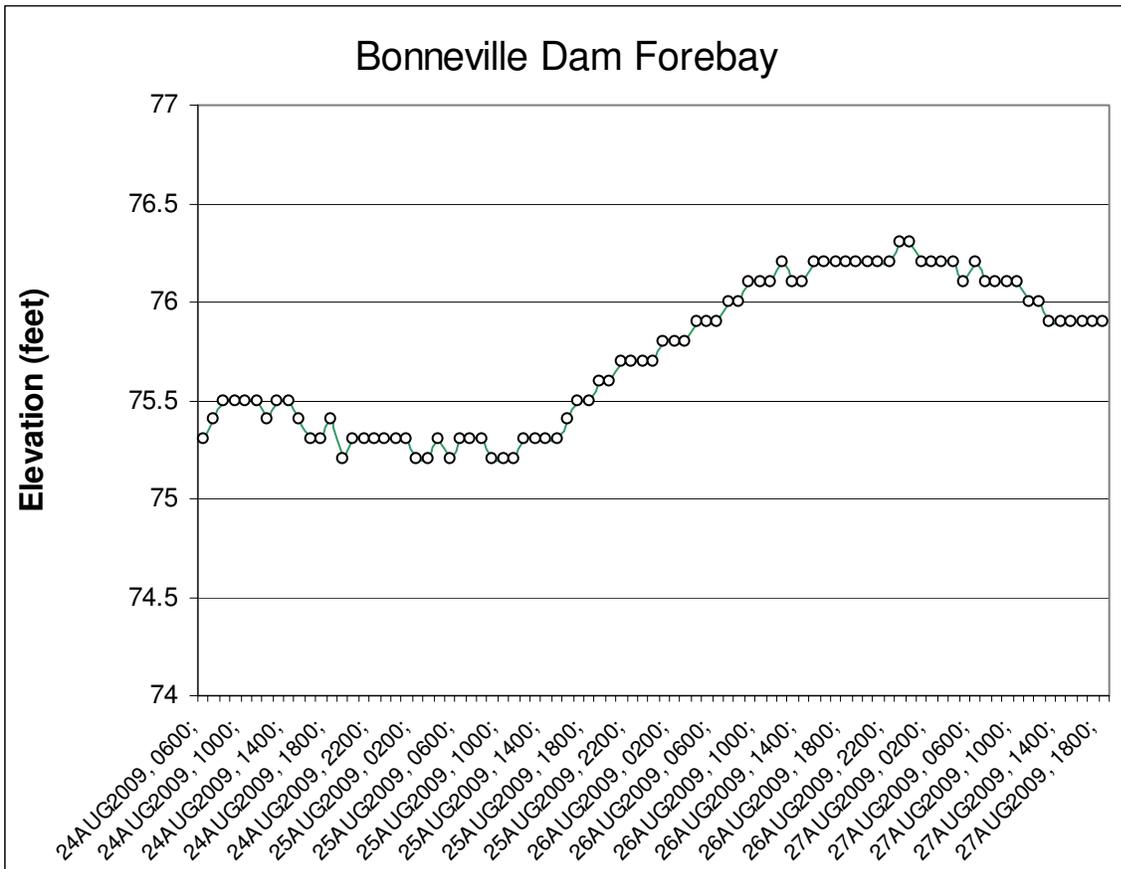


Figure 1. Observed BON pool elevations during August 24-27, 2009 autumn treaty fishing.

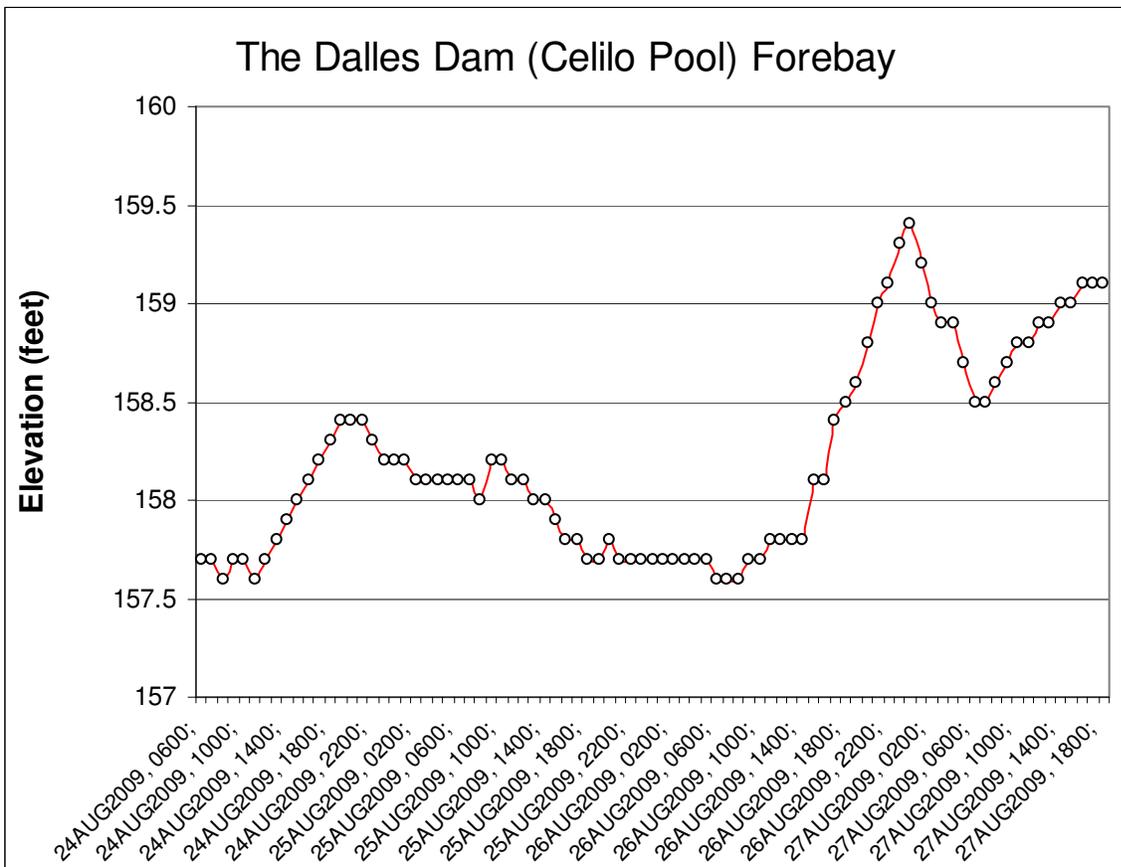


Figure 2. Observed TDA pool elevations during August 24-27, 2009 autumn treaty fishing.

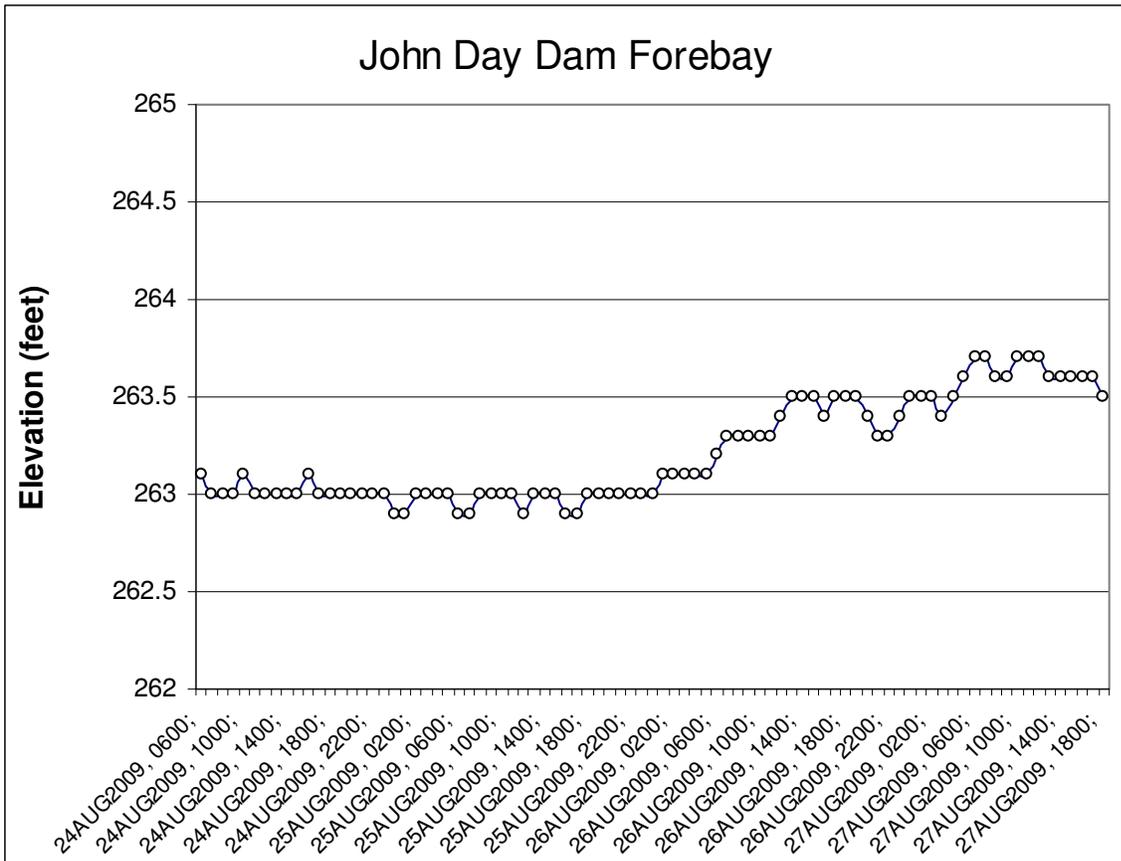


Figure 3. Observed JDA pool elevations during August 24-27, 2009 autumn treaty fishing.

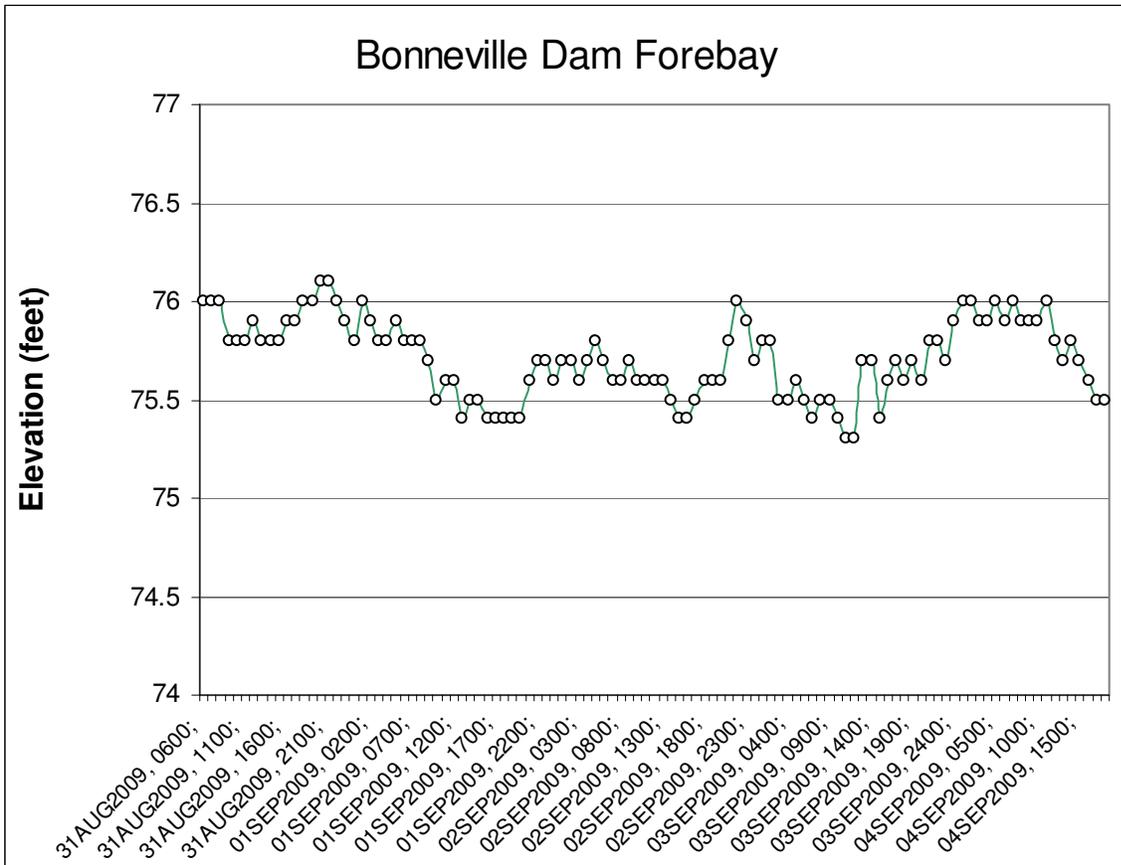


Figure 4. Observed BON pool elevations during Aug. 31- Sept. 4, 2009 autumn treaty fishing.

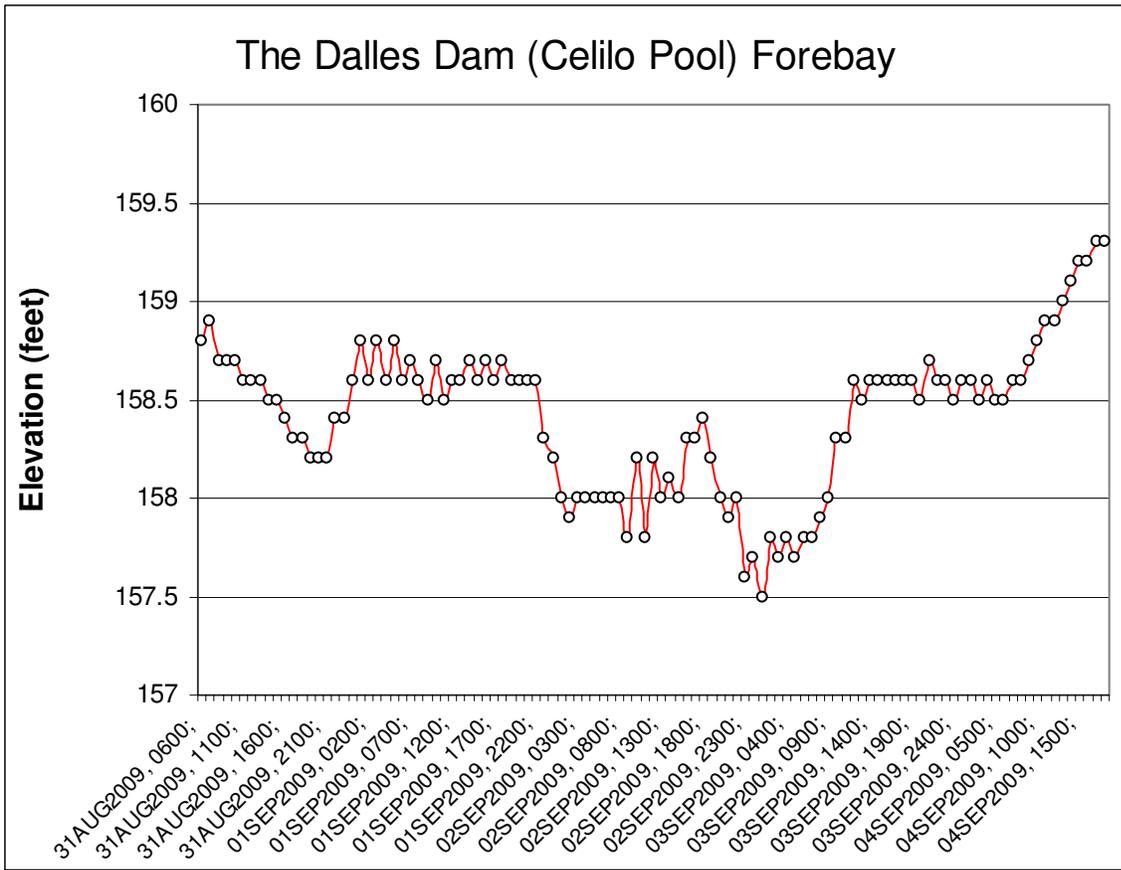


Figure 5. Observed TDA pool elevations during Aug. 31- Sept. 4, 2009 autumn treaty fishing.

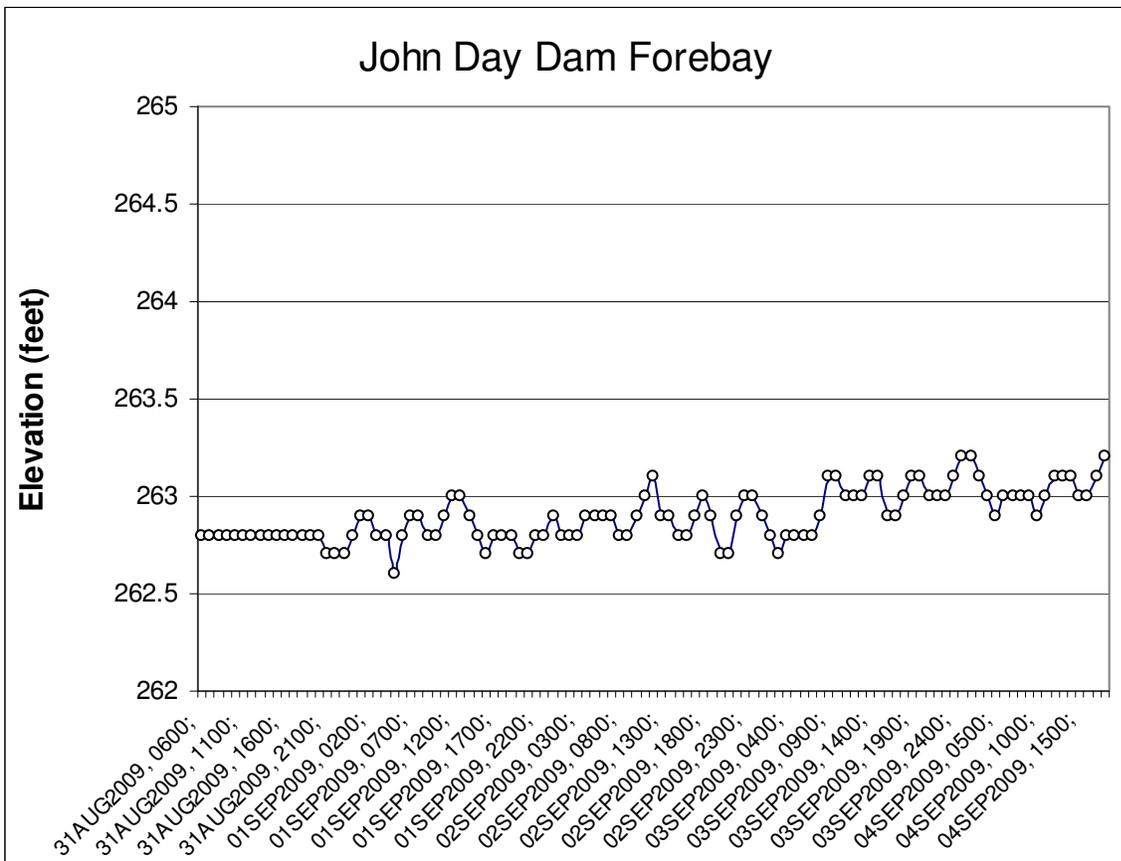


Figure 6. Observed JDA pool elevations during Aug. 31- Sept. 4, 2009 autumn treaty fishing.

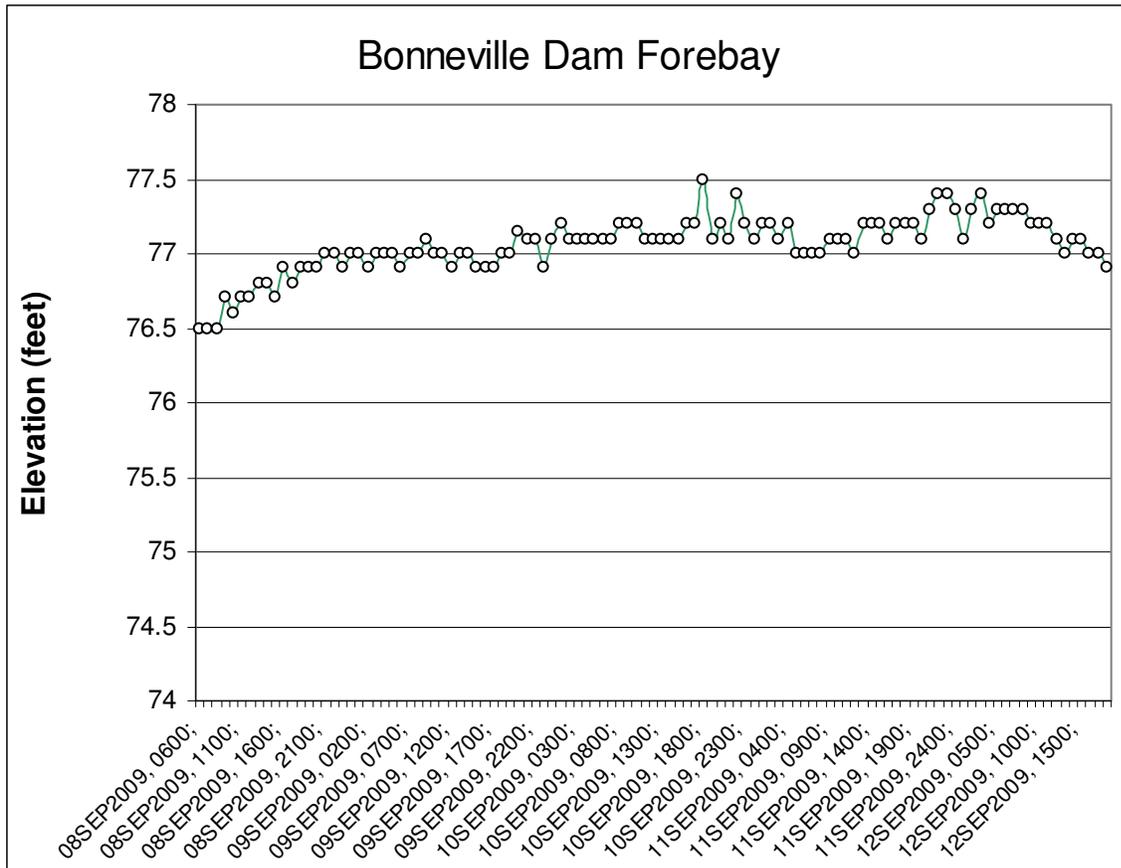


Figure 7. Observed BON pool elevations during September 8 - 12, 2009 autumn treaty fishing.

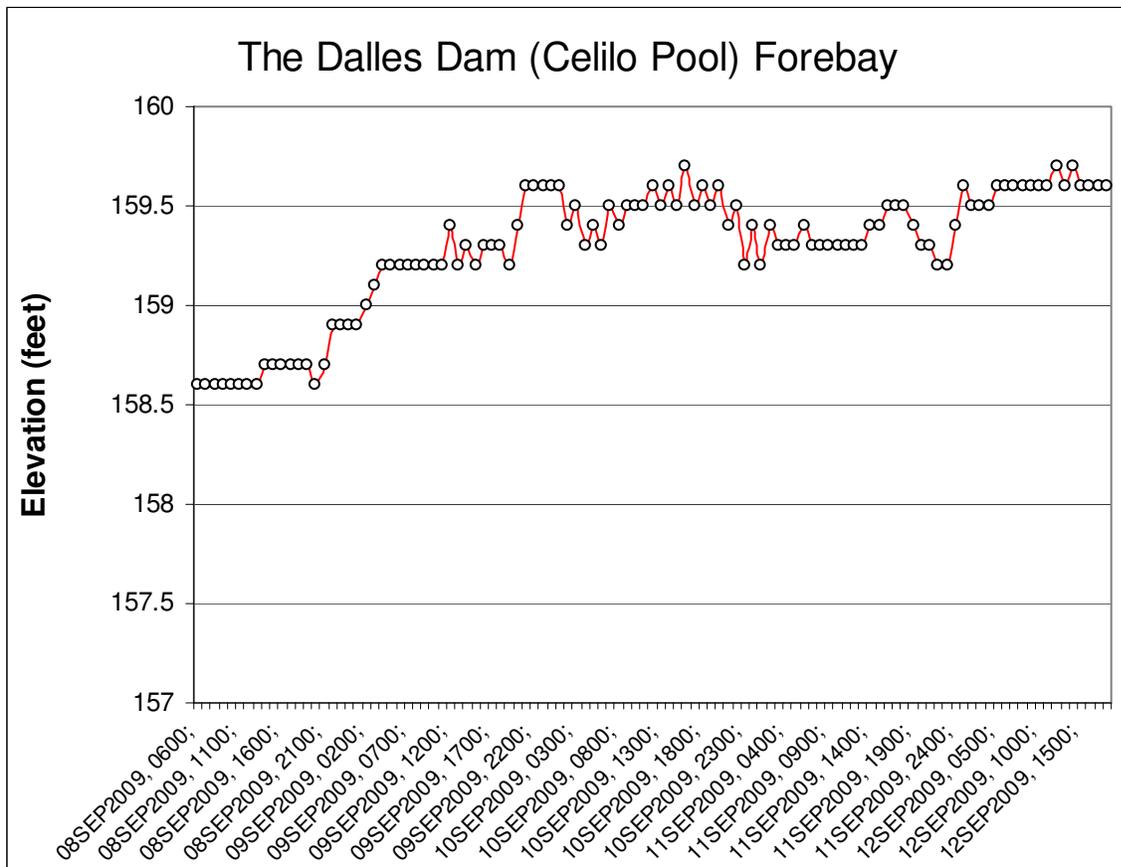


Figure 8. Observed TDA pool elevations during September 8 - 12, 2009 autumn treaty fishing.

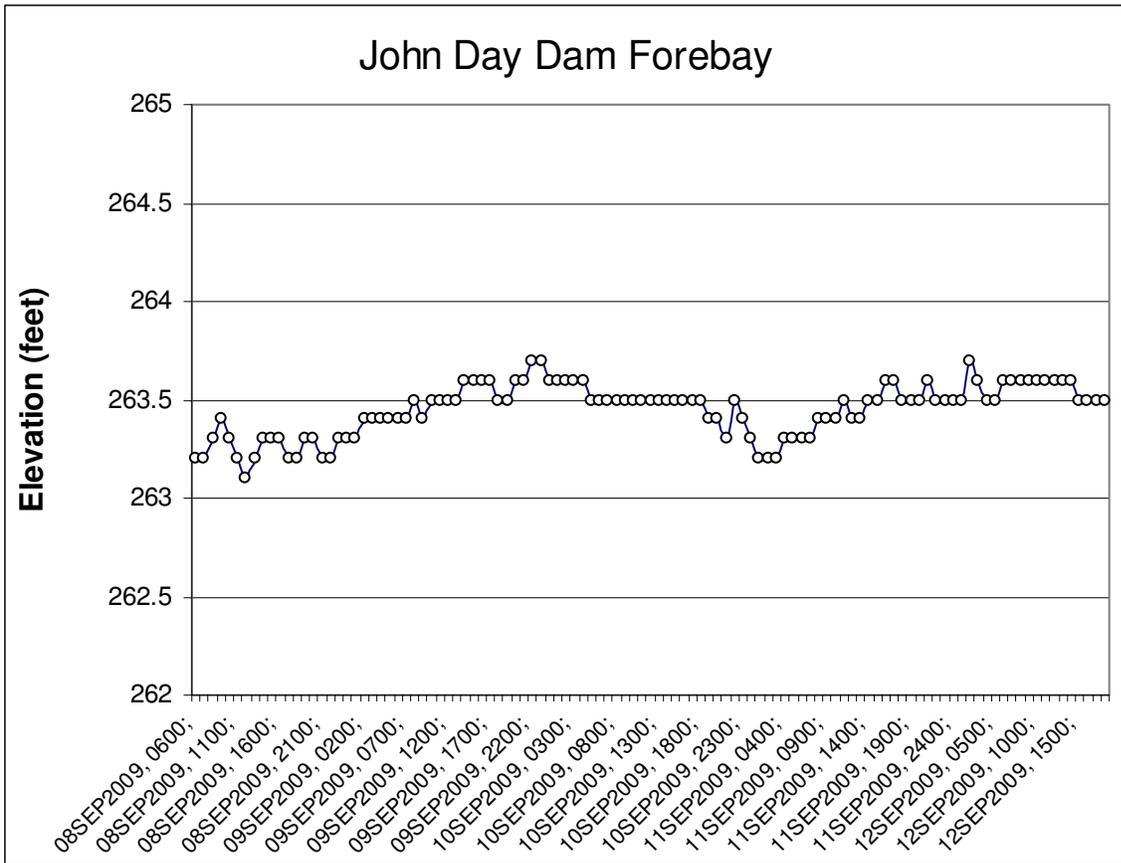


Figure 9. Observed JDA pool elevations during September 8 - 12, 2009 autumn treaty fishing.

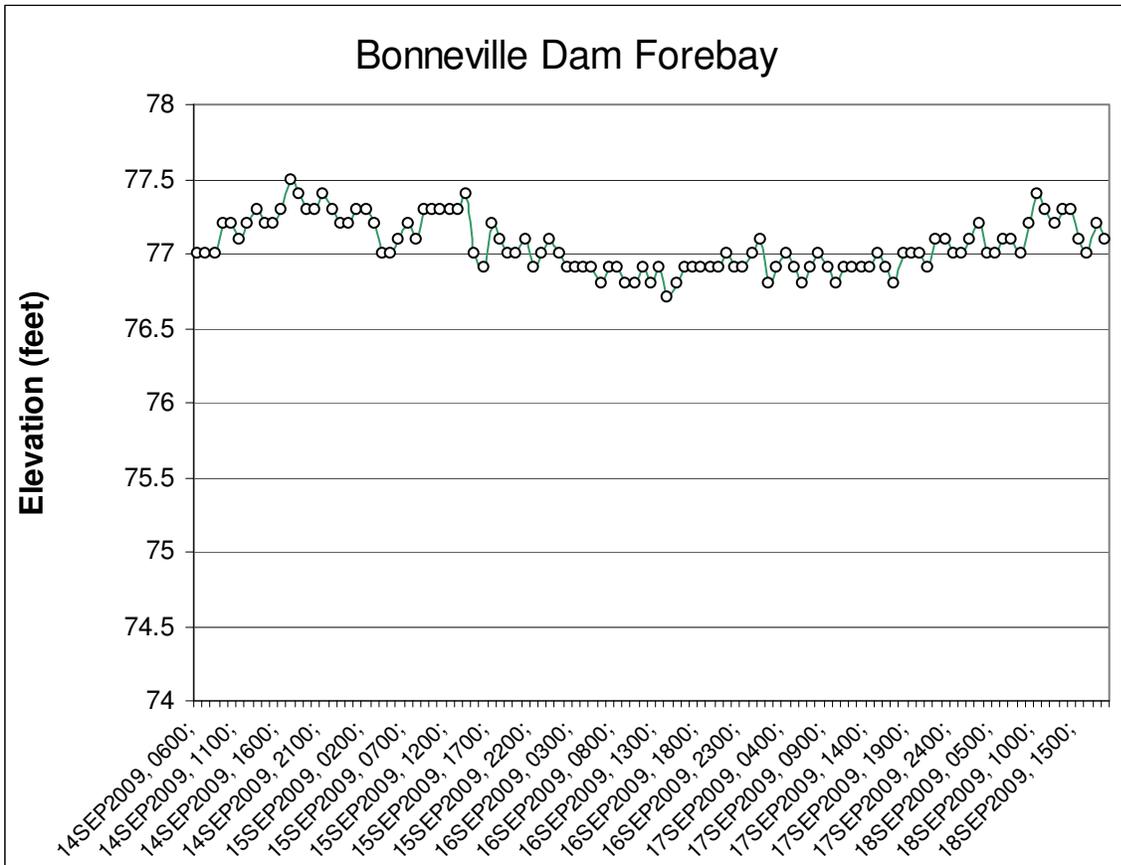


Figure 10. Observed BON pool elevations during Sept.14 - 18, 2009 autumn treaty fishing.

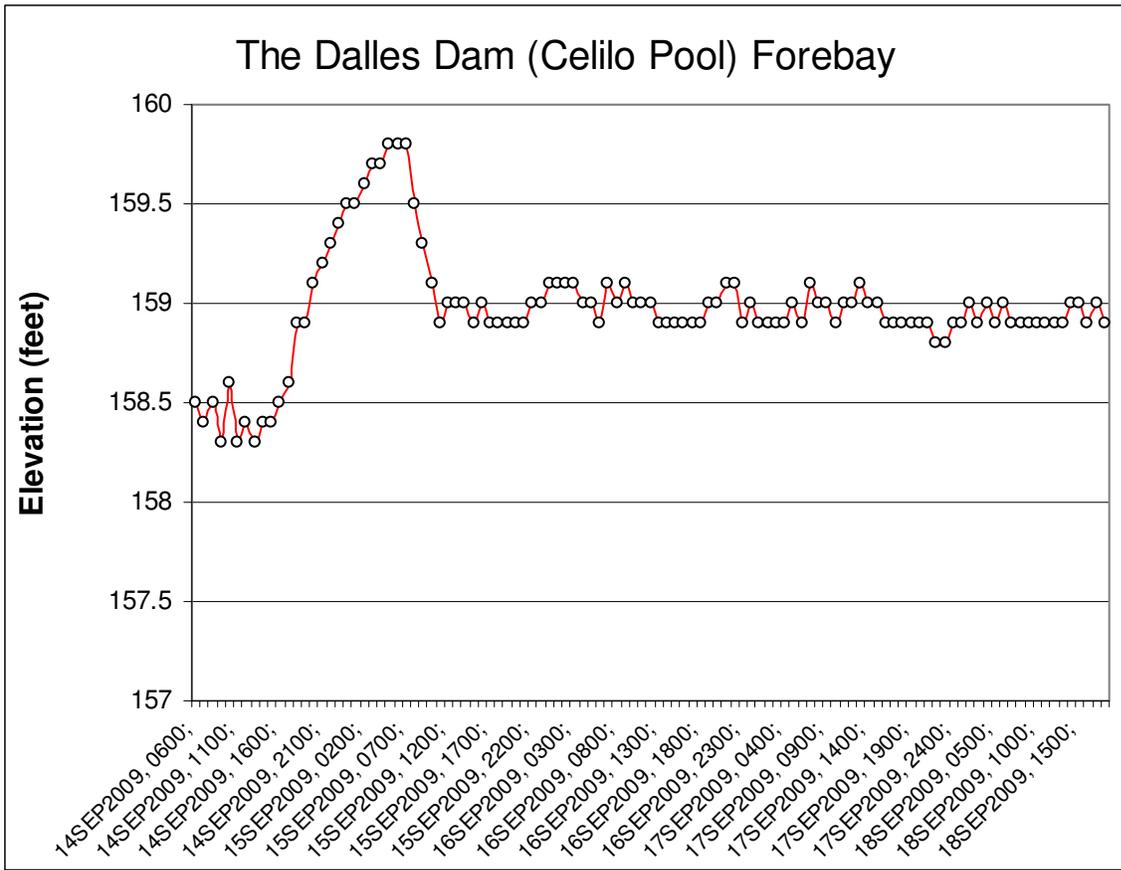


Figure 11. Observed TDA pool elevations during Sept.14 - 18, 2009 autumn treaty fishing.

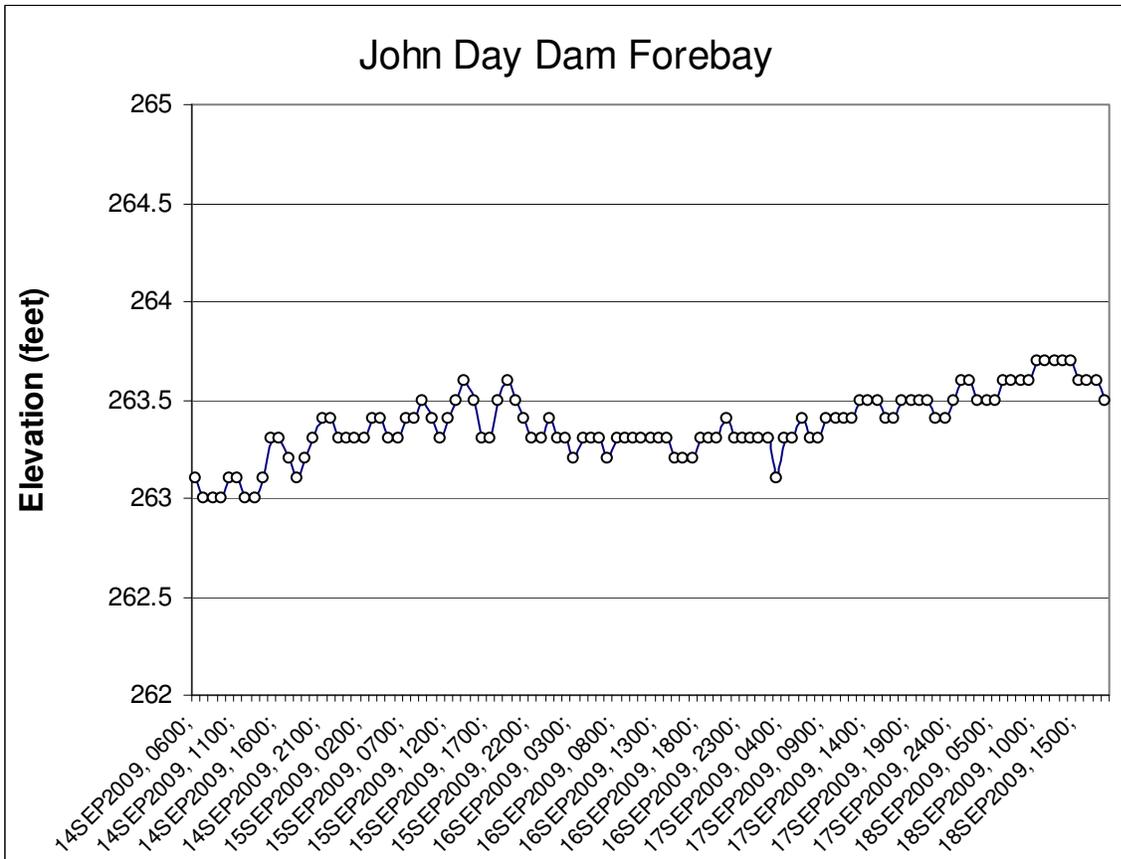


Figure 12. Observed JDA pool elevations during Sept.14 - 18, 2009 autumn treaty fishing.

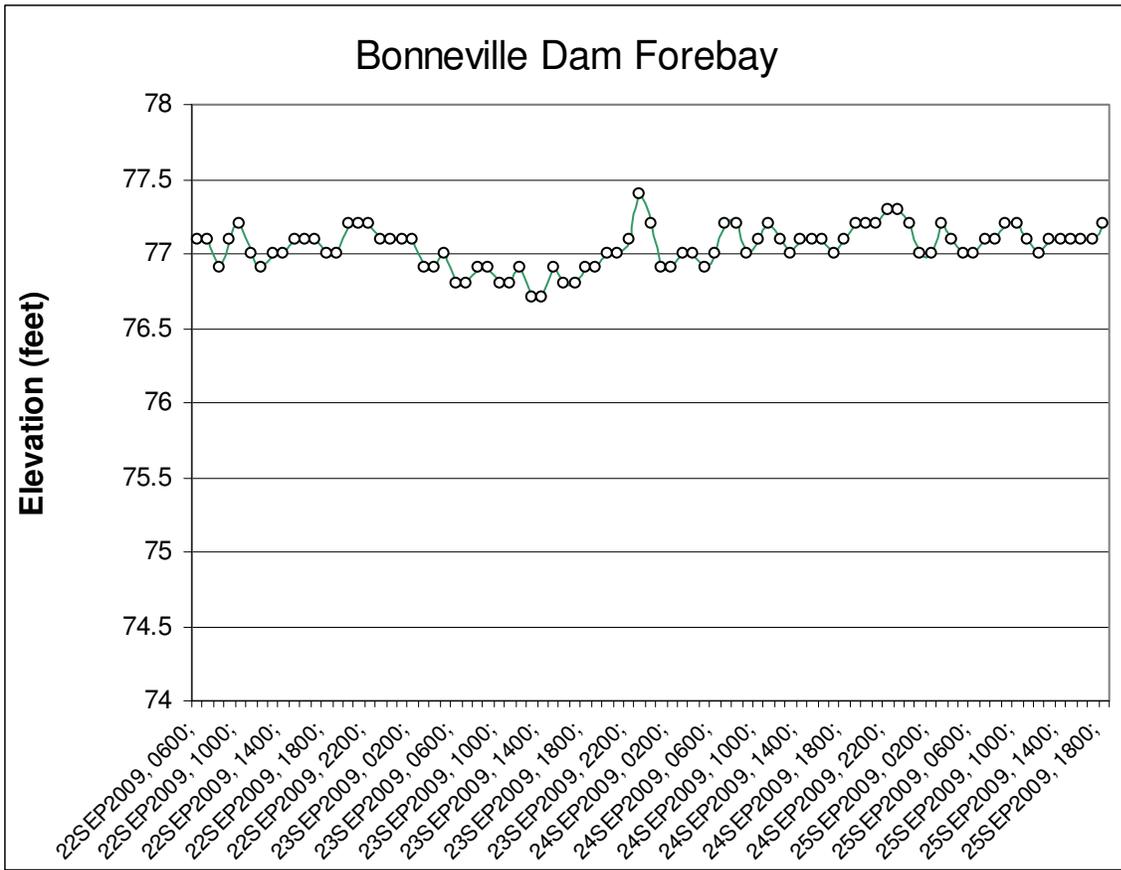


Figure 13. Observed BON pool elevations during Sept.22 - 25, 2009 autumn treaty fishing.

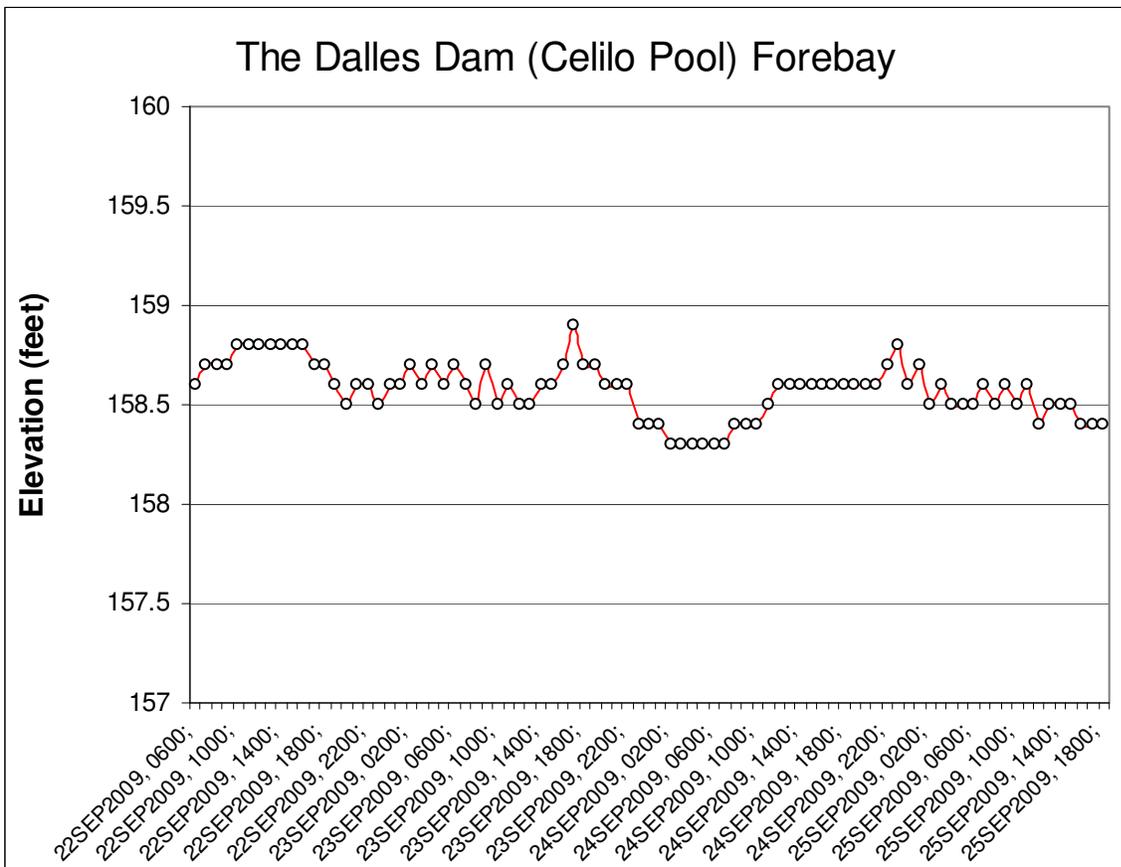


Figure 14. Observed TDA pool elevations during Sept.22 - 25, 2009 autumn treaty fishing.

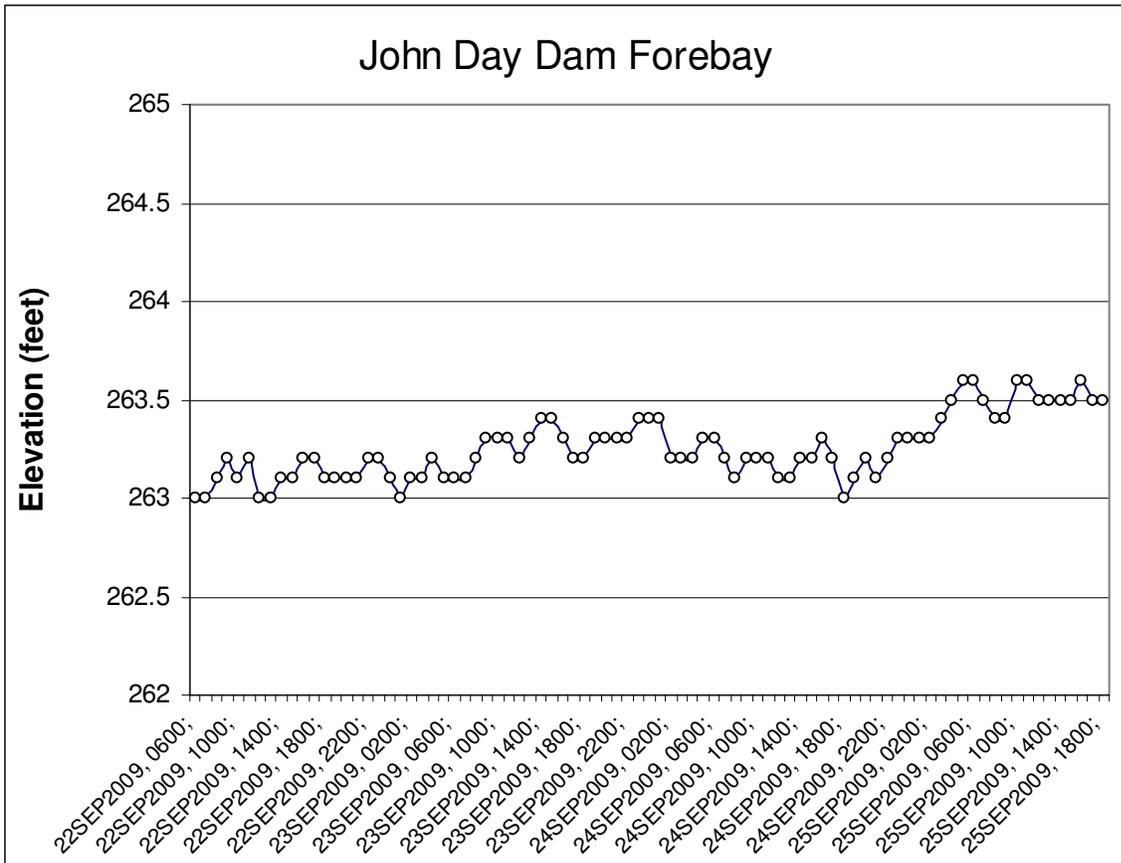


Figure 15. Observed JDA pool elevations during Sept.22 - 25, 2009 autumn treaty fishing.

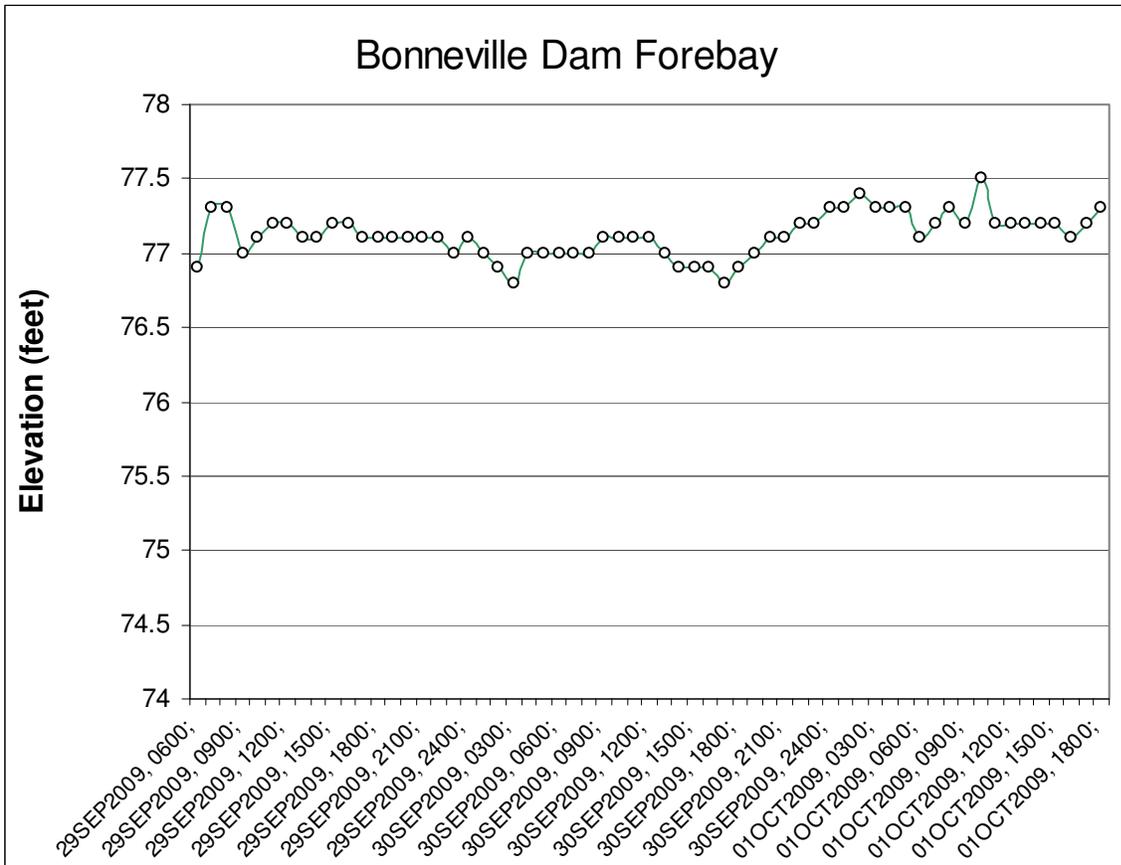


Figure 16. Observed BON pool elevations during Sept. 29 – Oct. 1, 2009 autumn treaty fishing.

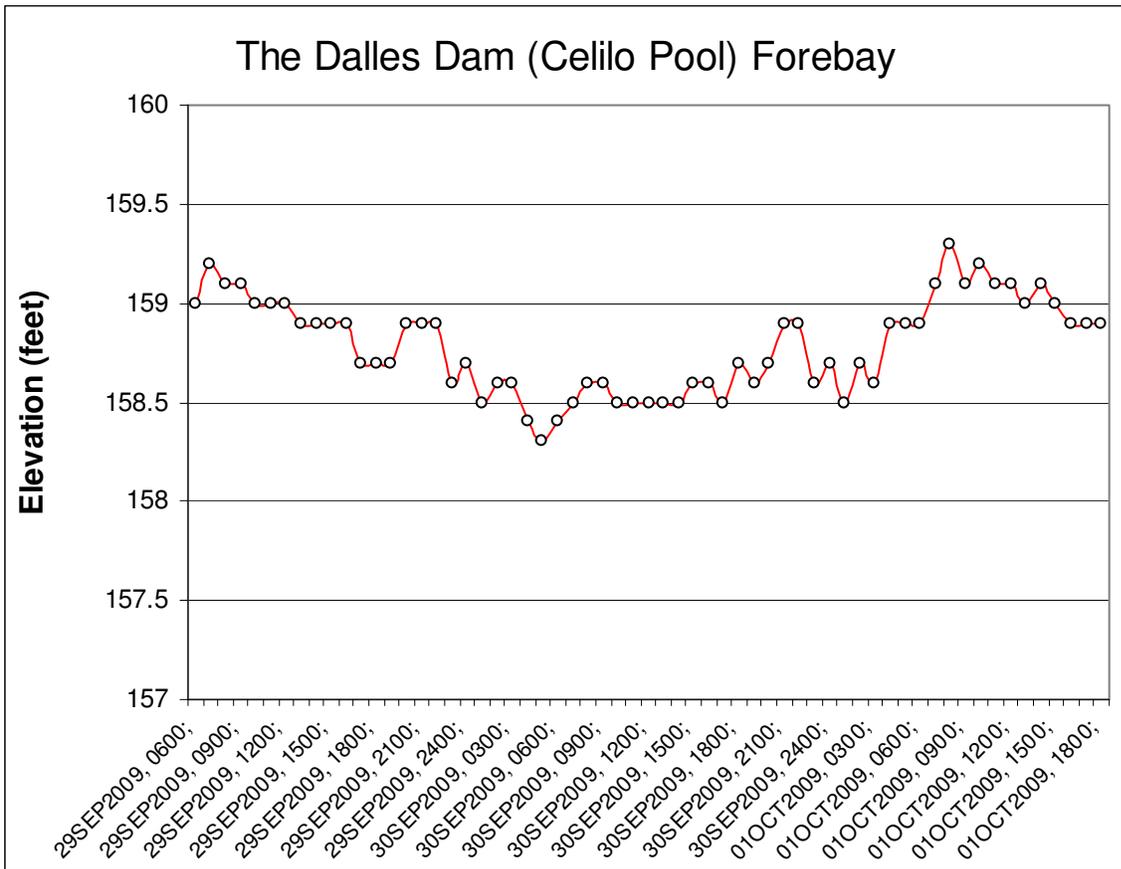


Figure 17. Observed TDA pool elevations during Sept. 29 – Oct. 1, 2009 autumn treaty fishing.

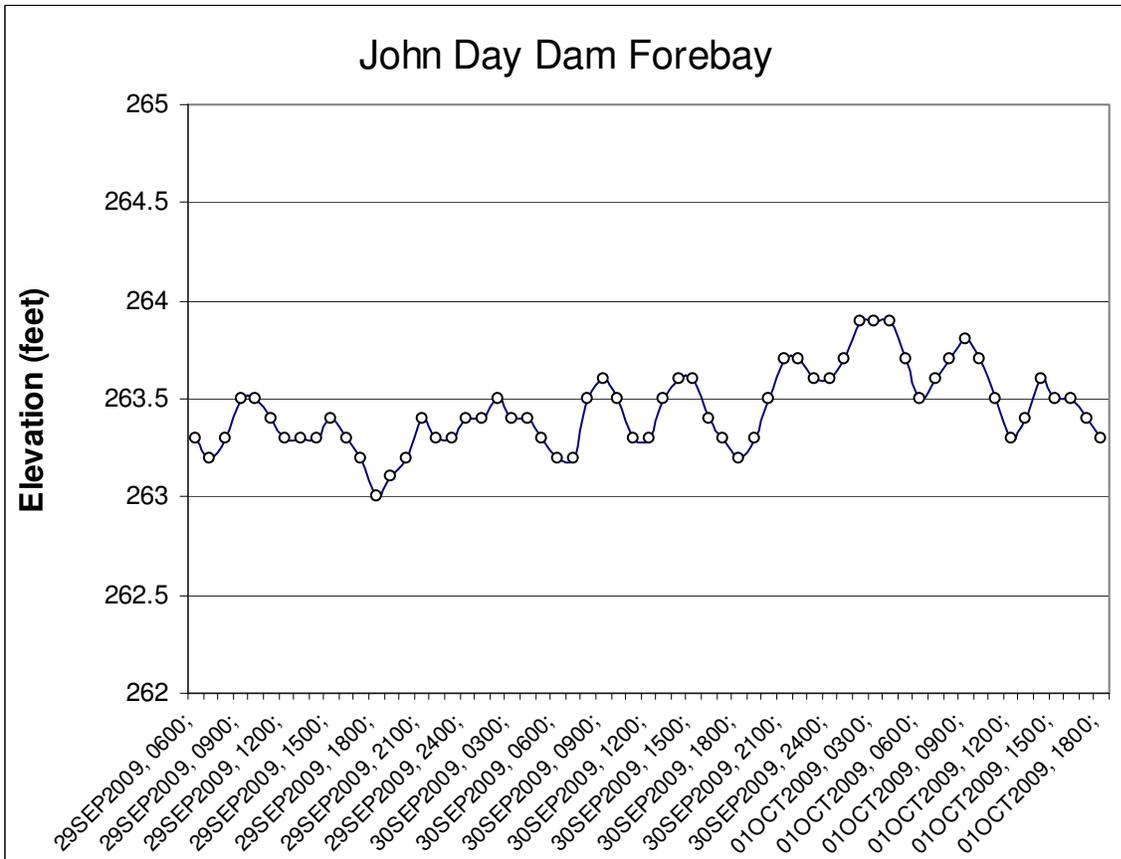


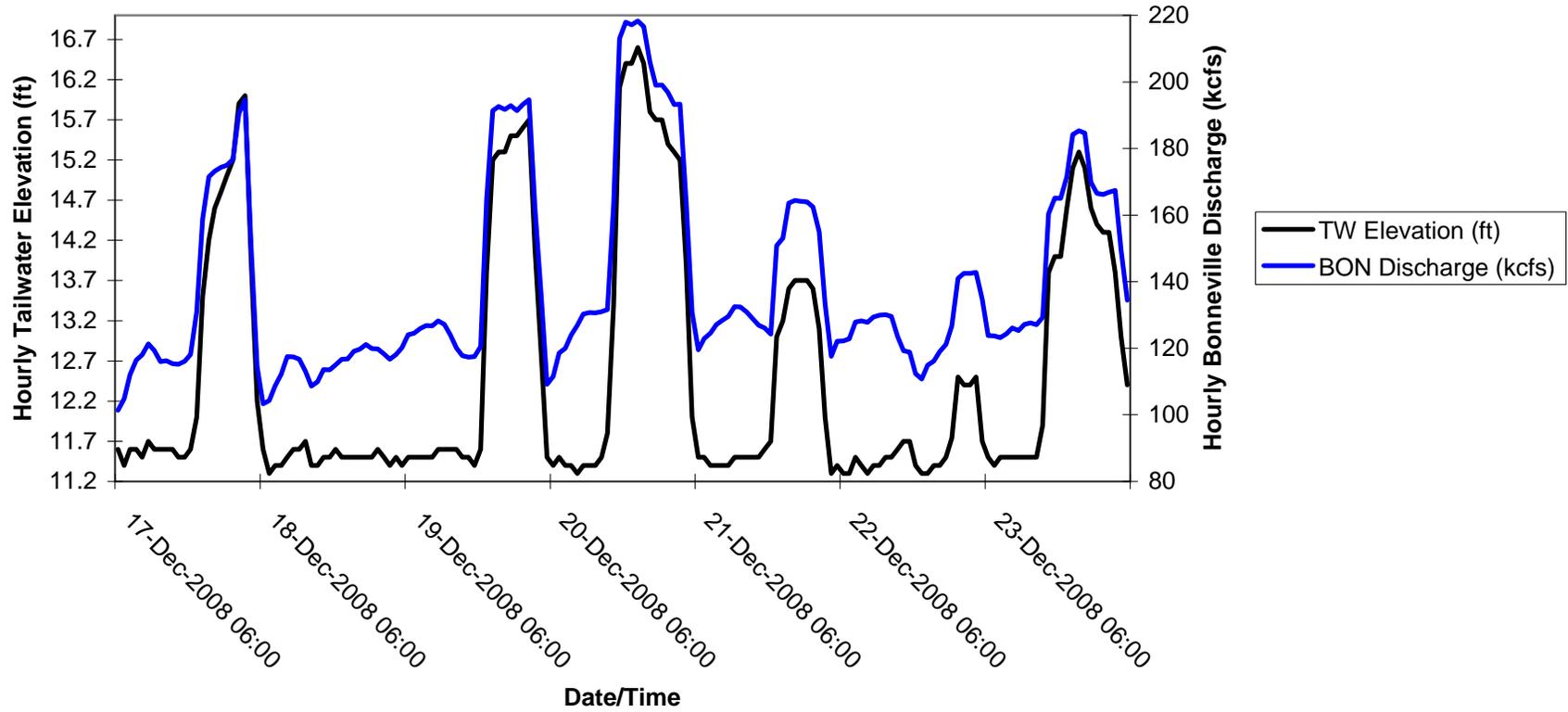
Figure 18. Observed JDA pool elevations during Sept. 29 – Oct. 1, 2009 autumn treaty fishing.

### Corps 2009 Treaty Fishery SOR Summary

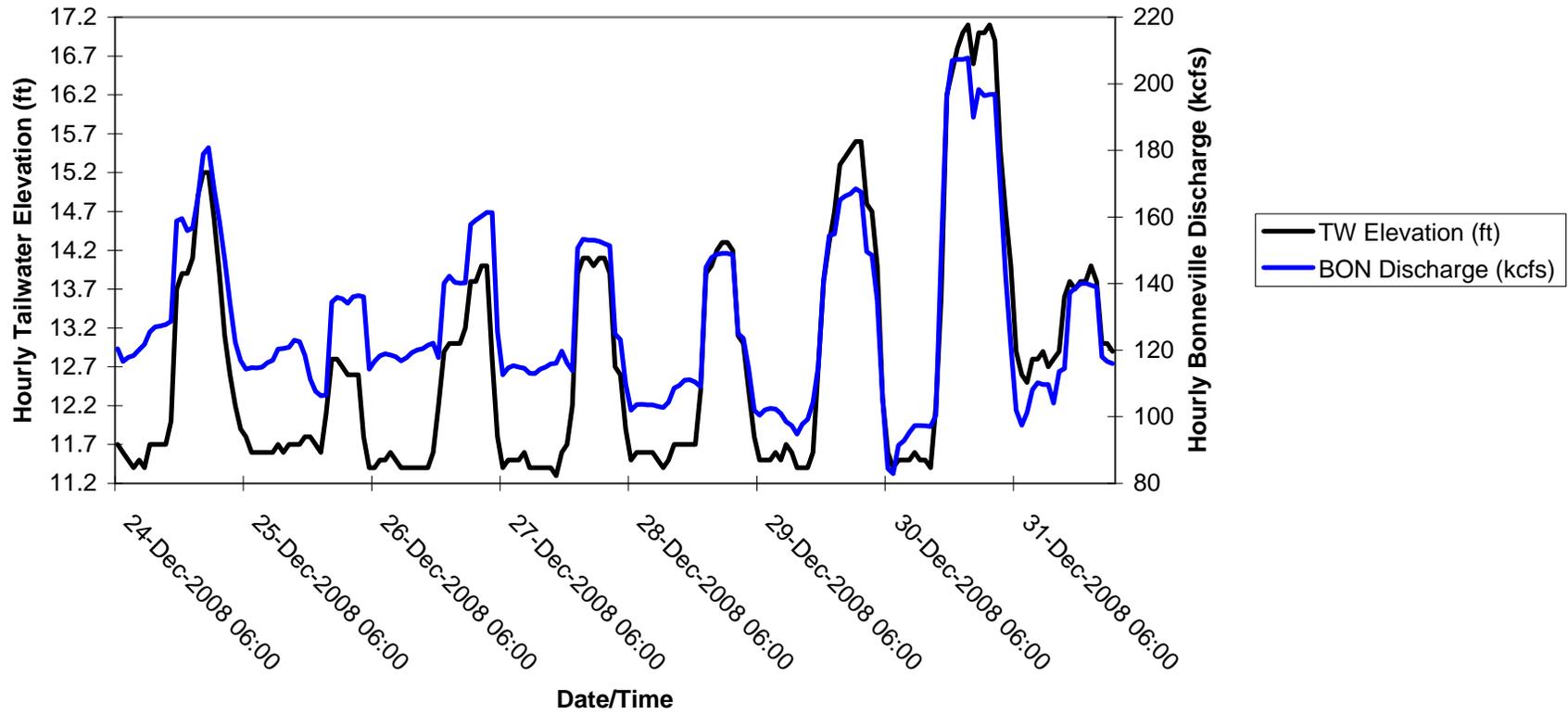
SOR	Hours Associated with SOR	*Hours Within Hard Constraint	Percentage of Time Within Hard Constraint
2009: C-1	249	249	100.00%
2009: C-2	183	183	100.00%
2009: C-3	255	254	99.61%**
2009: C-4	183	183	100.00%
2009: C-5	909	909	100.00%
2009: C-6	327	327	100.00%
2009: C-7	255	255	100.00%
2009: C-8	183	183	100.00%
<b>TOTAL</b>	<b>2544</b>	<b>2543</b>	<b>99.96%</b>
<p>*Hours Within Hard Constraint (BON 1.5' HARD / 1.0' SOFT), (TDA 3.0' HARD / 1.0' SOFT), (JDA 1.5' HARD / 1.0' SOFT)</p>			
<p>** Missed one hour of hard constraint due to elevating the FBE to remove a grounded fuel barge near Hood River.</p>			

### 2008-09 Chum Operations

(week 7 - 12/17, 0600 hours to 12/24, 0500 hours)



2008-09 Chum Operations  
(week 8 - 12/17, 0600 hours to 12/31, 2359 hours)



**Feil, Dan H NWD**

---

**From:** Feil-Dan@npr70.nwd-wc.usace.army.mil  
**Sent:** Wednesday, December 31, 2008 9:56 AM  
**Subject:** CBT Msg: Bonneville chum operations #6 sent on 12/31/2008 at 09:56

Sent to: CO  
XX  
BON R 123108 0956 CO BON TDA JDA MCN BPA BPC NPD NPC NPP

ATTENTION: BONNEVILLE AND BPA

SUBJECT: BONNEVILLE TAILWATER OPERATION FOR CHUM INCUBATION

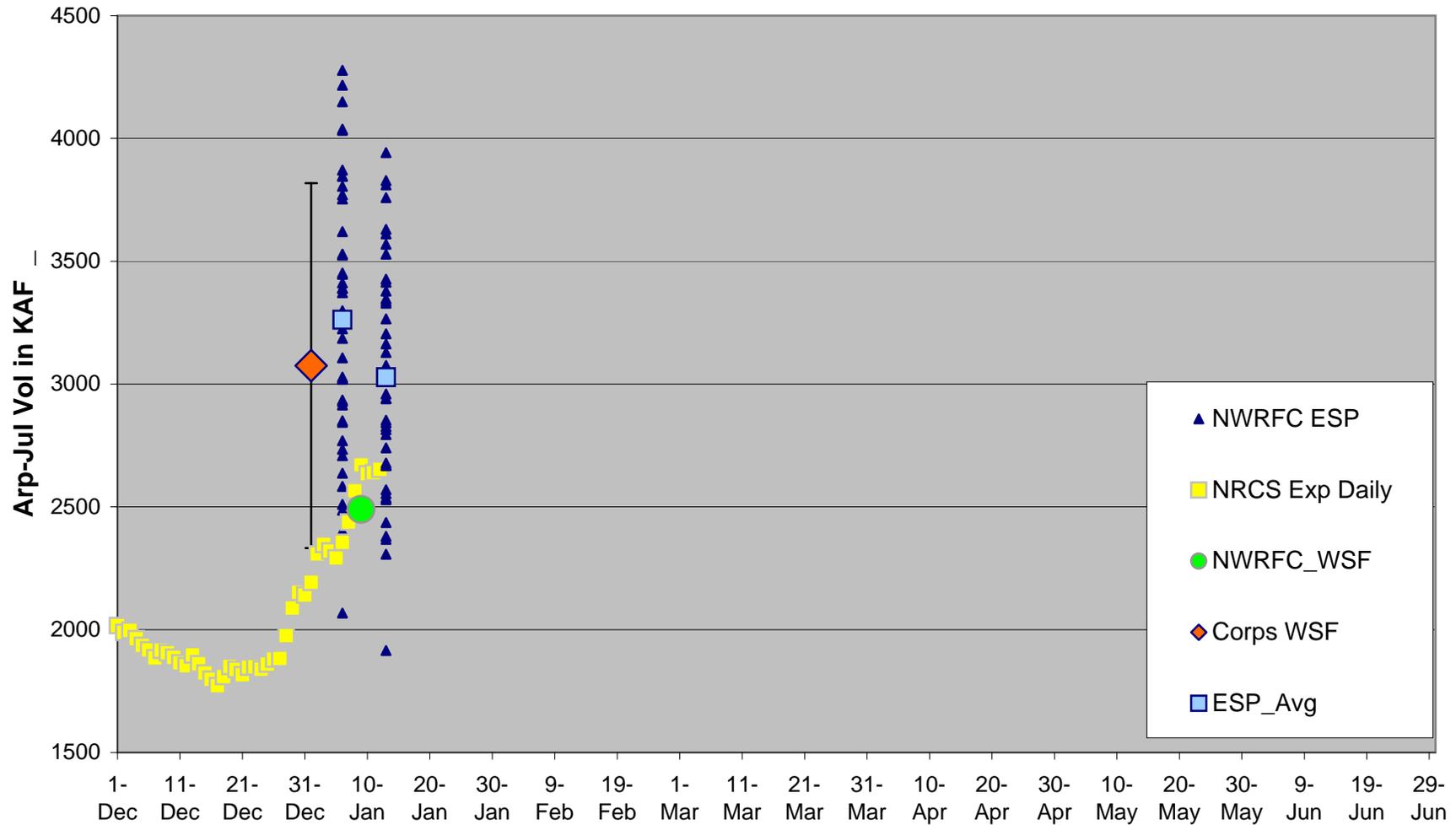
\*\*\*REPLACES TTY: BON R 123008 1511

1. EFFECTIVE 0001 HOURS ON THURSDAY, JANUARY 1, 2009 OPERATE BONNEVILLE DAM TO MAINTAIN TAILWATER ELEVATION AS FOLLOWS:
2. A MINIMUM BONNEVILLE TAILWATER ELEVATION OF 11.5' SHALL BE MAINTAINED FOR CHUM EGG INCUBATION UNTIL FURTHER NOTICE.
3. BONNEVILLE TAILWATER ELEVATION MAY FLUCTUATE ABOVE THE 11.5' MINIMUM AS NECESSARY.
4. THE OFFICIAL PROJECT TAILWATER ELEVATION GAGE IS LOCATED ON THE OREGON SHORE, 0.9 MILES DOWNSTREAM FROM BONNEVILLE DAM FIRST POWERHOUSE, 50 FEET UPSTREAM FROM TANNER CREEK AND AT RIVER MILE 144.5.
5. THIS 11.5' MINIMUM OPERATION WAS SUGGESTED BY FPAC. THIS OPERATION WAS COORDINATED WITH SCOTT BETTIN (BPA) AND ROBERT WITHAM (BON). RCC POINTS OF CONTACT ARE DAN FEIL AND JIM ADAMS

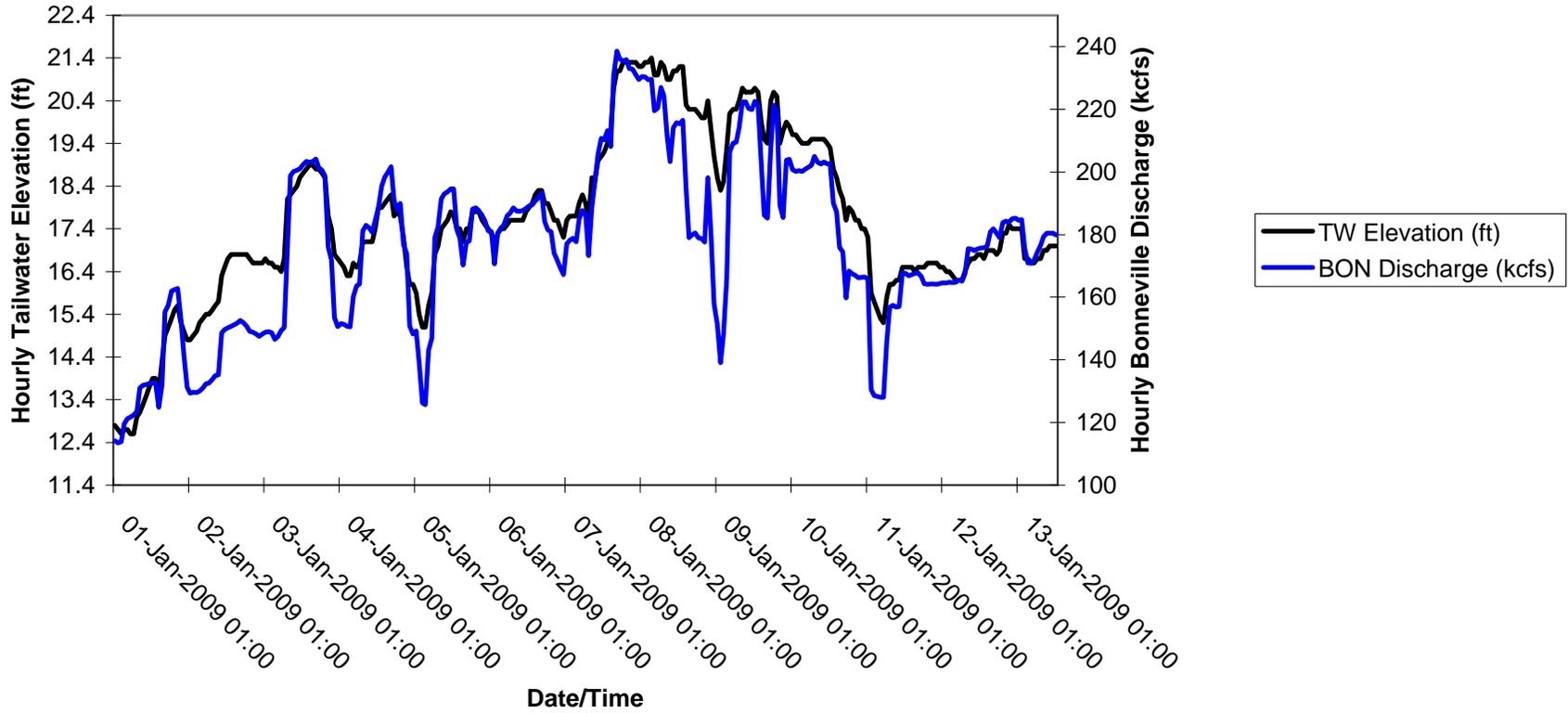
DAN FEIL  
CENWD/RCC08  
XX

# Dworshak, ID April-July Inflow Volume Forecast Comparison

updated 13-Jan-2009



### 2008-09 Post-spawn Chum Operations (1/1, 0001 hours - 1/13, 2359 hours)



# TECHNICAL MANAGEMENT TEAM

**BOR** : John Roache / Mary Mellema / Pat McGrane      **BPA** : Robyn MacKay / Tony Norris / Scott Bettin  
**NOAA-F**: Paul Wagner / Richard Dominique              **USFWS** : David Wills / Steve Haeseker  
**OR** : Rick Kruger / Ron Boyce                              **ID** : Russ Kiefer / Pete Hassemer  
**WDFW** : Cindy LeFleur                                        **MT** : Jim Litchfield / Brian Marotz  
**COE**: Dan Feil / Steve Barton

## TMT MEETING

Wednesday November 18, 2009 09:00 - 12:00

1125 N.W. Couch Street, Suite 500, Columbia Room  
Portland, Oregon 97209-4142  
Map Quest [\[Directions\]](#)

### CONFERENCE PHONE LINE

Conference call line:877-807-5706; PASS CODE = 442788

To check into the building, take the elevator to the 5th floor and the guard will issue you an ID badge if you need one and will take you down to the meeting room on the 4th floor. If you have NOT attended a TMT meeting in the past you will need to call ahead and let Dan Feil (503) 808-3943 or Steve Barton (503) 808-3945 know, so you can be added to the TMT Visitor List and issued an ID badge. This badge may be used indefinitely. If you have attended TMT in the past you may re-use your ID badge indefinitely. If you are a federal employee you will also need to have an ID badge issued to you which can be used indefinitely.

We have had disruptions on the phone because people are not hitting 'mute' after dial in.  
**Please MUTE your Phone**

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*All members are encouraged to call Robin Gumpert with any issues or concerns they would like to see addressed.  
Please e-mail her at [rgumpert@cunnv.net](mailto:rgumpert@cunnv.net) or call her at (503) 248-4703.*

## AGENDA

1. Welcome and Introductions
2. Review Meeting Minutes for November 4, 2009 [\[Meeting Minutes\]](#)
3. Vernita Bar Update - Russell Langshaw, Grant PUD
4. The Dalles Spillwall Project - Pat Duyck, COE-NWP
5. Chum Operations - Dan Feil, COE-RCC
  - a. [Chum Spawning Surveys](#)
  - b. [Chum Spawning Operating Criteria](#)
  - c. [Chum Operation Summary - Week 1](#)
6. Lake Pend Oreille Post-Spawning Operations - Tony Norris, BPA
  - a. [Pend Oreille Basin Commission Letter](#)
7. Operations Review
  - a. Reservoirs

- b. Fish
  - c. Power System
  - d. Water Quality
8. Other
- a. Set agenda and date for next meeting - **November 25, 2009**
  - b. [\[Calendar 2009\]](#)

*Questions about the meeting may be referred to:*

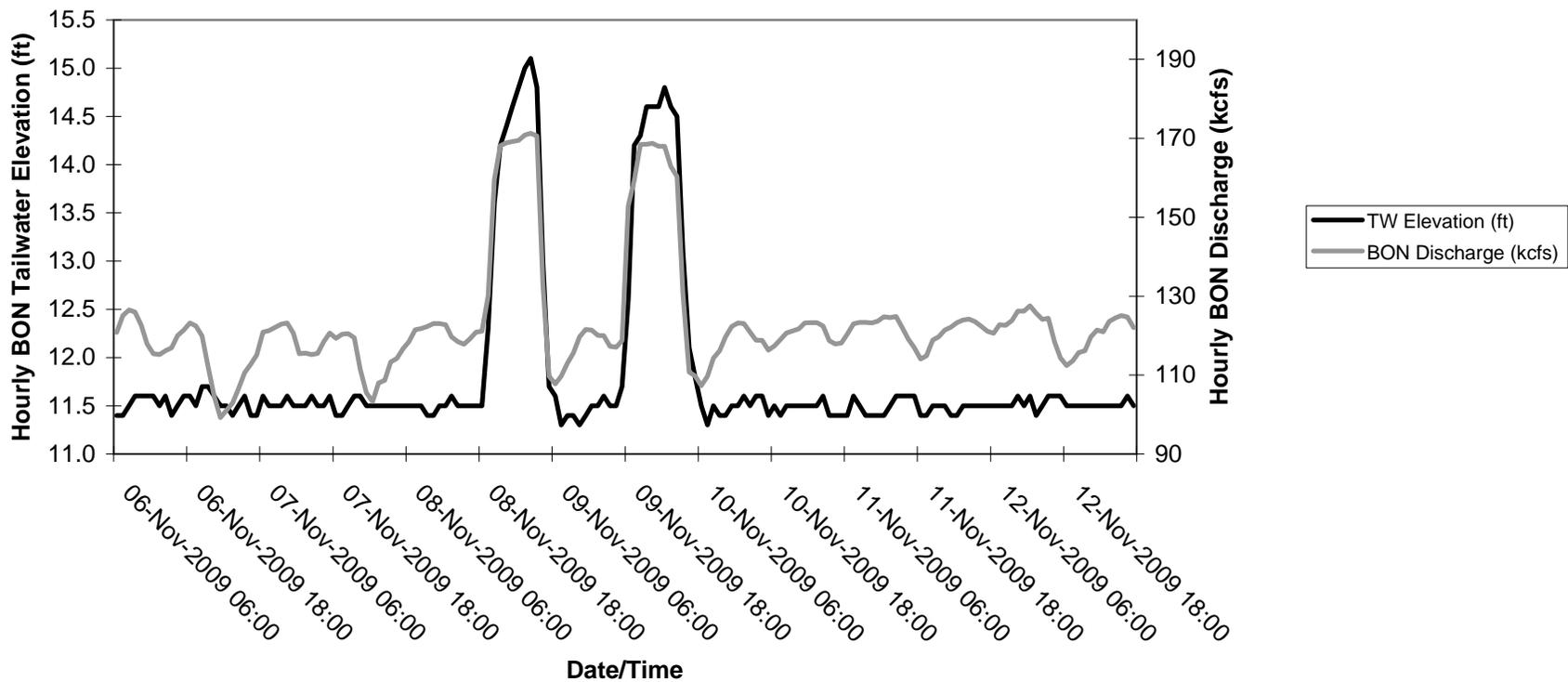
*[Dan Feil](#) at (503) 808-3943, or*

*[Steve Barton](#) at (503) 808-3945*

# 2009-10 Chum Spawning Operations

## Week 1

(11/6, 0600 hours - 11/13, 0500 hours)



**2009 Chum Spawning Operating Criteria**  
**November 6, 2009**

1. EFFECTIVE FRIDAY, NOVEMBER 6 AT 0600 HOURS OPERATE BONNEVILLE PROJECT AS FOLLOWS UNTIL FURTHER NOTICE:

**HARD CONSTRAINT 1** – MAINTAIN A BONNEVILLE PROJECT TAILWATER ELEVATION OF NO LOWER THAN 11.3 FT. DURING ALL HOURS.

**HARD CONSTRAINT 2** – MAINTAIN A 11.3 TO 11.7 FT. BONNEVILLE PROJECT TAILWATER ELEVATION BETWEEN 0600-1700 HOURS DAILY. TARGET ELEVATION IS 11.5 FT.

**SOFT CONSTRAINT 1** – MAINTAIN 11.3 TO 11.7 FT. BONNEVILLE PROJECT TAILWATER ELEVATION BETWEEN 1700-0600 HOURS DAILY. TARGET ELEVATION IS 11.5 FT.

2. AS NEEDED, TO PASS WATER IN EXCESS OF WHAT IS NECESSARY TO MEET HARD CONSTRAINT 2, THE PROJECT IS AUTHORIZED TO INCREASE THE TAILWATER ELEVATION UP TO 18.5 FT. (AS BONNEVILLE NORMAL RAMP RATE ALLOWS) ANYTIME BETWEEN 1700-0600 HOURS DAILY.
3. IF PARAGRAPH 2 IS NOT SUFFICIENT TO PASS WATER IN EXCESS OF WHAT IS NECESSARY TO MEET HARD CONSTRAINT 2, THEN INCREASE TAILWATER ELEVATION AS NECESSARY UP TO 12.5 FT. BETWEEN 0600-1700 HOURS DAILY.

## The Pend Oreille Basin Commission “Lakes Commission”



**Address:**  
120 East Lake Street, Suite 301  
Sandpoint, Idaho 83864  
**Phone:**  
(208) 263-4984  
**Email:**  
[kwilson@lakescommission.com](mailto:kwilson@lakescommission.com)  
**Website:**  
[www.lakescommission.com](http://www.lakescommission.com)

**TO:** The Technical Management Team (Columbia Basin)

**CC:**

U.S. Army Corps of Engineers  
Jeffrey Laufle, Amy Reese  
Idaho Department of Fish & Game  
Attention: Chip Corsi, Andy Dux  
U.S. Fish & Wildlife Service  
Attention: Rich Torquemada  
Idaho Department of Lands  
Attention: Ed Robinson, Jim Brady  
Idaho Department of Environmental Quality  
Attention: Tom Herron

**From:** The Pend Oreille Basin Commission  
Ford Elsaesser, Chair  
Kate Wilson, Program Coordinator

**Date:** November 17, 2009

**Re:** Winter Pool Fluctuation, Lake Pend Oreille

Dear Colonel Wright:

The Pend Oreille Basin Commission (“Commission”) is an advisory group formed in 2003 by Governor Kempthorne and the Legislature of the State of Idaho. The Commission is comprised of five local community leaders, as well as representatives from U.S. Fish & Wildlife Service, the Attorney General’s Office, and the State of Montana.

The Commission is charged with “studying, investigating, and selecting ways and means of controlling the water quality and quantity as they relate to waters of Lake Pend Oreille, Pend Oreille River, Priest Lake, and Priest River for the communities’ interests and interests of the State of Idaho, and for the survival of native species of fish contiguous to the Pend Oreille Basin” (House Bill No. 110).

The Commission has been actively engaged in the lake level deliberations for Lake Pend Oreille since our formation in 2003. We have serious concerns regarding Bonneville Power Administration’s (BPA) request to fluctuate the winter pool for Lake Pend Oreille. Please consider the following issues:

- Though the top 11 feet of Lake Pend Oreille is controlled for the purpose of power generation and flood control, it is also a natural lake and thus is deserving of regard for its natural processes and unique attributes.
- Lake Pend Oreille has had a Total Maximum Daily Load (“TMDL”) for nutrients in the nearshore waters (2002). Erosion caused by fluctuating the winter pool would potentially contribute nutrients (via sedimentation) to the nearshore waters and thus be incompatible and unlawful. Extensive monitoring would be necessary to ensure that the winter fluctuation will not cause further nutrient loading. In Idaho’s *Water Quality Standards and Wastewater Treatment Requirements* (1993), Pend Oreille is designated for cold-water aquatic life, salmonid spawning, primary contact recreation, domestic water supply, agricultural water supply, industrial water supply, wildlife habitat and aesthetics. It is also a Special Resource Water, a special body of water recognized by the state as needing intensive protection. BPA’s proposal for monitoring does not address specifically what would be monitored or when; more information is needed.
- Lake Pend Oreille has marinas and shoreline businesses that operate year-round. There is concern that fluctuating the winter pool would cause severe damage to infrastructure and docks (please see attached letter regarding Heitman and Bottle Bay marinas).
- Because it is within the Commission’s charge to protect the Pend Oreille Basin for the communities interest (as well as the State and the native fish & wildlife), there is also concern regarding access to the lake in the winter (particularly by anglers), communication with the public on when the fluctuations are to take place, and impacts to local construction and restoration projects (such as bypass construction and the recently restored Pack River Delta). In addition, the erosion rates in the Clark Fork Delta are already of grave concern.
- Changing lake levels in mid-winter could very possibly promote ice scouring and rhizome fragment dispersal of Flowering rush, an aquatic invasive species. Repeated lake level changes in late winter/early spring may facilitate rhizome dispersal and rooting on exposed sediments. In addition, the impacts of freezing on Eurasian watermilfoil could be compromised by bringing the water level back up to 2056.’
- The Pend Oreille watershed has one of the largest concentrations of overwintering redhead and other diving ducks. There is concern about potential impacts on wintering waterfowl as a result of the fluctuating winter pool.

- Even if BPA agrees to a monitoring program for erosion and fish & wildlife impacts, there is no mention of mitigation. If there are adverse impacts as a result of the fluctuations, the State, communities and Commission would like to be assured that the practice will stop or be mitigated appropriately.

Thank you for the opportunity to comment on this very important issue.

Sincerely,

Ford Elsaesser, Chair  
Kate Wilson, Coordinator

# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

November 18, 2009 Meeting

### FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Erin Halton

Notes: Christa Leonard

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.

#### **Review Meeting Minutes for November 4, 2009**

No changes to the facilitator notes or official meeting minutes were made during the meeting and both sets are considered final.

#### **Vernita Bar Update**

Russell Langshaw, Grant PUD, presented TMT with an operations update: flow has been holding steady between 55-60 kcfs and redd counts have been fairly low so far.

Spawning initiation was established on October 22<sup>nd</sup> for the 36 kcfs range, on October 28<sup>th</sup> for the 36-50 kcfs range and October 24<sup>th</sup> for the above 50 kcfs range.

**Action/Next Steps:** The final redd count survey is scheduled for this Sunday 11/22 and critical elevation will be set. This item will be on the agenda for the 12/10 TMT meeting.

#### **Dalles Spillwall Project**

Pat Duyck, COE-NWP, presented TMT with a status report on this project. The leveling slabs on the rock shelf were completed last week and there will be a total of 43 pre-cast blocks, the last two of which will be set this week. Duyck said that the contractor has refined the concrete mix, which has helped the concrete process go well. The lengthy process of the drilling and grouting stages has begun, with 32 of the 116 holes completed. There are currently two drilling rigs on the wall, with work performed around the clock. Beginning next week, 4-6 anchors per block will be set.

Duyck noted that good weather and light winds have helped put the project ahead of schedule, which provides a good buffer for the schedule, should inclement weather arrive later in the season. A third construction season is not likely to be needed and the completion date for in-water work is still on schedule for end of March 2010, with heavy equipment out of the water around March 1st. Duyck clarified that the project will still require higher tailwater elevation while barges and cranes are in the water. He added that the Bonneville pool height (78') has caused a few minor issues for the Ballard at the locks but they were corrected by grating removal.

TMT members thanked Duyck for the update and complimented the good work being performed at the project.

**Action/Next Steps:** Duyck will continue to provide updates as requested by TMT.

### **Chum Operations**

Dan Feil, COE, directed TMT members to three documents, posted as links to the agenda, including a link to the Fish Passage Center site detailing tracking surveys of spawning grounds where several fish and one redd were observed on November 11<sup>th</sup>. Also posted were a summary of chum operations criteria and a summary of the first full week of tailwater operations and discharge at Bonneville. Feil noted spikes on the 8<sup>th</sup> and 9<sup>th</sup> were due to higher flows being passed at night (ideally around midnight), pursuant to the protocols in the current teletype for chum spawning operations. Paul Wagner, on behalf of the Salmon Managers, complimented the COE/BPA on the chum operations so far and clarified that timing for passing higher flows best serves the fish when it is as close to midnight as possible.

**Action/Next Steps:** Feil will post updated summaries to the TMT agenda for the December 10<sup>th</sup> meeting.

### **Lake Pend Oreille Post-Spawning Operations**

As follow up to discussion at previous TMT meetings, Tony Norris, BPA, presented a request to the region: for flexibility to fluctuate the Lake Pend Oreille pool between 2051-2056'. Norris said that BPA would hold to a max fill per day of .5' and explained that filling the pool could help avoid creating TDG issues downstream and also meet energy needs for the region, noting that increased discharge at Albeni Falls during cold snaps would support energy production. Norris stressed that there would be slow, gradual drafting and filling of the lake, only filling more quickly if there was to be a big precipitation event. He added that bank erosion monitoring and LIDAR data will be in place to help measure the effects of this operation.

Kate Wilson and Ford Elsaesser, of the Lake Pend Oreille Basin Commission, referred TMT to a memo posted as a link to the agenda the morning of 11/18. They outlined the Commission's concerns regarding the operation, including the impact of lake fluctuation on bank erosion, aquatic species, and marina property affecting the local businesses, community and economy. Wilson said an additional document had been emailed to the COE, which will be shared with regional representatives following the TMT meeting.

Russ Kiefer, ID, stated that this has been a difficult request for the State of Idaho to consider. Idaho Fish and Game representatives have been working closely with Scott Bettin, BPA, and Kiefer acknowledged that while the LIDAR monitoring work will be conducted, IDFG shares many of the concerns expressed by the Commission. Kiefer stated that while they have serious concerns, Idaho has made the decision to not officially oppose nor support the operation, noting that they will monitor the operation closely, watching for impacts that will inform decisions and management for future years. Idaho said they recognize the potential power production benefits for the region, but impacts to the resources and people of Idaho should be minimized or mitigated for. The USFWS said they concurred with ID, neither opposing nor supporting the request. Other regional agencies present at the meeting (NOAA, BOR) had no comment.

**Action/Next Steps** Dan Feil, COE, thanked the Commission for their feedback and said that the COE would review the additional document submitted by the Commission and the COE will conduct further internal discussion and consult with their other regional partners as part of their decision making process. Updates on this item will be shared with the region as they are known.

### **Operations Review**

**Reservoirs:** Libby was at elevation 2439.2', with inflows of 4.4 kcfs and outflows of 12.1 kcfs. Albeni Falls was at elevation 2051.3', with inflows of 14.7 kcfs and outflows of 13.4 kcfs. Dworshak was at elevation of 1515.1' with inflows of 1 kcfs and outflows of 1.6 kcfs. Lower Granite daily average flows were 21 kcfs, McNary daily average flows were 112.5 kcfs, Bonneville average flows were 110 kcfs. Grand Coulee was at elevation 1284.8' (supporting Chum operations). Hungry Horse was at 3544.04' with 2.0 kcfs discharge.

**Fish:** Paul Wagner, NOAA, noted the current focus is on Chum operations. Numbers continue to increase and, as typical of this time of year, will ramp up over the next month.

**Power System:** Nothing to report.

**Water Quality:** No issues to report.

**Other/Announcements:** The TMT Year-End-Review has been scheduled for Friday, 12/11 at the City of Portland Building in downtown Portland at 1121 SW 5<sup>th</sup> Avenue. Dan Feil noted that comments regarding the Water Management Plan are still being accepted.

**TMT Schedule:** The next meeting originally scheduled for December 2<sup>nd</sup> has been moved to **Thursday December 10<sup>th</sup> at 1:00pm.**

Agenda items may include:

- Notes Review
- Chum Operations
- Vernita Bar Update
- Zero Nighttime Flow on the Snake Projects
- Operations Review

**Columbia River Regional Forum  
Technical Management Team Meeting  
November 18, 2009**

**1. Introduction**

Today's TMT meeting was chaired by Dan Feil (COE) and facilitated by Erin Halton (DS Consulting), with representatives of USFWS, NOAA, BPA, COE, Idaho, BOR, CRITFC, FPC and others participating. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

**2. Review Meeting Minutes for November 4, 2009**

There were no changes to the minutes today, so they were deemed final.

**3. Vernita Bar Update**

The result of the basin-wide low discharge this year has been a daytime operation of 55-60 kcfs at Vernita Bar, which has kept redd counts low, Russell Langshaw (Grant PUD) reported. The initiation of spawning occurred on October 22 in the 36 kcfs zone; October 28 in the 36-50 kcfs zone; and November 4 in the zone above 50 kcfs. A final redd count on November 22 will set the critical elevation for this year's operation, which is expected to be in the 55-60 kcfs zone. Langshaw will confirm the elevation at the next TMT meeting December 10.

**4. The Dalles Spillwall Construction Update**

Good weather this month has allowed the contractor to make great progress on construction activities, Pat Duyck (COE) reported. The leveling slab, completed last week, will be the foundation on the rock shelf for the 43 precast concrete blocks that form the wall. Last season 15 blocks were set in place; the last two will probably be placed by the end of this week. Many problems encountered last year have been resolved, so the pace of production is highly improved. Refinements to the concrete mix resulted in time savings without sacrificing quality.

Now the critical element is getting anchors installed, which will hold the wall in place and keep it stable. As of yesterday, the contractor had drilled 32 of 118 anchor holes needed for the anchors. This is a complex process, and crews are working around the clock on it. The fact that construction is ahead of schedule could serve as a buffer if bad weather comes. Duyck expressed confidence that spillwall construction will be completed by the end of the in-water work period March 31, 2010. The bulk of heavy construction activities in the water should be completed by March 1.

Discussion moved to limits on Bonneville forebay elevation associated with navigational needs for the contractor's equipment. Although spillwall construction is ahead of schedule, a higher tailwater elevation will still be required throughout the end of the in-water work period because the contractor is using a large crane barge for final placement of the pre-cast blocks, Feil said. The COE is clarifying the depth requirements for the fully loaded crane.

Meanwhile, project staff have removed grating from the upper-elevation fish ladder at Bonneville to avoid possible mortalities. And the Cascade Locks marina doesn't appear to be having any functional problems as a result of the 78-foot elevation requirement at Bonneville tailwater, Norris said.

## **5. Chum Operations**

Dan Feil showed TMT links to chum spawning surveys, spawning operations criteria, and a summary of the first week of the chum spawning operation. The November 12 survey showed more chum in the Bonneville area, with one redd being observed. With the exception of a few spikes to 14-15 feet elevation during night time hours (following protocol of the chum spawning teletype and the agreed to operation), flows have remained within the 11.3-11.7-foot range requested. The COE will continue to provide TMT with summaries of the chum spawning operation.

## **6. Lake Pend Oreille Post-Spawning Operation**

Tony Norris (BPA) presented the region with a request to operate Lake Pend Oreille within the flood control operating range of elevation 2,051-2,056 feet during winter spawning. The primary purpose of the request for added flexibility is to allow adjustment of Grand Coulee inflows as needed for power production.

Norris explained how the operation would be implemented, with several mechanisms for drafting Albeni Falls. The project has a maximum draft rate of ½ foot per day. Daily discharges are limited to a minimum of 4 kcfs and a maximum change of 10 kcfs per day.

BPA proposed to use the full winter operating range as a hedge against high power demands. The lake's proposed operating range after spawning would be 2,051-2,056 feet elevation, whereas in recent previous years it would have been 2051 – 2052 feet. Average inflows in late December and early January are approximately 15 kcfs, which means a likely refill rate of less than ¼ foot per day with a 4 kcfs minimum discharge. A significant streamflow event could allow the lake to fill more rapidly, providing a benefit of reducing spill and TDG levels downstream.

Because Albeni Falls has minimal power generating capacity, the value of drafting there is to manage Grand Coulee forebay. The resulting power production at Grand Coulee could be extremely valuable to the region during a cold snap. Norris reminded everyone that the highest draft rate allowed at Albeni

Falls is 1/2 foot per day, which would limit drafting of the lake. Another possible future use of water stored upstream would be augmentation to help Grand Coulee meet its BiOp performance objectives later. In response to concerns about bank erosion at Lake Pend Oreille, BPA will be assisting IDFG in collecting data to establish a baseline condition and monitoring.

Kate Wilson (Pend Oreille Basin Commission) presented a letter, attached to today's agenda, that outlines all issues of concern to the Commission regarding the proposed December operation of Lake Pend Oreille. The way this operation was initially proposed, the lake could be drafted up and down within elevation 2,051-2056 feet no more than three times this winter, she recalled. It is doubtful the project could be drafted more often than that from a hydrologic standpoint, Norris said.

The commission's top concerns are sedimentation (TMDL concerns), erosion, and impacts to the Lake Pend Oreille marina if winter lake elevation goes higher than a one foot operating range. There is concern the proposed operation could exacerbate erosion in the Clark Fork delta. In addition, studies have shown a correlation between higher lake levels and the spread of flowering rush, an invasive species.

For these reasons, the **Pend Oreille Basin Commission** strongly opposed the BPA proposal. The opposition is based on a lack of opportunity for public vetting and does not mean the Commission would be uniformly opposed to fluctuating lake levels in winter.

Wilson offered to help set up a public meeting in Sandpoint, Idaho, if the proposal does move forward. Others then stated their views for the record.

**Idaho** – Neither supports nor opposes the operation this year. Will monitor the lake closely for any adverse effects. Allowing BPA the flexibility for power production to meet short-term needs during cold spells could greatly benefit the public of the Northwest.

**NOAA** – Did not object to the proposed operation.

**USFWS** – Like Idaho, did not support or oppose the operation this year.

**COE** – Will consider points made in the Lakes Commission letter to the COE, as well as other comments, and meet with external parties before making a decision on this issue.

## ***7. Operations Review***

**a. Reservoirs.** Grand Coulee is at elevation 1,284.8 feet, operating to support the chum operation. Hungry Horse is at elevation 3,544.04 feet, with discharges of 2.0 kcfs.

Libby is at elevation 2,439.2 feet, with inflows of 4.4 kcfs and outflows of 12.1 kcfs.

Albeni Falls is at elevation 2,051.3 feet, with inflows of 14.7 kcfs and outflows of 13.4 kcfs.

Dworshak is at elevation 1,515.1 feet, with inflows of 1 kcfs and outflows of 13.4 kcfs.

Daily flow averages are 21 kcfs at Lower Granite, 112.5 kcfs at McNary, and 110 kcfs at Bonneville.

**b. Fish.** The chum operation is the main concern this time of year. While numbers continue to increase, they're not overwhelming. The next month will be prime chum spawning time.

**c. Power System.** There was nothing to report today.

**d. Water Quality.** There was nothing to report today.

## **9. Next Meeting**

The next scheduled TMT meeting will be December 10. The next day will be the TMT annual year-end review on December 11. This summary prepared by consultant and writer Pat Vivian.

<b>Name</b>	<b>Affiliation</b>
Dan Feil	COE
Dave Wills	USFWS
Paul Wagner	NOAA
Doug Baus	COE
Tony Norris	BPA
Steve Barton	COE
Joel Fenolio	COE Seattle
Rob Diaz	Integral Renewables
Pat Duyck	COE
Karl Kanbergs	COE

### Phone:

Russ Kiefer	Idaho
John Roache	BOR
Kyle Dittmer	CRITFC
Eric Volkman	BPA
Amy Reese	COE Seattle
Margaret Filardo	FPC
Dave Benner	FPC
Russell Langshaw	Grant PUD
Tim Heizenrader	Centaurus

Russ George  
Rob Allerman  
Richelle Beck  
Tom Le  
John Hardy  
Kate Wilson  
Ford Elsaesser

WMC  
Deutsch Bank  
DRA  
Puget Sound Energy  
EWEB  
Pend Oreille Basin Commission  
Pend Oreille Basin Commission

# TECHNICAL MANAGEMENT TEAM

**BOR** : John Roache / Mary Mellema / Pat McGrane      **BPA** : Tony Norris / Scott Bettin / Robyn MacKay  
**NOAA-F**: Paul Wagner / Richard Dominique              **USFWS** : David Wills / Steve Haeseker  
**OR** : Rick Kruger / Ron Boyce                              **ID** : Russ Kiefer / Pete Hassemer  
**WDFW** : Cindy LeFleur                                         **MT** : Jim Litchfield / Brian Marotz  
**COE**: Dan Feil / Steve Barton

## TMT MEETING

Thursday December 10, 2009 13:00 - 16:00

1125 N.W. Couch Street, Suite 500, Columbia Room  
Portland, Oregon 97209-4142  
Map Quest [\[Directions\]](#)

### CONFERENCE PHONE LINE

Conference call line:888-422-7124; PASS CODE = 209548

To check into the building, take the elevator to the 5th floor and the guard will issue you an ID badge if you need one and will take you down to the meeting room on the 4th floor. If you have NOT attended a TMT meeting in the past you will need to call ahead and let Dan Feil (503) 808-3943 or Steve Barton (503) 808-3945 know, so you can be added to the TMT Visitor List and issued an ID badge. This badge may be used indefinitely. If you have attended TMT in the past you may re-use your ID badge indefinitely. If you are a federal employee you will also need to have an ID badge issued to you which can be used indefinitely.

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*All members are encouraged to call Erin Halton with any issues or concerns they would like to see addressed.  
Please e-mail her at [rgumpert@cnnv.net](mailto:rgumpert@cnnv.net) or call her at (503) 248-4703.*

## AGENDA

1. Welcome and Introductions
2. Review Meeting Minutes for November 18, 2009 [\[Meeting Minutes\]](#)
3. The Dalles Spillwall Project - Pat Duyck, COE-NWP
4. Chum Operations - Dan Feil, COE-NWD
  - a. [Chum Spawning Surveys](#)
  - b. [Chum Spawning Operating Criteria](#)
  - c. [Chum Operation Summary - Week 2](#)
  - d. [Chum Operation Summary - Week 3](#)
  - e. [Chum Operation Summary - Week 4](#)
5. Lake Pend Oreille Post-Spawning Operations -
  - a. [Trulock Letter](#)
6. Snake River Nighttime Zero Flow - Dan Feil, COE-NWD

7. Operations Review
  - a. Reservoirs
  - b. Fish
  - c. Power System
  - d. Water Quality
8. Other
  - a. Set agenda and date for next meeting - **December 16, 2009**
  - b. [\[Calendar 2009\]](#)

*Questions about the meeting may be referred to:*

*[Dan Feil](#) at (503) 808-3943, or*

*[Steve Barton](#) at (503) 808-3945*

# TECHNICAL MANAGEMENT TEAM

**BOR** : John Roache / Mary Mellema / Pat McGrane      **BPA** : Tony Norris / Scott Bettin / Robyn MacKay  
**NOAA-F**: Paul Wagner / Richard Dominique              **USFWS** : David Wills / Steve Haeseker  
**OR** : Rick Kruger / Ron Boyce                              **ID** : Russ Kiefer / Pete Hassemer  
**WDFW** : Cindy LeFleur                                         **MT** : Jim Litchfield / Brian Marotz  
**COE**: Steve Barton / Karl Kanbergs / Doug Baus

## TMT CONFERENCE CALL

Wednesday December 23, 2009 09:00 - 12:00

### CONFERENCE PHONE LINE

Conference call line:877-807-5706; PASS CODE = 442788

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Please e-mail her at [ehalton@cnnm.net](mailto:ehalton@cnnm.net) or call her at (503) 248-4703.*

## AGENDA

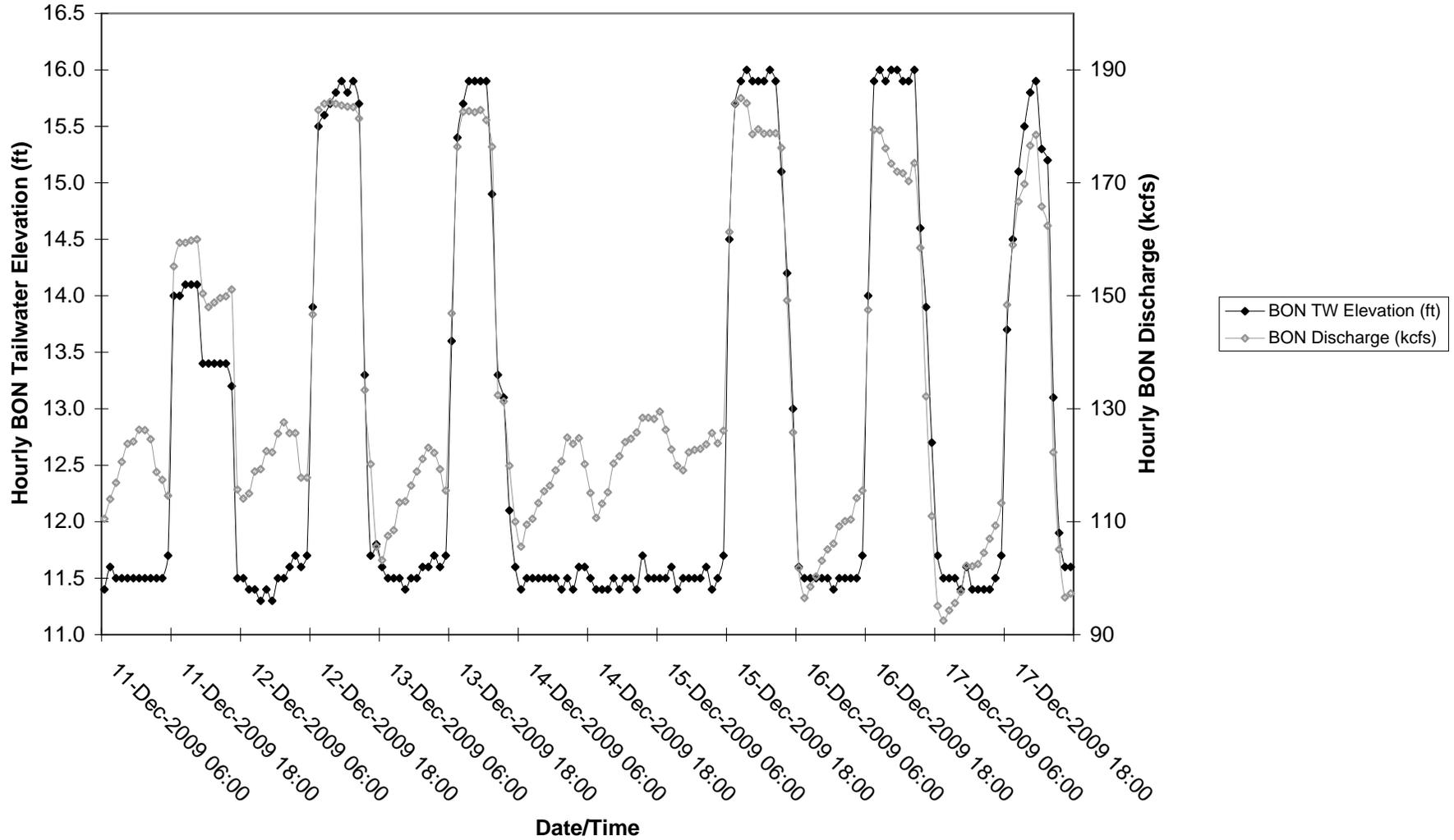
1. Welcome and Introductions
2. Review Meeting Minutes for December 10, 2009 [[Meeting Minutes](#)]
3. Review Chum Operations - Steve Barton, COE-RCC
  - a. [Chum Spawning Surveys](#)
  - b. [Chum Operation Summary - Week 5](#)
  - c. [Chum Operation Summary - Week 6](#)
  - d. [Chum Operation Summary - Week 7](#)
4. Operations Review
  - a. Reservoirs
  - b. Fish
  - c. Power System
  - d. Water Quality
5. Other
  - a. Set agenda and date for next meeting - **December 30, 2009**
  - b. [\[Calendar 2009\]](#)
  - c. [\[Calendar 2010\]](#)

*Questions about the meeting may be referred to:  
[Steve Barton](#) at (503) 808-3945, or  
[Doug Baus](#) at (503) 808-3995*

# 2009-10 Chum Spawning Operations

## Week 6

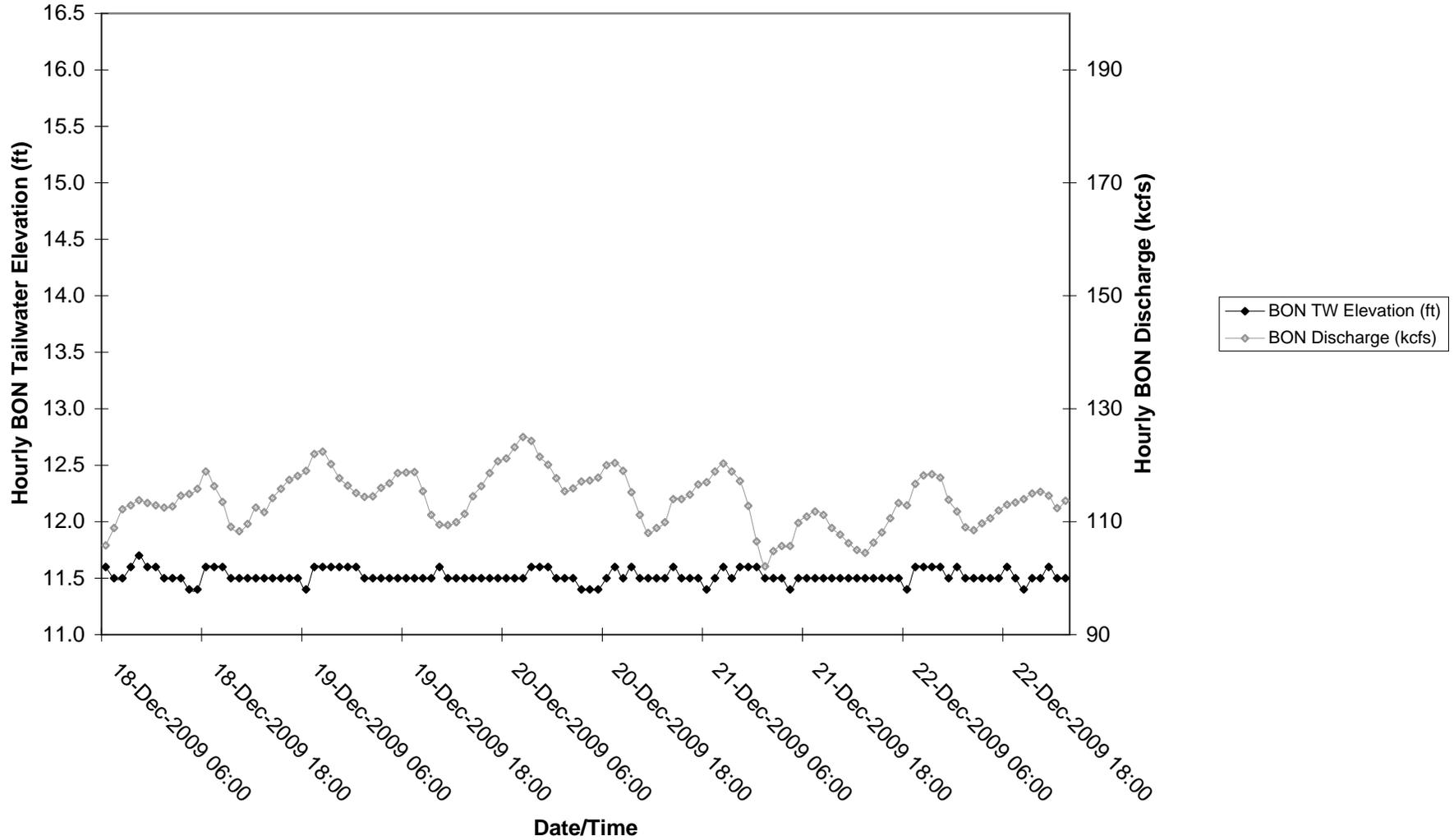
(12/11, 0600 hours - 12/18, 0500 hours)



# 2009-10 Chum Spawning Operations

## Week 7

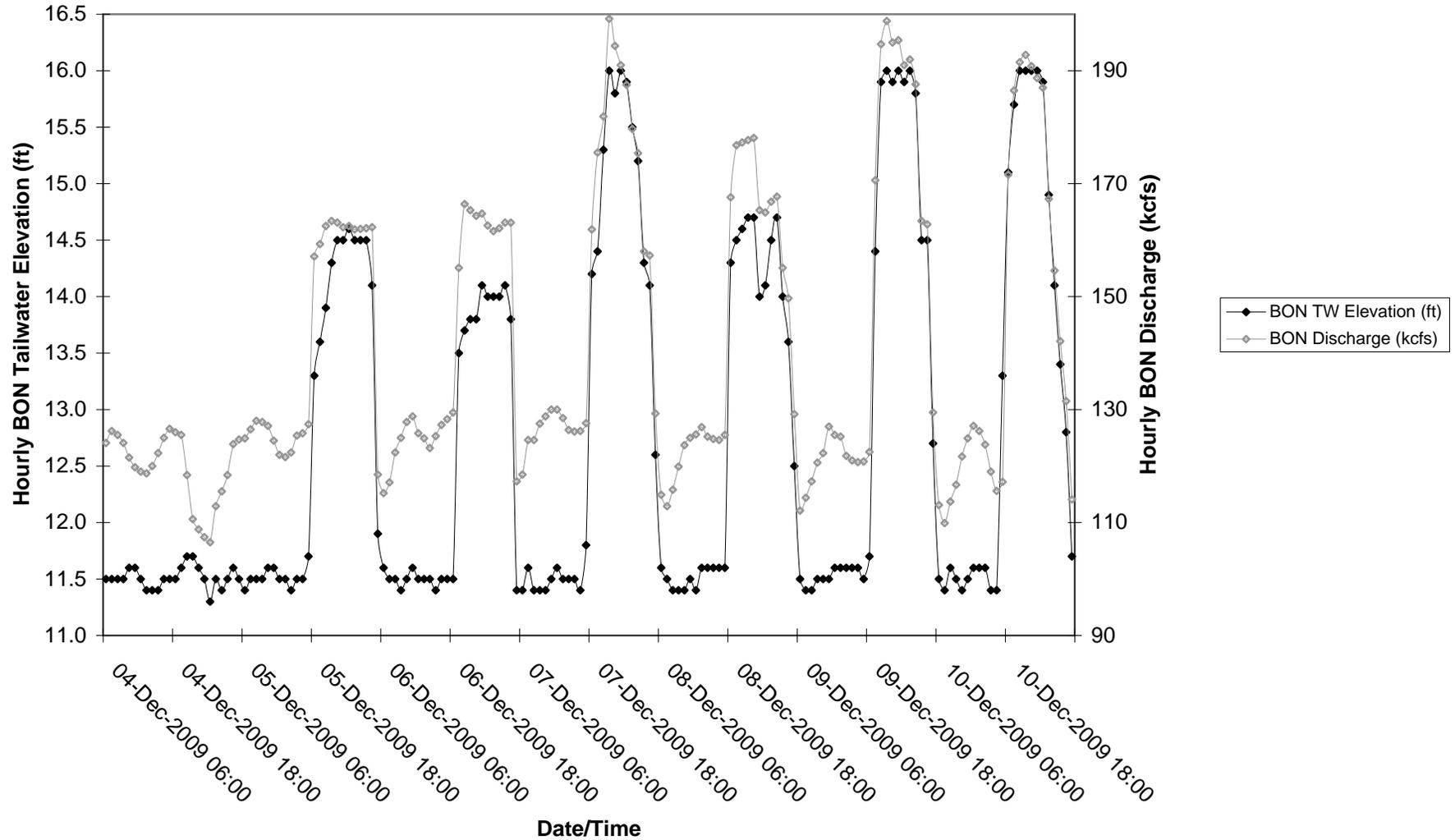
(12/18, 0600 hours - 12/25, 0500 hours)



# 2009-10 Chum Spawning Operations

## Week 5

(12/4, 0600 hours - 12/11, 0500 hours)



# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

December 23, 2009 Conference Call

### FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Erin Halton

Notes: Christa Leonard

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.

#### **Review Meeting Minutes for December 10, 2009**

The COE submitted changes to page number three of the facilitator notes regarding John Day. The facilitator confirmed that the corrected version had already been posted to the web. No other changes to the 12/10 facilitator notes or official meeting minutes were made during the meeting and both sets are considered final.

#### **Chum Operations**

Steve Barton, COE, and Paul Wagner, NOAA, directed TMT to chum data, posted as links to the agenda. Barton reported that 32 live fish were observed during the 12/15 survey. Wagner reported on the 12/22 survey (to be posted to web) and reviewed three weeks of data: for week five (12/4-11<sup>th</sup>), outflows were held at 11.5 kcfs during daytime hours and per high flow guidance language in teletype, tail water was evacuated at night but stayed at/under 16'. During week seven (12/18-12/22), tailwater was held near 11.5 feet around the clock.

Wagner explained that a total of 7 fish were counted this week at Ives Island as opposed to 32 last week. He noted that Chum are following the usual trend and the numbers are dropping down but yet to zero. Tony Norris, BPA, noted that according to the in-field surveyors, the seven observed fish appeared to be old. He further noted that in past years (2007) when 7 fish were observed in field surveys, there were none observed the following week. Norris suggested that given this assumption, the same pattern could be projected and operations should move to protection. Dave Wills, USFWS, asked if another survey was scheduled. Wagner confirmed that another survey was scheduled for 12/29. Barton asked the salmon managers if there was enough information to lift protection operations before 12/31. The Salmon Managers took a ten minute conference call caucus to discuss the most recent survey data and reported back to TMT following their caucus.

**Action/Next Steps:** The Salmon Manager's consensus was that regarding the low population strength, they would like to maintain current operations and review the new survey data next week during the FPAC call scheduled for 12/29. This item will be discussed at a TMT conference call at 9 am on 12/30.

#### **Operations Review**

Reservoirs: Grand Coulee was at elevation 1284.3' and Hungry Horse was at 3538.15' with outflows of 2.2 kcfs. Libby was at elevation 2415.7', with inflows of 2.1 kcfs and outflows of 20.7 kcfs- likely to reach 13.4 by 12/24. Albeni Falls was at elevation 2051.43', with inflows of 15 and outflows of 17.8 kcfs. Dworshak was at elevation of 1513.35' with inflows of 3.3 kcfs and outflows of 1.6 kcfs. Lower Granite average flows were 20 kcfs, McNary average flows were 100 kcfs, and Bonneville average flows were 112 kcfs.

Fish: Nothing in addition to chum to report.

Power System: Tony Norris, BPA, shared that recent peak wind generation reached 2400 mega watts. There was nothing further to report.

Water Quality: Nothing significant to report.

Other: Russ Kiefer, ID, asked if the COE had come to a decision regarding post-spawning operations at Lake Pend Oreille. Steve Barton, COE, responded that no decision has been made and the COE are still gathering and working through information. Kiefer noted that Kokanee are still in spawning mode and Barton confirmed, per the Seattle District COE report, that fish were being observed during the 12/21 survey.

**TMT Schedule:** The next meeting will be a **Conference Call at 9 am on 12/30.**

Agenda items will include:

- Notes Review
- Chum Operations
- Operations Review

Future TMT dates are scheduled as follows:

Wednesday 1/6 face to face meeting 9:00am

Wednesday 1/20 face to face meeting 9:00am

# TECHNICAL MANAGEMENT TEAM

**BOR** : John Roache / Mary Mellema / Pat McGrane      **BPA** : Tony Norris / Scott Bettin / Robyn MacKay  
**NOAA-F**: Paul Wagner / Richard Dominique              **USFWS** : David Wills / Steve Haeseker  
**OR** : Rick Kruger / Ron Boyce                              **ID** : Russ Kiefer / Pete Hassemer  
**WDFW** : Cindy LeFleur                                         **MT** : Jim Litchfield / Brian Marotz  
**COE**: Steve Barton / Karl Kanbergs / Doug Baus

## TMT CONFERENCE CALL

Wednesday December 30, 2009 09:00 - 12:00

### CONFERENCE PHONE LINE

Conference call line:877-807-5706; PASS CODE = 442788

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## AGENDA

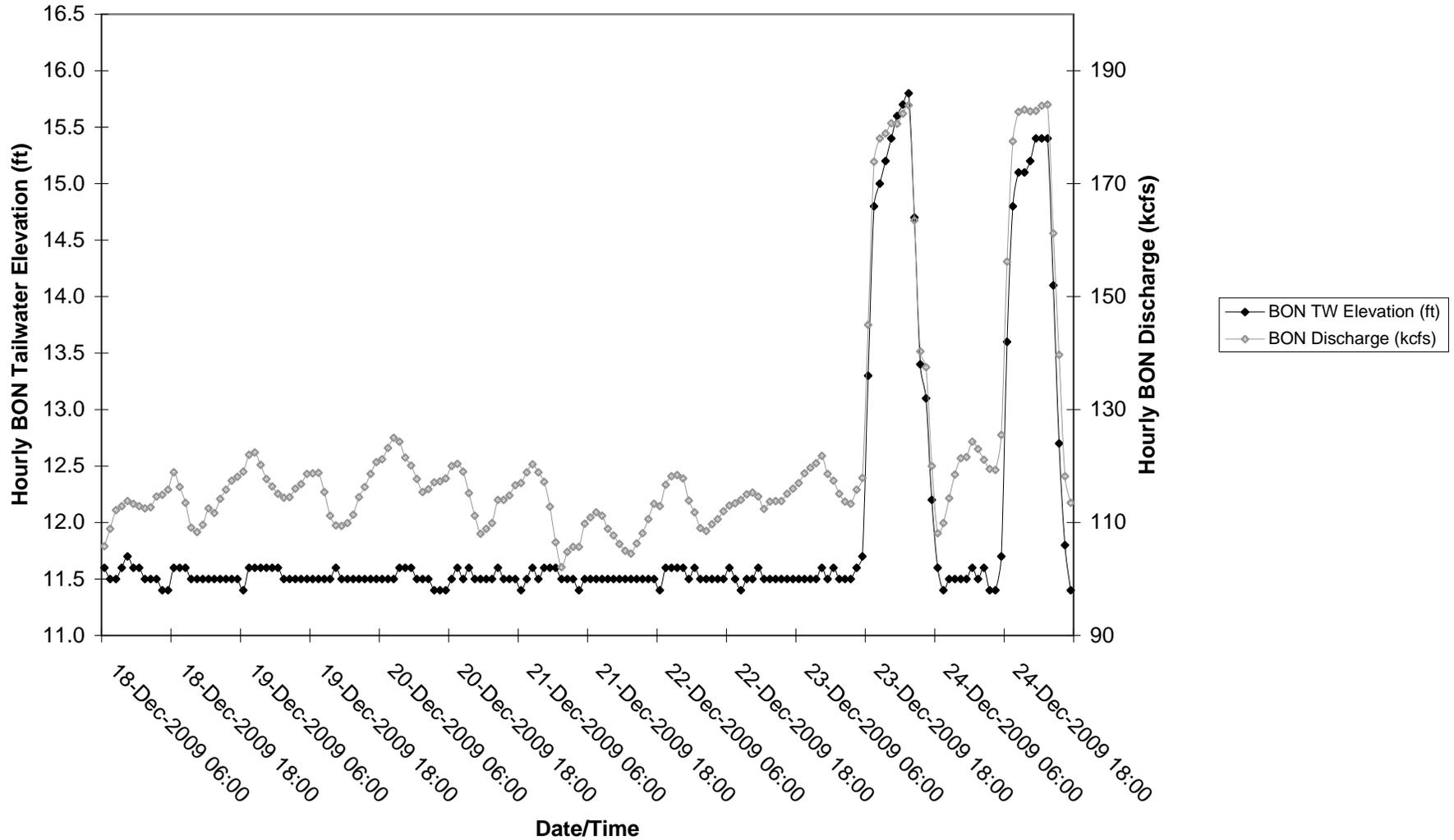
1. Welcome and Introductions
2. Review Meeting Minutes for December 23, 2009 [[Meeting Minutes](#)]
3. Review Chum Operations - Steve Barton, COE-RCC
  - a. [Chum Spawning Surveys](#)
  - b. [Chum Operation Summary - Week 7](#)
4. Operations Review
  - a. Reservoirs
  - b. Fish
  - c. Power System
  - d. Water Quality
5. Other
  - a. Set agenda and date for next meeting - **January 6, 2010**
  - b. [[Calendar 2009](#)]
  - c. [[Calendar 2010](#)]

*Questions about the meeting may be referred to:  
[Steve Barton](#) at (503) 808-3945, or  
[Doug Baus](#) at (503) 808-3995*

# 2009-10 Chum Spawning Operations

## Week 7

(12/18, 0600 hours - 12/25, 0500 hours)



# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

December 30, 2009 Conference Call

### FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator/Notes: Erin Halton

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.

#### **Review Meeting Minutes for December 10, 2009**

TMT will finalize the facilitator notes and official meeting minutes from the 12/23 Conference Call at the next meeting, scheduled for 1/6/2010.

#### **Chum Operations**

Karl Kanbergs, COE, reported that the chum operation of 11.5' daytime tailwater had continued through the morning of 12/29, as discussed during last week's TMT conference call. Paul Wagner (NOAA) and Charles Morill (WDFW), on behalf of the Salmon Managers, reported that the consensus at FPAC's 12/29 meeting was that chum spawning operations did not need to continue beyond 12/30. Wagner noted that overall, the daytime elevations for chum went very well this year, and commended the Action Agencies, particularly given the construction at The Dalles.

**Action/Next Steps:** The Action Agencies will submit a new teletype, notifying the region that 2009 chum operations will cease as of 1600 hours on 12/30.

#### **Operations Review**

**Reservoirs:** Libby was at elevation 2411.4', with inflows of 3 kcfs and outflows of 12.9 kcfs. Albeni Falls was at elevation 2051.33', with outflows of 15.5 kcfs. Dworshak was at elevation of 1513.1' with inflows of 1 kcfs and outflows of 1.6 kcfs. Lower Granite average flows were 16 kcfs, McNary average flows were 140 kcfs, and Bonneville average flows were 141 kcfs. Grand Coulee was at elevation 1283.8' and Hungry Horse was at 3536.74' with outflows of 2.9 kcfs.

**Fish:** Nothing in addition to chum to report.

**Power System:** Tony Norris, BPA, shared that the agency is getting ahead start on storing the 1 MAF in Canada for summer flow augmentation water. He said they expect half of the MAF to be stored by next week.

**Water Quality:** Nothing to report.

**Other:** Russ Kiefer, ID, noted that Kokanee are still in spawning mode.

**TMT Schedule:** The next meeting will be face-to-face on 1/6/2010  
Agenda items will include:

- Notes Review
- Water Management Plan Fall/Winter Update – Comments/Edits Review
- Early Bird Water Supply Forecasts
- Fish Passage Plan 2010 Update
- Discuss Flood Control Briefing for 1/20/10 TMT meeting
- Operations Review

**Columbia River Regional Forum  
Technical Management Team Conference Call  
December 30, 2009**

**1. Introduction**

Today's TMT call was chaired by Karl Kanbergs (COE) and facilitated by Erin Halton (DS Consulting), with representatives of BPA, NOAA, WDFW, Idaho, BOR, CRITFC, and others participating. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

**2. Review Meeting Minutes for December 23, 2009**

The official minutes and facilitator's notes from last week's call will be posted to the TMT web page later today. They will be finalized at the next TMT meeting on January 6, 2010.

**3. Chum Operations**

Karl Kanbergs (COE) gave an update on the chum spawning operation. Last week TMT agreed to continue the operation until the chum count fell below the Salmon Managers' criteria of 6 fish or until December 31.

After discussing the operation with input from Washington fish biologists, yesterday FPAC reached consensus that if no new information on chum spawning is available, the requirement to maintain the currently prescribed chum tailwater operation can be lifted, Paul Wagner (NOAA) and Charles Morrill (WDFW) reported. The current operations set a narrow daytime tailwater range with higher but limited outflows at night. The minimum tailwater elevation at all times has been 11.3 feet.

The chum spawning operation will continue until this evening at 1600 hours (4 pm), at which time the new operation, until further notice, will be a chum incubation operation with the minimum tailwater being 11.5 feet at all times, with no upper tailwater limit. Maintaining the 11.5-foot minimum tailwater elevation for Wednesday, daylight hours, will facilitate removal of the fish trap, which requires a lower tailwater elevation.

This year's chum operation has been challenging during the nighttime hours when flows were rising, but overall things have gone very well despite the spill wall construction at The Dalles, Wagner commented. The daytime chum operation was especially successful.

#### **4. Operations Review**

**a. Reservoirs.** Grand Coulee is at elevation 1283.8 feet, John Roache (BOR) reported. Flows coming into the U.S. from Canada averaged 57 kcfs at the border yesterday, Kanbergs noted.

Hungry Horse is at elevation 3536.74 feet, with discharges at minimum flows of 2.9 kcfs. Inflows are around 700 cfs.

Libby is at elevation 2,411.4 feet, with inflows of 3 kcfs and outflows of 12.9 kcfs. The end-of-year flood control elevation is 2,411 feet. Libby will ramp down to minimum flows on New Year's Day and remain on minimum flows until a more precise water supply forecast is available.

Albeni Falls is at elevation 2,051.33 feet, with inflows of 11.5 kcfs and releases of 15.5 kcfs. The purpose of this operation is to keep the pool elevation within 2051-2051.5 feet. The most recent kokanee count was 100 adults on December 28, so spawning protections need to remain in effect until January 1, Russ Kiefer (Idaho) said. There should be no problem continuing the current operation, Kanbergs replied.

Dworshak is at elevation 1,513.1 feet, releasing minimum outflows of 1.6 kcfs. Inflows are slightly over 1 kcfs.

Daily flow averages are 16 kcfs at Lower Granite, 140 kcfs at McNary, and 141 kcfs at Bonneville. Spill wall construction at The Dalles is on schedule and proceeding well.

Kanbergs gave a heads-up that snow conditions are below average in most of the U.S. basin, and closer to average in portions of the Canadian basin. Runoff at The Dalles is only 64% of average for the water year, with December runoff at 77% of average. In the Snake basin, runoff at Lower Granite is 60% of average for the water year and 74% of average for December.

**b. Fish.** Chum spawning is ending and there is no other piscine activity.

**c. Power System.** By January 3, BPA will have stored over half of the 1 maf of flow augmentation water for 2010 spill season, Norris reported.

**d. Water Quality.** There was nothing significant to report today.

#### **5. Next Meeting**

The next regularly scheduled TMT meetings will be in person on January 6 and 20. The January 6 agenda will cover water supply forecasting, the Water Management Plan and fall/winter update, the draft 2010 Fish Passage Plan, a flood control workshop, Dworshak and Libby operations, and the usual operations review. This summary prepared by technical writer Pat Vivian.

**Name**

Tony Norris  
Paul Wagner  
Charles Morrill  
Russ Kiefer  
John Roache  
Karl Kanbergs  
Kyle Dittmer  
John Hart  
Russ George  
Rob Allerman  
Tom Le

**Affiliation**

BPA  
NOAA  
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BOR  
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CRITFC  
EWEB  
Water Management Consultants  
Deutsche Bank  
Puget Sound Energy