

# 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 / Charles Morrill              **MT** : Jim Litchfield / Brian Marotz  
**COE**: Steve Barton / Karl Kanbergs / Doug Baus

## TMT MEETING

Wednesday July 7, 2010 09:00 - 12:00

NOAA Fisheries  
Columbia Room 11th Floor  
1201 NE Lloyd Blvd Suite 1100  
Portland, OR 97232  
Portland, Oregon 97209-2870

### 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

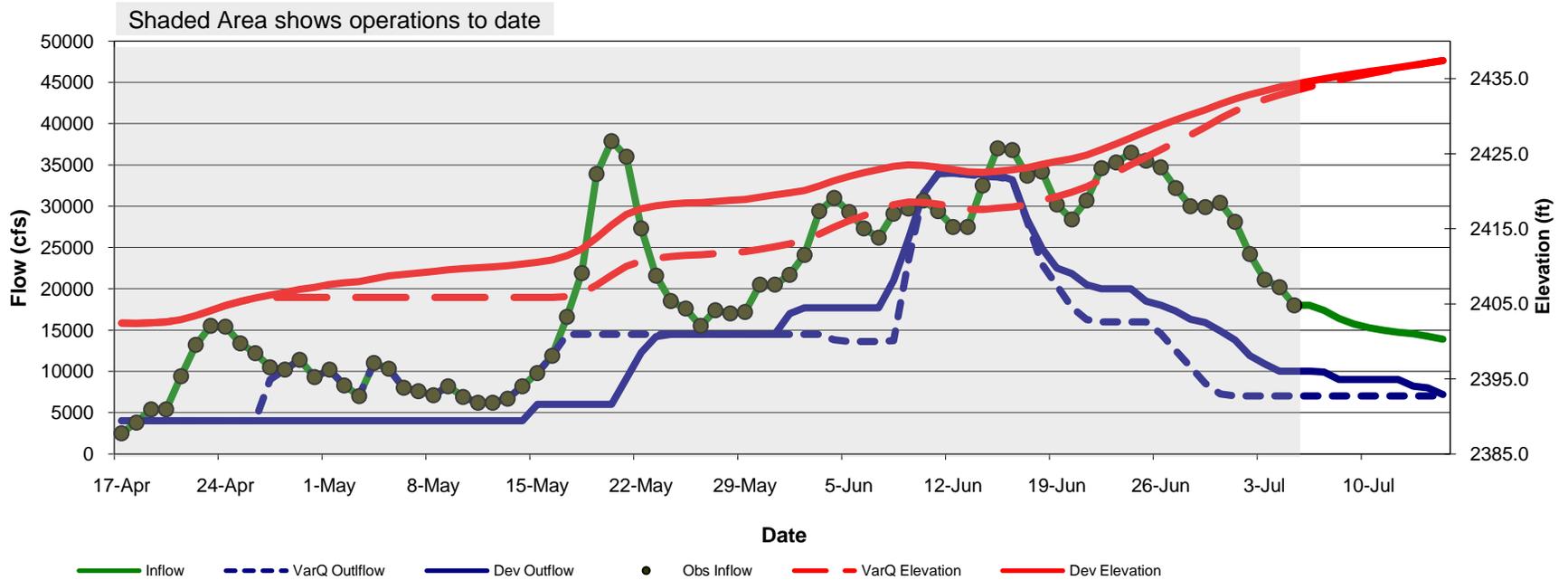
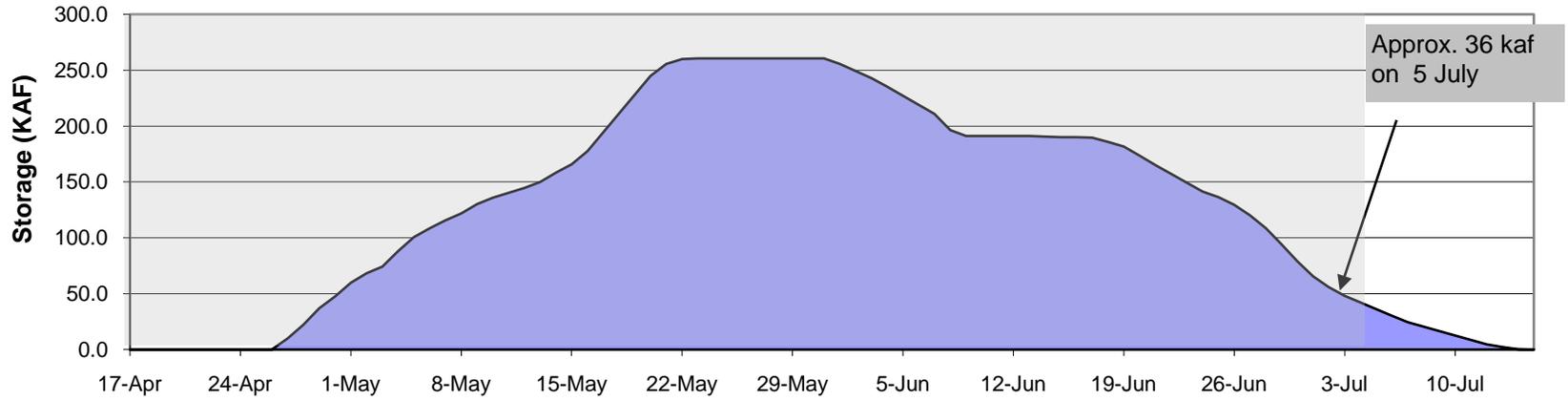
1. Welcome and Introductions
2. Review Meeting Minutes for June 16, 23 and 30, 2010 [[Meeting Minutes](#)]
3. Treaty Fishing - Tom Lorz, CRITFC
4. Libby Operations - Steve Barton, COE-RCC
  - a. [Storage Accounting](#)
5. Sturgeon Operation- Greg Hoffman, COE-NWS
6. Dworshak Operations/Temperature Modeling- Steve Barton, COE-NWW & Jeremy Giovando, COE-NWW
  - a. [Water Temperature Comparisons](#)
7. Bonneville Powerhouse Two Unit Operations - Steve Barton, COE-RCC
8. Operations Review
  - a. Reservoirs
  - b. Fish
  - c. Power System
  - d. Water Quality
9. Other
  - a. Set agenda and date for next meeting - **July 14, 2010**
  - b. [Calendar 2010](#)

*Questions about the meeting may be referred to:*

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

*[Dong Baus](#) at (503) 808-3995*

### Libby Dam Deviation Request Accounting



# COLUMBIA RIVER REGIONAL FORUM TECHNICAL MANAGEMENT TEAM

July 7, 2010

## FACILITATOR'S SUMMARY NOTES

Facilitator: Erin Halton

Notes: Robin Gumpert

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.

### Meeting Minutes

The following changes to the 6/16 Official Minutes were suggested:

- Under Grand Coulee operations, John Roache had reported that the project 'filled' (though it was noted that the project also spilled at that time).
- Also, regarding the Bonneville PH2 operation, adult fallback concerns were for "Summer" Chinook (not Fall).

With these changes, and no further edits to the 6/23 or 6/30 Official Minutes or facilitator notes, all notes were finalized.

### Treaty Fishing

Tom Lorz, CRITFC, reported that requested operations for additional treaty fishing beyond this week will depend on net flight results that will be known later this week. The COE's Karl Kanbergs, filling in for Chair Steve Barton, said the request would be implemented if submitted. A report on treaty fishing will be shared at the next TMT meeting on 7/14.

### Libby Operations

Karl Kanbergs, COE, shared the latest storage accounting per the deviation request for Phase II storage at Libby. The project was releasing 10 kcfs and would ramp down to 9 kcfs until sometime next week (around 7/15) to release the approximate remaining 36 KAF of Phase II storage water. The project would then ramp down to 7 kcfs, minimum bull trout flow (6 kcfs in September). Jim Litchfield, Montana, reminded the group of the 2439 foot end of September target. This was acknowledged by the Corps and BPA noting the minimum Bull Trout requirements as one possible constraint in meeting that goal. Jeremy Giovando, COE Walla Walla, representing COE Seattle, reported that according to models, Libby should reach a peak summer elevation of 2435-2440' by the end of July (maybe higher).

**Action/Next Steps:** A final accounting of the operation will be shared at the 7/28 face to face TMT meeting.

### Sturgeon Operations

Greg Hoffman, COE, and Brian Marotz, Montana, reported on the status of sturgeon per the operation provided this year. Greg said 23 adults were detected at Ambush Rock, below the straight reach; 17 of those were females and many of the females were deemed

'F4' category and likely spawned this year. 16 fish were detected in the straight reach above Ambush Rock, and of those, 12 were female. Four fish were located in the braided reach upstream of Bonners Ferry as late as the last week of June; last week, one fish remained. An informal evaluation of this year's sturgeon program will be conducted by a regional team of sturgeon biologists – likely using the same success criteria that were used formally by the USFWS to evaluate the '08 and '09 operations within powerhouse capacity per the Settlement Agreement. Hoffman also shared that at the Kootenai Tribe of Idaho's hatchery, 11 females were spawned and a new record was set for egg take. A steady thermograph increase was achieved despite challenging conditions; as of 7/7, temperatures were 51°F out of the dam. Above and beyond biological requirements, a nuisance aquatic alga (*Didymosphenia geminata*) was dislodged, and the operation could be considered normative in terms of ecological river function.

Brian reported that resident fish were not harmed by the sturgeon operation, referring to bull trout, kokanee, mountain white fish and suckers that were monitored throughout the operation. He noted that detection efficiency was higher than expected in a small group of marked "test fish", around 31%. Brian also commended COE staff on their temperature management this year. Further data analysis will be shared with TMT at a future meeting.

### **Dworshak Operations**

Karl Kanbergs, COE, referred TMT to an updated, as of 7/6, temperature graph provided by Walla Walla District. He said temperatures were rising toward the 68°F threshold but were not there yet. While the graph modeled 5.2 kcfs outflows, the project was actually operating at 7.5 kcfs. The COE planned to continue at 7.5 kcfs and continue to monitor, expecting to increase to full powerhouse around 7/13. It was noted that temperatures so far this year have been much cooler at this time than in 2006 (which the COE has been using in their model).

Paul Wagner, NOAA, reported that FPAC discussed Dworshak operations and reached a consensus recommendation to continue at 7.5 kcfs this week and plan to increase to full powerhouse some time next week, based on actual conditions and updated forecasts. The goal is to stay ahead of the increasing temperatures with consideration of the lag time in temperature effects from Dworshak to Lower Granite will be important.

Temperatures at Lower Granite were currently 63°F, 64° at Little Goose and 63° at the Anatone gauge. Dworshak outflow temperatures were 45.5°.

Karl Kanbergs shared that the local community have inquired about the COE's decision to release water in excess of just passing inflow, considering that river temperatures are still cool. Their interest is in conserving water for recreational and other purposes. Paul Wagner acknowledged this interest and noted that while this so far has been an anomalous year, temperatures are expected to rise very soon.

**Action/Next Steps:** Doug Baus, COE, shared that graphs used in previous years for in-season temperature management and Dworshak operations (similar to that from the 8/19/09 TMT agenda) will be available for use at upcoming TMT

meetings to help guide discussions again this year. All will monitor conditions closely and TMT members will discuss Dworshak operations at the 7/14 meeting.

**UPDATE:** Following the TMT meeting, on 7/8, an email notification was sent to TMT members regarding Dworshak operations from Karl Kanbergs, indicating that “based on latest temperature modeling and forecast, Dworshak outflows will be increased to full powerhouse tomorrow with exact schedule yet to be determined and coordinated”. An updated graph with Lower Granite temperatures was included.

### **Bonneville Powerhouse II Operations**

Doug Baus, COE, reported that a spill test of 85 kcfs at Bonneville began on 7/2 at 0700 hours, thereby ending the previous operation implemented per the salmon managers’ request to address descaling issues through Powerhouse II. The smolt data descaling report showed 1% or less descaling from 6/29 through the present, so descaling was no longer a concern.

### **Operations Review**

**Reservoirs:** Grand Coulee was at elevation 1287.9 feet. Hungry Horse was at elevation 3559.17 feet, with 6 kcfs outflows and 5-6 kcfs inflows. Outflows at the project were expected to be reduced to 4.5 kcfs later tonight. Libby was at elevation 2435.55 feet, with 18.6 kcfs inflows and 10.0 kcfs outflows. Albeni Falls was at elevation 2062.29 feet, with 43.2 kcfs inflows and 46 kcfs outflows; outflows will ramp down as inflows recede. Dworshak elevation was 1598.92 feet, with 7.4 kcfs outflows and 3.7 kcfs inflows – a recession in flows was happening at the project. Lower Granite was also seeing a recession in flows, currently operating 56.9 kcfs outflows. McNary was at 206.7 kcfs outflows and Bonneville was at 199.2 kcfs outflows (94.2 kcfs spill).

**Fish:** Cindy LeFleur, Washington, gave a status update on adults. Sockeye counts at Bonneville were over 350,000, the highest seen since 1938. Sockeye counts at Lower Granite were 686, already exceeding the pre-season forecast. Idaho’s PIT-tag data indicated about 1,100 Snake River sockeye passed Bonneville, and it was suggested that the conversion rate from Bonneville to the Upper Snake was high – Russ Kiefer reported that it was 74% last year. Summer chinook (counted from June 16 through July) were expected to be below the pre-season forecast of 88,000. Russ Kiefer shared that a transportation test of adults at Lower Granite for emergency situations (high temperatures) was proving feasible so far.

**Action:** Per request, Russ Kiefer will share information with Tom Lorz, CRITFC, about Idaho’s work on SAR impacts from PIT-tag loss.

Paul Wagner, NOAA, reported on juveniles. The yearling fish migration was nearly complete. Subyearling counts were around 5,000/day at Lower Granite, Little Goose and Lower Monumental; 200,000/day at McNary; and 100,000/day at Bonneville.

**Power System:** Tony Norris, BPA, reported that the power system has been set up to manage increasing temperatures in the Northwest, and reminded everyone to do their best to conserve energy during the summer months.

Water Quality: Scott English, COE, reported that with decreasing flows system wide, all involuntary spill had ceased. Spill tests per the Fish Operations Plan were underway, and the fixed monitoring stations were all operational. High TDG at the Grand Coulee forebay through to Chief Joseph was seen, but this was not due to spill.

**Other**

Doug Baus, COE, reported that work scheduled for today on the B2 Corner Collector to repair transducers was postponed due to high winds. The COE scheduled the work to be done on 7/8.

**UPDATE**: According to Karl Kanbergs (COE), following the TMT meeting, on 7/8, the B2 corner collector was successfully closed for a period of four hours and work completed. It was then successfully re-opened.

**Next TMT meeting: 7/14 face-to-face at 9:00 am**

Agenda items will include:

- Treaty Fishing
- Dworshak Operations
- Libby Operations
- Operations Review

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**

**July 7, 2010**

Notes: Pat Vivian

**1. Introduction**

Today's TMT meeting was chaired by Karl Kanbergs (COE) and facilitated by Erin Halton (DS Consulting). Representatives of the COE, BPA, NOAA, Montana, BOR, Washington, Oregon, USFWS, CRITFC and others attended. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

**2. Review Meeting Minutes for June 16, 23 and 30, 2010**

June 16 official minutes:

- Page 6, re: Grand Coulee: Change "spilled" to "filled" per John Roache (BOR).
- Page 10, top, re: Bonneville 2<sup>nd</sup> Powerhouse: Change "fall Chinook" to "summer Chinook," per Paul Wagner (NOAA).

With these changes the June 16 official minutes and facilitator's notes will be considered final.

June 23 and June 30 facilitator's notes and official minutes: There were no further changes today, so these were all deemed final.

**3. Treaty Fishing**

The SOR for treaty fishing submitted last week remains in effect until tomorrow night, when fishing nets will be pulled, Tom Lorz (CRITFC) reported. The tribes will conduct a net flight in the next two days to tally the number of nets and conduct a harvest assessment, then decide whether to submit another SOR for next week. The COE will inform TMT via email if another week of treaty fishing is planned.

**4. Libby Operations**

Operations at Libby are winding down, from 10 kcfs outflows this morning to 9 kcfs by tonight and then transitioning following ramp down rates over July 13-15, down to 7 kcfs, Kanbergs reported. Approximately 36 kaf of volume from the deviation storage remains in Libby reservoir to be released. Jim Litchfield (Montana) asked how full Libby is likely to get by the end of July. The peak summer elevation is currently forecast to be somewhere around 2,535-2,440 feet, Jeremy Giovando (COE Seattle) replied. He added that Inflows at Libby

have been slightly higher than anticipated, and that the reservoir is already at elevation 2,434 feet. Libby reservoir has the potential to reach 2,440 feet or slightly higher this year, based on ESP traces that were run through the model. The plan through August is to hold Libby outflows at 7 kcfs, the minimum bull trout flow. TMT will revisit Libby operations at its next two meetings, with a final Libby storage accounting review planned for July 28.

## **5. Sturgeon Operations**

As of July 1, 23 adult sturgeon were found downstream of the straight reach below Libby Dam, of which 17 were females. Many of these were F-4 females ready to spawn, Greg Hoffman (COE Libby Dam) reported. By the last week in June, as the spill test was ending, 4 fish remained of the 16 initially detected. Twelve of those 16 fish were females.

At this point, it's too early to determine whether the operation was successful according to settlement agreement criteria – that will become known later this summer. Past years' settlement agreements had clear criteria for success of the interim sturgeon operations, Jason Flory (USFWS) explained. However, with the spill component, the settlement is more vague in terms of what constitutes success.

This year's sturgeon operation spawned 11 females beginning in March 2010, considered a good number. Spawning ended after the spill test did, but river conditions remained good, Flory said. The sturgeon recovery team will scrutinize data and evaluate the outcome of the spill test.

Temperature management was a success despite challenging conditions. The spillway crest and selective withdrawal gates at Libby are at similar elevations, which tends to create a "cold shower" for fish when the warm surface flows for spill stop. While water levels in the river were low this spring, the reservoir was kept at a low elevation. Flows this year have been carefully managed so the temperature at Libby only dropped 1 degree F when spill ended. The temperature of the surface level of the reservoir has remained at 61 degrees F since spill ended, which is very cold for July. Brian Marotz (Montana) thanked the COE and the other Action Agencies for their due diligence in providing such good conditions for the sturgeon spill test.

Flory reported that invasive species monitoring was also successful this year, benefiting bull trout as well as resident fish upstream. Overall the sturgeon operation this year was a good one, exceeding BiOp requirements. Monitoring occurred for 6 hours each day and night throughout the spill test, Marotz added. The objective was to ensure that the spill test didn't harm other species in the river. The number of dead and distressed fish found was well below thresholds considered unacceptable. A test of how well the tagging system was able to identify dead fish yielded good results, or 31% detectability which is considered a high rate. Findings from this study indicate that the sturgeon operation didn't

damage other fish species. The sturgeon recovery team will share future findings from the spill study with TMT when they become available.

## **6. Dworshak Operations and Temperature Modeling**

Dworshak outflows were increased yesterday to 7.5 kcfs, Kanbergs reported. The graph of Dworshak operations attached to today's agenda indicates that outflow temperatures are likely to approach the 68 degrees F threshold this year. However, the model makes a conservative assumption that outflows would be only 5.2 kcfs as of today, increasing over the next few days to full powerhouse on July 13. Jeremy Giovando (COE Walla Walla) confirmed the disparity between future temperatures and actual observations, with the projections being warmer than actual water temperatures.

Yesterday FPAC discussed Dworshak operations and reached consensus on 7.5 kcfs outflows, which the COE had modeled as a possible step, Paul Wagner (NOAA) reported. FPAC agreed that outflows should be kept near 7.5 kcfs for now and possibly stepped up to near 10 kcfs next week as modeled, with a check-in next week to verify that 10 kcfs is still appropriate. Currently the temperature at the Lower Granite tailwater gage is hovering just below 63 degrees F, according to the latest water quality reports on the TMT web page. So far this year, temperature management has been going well, Wagner said. Temperatures at Little Goose reservoir are about the same as Anatone, and Dworshak outflows are currently 45.5 degrees F.

The COE will hold outflows at 7.5 kcfs and monitor actual temperatures, Kanbergs said. By the end of this week, it'll be clearer how the river will respond to warmer weather, Jeremy Giovando (COE Walla Walla) noted. In future the COE will post information allowing comparisons to previous years' temperature data at key gages, Doug Baus (COE) noted. Temperatures at Anatone gage were exactly the same – just under 63 degrees F – at this time last year. TMT will address temperature management at its weekly meetings throughout the rest of this summer.

*(Note: In a July 8 email, Kanbergs notified TMT that Dworshak outflows would increase to full powerhouse on July , based on the latest temperature modeling and forecasting.)*

## **7. Bonneville Powerhouse 2 Unit Operations**

In previous discussions of SOR 2010-03 to minimize descaling at the Bonneville 2<sup>nd</sup> powerhouse, Baus recalled, it was agreed that provisions of the SOR would end when river conditions met the criteria for beginning the Bonneville spill test . At 7 am, July 2, hydraulic conditions allowed the COE to initiate the Bonneville spill test to start, which ended SOR 2010-03. The powerhouse 2 units reverted to their typical operation at 1% peak efficiency, and spill flows at Bonneville hit 85 kcfs later on July 2. According to smolt data on the

FPC website, Wagner confirmed, the SOR succeeded in reducing descaling rates.

## **8. Operations Review**

**Reservoirs.** Grand Coulee is at 1,287.9 feet elevation. Hungry Horse is at 3,559.17 feet elevation, with inflows of 4-5 kcfs. Outflows of 6 kcfs will drop to 4.5 tonight as the reservoir heads toward its summer elevation target.

Libby is at elevation 2,434.55 feet with average inflows of 18.6 kcfs, discharging 10 kcfs. Albeni Falls is at elevation 2,062.29 feet, with inflows of 42.2 kcfs and outflows of 46 kcfs. The project will continue to ramp down as flows recede across the basin. Dworshak is at elevation 1,598.92 feet, operating within the top foot for the last several weeks. Yesterday outflows were increased to a day average near 7.4 kcfs, with inflows of 3.7kcfs. By contrast, inflows on July 2 were 5.7 kcfs so they are definitely receding. Models forecast that Dworshak inflows will be 3-3.5 kcfs by July 12.

Lower Granite average outflows are 56.9 kcfs, compared to 72.2 kcfs on July 2, indicating a continuing recession in the Snake system. McNary is discharging an average of 296.7 kcfs. Bonneville is discharging a daily average of 199.2 kcfs total discharge, of which 94.2 kcfs was spill.

**Fish. Adults:** More than 350,000 sockeye passed Bonneville, setting a new record for the run going back to 1938, Cindy LeFleur (Washington) reported. As of July 6, 686 sockeye had passed Lower Granite, according to IDFG data. Based on PIT tags, IDFG estimates about 1,200 Snake River sockeye passed Bonneville this year, an indication of major improvements there. Of these, only 60% made it to Lower Granite. Jim Litchfield (Montana) asked about the sockeye conversion rate. Sockeye conversion rates in general are high through the Columbia system, LeFleur said and Russ Kiefer (Idaho) confirmed. An IDFG emergency test of hauling Snake River adult sockeye directly from Lower Granite into the captive broodstock program was an apparent success. The 7 transported adults seem to be faring well.

The 2010 summer Chinook run will probably come in at less than the predicted size of 88,000, LeFleur reported. Last week Washington updated the 2010 projected run size to 82,000, not much less than the original estimate.

**Juveniles:** Yearling passage in nearly finished, Wagner reported. Returns from these fish are expected to be nil. Subyearlings are passing Lower Granite and Little Goose dams at the rate of around 5,000 per day, and 11,000 per day at Lower Monumental. Lower Granite has already seen its peak subyearling passage, which will continue at declining rates throughout July and August. Returns so far this year are generally solid, Wagner said.

**Power.** With hot weather coming, Tony Norris encouraged Northwestern residents to conserve energy by closing blinds and running appliances at night.

**Water Quality.** Systemwide flows are in recession, and all involuntary spill has ceased, Scott English (COE) reported. Spring and summer Fish Operations Plan requirements have been instituted at all projects. All fixed TDG monitoring stations are operational. Grand Coulee forebay has been producing high TDG values, reflected downstream at Chief Joseph as well. Exceedances at Grand Coulee forebay are potentially coming from Revelstoke Dam upstream

### **9. Other – B2CC Closure**

The Bonneville 2<sup>nd</sup> powerhouse corner collector was scheduled to close today for transducer repairs, but high winds prevented closure, Baus reported. This repair has been postponed several times. Crews will make another attempt tomorrow at 7 am, but the work will be postponed again if winds remain high. (Update: the operation was successfully completed on 7/8/10).

### **10. Next Meeting**

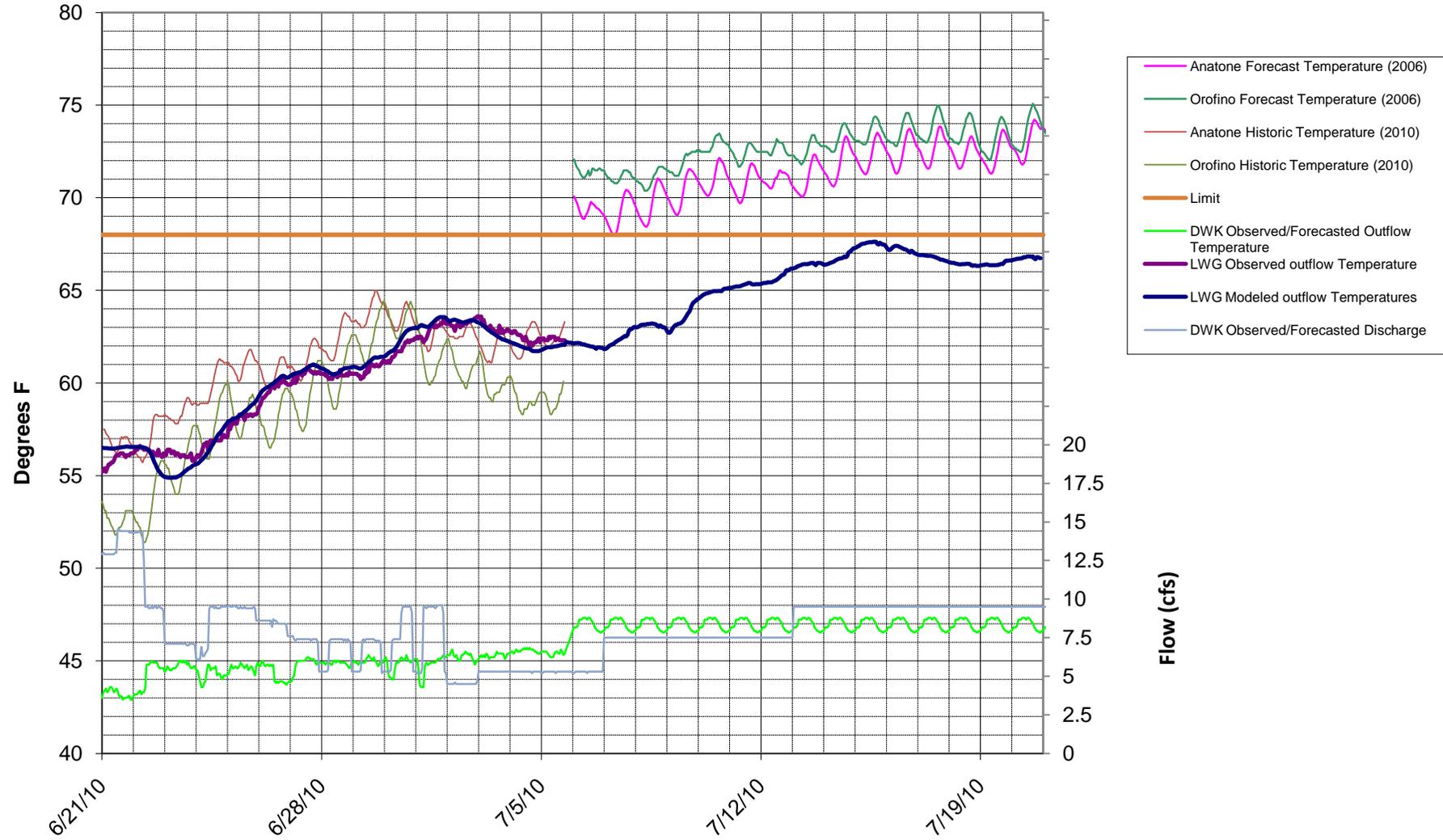
The next TMT meeting will be in person July 14, followed by a conference call on July 21 and another meeting in person July 28. Treaty fishing, Dworshak operations, Libby operations, review of meeting notes/minutes, and the usual operations review will be on next week's agenda.

<b>Name</b>	<b>Affiliation</b>
Karl Kanbergs	COE
Tony Norris	BPA
Scott English	COE
Doug Baus	COE
Paul Wagner	NOAA
Jim Litchfield	Montana
Tom Lorz	CRITFC
 <i>Phone:</i>	
John Roache	BOR
Brian Marotz	Montana
Cindy LeFleur	Washington
Ron Boyce	Oregon
Scott Bettin	BPA
Jeremy Giovando	COE
John Heitstuman	COE Walla Walla
Tim Heizenrader	Centaurus
Greg Hoffman	COE
Jason Flory	USFWS
Richelle Beck	DRA
Barry Espenson	CBB
Tom Le	Puget Sound Enrgy
Doug Vine	Point Carbon
Ruth Burris	PGE

Steve Hall  
Russ Kiefer  
Kim Johnson

COE  
Idaho  
COE

### Water Temperature Comparisons Model from 6/21/2010 to 7/21/2010 Observed Data to 7/6/2010



# TECHNICAL MANAGEMENT TEAM

**BOR** : John Roache / Mary Mellema / Pat McGrane      **BPA** : Tony Norris / Scott Bettin / Robyn MacKay  
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**WDFW** : Cindy LeFleur / Charles Morrill              **MT** : Jim Litchfield / Brian Marotz  
**COE**: Steve Barton / Karl Kanbergs / Doug Baus

## TMT MEETING

Wednesday July 14, 2010 09:00 - 12:00

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

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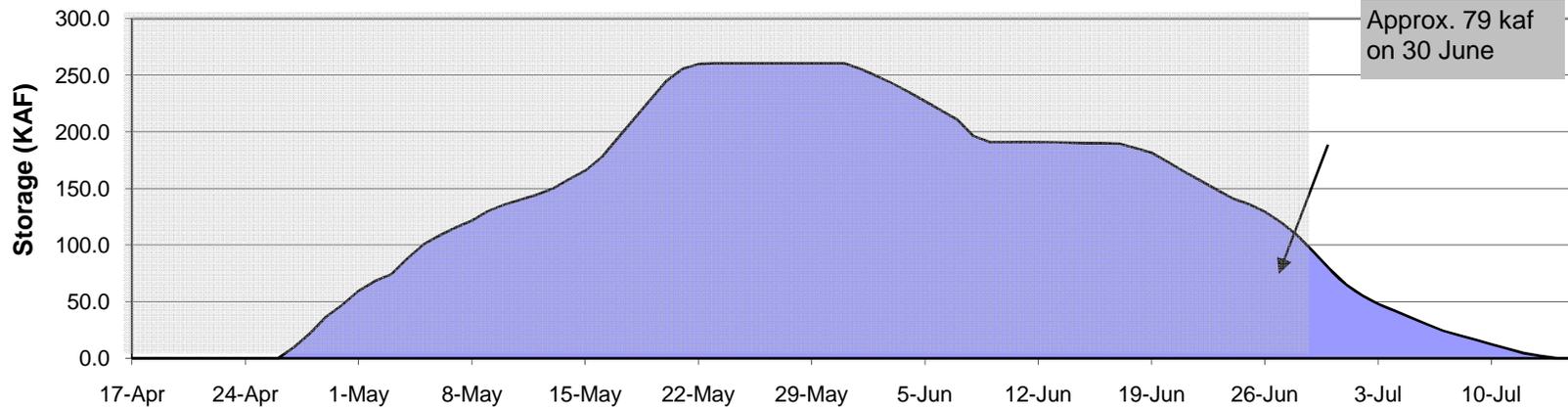
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5. Dworshak Operations/Temperature Modeling - Karl Kanbergs, COE-NWD & Steve Hall, COE-NWW
  - a. [Dworshak Summer Operations](#)
  - b. [Water Temperature Comparisons](#)
6. McNary Transport - Paul Wagner, NOAA Fisheries
7. Operations Review
  - a. Reservoirs
  - b. Fish
  - c. Power System
  - d. Water Quality
8. Other
  - a. Set agenda and date for next meeting - **July 21, 2010**
  - b. [\[Calendar 2010\]](#)

*Questions about the meeting may be referred to:*

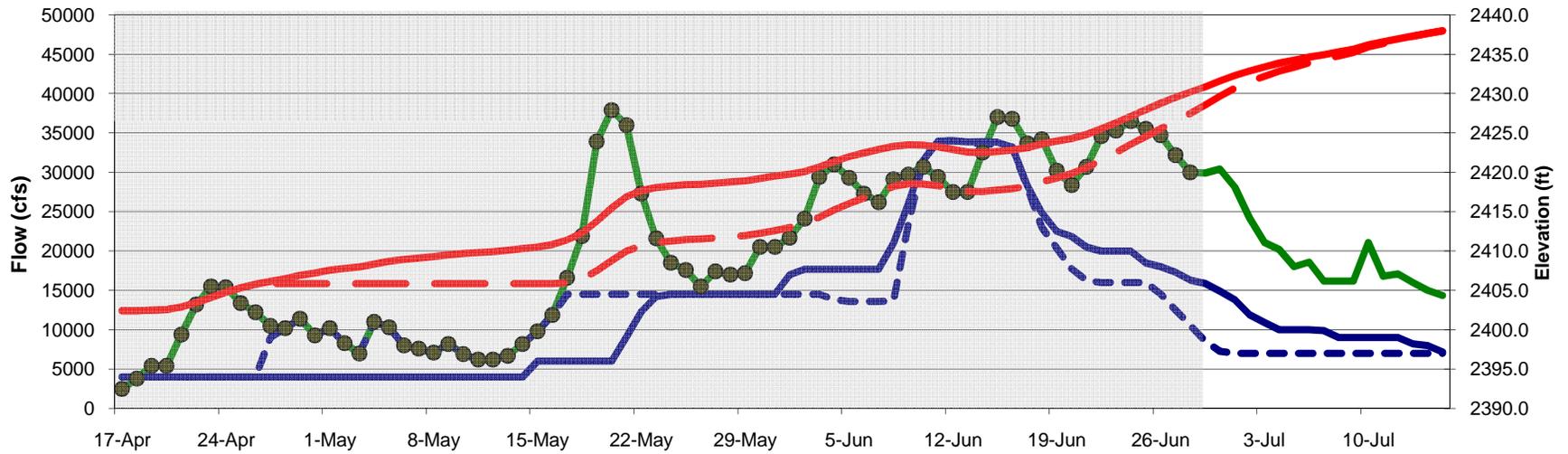
*Steve Barton at (503) 808-3945, or*

*Doug Baus at (503) 808-3995*

### Libby Dam Deviation Request Accounting



Shaded Area shows operations to date



**Date**

— Inflow   
 - - - VarQ Outflow   
 — Dev Outflow   
 ● Obs Inflow   
 - - - VarQ Elevation   
 — Dev Elevation

# COLUMBIA RIVER REGIONAL FORUM TECHNICAL MANAGEMENT TEAM

July 14, 2010

## FACILITATOR'S SUMMARY NOTES

Facilitator: Erin Halton

Notes: Robin Gumpert

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.

### **Official Minutes/Facilitator Notes Review**

In the 7/7 Facilitator Notes: Under ‘Minutes Review’, a correction to the 6/16 notes had been made re: information shared from John Roache, Reclamation, on Grand Coulee (not Dworshak) operations.

With no further edits, the 7/7 Official Minutes and Facilitator Notes were finalized.

### **Treaty Fishing**

Kyle Dittmer, CRITFC, reported on SOR #2010 C-5 submitted for treaty fishing for the 7/13 to 7/15 time period, requesting a 1.5 foot band for the pools at Bonneville, The Dalles and John Day. Kyle noted that gill net fishing would likely conclude with this week’s fishing, and that any additional fishing that might be allowed per the catch allowances would be done via platforms. He also suggested that most of the nets were located at The Dalles and John Day. Summer Chinook counts at Bonneville were 6,000-8,000; sockeye counts were 375,000. Karl Kanbergs, COE, reported that the COE had implemented the SOR as written.

**Action/Next Steps:** Catch counts for the summer treaty fishery will be shared with TMT at a future meeting.

### **Libby Operations**

Karl Kanbergs, COE, provided an update on accounting for Libby flow releases, stating that official accounting for the full operation would be shared at the 7/28 TMT meeting. The project was currently operating at 8 kcfs outflows, expecting to reduce to 7 kcfs (bull trout minimums) at midnight on 7/15 and hold through August. Jim Litchfield, Montana, commended the COE for working with the region to successfully manage this operation.

**Action/Next Steps:** Seattle District COE will share a full accounting report at the 7/28 face to face TMT meeting.

### **Dworshak Operations**

Karl Kanbergs, COE, reported on Dworshak operations, referring TMT to a chart of water temperatures and noting that Lower Granite was currently at 65°F, still below the 68°F threshold. Steve Hall, Walla Walla District COE, provided graphs depicting different Dworshak operating scenarios and the anticipated effect on Lower Granite

temperatures using the COE's water temperature model. The first graph depicted a flat full powerhouse discharge through the upcoming weekend. Hall suggested an adjustment would be made to the model to true up actual current temperatures with those modeled (using 2006 data), and that the temperatures would shift down about 1.5°. With this adjustment, the COE projected Lower Granite to reach 68° around the early part of next week.

Hall noted the second graph included additional observed data and modeled an increase to 12 kcfs on 7/15; with the 1.5° temperature adjustment, temperatures were not expected to cross the 68° threshold with a shift to 12 kcfs (they were projected to reach about 66°). He concluded that the model is intended to inform recommendations and a decision around temperature management through the summer, and suggested that from the COE's perspective, some increase in outflows by Friday would be prudent.

Paul Wagner, NOAA, reported that FPAC discussed the operation using the latest STP run (not the graphs shared today), and had agreed to recommend an increase in Dworshak outflows to 11 kcfs on 7/15, then ramp up to 12 kcfs on Monday, 7/19. The Salmon Managers discussed outflow options given the new information presented today. It was noted that the Nez Perce had agreed to the proposed operation developed at FPAC, but Dave Statler was not available during today's meeting to offer any further recommendation. Given that, and the minimal difference between the FPAC recommendation to stay at 11 kcfs through the weekend as opposed to the COE modeled 12 kcfs through the weekend, all members present at the meeting agreed to move forward with the FPAC recommendation and allow the COE to use its best professional judgment to make any necessary shifts based on actual temperature conditions that unfold over the next few days. The COE added that cooling at the hatchery and Lower Snake was under control and were supportive of the FPAC-proposed operation.

**Action/Next Steps:** The COE will increase Dworshak outflows to 11 kcfs on 7/15 and hold through the weekend, then ramp up to 12 kcfs on Monday 7/19. If new conditions require a deviation from this operation, the COE will alert TMT via email as soon as possible.

### **McNary Transportation**

Paul Wagner, NOAA, reported that the Fish Operations Plan requires McNary transportation operations to begin between July 15 and 30. NOAA recommended (with no objection from FPAC members) to begin collection on 7/15, in order to gather the best available PIT tag data, which will help inform long term decisions about how to manage summer transportation at McNary. Russ Kiefer, ID, added that FPAC members had raised some concerns for the operation when temperatures warm above 68°, and recommended that fish should not be held for 48 hours under those warm conditions.

**Action/Next Steps:** The COE set up the following McNary transportation operation based on the salmon manager feedback: Collection will begin on 7/15, transportation will begin on 7/16. Collection will continue daily and transportation will happen on alternate days during the time period that temperatures remain below 68°. If this temperature threshold is crossed, a

barging/trucking operation will be coordinated to avoid holding fish for more than 48 hours. TMT will check in on the operation at future TMT meetings.

### **Operations Review**

**Reservoirs:** Grand Coulee was at elevation 1289.3' and being operated with respect to McNary flows. Hungry Horse was at elevation 3559.12', with 4 kcfs outflows. Libby was at elevation 2437.5' with 16.8 kcfs in and 8.3 kcfs out. Albeni Falls was at elevation 2062.14', with 24 kcfs in and 27.8 kcfs out. Dworshak was at elevation 1594.4' with 2.1 kcfs in and 9.5 kcfs out. Lower Granite daily average flows were 48.7 kcfs; McNary daily average flows were 178.9 kcfs and anticipated to average 175-185 kcfs; and Bonneville flows were 203.6 kcfs.

**Water Quality:** Laura Hamilton, COE, reported that the fish test at Bonneville began on 7/2 and did not result in any TDG issues. There were malfunctions at the McNary tailwater and Lower Monumental tailwater gauges on 7/7, and both were fixed on 7/8.

**Action:** Per TMT suggestions, the COE will look into a way to flag on a graph when a gauge has malfunctioned (vs. an exceedance), to highlight that the raw data is invalid and was later corrected.

**Fish:** Paul Wagner, NOAA, reported that adult sockeye counts were a record 379,000, and that steelhead numbers were also exceeding the 10-year average for this time in the migration. Lower Granite sockeye counts were 1,375, also higher than forecasted. Russ Kiefer, Idaho, noted that a Lower Granite adult capture and trucking transportation test is showing positive results.

Subyearling Chinook counts at Lower Granite and Little Goose were 4,000, and 34,000 at McNary (a substantial drop in counts at McNary over the last few days). TMT discussed the status of lamprey, noting these fish were not showing improvements similar to the other fish, even though counts at McNary had increased. Counts through the Lamprey Adult Passage System – “LAPS” – at Bonneville will be integrated with other lamprey passage counts to show a more complete picture in the future.

**Power:** Nothing to report.

**Other:** Karl Kanbergs, COE, reported that the COE received a call on 7/13 from the Lower Granite project indicating that debris in the system had knocked a guard rail loose, but was retrieved successfully without needing to shut down the RSW. Karl shared that the COE may need to shut the RSW down for a short period of time today to install the guard rail. This was considered a human safety issue.

**Update:** The RSW was shut down for less than half an hour Wednesday to complete the repair operation.

### **Upcoming TMT meetings will be held on:**

**7/21 (Conference Call) at 9:00 am.** Agenda items will include:

- McNary Operations
- Dworshak Operations

**7/28 (Face to Face) at 9:00 am.** Agenda items will include:

- Dworshak Operations
- Libby Accounting
- McNary Transportation
- Operations Review

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**

**July 14, 2010**

Notes: Pat Vivian

**1. Introduction**

Today's TMT meeting was chaired by Karl Kanbergs (COE) and facilitated by Erin Halton (DS Consulting). Representatives of the COE, Idaho, Washington, USFWS, NOAA, BOR, Oregon, Montana, BPA, CRITFC and others attended. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

**2. Review Meeting Minutes for July 7, 2010**

Dave Wills (USFWS) pointed out that "Dworshak" should be changed to "Grand Coulee" operations in section 2 of the facilitator's notes. Russ Kiefer (Idaho) said he might comment later. Pending any further changes, the facilitator's notes and official minutes for July 7 will be finalized.

**3. Treaty Fishing**

The latest SOR, attached to today's agenda, requests a 1.5 foot operating band at the three lower Columbia pools (Bonneville, The Dalles and John Day) from 6 am July 13 to 6 pm on July 16, Kyle Dittmer (CRITFC) reported. Commercial gillnet fishing is finished for the rest of this month, and any further harvesting will be done from platforms, requiring no SOR. This brings the 2010 summer treaty fishing season to an end.

CRITFC is sponsoring a net flight this morning, Dittmer said. Last week's flight counted 392 nets, with 39% of them at Bonneville, 19% at The Dalles, and 42% at John Day. Estimated run sizes this year include more than 8,000 chinook passing Bonneville, and a record-setting 375,000 sockeye. Final tribal catch counts will be shared with TMT when they're available.

**4. Libby Operations**

A graph depicting Libby storage accounting to date is attached to today's agenda, showing that approximately 79 kaf of storage was released by June 30. For all practical purposes, the stored water volume under the deviation request was fully released as of last night, Kanbergs reported.

Yesterday Libby outflows ramped down from 9 kcfs to 8 kcfs, with a further rampdown to 7 kcfs planned for tomorrow morning. Bull trout minimum flows will continue through August unless inflows are higher than expected. The COE will

provide a summary review of Libby storage accounting the next time TMT meets in person July 28.

### **5. Dworshak Operations and Temperature Modeling**

Kanbergs showed TMT two graphs linked to this item. The first graph in Link 5a shows temperatures at Dworshak, Lower Granite, Anatone and Orofino gages, based on a model run done July 12, which assumes that Libby discharges will remain at full powerhouse through the coming weekend. Today the temperature at Lower Granite tailwater is about 65 degrees F. Sharp downward spikes reflect bad data. The graph projects temperatures through July 18. Kanbergs pointed out that the model, based on the similar water year of 2006, is tracking 1-1.5 degrees F higher than actual temperatures.

The second graph in link 5a is based on observed temperature data, Steve Hall (COE) reported. This graph depicts the potential impact of increasing Dworshak outflows to 12 kcfs on July 15. To account for the disparity between modeled and observed temperatures, the COE has reset the model. Accounting for the over-predictions, it appears that temperatures will remain at around 66 degrees F over the coming weekend. The model is based on full powerhouse flows of 9.5 kcfs from Dworshak until tomorrow, then flows increased to 12 kcfs.

In yesterday's FPAC meeting, Paul Wagner (NOAA) reported, the Salmon Managers agreed to recommend 11 kcfs outflows at Dworshak beginning July 15, then 12 kcfs beginning July 19. The recommendation was based on the available STP model run that Dave Statler (Nez Perce) showed FPAC, not on the modeling information the COE showed TMT today. Dave Wills (USFWS) expressed a preference for 12 kcfs outflows but said 11 kcfs would be acceptable.

The COE is flexible on the magnitude of the increase, which could be 11 kcfs while keeping outflows below the temperature threshold, Kanbergs said. Current release temperatures of 45 degrees F are apparently acceptable to Dworshak hatchery and will provide adequate cooling to the lower Snake River. In the future, the COE will post temperature modeling data whenever available on the TMT website in time for FPAC to use at its Tuesday meetings, Hall noted.

The COE will increase Dworshak outflows to 11 kcfs on July 15, then 12 kcfs on July 19, as requested. The Salmon Managers agreed that if the COE foresees a warming trend, they would support an increase to 12 kcfs outflows before July 19 without further consultation. TMT will revisit Dworshak operations in its July 21 call.

### **6. McNary Transport**

The Fish Operations Plan identifies July 15-30 as the window for making a decision to change the current operation of returning all bypassed and collected fish to the river, Paul Wagner (NOAA) said. In FPAC's discussion of this issue

yesterday, NOAA recommended initiating transport now. Wagner emphasized that if collection doesn't start soon, with a percentage of the collected fish being transported, there will be no data available from this operation. Data on Snake River fish that have been transported from McNary are urgently needed in order to make a final decision regarding McNary summer transportation.

Another factor in favor of starting transportation now is cooler temperatures in which fish can safely wait to be transported. To avoid holding fish for 48 hours in warm water, Russ Kiefer (Idaho) suggested the COE transport collected fish daily via barges and trucks on alternate days, or bypass fish on days when the air temperature exceeds 68 degrees F and the barge isn't loading.

Everything is in place to begin the operation as requested, Doug Baus (COE) said. Collection will begin on July 15 and transport on July 16. Kanbergs noted the FOP says transportation can start early for research purposes. Transport will occur every other day until McNary temperatures rise above 68 degrees F, then daily. TMT will revisit this issue in its conference call next week.

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

**Reservoirs.** Grand Coulee is at 1,289.3 feet elevation, operating to take into account flow management at McNary. Last week flows at McNary were in the 200-210 kcfs range, while this week's are expected to be 175-185 kcfs. Hungry Horse is at 3,559.12 feet elevation, operating in the top foot with releases of 4.4 kcfs.

Libby is at elevation 2,437.5 feet with inflows of 16.8 kcfs and average releases of 8.3 kcfs. Albeni Falls is at elevation 2,062.14 feet, with inflows of 24 kcfs and releases of 27.8 kcfs. Dworshak is at elevation 1,594.4 feet, with inflows down to 2.1 kcfs and outflows of 9.5 kcfs, drafting about 0.8 foot per day.

Lower Granite daily average outflows are 48.7 kcfs. McNary outflows are 178.9 kcfs, expected to be 175-185 kcfs the rest of this week. Bonneville average outflows are 203.6 kcfs.

**Fish. Adults:** The sockeye count of 379,000 set a record, Wagner reported. The steelhead migration is off to a good start, with counts significantly higher than the 10 year average. The count of 1,375 Snake River sockeye exceeded the 1,250 expected. Columbia River sockeye are returning well, including Snake endangered stock, Kiefer noted. Idaho has been capturing and transporting a small number of adults from Lower Granite as a test.

**Juveniles:** Subyearling counts at Lower Granite and Little Goose are around 4,000 fish, and only 1,000 at Lower Granite, Wagner reported. The count of 34,000 at McNary reflects the transportation issue. Similar counts are expected downriver – 45,000 at John Day and 60,000 at Bonneville. Many of these are releases from Priest Rapids and Ringold hatcheries.

The positive returns of 2010 don't include Pacific lamprey, Kiefer pointed out. This year, over 300,000 juvenile lamprey passed at McNary, but that's a relatively low number, Charles Morrill (WDFW) added. Dave Wills (USFWS) explained that recent changes at the Bonneville ladder have resulted in more lamprey passing undetected. Lamprey counts should improve when the monitoring system does.

**Power.** There was nothing new to report today.

**Water Quality.** The Bonneville spill test began on July 2, Laura Hamilton reported. TDG levels associated with the test have been low despite 3 days of exceedances at Camas Washougal gage. McNary and Lower Monumental tailwater gages recently malfunctioned and are back on line. The COE archives bad data from malfunctioning gages in response to a request from Oregon DEQ. While the bad data is reported, the COE notes in each report that the gages were malfunctioning. Jim Litchfield (Montana) suggested that bad data points be highlighted in a different color; others agreed. Rick Kruger (Oregon) asked whether inclusion of bad data affects spill management; Hamilton said no. The COE will investigate ways of denoting bad gage readings.

### **9. Other – Lower Granite TSW Closure**

The temporary spillway weir (TSW) at Lower Granite may have to be closed later today because yesterday a large piece of debris knocked out a guard rail surrounding the observation area, Kanbergs reported.

**Update:** The TSW was closed for less than half an hour on Wednesday to complete the repairs.

### **10. Next Meeting**

The next TMT meeting will be a conference call on July 21, followed by a meeting in person July 28. Dworshak operations and McNary transport operations will be on the July 21 agenda. The July 28 agenda will include Dworshak operations, a final report on Libby storage accounting, an update on McNary transport, and the usual operations review.

<b>Name</b>	<b>Affiliation</b>
Karl Kanbergs	COE
Russ Kiefer	Idaho
Charles Morrill	Washington
Dave Wills	USFWS
Doug Baus	COE
Paul Wagner	NOAA
John Roache	BOR
Rick Kruger	Oregon
Jim Litchfield	Montana
Laura Hamilton	COE

Rob Dies  
Joel Fenolio  
Scott Bettin

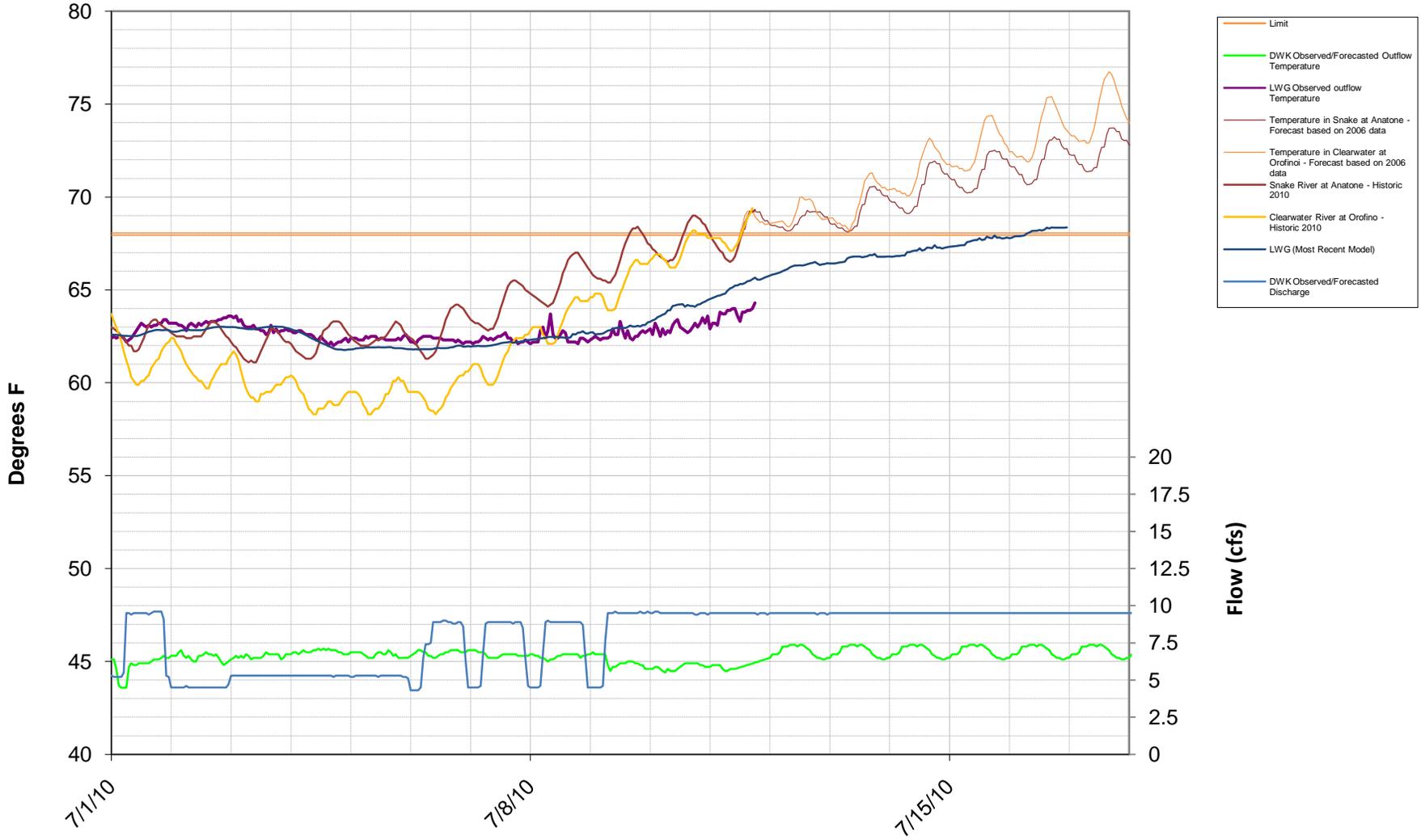
Iberdrola Renewables  
COE Seattle  
BPA

Phone:

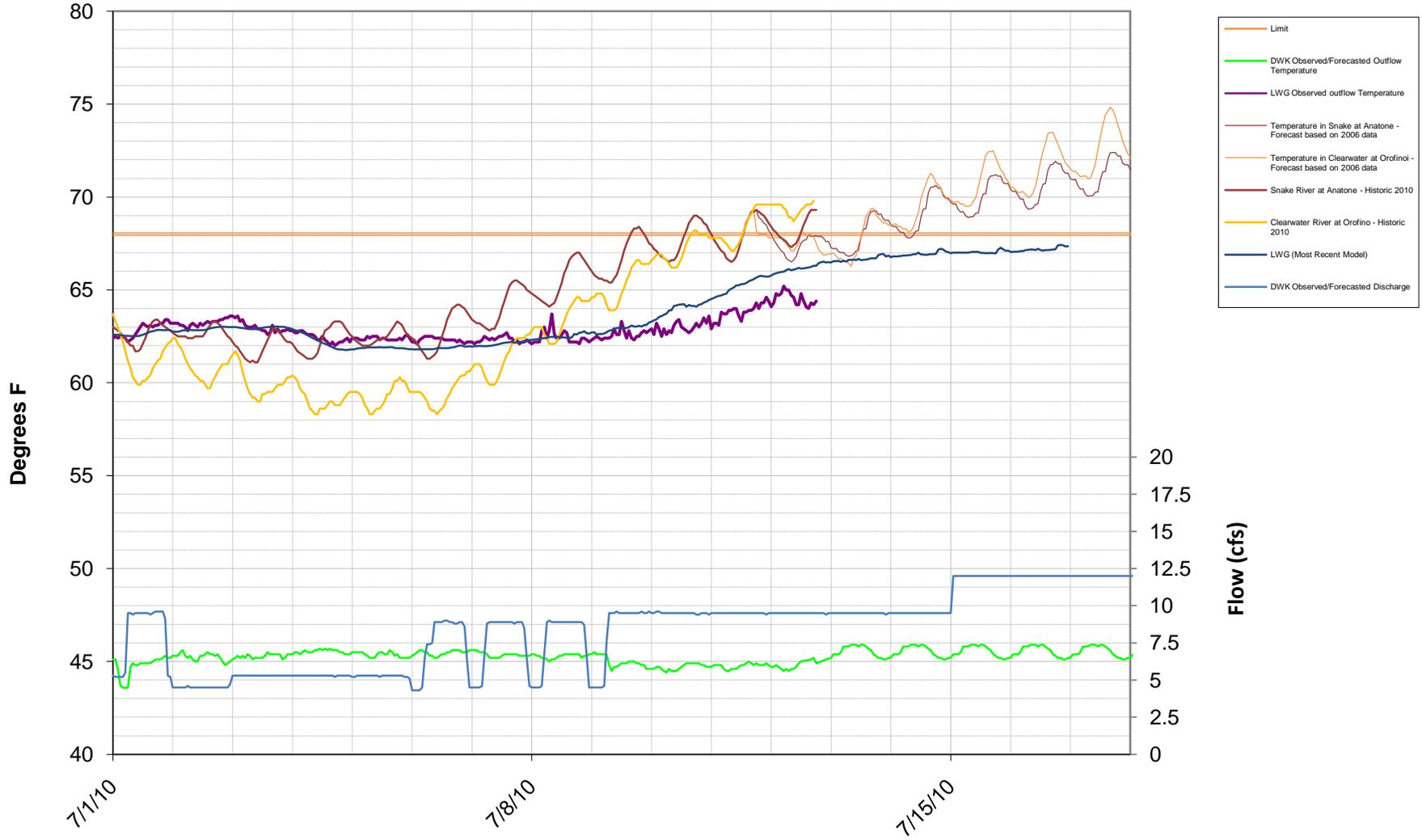
Steve Hall  
Kyle Dittmer  
Russ George  
Tom Le  
Ruth Burris  
Rob Allerman  
XX  
Tim Heizenrader  
Doug Vine

COE Walla Walla  
CRITFC  
WMC  
Puget Sound Energy  
PGE  
Deutsch Bank  
Seattle City Light  
Centaurus  
Point Carbon

**Water Temperature Comparisons  
Model from 7/1/2010 to 7/21/2010  
Observed Data to 7/11/2010**



### Water Temperature Comparisons Model from 7/1/2010 to 7/16/2010 Observed Data to 7/12/2010



# COLUMBIA RIVER REGIONAL FORUM TECHNICAL MANAGEMENT TEAM

July 16, 2010

## FACILITATOR'S SUMMARY NOTES

Facilitator: Erin Halton

Notes: Robin Gumpert

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.

### **Unscheduled TMT Meeting to Discuss Ice Harbor MOP Operations**

Karl Kanbergs, COE, began by noting that Minimum Operation Pool (MOP) for Ice Harbor Dam is 437.0 to 438.0 feet, and that the COE was concerned that the current MOP operation could cause the Lower Monumental tailwater to dip below its minimum tailwater elevation limit for safe barge passage. Karl provided the COE's proposed solution: Operate Ice Harbor to the upper half of MOP (437.5 -438.0) and change the hard constraint operating range to 437.5-438.5 feet to allow for the possibility of operating above MOP as needed to manage flows and safe passage. The COE wants to look in to ways to provide safe navigation, and planned to do a probe to understand depths of the sill at Lower Monumental to verify safe pool elevations. Karl suggested that the COE will work with its partners to do the best operation possible, given the circumstances.

Question: How will the COE resolve the issue beyond the short term? How long will it take? COE: Karl said the COE is working on this internally, and turned to Jeremy Giovando and Steve Hall, Walla Walla District, who responded that they plan to approach the problem using a three phase approach: For the near term, operate ½ foot above MOP; in the second phase, gather data within the next two weeks (hopefully sooner) to assess the cause of the problem and determine next steps; and thirdly, acquire additional and backup gauging equipment, which will be installed next fiscal year. Rick Kruger, Oregon, noted that MOP operations are important for the fish and suggested that the COE do its best to fix the problem as soon as possible. The COE added that over the next few days they will also determine whether navigation is safe with the use of probes.

Question: Could setting the minimum Lower Monumental tailwater elevation at 437.2 feet help the situation? COE: The COE would not be comfortable with this operation from a risk management perspective.

Question: Is this an ongoing problem? COE: A similar issue was seen last year at Lower Monumental and Ice Harbor, but for brief periods of time (duration of one or two hours at a time) and with minimal deviations. The issue at Little Goose and Lower Granite was much more severe last year and that was the focus going into this year's MOP operations. This year, however, there have been ongoing issues with the readings at Lower Monumental compared to those at the Ice Harbor forebay and the COE needs to investigate the reasons for this.

Question: Could it be wind related? COE: Low flows, below 40 kcfs, seem to be producing the pattern. The COE could look in to the potential impacts from wind but had not at this time determined it to be the cause.

TMT members present on the phone responded to the suggested path forward:

- Oregon: There does not appear to be many options for addressing the issue, at least in the near term. No objection to the COE's proposed path forward.
- NOAA: No objection to the proposed operation.
- BPA: Will do best to stay within the upper half of MOP, recognizing that conditions may require the project to go above MOP.

**Action/Next Steps:**

- The COE acknowledged that not all TMT members were able to participate on the call given the short notice, and planned to email and call those not present.
- The COE will provide the following instructions to the project via a teletype: The temporary Ice Harbor forebay range will be 437-438.5 feet; the project will operate to the upper half of MOP (437.5-438.0); and the goal is to maintain the minimum tailwater limit at the Lower Monumental tailwater navigation lock entrance to allow safe passage for barges.
- The COE will share all new information with TMT as it is gathered. Data will be presented at the 7/28 TMT meeting.

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**

**July 16, 2010**

Notes: Pat Vivian

**1. Introduction**

Today's TMT unscheduled conference call was chaired by Karl Kanbergs (COE) and facilitated by Erin Halton (DS Consulting). Representatives of the COE, BPA, NOAA, Oregon and others attended. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

**2. Ice Harbor MOP Operations and Lower Monumental Navigation Lock**

In response to an emergency situation involving navigational safety at Lower Monumental Dam, the COE convened today's call to discuss the possibility of going outside MOP operations at Ice Harbor Dam. Minimum operating pool at Ice Harbor is 437 to 438 feet. The COE may temporarily operate Ice Harbor at 437 to 438.5 feet elevation, or half a foot above MOP, until the navigation issue at Lower Monumental is resolved, Kanbergs said.

The problem occurs when Lower Monumental tailwater gage readings indicate that the navigation lock sill elevation is close to 437 feet, the lower limit per the Water Control Manual. When flows drop below 40 kcfs, water tends to "flow uphill," and the Lower Monumental tailwater elevation gage has lower elevation readings than the Ice Harbor forebay gage.

This problem has occurred before, in 2009, but only for an hour or so at a time. In April 2010, there were a number of days when Lower Monumental tailwater elevation was consistently lower than Ice Harbor forebay. Current elevations are 437.1 feet at Lower Monumental tailwater and 437.5 feet at Ice Harbor forebay. At these elevations, the COE is concerned that continuing MOP operations at Ice Harbor could compromise safe navigation at Lower Monumental. When water elevation at the sill of the navigation lock drops below the required minimum elevation of 437 feet, there's risk of a barge accident.

A temporary solution proposed by the COE is to operate Ice Harbor within the upper half of MOP, or from 437.5 to 438 feet, as a soft constraint, while setting the allowed forebay range from 437.0 to 438.5 feet. This means possibly exceeding MOP because BPA can't consistently keep the project within a half-foot range, Kanbergs said.

Rick Kruger (Oregon) asked how long this situation might last and how long it would take to resolve. The COE is taking a three-phased approach to solving it, Jeremy Giovando and Steve Hall (COE Walla Walla) explained.

- Phase 1 includes investigating the accuracy of forebay and tailwater gages at Lower Monumental and Ice Harbor, with the expectation that Ice Harbor could briefly exceed MOP by up to half a foot. The COE will use a probe to verify that an elevation of 437 feet provides the minimum required clearance over the Lower Monumental navigation sill.
- Phase 2 involves analyzing data, particularly GDACS 5-minute interval data. The COE Walla Walla district is planning to complete this analysis over the next two weeks and possibly sooner.
- Phase 3 involves purchasing additional gage equipment to confirm the accuracy of elevation readings at both projects. This solution has been successfully applied to the Lower Granite-Little Goose navigation problem, a similar situation that occurred last year. The COE hopes to purchase new gage equipment for Lower Monumental and Ice Harbor in FY 2010, but probably won't have funding to install the new gages until FY 2011.

The COE doesn't have much choice but to issue emergency instructions to project staff beginning this weekend, Kanbergs explained. The COE will notify, via voice mail and email, all TMT members who could not participate in today's call on short notice.

The temporary forebay elevation range at Ice Harbor will be 437 to 438.5 feet, with a soft constraint in the upper half foot of MOP (437.5-438 feet). This recognizes that actual elevation might exceed MOP by up to half a foot (438.5 feet). The purpose of this operation is to provide safe passage for barges, especially those carrying hazardous cargo. TMT members present on the call expressed their views of this operation.

- **Oregon** – Didn't object to the planned operation in light of safety concerns. Expressed misgivings about the potential for exceeding MOP for up to two weeks. Asked the COE to inform TMT of the results of the depth probing as soon as available, which the COE will do.
- **NOAA** – No objections to the proposed operation, given the situation.
- **BPA** – Every effort will be made to keep the Ice Harbor tailwater elevation within MOP, which means attempting to operate the project within a 6-inch elevation range (437.5 to 438 feet).

TMT will revisit Ice Harbor MOP operations at its July 21 conference call. In preparation for that discussion, as well as FPAC the day before, the COE will post graphs to the July 21 TMT meeting agenda showing hourly gage readings at Ice Harbor forebay and Lower Monumental tailwater, as well as hourly data on outflows at Lower Monumental tailwater.

## **10. Next Meeting**

The next TMT meeting will be a conference call on July 21, with Dworshak operations, McNary transport operations, and Ice Harbor/ Lower Monumental operations on the agenda.

<b><i>Name</i></b>	<b><i>Affiliation</i></b>
Karl Kanbergs	COE
Paul Wagner	NOAA
Scott Bettin	BPA
Rick Kruger	Oregon
Steve Hall	COE Walla Walla
Jeremy Giovando	COE Walla Walla
Doug Baus	COE
Laura Hamilton	COE
Dan Feil	COE
Margaret Filardo	FPC
Richelle Beck	DRA

# 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 / Charles Morrill              **MT** : Jim Litchfield / Brian Marotz  
**COE**: Steve Barton / Karl Kanbergs / Doug Baus

## TMT CONFERENCE CALL

Wednesday July 21, 2010 09:00 - 12:00

### CONFERENCE PHONE LINE

Conference call line:877-807-5706; PASS CODE = 442788

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 Erin Halton with any issues or concerns they would like to see addressed.  
Please e-mail her at [ehalton@cnnw.net](mailto:ehalton@cnnw.net) or call her at (503) 248-4703.*

## AGENDA

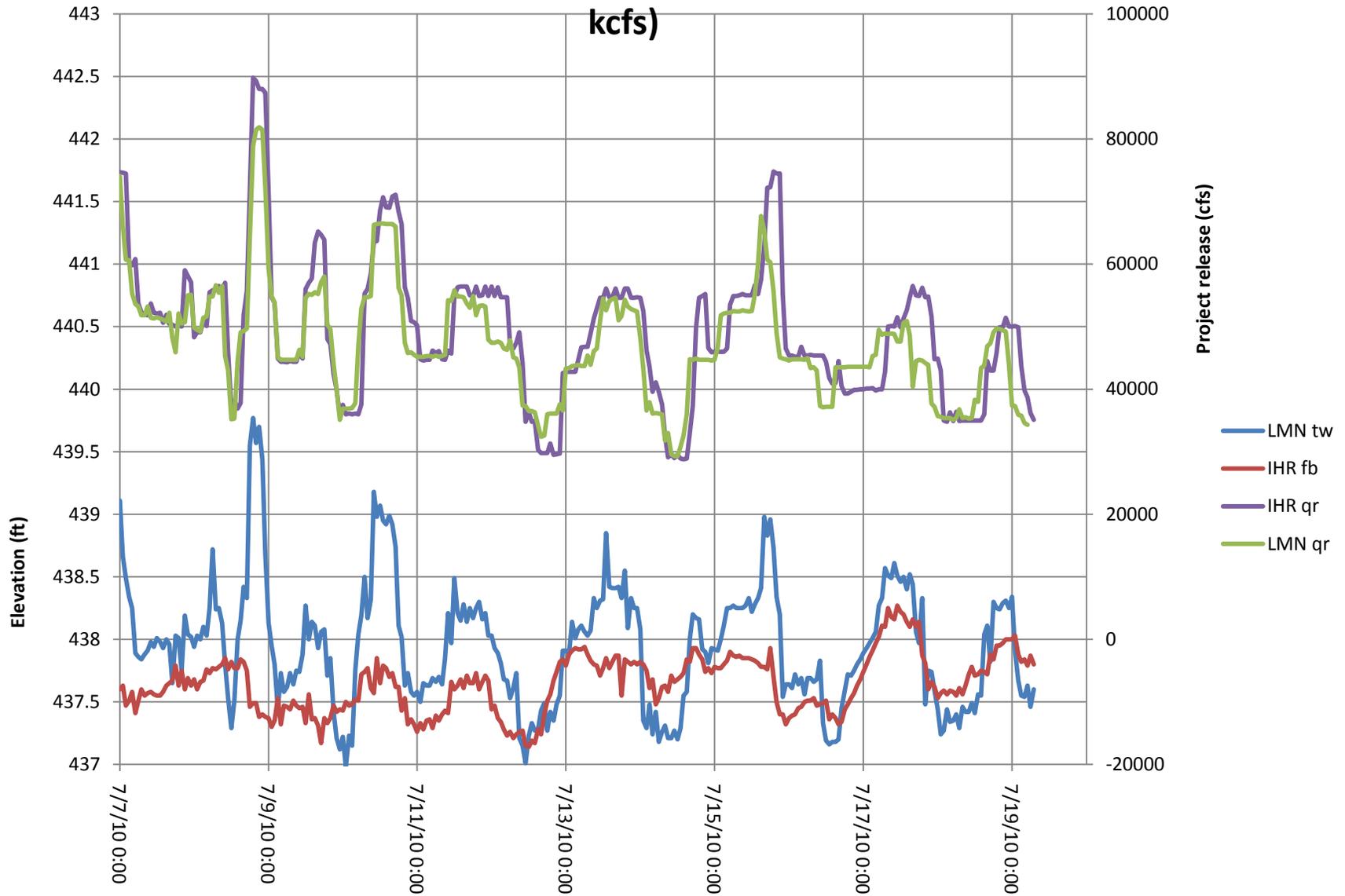
1. Welcome and Introductions
2. McNary Transport - Doug Baus, COE-NWD
3. Treaty Fishing - Tom Lorz, CRITFC
4. Dworshak Operations/Temperature Modeling- Doug Baus, COE-NWD & Steve Hall, COE-NWW
  - a. [Dworshak Summer Operations](#)
  - a. [Dworshak Temperature Modeling](#)
5. Ice Harbor Pool Gauge Issues - Doug Baus, COE-NWD & Steve Hall, COE-NWW
  - a. [Lower Monumental Tailwater and Ice Harbor Forebay Elevation](#)
6. Other
  - a. Set agenda and date for next meeting - **July 28, 2010**
  - b. [\[Calendar 2010\]](#)

*Questions about the meeting may be referred to:*

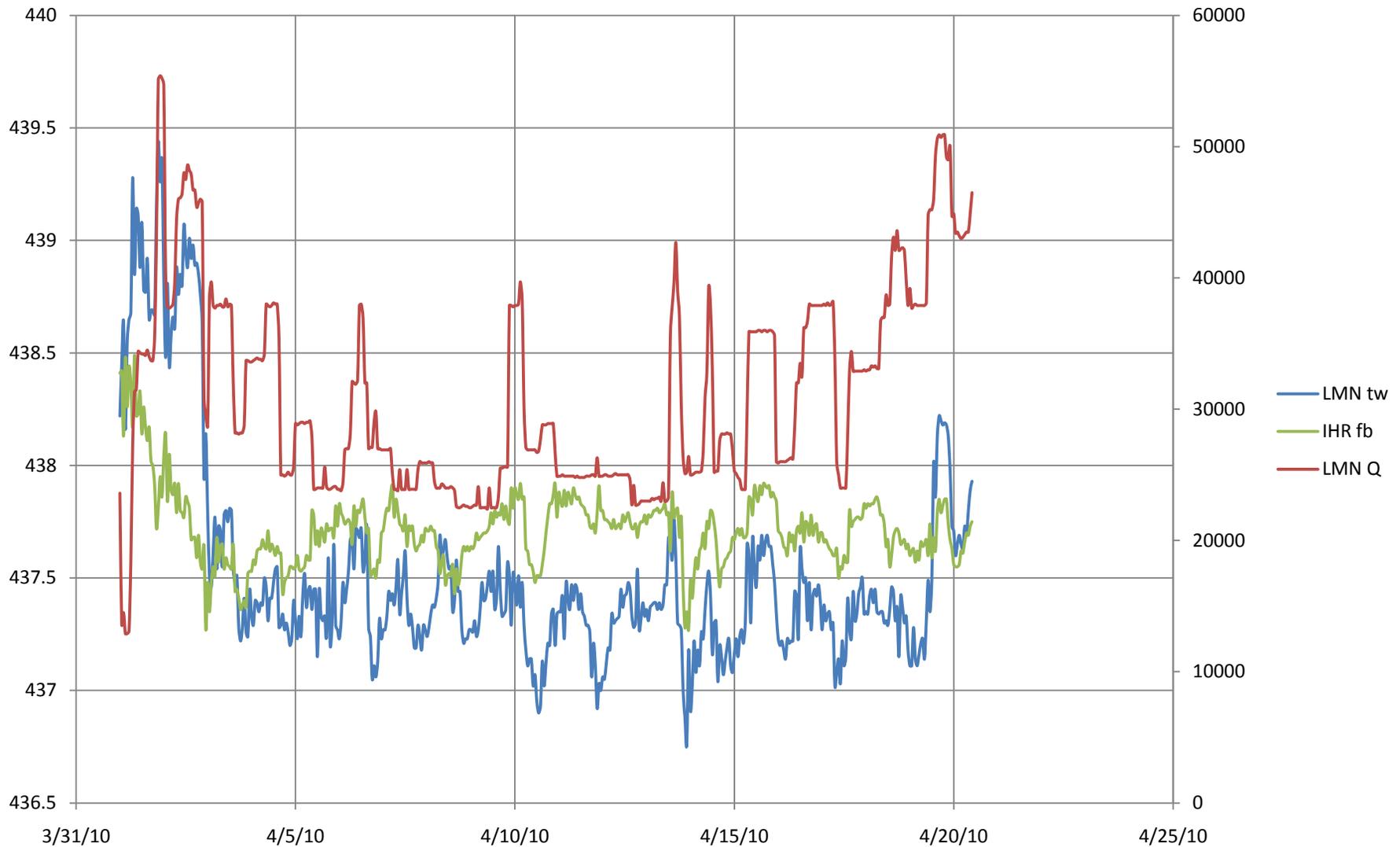
*[Steve Barton](#) at (503) 808-3945, or*

*[Doug Baus](#) at (503) 808-3995*

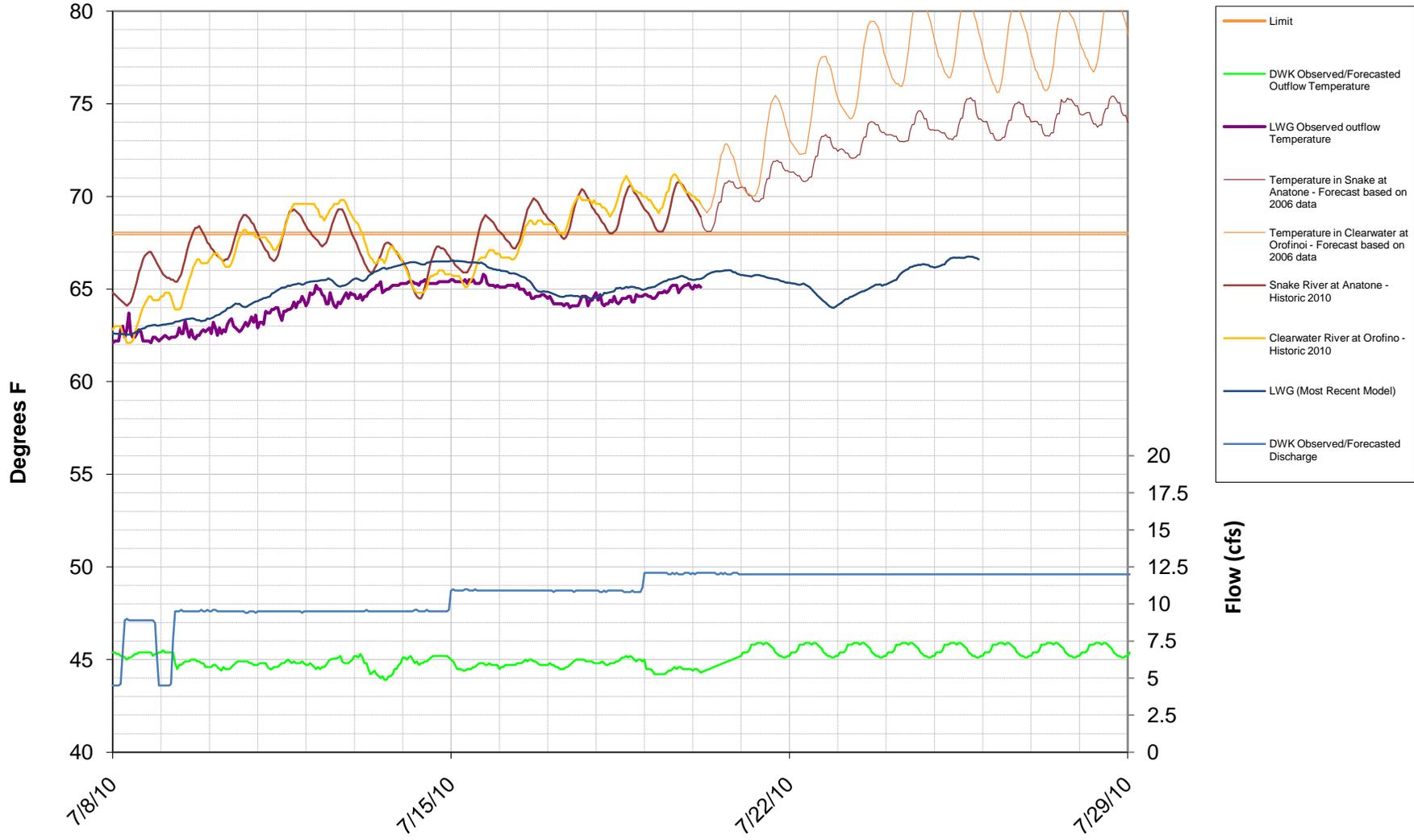
# Comparison of LMN tailwater and IHR forebay elevations (Recorded LMN tw is below IHR fb when LMN Q is less than about 40



**Comparison of LMN tailwater and IHR forebay elevations  
(Generally, only when LMN discharges are above about 40kcfs is the  
recorded LMN tw above the IHR fb)**



**Water Temperature Comparisons  
Model from 7/8/2010 to 7/26/2010  
Observed Data to 7/19/2010**



# COLUMBIA RIVER REGIONAL FORUM TECHNICAL MANAGEMENT TEAM

July 21, 2010

## FACILITATOR'S SUMMARY NOTES

Facilitator: Erin Halton

Notes: Robin Gumpert

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.

### **McNary Transportation Operations**

Doug Baus, COE, reported that McNary fish collection began on 7/15 and transportation began on 7/16, as was the plan described at last week's face to face TMT meeting. He reminded TMT that changes coordinated through FPOM were made to the Fish Passage Plan (and described in an FPOM Change Form posted to the TMT webpage) to address mortality issues that had arisen last year. The changes included a commitment to include TMT in discussions and adaptive management decisions and a trigger to change operations based on a threshold temperature deviation greater than 6°F and greater than 6% fish mortality for any “3 days in a rolling 5-day period” at the area between the forebay and gatewell, and gatewell and collection channel. Doug noted that temperatures were moderate this year (in part due to better wind conditions, which helps mix water temperatures), and that north powerhouse loading was thus far helping to keep mortalities down this year. The COE said they are committed to working closely with TMT to monitor the situation and make any necessary adaptive management changes as needed.

**Action/Next Steps:** The COE will convene TMT as necessary to discuss any conditions that might elicit a change in McNary transportation operations. TMT will revisit this issue at the 7/28 meeting.

### **Treaty Fishing**

Tom Lorz, CRITFC, reported that the latest requested operations for treaty fishing were underway and would continue through 7/22. Tom thanked the COE for implementing operations favorable to the fishery this year, and said no problems had been reported. All treaty fishing SOR's are posted to the TMT web page.

**Action/Next Steps:** A full catch report will be shared at a future TMT meeting. Depending on the latest catch counts, an additional SOR for continued treaty fishing may be sent to the COE later this week. Doug Baus, COE, said the request would be implemented if submitted.

### **Dworshak Operations**

Doug Baus, COE, reported that the project was currently operating at 12 kcfs outflows. He turned to Steve Hall to discuss the details of modeling and proposed next steps. Steve referred TMT to a graph of water temperatures and noted a gradual trend upward, with one brief decline in temperatures due to increasing wind. He shared a second graph that

showed a modeled 12 kcfs outflow operation at Dworshak and resulting temperatures at Lower Granite. Using conservative inputs from 2006, the model showed temperatures beginning to rise toward the 68°F threshold around 7/24 (Saturday). Hall said that with 2010 actual temperatures being lower than what was modeled and because temperatures are not expected to rise until later in the weekend or next week, the COE was comfortable maintaining 12 kcfs outflows until next week.

Paul Wagner, NOAA, reported that yesterday's FPAC discussion focused on STP runs and not the model shared by the COE today. At that time, FPAC agreed to maintain 12 kcfs through this week. However, given the forecast at Lewiston over the coming weekend and in to next week, with temperatures expected to reach 100°F, NOAA, USFWS, Idaho and Nez Perce representatives refined the recommendation to increase outflows to 14 kcfs on Saturday 7/24 in order to stay ahead of the rising temperatures. After further discussion, TMT members shared their representative position:

- USFWS: No objection to the proposal to increase outflows to 14 kcfs on 7/24.
- Idaho: No strong opinion either way, but better to get ahead of temperatures by increasing to 14 kcfs on 7/24. Suggested looking at a trigger on 7/23 to determine whether to ramp outflows up or maintain at 12 kcfs through the weekend.
- Nez Perce: Increase to 14 kcfs on 7/24 to account for water travel time and stay ahead of rising temperatures. Revisit conditions at FPAC on 7/27 to observe impact from this change. Continue to use adaptive management throughout the operation.
- CTUIR/CRITFC: No objection to the proposed operation of 14 kcfs outflows on 7/24.
- Oregon: No objection to the proposed operation.
- COE: Given the flexibility available in the system, not concerned with ramping the project up to 14 kcfs on 7/24, and would rather plan this change now than look at triggers later in the week.

**Action/Next Steps:** The COE will increase Dworshak outflows to 14 kcfs at 0000 hours on 7/24 and plan to hold through 7/27. FPAC will check in on the operation and conditions during their meeting on 7/27, and TMT will revisit the operation on 7/28. The COE will develop model runs depicting two operating scenarios for next week: 14 kcfs outflows continuing through 7/28 and a shift down to 12 kcfs outflows starting on 7/28. The COE will do its best to post them to the TMT web page in time for use at the 7/27 FPAC meeting.

### **Ice Harbor Pool Gauge Issues**

Doug Baus, COE, followed up from the 7/16 unscheduled TMT call regarding issues observed at the Ice Harbor pool gauge and reminded everyone that the project had been cleared to operate outside MOP through the weekend to address the issue.

Steve Hall, COE, went on to describe the COE's actions to investigate and correct the problem: project staff had verified that the gauges were transmitting accurate data. GDAC data was pulled to investigate why the adverse slope effect at the Ice Harbor tailwater vs. forebay was happening, and found that the problem occurred when the total river flow was below 40 kcfs. Hall said potential causes included debris at the Ice Harbor

forebay causing a higher than actual reading, or a whirlpool causing varying elevations laterally across the pool. Hall noted that the COE was in the process of investigating the depth at the navigation lock sill – it requires 15’ depth for safe barge passage. In addition, the COE is looking to mount an additional gauge at the navigation lock entrance to provide a reading of the depth at the sill. The COE will also conduct a hydraulic modeling exercise to better understand under what conditions the issue occurs, and is pulling historic data to determine how often the problem occurs.

**Action/Next Steps:** The COE will continue its investigation and share updated reports at the 7/28 TMT meeting, including when a return to regular MOP operations did or will occur. The COE hopes to return to regular MOP operations at the project as soon as possible.

**Next Meeting, 7/28 face to face at 9:00 am**

Agenda items include:

- Review meeting minutes
- Dworshak Operations
- Libby Accounting
- Ice Harbor Gauge Issues
- Upper Snake Flow Augmentation
- Operations Review

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**

**July 21, 2010**

Notes: Pat Vivian

**1. Introduction**

Today's TMT conference call was chaired by Doug Baus (COE) and facilitated by Erin Halton (DS Consulting). Representatives of the COE, Oregon, USFWS, NOAA, Nez Perce, Montana, BPA, BOR and others attended. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

**2. McNary Transport**

As discussed at last week's TMT meeting, collection at McNary began at 7 am on July 15, with transport beginning July 16, Baus reported. He gave TMT a heads-up that last year, elevated mortalities were associated with McNary transport. The mortalities occurred due to temperate differentials in excess of 6 degrees Fahrenheit between the forebay and gatewells and a lack of wind exacerbated this problem..

The issue was resolved when the COE adopted a change to the Fish Passage Plan that CRITFC submitted, identifying triggers for altering McNary transport operations. Language was added to the Fish Passage Plan defining the triggers for changing McNary turbine operations. When triggered, the project immediately reverts to north powerhouse loading, which uses cooler water. The FPP change form used to make this change is available on the TMT website under the 2010 FPP link.

The 6% collection mortality threshold that triggers a change in McNary operations is more than 6% mortalities of daily collections for any 3 days in a rolling 5-day period, Baus said. The 6 degrees Fahrenheit (not Centigrade as assumed last year) temperature differential threshold compares temperatures in the forebay to the gatewell, and in the gatewell to the collection channel. This threshold applies when river temperatures are above 68 degrees Fahrenheit.

This year, there has been more wind to mix cooler water into the slow, stagnant pond that forms along the south shore at McNary. Baus emphasized there have been no spikes in mortalities despite temperature differentials in excess of 6 degrees F. That can be attributed to wind and cooler temperatures, plus use of the north powerhouse because several units are down. Tom Lorz (CRITFC) cautioned that most mortalities in the past have occurred when temperatures exceed 68 degrees, and that hasn't happened yet this year.

With warm weather coming this weekend, Baus alerted TMT members that an emergency TMT call might be needed sometime in the next several days to address the McNary transport operation. TMT will revisit this at its next meeting.

### ***3. Treaty Fishing***

Last week CRITFC submitted an SOR to the COE for a tribal fishery that runs through tomorrow evening, July 22, Tom Lorz reported. If catch counts support another week of tribal fishing, CRITFC will submit another SOR to the COE this Friday, July 23. Lorz expressed appreciation for the COE's ability to maintain SOR criteria consistently during tribal fishing season. The COE implemented the latest SOR as written. TMT will check in on treaty fishing at its next meeting July 28.

### ***4. Dworshak Operations and Temperature Modeling***

Currently Dworshak is releasing 12 kcfs. Steve Hall (COE) showed TMT two attachments to this agenda item to aid in deciding how to use Dworshak flows for temperature management.

The first link is a chart and graph of current Snake River (Anatone) and Clearwater River (Spaulding) temperatures, which have been slowly climbing despite the cooling effects of wind. Temperatures peaked at 70 degrees F and are hovering at around 68 degrees F. To project future temperatures, the COE based its modeling on observed temperatures in 2006, which have been warmer than actual temperatures so far in 2010. The model is conservative, using higher input temperatures than the COE believes will actually occur over the next few days. The model shows temperatures remaining in the 64 degrees F range until July 24 when a warming trend begins.

Next week, it might be necessary to adjust Dworshak outflows, Hall said. For now, model results indicate that continuing 12 kcfs outflows would be sufficient for temperature management. Real time readings show a Lower Granite tailwater temperature of 65.6 degrees F. Paul Wagner (NOAA) questioned why the model appears to contradict real time TDG data on the TMT website. The model run doesn't reflect data for July 20, which are included in the latest TDG reports, Hall explained.

At yesterday's FPAC meeting, the Salmon Managers agreed that continuing 12 kcfs outflows at Dworshak would be fine, Wagner reported.

However, this morning Lewiston temperatures were forecasted to exceed 100 degrees F over the weekend, and the 10-day forecast showed no cooling in sight. So the Salmon Managers are taking a precautionary approach and recommending 14 kcfs outflows beginning July 24. This time of year is typically a difficult one for maintaining temperature control, so the recommended strategy is

to continue 14 kcfs outflows until at least July 27-28, when FPOM and TMT can consider a return to 12 kcfs to conserve volume for later this summer.

Wagner asked the Salmon Managers if anyone today had misgivings about the last-minute proposal to increase Dworshak outflows to 14 kcfs from July 24 until at least July 27. Dave Wills (USFWS) and Kiefer said that would be acceptable. Kiefer added that it wasn't a strong recommendation from the Salmon Managers and suggested that TMT develop a trigger for increasing Dworshak flows to 14 kcfs on July 23, rather than doing so automatically.

Increasing Dworshak outflows to 14 kcfs over the next few days with a heat wave coming is a reasonable approach, Hall replied. A trigger might not be necessary. **USFWS**, the **Nez Perce Tribe, Oregon, Idaho**, and the **Umatilla Tribe** all endorsed this approach.

The COE will increase Dworshak outflows to 14 kcfs on July 24 and continue that operation until at least July 27, when FPOM next meets. The COE will attempt to post modeling results by the evening of July 26 that compare the effects of 12 vs. 14 kcfs outflows at Dworshak for the remainder of next week. TMT will revisit this operation at its next meeting July 28.

## ***5. Ice Harbor Pool Gauge Issues***

On July 16, TMT had an emergency call to discuss gage issues associated with the Ice Harbor forebay and Lower Monumental tailwater measurements, Baus said. Accurate data is a key component for safe navigation. As a short-term solution (until the source of the errors can be identified and a solution developed) the COE gave BPA and the project staff clearance to operate Ice Harbor at half a foot higher than MOP (MOP +.5) if necessary to assure sufficient water depth for safe navigation.

Steve Hall (COE) reported on efforts to resolve this problem. At various times, the tailwater elevation at Lower Monumental is apparently half a foot below the Ice Harbor forebay elevation. The COE is investigating the cause of these gauge disparities. Project staff immediately verified that the electronic gauges were in close agreement with actual values observed on the staff gages. The COE will use GDACS 5-minute interval data to study causes and solutions using hydraulic modeling. It appears that flows below 40 kcfs were a factor in incidents that occurred on July 8, 9, 10, 12 and 14. The COE is working to understand these incidents. The gauge disparities could be happening for a number of reasons including:

1. Debris in the Ice Harbor pool forebay causes elevation readings to be abnormally high.
2. Sometimes unit loadings and spillway patterns set up a whirlpool effect that creates elevation disparities across the tailwater area. For example, the tailwater elevation might be higher on one side of the powerhouse than the other.

COE staff are investigating this phenomenon while working to assure safe barge clearance over the sill of the Lower Granite navigation lock. To monitor that more closely, the COE has plans to install a permanent a gage at the navigation lock entrance. The goal is to return to the normal MOP operation as soon as possible. The normal MOP operating range is 437-438 feet elevation.

At this point there's no "smoking gun" that could be causing the navigation problems. Rick Kruger (Oregon) asked for information on how many lockages have occurred when the apparent differential is negative. The COE intends to have more detailed information for TMT on this next week.

## **6. Next Meeting**

The next TMT meeting will be in-person on July 28, with Dworshak operations, Libby deviation accounting, McNary and Ice Harbor operations, and upper Snake River flow augmentation included on the agenda.

<b>Name</b>	<b>Affiliation</b>
Rick Kruger	Oregon
Russ Kiefer	Idaho
David Wills	USFWS
Paul Wagner	NOAA
Dave Statler	Nez Perce
Jim Litchfield	Montana
Doug Baus	COE
Scott Bettin	BPA
John Roache	BOR
Steve Hall	COE Walla Walla
Scott English	COE
Margaret Filardo	FPC
Greg Lawson	Point Carbon
Russ George	WMC
Tom Le	Puget Sound Energy
Barry Espenson	CBB
Bob XX	Seattle City Light
Richelle Beck	DRA
Mike Shafley	Snohomish PUD

# 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 / Charles Morrill              **MT** : Jim Litchfield / Brian Marotz  
**COE**: Steve Barton / Karl Kanbergs / Doug Baus

## TMT MEETING

Wednesday July 28, 2010 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

**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 Erin Halton with any issues or concerns they would like to see addressed.  
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 July 14, 16, 21, 2010 [\[Meeting Minutes\]](#)
3. Upper Snake River Flow Augmentation - John Roache, BOR
  - a. [2010 Upper Snake Flow Augmentation Summary](#)
  - b. [Stipulated Augmentation Rental Dist 01](#)
  - c. [Snake River at Milner](#)
4. Summary of Libby Accounting - Joel Fenolio, COE-NWS & Steve Barton, COE-RCC
  - a. [Phase II & Sturgeon Volume](#)
5. Dworshak Operations/Temperature Modeling- Steve Barton, COE-NWD & Steve Hall, COE-NWW
  - a. [Dworshak Summer Operations](#)
  - b. [Water Temperature Comparisons](#)
6. Ice Harbor Pool Gauge Issues - Steve Barton, COE-NWD & Steve Hall, COE-NWW
  - a. [Lower Monumental Tailwater & Ice Harbor Forebay Elevation](#)
7. Operations Review
  - a. Reservoirs
    - i. [Summary Plots](#)
    - ii. [Lower Granite & Little Goose](#)
8. Fish
9. Power System

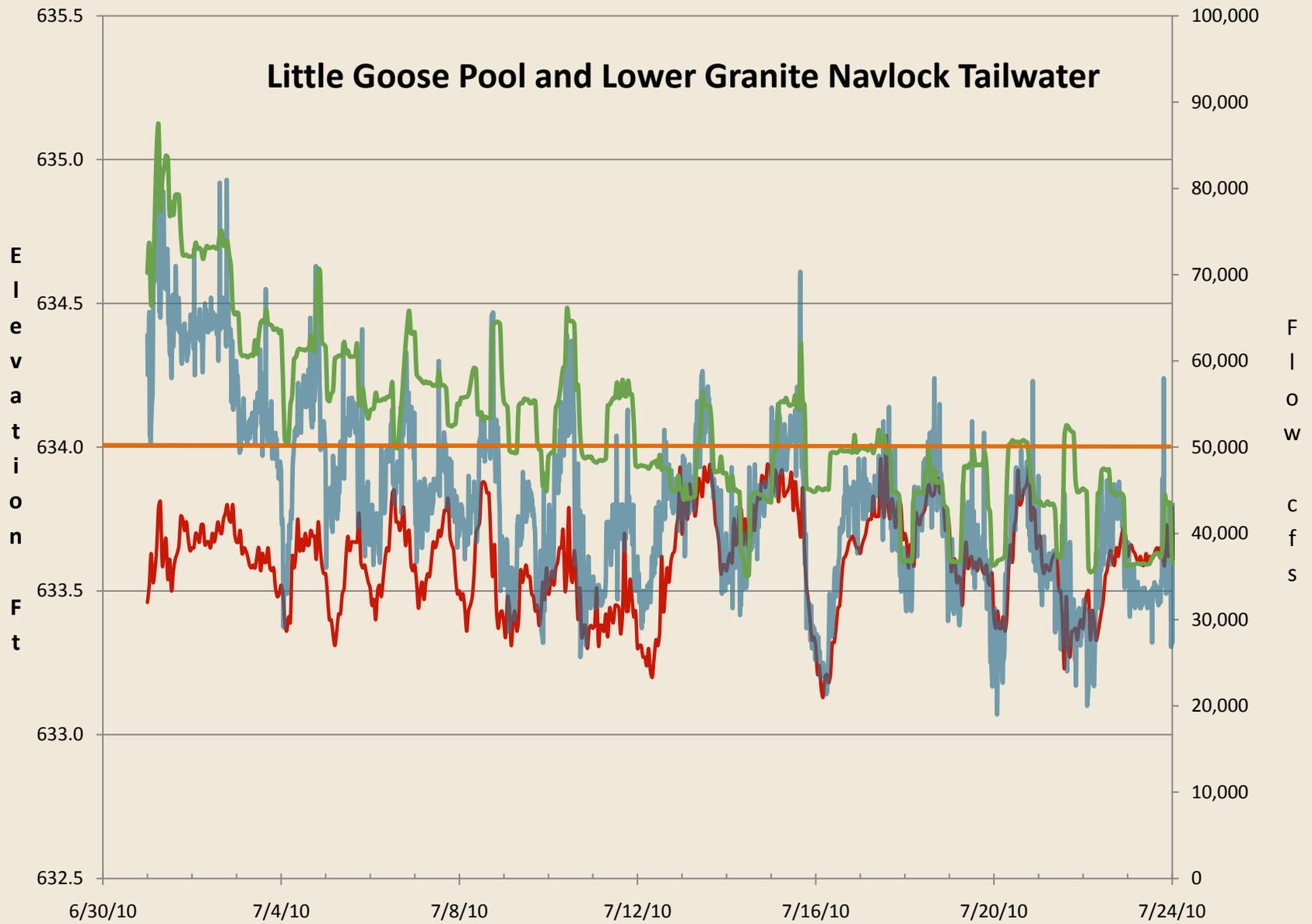
10. Water Quality
  - i. [TDG Instance Types](#)
11. Other
  - a. Set agenda and date for next meeting - **August 4, 2010**
  - b. [\[Calendar 2010\]](#)

*Questions about the meeting may be referred to:*

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

*[Doug Baus](#) at (503) 808-3995*

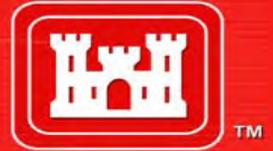
# Little Goose Pool and Lower Granite Navlock Tailwater



— LGS FB — LWG Navlock TW — LWG Qout



US Army Corps of Engineers



# Libby Accounting for Phase II and Sturgeon Volume

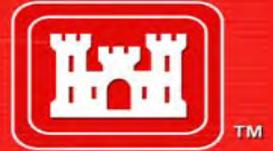
Joel Fenolio – USACE Seattle  
District

TMT on July 28<sup>th</sup>, 2010



# Sturgeon Accounting

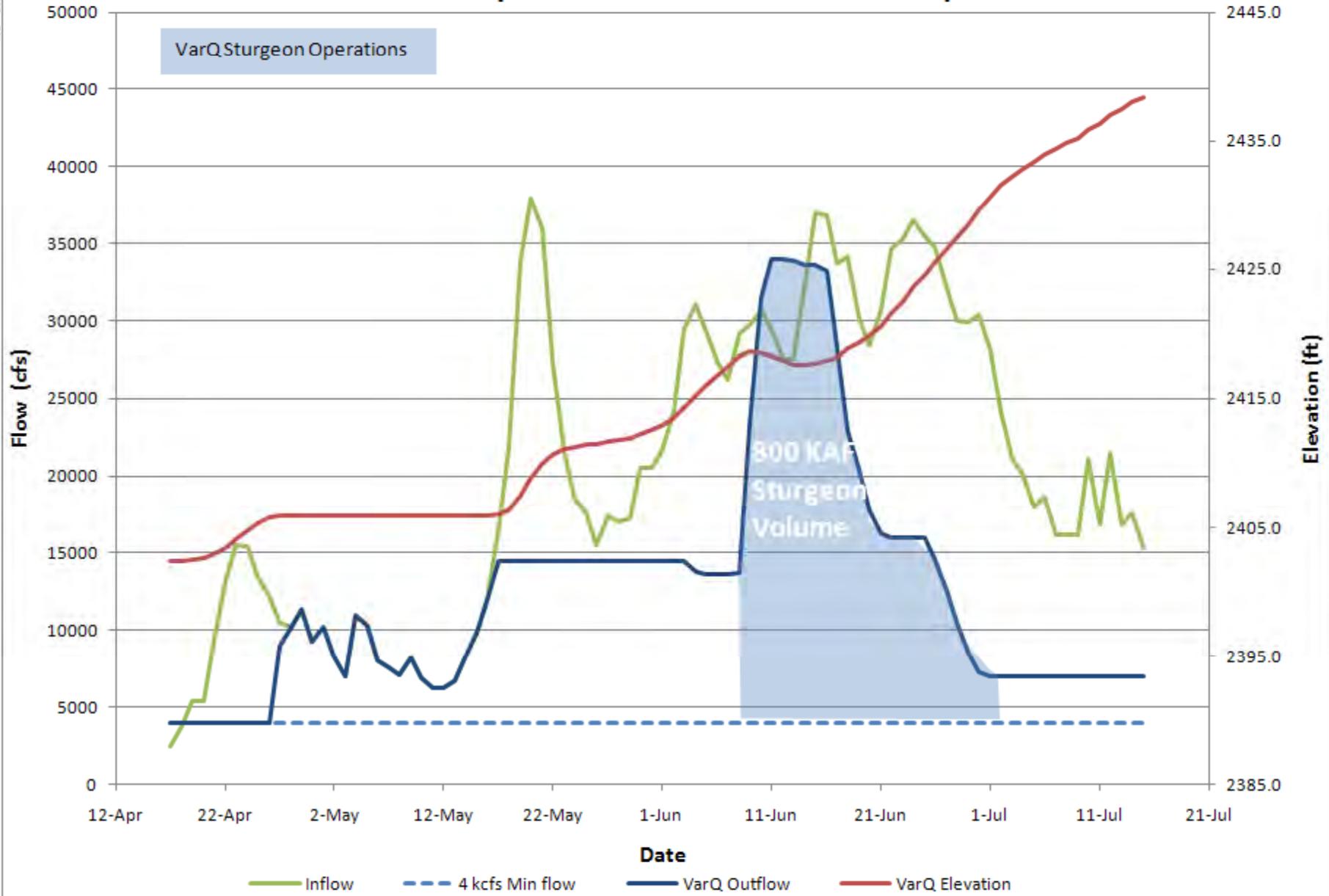
- The Sturgeon Volume is accounted for as any flow above 4 kcfs in the VarQ baseline starting on June 8th.
  - Only the flows requested in the SOR were accounted against the sturgeon volume



# Sturgeon Volume

- Beginning on June 8<sup>th</sup> the VarQ baseline started increasing to the powerhouse capacity of 26 kcfs based on the head at Libby Dam
- From June 10<sup>th</sup> – 17<sup>th</sup> the spill portion occurred which was TDG limited and then limited by head in the reservoir on the 14<sup>th</sup> and 15<sup>th</sup>
- After the pulse flows in the VarQ baseline were ramped down to 7 kcfs by June 30<sup>th</sup>

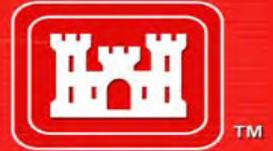
# 2010 VarQ Operation with no Deviation Request





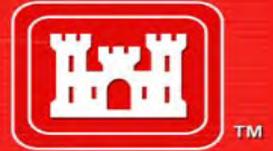
# Phase II Accounting

- The Phase II water was accounted for as the difference in volume either released or in storage between the VarQ baseline and the actual operation.



## Phase II – Volume Neutrality

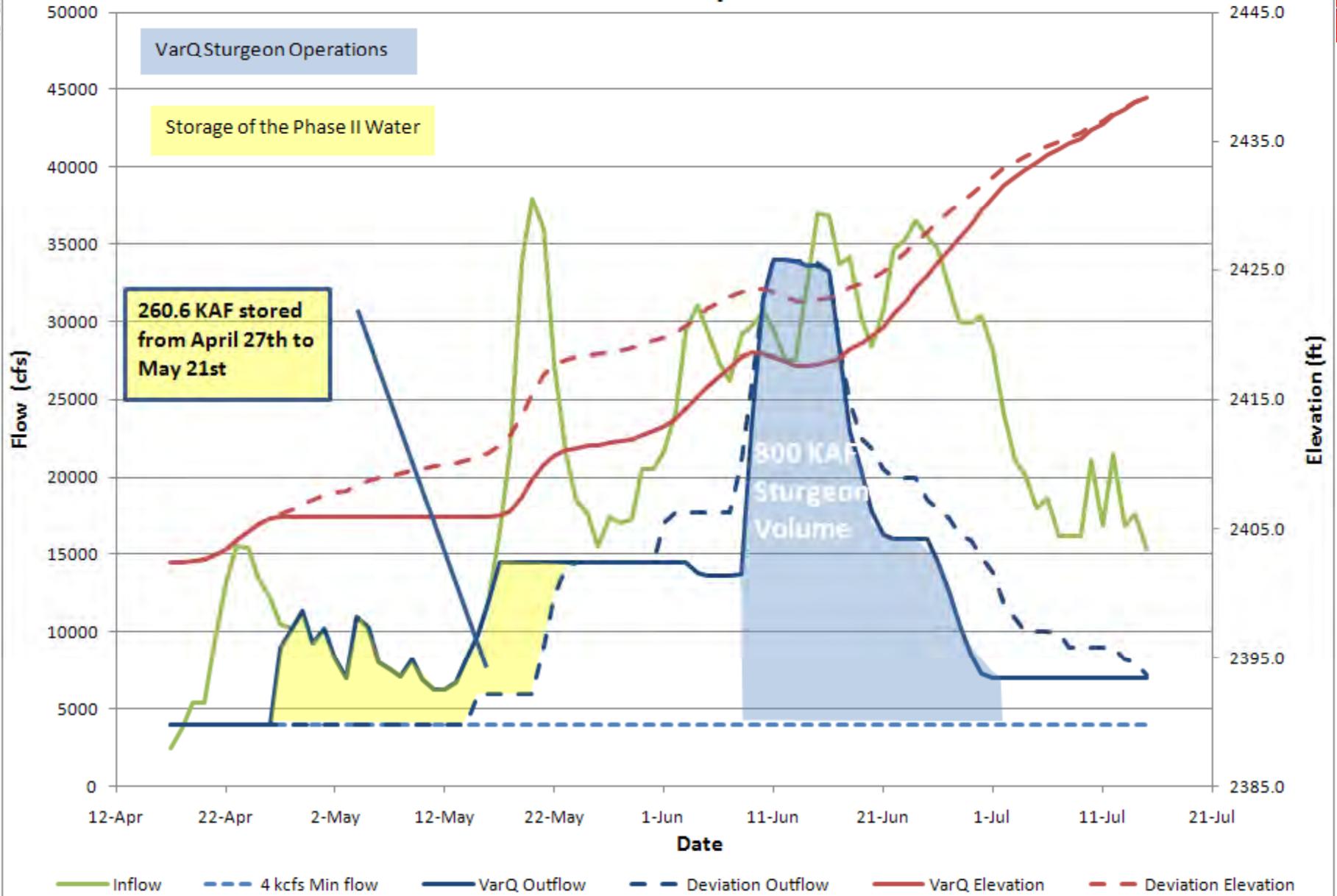
- To ensure volume neutrality, Libby Dam had to be at the same elevation in actual operations by July 15<sup>th</sup> as the VarQ baseline.
- Goal to be as volume neutral as possible to the mainstem of the Columbia River by a particular date.
  - Originally the 260 KAF was to be released by June 30<sup>th</sup>
  - Was later amended through TMT to be released by July 15<sup>th</sup> in coordination with the swap between Libby and Grand Coulee

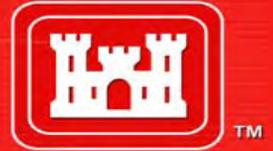


## Storage of the 260 KAF

- Beginning on the ICF date, Apr 27<sup>th</sup>, Libby maintained minimum flows through May 21<sup>st</sup> and began ramping up to the VarQ flow in May of 14.5 kcfs
- During this period the 260.6 KAF was stored into Libby Dam.

## 2010 Phase II Operation

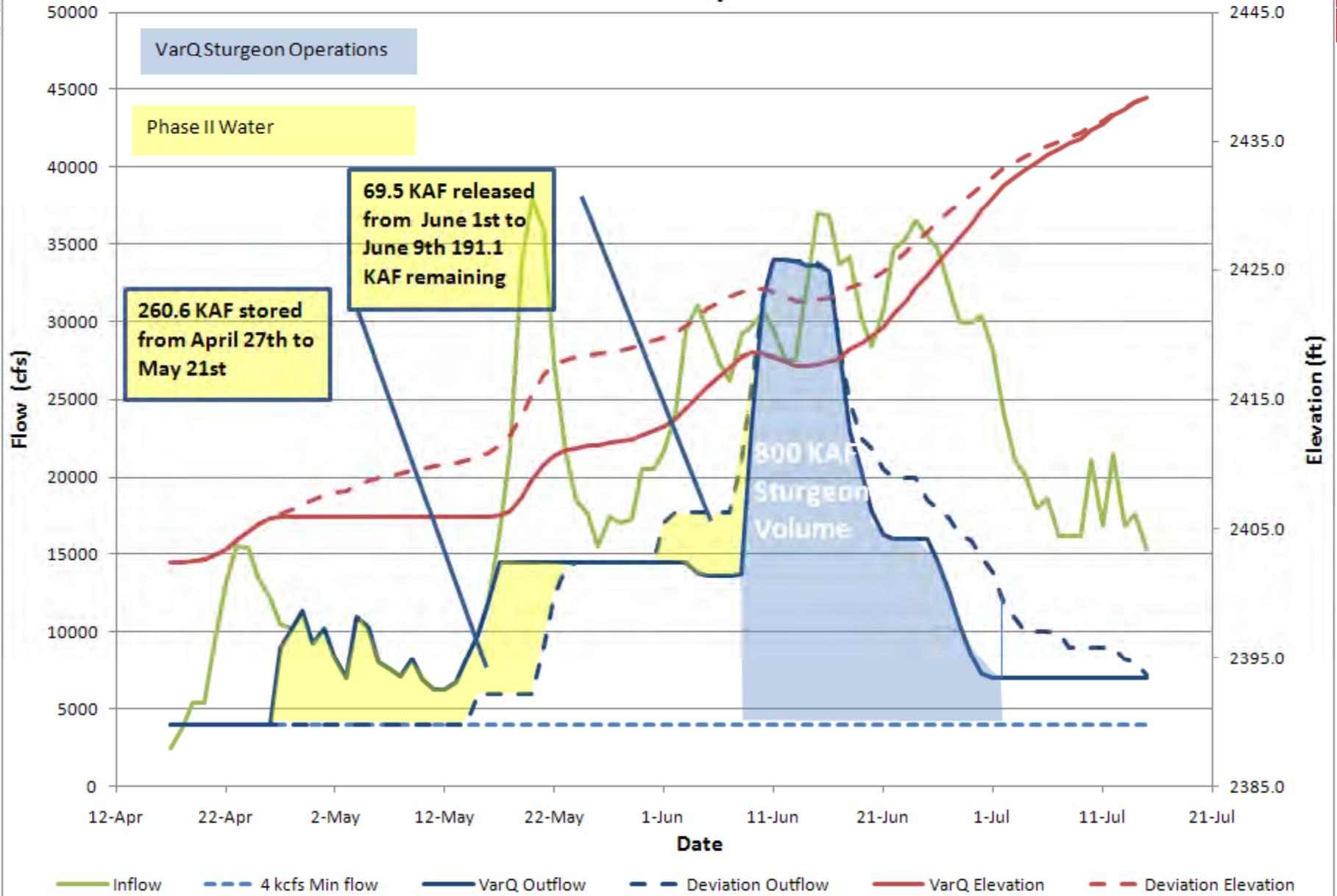


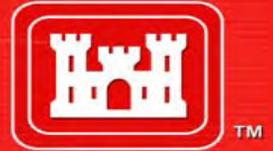


# Evacuation of Phase II Part 1

- June 1<sup>st</sup> actual operations had Libby Dam at 17.7 kcfs above the 14.5 and 13.6 kcfs VarQ flows in the baseline.
- During this period until the spill operation 69.5 KAF of the Phase II water was released from Libby Dam.

## 2010 Phase II Operation

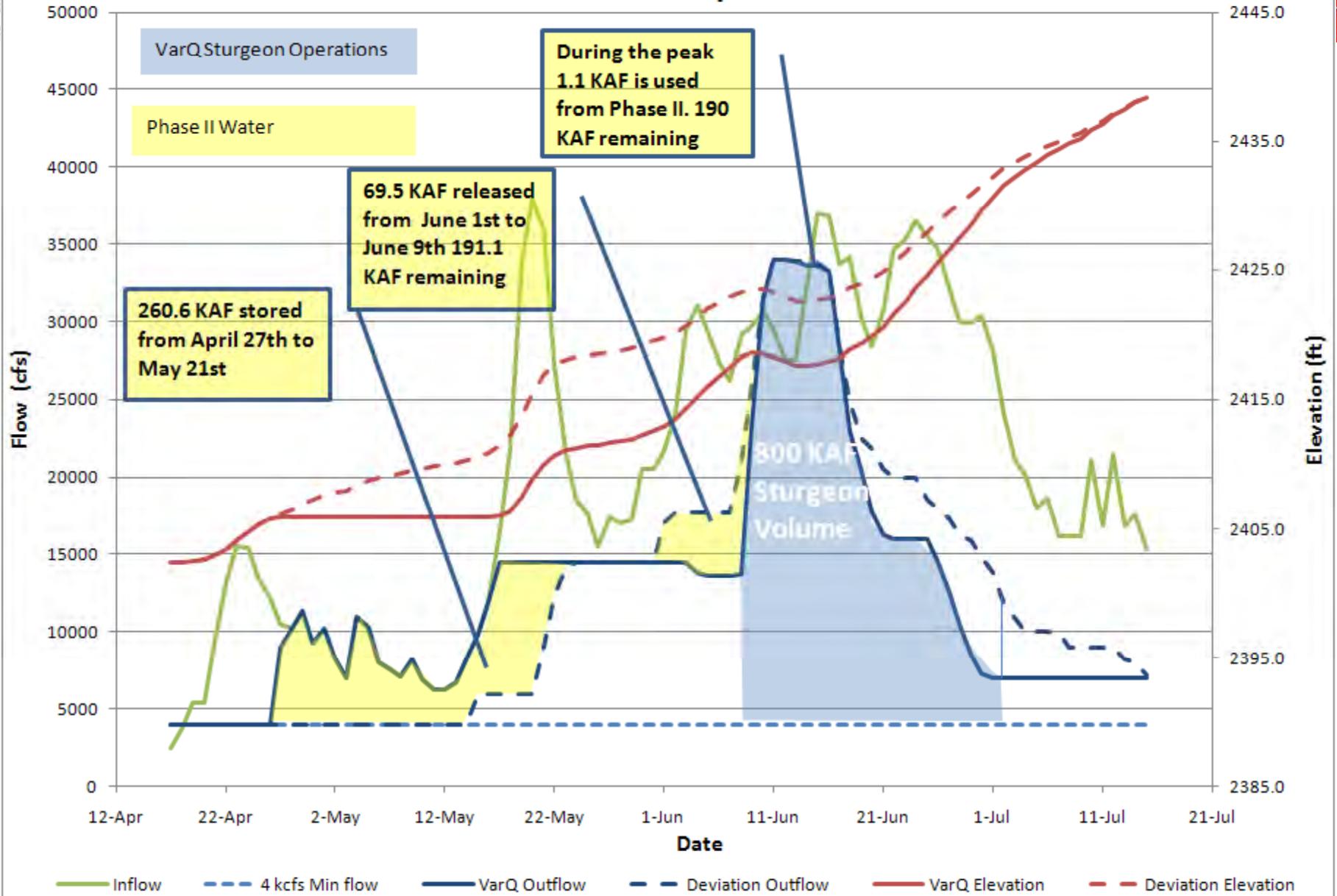


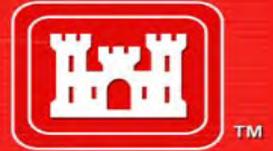


## Evacuation of Phase II Part 2

- During the spill the actual operations released greater than the VarQ baseline due to the higher head at the forebay on June 13<sup>th</sup> and 14<sup>th</sup> but was TDG limited
- 1.1 KAF was released during the spill portion out of the Phase II water

## 2010 Phase II Operation

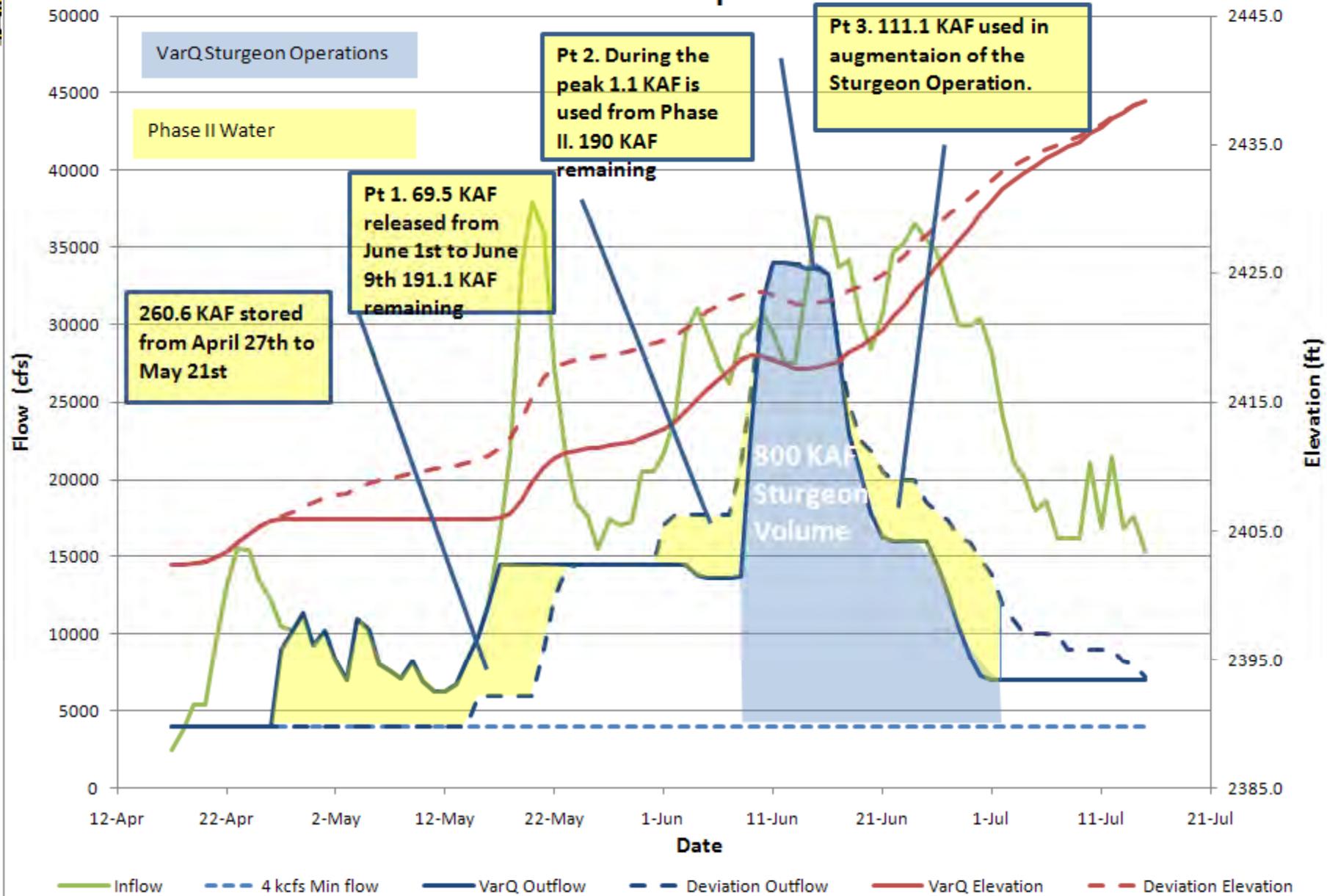


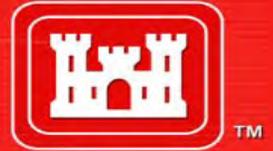


## Evacuation of Phase II Part 3

- During the descending limb of the Sturgeon operation 111.1 KAF was released relative to the VarQ baseline.
- Leaves 79 KAF for swap with Grand Coulee on June 30<sup>th</sup>

## 2010 Phase II Operation

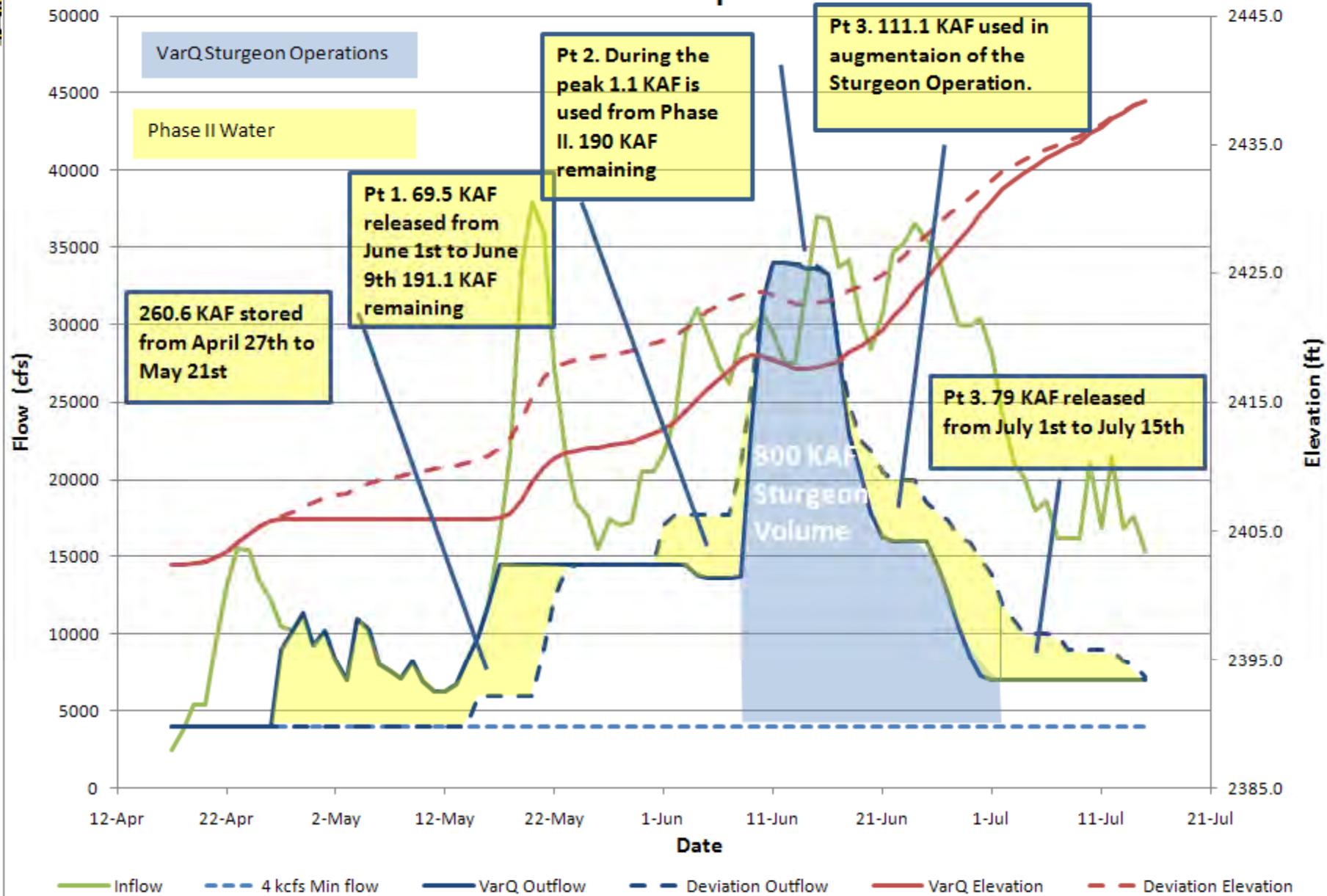




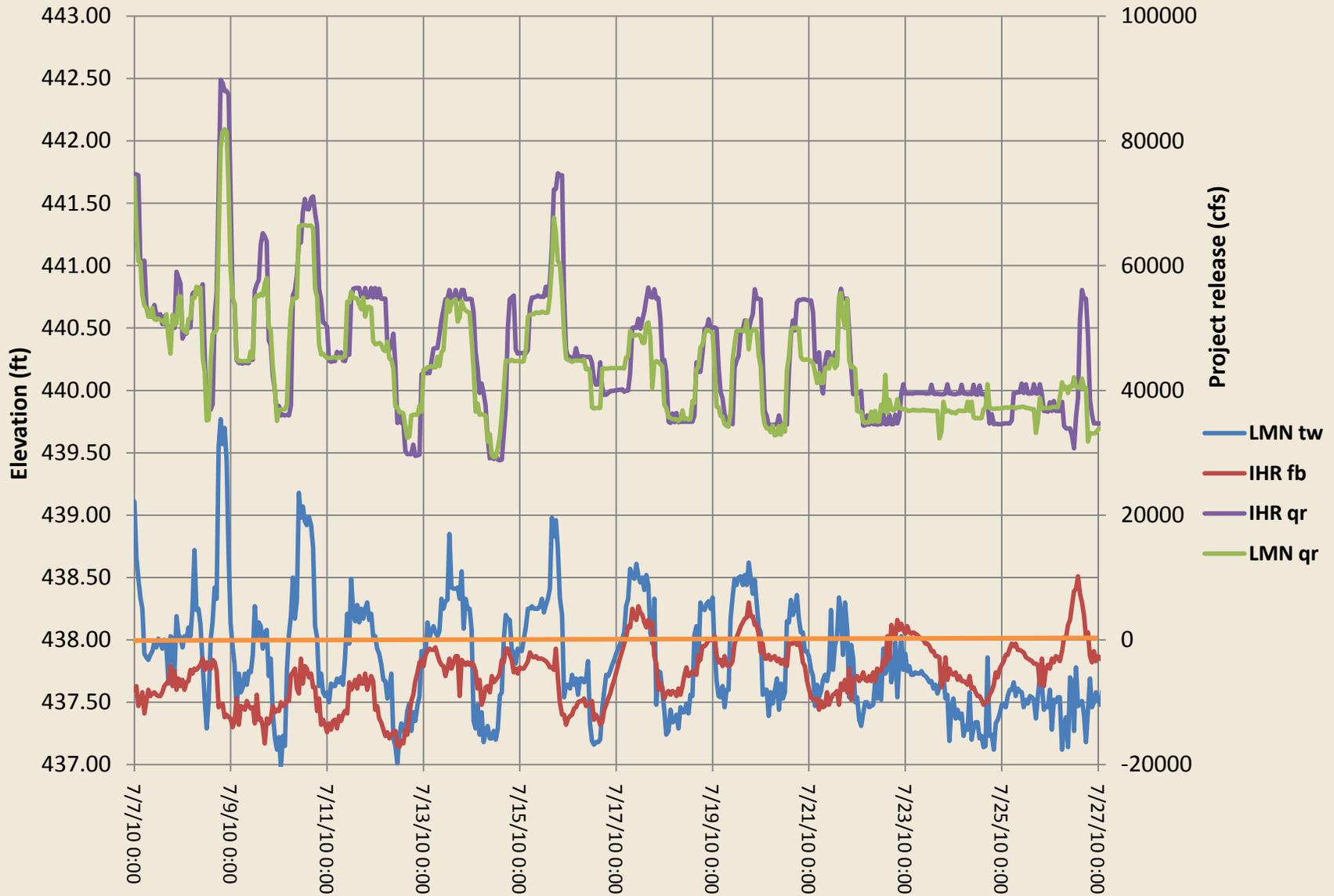
## Evacuation of Phase II Part 4

- From July 1<sup>st</sup> – 15<sup>th</sup> remaining 79 KAF is released.
- This leaves Libby Dams operations at 2438.4 ft elevation in both the VarQ base case and the actual operation of the Dam on July 15<sup>th</sup>.

## 2010 Phase II Operation



### Comparison of LMN tailwater and IHR forebay elevations (Recorded LMN tw is below IHR fb when LMN Q is less than about 40 kcfs)



# COLUMBIA RIVER REGIONAL FORUM TECHNICAL MANAGEMENT TEAM

July 28, 2010

## FACILITATOR'S SUMMARY NOTES

Facilitator: Erin Halton

Notes: Robin Gumpert

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.

### **Official Minutes/Facilitators' Notes**

Paul Wagner, NOAA, offered to email edits to the notes following today's meeting. When those changes are shared, the notes from meetings 7/14, 7/16 and 7/21 will be finalized.

**Action/Next Steps:** DS Consulting will email the revised notes after changes are received from Paul. They will also be posted to the TMT web page.

### **Upper Snake Flow Augmentation**

John Roache, Reclamation, shared a summary of summer flow augmentation out of the Upper Snake River. He reported that May flows came from the powerhead pool because of the very low flow forecasts at that point. With the improved conditions in water supply in June, the total release will be 487 KAF – using a combination of Reclamation space, natural flows and rental pool water (from water users). John shared a chart showing the guaranteed rental pool water that is available from the Upper Snake in any given year based on carry-over storage and forecasted water supply, and another chart depicting flow augmentation water that came past Milner in 2010. He noted that the remaining flow augmentation releases are coming solely from the Payette.

In response to a question about the opportunity to provide spring releases, John shared that this is ‘complicated’ by the uncertainty of actual volumes that will be available later in the season. In response to a question about the “latitude for shaping”, he clarified that Reclamation knew in early May that power head could be used to provide augmentation for spring migration. Paul Wagner, NOAA, commented that the releases in May were indeed a good move on Reclamation's part. John said Reclamation is confident that the full volume of flow augmentation released from Reclamation reservoirs will pass through Brownlee, even though it is within Idaho Power's, not Reclamation's, authority to release it. TMT members thanked John for providing the detailed summary.

### **Libby Accounting**

Steve Barton and Joel Fenolio, COE, shared a power point summary of the Phase II Storage and Sturgeon Volume operations. Joel reminded everyone that the sturgeon volume is calculated as any flow greater than 4 kcfs in the VARQ baseline, beginning on 6/8. A graph showed what the straight VARQ operation would have looked like, had no deviation request been submitted for this year, then compared that to the actual operation,

noting that only the flows requested in the SOR were accounted against the sturgeon volume. Phase II accounting, he said, is the difference in volume between the baseline and actual volume released or in storage, and that the COE's required goal is to remain volume neutral to the Columbia mainstem. Finally, Joel shared the summary of the full evacuation of Phase II storage – in parts 1, 2, 3 and 4 from June through mid-July. TMT members thanked the COE for providing this useful summary.

**Action/Next Steps:** The COE is developing new forecasting tools to inform VARQ and other operations, and will likely present information during the TMT Year End Review.

### **Dworshak Operations**

Steve Barton and Steve Hall, COE, reported on current Dworshak operations and next step operating options for temperature and water management. The current temperatures at Lower Granite were ranging 65-66° F. Walla Walla District ran the water temperature model to show two options; maintaining current flows of 14 kcfs, or dropping down to 12 kcfs starting today. The model showed a very slight temperature change (a quarter of a degree increase) between the two operating scenarios. Weather forecasts show cooler temperatures are likely to remain in the system for awhile longer. Hall suggested that the COE did not have concerns at this point with either option, however lower flows now will help provide adequate temperature management through August. Barton also said that the COE, with the help of the region, will continue to need to make decisions about how to shape the water releases to allow the project to get down to elevation 1535' by the end of August. (The current elevation was 1578.8'.) Current models showed that the COE could meet this elevation target by operating the project at 11 kcfs through the end of August.

Russ Kiefer, Idaho, reported that discussions yesterday at FPAC, with limited participation, resulted in a recommendation to operate the project at the current flows (13.5/14 kcfs) through this Friday, 7/30, then lower to 11 kcfs and maintain until further discussion next week. He acknowledged that this recommendation was not far from the COE's modeled proposal to operate Dworshak at 12 kcfs from 7/28 to 8/4, which showed temperatures rising toward the 68° threshold around August 1 and then dropping back down. Steve Hall added that the model was conservative, so the actual rise in water temperatures may not be as dramatic as what was depicted. Everyone noted that recent cooling in the area was a departure from what had been forecasted, and had helped moderate water temperatures and provided some operating flexibility.

After further discussion, TMT members present at the meeting agreed to the proposed operation of 12 kcfs outflows starting today and maintaining until further TMT discussion next week.

**Action/Next Steps:** The COE will operate Dworshak at 12 kcfs starting at midnight 7/28 and maintain until further discussion at the 8/4 TMT conference call.

### **Ice Harbor Pool Gauge Issues**

Steve Hall, COE, reported that a survey crew will be surveying the gage elevations today and tomorrow at the Lower Monumental tailwater, to determine whether the project is providing adequate depth at the navigation lock for safe barge passage. It was anticipated that the results will be known as early as Friday afternoon, and the COE will share updates with TMT via email as soon as possible. The COE is currently operating the project with flexibility for an extra ½ foot range out of MOP, and plans to return to normal MOP operations as soon as it can be confirmed that MOP operations will provide safe navigation conditions.

### **Summer Treaty Fishing**

Kyle Dittmer, CRITFC, reported that a final SOR was submitted for summer treaty fishing, for the timeframe 7/27-7/29. Steve Barton, COE, responded that the COE is implementing the request as written. Final catch counts will be shared at a future TMT meeting.

### **Operations Review**

**Reservoirs:** John Roache, Reclamation, and Steve Barton, COE, reported on their agencies' respective reservoirs. Grand Coulee was at elevation 1287.4' and managing for McNary flows, targeting an August 31 elevation of 1277.3'. Hungry Horse was at elevation 3557.04', with 4.3 kcfs outflows and targeting elevation 3540' by September 30. Libby was at elevation 2441.13', with 12.6 inflows and 7 kcfs outflows. Albeni Falls was operating 18.6 kcfs inflows and 15.8 kcfs outflows, maintaining the summer elevation range of 2062-2062.5'. Dworshak was at elevation 1578.8', with 1.5 kcfs in and 13.3 kcfs out. Lower Granite daily average outflows were 39.9 kcfs; 100.6 kcfs at Priest Rapids; and 149.7 kcfs at McNary (the weekly average at McNary last week was 161.2 kcfs).

The COE provided a chart of the Little Goose pool and Lower Granite navigation lock tailwater elevations to show some reverse slope issues; they clarified that the issues were not enough to cause navigation concerns that would require an operation outside MOP. As this was an issue in the past, the COE is monitoring it closely and will keep TMT informed if problems arise. The COE added that the system is approaching the lower flow criteria to trigger closing the RSW at Little Goose, and this operating change might occur later next week. TMT will check in on this issue during the 8/4 TMT call. Finally, the COE is monitoring warming at McNary to look for fish mortality concerns, and at this point, no issues have arisen.

**Fish:** Paul Wagner, NOAA, reported on adult passage, noting that sockeye counts at Bonneville were less than 100/day, with 1,966 counted at Lower Granite. Summer chinook adult totals were 96,000, with counts at 500/day at Bonneville. These numbers were similar to the 10 year average and higher than last year's counts. Steelhead numbers were on par with record numbers seen in 2001. Subyearling counts at Lower Granite were 2,000/day and 5,000/day at Lower Monumental – way above the 10-year average.

**Water quality:** Scott English, COE, reported that all water quality monitoring gauges were operational, and noted that TDG exceedances at the Bonneville and the Camas gauge were being assessed, and were expected to wane since the spill test at Bonneville

had concluded. Scott shared the June TDG report which showed that most exceedances were due to involuntary spill.

**Next Meeting: August 4 Conference Call**

Agenda items include:

- Dworshak Operations
- Little Goose Spillway Weir
- Ice Harbor Pool Gauge Issues

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**

**July 28, 2010**

Notes: Pat Vivian

**1. Introduction**

Today's TMT meeting was chaired by Steve Barton (COE) and facilitated by Erin Halton (DS Consulting). Representatives of Montana, Oregon, USFWS, COE, NOAA, BOR, BPA and others attended. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

**2. Review Meeting Minutes for July 14, 16 and 21, 2010**

Paul Wagner (NOAA) said he would provide comments on these meeting minutes at a later date. TMT will follow up on this at its next meeting or via email.

**3. Upper Snake River Flow Augmentation**

John Roache (BOR) summarized the 2010 Snake River flow augmentation operation to date. Spring started with a dry forecast of 50-60% of normal water supply in the upper Snake Basin and it looked like providing 427 kaf of augmentation flows under the Nez Perce agreement would be difficult.

Reclamation initiated spring flow augmentation in May, an active time for fish, and had to use powerhead (the volume required to keep appropriate head on the turbines) to provide the releases. Use of powerhead limits augmentation flows to 427 kaf under the Nez Perce agreement. Since powerhead space is the last of the last to fill, dry conditions the following year could severely impact Reclamation's ability to even meet 427 kaf of flow augmentation if the powerhead space does not refill. Therefore powerhead is used only as a last resort.

Attachment 3a to this agenda item shows 2010 flow augmentation amounts by irrigation area. The upper Snake above Milner provided 157,344 acre feet of powerhead space as of May 31, 2010. The target flow augmentation volume was 427 kaf, and the total release into Brownlee Dam averaged around 4 kcfs/day through May. June brought unexpected rain which filled the reservoirs more than was expected. The availability of a willing seller allowed Reclamation to rent enough water to cover the powerhead space that was used thus allowing an increase of 2010 augmentation flow volume to 487 kaf. . As of July 16 all flow augmentation from the Upper Snake above Milner and the Boise had been released. All remaining flow augmentation from the Upper Snake is from the Payette system and will average Approximately 1-1.2 kcfs/day until about August 22..This year is the second, maybe the third or fourth year the BOR has been

able to provide 487 kaf of flow augmentation. (Follow-up note: 487 kaf of flow augmentation was also provided in 2006, 2008, and 2009).

Attachment 3b shows stipulated rental volumes from Water District 1 based on November 1 carryover storage and the April 1 water supply forecast. For 2010, carryover storage was about 2,357 kaf and the April 1 forecast was 2260 kaf so the rental volume guaranteed to be available this year was zero. Attachment 3c shows how flow augmentation was released from the Snake River above Milner..

Paul Wagner (NOAA) commented that release of water during May was a good decision this year. In terms of Idaho Power projects, the BOR guarantees releases from reservoirs in Idaho, but there's no guarantee of these volumes passing through Brownlee reservoir. However Reclamation is confident that the May flow augmentation releases did pass Brownlee Reservoir based on when the reservoir filled which has been typically in early June the past several years...

#### **4. Summary of Libby Storage Accounting**

Joel Fenolio (COE Seattle) gave a presentation on Libby storage accounting for the sturgeon volume and phase 2 storage under the deviation request.

The COE accounted for sturgeon volume as any flows above the VARQ baseline (how Libby would have operated without the deviation request) of 4 kcfs. Starting on June 8, the VARQ baseline began the sturgeon pulse. The Libby operation ramped quickly up to 26 kcfs, assumed powerhouse capacity at the time. Spill occurred June 10-17 but was limited by TDG concerns, and there were 2 days spill was limited due to head in the forebay. After the sturgeon spawning operation peaked, the project began ramping down to 7 kcfs bull trout minimum flows by June 30 as stipulated in the sturgeon SOR.

The first graph in attachment 4a shows a theoretical VARQ baseline operation without the deviation request. April 27 was the initial controlled flow date, which would have established the start of refill as April 17. Under this scenario Libby would have passed inflows from April 27 to mid May when inflow increased above the 14.5 kcfs VARQ flow for May. When the June forecast was released, flows would have ramped down to the VARQ rate of 13.6 kcfs until the start of the sturgeon pulse would have begun.

Jim Litchfield (Montana) asked whether the water supply forecast for 2010 might be high and triggered the 800 KAF for the sturgeon operation. There's still a month to go, Fenolio said, but the June water supply forecast of 4,400 kaf appears to be more accurate than the May forecast of 4,887 kaf. The May forecast was just above the cutoff point of 4,800 kaf, establishing 2010 as a Tier 2 year with a sturgeon pulse.

This topic warrants in-depth coverage at the TMT year end review, Litchfield commented. A better water supply forecast would have meant 800 kaf not released for the sturgeon pulse. The number of operational demands on Libby – VARQ, sturgeon flows, summer BiOp requirements, and refill targets – just don't add up. The COE recognizes this problem and will begin working next week on a more appropriate VARQ operation for Libby, Fenolio replied.

Phase 2 of Libby storage accounting involved the storage and release of the 260 kaf stored under the deviation request by a set date in order to assure flow neutrality. Initially that deadline was June 30, extended to July 15 by TMT. Beginning April 27, under phase 2 the COE released 4 kcfs from Libby instead of passing inflows. On May 15 the project ramped up to 6 kcfs releases. By May 21, 260 kaf had been stored in the reservoir, and the operation ramped up to 14.5 kcfs outflows. From April 27-May 21, the project stored an actual total of 260.6 kaf, with a reservoir elevation about 6 feet higher than it would have been under the VARQ operation.

Evacuation of the stored water took place incrementally. From June 1-9, the project released about 69.5 kaf at the rate of 17.7 kcfs per day above the VARQ flows of 14.5 kcfs and 13.6 kcfs. During spill operations the project released an additional 1.1 kaf, the spill was limited by TDG concerns. From June 17-30, the COE augmented the descending limb of the sturgeon pulse with 111.1 kaf of releases above the VARQ baseline. That left 79 kaf remaining in the reservoir, which was swapped with Grand Coulee storage and released from July 1-15. Release of the final 79 kaf of stored volume put Libby reservoir at elevation 2,438.4 feet on July 15 under either operation, making it flow neutral.

## ***5. Dworshak Operations and Temperature Modeling***

Attachment 5a shows existing conditions at Anatone, Orofino and other gauges on the Snake River, where temperatures have stayed in the range of 65-66 degrees F (at Lower Granite), Steve Hall (COE Walla Walla) reported.

Attachment 5b provides the comparison graphs TMT requested last week. One shows Dworshak outflows remaining at the present rate of 14 kcfs, the other shows outflows dropping to 12 kcfs today. The comparison indicates there would be little difference between the two operations, amounting to about 0.25 degrees F of cooling from the additional days of 14 kcfs.

Discussion turned to the best use of remaining augmentation volume for temperature control this summer. The current Dworshak reservoir elevation is 1,578.8 feet. The latest STP projection, assuming releases drop to 12 kcfs today, is for a seasonal average of around 11 kcfs outflows daily between now and the end of August in order to attain the target elevation of 1,535 feet by August 31. That means there is little flexibility in the shaping of Dworshak flows the rest of this summer.

Dave Wills (USFWS) asked for the elevation of the powerhouse intake when the units are in undershot mode. Elevation 1,395 feet, Hall said. Current Dworshak releases are around 45 degrees F, which is fine for the hatchery.

Attendance at yesterday's FPAC meeting was limited, with NOAA and USFWS representatives absent, Russ Kiefer (Idaho) reported. FPAC members present heard Fish Passage Center estimates showing that it would be possible to continue 14 kcfs outflows for about 9 more days. FPAC considered cutting back releases based on weather forecasts that change daily. Yesterday the Salmon Managers were going to advise the COE to maintain 13.5 or 14 kcfs outflows through July 30, then drop to 11 kcfs outflows on July 31. However, rain has increased and tributary temperatures have dropped overnight, so it might not be prudent to continue 14 kcfs outflows through Friday.

The model is showing a slight increase in temperatures over the next few days, peaking close to 67 degrees F but not above 68 degrees F, Hall reported. A River Forecast Center graphic based on radar imagery shows recent precipitation increases over LaGrande and Baker City in central Oregon, as well as 0.10 inch of rain through most of central Idaho and Montana.

In light of the precipitation increases, **NOAA** recommended dropping Dworshak outflows to 12 kcfs until next week. **Oregon, Idaho** and **USFWS** supported NOAA's recommendation and there were no objections from other TMT members. The **COE** will drop Dworshak outflows to 12 kcfs at midnight tonight and maintain that operation until TMT confers again August 4.

## ***6. Ice Harbor Pool Gauge Issues***

The COE has dispatched a survey crew to survey at the staff gages at Lower Monumental Dam to ensure that the tailrace gauges are providing adequate depth monitoring at the entrance to the navigation lock, Barton said. It appears that the temporary practice of operating Ice Harbor at up to half a foot above MOP is currently providing adequate depth for safe navigation.

The survey crew expects to finish work on July 30, Hall said. At that time the COE will assess whether it's possible to return to MOP operations and provide safe navigation. The elevation anomalies at Ice Harbor and Lower Monumental could be due to bad gauge readings caused by sideways eddies across the tailrace entrance during double testing. The COE is fairly certain that the radar gauge inside the stilling basin is functioning correctly. Barton added that the tailwater gauges are primarily situated for the purpose of establishing head for powerhouse operations, not necessarily monitoring tailrace conditions. There are hydraulic effects at the south end of the channel (the area of concern) when operations switch from full powerhouse to discharge during double testing, which began on July 26.

Attachment 6a summarizes discharges and elevations at Ice Harbor forebay and Lower Monumental tailrace. When the COE has confirmed whether

it's safe to return to MOP or operate a half foot above MOP, TMT members will hear about it via email. TMT will revisit Dworshak operations August 4.

## **7. Treaty Fishing**

Last week CRITFC submitted to the COE the final SOR of the summer treaty fishing season, Kyle Dittmer (CRITFC) reported. The SOR requests 1.5-foot operating bands at the three lower Columbia pools from 6 am, July 27, to 6 pm, July 29. The COE will implement the SOR as written. Fall treaty fishing will begin sometime in August, and CRITFC will provide summer treaty fishing catch totals to TMT when they are available.

## **8 Operations Review**

**Reservoirs.** Grand Coulee is at elevation 1,287.4 feet, releasing to manage flows at McNary. The August 31 target elevation at Grand Coulee is 1,277.3 feet. Hungry Horse is at elevation 3,557.04 feet, discharging 4.3 kcfs. Outflows may decline to 4 kcfs as the project moves toward its target elevation of 3,540 feet on September 30.

Libby is at elevation 2,441.3 feet, with inflows of 12.6 kcfs and bull trout minimum discharges of 7 kcfs. Albeni Falls is at elevation 2062.28 feet with inflows of 18.6 kcfs and discharges of 15.8 kcfs. Dworshak is at elevation 1,578.8 feet with inflows of 1.5 kcfs and discharges of 13.3 kcfs.

Snake River discharges yesterday were 39.3 kcfs and receding. Lower Granite daily average outflows were 41.8 kcfs last week. Priest Rapids daily average outflows were 109.6 kcfs last week compared to 100.6 kcfs now. McNary daily average outflows are 149.7 kcfs this week compared to last week's average of 161.2 kcfs.

The COE has produced a chart documenting prior years' concerns about minimum clearance concerns for safe navigation at Little Goose and Lower Granite (similar to the Ice Harbor/Lower Monumental navigation issue this year), Barton said. It appears that Little Goose and Lower Granite operations are currently providing adequate depth for safe navigation. The COE will continue to monitor this situation closely as flows decline. With flows dropping, closure of the Little Goose spillway weir will be triggered possibly by late next week. TMT will discuss Little Goose operations in its August 4 conference call.

Recent concerns about high forebay temperatures at McNary have not materialized, Don Faulkner (COE) reported. The current mortality rate of juveniles is 1-2% which is considered very low.

**Fish. Adults:** Sockeye migration is almost done, down to less than 100 fish per day at Bonneville with a seasonal total of 386,209 fish to date, Wagner reported. Sockeye passage is still going strong at Lower Granite with almost 2,000 fish passing per day. Summer Chinook are passing Bonneville at a rate of

500 fish per day with a seasonal total of 96,000. Steelhead are passing at the rate of about 6,000 per day (2,500 of them wild), with a seasonal total of 168,000. Summer Chinook passage this year is close to the 10-year average and better than last year.

Juveniles: Subyearling passage at Lower Granite, Little Goose and Lower Monumental is close to 2,000 fish per day at each dam. Chinook have had a good year, with subyearling passage at Lower Granite and Little Goose way above the 10-year average and still going strong. Wagner cautioned that PIT tag results show higher returns for the past 3 years due to the presence of more PIT tagged fish, which skews the comparisons. Nevertheless, smolt passage this year is remarkable in relation to 10-year averages – and it's still going strong.

**Power.** There was nothing new to report today.

**Water Quality.** All TDG gauges are operational, Scott English (COE) reported. The COE and USGS are working together to assess TDG exceedances in the Bonneville tailrace and at Camas Washougal gauge. Now that the Bonneville spill test is finished, the COE has lowered the spill cap.

## **9. Next Meeting**

The next TMT meeting will be a conference call on August 4, with Dworshak operations, a Little Goose spillway weir update, and Ice Harbor/Lower Monumental operations on the agenda. That will be followed by a TMT meeting in person August 11.

<b><i>Name</i></b>	<b><i>Affiliation</i></b>
Jim Litchfield	Montana
Rick Kruger	Oregon
Dave Wills	USFWS
Steve Barton	COE
Paul Wagner	NOAA
John Roache	BOR
Tony Norris	BPA
Tim Heizenrader	Centaurus
Joel Fenolio	COE Seattle
Karl Kanbergs	COE
Laura Hamilton	COE
Don Faulkner	COE
Scott English	COE

*Phone:*

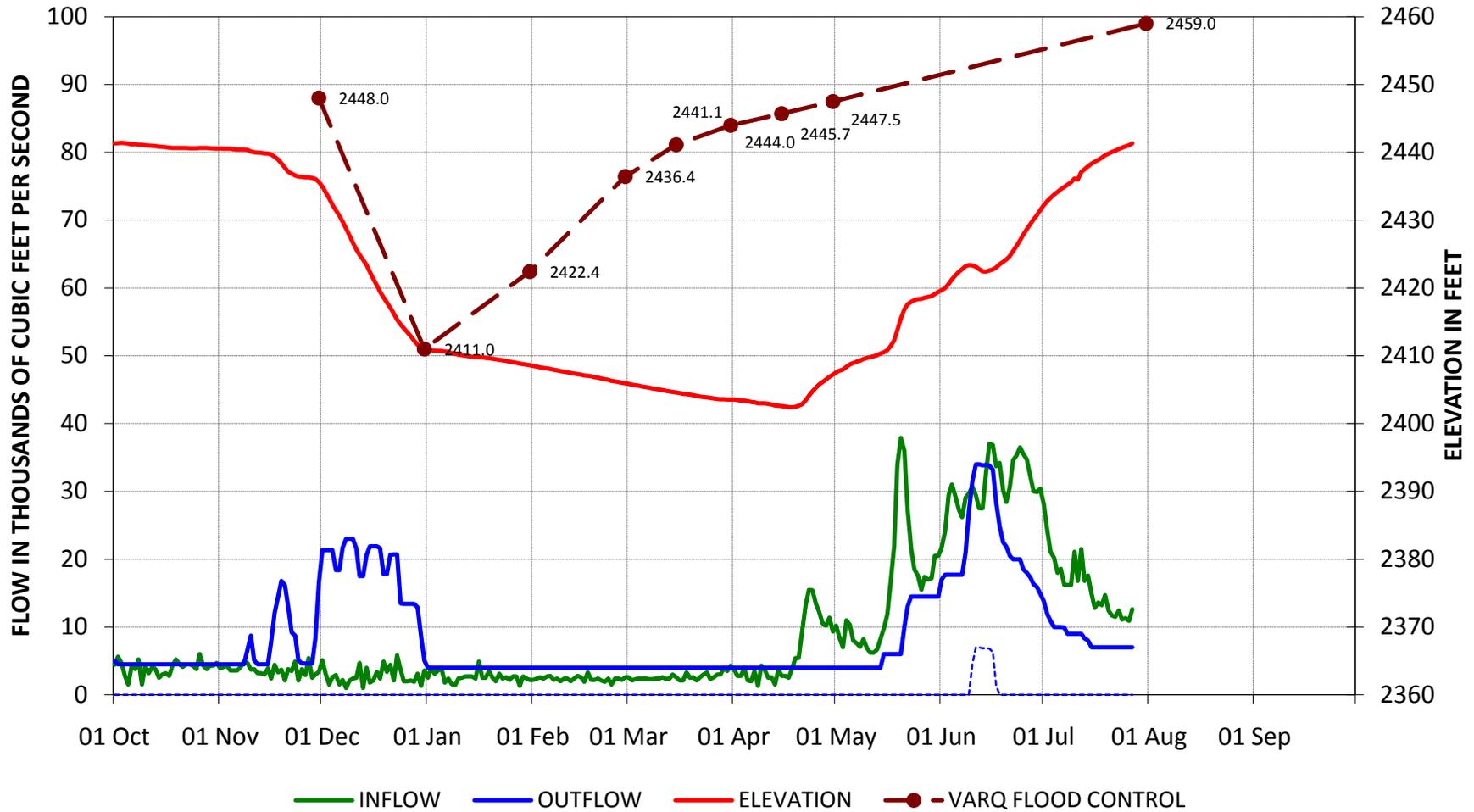
Russ Kiefer	Idaho
Steve Hall	COE Walla Walla
Margaret Filardo	FPC
Russ George	WMC
Mike Shafley	Snohomish PUD

Barry Espenson  
Kyle Dittmer  
Tom Le  
Doug Vine  
Scott Bettin  
Alex Shukarov  
Rich Dominigue

CBB  
CRITFC  
Puget Sound Energy  
Point Carbon  
BPA  
Grant PUD  
NOAA

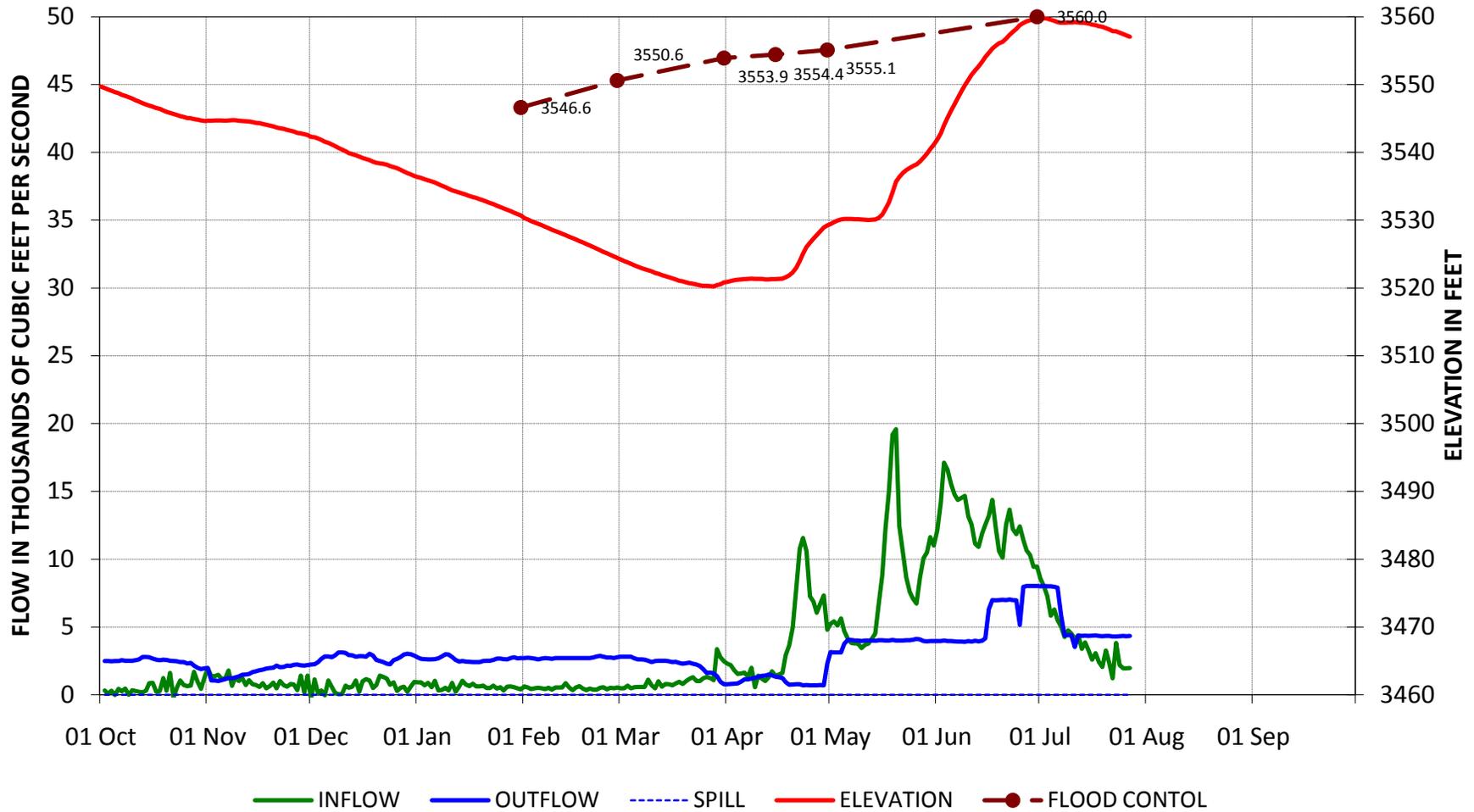
# LIBBY DAM AND RESERVOIR

## Water Year 2010



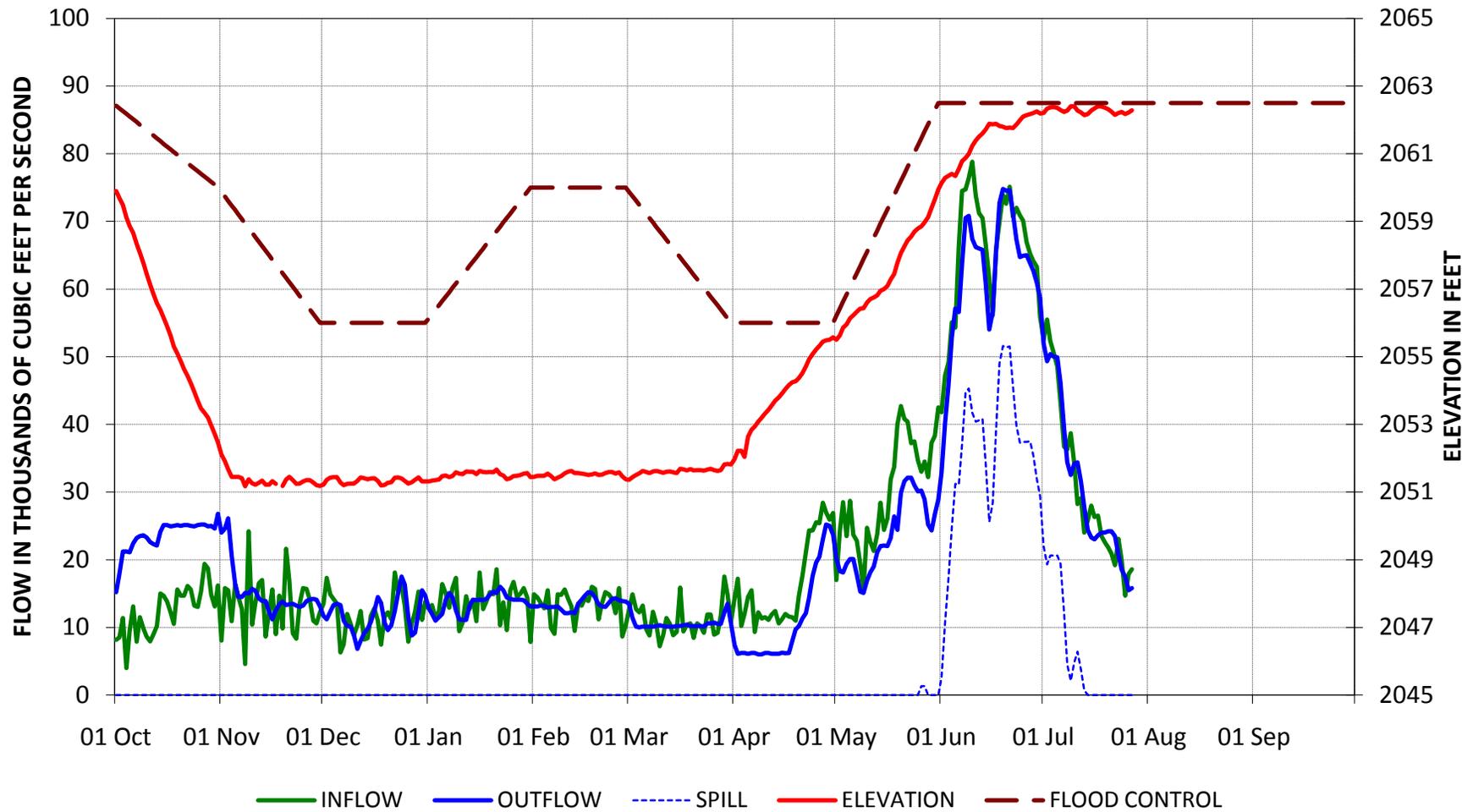
# HUNGRY HORSE DAM AND RESERVOIR

## Water Year 2010



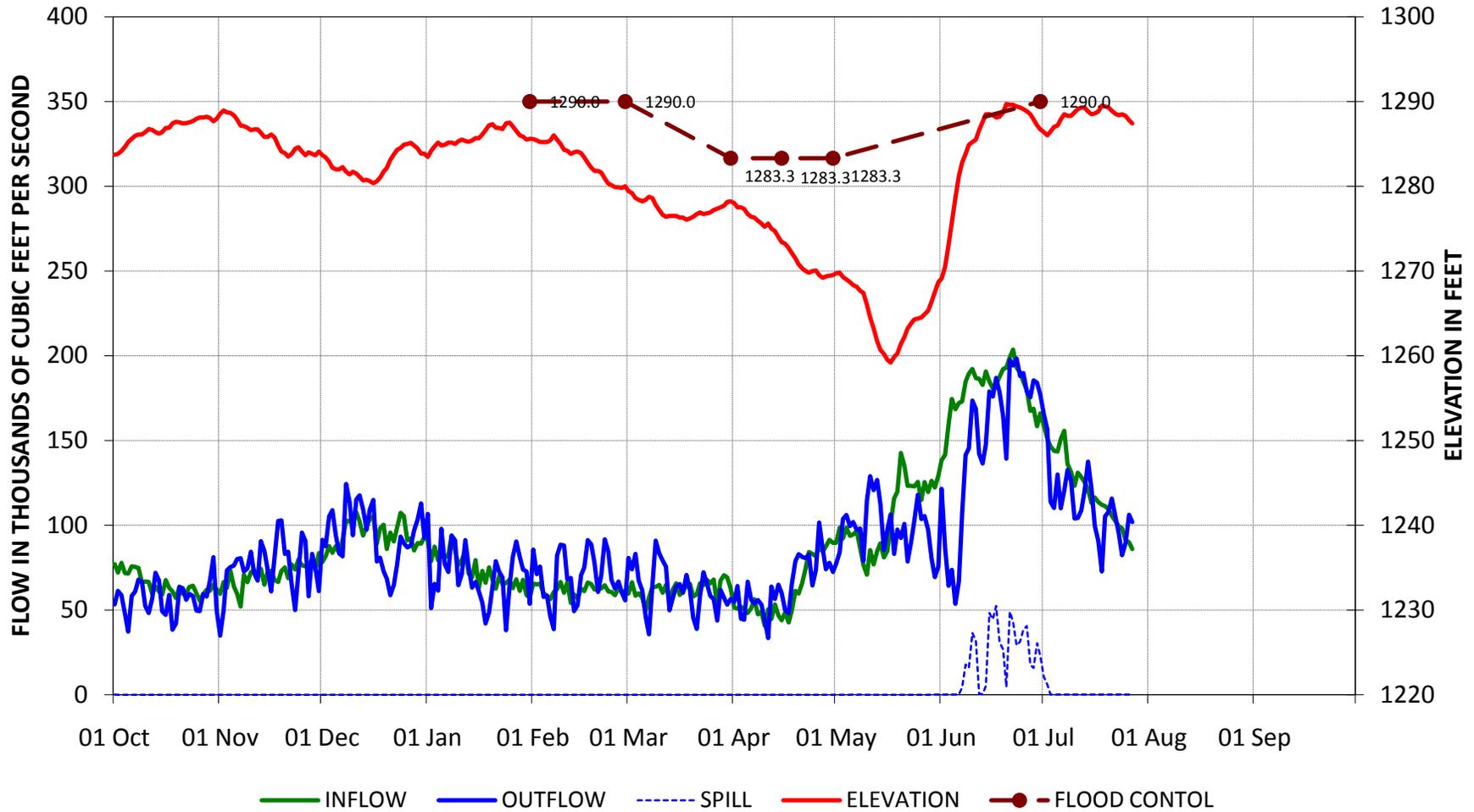
# ALBENI FALLS DAM AND RESERVOIR

## Water Year 2010



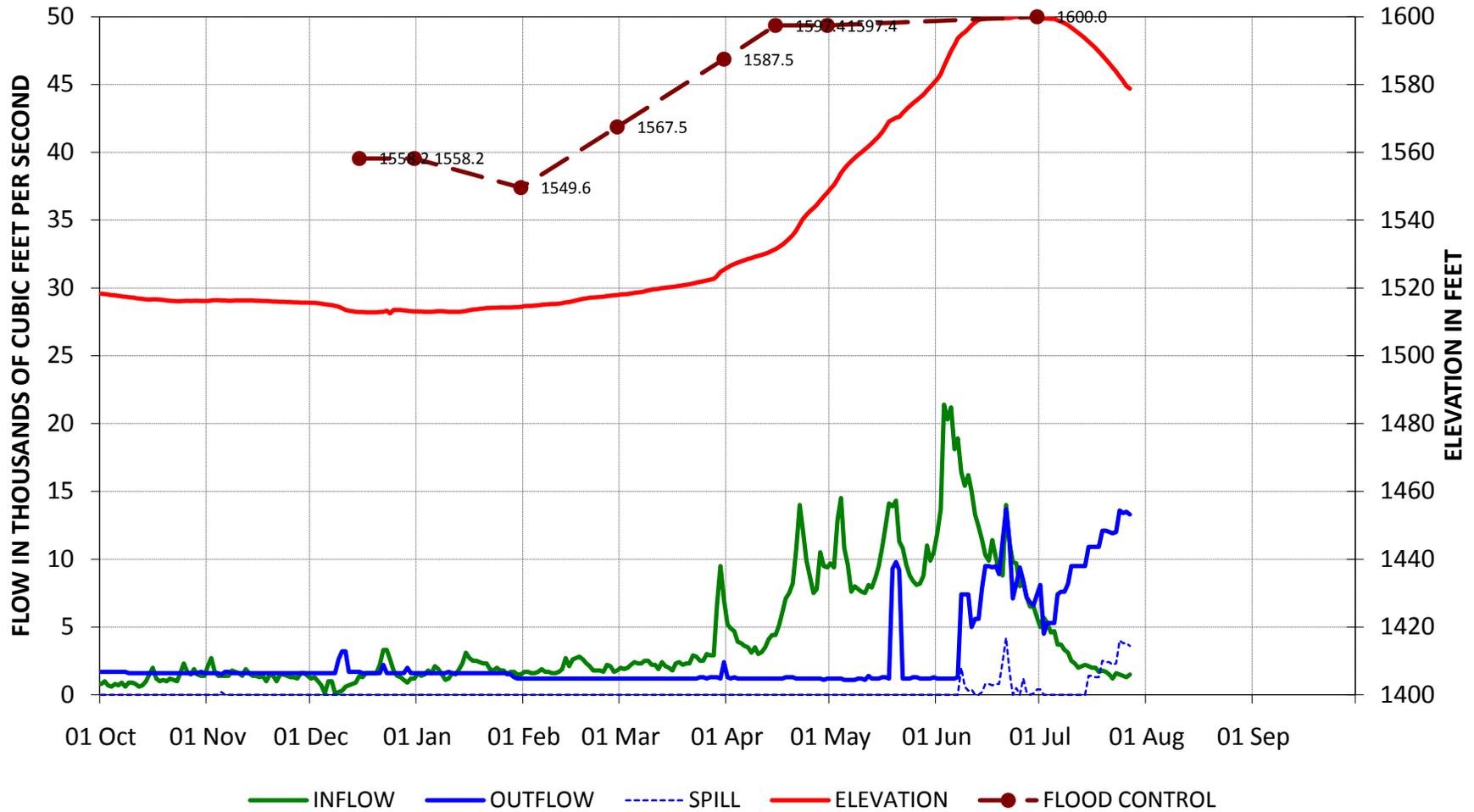
# GRAND COULEE DAM AND RESERVOIR

## Water Year 2010



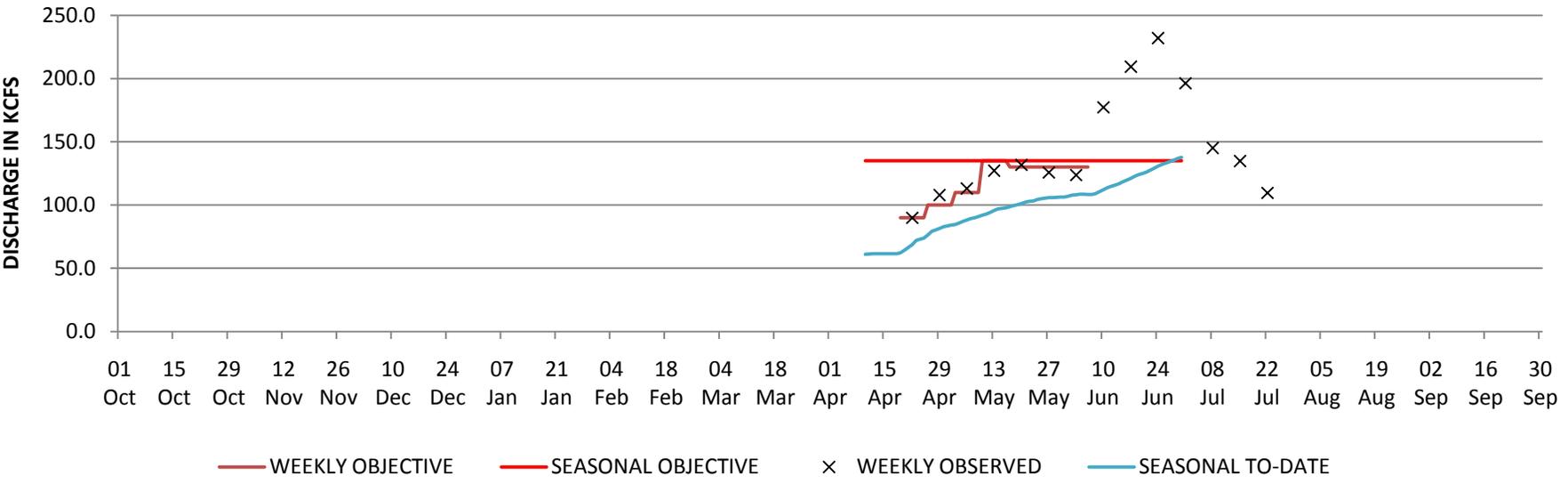
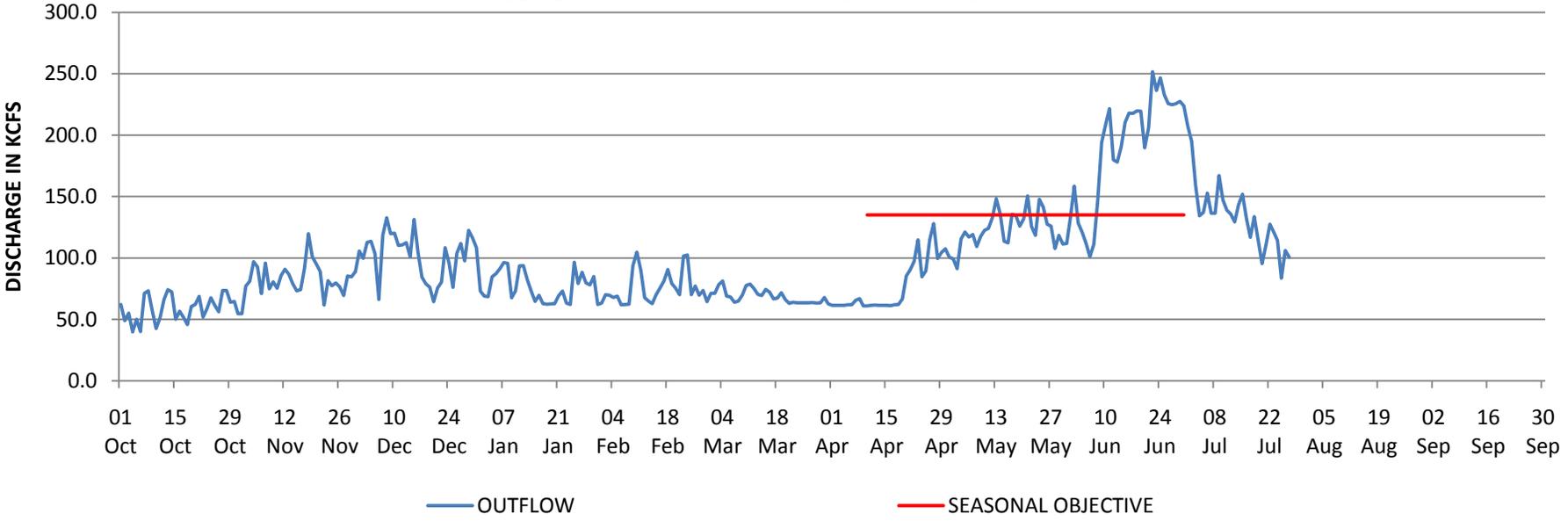
# DWORSHAK DAM AND RESERVOIR

## Water Year 2010



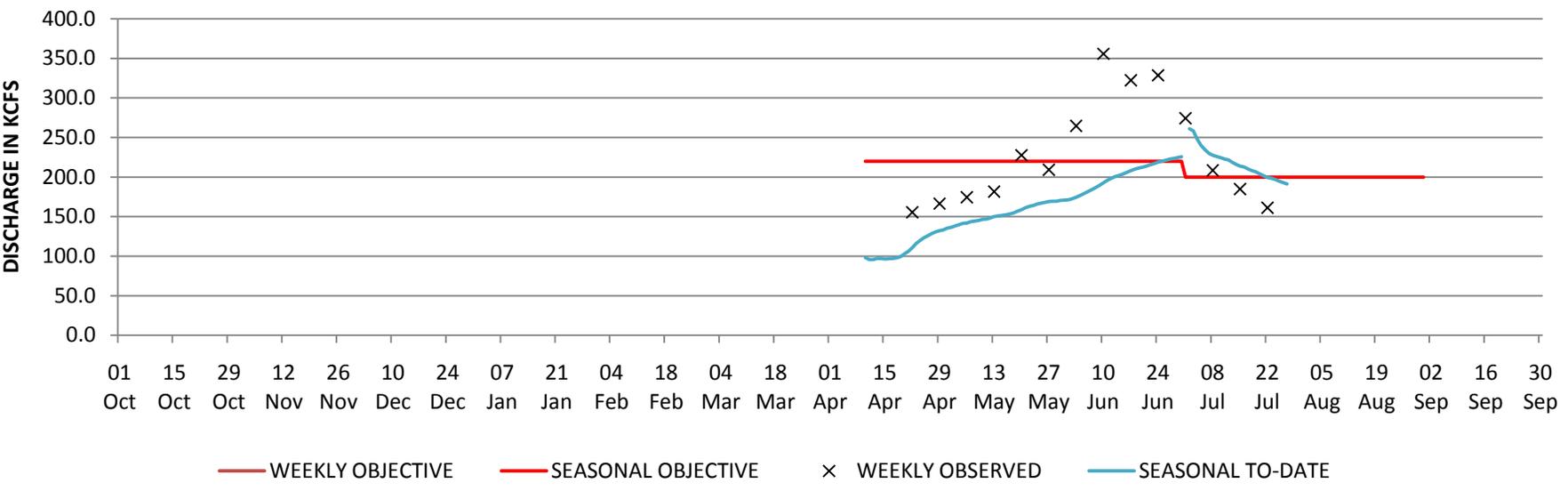
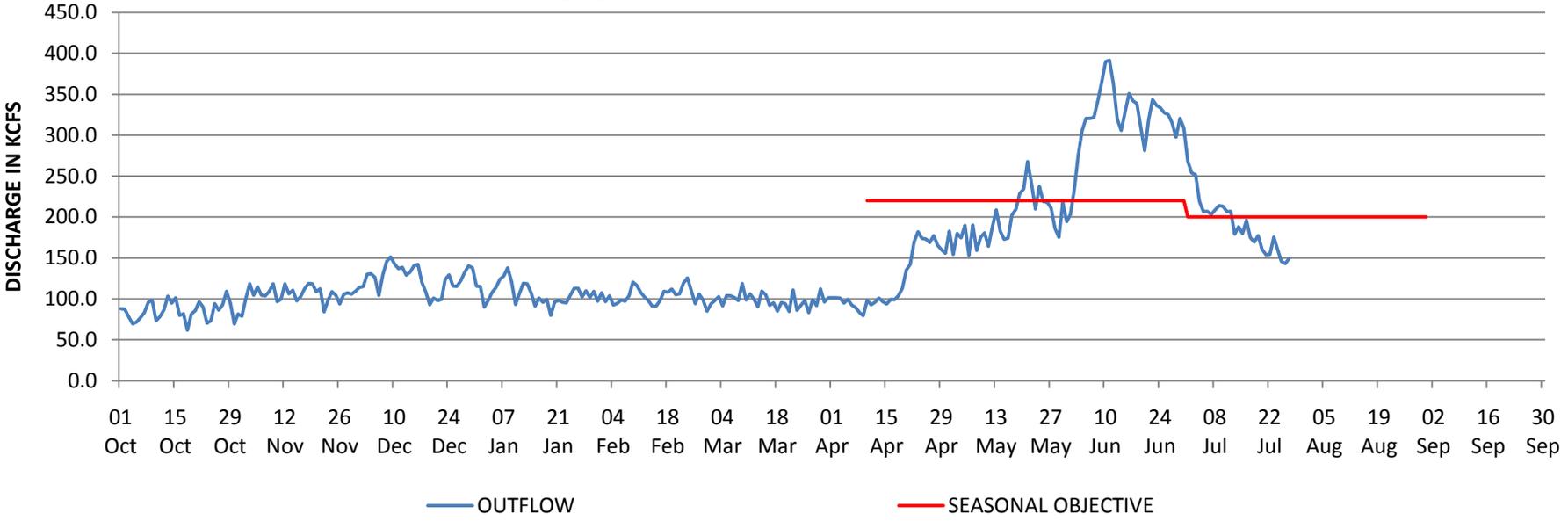


# PROJECT DISCHARGE SUMMARY COLUMBIA RIVER AT PRIEST RAPIDS DAM



# PROJECT DISCHARGE SUMMARY

## COLUMBIA RIVER AT McNARY DAM



November 1

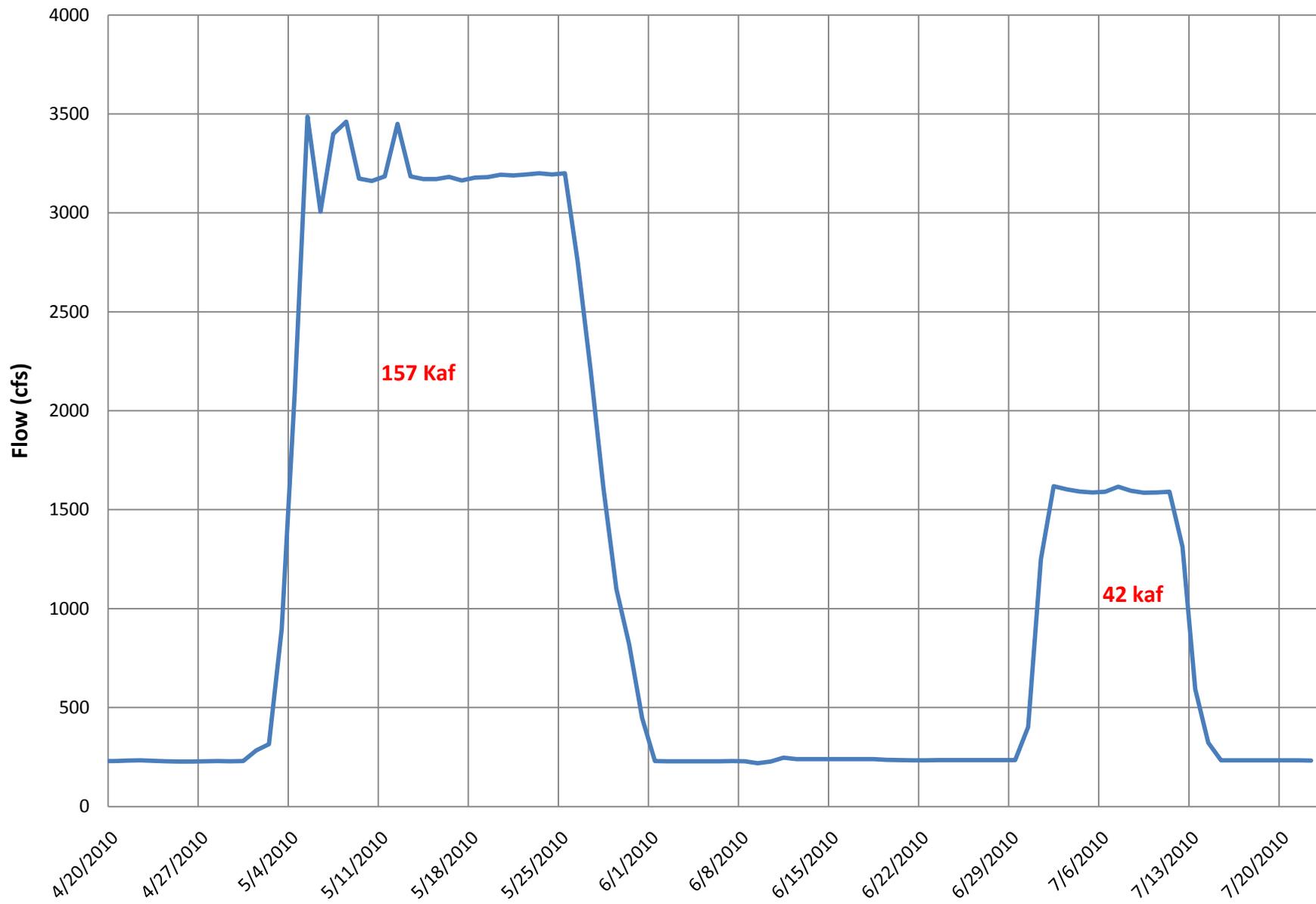
**Stipulated Augmentation Rental Dist 01**

Carryover <----- April 1 Heise Forecast 1000s of ----->

1000s af	< 2,450	< 2,920	< 3,450	< 4,208	< 5,042	< 5,670	> 5,670
0	0	0	0	0	150000	185000	185000
100	0	0	0	0	150000	185000	185000
200	0	0	0	0	150000	185000	185000
300	0	0	0	0	150000	185000	185000
400	0	0	0	0	150000	185000	185000
500	0	0	0	0	150000	185000	185000
600	0	0	0	60000	150000	185000	185000
700	0	0	0	60000	150000	185000	185000
800	0	0	0	60000	150000	185000	185000
900	0	0	60000	60000	150000	185000	185000
1,000	0	0	60000	60000	150000	185000	185000
1,100	0	0	60000	60000	150000	185000	185000
1,200	0	0	60000	60000	150000	185000	185000
1,300	0	0	60000	60000	150000	185000	185000
1,400	0	0	60000	60000	150000	185000	185000
1,500	0	0	100000	150000	185000	185000	185000
1,600	0	0	100000	150000	185000	185000	185000
1,700	0	0	100000	150000	185000	185000	185000
1,800	0	0	100000	150000	185000	185000	185000
1,900	0	0	100000	150000	185000	185000	185000
2,000	0	0	100000	150000	185000	185000	185000
2,100	0	0	100000	150000	205000	205000	205000
2,200	0	0	100000	150000	205000	205000	205000
2,300	0	0	100000	150000	205000	205000	205000
2,400	0	0	100000	150000	205000	205000	205000
2,500	0	0	100000	150000	205000	205000	205000
2,600	0	0	185000	185000	205000	205000	205000
2,700	0	0	185000	185000	205000	205000	205000
2,800	0	0	185000	185000	205000	205000	205000
2,900	0	0	185000	185000	205000	205000	205000
3,000	60000	60000	185000	185000	205000	205000	205000
3,100	60000	60000	185000	185000	205000	205000	205000
3,200	100000	100000	185000	185000	205000	205000	205000
3,300	100000	100000	185000	185000	205000	205000	205000
3,400	100000	100000	185000	185000	205000	205000	205000
3,500	100000	100000	185000	185000	205000	205000	205000
3,600	100000	100000	185000	185000	205000	205000	205000



# 2010 Upper Snake Flow Augmentation, Snake River at Milner



## **TDG INSTANCE TYPES**

**June 1 – June 30, 2010**

Instances of when TDG levels exceed state water quality standards are classified into “types” which are shown on Table 1. These types are regionally approved and have been used since 2003. The states have requested information on TDG instances which include:

1. Date and times of exceedance
2. Amount of exceedance in percent saturation
3. Explain reason for exceedance
4. Discuss steps taken to fix the problem.

Because TDG instances are events when state TDG standards are exceeded, it is necessary to describe the current legal arrangement of how the state water quality standards are being implemented by the USACE. The 2010 Court Order requires the Corps to operate according to the 2006 fixed monitoring station (FMS) system, and the 2006 state water quality standards which is referred to as “Roll-Over”. Therefore, the Camas/Washougal FMS, and the high 12-hour average calculation method are used to manage spill.

During the spill for fish passage season from April through August the Washington Department of Ecology (WDOE) has issued a temporary %TDG Rule Adjustment to their current water quality standards, and Oregon Department of Environmental Quality (ODEQ) issued a 5-year %TDG Waiver. The state water quality standards are calculated differently from one another, and also from the 2006 Roll-Over.

USACE is currently tracking and recording the current state water quality standards as follows.

Oregon: [http://www.nwd-wc.usace.army.mil/ftppub/water\\_quality/12hr/or/201004.html](http://www.nwd-wc.usace.army.mil/ftppub/water_quality/12hr/or/201004.html)

Washington: [http://www.nwd-wc.usace.army.mil/ftppub/water\\_quality/12hr/wa/201004.html](http://www.nwd-wc.usace.army.mil/ftppub/water_quality/12hr/wa/201004.html)

Comparison of OR & WA: [http://www.nwd-wc.usace.army.mil/ftppub/water\\_quality/12hr/201004.html](http://www.nwd-wc.usace.army.mil/ftppub/water_quality/12hr/201004.html)

Table 2 provides the TDG instances that occurred in the June 2010 spill for fish passage season.

Table 1

<b>Types of Instance</b>	
<b>Type 1 Condition</b>	<b>TDG levels exceed the TDG standard due to exceeding powerhouse capacity at run-of-river projects resulting in spill above the BiOp fish spill levels. This condition type includes:</b>
	<ul style="list-style-type: none"> <li>• High runoff flows and flood control efforts.</li> <li>• BPA load requirements are lower than actual powerhouse capacity.</li> <li>• Involuntary spill at Mid Columbia River dams resulting in high TDG levels entering the lower Columbia River.</li> <li>• Involuntary spill at Snake River dams resulting in high TDG levels entering the lower Columbia River.</li> </ul>
<b>Type 1a Condition</b>	<b>Planned and unplanned outages of hydro power equipment including generation unit, intertie line, or powerhouse outages.</b>
<b>Type 2 Exceedance</b>	<b>TDG exceedances due to the operation or mechanical failure of non-generating equipment. This exceedance type includes:</b>
	<ul style="list-style-type: none"> <li>• Flow deflectors unable to function for TDG abatement with tailwater elevations above 19 - 26 feet at Bonneville Dam.</li> <li>• Spill gates stuck in open position or inadvertently left open.</li> <li>• Increased spill in a bulk spill operation to pass debris.</li> <li>• Communication errors, such as teletype were transmitted but change was not timely made or misinterpretation of intent of teletype by Project operator.</li> </ul>
<b>Type 2a Exceedance</b>	<b>Malfunctioning FMS gauge, resulting in fewer TDG or temperature measurements when setting TDG spill caps.</b>
<b>Type 3 Exceedance</b>	<b>TDG exceedances due to uncertainties when using best professional judgment, SYSTDG model and forecasts. This exceedance type includes:</b>
	<ul style="list-style-type: none"> <li>• Uncertainties when using best professional judgment to apply the spill guidance criteria, e.g., travel time, degassing, and spill patterns.</li> <li>• Uncertainties when using the SYSTDG model to predict the effects of various hydro system operations, temperature, degassing, and travel time.</li> <li>• Uncertainties when using forecasts for flows, temperature and wind.</li> <li>• Unanticipated sharp rise in water temperature (a 1.5 degree F. or greater change in a day).</li> <li>• Bulk spill pattern being used which generated more TDG than expected.</li> </ul>

Exceedances are shown on the following table for June 1 to June 30, 2010.



## **TDG INSTANCE TYPES**

### **June 1 – June 30, 2010**

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Oregon: [http://www.nwd-wc.usace.army.mil/ftppub/water\\_quality/12hr/or/201004.html](http://www.nwd-wc.usace.army.mil/ftppub/water_quality/12hr/or/201004.html)

Washington: [http://www.nwd-wc.usace.army.mil/ftppub/water\\_quality/12hr/wa/201004.html](http://www.nwd-wc.usace.army.mil/ftppub/water_quality/12hr/wa/201004.html)

Comparison of OR & WA: [http://www.nwd-wc.usace.army.mil/ftppub/water\\_quality/12hr/201004.html](http://www.nwd-wc.usace.army.mil/ftppub/water_quality/12hr/201004.html)

Table 2 provides the TDG instances that occurred in the June 2010 spill for fish passage season.

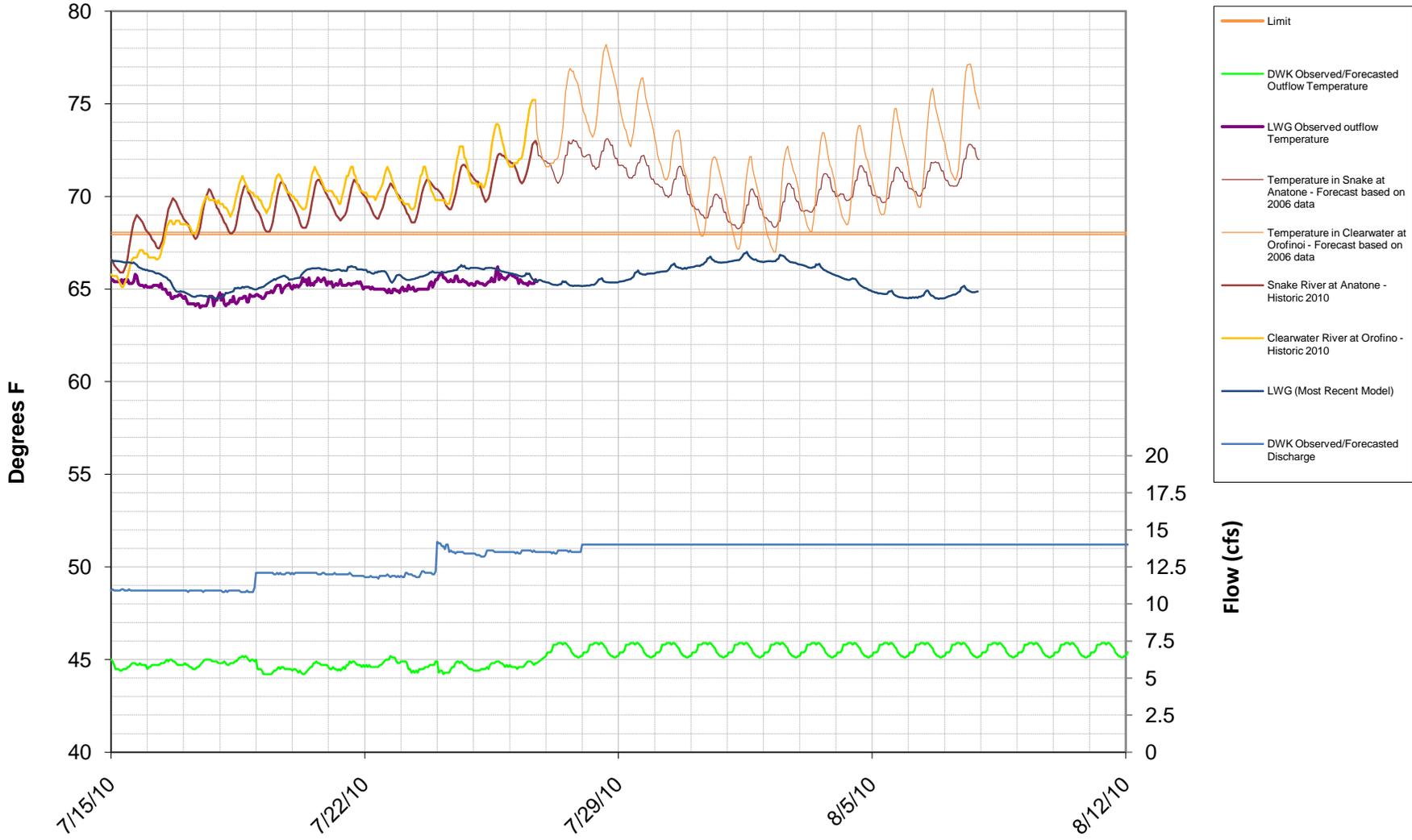
Table 1

<b>Types of Instance</b>	
<b>Type 1 Condition</b>	<b>TDG levels exceed the TDG standard due to exceeding powerhouse capacity at run-of-river projects resulting in spill above the BiOp fish spill levels. This condition type includes:</b>
	<ul style="list-style-type: none"> <li>• High runoff flows and flood control efforts.</li> <li>• BPA load requirements are lower than actual powerhouse capacity.</li> <li>• Involuntary spill at Mid Columbia River dams resulting in high TDG levels entering the lower Columbia River.</li> <li>• Involuntary spill at Snake River dams resulting in high TDG levels entering the lower Columbia River.</li> </ul>
<b>Type 1a Condition</b>	<b>Planned and unplanned outages of hydro power equipment including generation unit, intertie line, or powerhouse outages.</b>
<b>Type 2 Exceedance</b>	<b>TDG exceedances due to the operation or mechanical failure of non-generating equipment. This exceedance type includes:</b>
	<ul style="list-style-type: none"> <li>• Flow deflectors unable to function for TDG abatement with tailwater elevations above 19 - 26 feet at Bonneville Dam.</li> <li>• Spill gates stuck in open position or inadvertently left open.</li> <li>• Increased spill in a bulk spill operation to pass debris.</li> <li>• Communication errors, such as teletype were transmitted but change was not timely made or misinterpretation of intent of teletype by Project operator.</li> </ul>
<b>Type 2a Exceedance</b>	<b>Malfunctioning FMS gauge, resulting in fewer TDG or temperature measurements when setting TDG spill caps.</b>
<b>Type 3 Exceedance</b>	<b>TDG exceedances due to uncertainties when using best professional judgment, SYSTDG model and forecasts. This exceedance type includes:</b>
	<ul style="list-style-type: none"> <li>• Uncertainties when using best professional judgment to apply the spill guidance criteria, e.g., travel time, degassing, and spill patterns.</li> <li>• Uncertainties when using the SYSTDG model to predict the effects of various hydro system operations, temperature, degassing, and travel time.</li> <li>• Uncertainties when using forecasts for flows, temperature and wind.</li> <li>• Unanticipated sharp rise in water temperature (a 1.5 degree F. or greater change in a day).</li> <li>• Bulk spill pattern being used which generated more TDG than expected.</li> </ul>

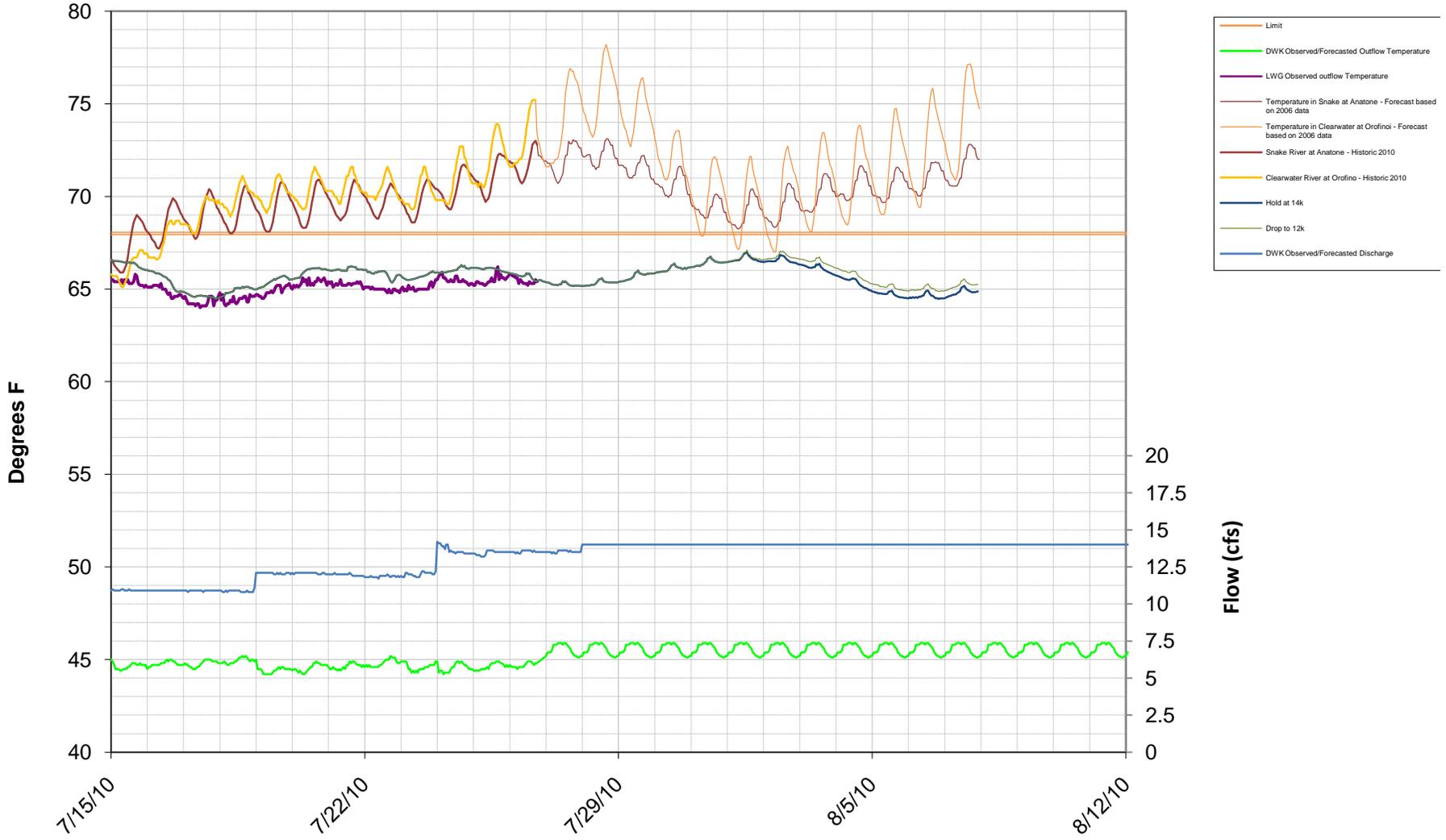
Exceedances are shown on the following table for June 1 to June 30, 2010.



**Water Temperature Comparisons  
Model from 7/8/2010 to 8/7/2010  
Observed Data to 7/27/2010**



**Water Temperature Comparisons  
Model from 7/8/2010 to 8/7/2010  
Observed Data to 7/27/2010**



**2010 Upper Snake Flow Augmentation** 7/23/2010

<b>System and Source</b>	<b>Volume (acre-ft)</b>	<b>Timing</b>
<b><i>Upper Snake above Milner</i></b>		
May augmentation releases	157,344	Released May 3 - May 31
WD01 rentals	19,101	Released June 30 - July 14
Reclamation Space (estimate)	22,521	Released June 30 - July 14
<b><i>Natural Flows</i></b>		
Idaho	60,000	
Skyline	26,602	Inc. 8953 af one time rental
<b><i>Payette</i></b>		
Reclamation Space	95,000	Releases June 18 through August 22
WD65 rentals	65,000	Releases June 18 through August 22
<b><i>Boise</i></b>		
Lucky Peak	40,932	Half released by June 8, remainder by July 16
WD63 rentals	500	Half released by June 8, remainder by July 16
<b>Total</b>	<b>487000</b>	

# 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 / Charles Morrill                **MT** : Jim Litchfield / Brian Marotz  
**COE**: Steve Barton / Karl Kanbergs / Doug Baus

## TMT CONFERENCE CALL

Wednesday August 4, 2010 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 MUTE your Phone**

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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. Dworshak Operations/Temperature Modeling- Steve Barton, COE-NWD & Steve Hall, COE-NWW
  - a. [Dworshak Summer Operations](#)
  - b. [Water Temperature Comparisons](#)
3. Ice Harbor Pool Gauge Issues - Steve Barton, COE-NWD & Steve Hall, COE-NWW
  - a.
4. Little Goose Spillway Weir Update - Steve Barton, COE-NWD
5. McNary Transport - Steve Barton, COE-NWD
6. Other
  - a. Set agenda and date for next meeting - **August 11, 2010**
  - b. [\[Calendar 2010\]](#)

*Questions about the meeting may be referred to:  
[Steve Barton](#) at (503) 808-3945, or  
[Doug Baus](#) at (503) 808-3995*

# COLUMBIA RIVER REGIONAL FORUM TECHNICAL MANAGEMENT TEAM

August 4, 2010

## FACILITATOR'S SUMMARY NOTES

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.

### Dworshak Operations

Steve Barton and Steve Hall, COE, reported on current Dworshak operations; Barton said that outflows had been increased to 13.5 kcfs last night, per a recommendation from FPAC members that had been communicated to the COE on 8/3. Hall referred TMT to links on the agenda that showed temperature modeling results for outflows of 12 kcfs vs. 13.5 kcfs; he noted the small difference between the two operation lines, with 13.5 kcfs providing an additional ¼ of a degree of cooling. Hall clarified that the models were run for dates through 8/10.

Paul Wagner, NOAA, reported that FPAC discussed the general trends in water/weather temperatures and noted that the 10 day forecast suggests not much heating on the horizon. The consensus amongst FPAC members at their 8/3 meeting was to operate the project at the current flows (13.5 kcfs) through 8/7, then lower outflows to full powerhouse (~10 kcfs) and maintain until further discussion next week. However, after a recent discussion with Dave Statler, Nez Perce Tribe, Wagner said the new recommendation was to shift down to full powerhouse on 8/6, so that a bit more reserve of cool water will be available in case there is an increase in heat later in August. The other TMT members present on the call (MT, ID, BPA) had no objection to this new recommendation.

**Action/Next Steps:** The COE will operate Dworshak at 13.5 kcfs until midnight on 8/6; they will reduce outflows to full powerhouse (~10 kcfs) and maintain until further discussion amongst TMT members. This item will be on the agenda for the TMT meeting on 8/11.

### Ice Harbor Pool Gauge Issues

Steve Barton, COE, referred to an email sent to TMT members regarding the COE's intent to operate Ice Harbor forebay within a 1' range, between 437.5-438.5' for the remainder of August to ensure safe navigation and meet minimum tailwater elevations. He said the COE was committed to working with TMT to finding a long-term solution for the issue. Barton added that information gathered during the surveys concluded that depressions from the relatively high velocity of discharge create a local effect. One of the suggestions the COE is exploring is to install gauges on telemetry to assess actual, real-time depth at the navigation lock.

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

Steve Barton, COE, reported that the project is expected to meet the low flow criteria for removing the RSW this weekend or early next week. However, there is regional consensus that it would be more beneficial to adult passage if the RSW were removed a few days earlier, on 8/5.

**Action/Next Steps:** The COE will remove the RSW on 8/5.

### **McNary Transport**

Steve Barton, COE, said that this item was on the agenda to help clarify the current McNary transport operation and also clarify the discussion of this item at the 7/14 TMT meeting. He reported that the COE was currently operating consistent with the Fish Passage Plan change form submitted in January; he added that to-date the mortality rates have been very low. He acknowledged that a temperature threshold of 68° had been discussed at the 7/14 TMT meeting; however, he said the COE wanted to be clear that as mortality rates have still been very low, the COE was operating consistent with the change form.

Paul Wagner, NOAA, also recalled the 7/14 TMT discussion, and said the Salmon Manger's understanding was that the COE committed to daily transportation once temperatures reached 68°; he added that Gary Fredericks, NOAA, had noted that FPOM was another group who provided guidance for this operation. Russ Kiefer, ID, added that during the discussion on 7/14, the Salmon Managers gave the COE the option of also using bypass if the temperature criteria were reached. Kiefer also recalled that the request to the Action Agencies was that they not hold the fish for 48 hours at that temperature condition. Barton responded thanked the Salmon Managers for their clarification – and that it had been unclear to him in reviewing the notes on what exactly the COE had committed to. Tom Lorz, CRITFC, added that the desire is to not hold the fish for 48 hours at 68° and to do daily transportation or bypass instead.

Doug Baus, COE, said the COE was operating to the change form, even though there had been discussion at TMT regarding a temperature threshold. Russ Kiefer, ID, noted that as in the case with the RSW at Little Goose, when there is regional consensus for a new recommendation to be implemented, TMT has the power to make that happen.

**Action:** Barton concluded the discussion by clarifying what he had heard from the Salmon Managers and stating that the COE would quickly review the proposed operation and determine what could be done in terms of transportation/bypass everyday now that the 68° criteria had been met, and that he would notify TMT members via email by COB Thursday, August 05, with the status of the proposed operation.

### **Next Meeting:** August 11 face-to-face

Agenda items will include:

- Notes/Minutes Review
- Treaty Fishing Catch Totals
- Dworshak Operations
- Operations Review

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**

**August 4, 2010**

Notes: Pat Vivian

**1. Introduction**

Today's TMT conference call was chaired by Steve Barton (COE) and facilitated by Erin Halton (DS Consulting). Representatives of BPA, COE, Montana, NOAA, Idaho, the Nez Perce Tribe, Umatilla Tribe and others attended. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

**2. Dworshak Operations**

Per FPAC request, the COE increased Dworshak outflows to 13.5 kcfs last night, Barton said. Current outflow temperatures at Lower Granite Dam are around 67 degrees F.

Steve Hall (COE Walla Walla) shared the latest modeling results for Dworshak. The model contrasts two operations, 12 kcfs and 13 kcfs outflows through August 7, with both scenarios dropping to full powerhouse flows of around 9.7 kcfs on Sunday morning, August 8. The modeling results indicate that the increase to 13.5 kcfs will yield 0.25 degree F of additional cooling, with the 12 kcfs scenario touching 68 degrees F slightly sooner than the 13.5 kcfs scenario.

FPAC discussed this operation yesterday and recommended the increase to 13.5 kcfs because there has been a general temperature rise to 67 degrees F at Lower Granite Dam, Paul Wagner (NOAA) said. High temperatures at Lewiston, Idaho, are forecasted this week followed by lower temperatures, so the Salmon Managers reached consensus on a recommendation to increase outflows to 13.5 kcfs, then drop to full powerhouse (9.5-10.5 kcfs, depending on head) beginning August 8.

Subsequently Dave Statler (Nez Perce Tribe), who wasn't on the FPAC call yesterday, expressed concern that running 13.5 kcfs through August 7 wouldn't leave enough volume to maintain full powerhouse flows going forward with enough potential reserves in case another heat wave strikes, Wagner said. After discussion, Wagner and Statler agreed to recommend that 13.5 kcfs flows continue only through August 5 instead of August 8. Other TMT members expressed their views of this:

- **Idaho** – A drop to full powerhouse flows on the morning of August 7 would be the best operation.

- **COE** – Supports returning to powerhouse flows at midnight on August 6 due to concerns about the limited supply of cool water.
- **BPA** – No objections to the proposed operation.
- **Montana** – No objections.
- **Nez Perce** – No objections.

The COE will continue to monitor this operation closely and will notify TMT members if any concerns arise.

### ***3. Ice Harbor Pool Gauge Issues***

Last week, survey work was done to investigate the discrepancies between Ice Harbor pool gauge readings and measurements at the Lower Monumental tailwater, Barton reported. The survey crew has determined that surveying errors and gauge malfunction were not contributing factors to the discrepancies. As a result, they noted a differential between what was being measured at the staff gauge at the navigation lock and the official tailwater gauge in the stilling basin of the powerhouse. Even during stable operations, there's a decrease of 0.30-0.50 foot between elevation readings in the Ice Harbor forebay and the Lower Monumental navigation lock.

Therefore, to ensure safe navigation, the COE has instructed project staff to operate the Ice Harbor forebay from 437.5 to 437.8 feet elevation through the remainder of August for this year only. Between now and next season, Barton said, the COE will work toward a remedy, and TMT will be involved in the discussion of potential solutions.

One possible solution is to install gauges and telemetry equipment at the navigation lock entrance in order to monitor actual depths at the lock entrance. This would account for faulty elevation readings that occur when an eddy that tends to form in front of the powerhouse during high flows depresses the elevation in the stilling basin.

TMT will be asked to revisit this issue in pursuit of a longer term solution sometime before the end of August, Barton said.

### ***4. Little Goose Spillway Weir Update***

At the July 28 TMT meeting, the COE reported that the STP model was quickly approaching triggers specified in the Fish Passage Plan for removal of the Little Goose spillway weir, Barton recalled. Current projections show the trigger occurring early next week. Russ Kiefer (Idaho) clarified that the trigger was expected to be reached over the weekend, so discussion focused on whether to shut the weir off tomorrow or early next week.

In response to regional interest in removing the spillway weir a few days early, the COE has scheduled removal of the weir tomorrow, August 5.

## **5. McNary Transport**

Barton addressed the confusion that has arisen regarding McNary transport since TMT discussed it on July 14. Recently outflow temperatures at McNary hit 68 degrees, a criterion discussed on July 14. However, mortality rates remain extremely low at 1% or less.

The COE is managing McNary transport in accordance with the Fish Passage Plan, including a change form to the FPP adopted in January 2010 that establishes two parameters for changing the transport operation: (1) A temperature difference of 6 degrees F between various locations, or (2) A mortality rate of 6% of daily collection for any 3 days in a rolling 5 day period.

On July 14, some TMT members proposed adding a criterion of 68 degrees F, emphasizing that mortality increases if fish are held for 48 hours in warm water. Given that mortality rates are low, Barton asked, do the regional parties still want to change the transport operation? The Salmon Managers present today gave their views:

- **NOAA** – Doesn't object to daily transport now, but isn't requesting it either. Prior to making such a change, FPOM needs to discuss it. Established procedure calls for FPOM to review changes to the Fish Passage Plan before they are implemented. The commitment the Action Agencies appeared to make on July 14 regarding daily transport once temperatures at McNary hit 68 degrees F was probably not clearly understood.
- **Idaho** – At the July 14 meeting, Oregon and Umatilla Tribe representatives identified two options – daily transport and bypassing collected fish – the COE could use when temperatures hit 68 degrees F. The FPP says TMT will set the date each year for transport to begin at McNary. On July 14, TMT members who supported the Action Agency proposal to begin transport early were basing their support on an understanding that fish would not be held for 48 hours in temperatures of 68 degrees F. Idaho doesn't support relinquishing the perceived commitment the COE made on July 14 without the express approval of Oregon and the Umatilla Tribe. TMT could have used adaptive management principles, as it did in shutting off the Little Goose spillway weir early, to address the McNary situation.
- **Umatilla** – If the Action Agencies can't switch to daily transport now that temperatures are at 68 degrees, an alternative to holding fish for 48 hours is needed. Mortalities are especially high when temperatures exceed 70 degrees F. Daily transport would alleviate this concern. However, if daily transport isn't possible, one possible interim solution would be truck transport once passage index numbers drop to 5,000 fish a day or less,

which is expected to happen soon. Bypassing isn't a good option, due to NOAA concerns about high mortality rates in the bypass.

In response to this feedback, specifically the desire to avoid holding fish for 48 hours in 68-degree water, the COE will investigate logistics and clarify what's possible by close of business tomorrow. **NOAA, Idaho, Umatilla, BPA** and **Montana** supported this proposal to establish a clear plan for McNary transport in 24 hours.

Tony Norris (BPA) asked for how many hours fish can safely be held in 68-degree water. The focus should be on moving them out of the raceway on days when the transport barge is unavailable, Tom Lorz (Umatilla) replied. Barton and Doug Baus (COE) identified two possible causes of the recent confusion: (1) lack of a poll on July 14 to document the COE commitment clearly, and (2) lack of clarity on how the proposed trigger of 68 degrees F would be integrated with the triggers already established in the FPP, since they are in conflict. Barton apologized for the confusion and thanked everyone for today's discussion.

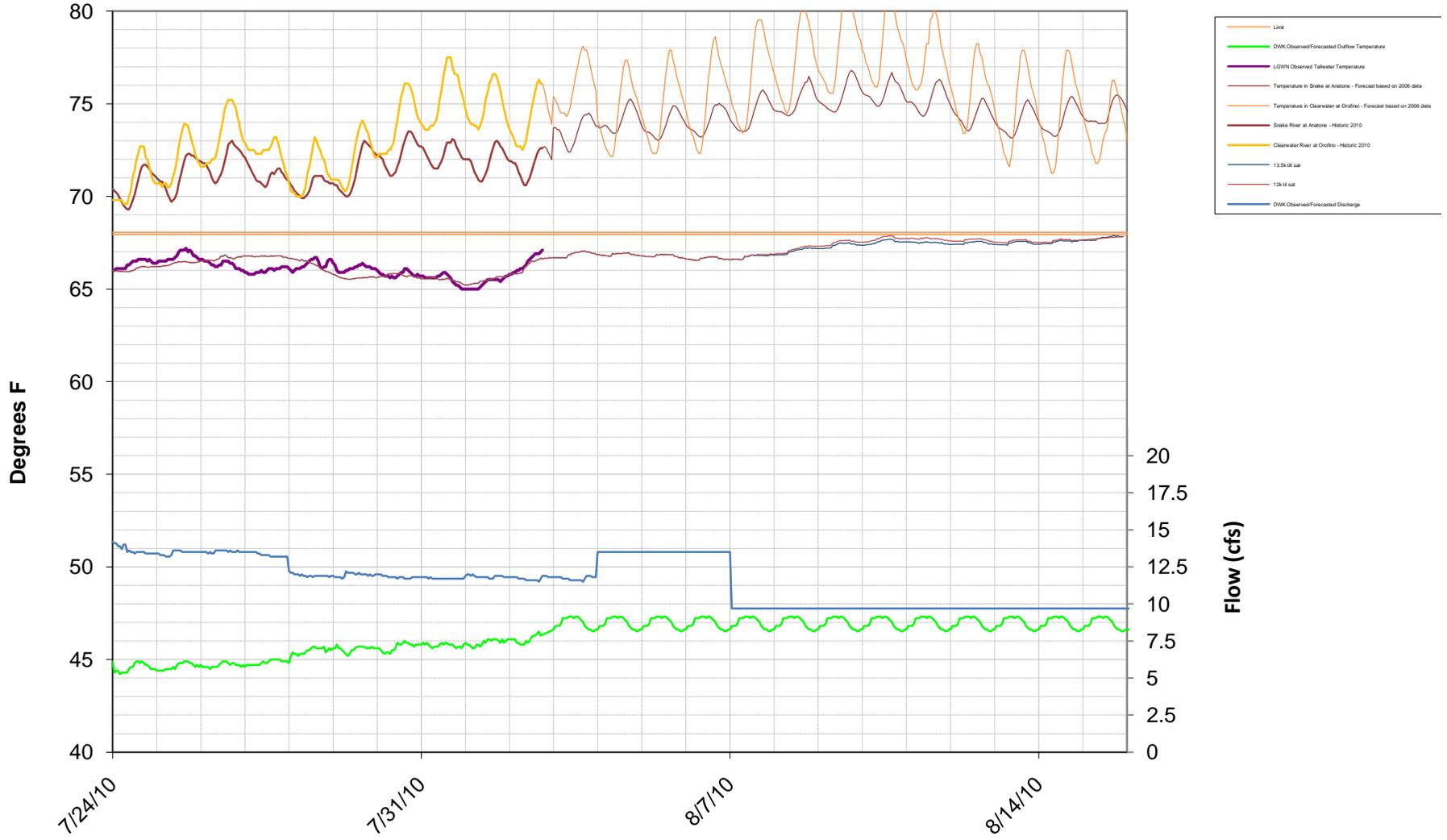
TMT members can expect an email specifying the McNary operation by 4 pm Pacific time on August 5.

## **6. Next Meeting**

The next TMT meeting will be in person on August 11. The agenda will include a Dworshak operations update, review of meeting minutes, the usual operations review, and other topics as needed.

<b>Name</b>	<b>Affiliation</b>
Tony Norris	BPA
Steve Barton	COE
Scott English	COE
Russ George	Water Management Consultants
Barry Espenson	CBB
Margaret Filardo	FPC
Dave Benner	FPC
Tom Le	Puget Sound Energy
Rob Dies	Iberdrola Renewables
Richelle Beck	DRA
Karl Kanbergs	COE
Doug Baus	COE
Greg Lawson	Point Carbon
Russ Kiefer	Idaho
Dave Statler	Nez Perce
Tom Lorz	Umatilla

### Water Temperature Comparisons Model from 7/24/2010 to 8/16/2010 Observed Data to 8/3/2010



# 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  
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**WDFW** : Cindy LeFleur / Charles Morrill              **MT** : Jim Litchfield / Brian Marotz  
**COE**: Steve Barton / Karl Kanbergs / Doug Baus

## TMT MEETING

Wednesday August 11, 2010 09:00 - 12:00

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

### CONFERENCE PHONE LINE

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## AGENDA

1. Welcome and Introductions
2. Review Meeting Minutes for July 28, and August 4 [\[Meeting Minutes\]](#)
3. Treaty Fishery Update - Tom Lorz, CRITFC
4. Dworshak Operations/Temperature Modeling- Steve Barton, COE-NWD & Steve Hall, COE-NWW
  - a. [Dworshak Summer Operations](#)
  - b. [Water Temperature Comparisons](#)
5. McNary Transport - Steve Barton, COE-NWD & Tim Dykstra, COE-NWW
6. Grand Coulee August 31 Target Elevation - John Roache, BOR
7. Lower Snake Project Operations - Steve Barton, COE-NWD & Steve Hall, COE-NWW
  - a. Port of Lewiston
  - b. Little Goose and Forebay Range
  - c. Lower Monumental Spill and Navigation Lock
8. Operations Review
  - Reservoirs
    - i. [Summary Plots](#)
  - a. Fish
  - b. Power System
  - c. Water Quality
9. Other

- a. Set agenda and date for next meeting - **August 18, 2010**
- b. [\[Calendar 2010\]](#)

*Questions about the meeting may be referred to:*

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

*[Doug Baus](#) at (503) 808-3995*

# COLUMBIA RIVER REGIONAL FORUM TECHNICAL MANAGEMENT TEAM

August 11, 2010

## FACILITATOR'S SUMMARY NOTES

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.

### Official Minutes/Facilitators' Notes

Paul Wagner, NOAA, followed up from the last TMT meeting with his edits to the 7/14 sets of notes:

- On page 3 of the facilitator notes under McNary Transportation: strike "more than" 48 hours.
- On page 7 of the Official Meeting Minutes under McNary Transportation: in the first paragraph strike "urgently" and change "a final decision" to "a better informed decision"; also change "air" to "water temperature of 68 degrees."

With those changes to the 7/14 sets shared, the notes/minutes were considered final. No further changes were made to the sets from the 7/16, 7/21, 7/28 or 8/4 sets and they were considered final.

### Dworshak Operations

Steve Barton and Steve Hall, COE, reported on current Dworshak operations and next step operating options for temperature and water management. Hall said that weather temperatures have been fairly close to average over the last week; however, in anticipation of the warm spell expected for the coming weekend, the COE had shifted Unit 3 to undershot mode to draw from the cooler depths. Hall said he participated in the 8/10 FPAC call (by invitation) to discuss shifting discharges up from full powerhouse to 11 kcfs, which the COE had put into effect at 8 am on 8/11. Dave Wills, on behalf of the Salmon Managers, said that those present at FPAC (ID, OR, WA, USFWS and NOAA) had supported the recommendation to increase outflows to 11 kcfs. The COE noted that the question for TMT to discuss today was how long to hold outflows at 11 kcfs; options of holding for 3 days and 5 days were amongst those considered, and TMT members acknowledged that each two days outflows were held at 11 kcfs now would equate to a day that outflows could not be at full powerhouse later in August.

Jim Litchfield, MT, noted that for those TMT members not present at the FPAC meeting, they had not been made aware of the need to increase outflows to 11 kcfs; the COE acknowledged that they should have sent a coordination/notification email for all TMT members to be aware of the increase in discharges. The COE clarified that on 8/10/10, they had seen from the latest modeling results that there was an eminent need to go to 11 kcfs as soon as possible in order to keep temperatures below the 68°F criteria. FPAC was similarly concerned with model temperature results and asked Steve Hall to join a FPAC

call to discuss; on this call the FPAC members present were in support of the COE proposal to increase Dworshak outflows to 11 kcfs. TMT members discussed when to revisit Dworshak operations with TMT and decided that conference calls before and after the coming weekend would allow for the best discussion of actual conditions as they unfold – and to see what effect releases by Idaho Power will have over the weekend.

**Action/Next Steps:** The COE will continue to operate Dworshak at 11 kcfs and maintain until further discussion at TMT. TMT will hold conference calls to discuss Dworshak operations at 11 am on 8/13 and 9 am on 8/16.

### **Summer Treaty Fishing Catch Totals**

Tom Lorz, CRITFC, reported on catch totals for the 2010 Summer Treaty Fishing season (June 16 – July 29): Chinook – 15,569; Steelhead – 10,547; and Sockeye – 20,562. Lorz said that per conversation at the COMPAC meeting, the region should expect the fall Treaty Fishing season to begin in about 2 weeks.

### **McNary Operations**

Steve Barton, COE, recalled the discussion at last week's TMT and the subsequent emails shared with TMT regarding the COE shift to daily transportation of fish at McNary. Tim Dykstra, COE, added that this issue will be discussed at the FPOM meeting on 8/12.

### **Grand Coulee August 31 Target Elevation**

John Roache, Reclamation, reported that this year the end of August target elevation at Grand Coulee is 1278' per the dry year criteria stated in the BiOP; however the project will draft an additional .7' as required for the Lake Roosevelt Incremental Draft portion of Washington State's Columbia River Water Management Plan, resulting in an end of August elevation of 1277.3'. Roache acknowledged that once elevation drops below 1278' that there are impacts realized around the Lake. Ed Wimberly, a member of the public, shared that once the elevation drops below 1277', the local residents are forced to move their boats out of the buoy fields; he added that there is concern that BPA will use their right of an additional 1.5' draft for operational flexibility. Roache clarified that there is no specific right of an additional 1.5 feet draft at Grand Coulee; however it is realized that some additional amount of draft may be required in order to adequately manage the reservoir. Roache acknowledged that while Reclamation makes every attempt to communicate forecasts/expected operations to the local communities, there are downstream flow and resident fish requirements, along with many other management concerns that are part of Grand Coulee operations.

**Action/Next Steps:** the Action Agencies will continue to communicate the drivers for the operation at Grand Coulee as they manage drafting the project and meeting minimum flow rates at the end of August.

### **Lower Snake River Operations**

Steve Barton, COE, reported on a number of challenges currently underway on the Lower Snake River:

- At the Port of Lewiston, barge issues had been addressed by raising the forebay elevation (staying within MOP); Barton said evidence suggested that loading

- procedures had caused the barges to run aground and that the incidents were not indicative of new navigation issues.
- At the Little Goose forebay, the COE is continuing to use an elevation of 633.5'-634.5' and using spill rates specified in the FOP to support the entrance to the navigation lock. **Action:** This item will be on the agenda for the 8/12 FPOM meeting.
  - At Lower Monumental, there have been difficulties with the navigation lock entrance since the beginning of August. The COE has reviewed options for addressing the issue for this and future years, including using alternate spill patterns listed in the FOP and shutting off spill for short periods of time to lessen cross-current effects on navigation. **Action:** this item will also be on the agenda for the FPOM meeting on 8/12, and the COE will share the results of FPOM discussions with TMT.

### **Operations Review**

**Reservoirs:** John Roache, Reclamation, and Steve Barton, COE, reported on their agencies' respective reservoirs. Grand Coulee was at elevation 1284.85', targeting an August 31 elevation of 1277.3'. Hungry Horse was at elevation 3553.64', with 4.3 kcfs outflows. Libby was at elevation 2442.7', with 8.7 kcfs inflows and 7 kcfs outflows. Albeni Falls was at 2062.23' with 15.1 kcfs inflows and 14.6 kcfs outflows. Dworshak was at elevation 1559.98', with 1.1 kcfs inflows and 11 kcfs out. Lower Granite daily average outflows were 27.2 kcfs, 95.8 kcfs at Priest Rapids, and 112.8 kcfs at McNary (the weekly average at McNary last week was 135 kcfs).

**Fish:** Dave Wills, USFWS reported that subyearling counts are receding and that for adult passage, steelhead numbers continue to be strong. He added that a few fall Chinook are arriving and Coho are beginning their run. Russ Kiefer, ID, added that so far 491 Snake River sockeye adults had returned to the Stanley Basin, and that IDFG planned to open the traps on Redfish Lake to allow direct access to the lake for natural spawning. Russ also reported that IDFG forecasts 1400 - 1500 adult sockeye will return to the basin.

**Water Quality:** Scott English, COE, reported that all water quality monitoring gauges were operational, and noted that there have been only 2 exceedances since the beginning of August.

**Power System:** Tony Norris, BPA, referred TMT to a new link on the wind generation page that shows real-time wind direction and speed using anemometer data.

### **Next Meetings:**

August 13<sup>th</sup> and 16<sup>th</sup> Conference Calls – Dworshak Operations  
August 18<sup>th</sup> – call if needed

### **August 25<sup>th</sup> - Face-to-face meeting**

Agenda items will include:

- Review meeting minutes
- Dworshak Operations
- Autumn Treaty Fishing

- Coming out of MOP
- Operations review

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**

**August 11, 2010**

Notes: Pat Vivian

**1. Introduction**

Today's TMT meeting was chaired by Steve Barton (COE) and facilitated by Erin Halton (DS Consulting). Representatives of the COE, Washington, Oregon, USFWS, BOR, BPA, Montana, CRITFC, NOAA and others attended. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

**2. Review Meeting Minutes for July 14, 28, and August 4, 2010**

Prior to today's meeting, Paul Wagner emailed comments on the facilitator's notes and official minutes for July 14:

- Facilitator's notes, top of page 3. Currently reads, "...barging/trucking operation will be coordinated to avoid holding fish for more than 48 hours." Cut "more than."
- Official minutes, first paragraph, page 7. Currently reads, "Data on Snake River fish that have been transported from McNary are urgently needed in order to make a final decision regarding McNary summer transportation." Cut "urgently" and change "a final decision to "a better-informed decision."
- Official minutes, second paragraph, page 7. Currently reads, "...on days when the air temperature exceeds 68 degrees F and the barge isn't loading." Change "air" to "water."

There were no other comments on notes or minutes today.

**3. Treaty Fishery Update**

Tom Lorz (CRITFC) gave preliminary catch counts for the 2010 summer treaty fishing season June 16-July 29: 15,569 chinook, 10,547 steelhead and 20,562 sockeye. These include all forms of tribal harvest such as gillnets and platform fishing.

**4. Dworshak Operations and Temperature Modeling**

Attachment 4a shows that outflow temperatures warmed as a result of higher temperatures last weekend, Steve Hall (COE Walla Walla) said. On August 9, the COE switched Dworshak unit 3 into undershot mode to cool outflows.

Attachment 4b depicts modeling results for two different scenarios. The first scenario shows flows held to full powerhouse and temperatures rising to 68 degrees F by August 13 or 14, with more warm weather coming. The second scenario shows an 11 kcfs discharge starting tomorrow morning and holding that for 3 days in preparation for the heat wave forecasted for this weekend.

The Salmon Managers invited Hall to participate in the FPAC conference call yesterday. That discussion led to a recommendation that the COE increase Dworshak outflows to 11 kcfs at midnight last night for the next 3-5 days, sending cool water down the Snake River. The COE implemented this recommendation. However, outflows went to 11 kcfs at 8 am today instead of at midnight due to operator error. Hall asked TMT to consider how long the 11 kcfs outflows should continue.

Dave Wills (USFWS) explained the FPAC call produced a tentative agreement that 11 kcfs outflows would continue for at least 5 days until August 16, pending TMT discussion today and feedback from the Nez Perce Tribe, which was not represented on the FPAC call or at the TMT meeting today. Yesterday FPAC set up a conference call for 9 am Monday, August 16, with a tentative plan to run 11 kcfs outflows until noon, Rick Kruger (Oregon) added. The point of the 9 am conference call is to factor in the latest information regarding Idaho Power releases from Brownlee Dam, the "wild card" in Snake River flow management. A recommendation to continue 11 kcfs beyond August 16 will be contingent on Idaho Power flows and the latest weather forecast.

The COE will seek Nez Perce input on Dworshak operations before deciding whether to continue 11 kcfs through this weekend, Barton said. If there are no objections, the 11 kcfs outflows will continue until the August 16 FPAC conference call. Kruger suggested that be changed to a TMT call, and this suggestion was adopted.

Russ Kiefer said Idaho supports the proposal to maintain 11 kcfs outflows through noon August 16 while acknowledging that it could limit water supplies later this month. Kiefer's modeling results indicate that every 2 days of 11 kcfs outflows now will mean one day of cutting outflows from full powerhouse to one big unit and one small unit in order to attain the 1,535 foot end of August elevation target at Dworshak.

As a process question, Jim Litchfield (Montana) questioned FPAC's role in the decision to go to 11 kcfs outflows without consulting TMT. The COE made a prudent decision to increase flows based on recognition that conditions downstream would probably exceed BiOp criteria without timely intervention, Barton explained. Barton and Wills agreed that FPOM made a recommendation, not a decision. The COE has the flexibility to ramp down Dworshak flows on August 13 or 16 at TMT's request, and is seeking TMT's advice now on how to proceed, Barton emphasized.

Hall added that Idaho Power releases of warm water could cause exceedances of BiOp criteria this coming weekend. Dworshak reservoir contains an ample supply of cool water so that's not a concern. If the COE had waited for TMT's endorsement today, the Dworshak water would have arrived too late to counteract the heat wave.

The COE will email TMT members the most current modeling of Dworshak operations, which indicates that temperatures could drop to 66 degrees F by August 17, Hall said. Additional modeling will be available as the weekend approaches. Noting that forecasts beyond 3 days contain a larger amount of uncertainty, Hall suggested TMT schedule an additional conference call before this weekend, which was set for 11 am Friday, August 13. TMT will decide then whether to recommend that 11 kcfs outflows continue through the weekend. The COE will maintain the current Dworshak operation until further notice.

### ***5. McNary Transport***

The July 14 discussion of McNary transport included discussion of daily transport or release of fish once temperatures exceed 68 degrees F in the McNary forebay. In accordance with that discussion the COE began off-day trucking of collected fish beginning August 6, Barton reported. Daily transport will continue until August 16 as described in the COE's email correspondence with TMT members. Tim Dykstra (COE) added that FPOM will work through this issue in time for next year's operation.

### ***6. Grand Coulee August 31 Target Elevation***

The Bi Op bases the end of August elevation for Grand Coulee on The Dalles July water supply forecast for April-August, John Roache (BOR) said. Anything less than 92 maf (which is considered a normal water supply volume) means the ending elevation target is 1,278 feet; anything greater than 92 maf means the elevation target is 1,280 feet. This year's forecast of 74 maf is 18 maf below the cutoff point, making the target elevation 1,278 feet. Apportionment of the incremental draft of Lake Roosevelt for Washington State's Columbia River Water Management Plan means an additional 52,500 acre feet of volume will be released, making the target elevation 1,277.3 feet.

Ed Wimberly of the Kettle Falls Marina gave testimony on how Grand Coulee operation affects residents and recreation on Lake Roosevelt. Below 1,277 feet elevation, boats might need to be removed from the marina. Below 1,276 feet elevation, they are likely to run aground. Of particular concern last year was a possibility that BPA might exercise its right to withdraw an additional 1.5 feet from the lake for power generation. Follow-up note: There is no specific right of an additional 1.5 feet draft at Grand Coulee; however it is realized that some additional amount of draft may be required in order to adequately manage the reservoir and the Columbia River system

Lorz asked, what are the constraints this year on refill? In a dry year, is minimum discharges downstream at Bonneville keeps Grand Coulee from refilling. Last year refill occurred 10 days beyond the target date. Barton acknowledged that Grand Coulee operations at the end of August can be a challenge, as it's difficult to meet all of the obligations without adversely drafting at the same time. We could face those conditions this year, Roache said. Barton assured everyone this issue is on the Action Agencies' radar.

## **7. Lower Snake Project Operations**

Barton described three operational challenges on the lower Snake River and identified issues that need resolution:

Port of Lewiston – This issue has been resolved. Two grain barges became stuck in the mud as a result of being loaded on one end only. Both were freed yesterday afternoon without going outside of MOP operations.

Little Goose forebay range – To provide safe navigation at the entrance to the Lower Granite navigation lock, Little Goose has been operating within a one-foot band at 633.5-634.5 feet elevation, Barton said. MOP is 633-634 feet. This year several of the lower Snake projects are operating within official low flow criteria. When flows are low, the combination of low channel velocities and variations in discharges at Little Goose due to alternate use of one and two units can cause wave activity and navigation problems. Barton noted that no objections had been expressed by the TMT members who responded to official email notification of this problem. Last year, he recalled, Little Goose went to a flat spill pattern. Currently the COE is following the spill patterns in the Fish Passage Plan, but other options can be discussed if the elevation of Little Goose pool becomes an issue.

Until a recommendation is made otherwise, the COE will continue to operate Little Goose within the one-foot band at 633.5-634.5 feet elevation, using the spill patterns in the 2010 FPP.

Lower Monumental spill and navigation lock – On August 9 a tugboat hit the downstream guide wall at Lower Monumental lock, Tim Dykstra (COE) reported. Project staff suggested that making unit 3 the top priority unit could help solve navigation problems there.

There have been reports of near misses at Little Goose and Ice Harbor navigation locks as well. Barton recalled a similar situation at Lower Granite a few months ago, when the combination of low flows and FPP spill patterns set up a cross current at the entrance to the navigation lock, and a barge collided with the floating guide wall, shearing the bolts. There have been at least two recent instances of similar hydraulic problems in the Lower Granite lock. Yesterday a cruise boat hit the Lower Granite guide wall, Hall said. Barton noted that FPOM is an appropriate forum for deciding whether to close the Lower Granite spillway weir if spill is briefly shut off for navigation.

The 2010 summer Fish Operations Plan allows cessation of spill to allow a barge to safely enter and pass through the navigation lock, Barton said. An investigation of alternative spill patterns could identify several other options, and there's also the possibility of changing unit priorities. Barton asked the Salmon Managers and other TMT parties to think about alternative operations for the lower Snake projects and comment.

Laura Hamilton (COE) explained that usually Unit 2 at Lower Monumental is used during low flows, but it's out of service. Unit 5 which is being used in its place generates minimum flows of 14.4 kcfs instead of the 11.5 kcfs minimum flow produced by the smaller Unit 2.

The COE proposed a brief cessation of spill (for periods of about 20 minutes or more) as necessary to allow barges to enter the navigation lock safely at Lower Granite, Lower Monumental and Ice Harbor dams. To date the COE hasn't ceased spill at any of these projects, Barton said. This will be a major topic of discussion at tomorrow's FPOM meeting. The COE will keep TMT members informed and involved in these issues.

## **8. Operations Review**

**Reservoirs.** Grand Coulee is at elevation 1,284.85 feet, with a target of 1,277.3 feet for August 31, drafting to manage flows at Bonneville and McNary downstream. Hungry Horse is at elevation 3,553.64 feet, discharging 4.3-4.4 kcfs as it has since July. Flows may be cut back to 4 kcfs to attain the elevation target of 3,540 feet on September 30.

Libby is at elevation 2,442.7 feet, with inflows of 8.7 kcfs, discharging bull trout minimums of 7 kcfs. Albeni Falls is at elevation 2,062.23 feet operating within the top foot; inflows are 15.1 kcfs and outflows are 14.6 kcfs. Dworshak is at elevation 1,559.98 feet, with inflows of 1.1 kcfs and discharges of 11 kcfs starting at 8 am today, as previously discussed.

Lower Granite weekly average inflows are down to 27.2 kcfs as flows on the Snake continue to recede. Last week's average was 36.1 kcfs. Priest Rapids outflows are 95.8 kcfs; last week's average was 96.6 kcfs. McNary is discharging 112.8 kcfs, down from last week's average of 135.6 kcfs.

**Fish. Juveniles:** Subyearling passage is still strong but starting to recede at Lower Granite, Dave Wills reported. Passage numbers are in the 3-digit range at Lower Granite, 4-digit range at Bonneville and John Day, and in the 5-digit range at McNary with transportation underway.

**Adults:** Steelhead migration is still strong with a season total of 257,000. A few fall Chinook are beginning to appear, though it's early. The sockeye migration is nearly finished, and coho migration is just starting.

Russ Kiefer gave an update on Snake River sockeye returns. Through August 8, 491 adults had been trapped. More adults were expected to return to Little Goose than the hatchery program can handle this year, so the plan is to allow adults to escape naturally to the lake after genetic sampling, rather than capture them for the hatchery. A rough forecast of the return is 1,500 fish.

**Power.** Tony Norris (BPA) showed TMT a new animated tool on the BPA web page, which shows the magnitude and direction of the wind in near-real time based on anemometer data from high elevation locations in the eastern gorge. These data are not the best indication of wind conditions on the river itself. Installed wind capacity in BPA's balancing area authority now exceeds 3,000 megawatts.

**Water Quality.** All gages are operating and TDG production has been low, Scott English (COE) reported. He will present the TDG report for July at the next TMT meeting in person August 25. The only TDG exceedances in August have been at Camas Washougal gage or caused by TDG releases from Canada.

### **9. Next Meetings**

The next TMT meeting will be a conference call at 11 am Friday, August 13 to discuss Dworshak operations, followed by another call at 9 am Monday, August 16. TMT will decide on Monday whether a call on Wednesday, August 18 is needed.

The next TMT meeting in person on August 25 will cover ending MOP operations, lower Columbia inflows in relation to low flow criteria, and a water quality report for July.

<b>Name</b>	<b>Affiliation</b>
Steve Barton	COE
Charles Morrill	Washington
Rick Kruger	Oregon
Dave Wills	USFWS
Doug Baus	COE
John Roache	BOR
Tony Norris	BPA
Russ George	WMC
Tim Brush	Merrill Lynch
Tim Heizenrader	Centaurus
Laura Hamilton	COE
Jim Litchfield	Montana
Tom Lorz	CRITFC

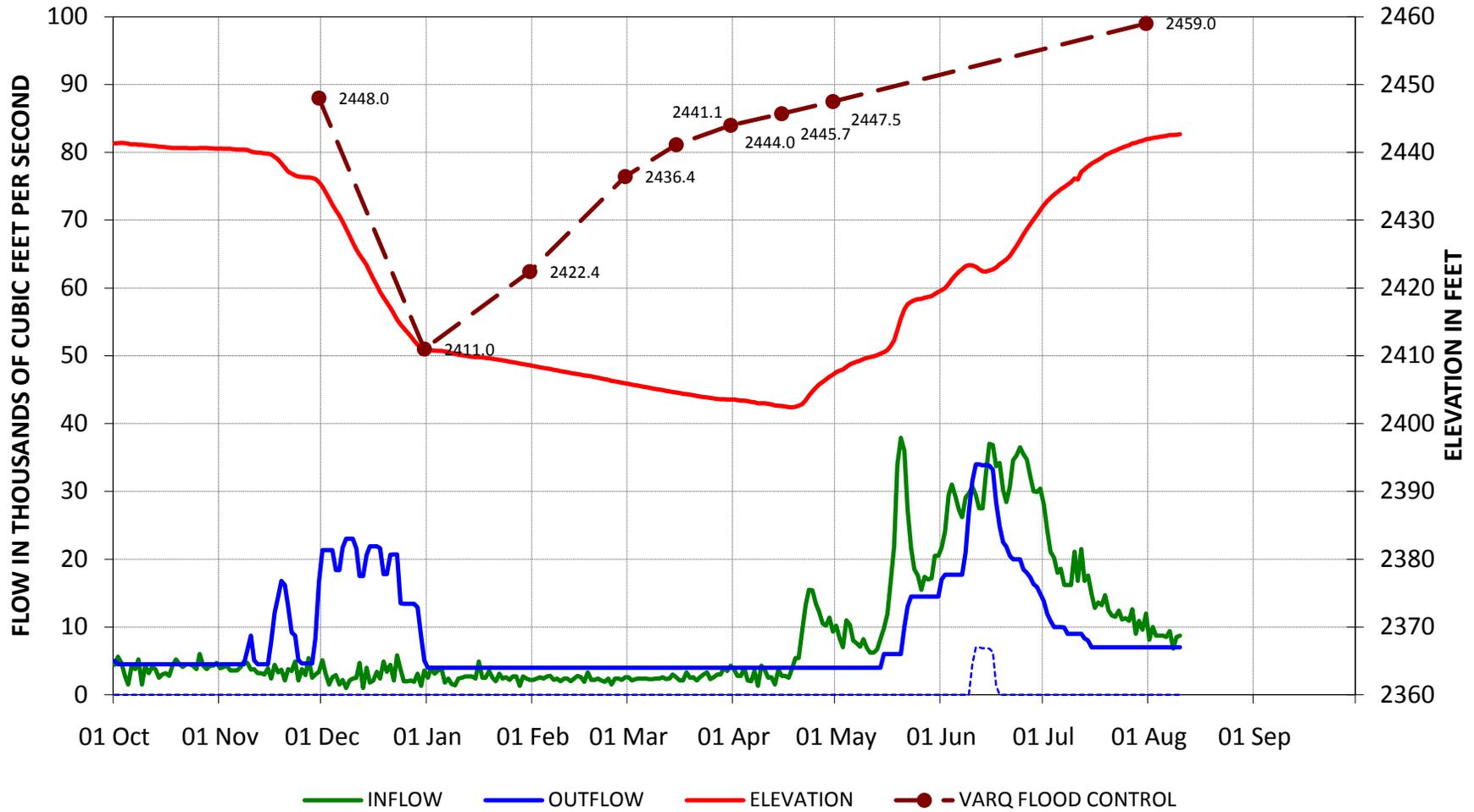
#### Phone:

Ed Wimberly	Kettle Falls Marina, Lake Roosevelt
Steve Hall	COE Walla Walla
Scott English	COE

Alex Cebarro	Grant Co. PUD
Barry Espenson	CBB
Richelle Beck	DRA
Doug Vine	Point Carbon
Scott Bettin	BPA
Russ Kiefer	Idaho
Tim Dykstra	COE
Shane Scott	PPC
Glen Trager	Shell Energy
Dave Benner	FPC
Margaret Filardo	FPC
Rich Dominigue	NOAA

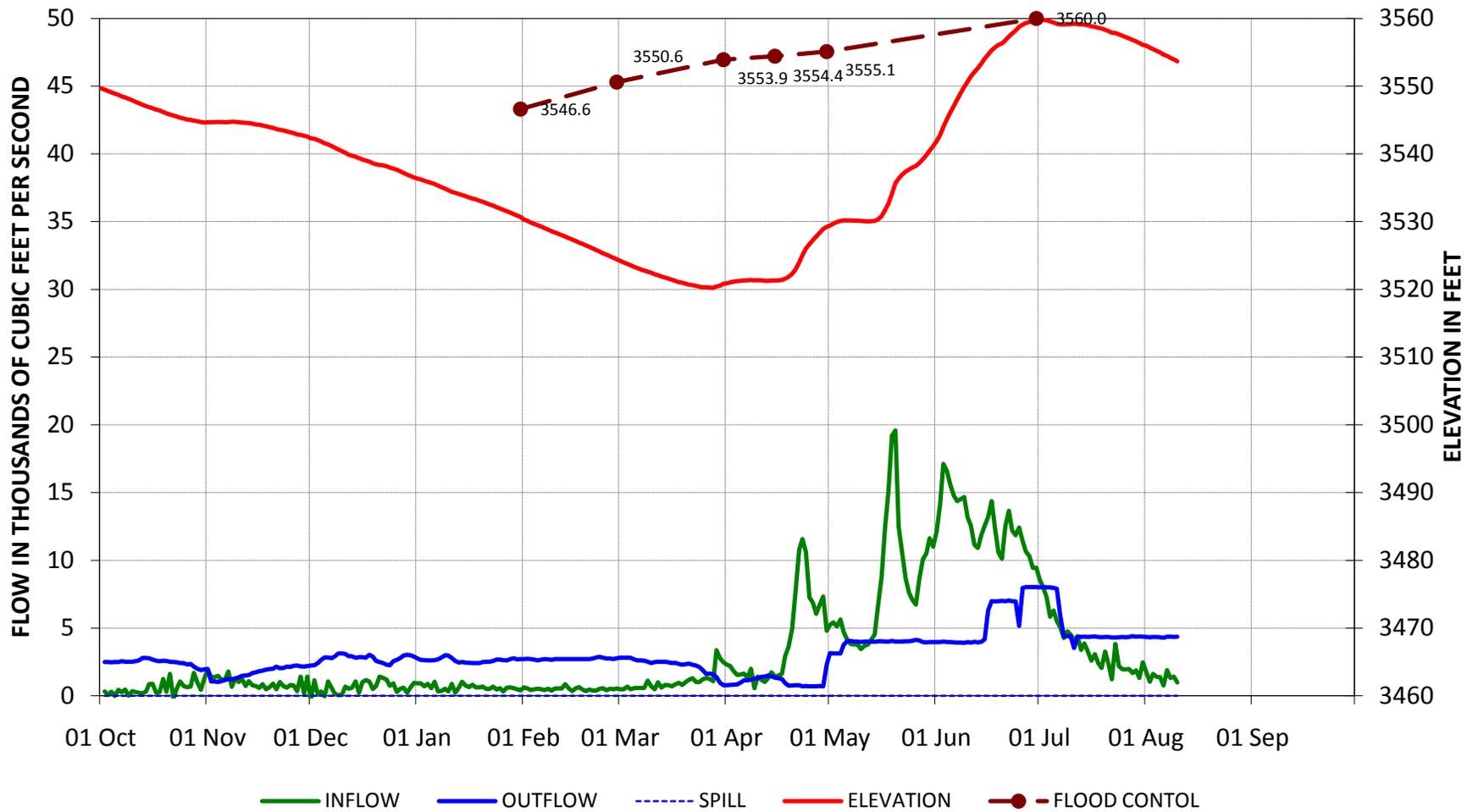
# LIBBY DAM AND RESERVOIR

## Water Year 2010



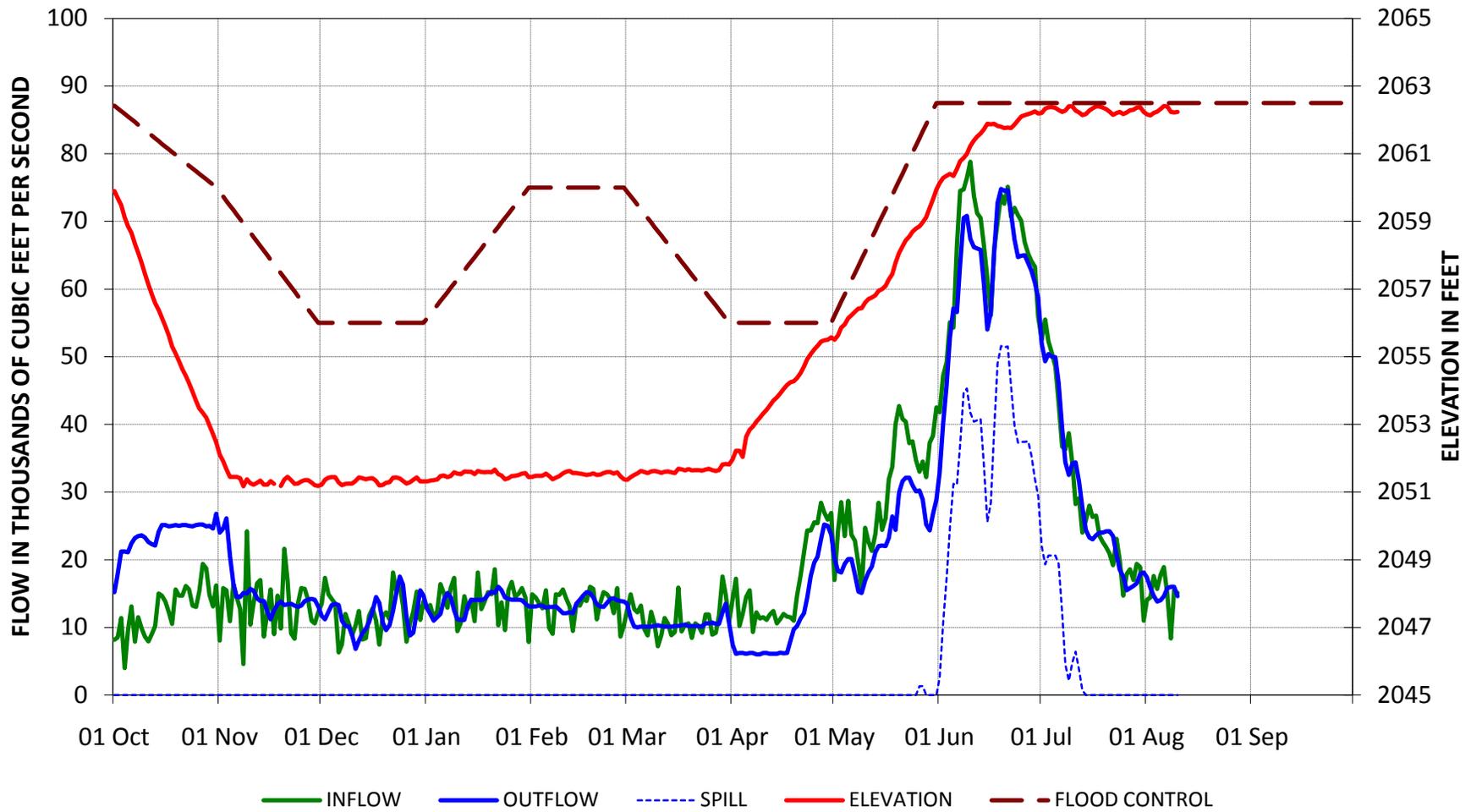
# HUNGRY HORSE DAM AND RESERVOIR

## Water Year 2010



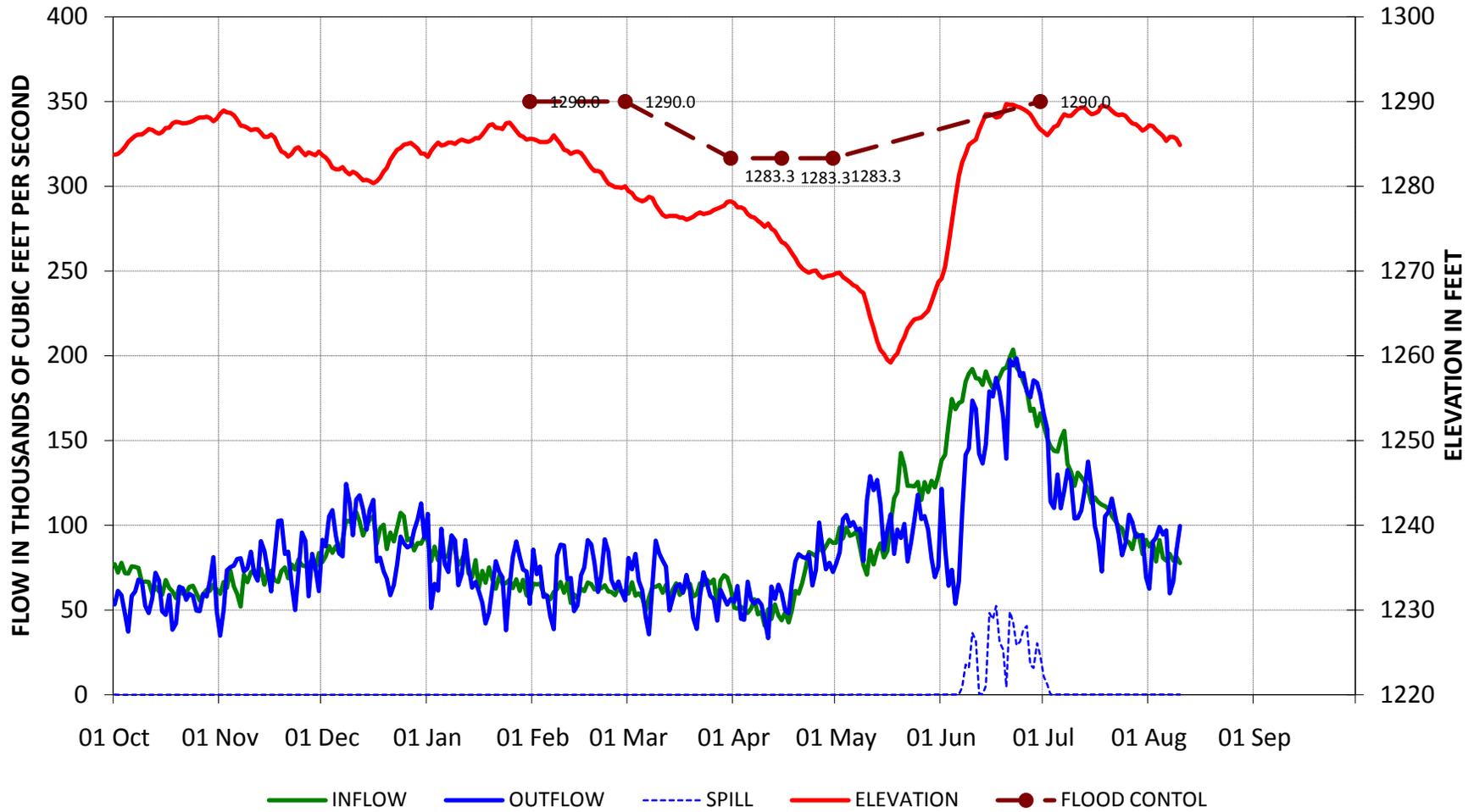
# ALBENI FALLS DAM AND RESERVOIR

## Water Year 2010



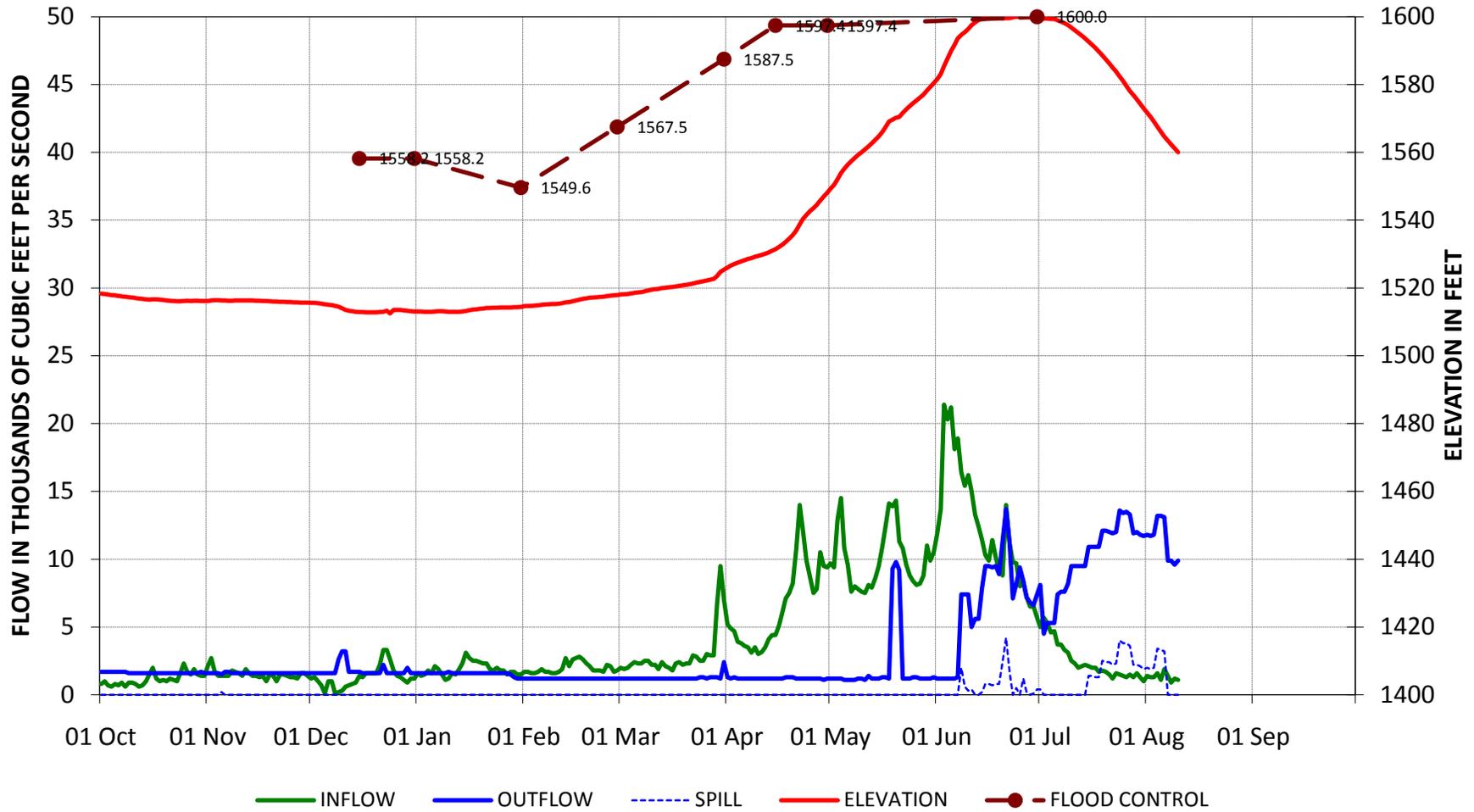
# GRAND COULEE DAM AND RESERVOIR

## Water Year 2010



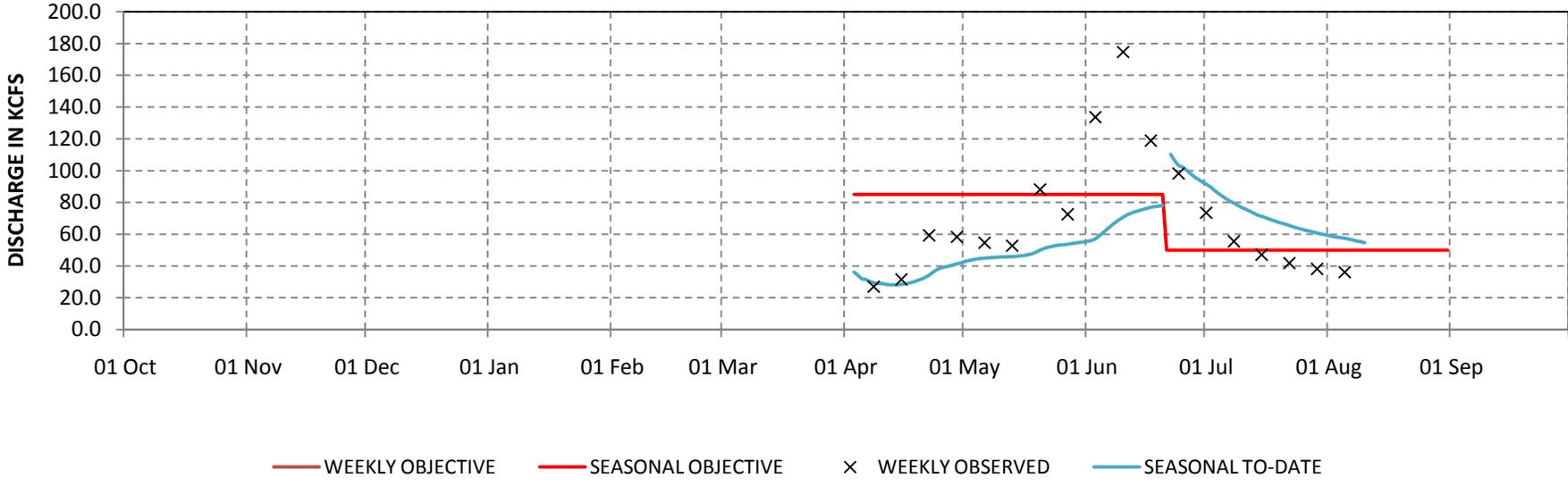
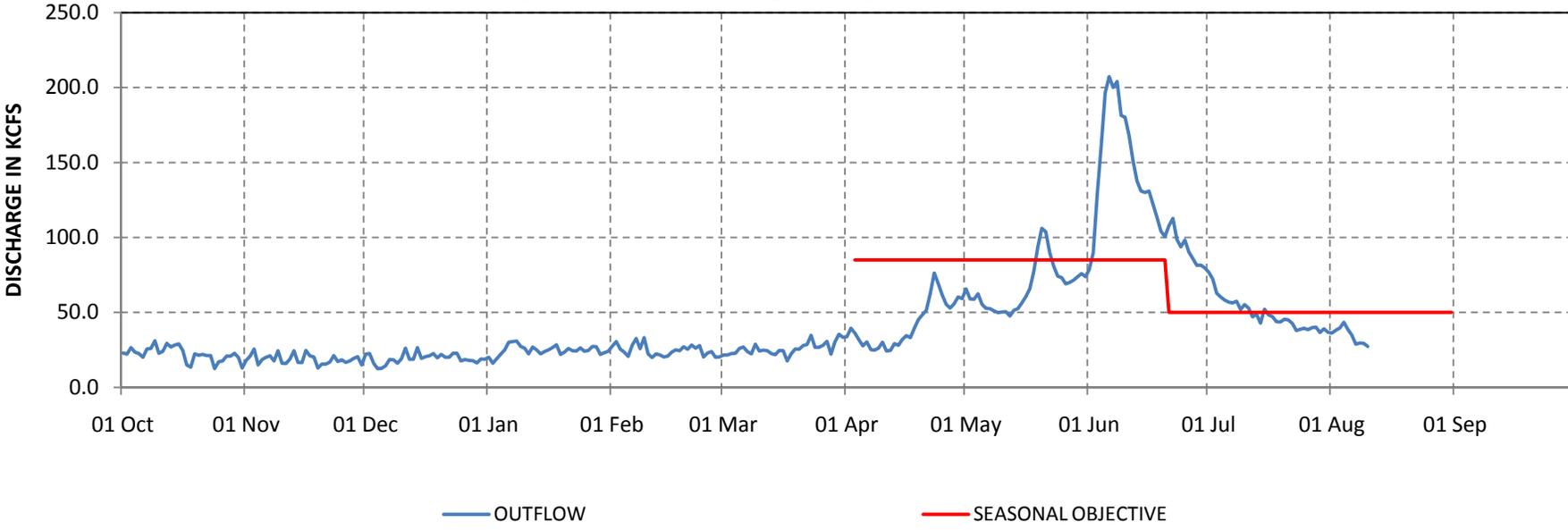
# DWORSHAK DAM AND RESERVOIR

## Water Year 2010

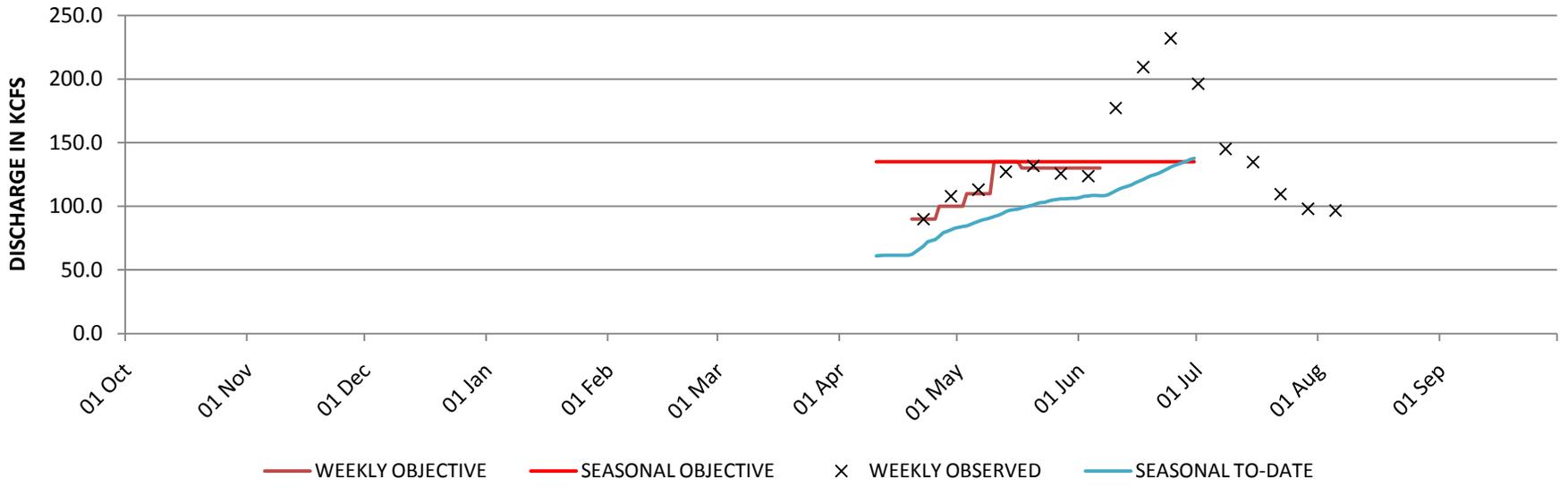
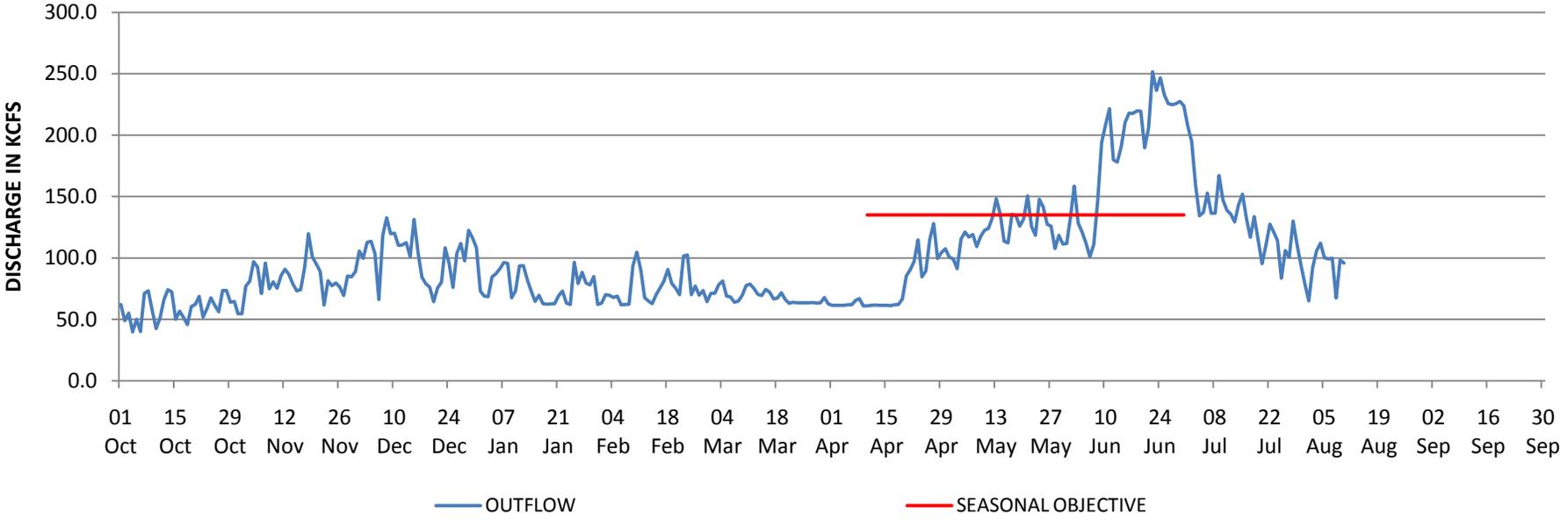


# PROJECT DISCHARGE SUMMARY

## SNAKE RIVER AT LOWER GRANITE DAM

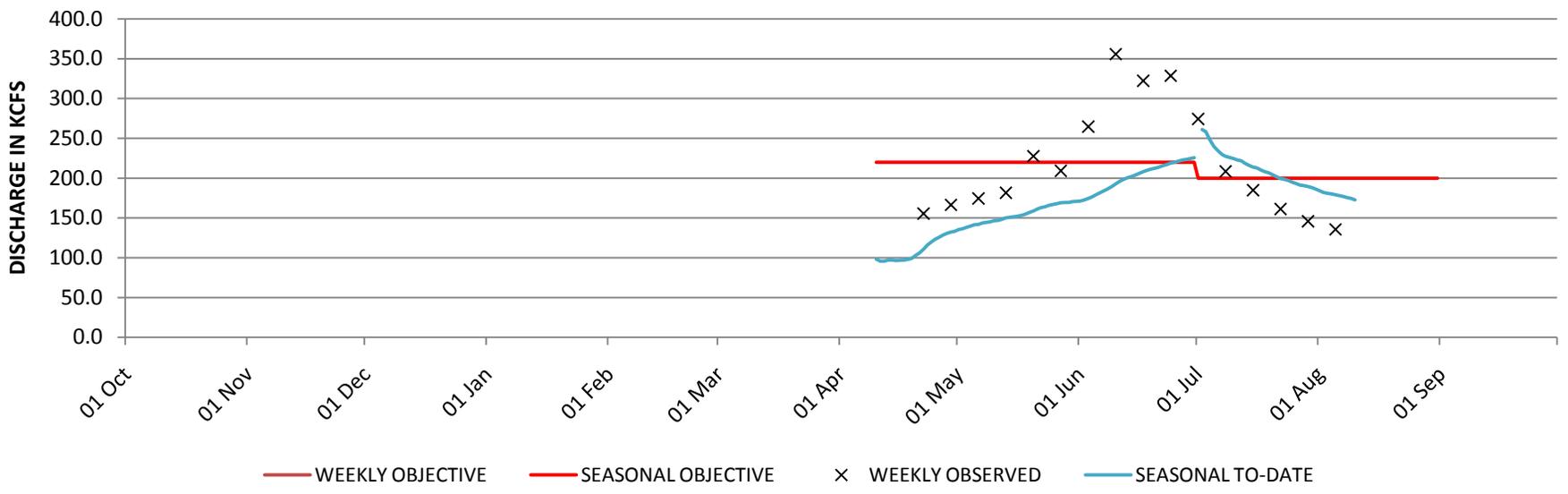
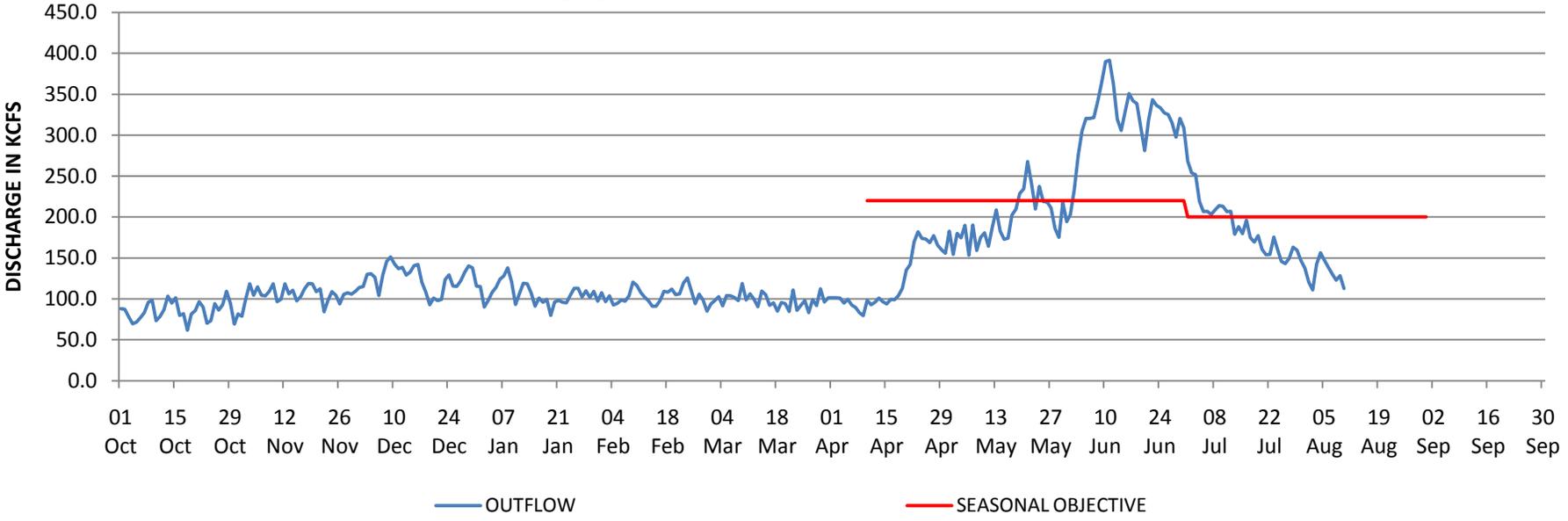


# PROJECT DISCHARGE SUMMARY COLUMBIA RIVER AT PRIEST RAPIDS DAM

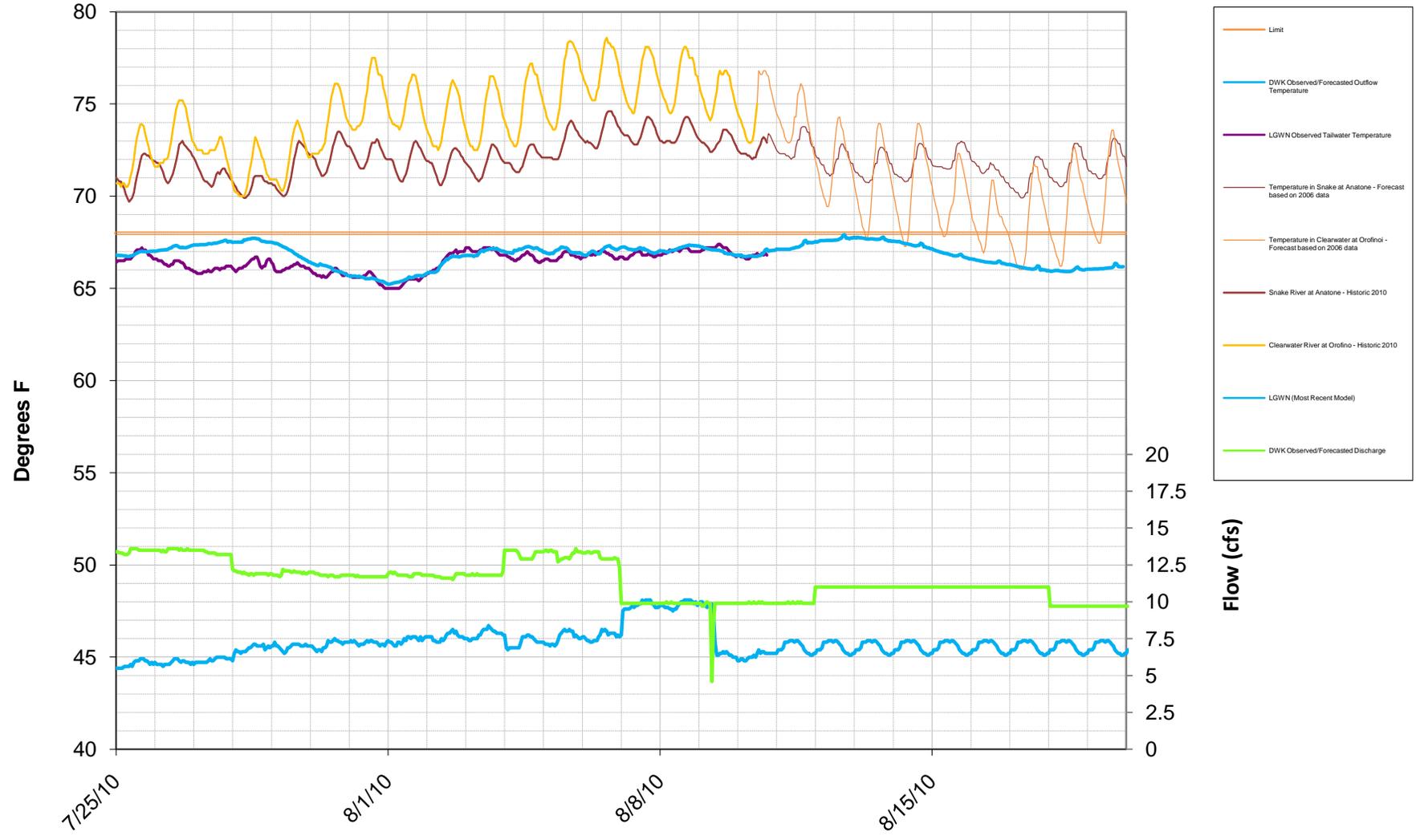


# PROJECT DISCHARGE SUMMARY

## COLUMBIA RIVER AT McNARY DAM



### Water Temperature Comparisons Model from 7/25/2010 to 8/20/2010 Observed Data to 8/11/2010 (11Kcfs 8/11 to 8/17)



# 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 / Charles Morrill              **MT** : Jim Litchfield / Brian Marotz  
**COE**: Steve Barton / Karl Kanbergs / Doug Baus

## TMT CONFERENCE CALL

Wednesday August 13, 2010 11:00am - 12:00pm

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

### CONFERENCE PHONE LINE

Conference call line: (877)336-1274; ACCESS CODE = 3871669

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 Erin Halton with any issues or concerns they would like to see addressed.  
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. Dworshak Operations/Temperature Modeling- Steve Barton, COE-NWD & Steve Hall, COE-NWW
  - a. [Dworshak Summer Operations](#)
  - b. [Water Temperature Comparisons](#)
3. Other
  - a. Set agenda and date for next meeting - **August 18, 2010**
  - b. [\[Calendar 2010\]](#)

*Questions about the meeting may be referred to:*

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

*[Doug Baus](#) at (503) 808-3995*

# **COLUMBIA RIVER REGIONAL FORUM TECHNICAL MANAGEMENT TEAM**

August 13, 2010 Conference Call

## FACILITATOR'S SUMMARY NOTES

Facilitator/Notes: Donna Silverberg

The following notes are a summary of issues discussed at today's meeting. These notes are intended to be a reminder for TMT members of the issues raised and actions to be taken.

Members Present on the Call: Steve Barton, COE; Russ Kiefer, ID; Rick Kruger, OR; Jim Litchfield, MT; Charles Morrill, WA; Tony Norris, BPA; John Roche, BOR; Dave Statler, Nez Perce; Dave Wills, USFWS. Unavailable: NOAA Fisheries.

Others on call: Doug Baus, COE; Dave Benner, FPC; Scott English, COE; Steve Hall, COE; Karl Kanbergs, COE; Donna Silverberg, facilitator; Pat Vivian, notetaker.

### **Dworshak Operations**

Steve Barton, COE, reported on current Dworshak operations; Barton said that outflows had been increased to 11 kcfs on Wednesday morning 8/11 as discussed at TMT. He noted that the weather forecast still shows 'toasty' weather heading for the region over the weekend and early next week. No new modeling had been posted prior to the call, so he turned to Steve Hall to update with current conditions in the area.

Hall, COE, noted that the observed data shows they have been releasing water at DWK between 44-45 degrees. At this point, he didn't see a critical need to use lower temperature water as the temperature at Lower Granite topped out yesterday at 67.6 and dropped down to 67.1 today. Hall also noted that the weather forecast had shifted since Wednesday with the hottest weather now forecasted for Monday through Thursday of next week—with Tuesday likely being the hottest day. He noted that there had been scattered showers since Wednesday's call that helped to cool the area.

Steve expressed confidence in the forecast through Monday, but felt the TMT check in scheduled for Monday morning will be necessary. In the meantime, the COE will post the last model runs on the web later today or by Monday at the latest for use during Monday's call. Hall recommended that the COE continue the 11 kcfs outflows through midnight Monday and check-in on Monday.

Russ Kiefer, IDFG, noted that his own spreadsheet matches Steve's and agrees that keeping at 11 kcfs is an adequate operation that will minimally impact the hatchery. Salmon managers had discussed this and request that the COE maintain the current temperature conditions to save the colder water for the hotter days expected next week. Russ cautioned the group: the coolest tailrace temperatures will likely be on Monday when TMT has its call. As a result, things will look good—but it will take four days for any action TMT recommends to hit LGR. As a result he hoped everyone will consider the forecasted hot weather in lieu of the tailrace temperatures on Monday's call.

**Support for Recommended Action:** Consensus of TMT members on the call for the recommended action.

**Action/Next Steps:** The COE will operate Dworshak at 11 kcfs until midnight on Monday 8/16; TMT will have a check in call at 9 am Monday 8/16 to discuss current conditions and future actions.

### **Lower Snake Navigation Issues**

Steve Barton, COE told TMT that the COE has been made aware of numerous navigation issues, including some near misses. As a result, the COE may need to adjust spill in the Lower Snake for safety reasons. FPOM reviewed the operations and, if a change in spill is requested by a captain, preferred that the COE shut down spill through the RSW and shift that spill evenly to the remaining bays for the amount of time necessary to support safe navigation. Steve clarified that the safety concern is only at play when boats enter the navigation lock. Karl Kanbergs, COE added that there is only one person on duty at night, so the amount of time this takes may be longer than during the day. When questioned, Barton noted his belief that the captains are aware of this time difference between night and day shifts.

Barton said that while FPOM made the recommendation, he wished to get feedback from TMT members.

**Support for Recommended Action:** Consensus of TMT members on the call for the recommended action.

### **Lower Monumental Unit Priority**

Steve Barton reviewed an email sent to TMT members earlier today that said:

It was noted at the August 11 TMT meeting that Lower Monumental Powerhouse Unit 2 is out of service. Consistent with the unit priority in the 2010 Fish Passage Plan, unit 5 has been running to provide minimum generation, but discharges approximately 14.4 kcfs at minimum generation within 1% peak efficiency.

In an effort to provide spill levels closer to those specified in the 2010 Summer Fish Operations Plan, and as coordinated and recommended through FPOM, the Corps intends to change the unit priority at Lower Monumental to 2,3,5,4,6,1 effective today. This results in allowing unit 3 to run instead of unit 5, and a lower discharge at minimum generation within 1% peak efficiency (approximately 11.5 kcfs).

Barton noted that the COE is okay with these recommended changes but wanted to get feedback from TMT members.

Russ Kiefer, ID questioned whether or not FPOM had considered the adult attraction issues that might be raised by this change. Rick Kruger, OR, clarified that FPOM members had considered this and felt that the move to unit 3 might actually have a benefit to adults.

**Support for Recommended Action:** Consensus of TMT members on the call for the recommended action with the request that the COE watch for any negative impacts on adult passage that may result from this change.

**Action/Next Steps:** The COE will change the unit priority at LoMo effective today and will watch for impacts to adult passage. If needed, they will update TMT on the 9 am Monday 8/16 call.

**Next Meeting:** August 16 Conference Call

Agenda items will include:

- Dworshak Operations
- Possible check in on navigation and LoMo if needed
- Determine whether or not an 8/18 call is needed

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**

**August 13, 2010**

Notes: Pat Vivian

***1. Introduction***

Today's TMT conference call was chaired by Steve Barton (COE) and facilitated by Donna Silverberg (DS Consulting). Representatives of Idaho, Montana, Washington, the COE, BOR, Nez Perce Tribe, USFWS, Oregon, BPA and others attended. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

***2. Dworshak Operations and Temperature Modeling***

Dworshak outflows were increased to 11 kcfs on the morning of August 11 as discussed at the last TMT meeting. Hot weather is forecasted next week, Barton said. Steve Hall (COE Walla Walla) shared the latest modeling results for Dworshak. Current Dworshak outflow temperatures are 44-45 degrees F, with a high of 67.6 degrees yesterday at Lower Granite tailwater.

Hall presented observed data and forecast data for Dworshak. Temperatures have been moderate in the near term, and the outlook has changed since August 11, when temperatures were expected to peak on August 14-16. Temperatures at Lewiston are now expected to peak on August 17-18 at 101-102 degrees. Recent rains have cooled stream flows and led to a downward shift of 5 degrees F from the forecast TMT discussed on August 11. The change has had a dramatic cooling effect, and river temperatures should be fine through the weekend. Hall emphasized that the forecast is speculative beyond August 16 and recommended that TMT decide then whether 11 kcfs flows should be maintained into next week.

A slight decrease in Lower Granite tailwater temperatures is expected through August 16, Hall said. The potential for thunderstorms is expected to fade through the remainder of the forecast period, although chances rain might increase late next week. The 10-day weather forecast highlights August 17 as the hottest day, with temperatures above 100 degrees F in southern Idaho.

TMT members gave their views of the COE proposal to maintain discharges of 11 kcfs through the morning of August 16 when TMT meets again. **Idaho, the Nez Perce Tribe, USFWS, Montana, Oregon, BPA, BOR and Washington** expressed support for this operation.

***3. Lower Snake Navigation Issues***

Several recent near-misses with barges entering navigation locks on the lower Snake River have raised concerns about navigation safety under current low flow conditions, Barton said. At the August 11 TMT meeting, Barton told TMT the COE might have to adjust spill consistent with provisions for safe passage in the 2010 Fish Operations Plan.

As a result of feedback from FPOM since then, the COE proposed to temporarily shut down spill at the Lower Granite spillway weir and distribute the spill volume among remaining bays when spill cessation is requested by a barge captain. These adjustments would be made only for the time the barge is entering the lock, not for passage through the lock. Karl Kanbergs (COE) noted that night lockages will probably take longer than 20 minutes because only one operator is on duty to make the needed changes.

**Idaho, Washington, Oregon, Montana, BPA, BOR, USFWS** and the **Nez Perce Tribe** voiced their support for FPOM's proposed solution of shutting off the RSW and redistributing spill at Lower Granite. **NOAA** representatives, although not present today, expressed their support at FPOM yesterday, Dave Wills (USWS) said.

#### ***4. Lower Monumental Unit Priority***

At the August 11 meeting TMT discussed the unit priority at Lower Monumental, with unit 2 now secondary to unit 5, which is a much larger unit (current priority according to the 2010 FPP is 2,5,3,4,6,1). Unit 2 has been out of service so unit 5 is running at 1% of peak efficiency, releasing 14-14.5 kcfs, Barton said. To reduce the flow, FPOM recommended changing the priority to units 2, 3 and 5 in that order (proposed priority was changed to 2,3,5,4,6,1), with further specifications that are listed in an email the COE sent TMT members after FPOM met.

The impact of this proposal under the current operation will be a switch to unit 3, which produces around 11.5 kcfs within 1% peak efficiency, although it can vary as specified in the 2010 FOP. The COE agrees with this change and intends to send instructions to project to change the unit priority, Barton said, unless TMT objects.

Russ Kiefer (Idaho) asked whether this unit priority would cause a delay in adult migration. The conversation focused on attempting to achieve the levels of spill indicated in the 2010 FOP, Doug Baus (COE) said. TMT members stated their views of the priority change to units 2, 3 and 5:

- **Idaho** – Supports the change as long as adult passage numbers are monitored to ensure that it doesn't impact adult migration.
- **USFWS** – Agrees with Idaho that adult migration is a concern; believes that changing the unit priority might help the situation because unit 3 is closer to the fish ladder than unit 5.

- **Oregon** – Supports the unit priority change.
- **Washington** – Supports the unit priority change.
- **Nez Perce** – No objection
- **BOR** – Supports the change.

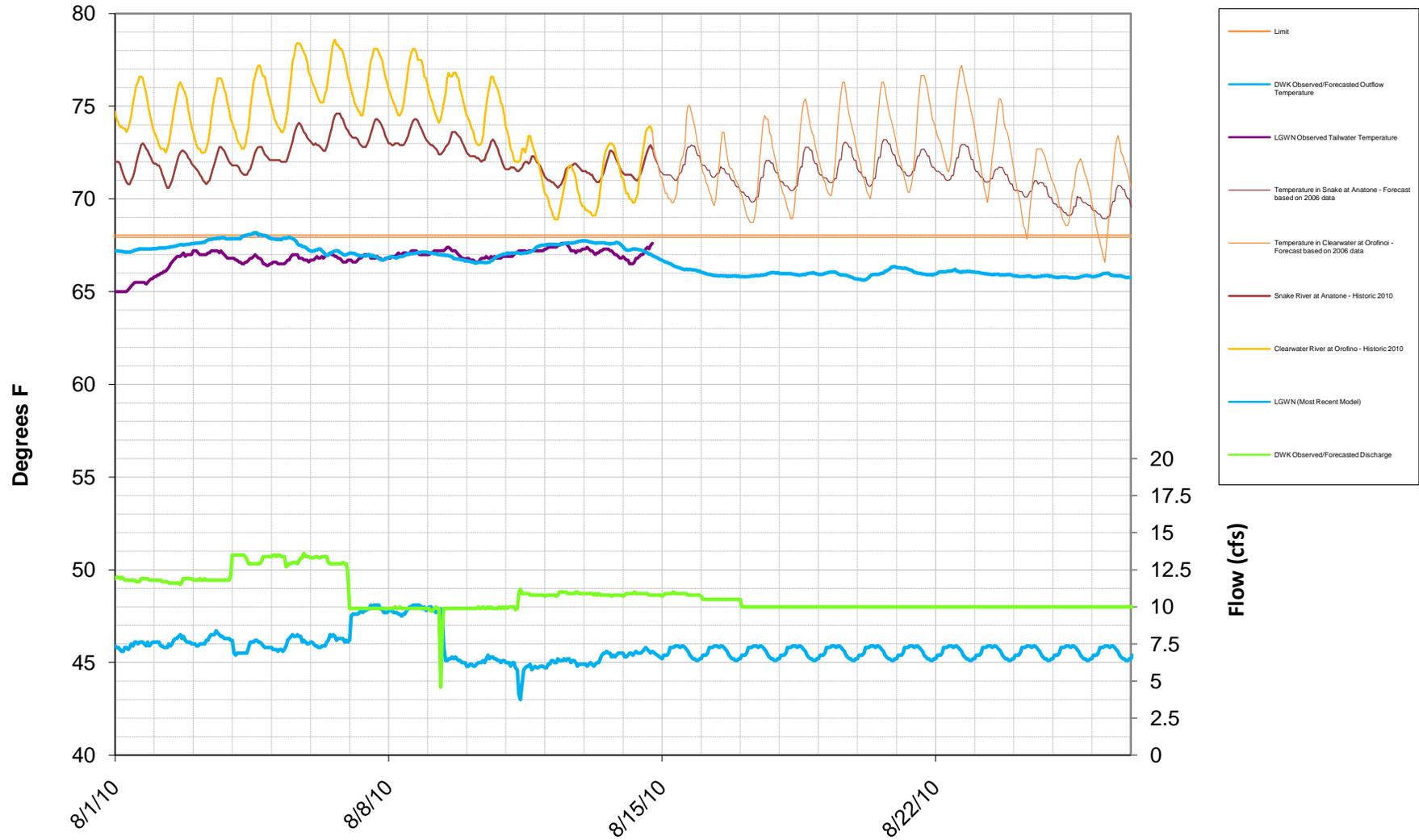
The COE will implement the change and monitor adult passage numbers closely for any adverse impacts.

### **5. Next Meetings**

The next TMT meeting will be a conference call at 8 am Monday, August 16, to discuss Dworshak operations in light of updated modeling information. TMT will decide then whether to meet again Wednesday, August 18. A meeting in person is scheduled the following week on August 25.

<b><i>Name</i></b>	<b><i>Affiliation</i></b>
Russ Kiefer	Idaho
Jim Litchfield	Montana
Charles Morrill	Washington
Steve Barton	COE
John Roache	BOR
Dave Statler	Nez Perce Tribe
Steve Hall	COE Walla Walla
Dave Benner	FPC
Dave Wills	USFWS
Rick Kruger	Oregon
Tony Norris	BPA
Scott English	COE
Doug Baus	COE
Karl Kanbergs	COE

**Water Temperature Comparisons**  
**Model from 8/1/2010 to 8/27/2010**  
**Observed Data to 8/15/2010 (10Kcfs till 28th)**



# 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 / Charles Morrill              **MT** : Jim Litchfield / Brian Marotz  
**COE**: Steve Barton / Karl Kanbergs / Doug Baus

## TMT CONFERENCE CALL

Monday August 16, 2010 9:00am - 10:00am

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

### CONFERENCE PHONE LINE

Conference call line: (877)336-1274; ACCESS CODE = 3871669

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

## AGENDA

1. Welcome and Introductions
2. Dworshak Operations/Temperature Modeling- Steve Barton, COE-NWD & Steve Hall, COE-NWW
  - a. [Dworshak Summer Operations](#)
  - b. [Temperature Output - 10 Kcfs](#)
  - c. [Temperature Output - Powerhouse](#)
3. Other
  - a. Set date for the next meeting
  - b. [\[Calendar 2010\]](#)

*Questions about the meeting may be referred to:  
[Steve Barton](#) at (503) 808-3945, or  
[Doug Baus](#) at (503) 808-3995*

# COLUMBIA RIVER REGIONAL FORUM TECHNICAL MANAGEMENT TEAM

August 16, 2010 Conference Call

## FACILITATOR'S SUMMARY NOTES

Facilitator/Notes: Robin Gumpert

The following notes are a summary of issues discussed at today's meeting. These notes are intended to be a reminder for TMT members of the issues raised and actions to be taken.

Members Present on the Call: Steve Barton, COE; Russ Kiefer, ID; Rick Kruger, OR; Jim Litchfield, MT; Charles Morrill, WA; Tony Norris, BPA; John Roache, BOR; Paul Wagner, NOAA; Dave Wills, USFWS. Unavailable: Nez Perce Tribe; Confederated Tribes of the Umatilla (CRITFC).

### Dworshak Operations

Steve Barton, COE, reviewed the Dworshak operation that began on Friday 8/13 per TMT coordination, and noted that temperatures at Lower Granite had stayed around 67.5°F over the weekend with a slight decline today. Kevan Schneidmiller and Steve Hall, Walla Walla District COE, referred to the model run graphs linked to the TMT page and reported that the two operating scenarios that were run through the model, 11 kcfs and full powerhouse, revealed very little differences in temperature outputs. The forecast showed a cooling trend later this week and in to next, indicating a 'plateau' effect with temperatures hovering around 66.7°F. The COE representatives noted that the model assumed Dworshak temperatures from last week (45°) but did not include any temperature changes that occurred today out of Dworshak (43.7°). Given all this background, the COE requested feedback from TMT members.

Russ Kiefer, Idaho, shared that he updated his spreadsheet model and the results were similar to the COE's. He recommended that the COE operate Dworshak at full powerhouse (~9.9-10 kcfs) beginning today and maintain the 45-46° temperature range out of the project. Steve Hall offered a slight revision, to hold the project in undershot mode if that slightly lower temperature range (~44°) was an acceptable condition for the hatchery.

A final question was asked about the Hells Canyon (Idaho Power) inputs in to the model, and the COE responded the assumptions have remained the same, within a 2 kcfs range.

TMT members responded to the proposal to operate Dworshak at full powerhouse in undershot mode beginning today:

- Idaho: Supports this operation.
- Oregon: Supports this operation.
- Washington: Supports this operation.

- Montana: Supports this operation.
- USFWS: Want to stay ahead of warm temperatures, and trusts the model runs, so supports the operation. Powerhouse undershot mode is preferred for hatchery needs, over RO releases.
- NOAA: Supports the operation.
- Reclamation: Supports the operation.
- BPA: Supports the operation.

**Support for Recommended Action:** Consensus of TMT members on the call for the recommended action.

**Action/Next Steps:** The COE will operate Dworshak at full powerhouse (~9.9-10 kcfs) beginning today 8/16 and will maintain to meet a target elevation of 1535'. The project will operate in undershot mode. TMT will check in on this operation during their 8/25 face to face meeting, unless conditions change and an unscheduled call is required.

**Next TMT Meeting:** August 25 Face to Face

Agenda items will include:

- Notes/Minutes Review
- Dworshak Operations
- Lower Columbia River low Flow Criteria
- End of MOP operations
- Water Quality Report
- Operations Review
- Other

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**

**August 16, 2010**

Notes: Pat Vivian

**1. Introduction**

Today's TMT conference call was chaired by Steve Barton (COE) and facilitated by Robin Gumpert (DS Consulting). Representatives of Oregon, Montana, Idaho, BOR, USFWS, Washington, BPA, FPC, COE, NOAA and others attended. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

**2. Dworshak Operations and Temperature Modeling**

When TMT last met August 13, members present agreed it would be prudent to continue 11 kcfs discharge from Dworshak in order to maintain favorable temperatures at Lower Granite tailwater over the weekend. Temperatures at Lower Granite tailwater peaked at 67.5 degrees F and are now on a cooling trend, Barton reported.

Graphs of comparative model runs are linked to today's agenda. One scenario depicts 10 kcfs outflows through August 28, while the other drops to powerhouse minimum flows at midnight tomorrow, August 17. The graphs simulate the same operation through August 17, and Lower Granite tailwater temperatures remain around 66 degrees F in both cases.

The difference between the two scenarios amounts in a half to a quarter of a degree F in the temperature of Dworshak outflows by August 25, with the 10 kcfs scenario providing a slight cooling effect over full powerhouse flows. There's enough volume available to maintain full powerhouse until August 25, then drop to 8 kcfs outflows, Barton said. Since TMT last met, temperatures have cooled significantly as a result of rainfall in the area. The current forecast shows no appreciable warming of inflow temperatures at Orofino and Anatone gages. Both modeling scenarios show Lower Granite tailwater temperatures hitting a plateau of 66 degrees F, plus or minus half a degree. Russ Heaton (COE Walla Walla) added that the modeling runs didn't incorporate a temperature change that occurred at 6 am this morning when Dworshak outflows dropped to 43.7 degrees F from the 45-degree range.

Barton asked TMT, given this new information, should the 10 kcfs Dworshak discharges continue or should the operation go to full powerhouse?

Russ Kiefer (Idaho) said his modeling runs also reflect the cooling trend shown in the COE models. Idaho would support a full powerhouse operation, which would maintain the current outflow temperature range of 45-46 degrees F.

Kiefer advocated full powerhouse minimums as soon as possible in order to conserve limited water supplies, noting that colder water probably isn't needed in the river at this time.

Water temperatures will probably rise by about half a degree F when spill stops at the end of August, Steve Hall (COE Walla Walla) said. The hottest day predicted in the area will be August 17, with temperatures around 100 degrees F. Hall advocated leaving both Dworshak units in undershot mode as they are now and monitoring the outflow temperatures. Switching one unit into overshot mode would require an outage, but that could be done if temperatures adversely affect hatchery operations. Otherwise, it appears there is already enough cold water in the river to temper the predicted high of 100 degrees F tomorrow.

The Dworshak hatchery functions well when outflow temperatures are around 45 degrees F, Kiefer said. Dave Wills and Howard Schaller (USFWS) agreed that 45 degrees F would be acceptable in terms of hatchery operations over the next few days.

Charles Morrill (Washington) asked how releases from Hells Canyon Dam might affect temperature management. Daily average Hells Canyon releases rose from 8.8 kcfs to 10.5 kcfs and are expected to peak at 15 kcfs today, an increase Hall described as minimal. (Releases of 22-25 kcfs, however, would be worrisome, but that doesn't appear at all likely.) Barton added that Hells Canyon only releases 15 kcfs for 6 hours or so at a time. Hall predicted that Hells Canyon daily average discharges would increase by 2 kcfs, and it would take a much bigger increase than that to create temperature problems on the Snake River.

Concurring with the recommendation from Idaho, the COE proposed to switch Dworshak flows to full powerhouse at noon today (or as soon as practical), keep the units in undershot mode, and maintain that operation until either it becomes necessary to ramp down to a two-unit operation or elevation 1,535 feet is attained at the end of August. TMT members gave their views:

- **NOAA** – Supports the proposal.
- **Oregon** – Supports the proposal; recommends dropping to full powerhouse as soon as possible.
- **USFWS** – Supports the proposal; recommends continued use of overshot mode.
- **Montana** – Supports the proposed operation.
- **BOR** – Supports the proposed operation.
- **BPA** – Supports the proposed operation.

- **Idaho** – Supports the proposed operation.

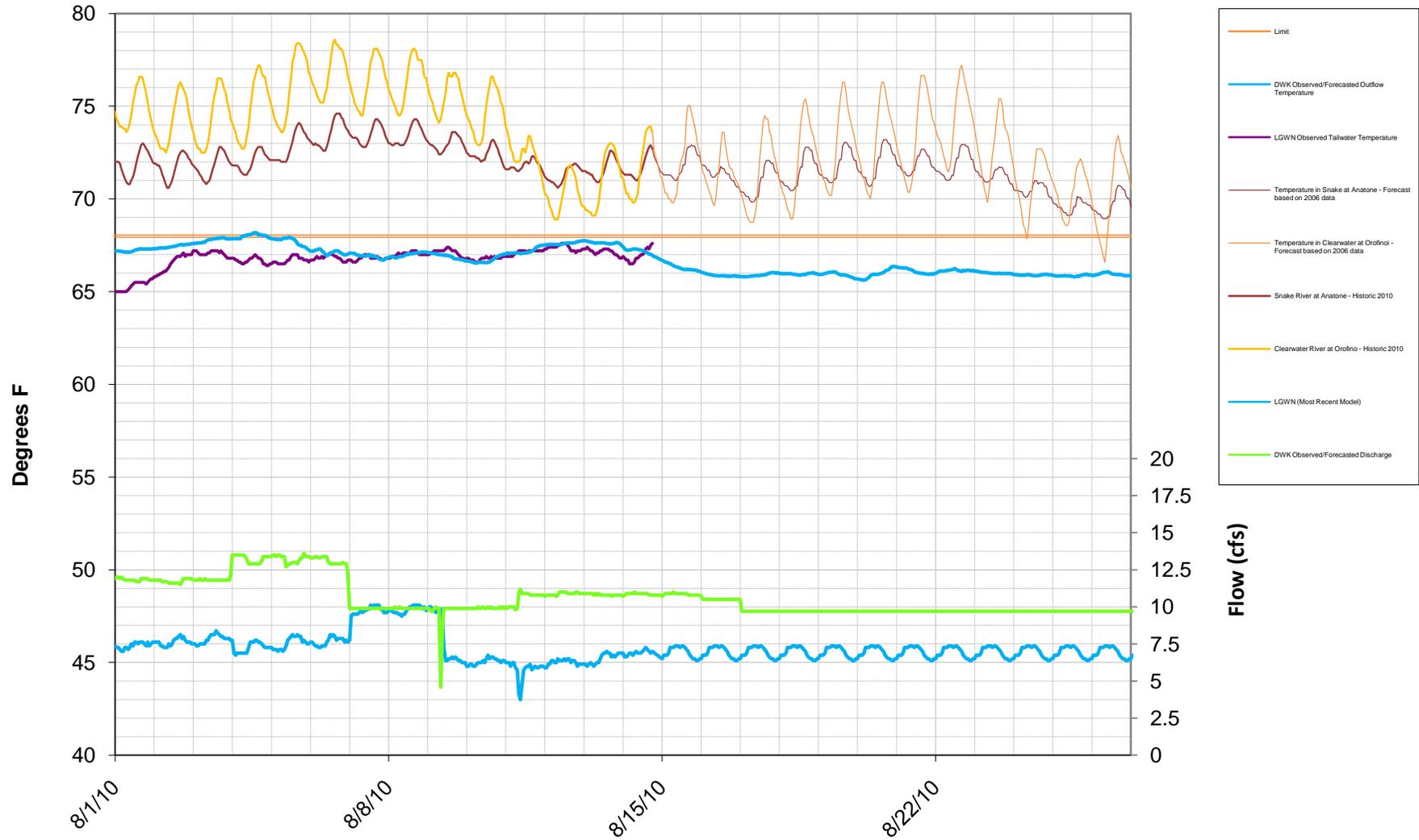
The COE will operate Dworshak accordingly and keep TMT informed of temperature results via email. TMT members agreed to meet again on August 25, unless there's a need to readjust the operation before then.

### **3. Next Meeting**

The next TMT meeting will be in person August 25, with a possible conference call before then if needed to deal with Dworshak operations.

<b>Name</b>	<b>Affiliation</b>
Rick Kruger	Oregon
Jim Litchfield	Montana
Russ Kiefer	Idaho
John Roache	BOR
Dave Wills	USFWS
Charles Morrill	Washington
Tony Norris	BPA
Dave Benner	FPC
Russ Heaton	COE Walla Walla
Margaret Filardo	FPC
Doug Baus	COE
Steve Barton	COE
Steve Hall	COE Walla Walla
Howard Schaller	USFWS Dworshak
Paul Wagner	NOAA
Kevin Steinmuller	Walla Walla

**Water Temperature Comparisons  
Model from 8/1/2010 to 8/27/2010  
Observed Data to 8/15/2010 (Powerhouse only)**



# TECHNICAL MANAGEMENT TEAM

**BOR:** John Roache / Mary Mellema / Pat McGrane

**NOAA-F:** Paul Wagner / Richard Dominigue

**OR:** Rick Kruger / Ron Boyce

**WDFW:** Cindy LeFleur / Charles Morrill

**Salish-Kootenai:** Joe Hovenkotter

**Colville:** Sheri Sears / Steve Smith

**Shoshone-Bannock:** Lytle Denny

**Yakima:** Bob Rose

**Umatilla:** Tom Lorz (CRITFC)

**BPA:** Tony Norris / Scott Bettin / Robyn MacKay

**USFWS:** David Wills / Steve Haeseker

**ID:** Russ Kiefer / Pete Hassemer

**MT:** Jim Litchfield / Brian Marotz

**Spokane:** Deanne Pavlik-Kunkel / Andy Miller

**Kootenai:** Sue Ireland / Billy Barquin

**Warm Springs:** Brad Houslet

**Nez Perce:** Dave Statler

**COE:** Steve Barton / Karl Kanbergs / Doug Baus

## TMT MEETING

Wednesday August 25, 2010 09:00 - 12:00

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

### CONFERENCE CALL INFORMATION

Phone Number (877) 336-1274  
Access Code 3871669  
Security Code 6845

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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 August 11, 13, and 16 [\[Meeting Minutes\]](#)
3. Dworshak Operations/Temperature Modeling- Steve Barton, COE-NWD & Steve Hall, COE-NWW
  - a. [Dworshak Summer Operations](#)
  - b. [Temperature Model, 8 kcfs after the 26th](#)
4. End of MOP Operations - Steve Barton, COE-NWD
5. Autumn Treaty Fishing - Tom Lorz, CRITFC
  - a. [SOR 2010-C8](#)
6. Water Quality Report - Steve Barton, COE-NWD and Scott English, COE-NWD

- a. [July 2010 TDG Instance Types](#)
- b. [High 12-hour Average Percent TDG](#)
- 7. Operations Review
  - a. Reservoirs
    - i. [Summary Plots](#)
  - b. Fish
  - c. Power System
  - d. Water Quality
- 8. Other
  - a. Set agenda and date for next meeting - **September 8, 2010**
  - b. [\[Calendar 2010\]](#)

*Questions about the meeting may be referred to:*

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

*[Dong Baus](#) at (503) 808-3995*

# COLUMBIA RIVER REGIONAL FORUM TECHNICAL MANAGEMENT TEAM

August 25, 2010 Meeting

## FACILITATOR'S SUMMARY NOTES

Facilitator: Erin Halton

Notes: Robin Gumpert

The following notes are a summary of issues discussed at today's meeting. These notes are intended to be a reminder for TMT members of the issues raised and actions to be taken.

### Meeting Minutes

The 8/11, 8/13 and 8/16 Official Minutes and Facilitator Notes had been posted. The following revisions were made:

- 8/11 Facilitator Notes: Re: Dworshak Operations, a sentence was added that "FPAC members present were in support of the COE proposal"
- 8/13 Facilitator Notes: Under Members Present, all state representatives will be associated with their respective state rather than the agency they work for.
- 8/16 Facilitator Notes: Under TMT feedback re: Dworshak Operations, the Washington comment, remove: "revisit as needed to ensure target 1535' elevation will be met."

With the above changes, all notes under review were considered final.

### Dworshak Operations

The COE provided a temperature link and latest model run for Dworshak operations. Steve Hall, Walla Walla District, clarified that the model run showed the transition from full powerhouse down to 8 kcfs (not "plus" 8 kcfs as was labeled on the graph). He shared that with the cooler temperatures in the system, the COE expected that Lower Granite temperatures would remain at around 65°F even with the operational change. This operation would signify the COE's transition from temperature management to water management. While the model depicted the change on 8/26, this week's modeling and TMT feedback would influence the COE's final decision on when to transition to 8 kcfs. Paul Wagner, NOAA, on behalf of FPAC, said the model and proposed operation looked fine.

Steve Barton, COE, also reported that the COE's current plan for September operations reflected the Nez Perce recommendation, using a two-day step down approach to reach elevation 1520': from 8 kcfs to 5.9 kcfs on 9/13, down to 4.7 kcfs on 9/15 and 2.4 kcfs on 9/17, then holding until the project reached its target 1520' elevation (anticipated to be 9/18-19<sup>th</sup>) at which time the project would operate at minimum discharges. During the September operations, temperatures are likely to stay within the 46-48°F range.

Again, TMT members did not object to this proposed operation. Russ Kiefer, Idaho, noted that the cool wet spring provided good conditions for summer operations this year.

**Action/Next Steps:** The COE planned to operate Dworshak for the rest of August and into September per the plans described above. If a change is needed before the next scheduled meeting (9/8 conference call), the COE will notify TMT via email and/or convene an unscheduled meeting as appropriate.

### **End of MOP Operations**

Steve Barton, COE, shared that per the Fish Operations Plan (FOP), the four Lower Snake projects will be released from MOP operations restrictions beginning at midnight on 8/31. The action agencies will take the same approach that was used in 2009 and that TMT members agreed worked very well as a way to meet both needs for operating flexibility and moving flow augmentation water downstream. Using a step-wise approach, end of MOP will start with the lowest project and move up, and, MOP will be maintained as a soft constraint during the flow augmentation period. While this may result in the Ice Harbor, Lower Monumental, and Little Goose projects being above MOP during the first couple weeks of September, these projects would be drafted back to the MOP range when Dworshak reached elevation 1520. This would achieve the objective of not using Dworshak augmentation water to refill the lower Snake River projects. Tony Norris, BPA, added that BPA acknowledged Lower Granite in particular should be held close to MOP, as an important project for flow and temperature (the upper reaches of Lower Granite pool are critical for steelhead and fall Chinook that are over wintering.) Paul Wagner, NOAA, said the Salmon Managers were fine with the plan and expressed appreciation for the Action Agencies' consideration of the desire to ensure and show the 200 KAF augmentation water releases through the system.

### **SOR 2010 C-8 Autumn Treaty Fishing**

Kyle Dittmer, CRITFC, reported that the first Autumn Treaty Fishery for 2010 was underway, and that an SOR had been submitted to the COE requesting that the pools at Bonneville, John Day and The Dalles be held within a 1.5' band during the fishing periods 8/24-27, 8/30-9/3 and 9/7-9/10. He added that net flight information would be shared with the COE following this TMT meeting. The COE responded that they will issue guidance to operate the projects as requested, noting that the 8/30-9/3 fishery week coincides with a system transition period to fall targets for flow augmentation and fish operations. While this may pose a challenge, the COE committed to doing its best to keep the pools within the range stated in the SOR. (\*NOTE: TMT discussed other system impacts on the treaty fishery during today's meeting. See 'Operations Review/Reservoirs' notes below for that summary.)

### **Water Quality Report**

Scott English and Laura Hamilton, COE, shared the July TDG report and noted a total of 20 instances for the month. Scott touched on two brief exceedances due to gauge issues (quickly fixed by USGS) and three exceedances at Bonneville related to operations; he also shared that a tailwater station at Ice Harbor had been vandalized and was now corrected.

## **Operations Review**

**Reservoirs:** John Roache, Reclamation, and Steve Barton, COE, reported on their agencies' respective projects. Grand Coulee was at elevation 1279.9' and targeting 1277.3' by 8/31. Hungry Horse was at elevation 3549.82' with 3.9 kcfs outflows. Libby was operating with 6.6 kcfs inflows and 7.0 kcfs outflows (bull trout minimums), and was at elevation 2442.64' (Libby had reached its maximum elevation for the season). Albeni Falls was passing 11 kcfs inflows and was at elevation 2062.19'. Dworshak was operating at .9 kcfs inflows and 10.3 kcfs out, currently at elevation 1541.83'. Lower Granite outflows were 28 kcfs (last week's average was 29.9 kcfs); Priest Rapids outflows were 93 kcfs (last week's average was 86.8 kcfs); and McNary outflows were 107.2 kcfs (last week's average was 126.8 kcfs).

Barton reported that forebay restrictions were in place at McNary to enable a body recovery effort, and a request had been sent from BPA to fill at John Day what was drafted from McNary. This may result in John Day reservoir's elevation slightly exceeding the BiOp summer time operating range of 262.5 to 264 feet. The Autumn Treaty fishery and weekend McNary spill levels might be impacted by this effort, though the COE thought it was unlikely. Kyle Dittmer, CRITFC, suggested that morning and evenings (6pm-8pm) were the most vulnerable times for the treaty fishers so recommended that changes to the John Day project not be made during those times, to the extent possible. Paul Wagner, NOAA, stated a preference that spill at Bonneville be maintained as best as possible during this time.

**Fish:** Paul Wagner, NOAA, gave a fish status update. Adult fall chinook counts at Bonneville were 4,000/day and steelhead numbers were 2,500-3,500/day. Wild steelhead numbers were up but overall totals were not quite as high as 2009. Sockeye counts at Lower Granite were 2,154, a new record. Steelhead numbers were high at Lower Granite and fall Chinook were just arriving. Subyearling fall chinook numbers were on a steady decline at Lower Granite and Lower Monumental; counts at McNary were 8,000/day.

**Power:** Nothing to report

## **Next TMT Meetings:**

### **September 8 - Conference Call**

Agenda items will include:

- Dworshak Operations
- Autumn Treaty Fishing Update/SOR

### **September 15 - Face to Face**

Agenda items will include:

- Review Minutes
- Dworshak Operations
- Draft WMP
- Operations Review
- Other?

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**

**August 25, 2010**

Notes: Pat Vivian

**1. Introduction**

Today's TMT meeting was chaired by Steve Barton (COE) and facilitated by Erin Halton (DS Consulting). Representatives of the COE, Washington, NOAA, BPA, BOR, Idaho, Oregon, CRITFC and others attended. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

**2. Review Meeting Minutes for August 11, 13 and 16, 2010**

Halton highlighted two substantive edits to the facilitator's notes:

- August 11 facilitator's notes, Dworshak operations: Russ Kiefer (Idaho) added a sentence at the top of page 2 describing the two conference calls TMT scheduled on August 13 and 16 to check in on Dworshak.
- August 16 facilitator's notes, Dworshak operations: Charlie Morrill (Washington) deleted "...revisit as needed to ensure the target 1,535 elevation will be met," so the statement says, "Washington supports this operation."

With these changes, the facilitator's notes and official minutes for August 11, 13 and 16 were all deemed final.

**3. Dworshak Operations and Temperature Modeling**

Temperatures at Lower Granite tailwater have remained below 66 degrees F, Barton reported. Steve Hall (COE Walla Walla) showed TMT the latest temperature modeling results in attachment 3b, which depicts a draft plan that's similar to last year's operation.

The model shows Dworshak outflows at full powerhouse, transitioning down to 8 kcfs outflows on August 26-27 as the operation moves toward elevation 1,535 feet on August 31. Barton pointed out that the title heading is misleading and should just say "8k after the 26<sup>th</sup>." Past then, the plan is to

maintain 8 kcfs discharges until approximately September 11, then drop to 5.9 kcfs (1 big unit) for a minimum of 2 days, drop again to 4.7 kcfs (2 small units) for another 2 days, then to 2.4 kcfs (1 small unit) until elevation 1,520 feet is attained, estimated to be on or about 19 September based on current models. At that time, flows will drop to minimums of about 1.5 kcfs. This plan devised by the Dworshak Board is close to being ready for comments. Russ Kiefer (Idaho) commented today that it looks like a good end-of-season operation in preparation for September flow augmentation.

TMT will revisit Dworshak operations at its next conference call on September 8. The COE will email TMT members regarding any changes made to the draft plan before then.

#### ***4. End of MOP Operations***

The COE is planning to issue instructions for the four lower Snake projects regarding the end of MOP operations, scheduled at midnight on August 31, Barton said. This year's proposed end of MOP operation is essentially the same as last year's. It incorporates the preference expressed last year for refilling the projects starting from down-river and moving up. The action agencies will take the same approach that was used in 2009, and that TMT members agreed worked very well, as a way to meet both needs for operating flexibility and moving flow augmentation water from Dworshak downstream. When MOP ends August 31, the COE will release forebay restrictions and allowing forebays to operate within their normal ranges, with the exception of the extra half-foot allowance at Ice Harbor and Little Goose for navigation concerns.

This proposed end of MOP operation has been reviewed and approved by FPAC, Paul Wagner (NOAA) said. He thanked the COE for including the Nez Perce request and to move the water downstream in order to assure the release of the 200 kaf entitlement in September.

The bottom-up refill operation and attempt to move augmentation water downstream is a soft constraint, Tony Norris (BPA) noted. Management of the Lower Granite pool has been identified by the Dworshak board as critical because it's particularly sensitive to thermal warming. Lower Granite will likely operate within or near MOP restrictions this year during refill, Norris said

TMT will revisit the end of MOP operations during its next conference call September 8.

#### ***5. Autumn Treaty Fishing SOR 2010-C-8***

This SOR requests that the three lower Columbia pools be operated within a 1.5-foot band as a hard constraint from 6 am to 6 pm August 24-27, August 30-September 3, and September 7-10. Kyle Dittmer (CRITFC) said additional treaty

fishing is expected in September. Expected escapement numbers for this year are 483,000 chinook and 499,000 steelhead at Bonneville Dam.

The COE will issue guidance to operate the projects as requested. Barton cautioned, however, that the period from August 30-Sept 3 is especially volatile as the hydro system shifts from fish operations to meeting fall elevation targets. It “doesn’t turn on a dime.” The COE will do its best to maintain a smooth treaty fishery operation during that challenging transition.

## **6. Water Quality Report**

The July report on TDG instances is now available at the TMT website and will also be linked to today’s agenda, Scott English (COE) reported. Of a total of 20 TDG instances in July, there were a few brief exceedances related to fixed monitoring station gauges, which were corrected quickly by the USGS. Also there were a few type 3 exceedances, mainly in the Bonneville reach. Water quality conditions in general are good, with similar conditions anticipated through the end of August. So far in August there has been only one TDG instance which was the result of vandalism at the Ice Harbor tailwater station.

## **7. Operations Review**

**Reservoirs.** Grand Coulee is at elevation 1,279.9 feet, with a target elevation of 1,277.3 feet for August 31. Hungry Horse is at elevation 3,549.82 feet, discharging 3.9 kcfs

Libby is at elevation 2,442.64 feet, discharging bull trout minimums of 7.0 kcfs with inflows of 6.6 kcfs. Albeni Falls is at elevation 2,062.19 feet, passing inflows of 11 kcfs. Dworshak is at elevation 1,541.83 feet with inflows of 0.9 kcfs and discharges of 10.3 kcfs.

Lower Granite average weekly inflows were 29.9 kcfs, with yesterday’s discharge at 28 kcfs. Priest Rapids is discharging 92 kcfs with weekly average inflows of 86.8 kcfs. McNary is discharging 107.2 kcfs with weekly average inflows of 126.8 kcfs.

The lower Columbia projects are meeting low-flow criteria specified in the FOP, Barton noted. Norris noted that in order to meet the minimum generation requirements at Bonneville, spill has been reduced to 70 kcfs due to low flow conditions. Recovery of a body in the McNary forebay could impair operational flexibility. Karl Kanbergs (COE) explained that a BPA real-time request to store water at John Day could raise the pool elevation above 264 feet, possibly as high as 264.7 feet. This could be a good operation because the water will be available to maintain spill at Bonneville later and to maintain McNary weekend flows at 80% of the previous week flow average. The drawback is that the criminal investigation, which requires the pool to be at last night’s levels, might cause the

John Day forebay to exceed the 1.5-foot treaty fishery constraint for part of a day. NOAA's preferred operation at this point is to maintain spill at Bonneville, Wagner said.

Mornings and evenings are the most critical elevation times for tribal fishers, who spread their nets in the mornings and retrieve them in the evenings around 8 pm, Dittmer said. .

The COE will inform TMT via email if the investigation in McNary forebay affects either the treaty fishery operation or the 80% spill target at McNary.

**Fish. Adults:** In the past 2 weeks, fall Chinook passage at Bonneville rose from less than 1,000 fish per day to 4,000 per day, with hundreds of thousands more expected, Wagner reported. Fall Chinook passage is following 2009 trends closely in terms of timing, magnitude and the 10-year average.

Steelhead passage started out strong but hasn't kept its momentum. Between 2,500-3,500 steelhead passed Bonneville per day for the past week, an increase over the previous week's count of 1,500 fish per day. It was hoped that steelhead passage would peak at several thousand fish per day like last year, but that's not happening and the reasons are unknown. The wild component is strong this year, with wild fish at 125,000 or nearly 50% of the total count of 303,000 steelhead (a wild-to-hatchery ratio of 20% is more common). Steelhead counts so far are close to the 10-year average.

This is turning out to be the year of the sockeye, with a prediction of 20 million fish returning to the Fraser River and phenomenal returns at many southern locations.

**Juveniles:** Fall Chinook subyearling passage is decreasing substantially, down to less than 1,000 per day at Lower Granite, Little Goose, Lower Monumental, John Day and Bonneville. Passage at McNary is 8,000 per day as juvenile migration season comes to an end.

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

### **9. Next Meeting**

The next TMT meeting will be a conference call on September 8, followed by a meeting in person September 15.

<b>Name</b>	<b>Affiliation</b>
Steve Barton	COE
Charles Morrill	Washington
Doug Baus	COE

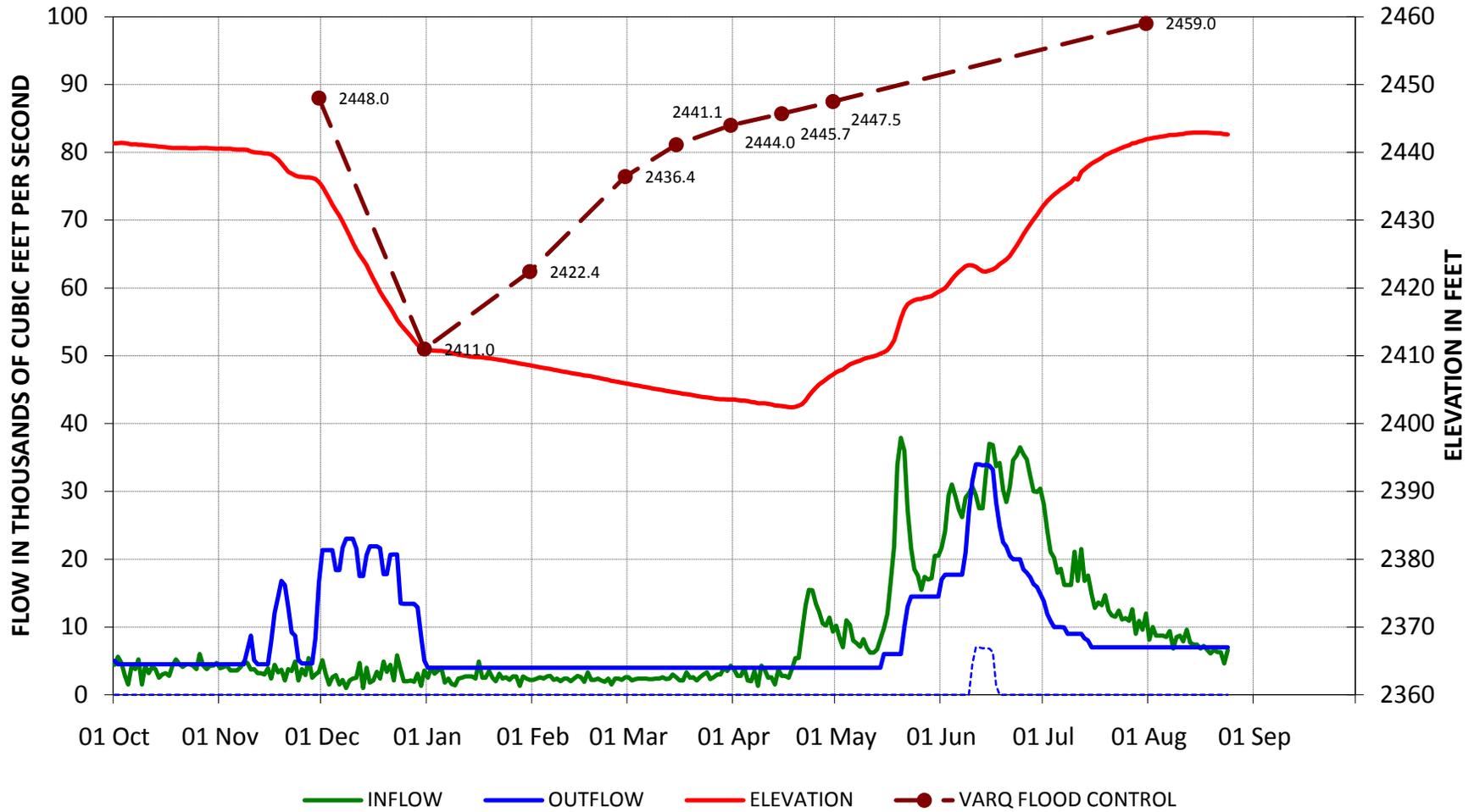
Paul Wagner	NOAA
Tony Norris	BPA
Rob Dies	Iberdrola
Tim Heizenrader	Centaurus
Laura Hamilton	COE
Karl Kanbergs	COE

Phone:

John Roache	BOR
Ruth Burris	PGE
Sherry XX	Puget Sound
Russ George	WMC
Rob Allerman	Deutschbank
Greg Lawson	Point Carbon
Brandon Chockley	FPC
Kyle Dittmer	CRITFC
Tara Kelly	JP Morgan
Tom Le	Puget Sound Energy
Steve Hall	COE Walla Walla
Scott English	COE
Russ Kiefer	Idaho
XX	Snohomish PUD
Scott Bettin	BPA
Glen Trager	Shell Energy

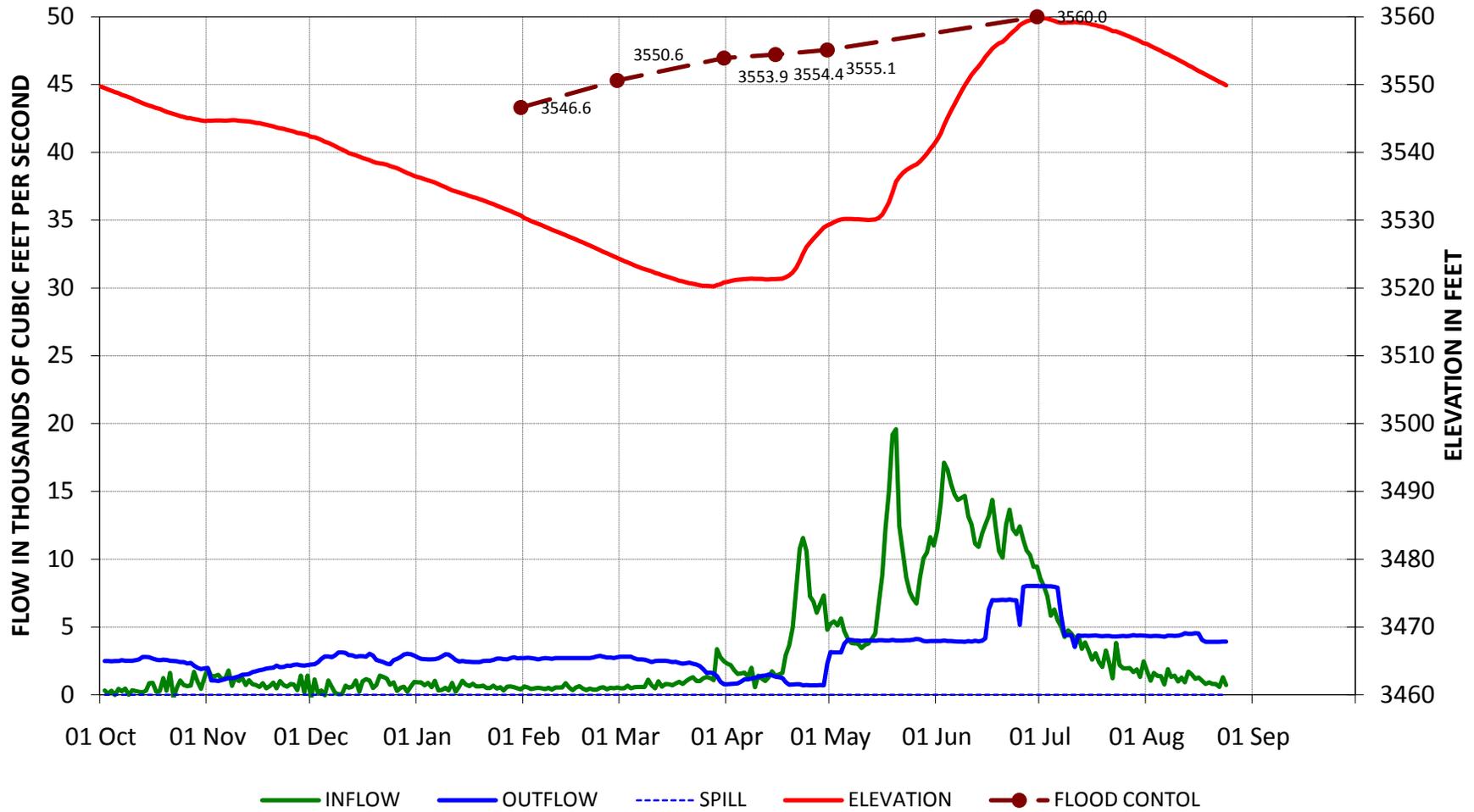
# LIBBY DAM AND RESERVOIR

## Water Year 2010



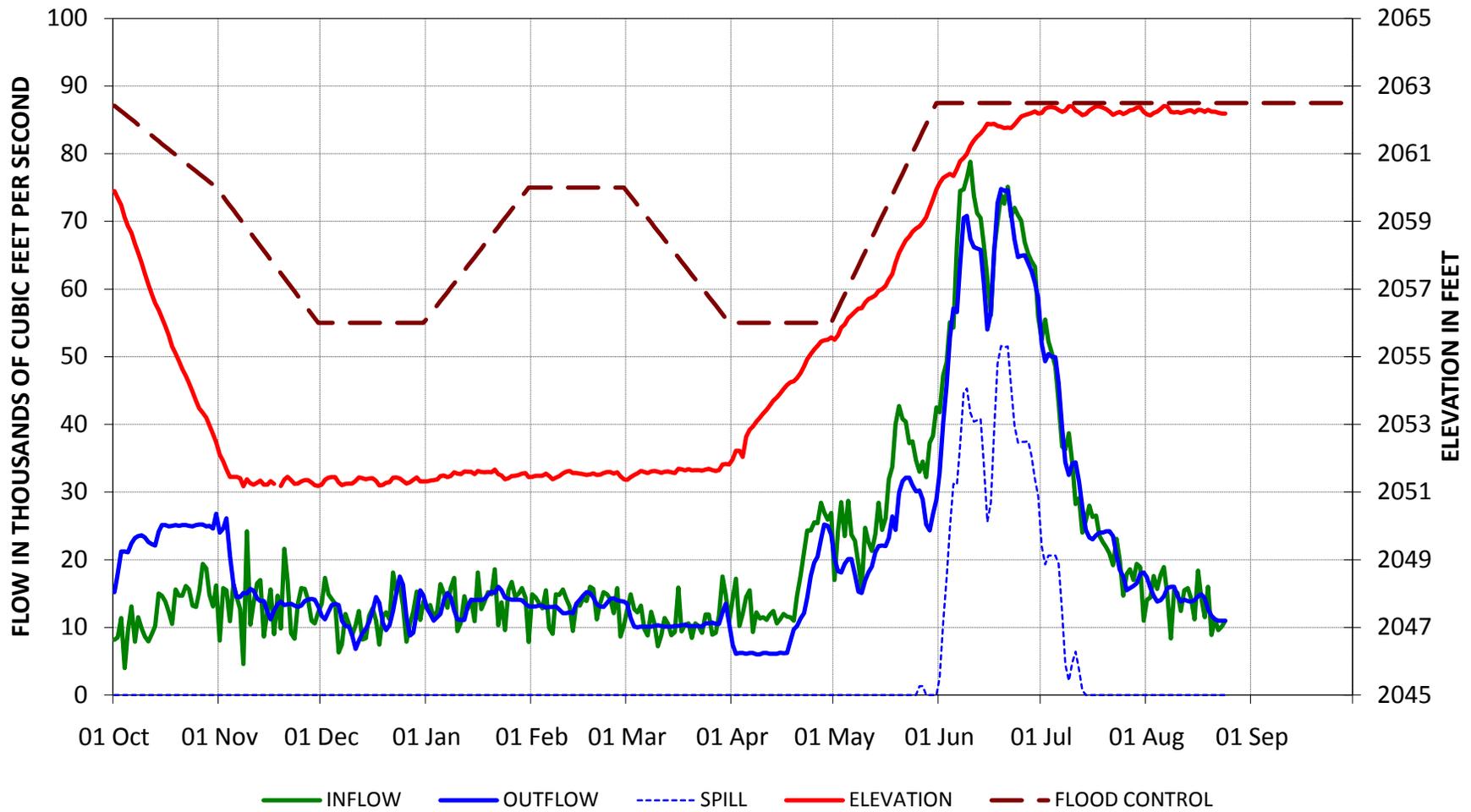
# HUNGRY HORSE DAM AND RESERVOIR

## Water Year 2010



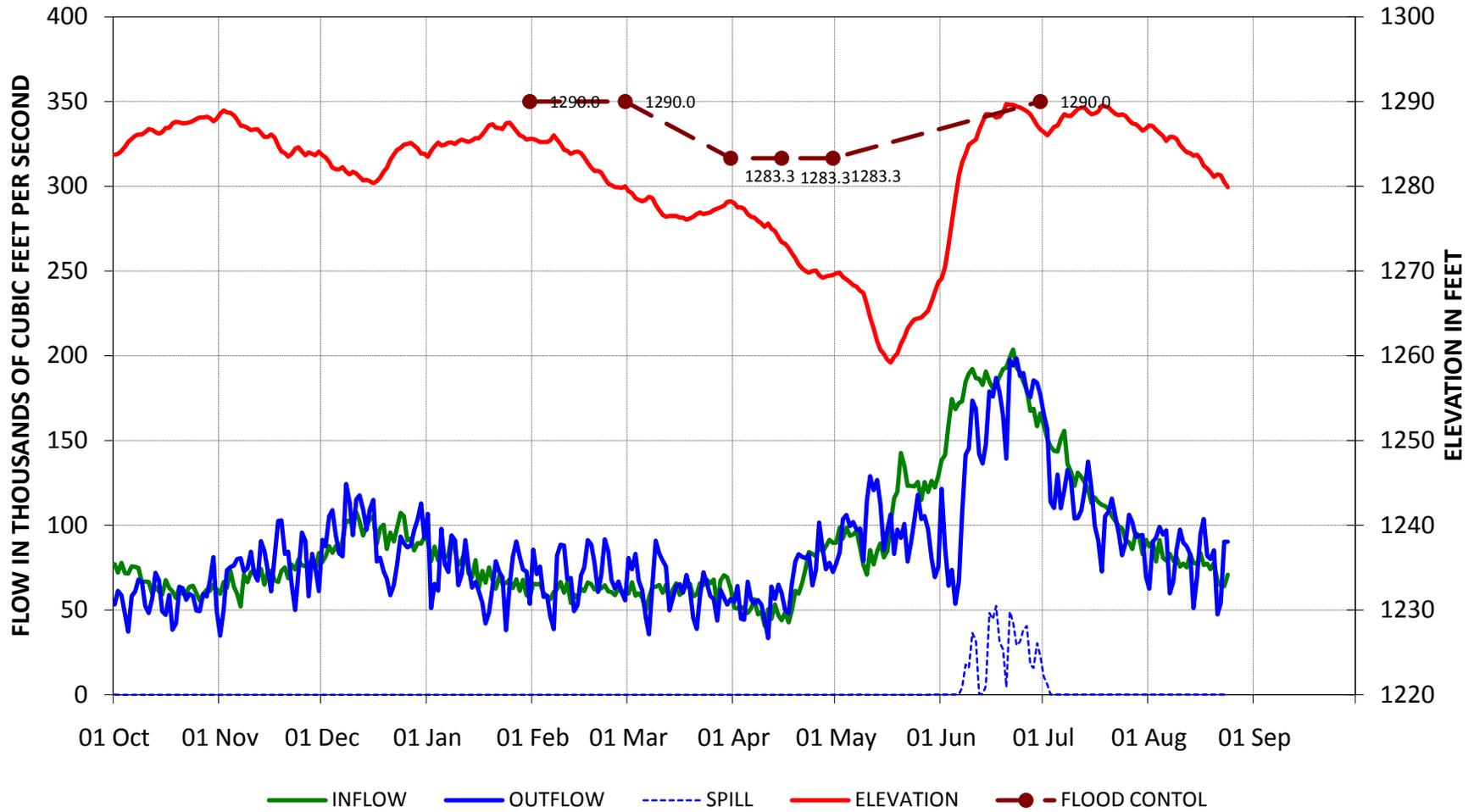
# ALBENI FALLS DAM AND RESERVOIR

## Water Year 2010



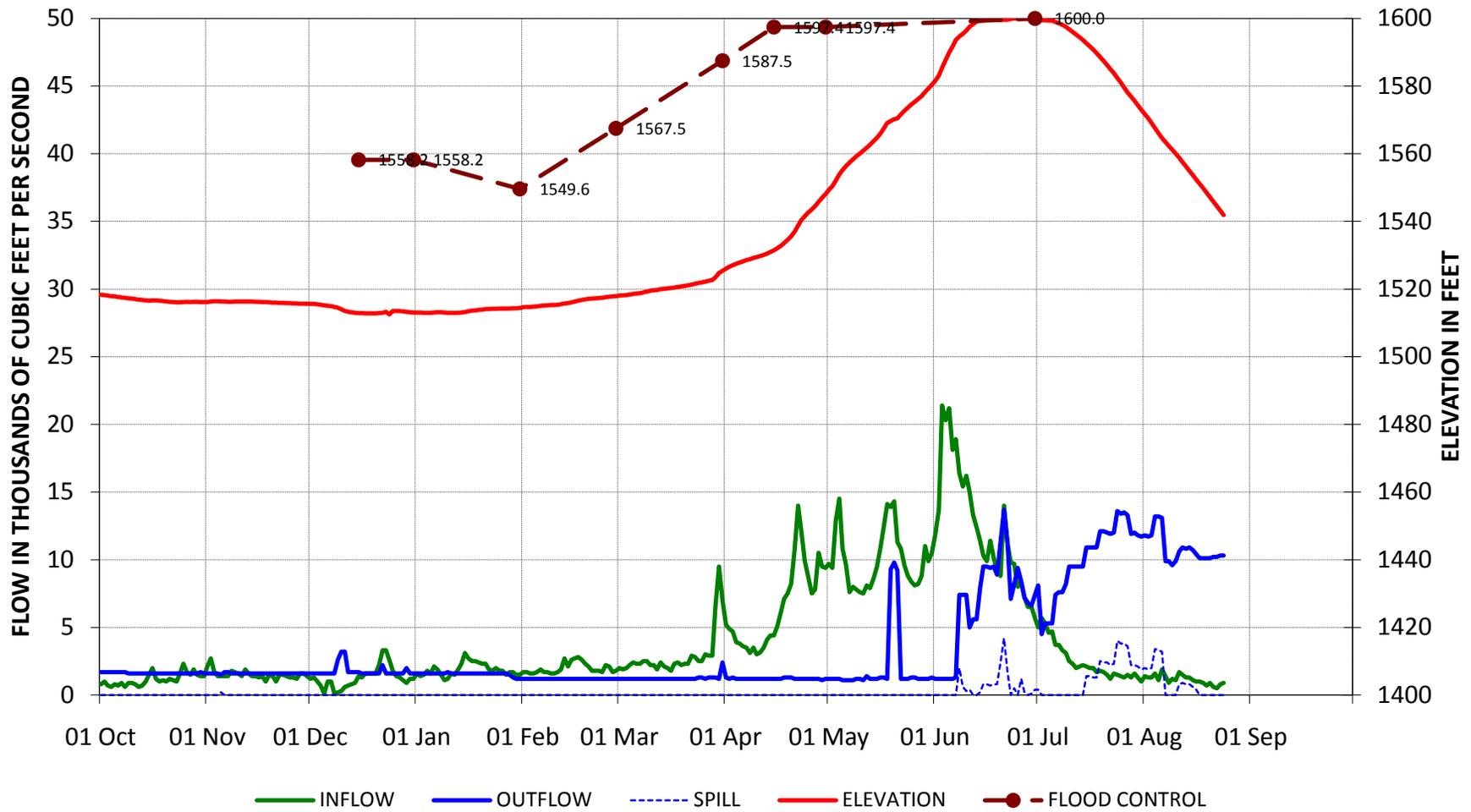
# GRAND COULEE DAM AND RESERVOIR

## Water Year 2010



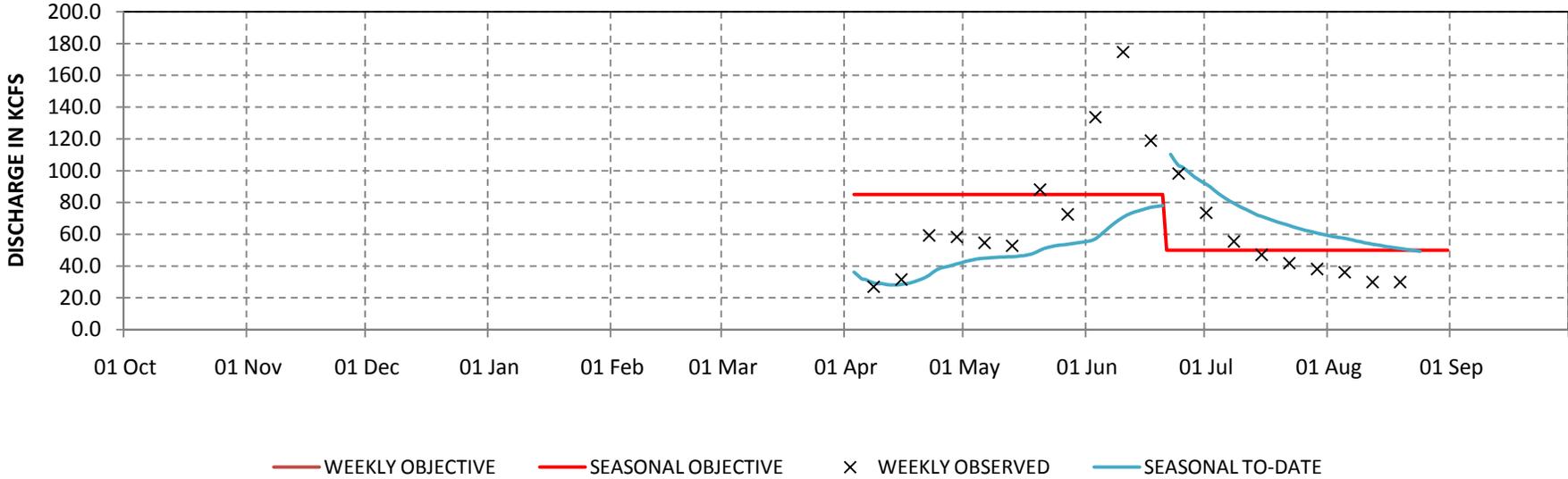
# DWORSHAK DAM AND RESERVOIR

## Water Year 2010

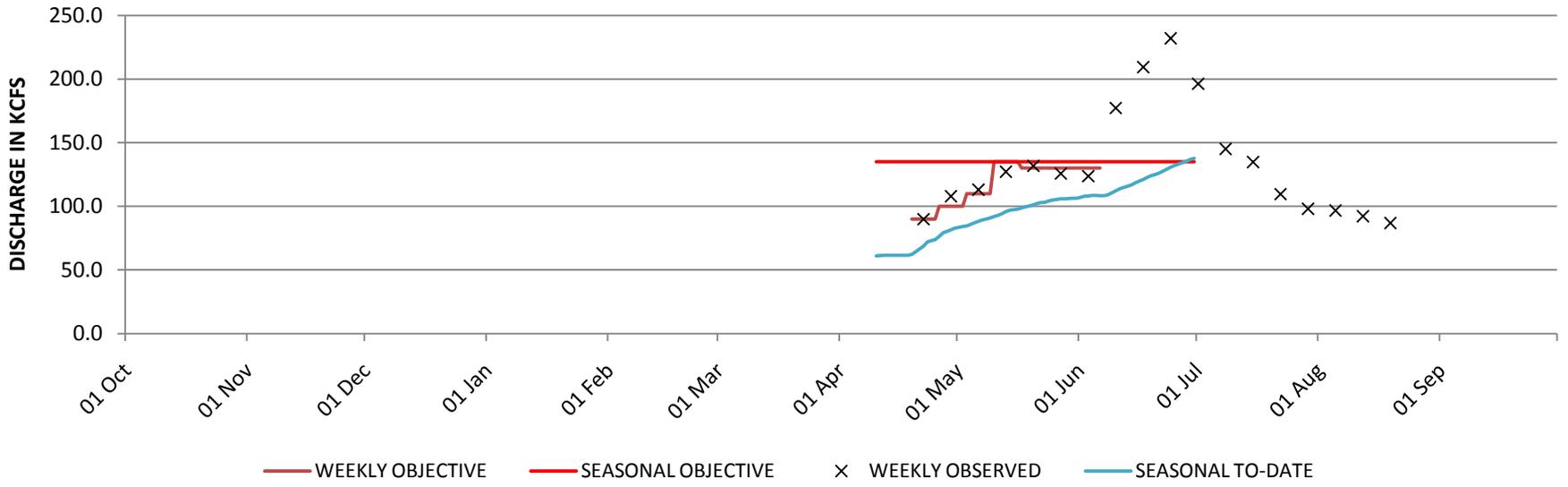
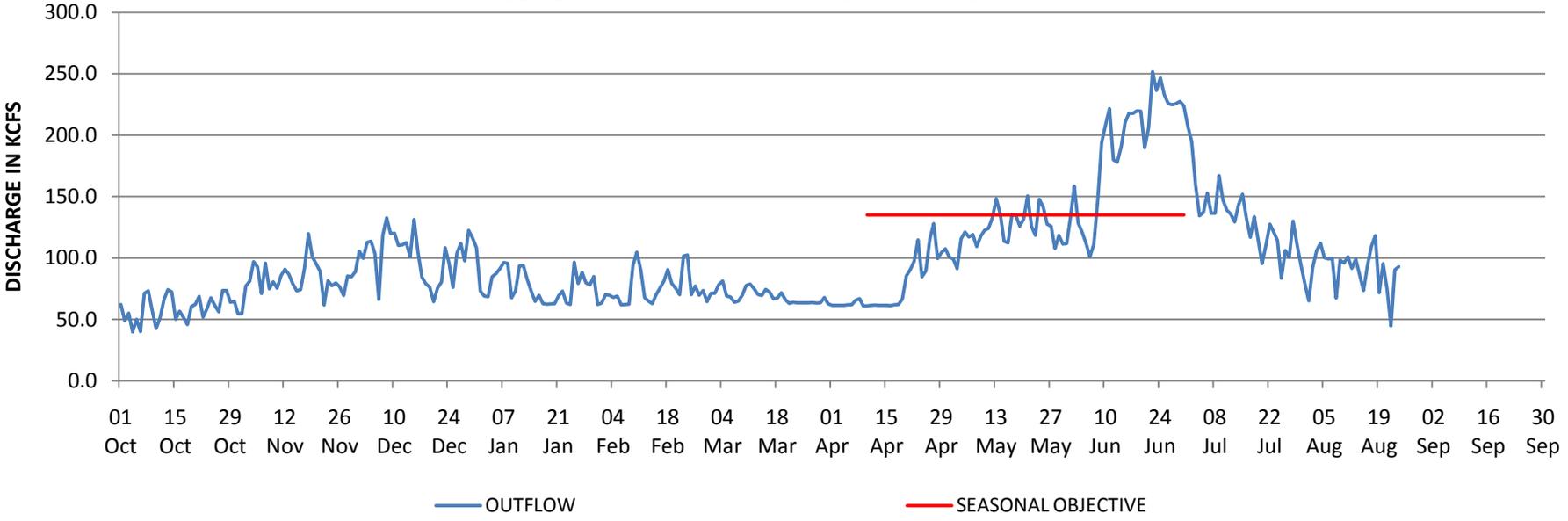


# PROJECT DISCHARGE SUMMARY

## SNAKE RIVER AT LOWER GRANITE DAM

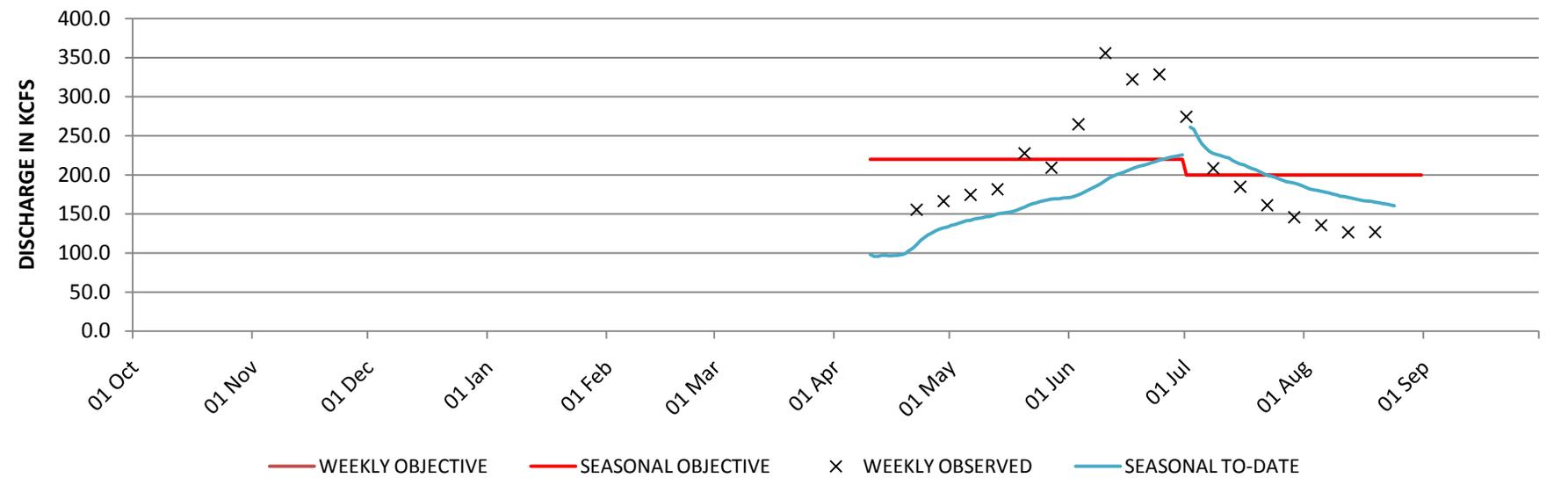
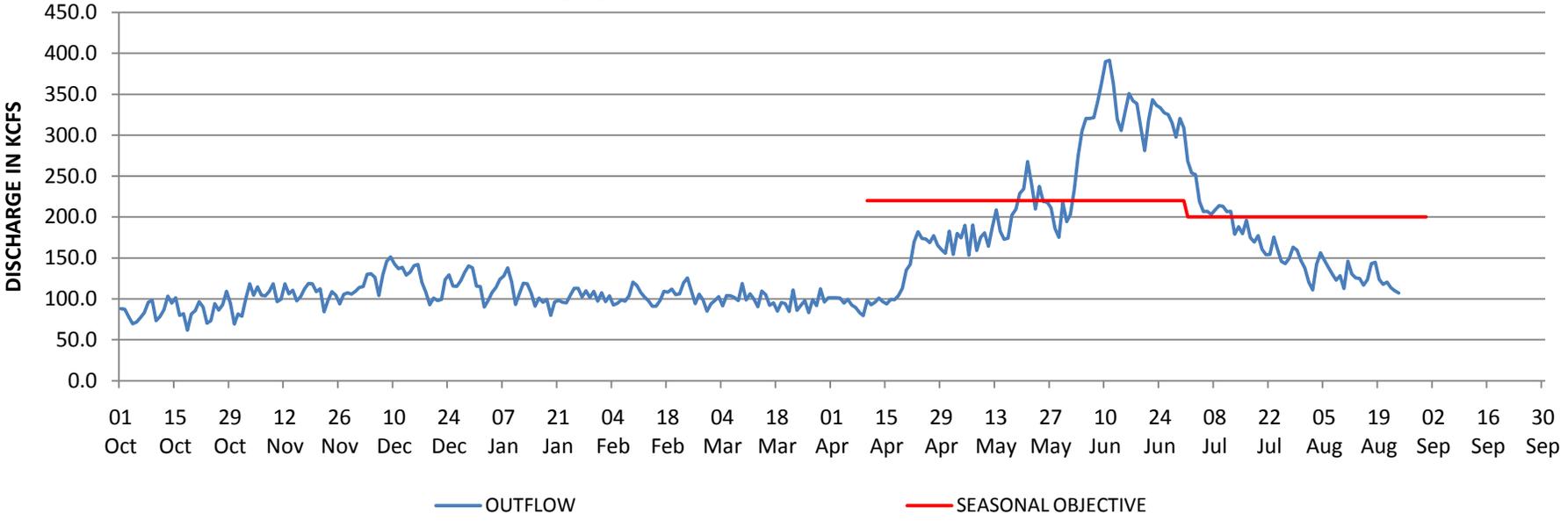


# PROJECT DISCHARGE SUMMARY COLUMBIA RIVER AT PRIEST RAPIDS DAM

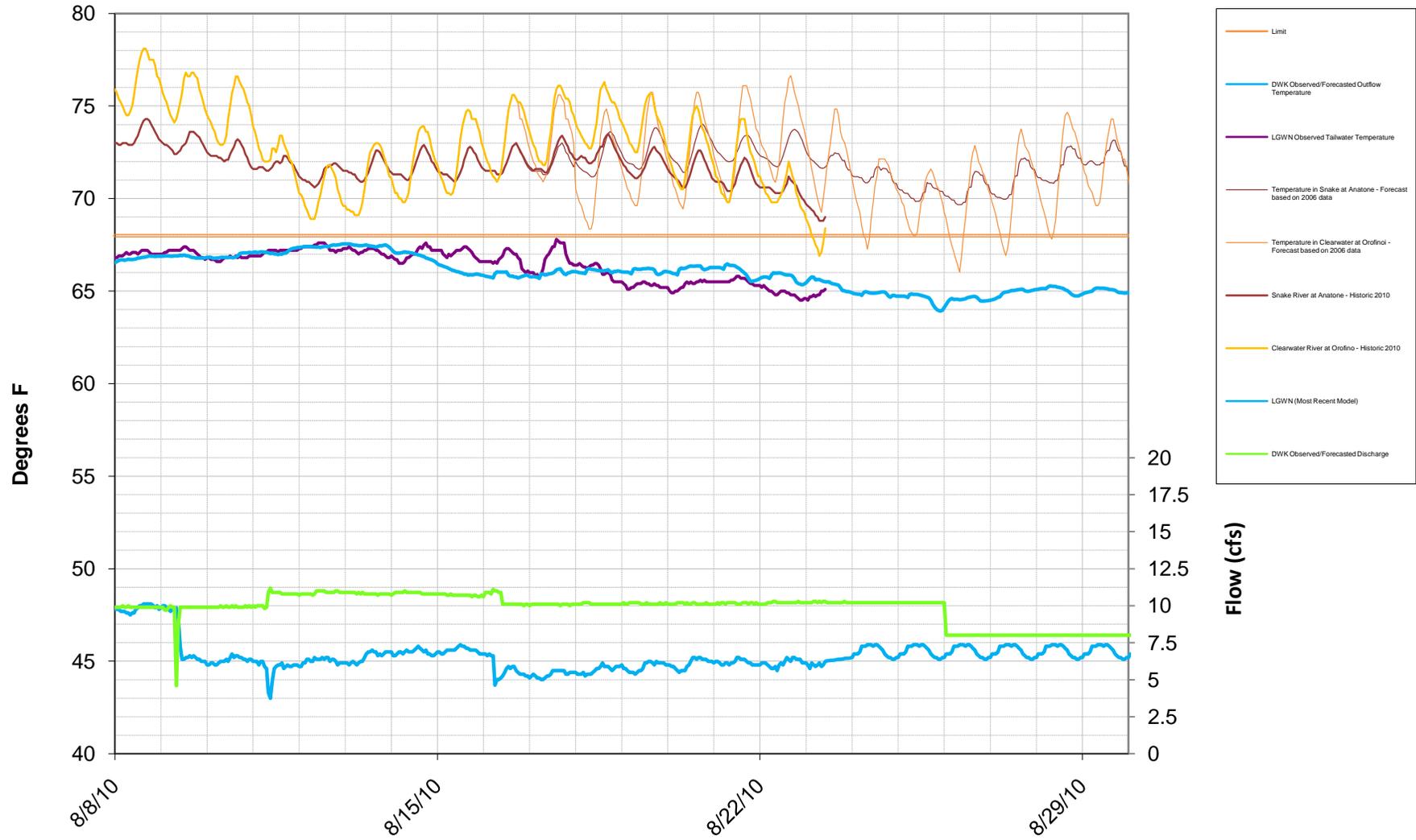


# PROJECT DISCHARGE SUMMARY

## COLUMBIA RIVER AT McNARY DAM



**Water Temperature Comparisons  
Model from 8/8/2010 to 8/30/2010  
Observed Data to 8/23/2010 (Powerhouse plus 8k after the 26th)**





## 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: 2010 C-8

TO: Brigadier General McMahon COE-NWD  
James D. Barton COE-NWD-NP-Water Management  
Steve Barton, Karl Kanbergs COE-NWD-NP-WM-RCC  
D. Feil, R. Peters, D. Ponganis COE-NWD-PDD (Fish Management Office)  
Col. Steven R. Miles COE-Portland District  
Paul Cloutier COE-Portland District (Tribal Liaison)  
Karl Wirkus USBR- PNW Regional Director  
Steven J. Wright BPA Administrator  
Steve Oliver, Greg Delwiche BPA-PG-5  
Tony Norris, Scott Bettin BPA-Operations Planning-PGPO  
Stan Speaks, Keith Hatch BIA, Northwest Regional Office

FROM: Babtist Paul Lumley, *Executive Director*

DATE: August 19, 2010

SUBJECT: **Operation of the Lower Columbia Pools for the Autumn 2010 Treaty Fishery**

The Columbia River Inter-Tribal Fish Commission, on behalf of its members, the Nez Perce Tribe, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes of the Warm Springs Reservation of Oregon, and the Yakama Nation, requests the following reservoir operations in "Zone 6" (Bonneville to McNary dams) during the 2010 autumn Treaty fishery. This effort supports the 2010 autumn ceremonial, subsistence, and commercial Treaty fishery times as established by the tribes and the Columbia River Compact.

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

**August 24, 2010, 6 am, Tuesday, through 6 pm, August 27, 2010, Friday.**

**August 30, 2010, 6 am, Monday, through 6 pm, September 3, 2010, Friday.**

**September 7, 2010, 6 am, Tuesday, through 6 pm, September 10, 2010, Friday.**

**Bonneville: Operate the pool within a 1.5 foot band during the treaty fishing period.**

**The Dalles (Celilo): Operate the pool within a 1.5 foot band during the treaty fishing period**

**John Day: Operate the pool within a 1.5 foot band during the treaty fishing period.**

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 2010 autumn treaty fishing season is of critical importance to CRITFC's member tribes. The escapement of an estimated of **483,300** (Columbia at Bonneville Dam) adult fall Chinook (above normal rank) and **499,100** steelhead (above normal rank), will create harvest opportunities for tribal fishers who will exercise their treaty rights by participating in this harvest, using platform and gillnet fishing 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 more than 1.5 foot 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 or change local currents that affect fishing success, (3) boat access problems, and (4) nets torn from their anchors if pools are raised after nets are set. Nets and gear are costly to replace and may become "ghost nets" that continue to catch fish and may negatively affect fish populations outside of the treaty fishing period.

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

If this SOR cannot be accommodated, CRITFC requests a verbal response with an explanation from the federal operators by COB Friday, August 20, 2010. Thank you for considering this request. Please contact Kyle Dittmer or Bob Heinith should you have any questions at (503) 238-0667.

cc: Tribal staffs and attorneys

## **TDG INSTANCE TYPES**

**July 1 – July 31, 2010**

Instances of when TDG levels exceed state water quality standards are classified into “types” which are shown on Table 1. These types are regionally approved and have been used since 2003. The states have requested information on TDG instances which include:

1. Date and times of exceedance
2. Amount of exceedance in percent saturation
3. Explain reason for exceedance
4. Discuss steps taken to fix the problem.

Because TDG instances are events when state TDG standards are exceeded, it is necessary to describe the current legal arrangement of how the state water quality standards are being implemented by the USACE. The 2010 Court Order requires the Corps to operate according to the 2006 fixed monitoring station (FMS) system, and the 2006 state water quality standards which is referred to as “Roll-Over”. Therefore, the Camas/Washougal FMS, and the high 12-hour average calculation method are used to manage spill.

During the spill for fish passage season from April through August the Washington Department of Ecology (WDOE) has issued a temporary %TDG Rule Adjustment to their current water quality standards, and Oregon Department of Environmental Quality (ODEQ) issued a 5-year %TDG Waiver. The state water quality standards are calculated differently from one another, and also from the 2006 Roll-Over.

USACE is currently tracking and recording the current state water quality standards as follows.

Oregon: [http://www.nwd-wc.usace.army.mil/ftppub/water\\_quality/12hr/or/201004.html](http://www.nwd-wc.usace.army.mil/ftppub/water_quality/12hr/or/201004.html)

Washington: [http://www.nwd-wc.usace.army.mil/ftppub/water\\_quality/12hr/wa/201004.html](http://www.nwd-wc.usace.army.mil/ftppub/water_quality/12hr/wa/201004.html)

Comparison of OR & WA: [http://www.nwd-wc.usace.army.mil/ftppub/water\\_quality/12hr/201004.html](http://www.nwd-wc.usace.army.mil/ftppub/water_quality/12hr/201004.html)

Table 2 provides the TDG instances that occurred in the July 2010 spill for fish passage season.

Table 1

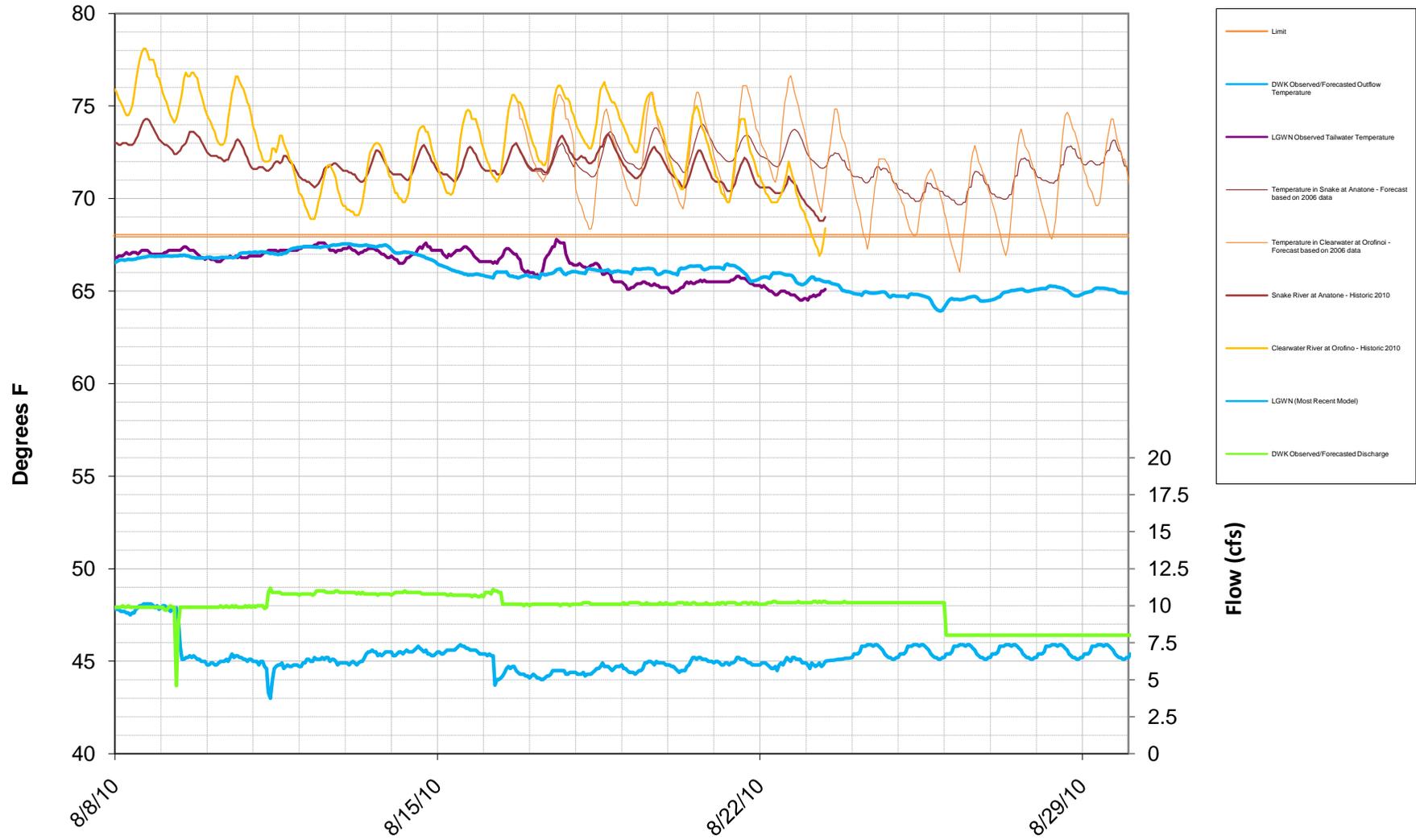
<b>Types of Instance</b>	
<b>Type 1 Condition</b>	<b>TDG levels exceed the TDG standard due to exceeding powerhouse capacity at run-of-river projects resulting in spill above the BiOp fish spill levels. This condition type includes:</b>
	<ul style="list-style-type: none"> <li>• High runoff flows and flood control efforts.</li> <li>• BPA load requirements are lower than actual powerhouse capacity.</li> <li>• Involuntary spill at Mid Columbia River dams resulting in high TDG levels entering the lower Columbia River.</li> <li>• Involuntary spill at Snake River dams resulting in high TDG levels entering the lower Columbia River.</li> </ul>
<b>Type 1a Condition</b>	<b>Planned and unplanned outages of hydro power equipment including generation unit, intertie line, or powerhouse outages.</b>
<b>Type 2 Exceedance</b>	<b>TDG exceedances due to the operation or mechanical failure of non-generating equipment. This exceedance type includes:</b>
	<ul style="list-style-type: none"> <li>• Flow deflectors unable to function for TDG abatement with tailwater elevations above 19 - 26 feet at Bonneville Dam.</li> <li>• Spill gates stuck in open position or inadvertently left open.</li> <li>• Increased spill in a bulk spill operation to pass debris.</li> <li>• Communication errors, such as teletype were transmitted but change was not timely made or misinterpretation of intent of teletype by Project operator.</li> </ul>
<b>Type 2a Exceedance</b>	<b>Malfunctioning FMS gauge, resulting in fewer TDG or temperature measurements when setting TDG spill caps.</b>
<b>Type 3 Exceedance</b>	<b>TDG exceedances due to uncertainties when using best professional judgment, SYSTDG model and forecasts. This exceedance type includes:</b>
	<ul style="list-style-type: none"> <li>• Uncertainties when using best professional judgment to apply the spill guidance criteria, e.g., travel time, degassing, and spill patterns.</li> <li>• Uncertainties when using the SYSTDG model to predict the effects of various hydro system operations, temperature, degassing, and travel time.</li> <li>• Uncertainties when using forecasts for flows, temperature and wind.</li> <li>• Unanticipated sharp rise in water temperature (a 1.5 degree F. or greater change in a day).</li> <li>• Bulk spill pattern being used which generated more TDG than expected.</li> </ul>

Exceedances are shown on the following table for July 1 to July 31, 2010.

Table 2  
Types of TDG Instances  
July 2010

DATE	Lower	Lower	Little	Little	Lower	Lower	Ice	Ice	McNary	McNary	John	John	The	The	Bon	Bon	Camas	
	Granite	Granite	Goose	Goose	Monum.	Monum.	Harbor	Harbor			Day	Day	Dalles	Dalles				
	Forebay	Tailrace	Forebay	Tailrace	Forebay	Tailrace	Forebay	Tailrace	Forebay	Tailrace	Forebay	Tailrace	Forebay	Tailrace	Forebay	Tailrace	Forebay	
7/1/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	1	
7/2/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
7/3/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
7/4/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
7/5/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
7/6/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
7/7/2010	---	---	---	---	---	2a	---	---	---	2a	---	---	---	---	---	---	---	
7/8/2010	---	---	---	---	---	2a	---	---	---	2a	---	---	---	---	3	---	3	
7/9/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3	---	3	
7/10/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3	
7/11/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
7/12/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
7/13/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
7/14/2010	---	---	---	---	---	---	---	2a	---	---	---	---	---	---	---	---	---	
7/15/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3	
7/16/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
7/17/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
7/18/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
7/19/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
7/20/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
7/21/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
7/22/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
7/23/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3	
7/24/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3	
7/25/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3	
7/26/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3	
7/27/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2a	3	
7/28/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
7/29/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
7/30/2010	---	---	---	---	---	2a	---	---	---	---	---	---	---	---	---	---	---	
7/31/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>10</b>	
<b>Monthly Grand Total</b>			<b>20</b>															

**Water Temperature Comparisons  
Model from 8/8/2010 to 8/30/2010  
Observed Data to 8/23/2010 (Powerhouse plus 8k after the 26th)**



# TECHNICAL MANAGEMENT TEAM

**BOR:** John Roache / Mary Mellema / Pat McGrane

**NOAA-F:** Paul Wagner / Richard Dominigue

**OR:** Rick Kruger / Ron Boyce

**WDFW:** Cindy LeFleur / Charles Morrill

**Salish-Kootenai:** Joe Hovenkotter

**Colville:** Sheri Sears / Steve Smith

**Shoshone-Bannock:** Lytle Denny

**Yakima:** Bob Rose

**Umatilla:** Tom Lorz (CRITFC)

**BPA:** Tony Norris / Scott Bettin / Robyn MacKay

**USFWS:** David Wills / Steve Haeseker

**ID:** Russ Kiefer / Pete Hassemer

**MT:** Jim Litchfield / Brian Marotz

**Spokane:** Deanne Pavlik-Kunkel / Andy Miller

**Kootenai:** Sue Ireland / Billy Barquin

**Warm Springs:** Brad Houslet

**Nez Perce:** Dave Statler

**COE:** Steve Barton / Karl Kanbergs / Doug Baus

## TMT CONFERENCE CALL

Wednesday September 8, 2010 9:00am - 12:00pm

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

### CONFERENCE CALL INFORMATION

Phone Number (877) 336-1274

Access Code 3871669

Security Code 6845

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 Erin Halton with any issues or concerns they would like to see addressed.  
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. Dworshak Operations - Steve Barton, COE-NWD & Steve Hall, COE-NWW
3. Autumn Treaty Fishing - Tom Lorz, CRITFC
  - a. [SOR 2010-C8](#)
4. Other
  - a. Set agenda and date for next meeting - **September 15, 2010**
  - b. [\[Calendar 2010\]](#)

*Questions about the meeting may be referred to:*

*Steve Barton at (503) 808-3945, or*

*Doug Baus at (503) 808-3995*

## COLUMBIA RIVER REGIONAL FORUM

### TECHNICAL MANAGEMENT TEAM

September 8, 2010 Conference call

#### FACILITATOR'S SUMMARY NOTES

Facilitator: Erin Halton

Notes: Robin Gumpert

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.

#### **Dworshak Operations**

Steve Barton, COE, shared that water in the system has been cool, with temperatures at Lower Granite hovering at 62°F. Dworshak is drafting to elevation 1520' using the shaping plan outlined in the Nez Perce plan and discussed at TMT during previous meetings. Steve Hall, Walla Walla District COE, added that the project reached its end of August elevation of 1535'. He reported that unit testing at the project on 9/9 will require it to deviate for just two hours (from 7-9 am), with a return to 8 kcfs outflows by Friday. He noted that the COE had coordinated with the Nez Perce Tribe regarding this deviation. To complete the planned operation to 1520', the current operation of one big and one small unit will continue until Friday night (Sept 10<sup>th</sup>), followed by a step down to the big unit only for two days, then a step down to two small units for two days, followed by a step down to one small unit for the remainder of the operation to 1520'. Once elevation 1520 is reached, there will be one more reduction to minimum (1.6 kcfs). A question was asked about the temperature monitors; specifically whether the Anatone gauge would be out for the rest of the season. Scott English, COE, will follow up with Paul Wagner, NOAA, about this.

#### **Lower Granite Forebay Navigation**

Steve Barton, COE, reported that due to recent navigation issues at Lower Granite, the COE plans to operate the forebay at elevation 734.0' minimum to alleviate the problem. This is one foot above the MOP operating range, which had been officially lifted at the end of August. Steve said the COE will also continue best efforts for no net storage in the Lower Snake River (a soft constraint.)

**Action/Next Steps:** The change was scheduled to go in to effect later this afternoon, and the COE will issue a teletype describing the change.

#### **Autumn Treaty Fishing: SOR 2010-C8**

Tom Lorz, CRITFC, thanked the COE for its continuing commitment to meet the tribes' operating requests for Autumn Treaty Fishing. The only change with the latest request, he said, was to extend the fishery through Saturday, for this week. Lorz said he expected at least one more fishery to occur, but said it would be based on the TAC recommendation. Steve Barton said the COE has instructed the project to operate per the request. One

caveat was mentioned: a triathlon is occurring at The Dalles over the weekend and the COE will try to accommodate their desire for a higher Bonneville pool to facilitate access conditions; the COE said they will also try to avoid causing pool fluctuations during the morning and evening hours, that the tribes have said are the most critical to their fishery.

**Action:** Karl Kanbergs, COE, will share the specifics of the special operation with Tom Lorz.

**Other**

Russ Kiefer, Idaho, followed up on a report he gave on sockeye at the 8/11 TMT meeting. He clarified that IDFG has been trapping, taking samples, then letting the fish continue their run; he said that some fish have been sent to the brood stock program (not all released in to Red Lake as had been previously reported). The last count was 1,135 in the Stanley Basin (compared to 491 as of 8/11.)

**Next TMT Meeting: Face to face, September 15:**

Agenda Items include:

- Notes Review
- Dworshak Operations
- Treaty Fishing
- Draft WMP
- Draft Fish Emergency Plan
- Operations Review

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**

**September 8, 2010**

Notes: Pat Vivian

***1. Introduction***

Today's TMT conference call was chaired by Steve Barton (COE) and facilitated by Erin Halton (DS Consulting). Representatives of BPA, the COE, CRIFC, NOAA, BOR, USFWS and others attended. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

***2. Dworshak Operations and Temperature Modeling***

Barton discussed the latest temperature data for the lower Snake River. The river is cold for this time of year, with Lower Granite tailwater and forebay around 62 degrees F. Dworshak is drafting steadily releasing water under the Nez Perce Agreement targeting elevation 1,520 feet by about September 19. NERC testing of the Dworshak units will cause interruptions in the scheduled discharges per the Nez Perce plan as described at the last TMT meeting on August 25. However, the COE has discussed these interruptions with the Nez Perce Tribe and ascertained that the impacts should be minimal, therefore the tribe did not object.

Steve Hall (COE) discussed the latest modeling results for Dworshak (not yet posted as of today). The reservoir reached its elevation target of 1,535 feet at 4 am on August 31. The impact of unit testing will mean dropping outflows from 8 kcfs briefly from 7-9 am tomorrow, September 9, then back up to 8 kcfs through the close of business on September 10. The Nez Perce plan then calls for dropping outflows to the big unit for 2 days (September 11-12); 2 small units for 2 days (September 13-14); and 1 small unit for 2 days (September 15-16). Paul Wagner (NOAA) asked about the schedule for removing tailwater gages, which Scott English (COE) said he'll provide via email.

***3. Autumn Treaty Fishing – SOR 2010-C8***

Tom Lorz (CRITFC) discussed the latest tribal fishery per SOR 2010-C8, submitted to the COE last week in time for the Labor Day weekend. The SOR, attached to today's agenda, called for 1.5-foot bands as a hard system constraint at the 3 lower Columbia pools from 6 am August 24 to 6 pm August 27; from 6 am August 30 to 6 pm September 3; and from 6 am September 7 to 6 pm September 10. At least one additional tribal fishery is expected in September, and CRITFC will submit an SOR to the COE for that fishery.

The COE has issued instructions to the projects to operate as requested in SOR 2010-C8, Barton said. Karl Kanbergs (COE) noted that the COE received a request to maintain a higher pool at The Dalles on Saturday, September 11, for a triathlon event. In accommodating that request, the COE will make a special effort to keep The Dalles within its 1.5-foot operating band during morning and evening hours when the tribal fishers are setting nets out or retrieving them. Lorz asked the COE to notify CRITFC via email of any expected fluctuations. TMT will check in on the treaty fishing operation at the next TMT meeting September 15.

#### **4. Lower Snake River Navigation Issues**

In response to recent concerns about navigation on the lower Snake, the COE will issue a teletype requiring a minimum elevation of 734 feet in Lower Granite forebay, Barton reported. This is basically a foot higher than the MOP range of 733-734 feet, although the projects were formally released from MOP restrictions as of midnight August 31. Lower Granite was going to operate within a 1-foot range of MOP, but now that elevation needs to be raised by a foot to address the navigation concerns. The remainder of September operation will remain as described at the last TMT meeting on August 25.

Paul Wagner (NOAA) asked whether the operation will call for 734 feet elevation as a hard constraint, with a soft constraint of up to 735 feet; Barton said yes. As noted at the last TMT meeting, best efforts will be made to have no net storage in the lower Snake River during flow augmentation. The COE will coordinate project instructions with TMT offline and issue the teletype later this morning.

#### **5. Sockeye Migration**

Russ Kiefer (Idaho) clarified a statement he made earlier to TMT regarding sockeye migration in the Stanley basin. He had stated that IDFG researchers opened the trap and allowed the fish to swim into Redfish Lake. However, researchers have been trapping the fish to take genetic samples and measurements, and a few fish are being incorporated into the broodstock program. Idaho continues to collect information on sockeye movement, with 1,135 sockeye in the basin at last count and more coming.

#### **6. Next Meeting**

The next TMT meeting will be in person on September 15.

<b>Name</b>	<b>Affiliation</b>
Tony Norris	BPA
Steve Barton	COE
Tom Lorz	CRITFC

Paul Wagner	NOAA
John Roache	BOR
Barry Espenson	CBB
Ruth Burris	PGE
Scott Bettin	BPA
Tom Le	Puget Sound Energy
Richelle Beck	DRA
Steve Hall	COE Walla Walla
Russ Kiefer	Idaho
Dave Benner	FPC
Scott English	COE
Dave Wills	USFWS
Karl Kanbergs	COE

# TECHNICAL MANAGEMENT TEAM

**BOR:** *John Roache / Mary Mellema / Pat McGrane*

**NOAA-F:** *Paul Wagner / Richard Dominigue*

**OR:** *Rick Kruger / Ron Boyce*

**WDFW:** *Cindy LeFleur / Charles Morrill*

**Salish-Kootenai:** *Joe Hovenkotter*

**Colville:** *Sheri Sears / Steve Smith*

**Shoshone-Bannock:** *Lytle Denny*

**Yakima:** *Bob Rose*

**Umatilla:** *Tom Lorz (CRITFC)*

**BPA:** *Tony Norris / Scott Bettin / Robyn MacKay*

**USFWS:** *David Wills / Steve Haeseker*

**ID:** *Russ Kiefer / Pete Hassemer*

**MT:** *Jim Litchfield / Brian Marotz*

**Spokane:** *Deanne Pavlik-Kunkel / Andy Miller*

**Kootenai:** *Sue Ireland / Billy Barquin*

**Warm Springs:** *Brad Houslet*

**Nez Perce:** *Dave Statler*

**COE:** *Steve Barton / Karl Kanbergs / Doug Baus*

## TMT MEETING

**Wednesday, September 15, 2010 9:00am - 12:00pm**

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

### CONFERENCE CALL INFORMATION

**Phone Number (877) 336-1274  
Access Code 3871669  
Security Code 6845**

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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 August 25 and September 8 [\[Meeting Minutes\]](#)
3. Autumn Treaty Fishing - *Tom Lorz, CRITFC*
4. Draft Water Management Plan - *Tony Norris, BPA*
5. Dworshak Operations - *Steve Barton, COE-NWD & Steve Hall, COE-NWW*
6. June 2010 High-Runoff Event Report - *Tony Norris, BPA*
  - a. [Report and Public Workshop](#)
7. Operations Review
  - a. Reservoirs

- i. [Summary Plots](#)
  - b. Fish
  - c. Power System
  - d. Water Quality
- 8. Other
  - a. Set agenda and date for next meeting - **September 29, 2010**
  - b. [\[Calendar 2010\]](#)

*Questions about the meeting may be referred to:*

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

*[Dong Baus](#) at (503) 808-3995*

# June 2010 High-Runoff Event Report and Schedules Public Workshop

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BPA is issuing a report outlining the steps it and others took this June during high Columbia River stream flows to avoid harming fish because of excess spill. This was the first high-runoff event since large amounts of wind power were added to the Northwest power mix.

The report and cover letter are available online at:  
[www.bpa.gov/go/reports](http://www.bpa.gov/go/reports)

**Public Workshop:** Using the report and an accompanying cover letter as the starting point for a regional conversation, BPA is hosting the first workshop on this issue Thursday, Oct. 7, 8:30 a.m. to 12:30 p.m., in the Rates Hearing Room at BPA headquarters in Portland. A phone bridge is available for participants unable to attend in person. The call in number is 503-230-5566, and the passcode is 8277#.

At this meeting BPA will review high points of the report and then facilitate an open dialogue about operational and policy tools available or required to respond effectively to similar events in the future. Paul Norman has agreed to serve as the workshop facilitator.

**To Attend:** If you plan to attend the workshop on Oct. 7 either in person or via phone bridge, please e-mail Steve Kerns at [srkerns@bpa.gov](mailto:srkerns@bpa.gov) so we know how many will attend. If your organization has questions or comments on the report you would like BPA to consider as we prepare for this workshop, please e-mail them, and any supporting information, to Mr. Kerns by Monday, Sept. 27.

Thank you,  
Bonneville Power Administration

## COLUMBIA RIVER REGIONAL FORUM

### TECHNICAL MANAGEMENT TEAM

September 15, 2010 Meeting

#### FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

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.

#### **Meeting Minutes**

TMT reviewed the Official Minutes and Facilitator Notes from meetings 8/25 and 9/8. A change was made to the 8/25 Facilitator notes, on page 1 under section “Dworshak Operations”: Strike ‘by the end of September’ in the sentence referring to refill target 1520’.

With that change, and no additional edits to the notes, both sets were considered final.

#### **Treaty Fishing**

Steve Barton, COE, reported that the operation per treaty fishing request presented at the last TMT meeting was underway and that the COE would continue to operate this way if the request were extended into next week. Tom Lorz, CRITFC, reported that as of today’s meeting, TAC had not requested additional treaty fishing operations but likely would for at least a couple days next week. He agreed that next week’s request would likely be the last for Autumn Treaty Fishing this year. TMT will revisit this item at the next scheduled meeting on 9/29.

#### **Draft Water Management Plan**

Steve Barton, COE, reminded TMT that the first draft of the WMP will be available for review by the end of September. Rick Kruger, Oregon, said FPAC proposed that any substantive changes from last year be explained in comment balloons for easy tracking. The COE agreed to this proposal and asked that, likewise, any suggested substantive changes from TMT members should be tracked with comment balloons. TMT members agreed to this process.

**Action/Next Steps:** The draft WMP will be on the agenda for the 9/29 TMT meeting.

#### **Dworshak Operations**

Steve Barton, COE, reported that temperatures were still cool at Lower Granite, with tailwater temperatures below 62°. Dworshak is being operated to continue releasing the full 200 KAF of water per the Nez Perce agreement; currently Dworshak was at elevation 1521’ and releasing 2.4 kcfs. Steve Hall, Walla Walla District COE, added that the final foot of draft will occur over the next two or three days, after which the project will go to minimums (1.5 kcfs). They also reported that scheduled maintenance for NERC

certification did occur last week, as had been discussed during the 9/8 TMT conference call. Barton said that the project was expected to hit 1520' on either 9/17 or 9/18.

**Action/Next Steps:** TMT will wrap up discussion of this Dworshak operation at the 9/29 meeting.

### **June 2010 High Runoff Event Report**

Tony Norris, BPA, referred TMT to a BPA posed as a link to the agenda. The report is part of an outreach effort to explain the steps the agency took to manage the hydro system and integrate wind energy during high runoff in June. A public meeting will be held on 10/7 from 8:30-10:30 am at BPA, Room 905. All were invited to attend, and were asked to contact Steve Kearns, [skearns@bpa.gov](mailto:skearns@bpa.gov), to RSVP.

**Action/Next Steps:** As the 10/7 date was a conflict for some TMT members, Tony said he will also invite the presenters to come talk with TMT sometime in November, during a time that works for all or most TMT members.

### **Operations Review**

**Reservoirs:** Mary Mellema, Reclamation, reported that Hungry Horse was at elevation 3544.39', releasing 3.9 kcfs and targeting an end of September elevation of 3540'. Grand Coulee was at elevation 1279.8' and targeting 1283' at the end of September. Reclamation was commended for a job well done managing Hungry Horse this year.

Steve Barton, COE, reported on COE projects. Libby inflows were 4.4 kcfs with outflows of 6 kcfs; the project was targeting elevation 2439' by the end of September.

- Jim Litchfield, MT, suggested that this year's operations again raise the need to look at a better operation for Libby. Steve Barton acknowledged this and said Libby is a complex reservoir with a lot of different demands.
  - **Action:** Barton offered to take the feedback to his Seattle District COE counterparts to discuss the need to balance Libby operations to meet local and system-wide needs.

Albeni Falls was at 2061.88' with inflows of 2.9 kcfs and outflows of 15 kcfs. Dworshak inflows were .8 kcfs and 2.4 kcfs outflows and an elevation of 1521'. Lower Granite outflows were 27.5 kcfs, with a weekly average of 25.9 kcfs and a summer seasonal average of 47.0 kcfs (the summer target was 50 kcfs). Priest Rapids outflows were 61.1 kcfs with a weekly average of 51.2 kcfs. McNary flows were 87.8 kcfs, with a weekly average 76.3 kcfs and a seasonal average 154.8 kcfs (summer target 200 kcfs). Bonneville outflows were 93.1 kcfs with an 85.2 kcfs weekly average.

**Fish:** Tom Lorz, CRITFC, reported on the status of the fish. Adults at Bonneville were past their peak. Adult chinook numbers were strong; jacks were looking good, close to the 10-year average; steelhead numbers were still strong; and Coho were above the 10-year average. This year shows a strong adult return to the Snake River. The 13 day (9/1-9/15) total subyearling Chinook index was approximately 2,130 at Lower Granite Dam. The 13 day (9/1-9/15) total subyearling Chinook index was approximately 57,500 at McNary, John Day, and Bonneville. The 13 day (9/1-9/15) average subyearling Chinook passage at McNary Dam was approximately 1,800.

Power system – Nothing to report.

Water quality – Nothing to report.

**Next Meeting: Face to Face, 9/29**

Agenda items include:

- Autumn Treaty Fishing wrap-up
- Draft Water Management Plan
- Dworshak Operations wrap-up
- Operations Review

**Columbia River Regional Forum**  
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**September 15, 2010**

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***1. Introduction***

Today's TMT conference call was chaired by Steve Barton (COE) and facilitated by Erin Halton (DS Consulting). Representatives of Oregon, Montana, USFWS, COE, BOR, BPA, Idaho, CRITFC and others attended. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

***2. Review Meeting Minutes for August 25 and September 8***

There was one substantive edit to the August 25 facilitator's notes:

- In the last paragraph on page 1 under Dworshak Operations, delete "by the end of September" from "Using a two-day step-down approach to reach elevation 1,520 feet..." This change clarifies that elevation 1,520 feet will be attained on September 18-19, not September 30.

There were no other comments or changes to the facilitator's notes or official minutes for August 25 and September 8, so with this change they will be considered final.

***3. Autumn Treaty Fishing***

There will probably be another treaty fishery SOR submitted for next week, Barton and Karl Kanbergs (COE) reported. Barton noted that if next week's SOR is like the current one, the COE will probably implement it as written. The tribes met this morning to decide, based on this week's catch numbers, whether another fishery will be scheduled for next week, Tom Lorz (CRITFC) reported. Lorz doubted there would be more fishing the following week.

The next TMT meeting on September 29 will include a treaty fishery wrap-up. Any new information between now and then will be emailed to TMT members.

***4. Draft Water Management Plan***

Barton gave TMT a heads-up that the first draft of the final 2010 Water Management Plan will be posted to the TMT web page for review no later than the end of September. The next TMT meeting on September 29 will include a discussion of comment period deadlines and the general process for updating

the 2010 WMP and fall/winter update. The WMP draft will be posted in Microsoft Word so comments can be submitted in “track changes” format. Significant layout and formatting changes to the 2010 WMP will be merged into the document before it’s posted for comments. Rick Kruger (Oregon) asked that the COE explain any substantive changes from the last version in the form of a comment “balloon” next to the change. The COE will document the reasoning behind substantive changes; Barton asked commenters to do the same.

## ***5. Dworshak Operations***

Temperatures in the Lower Granite forebay and tailwater remain cold at less than 62 degrees F, Barton reported. The project is releasing the last of the 200 kaf of Nez Perce entitlement water per the 2010 Dworshak plan. The reservoir elevation is currently 1,521 feet. This morning, outflows dropped from 4.8 kcfs to 2.4 kcfs for the last few days of drafting toward elevation 1,520 feet, probably on September 17-18.

NERC certification testing of the Dworshak units caused a slight interruption in flows, which the COE coordinated with the Nez Perce Tribe as reported at the September 8 TMT meeting. The tribe had no objections to the testing. When the reservoir hits elevation 1,520 feet on September 17-18, the project will go to minimum flows of 4.5 kcfs through the generators plus 1.6 kcfs over the spillway. There will be a wrap-up discussion of Dworshak operations at the next TMT meeting on September 29.

## ***6. June 2010 High-Runoff Event Report***

In response to a high level of interest among ratepayers, customers and utilities, BPA is doing regional outreach on how the June 2010 high-runoff event was handled with 2,800 MW of wind capacity in BPA’s balancing authority area. This year marks the first time high runoff has coincided with a significant amount of wind capacity installed on the system, Tony Norris (BPA) noted. A report on this issue is linked to today’s TMT agenda.

There will be a public meeting October 7 in the BPA rates hearing room to discuss the June 2010 high-runoff event. Norris has requested that the presentation, which is a couple of hours long, be shared with TMT members. This would be an appropriate topic for the TMT year-end review but the presentation is too lengthy. Lorz suggested that BPA post the presentation prior to the TMT presentation so TMT members can review it and bring questions. Norris will work with other TMT members to set a date for the presentation, probably sometime in November. With a currently installed wind capacity of over 3,000 MW on the system now, interest in this topic will no doubt continue to grow.

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

**a. Reservoirs.** Hungry Horse is at elevation 3,544.39 feet, releasing 3.9 kcfs, headed toward elevation 3,540 feet at the end of September. Grand Coulee is at elevation 1,279.8 feet, headed toward the end of September elevation target of 1,283 feet.

Libby inflows are 4.4 kcfs. The project has been discharging 6-7 kcfs over the last several days, headed toward an end of September elevation target of 2,439 feet. Jim Litchfield (Montana) commented that the combination of VARQ flood control, sturgeon and salmon operations doesn't seem to be well integrated. He suggested TMT "start with a clean sheet of paper" to work toward a better operation, focusing on November and December leading to flood control in January. The COE will note the feedback and work on it, Barton replied.

Albeni Falls is at elevation 2,061.88 feet and discharging 15 kcfs, with inflows of 12.9 kcfs as it drafts toward a minimum elevation of 2,061 feet. The project is back to normal operations after adjusting flows to assist with work at Boundary Dam.

Dworshak inflows are currently 0.8 kcfs. Discharges dropped this morning from 4.8 to 2.4 kcfs.

Seasonal flows for summer are now available, as well as weekly average flows. Lower Granite discharges are 27.5 kcfs. The summer seasonal average was 47.0 kcfs, just missing the 50 kcfs flow objective. Lower Granite weekly average discharges are 25.9 kcfs. Priest Rapids discharges are 61.1 kcfs, with a weekly average of 51.2 kcfs. McNary is discharging 87.8 kcfs, with a seasonal average of 154.8 kcfs which fell short of the 200 kcfs objective, reflecting the below average water year. The weekly average discharge for McNary is 76.3 kcfs. Bonneville is discharging 87.8 kcfs, with a weekly average discharge of 85.2 kcfs. The lowest 7-day average at Bonneville has been 72.7 kcfs, and for the most part weekly averages have been above 80 kcfs. There was general acknowledgement that flows this year turned out to be better than predicted.

**b. FISH.** Tom Lorz (CRITFC) reported on adult and juvenile passage numbers according to the DART website. Fall Chinook adult passage counts are dropping as forecasted for this time of year. Dave Wills (USFWS) noted that the seasonal counts for fall chinook are above the 10 year average but not as strong as predicted. Steelhead numbers are surprisingly good, Lorz said. However, coho counts are lower than desired. Jack returns are above average. According to PIT tag data, 2010 looks like a decent year for Snake River returns, which is good news.

Juvenile passage numbers are dropping, and those that remain in the system are either wild fish or originated in the Clearwater River. McNary counts

are down to less than 1,000 fish per day on some days. These numbers are typical for September.

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

**d. Water Quality.** There was nothing to report today.

### **8. Next Meeting**

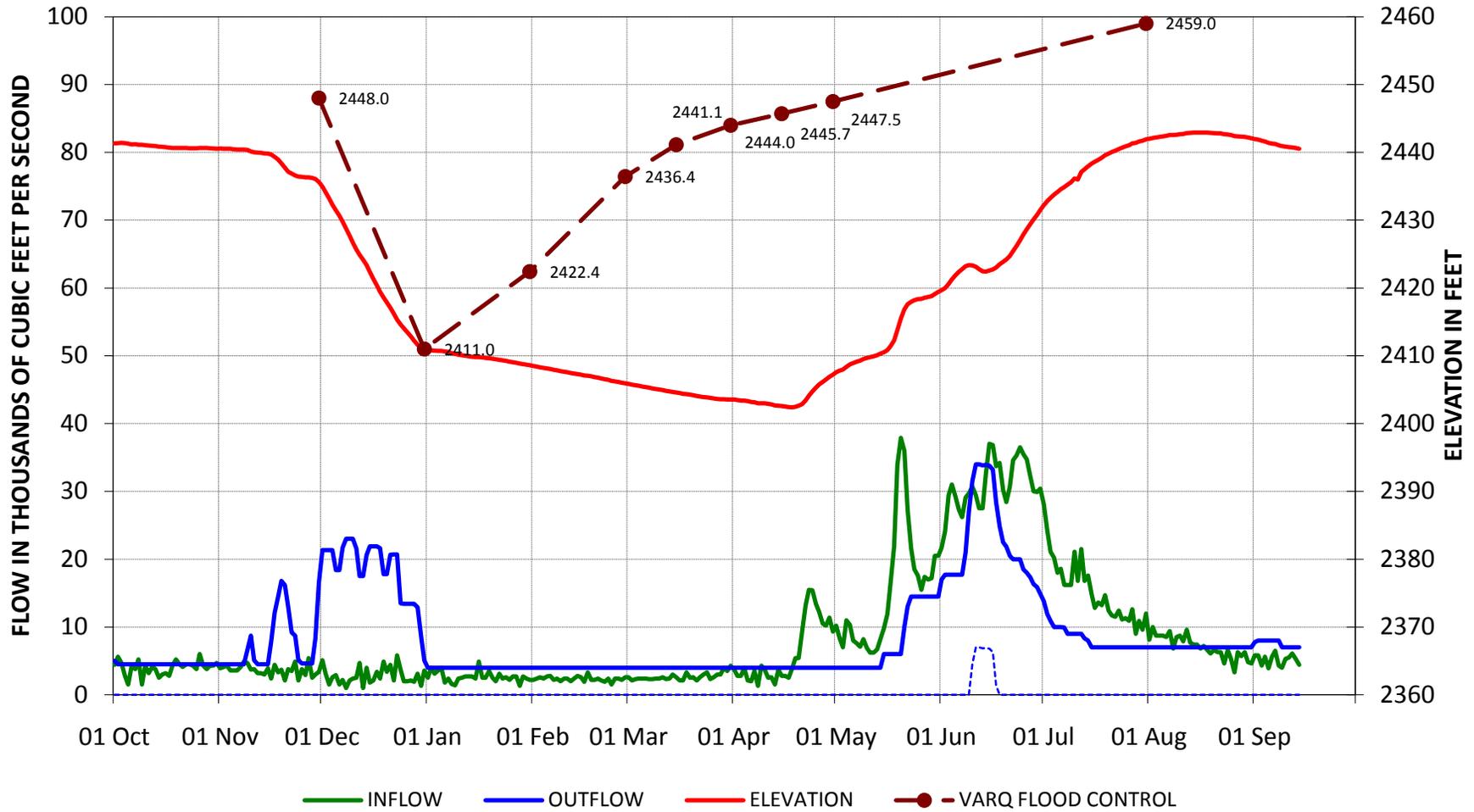
The next TMT meeting will be in person September 29. A final report on autumn treaty fishing, discussion of the draft Water Management Plan, wrap-up of Dworshak operations, and the usual operations review are on the agenda.

<b>Name</b>	<b>Affiliation</b>
Rick Kruger	Oregon
Jim Litchfield	Montana
Dave Wills	USFWS
Steve Barton	COE
Mary Mellema	BOR
Tony Norris	BPA
Kim Johnson	COE
Steve Hall	COE Walla Walla
Rob Dies	Iberdrola Renewables
Karl Kanbergs	COE
Russ Kiefer	Idaho
Tom Lorz	CRITFC

<i>Phone:</i>	
John Hart	EWEB
Alex Cibarra	Grant PUD
Tim Heizenrader	Centaurus
Margaret Filardo	FPC
Russ George	WMC
Shane Scott	PPC
Rob Allerman	Deutsch Bank
Ruth Burris	PGE
Barry Espenson	CBB
Doug Vine	Thompson Reuters
Richelle Beck	DRA
Tom Le	Puget Sound Energy
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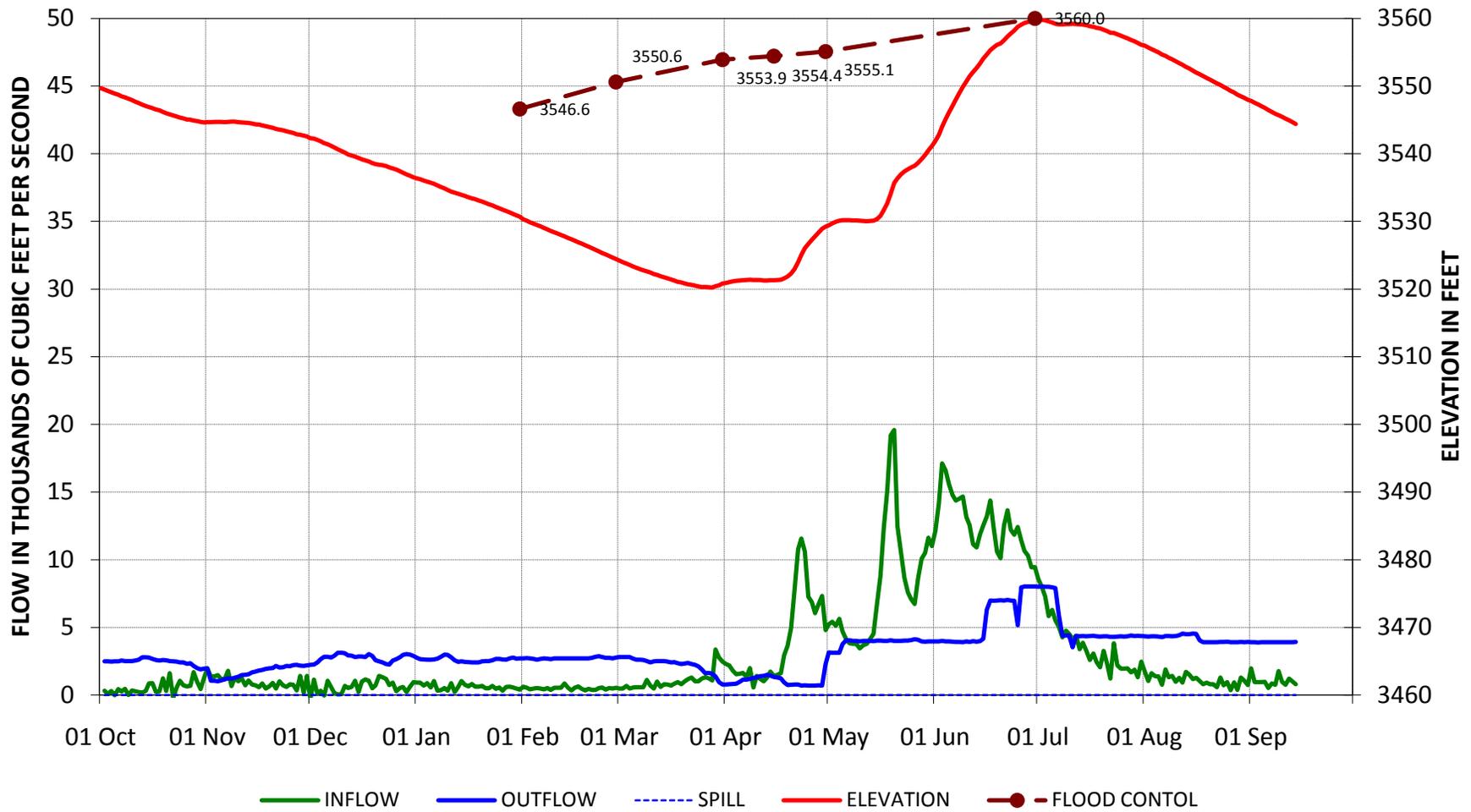
# LIBBY DAM AND RESERVOIR

## Water Year 2010



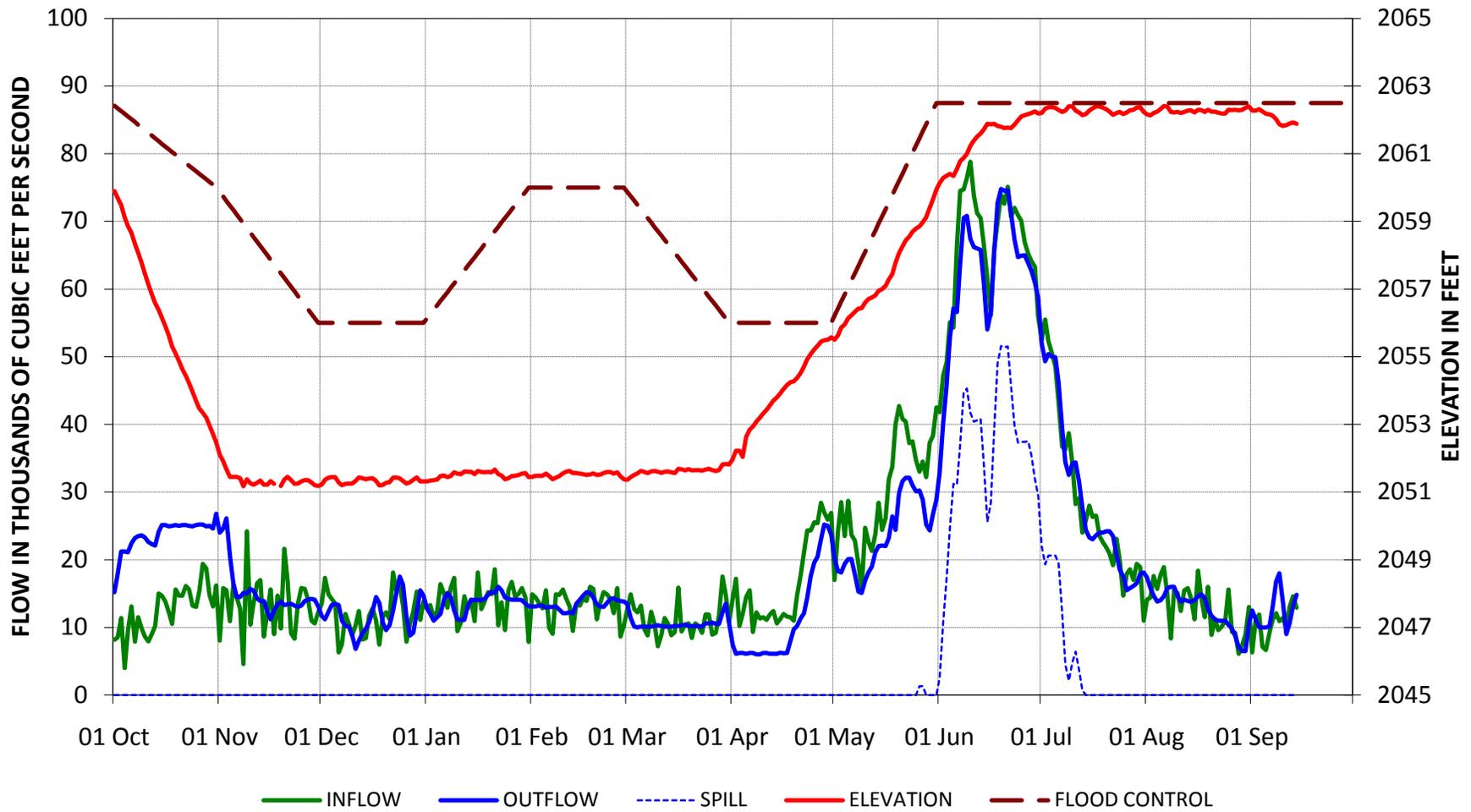
# HUNGRY HORSE DAM AND RESERVOIR

## Water Year 2010



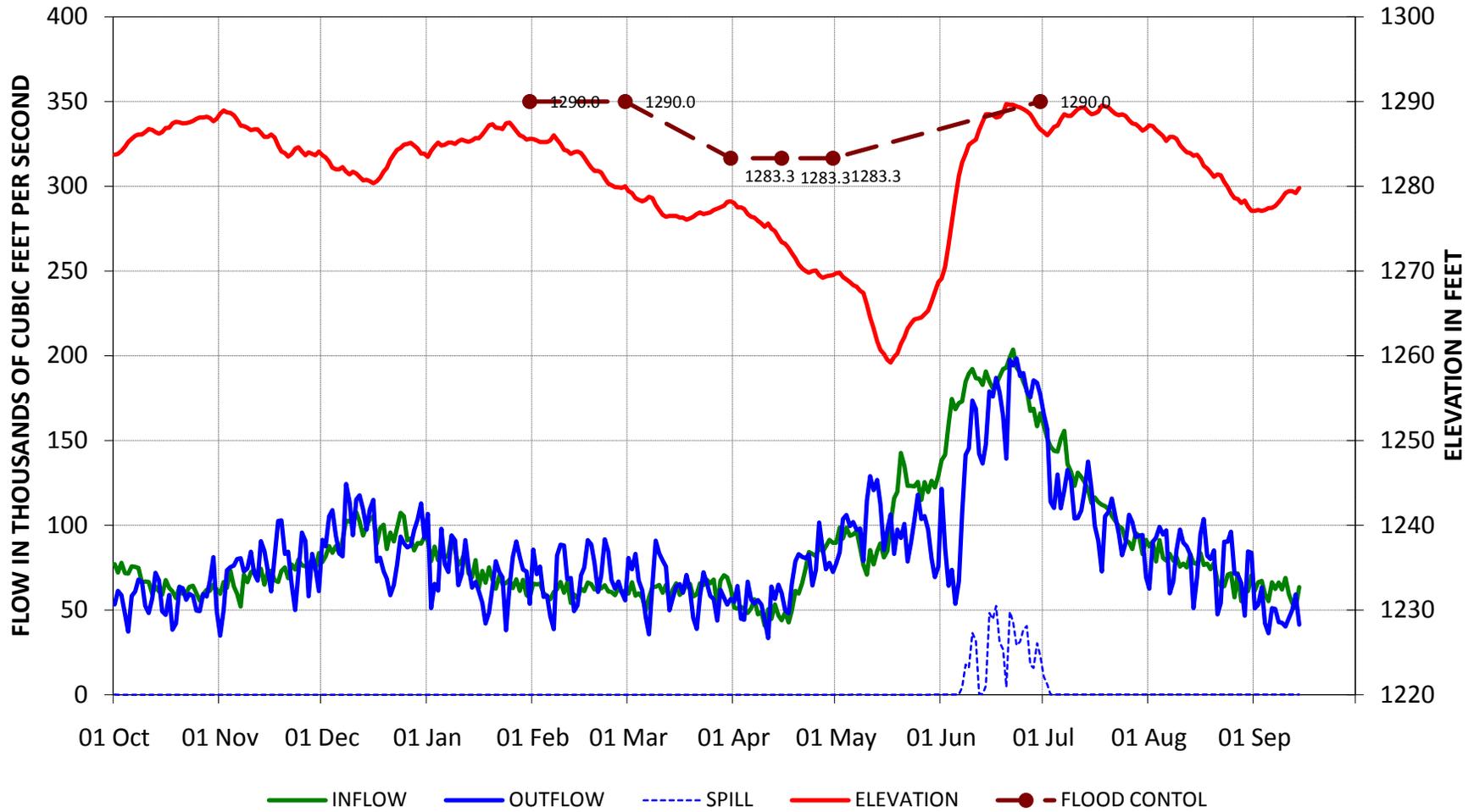
# ALBENI FALLS DAM AND RESERVOIR

## Water Year 2010



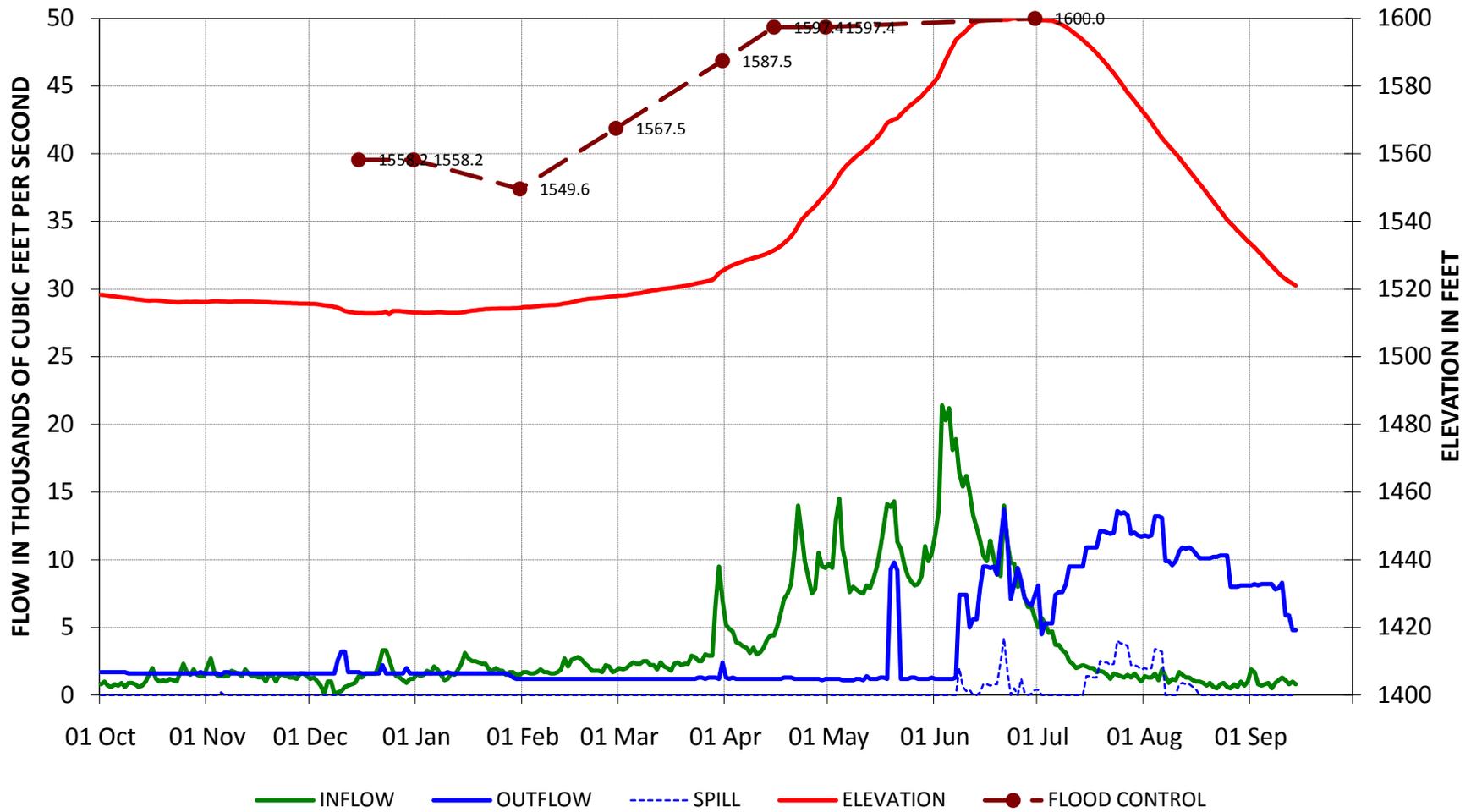
# GRAND COULEE DAM AND RESERVOIR

## Water Year 2010



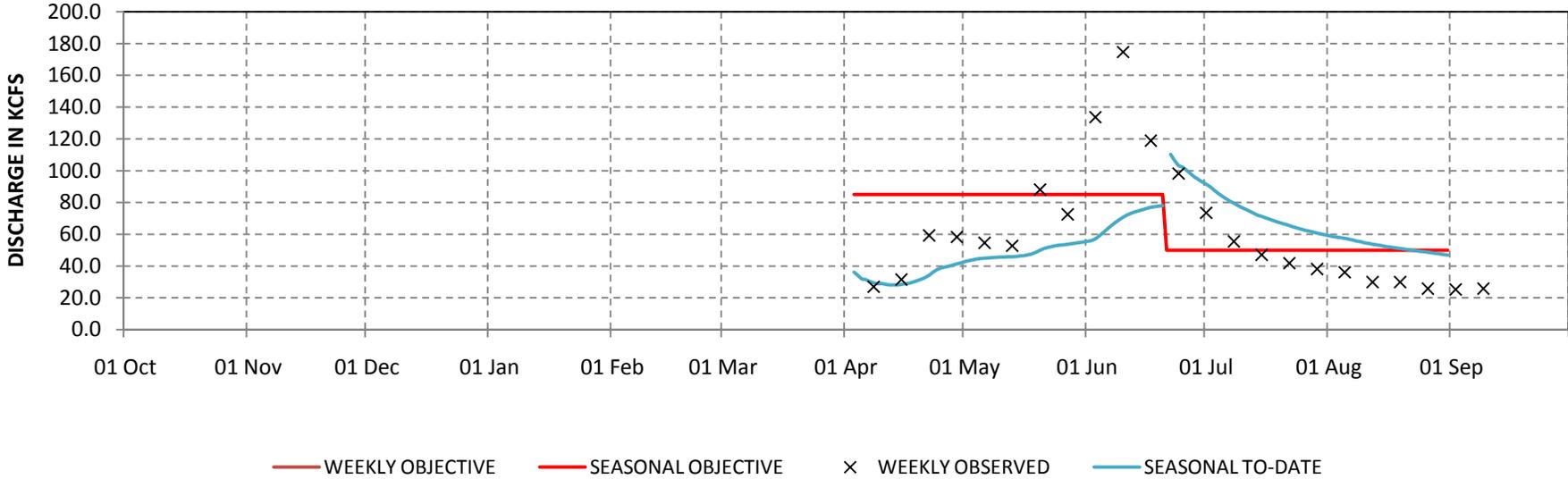
# DWORSHAK DAM AND RESERVOIR

## Water Year 2010

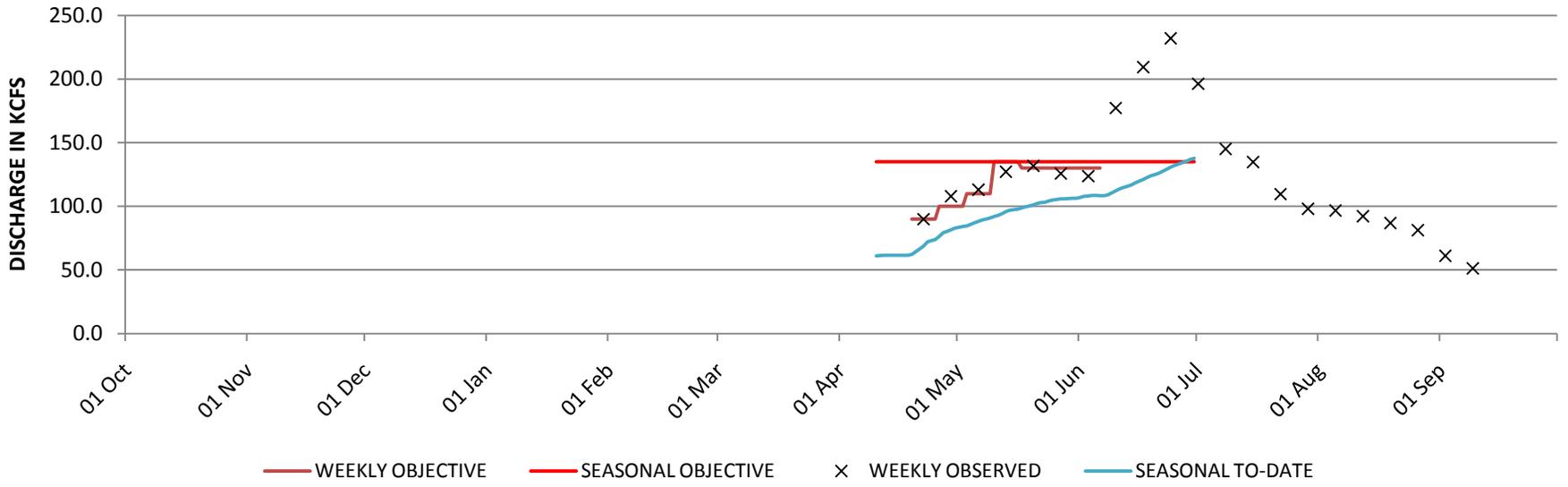
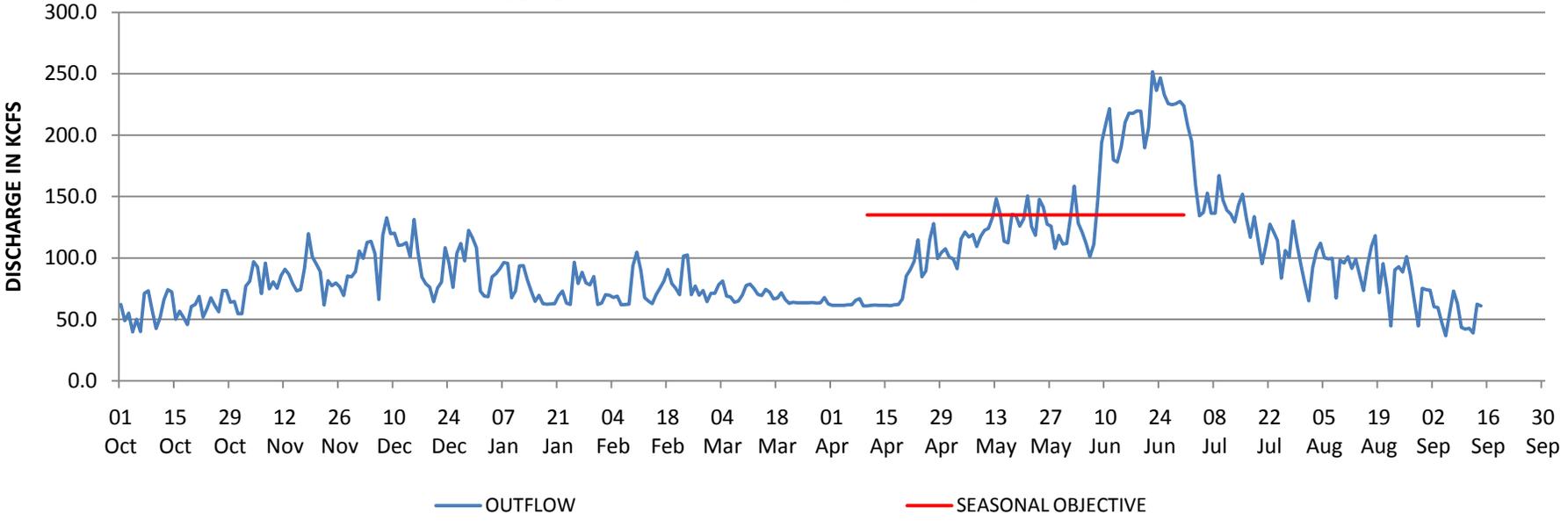


# PROJECT DISCHARGE SUMMARY

## SNAKE RIVER AT LOWER GRANITE DAM

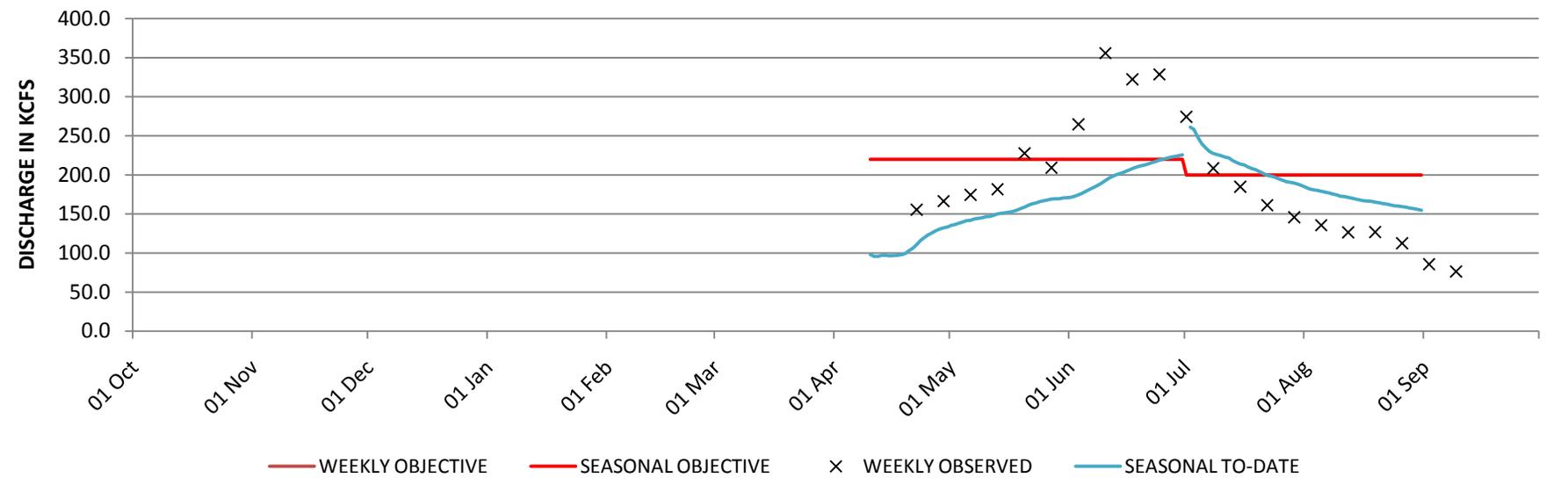
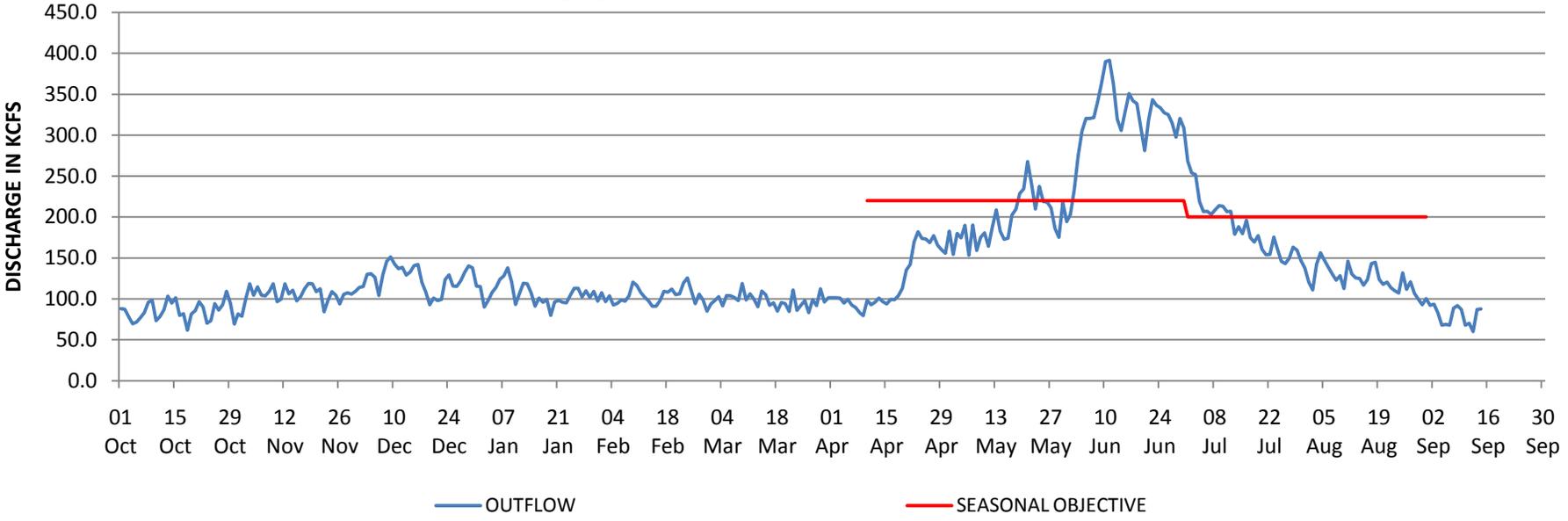


# PROJECT DISCHARGE SUMMARY COLUMBIA RIVER AT PRIEST RAPIDS DAM



# PROJECT DISCHARGE SUMMARY

## COLUMBIA RIVER AT McNARY DAM



# TECHNICAL MANAGEMENT TEAM

**BOR:** John Roache / Mary Mellema / Pat McGrane

**NOAA-F:** Paul Wagner / Richard Dominigue

**OR:** Rick Kruger / Ron Boyce

**WDFW:** Cindy LeFleur / Charles Morrill

**Salish-Kootenai:** Joe Hovenkotter

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**Kootenai:** Sue Ireland / Billy Barquin

**Warm Springs:** Brad Houslet

**Nez Perce:** Dave Statler

**COE:** Steve Barton / Karl Kanbergs / Doug Baus

## TMT CONFERENCE CALL

Wednesday September 22, 2010 11:00am - 12:00pm

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

### CONFERENCE CALL INFORMATION

Phone Number (888) 285-4585  
Code 107522

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## AGENDA

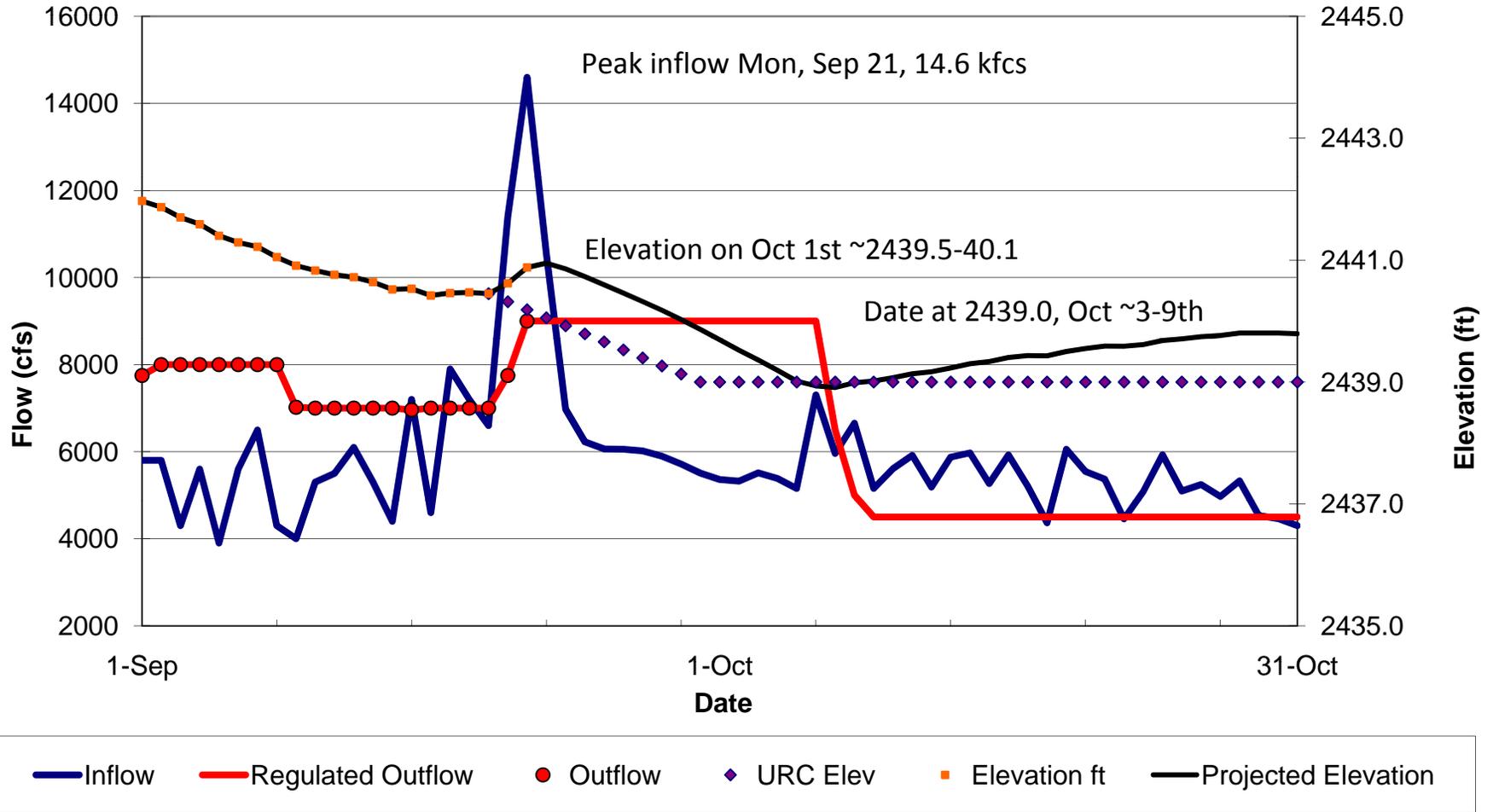
1. Welcome and Introductions
2. Libby September Operations - Karl Kanbergs, COE-NWD, Doug Baus, COE-NWD & Kristin Mickelson COE-NWS
  - a. [9 kcfs](#)
  - b. [12 kcfs](#)
3. Other
  - a. Set agenda and date for next meeting - **September 29, 2010**
  - b. [\[Calendar 2010\]](#)

*Questions about the meeting may be referred to:*

*Steve Barton at (503) 808-3945, or*

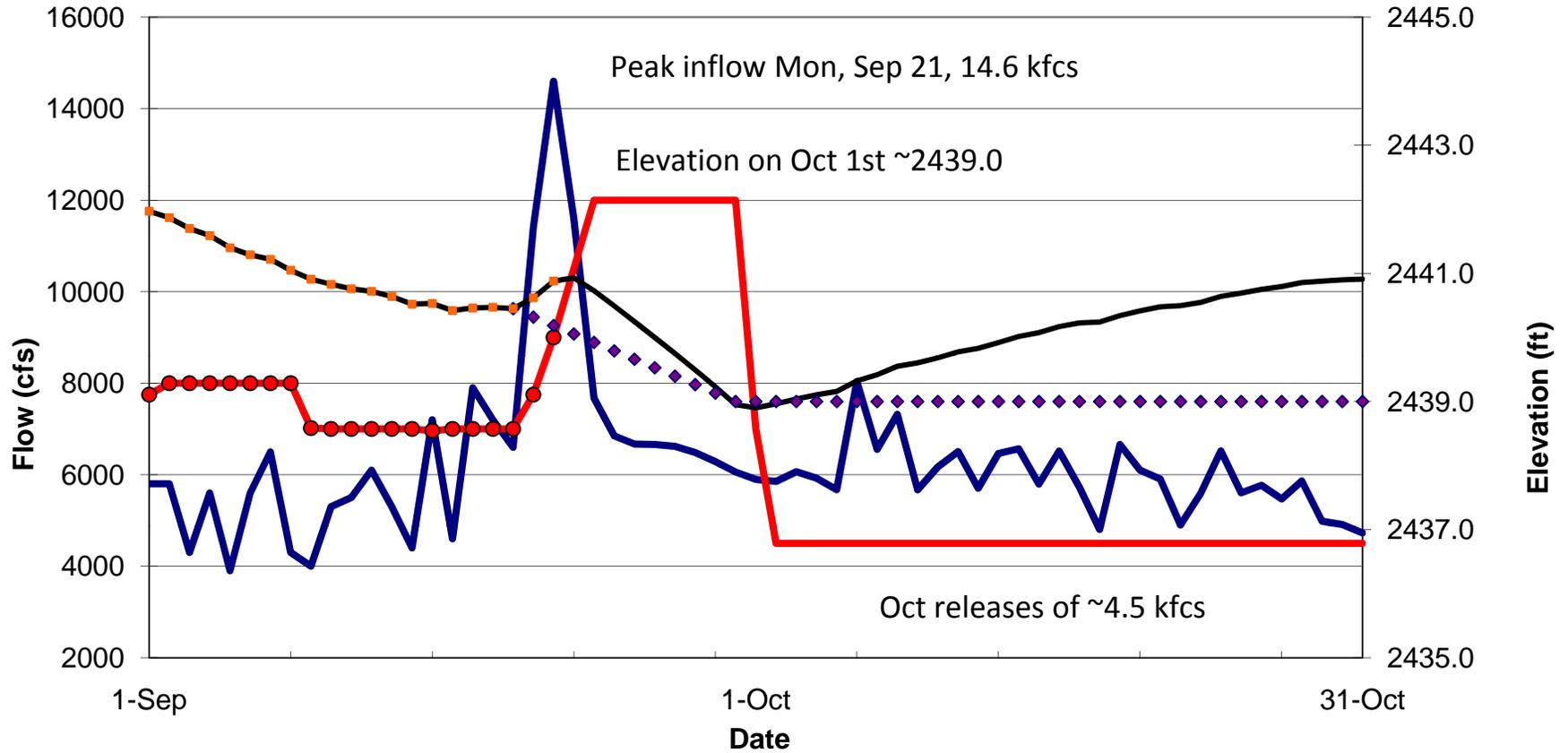
*Doug Baus at (503) 808-3995*

**Figure 1. Libby Reservoir Operations Sep-Oct 2010**  
**End of September Operation, holding release at 9 kcfs, until reaching 2439.0'**



**Figure 2. Libby Reservoir Operations Sep-Oct 2010**

**End of September Operation, ramping up to 12 kcfs to try and reach 2439.0' on Sept 30**



# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

September 22, 2010 Conference Call

### FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Erin Halton

Notes: Robin Gumpert

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.

#### **Libby Operations**

The COE convened an unscheduled TMT call to discuss September operations at Libby. Karl Kanbergs began with a report on recent increased inflows (14 kcfs) to the project due to a strong rain event that had occurred in the Kootenai basin earlier this week. Libby was currently operating 9 kcfs outflows. This increased precipitation was an unusual and unpredicted event, and had not been accounted for in the forecasting for operations at Libby. Kanbergs said the project was tracking behind modeled operations to reach a target elevation 2439' by the end of September, per the FCRPS BiOp. In addition, he reported on behalf of the project that fluctuating flows were negatively impacting the channels in the area.

Kristian Mickelson, COE, referred TMT to graphs linked to the TMT agenda, showing two operating scenarios for managing the excess water. Scenario “1” depicted an operation holding at 9 kcfs until the project reached 2439' (around the first week of October), then gradually ramping down to get to one unit, 4.5 kcfs. Scenario “2” depicted an increase to 12 kcfs today through the end of September with a goal of reaching 2439' by 9/30, then ramping down to 4.5 kcfs.

The following bullets summarize questions, discussion and comments from participants on the call:

- Maintaining stable flows would be biologically more beneficial than targeting a project elevation by the end of the month.
- A gradual ramp-down is also important from a biological standpoint. The COE shared that the daily ramp down rates at Libby would be as follows: 9 kcfs; 6.5 kcfs; 5.5 kcfs; 4.5 kcfs.
- With few juveniles migrating in-river, targeting 2439' would be of less value than maintaining stable habitat conditions up river. The BiOp supports the best biological operation (in season management over targets when it is the better biological choice).
- What would be the impacts to December operations at Libby? The COE Seattle District responded that this operation would have no impact on December

operations, since December operations are guided by the December water supply forecast.

- Appreciate the flexibility being used by the COE to seek TMT input for the best operation, even if it requires a deviation from the RPA requirements in the BiOp.

The discussion showed a leaning toward operating to Option “1”, holding the project at 9 kcfs until reaching 2439’ – not by the end of September – and then gradually ramping down to 4.5 kcfs. The COE requested specific polling on the proposed operation, and the following bullets summarize the poll:

- Montana – Prefer Option 1 as it preserves the stable river environment as best as possible given the conditions. Minimizing the period between draw down and transition to ramp up for power generation is also a benefit.
- Oregon – No objection to Option 1; defer to NOAA on this issue.
- Idaho – No preference; no objection to Option 1 (or any other operation decision made by the COE).
- Washington – Not present on today’s call.
- CTUIR – No objection to Option 1.
- Colville – In favor of supporting the needs expressed by Montana.
- Confederated Salish & Kootenai Tribes - No objection to Option 1.
- Kootenai Tribe of Idaho - (\*see Note below)
- Nez Perce – Not present on the call.
- USFWS – Supports Option 1.
- NOAA – Supports Option 1 as a biologically sound operation.
- BPA – Supports Option 1 and holding 9 kcfs until ready to ramp down.
- BOR – Supports Option 1. Hungry Horse is experiencing a similar issue with above normal precipitation and higher inflows

\*Note: Sue Ireland, Kootenai Tribe, sent a follow up email re: this issue:

*“To the TMT and interested parties - I apologize that I did not look at this email in time to participate in the conference call but I would to support what Greg Hoffman wrote in his email below and also to support a flat flow of 9 kcfs or lower until the end of the month.”*

**Planned Operation**: Karl Kanbergs, COE, said that the COE will coordinate with the Nez Perce Tribe and make a decision around the operation later this afternoon. The COE will send an email notification with the decision to TMT by the end of the day. TMT will revisit this item at their next scheduled meeting on 9/29.

TMT members expressed appreciation to the COE for bringing TMT in to the discussion about how to move forward on this operation, and all participants were thanked for making themselves available for the call on such short notice.

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**

**September 22, 2010**

Notes: Pat Vivian

**1. Introduction**

Today's unscheduled TMT conference call was chaired by Karl Kanbergs (COE) and facilitated by Erin Halton (DS Consulting). Representatives of the COE, Colville Tribe, NOAA, USFWS, Idaho, Montana, BOR, Umatilla Tribe, Oregon, Salish-Kootenai Tribe, BPA, FPC, CRITFC and others attended. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

**2. Libby September Operations**

Faced with more runoff than predicted due to a late weekend storm, the COE convened today's TMT call on very short notice to discuss management of Libby outflows. In order to meet the FCRPS BiOp elevation target of 2,439 feet in Libby reservoir by the end of September, the COE estimated that outflows would have to increase to 12 kcfs starting today.

TMT was essentially asked whether it would be worth missing the BiOp elevation target in order to stabilize Libby outflows for the sake of minimizing negative biological impacts on the river reach below Libby Dam. The discussion centered around two alternatives, with graphs linked to today's agenda. Alternative 1 (Figure 1) proposes holding Libby releases at 9 kcfs until elevation 2,439 feet is attained, estimated by October 3 - 9. Alternative 2 (Figure 2) depicts an attempt to reach the BiOp elevation target of 2,439 feet on September 30 by ramping up now to 12 kcfs. Both alternatives include a ramp down to one unit best efficiency (about 4.5 kcfs) after the 2439 foot elevation is reached, following establish hourly and daily ramp rates.

All TMT members involved either supported Alternative 1 or voiced no objection to it:

- **Montana** – Supports Alternative 1. Expressed appreciation for the COE's analysis and consultation with TMT on this.
- **Idaho** – No objection to Alternative 1.
- **Salish-Kootenai Tribe** – Not present during call; later they emailed COE in support of Alternative 1.

- **Colville Tribe** – Supports Alternative 1.
- **USFWS** – Supports Alternative 1.
- **Oregon** – No objection. Oregon was neutral on the operation.
- **NOAA** – Supports Alternative 1. Echoed Montana’s appreciation for the COE’s willingness to modify BiOp operations when meeting the RPA would be detrimental to the river environment.
- **BOR** – Supports Alternative 1.
- **BPA** – Supports Alternative 1.
- **Nez Perce** – Not present on call; COE conferred with them afterward and they voiced no objection to Alternative 1.
- **Umatilla** – No objection.

Later in the day the COE indicated to the group that they will implement Alternative 1 and keep TMT informed of Libby operations as needed.

### **3. Next Meeting**

The next TMT meeting will be in person September 29. The agenda will cover treaty fishing, the draft Water Management Plan, Dworshak operations, Libby operations, and the usual operations review.

<b><i>Name</i></b>	<b><i>Affiliation</i></b>
Karl Kanbergs	COE
Doug Baus	COE
Steve Smith	Colville Tribe
Rich Dominigue	NOAA
Dave Wills	USFWS
Russ Kiefer	Idaho
Brian Marotz	Montana
Jim Litchfield	Montana
John Roache	BOR
Tom Lorz	Umatilla
Ron Boyce	Oregon
Joe Hovenkotter	Salish-Kootenai
Jason Flory	USFWS
Kristian Mickelson	COE
Erik Volkman	BPA
Dave Benner	FPC
Margaret Filardo	FPC

Kyle Dittmer	CRITFC
Carolyn Fitzgerald	COE
Greg Hoffman	COE
Scott Bettin	BPA
Scott English	COE

# TECHNICAL MANAGEMENT TEAM

**BOR:** John Roache / Mary Mellema / Pat McGrane

**NOAA-F:** Paul Wagner / Richard Dominigue

**OR:** Rick Kruger / Ron Boyce

**WDFW:** Cindy LeFleur / Charles Morrill

**Salish-Kootenai:** Joe Hovenkotter

**Colville:** Sheri Sears / Steve Smith

**Shoshone-Bannock:** Lytle Denny

**Yakima:** Bob Rose

**Umatilla:** Tom Lorz (CRITFC)

**BPA:** Tony Norris / Scott Bettin / Robyn MacKay

**USFWS:** David Wills / Steve Haeseker

**ID:** Russ Kiefer / Pete Hassemer

**MT:** Jim Litchfield / Brian Marotz

**Spokane:** Deanne Pavlik-Kunkel / Andy Miller

**Kootenai:** Sue Ireland / Billy Barquin

**Warm Springs:** Brad Houslet

**Nez Perce:** Dave Statler

**COE:** Steve Barton / Karl Kanbergs / Doug Baus

## TMT MEETING

Wednesday September 29, 2010 9:00am - 12:00pm

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

### CONFERENCE CALL INFORMATION

Phone Number (877) 336-1274  
Access Code 3871669  
Security Code 6845

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 Erin Halton with any issues or concerns they would like to see addressed.  
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 from September 15 and 22 [\[Meeting Minutes\]](#)
3. Dworshak Operations - Steve Barton, COE-NWD & Steve Hall, COE-NWW
4. Water Management Plan - Steve Barton, COE-NWD
5. Autumn Treaty Fishing Summary - Tom Lorz, CRITFC
  - a. [SOR 2010-C10](#)
6. Libby Operation - Steve Barton, COE-NWD
  - a. [Libby Reservoir Operations Sept-Oct 2010](#)
7. Albeni Falls Update - Steve Barton, COE-NWD

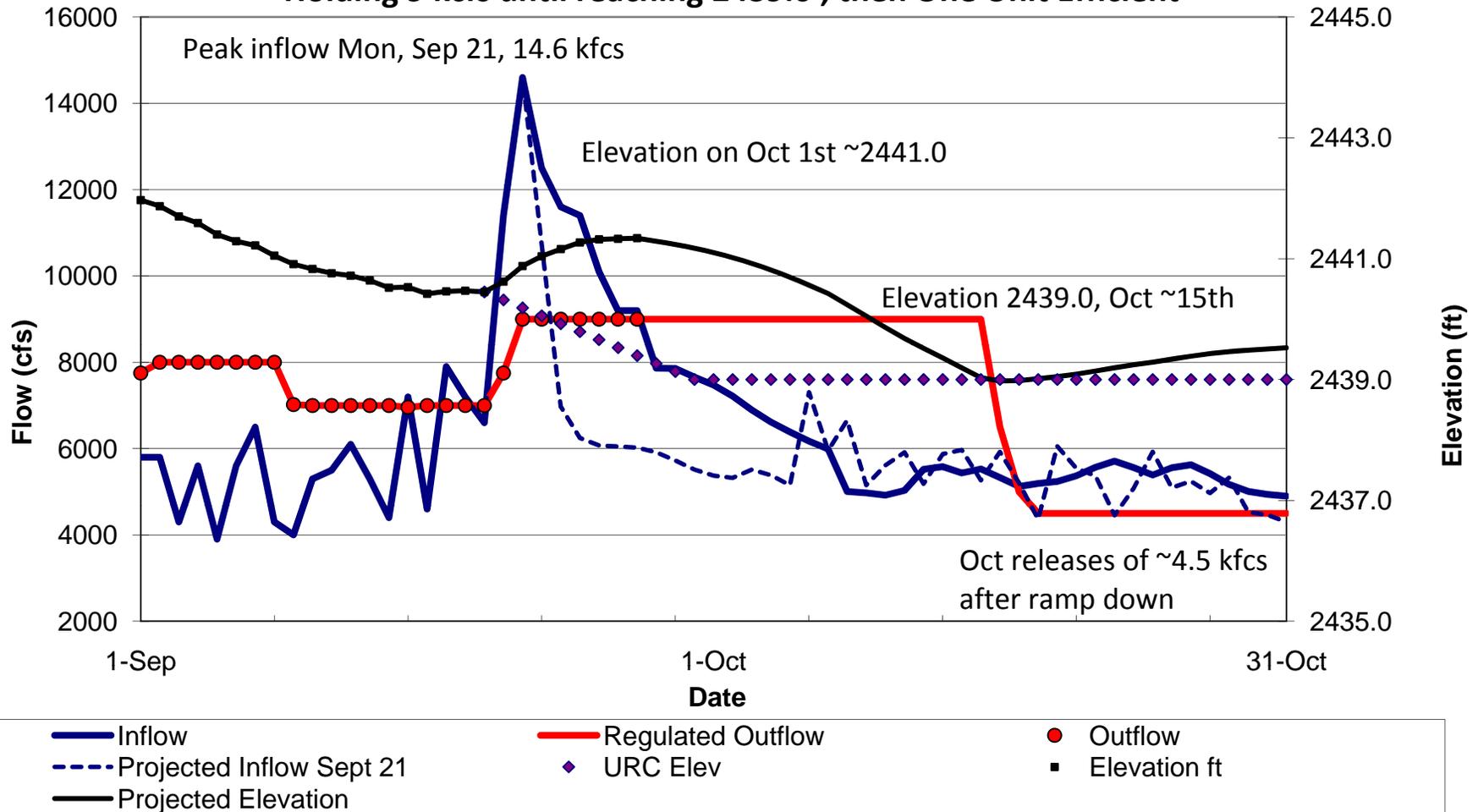
8. June 2010 High-Runoff Event Report - *Tony Norris, BPA*
  - a. [Report and Public Workshop](#)
9. Operations Review
  - a. Reservoirs
    - i. [Summary Plots](#)
  - b. Fish
  - c. Power System
  - d. Water Quality
10. Other
  - a. Set agenda and date for next meeting - **October 6, 2010**
  - b. [\[Calendar 2010\]](#)

*Questions about the meeting may be referred to:*

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

*[Dong Baus](#) at (503) 808-3995*

**Figure 1. Libby Reservoir Operations Sep-Oct 2010**  
**End of September through October Operation,**  
**Holding 9 kcfs until reaching 2439.0', then One Unit Efficient**



# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

September 29, 2010 Meeting

### FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Erin Halton

Notes: Robin Gumpert

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**

The 9/15 and 9/22 Official Minutes and Facilitator Notes were open for review. With no further edits, they were considered final.

#### **Dworshak Operations**

Steve Barton, COE, provided a wrap up of Dworshak operations to meet the Nez Perce plan for releasing 200 KAF for augmentation. He reported that the specifics in the plan were met and the project was operating with minimum outflows. He noted the unforeseen basin-wide rainfall toward the end of the release, which led to an increase in outflows to meet the 1520' elevation target. In response to a question from Oregon, Barton explained that the increase in outflows was needed to adjust to the inflow forecast and that the COE operated to a “200 KAF release of storage despite inflows.” He said that the COE is looking into whether this type of accounting is consistent with the intent of the agreement.

#### **2011 Water Management Plan**

Steve Barton, COE, shared that the first draft WMP will be posted to the TMT page on 9/30, with the request for comments due to the COE by 10/29. The COE will make revisions and post a revised draft sometime around 11/19; and the document will be finalized by 12/31.

#### **Autumn Treaty Fishing**

Tom Lorz, CRITFC, shared that the last day of the current treaty fishing was occurring on 9/29, and suggested this will likely be the last SOR for the season. Steve Barton reported that the COE had issued a teletype in response to that latest SOR, to operate consistent with the request.

#### **Libby Operations**

Steve Barton, COE, and Joel Fenolio, Seattle District, recapped last week's unscheduled TMT discussion about the high inflows to Libby that created a challenge to meeting 2439' by the end of September. Hearing no objections (and general support) from TMT members during last week's call, the COE has operated the project at 9 kcfs and will

continue to do so until elevation 2439' is reached, sometime in October. Joel updated TMT with a graph depicting the latest prediction that this 'intersect' will occur around 10/15 – somewhat later than had been predicted last week because inflows had not receded below 9 kcfs as of today. Jim Litchfield, Montana, offered support for this operation and Paul Wagner, NOAA, voiced 'no objection'.

**Action/Planned Operation:** The COE will continue to operate Libby at 9 kcfs outflows until the project reaches elevation 2439', then will ramp down (using specified ramp rates) to 4.5 kcfs for the remainder of October. The COE will send email notification when this change occurs; TMT will check in on the operation at the next meeting, 10/6.

### **Albeni Falls Operations**

Steve Barton, COE, said the COE and its partners held a 'lake level' meeting last week to review the biology, decision tree and other items relevant to Albeni Falls operations. The project is targeting a 2061' elevation at the end of September, after which time the COE will look for a recommendation in the form of an SOR. Paul Wagner, NOAA, shared that he will coordinate with Andy Ducks, IDFG, regarding the SOR; the SOR will be developed jointly by IDFG and USFWS.

**Action/Next Steps:** This item will be on the 10/6 TMT agenda.

### **Operations Review**

*Reservoirs* – John Roache reported on Reclamation projects: Hungry Horse was at elevation 3540.97, with current outflows at 4.4 kcfs. The project will ramp down to Columbia Falls minimums once it hits its end of month elevation target (likely on October 1<sup>st</sup> or 2<sup>nd</sup>.) Grand Coulee was at elevation 1285.7', a good elevation for kokanee spawning and set up for chum operations. Steve Barton reported on COE projects: Libby was at elevation 2441.36' with 9.4 kcfs inflows (likely to recede to at or below 9 kcfs soon) and 9 kcfs outflows. Albeni Falls was at elevation 2061.24' with 22.5 kcfs inflows and 24.9 kcfs outflows. Dworshak was at elevation 1519.58', with 1.1 kcfs inflows and 1.6 kcfs outflows. Flows out of the Snake were 21.1 kcfs; 71.7 kcfs out of Priest Rapids and 92.7 kcfs out of McNary – all were higher than the previous week's averages.

*Fish* – Paul Wagner, NOAA, gave a fish status update. Adult counts at Bonneville were as follows: 432,933 Fall Chinook; 57,000 Fall Chinook jacks; 403,000 steelhead; and 152,000 wild steelhead. Fall Chinook adults were tracking much higher than 2009 and the 10-year average while steelhead numbers were well below 2009 and the 10-year average. Factors affecting the disparity between the two stocks, he suggested, could include age, size, migration timing and ocean conditions, among others. The Snake River steelhead and Fall Chinook adult populations were doing very well, and record numbers of sockeye have returned to Lower Granite. Russ Kiefer, Idaho, added that sockeye returns to the basin also look very good. Jacks at Lower Granite were tracking close to the 10-year average.

Regarding smolts, Paul reported that subyearling Fall Chinook counts were 1,500 on 9/18

and now down to the 100-200/day range. Russ Kiefer added that red counts in the Middle Fork Salmon River look very good.

*Power* – Tony Norris, BPA, shared that the June high runoff workshop he reported on at the 9/15 TMT meeting has been rescheduled for 10/12 at 1:00 pm at BPA. A link with the updated information will be posted to the TMT web page (attached to today’s and/or 10/6 agenda), and can also be found at [www.bpa.gov](http://www.bpa.gov) under “Newsroom”, “Calendar”.

*Water quality* – Scott English, COE, reported that many of the forebay gauges have been removed from service as is typical for this time of year. The COE is preparing now for winter monitoring, which will include use of the Warrendale gauge to assist with chum operations.

### **TMT Meeting Schedule**

The following meeting dates have been scheduled for the rest of 2010:

- October 6 – face to face **at NOAA**
  - Agenda items include:
    - Autumn Treaty Fishing Summary
    - Libby Operations
    - NOAA Juvenile Survival Memo
    - Albeni Falls SOR(?)
    - Operations Review
- October 20 – face to face **at NOAA**
  - Agenda items include:
    - Libby Phase II Accounting
    - Albeni Falls SOR/Operations
- November 3 – face to face
- November 10 – face to face **at NOAA**
- November 17 – conference call as needed (this date is a conflict with FPOM)
- November 24 – as needed (this is the day before Thanksgiving)
- December 1 – face to face
- December 8 – Year End Review (location TBD)
- December 15 – face to face/conference call as needed – TBD

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**

**September 29, 2010**

Notes: Pat Vivian

***1. Introduction***

Today's TMT meeting was chaired by Steve Barton (COE) and facilitated by Erin Halton (DS Consulting). Representatives of the COE, Oregon, BOR, NOAA, USFWS, BPA, Idaho, CRITFC and others attended. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

***2. Meeting Minutes for September 15 and 22***

There were no changes today to the facilitator's notes or official minutes, so both sets are considered final.

***3. Dworshak Operations***

Barton gave a wrap-up report on Dworshak operations in light of the 200 kaf Nez Perce release. The COE to the best of its ability followed the Nez Perce plan for disposition of the 200 kaf, drafting the reservoir down to elevation 1,520 feet. That elevation was targeted for around September 18, but heavy rainfall throughout the basin raised inflows, so discharge was increased on Tuesday Sep 21st, and 22<sup>nd</sup>, the project released the extra water to ensure that the elevation target was delivered. On September 23 Dworshak dropped to minimum flows. Total discharges have remained around 1.6 kcfs since then. Current elevation is 1,519.6 feet with the 200 kaf out.

Rick Kruger (Oregon) asked for clarification of whether the extra water was released to hit the target elevation or release 200 kaf. It was in response to an inflow forecast error, and the COE wanted to be sure that 200 kaf was released and the elevation target reached, Barton explained. The COE is double-checking the method of this year's calculation of the 200 kaf to ensure consistency with the Nez Perce agreement. The plan calls for holding 2.4 kcfs outflows until elevation 1,520 feet is attained, so the COE deemed it necessary to raise inflows to 2.4 kcfs when the target elevation wasn't reached on schedule, Steve Hall (COE Walla Walla) explained. With conclusion of the 2010 Nez Perce release, Dworshak operations will drop off TMT agendas for the season unless there's a special issue to bring to TMT's attention.

#### **4. 2011 Water Management Plan**

The first draft of the 2011 WMP will be posted to the TMT web page for review by the close of business tomorrow, with comments due by October 29. There will be at least two more comment periods after that, with the final draft available around November 19, Barton said.

As discussed at the last TMT meeting, the COE has provided explanations in the form of comment “balloons” for most of its significant revisions since last year. Barton asked that commenters also provide context for their edits.

#### **5. Autumn Treaty Fishing – SOR 2010-C10**

Today is the last day of fishing this week and probably for the 2010 fall season, Tom Lorz (CRITFC) reported. The tribes will review catch data after today and prepare another SOR if there’s more allowable take. The SOR for September 27-29, linked to today’s agenda, requested 1.5-foot bands at all three of the lower Columbia projects. The COE has issued instructions to the projects consistent with the SOR.

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

On September 22, TMT held an unscheduled conference call to discuss the effects on Libby operations of heavy precipitation and runoff that began around September 20, in light of the 2,439-foot end of September elevation target. Areas in Libby basin received 2-3 inches of rain. The preferred alternative for responding to increased runoff was to maintain 9 kcfs releases, which would mean reaching elevation 2,439 feet in early October, around October 10. There were no objections to this operation during last week’s call so the COE implemented it.

The project is still discharging 9 kcfs and inflows have been 9 kcfs or more since September 20. Yesterday inflows were 9.4 kcfs. The graph linked to this item on today’s agenda shows the effect of maintaining 9 kcfs discharges with higher inflows: The project is now expected to reach elevation 2,439 feet some 5 days later than discussed in last week’s conference call – October 15 instead of October 10.

This looks like a good operation, Jim Litchfield (Montana) said. There were no objections to it, so the COE will maintain 9 kcfs outflows until the project reaches elevation 2,439 feet. TMT will revisit Libby operations at its October 6 meeting.

## **7. Albeni Falls Update**

Stakeholders held a meeting September 7 in Coeur d'Alene to look at current conditions in Lake Pend Oreille, the status of resident species, and to discuss the decision tree guiding the operation, which currently targets elevation 2,061 feet by September 30. For October the plan is a "middle of the road" operation until the stakeholders draft the official SOR. NOAA is working on the issue now, Paul Wagner said. Stakeholders will hold another meeting today to discuss their recommendations. TMT will revisit Albeni Falls operations at its next meeting October 6.

## **7. Operations Review**

**a. Reservoirs.** Hungry Horse is at elevation 3,540.97 feet. Outflows increased last week from 3.9 kcfs to the current releases of 4.4 kcfs. The project will ramp down to Columbia Falls minimums once it hits its end of month elevation target of 3540 feet. (likely on October 1<sup>st</sup> or 2<sup>nd</sup>). Grand Coulee is at elevation 1,285.7 feet. An end of September elevation 1,283 or higher is desirable for kokanee spawning and broodstock collection..

Libby inflows are 9.4 kcfs and discharges are 9 kcfs as reported earlier. Current elevation is 2,441.36 feet. Albeni Falls is at elevation 2,061.24 feet and discharging 24.9 kcfs. Inflows are 22.5 kcfs. Dworshak inflows are down to 1.1 kcfs. The project is discharging minimums of 1.6 kcfs and the current elevation is 1,519.58 feet.

Snake River stream flows are around 21.1 kcfs; last week's average discharge was 20.7 kcfs. Yesterday Priest Rapids dam discharged 71.7 kcfs in the mid-Columbia; the previous week's average flow was 58.3 kcfs. McNary is discharging 92.7 kcfs; last week's average flow was 78.4 kcfs. Generally the basin is responding very favorably to the heavy rains of late September and is saturated.

**b. Fish.** Adults are where the action is, Wagner reported. Fall Chinook counts at Bonneville Dam were 432,933 adults and 57,000 jacks, a phenomenal increase over the 10-year average as well as last year's counts. Steelhead counts at Bonneville are 403,000 fish to date and 152,000 wild steelhead, which is below last year's count and the 10-year average. Karl Kanbergs (COE) asked what might account for the disparity in fall Chinook and steelhead passage numbers at Bonneville. A-run steelhead didn't fare well at all this year, which reflects the 2009 outmigration numbers. Those fish had a high in-river survival rate of 68%, but ocean conditions haven't been good for them. B-run steelhead passage begins in September and these fish spend 2 years in the ocean. A-run steelhead counts at Bonneville were above the 10-year average. B-run steelhead counts at Bonneville are below the 10-year average. There's no clear explanation for the disparity between steelhead and fall Chinook passage counts,

but ocean conditions play a big role, Wagner said. Kruger noted that fall Chinook are 4 or 5 years old, so they're exposed to different timing and outmigration conditions. Steelhead passage at Lower Granite is still underway.

Snake River steelhead populations are faring well this year, a reflection of last year's 68% in-river survival rate. Fall Chinook passage at Lower Granite was a record-setting 433,000 fish this year. That's a phenomenal comeback from the dismal 1990 count: 379 fish. Sockeye counts at Lower Granite were 2,201 fish. Kruger asked whether any of these have made it to Lake Pend Oreille yet. Russ Kiefer (Idaho) said at last count it was 1,300 fish but he didn't have a final tally yet, which he will provide at the October 6 TMT meeting.

Smolt passage is limited to fall Chinook at present, with a bump to 1,300 fish on September 18, Wagner said. That's in line with expectations for this time of year, when smolt passage slows down. Redd counts at the upper end of the little fork of the Salmon River looked impressive, Kiefer added. With better returns this year, fish are moving into secondary spawning areas. This year also brought a good return of wild endemic fish to the middle fork of the Salmon River.

**c. Power System.** A BPA-sponsored workshop on high water runoff in June has been changed from October 7 (as announced at the September 15 TMT meeting) to October 12, Tony Norris said. Those who have already preregistered as attendees with Steve Kerns ([srkerns@bpa.gov](mailto:srkerns@bpa.gov)) will receive an update on the change. Significant runoff in June coincided with significant wind events on the power grid, so BPA has produced a report describing that operation and is presenting this workshop. The report is available on BPA's website, [www.bpa.gov](http://www.bpa.gov).

**d. Water Quality.** With fish passage season drawing to a close, most of the forebay water quality gauges have been removed from service, Scott English (COE) reported. The Warrendale gage is operational in preparation for the chum and winter monitoring.

### **3. Next Meetings**

The next TMT meeting will be in person October 6. The agenda will include treaty fishing, Libby operations, an Albeni Falls update, Science Center memos on juvenile survival, and the usual operations review. Subsequent TMT meetings were scheduled for October 20 and November 3, 10 and 24. The annual TMT year-end review will be on December 8, location TBA.

<b>Name</b>	<b>Affiliation</b>
Steve Barton	COE
Rick Kruger	Oregon
Doug Baus	COE
John Roache	BOR

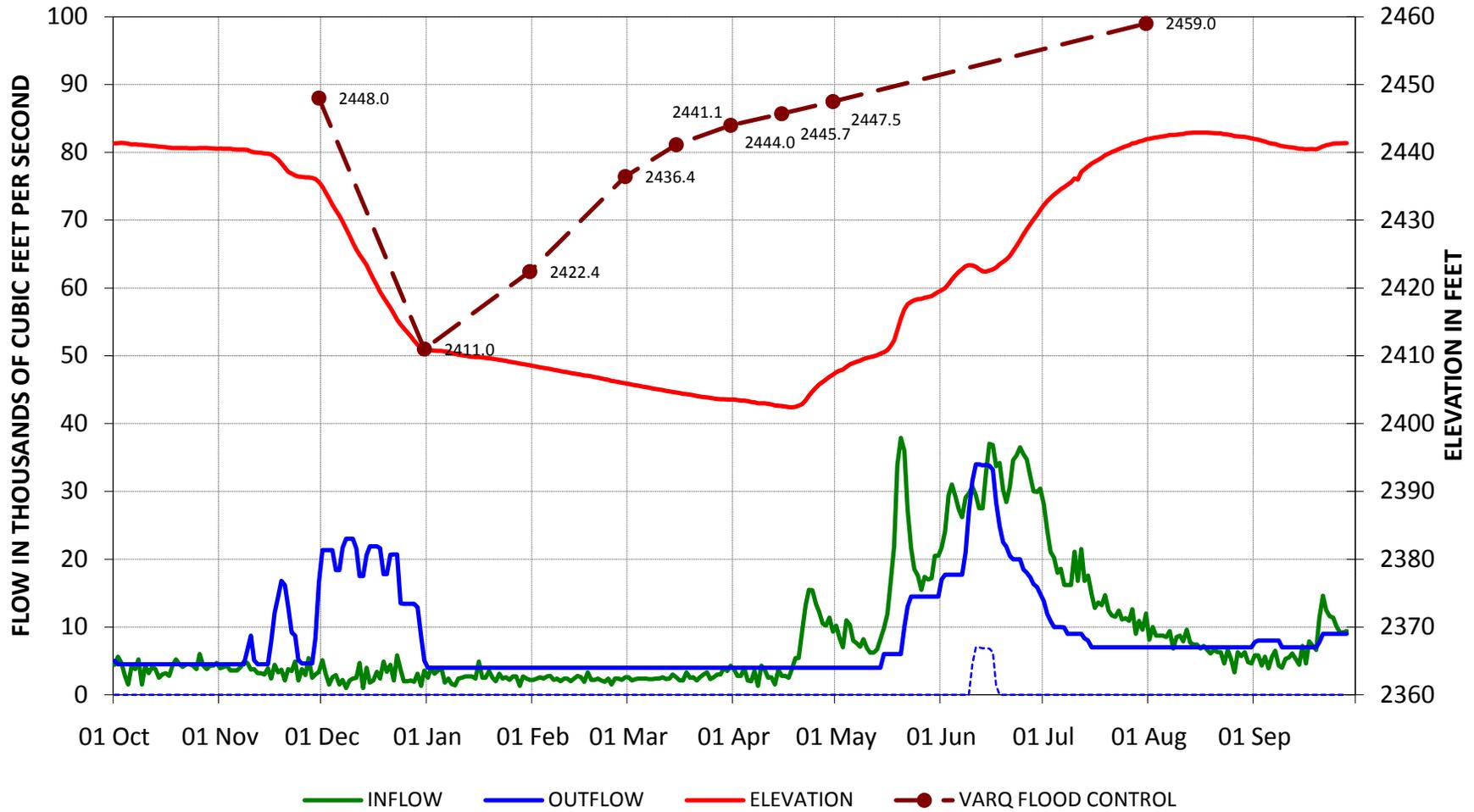
Scott English	COE
Laura Hamilton	COE
Karl Kanbergs	COE
Matt Reeves	COE
Kim Johnson	COE
Glen Trager	Iberdrola Renewables
Paul Wagner	NOAA

Phone:

Dave Wills	USFWS
Tony Norris	BPA
Rich Dominigue	NOAA
Russ Kiefer	Idaho
Jim Litchfield	Montana
John Hart	EWEB
Joel Fenolio	COE Seattle
Shane Scott	PPC
Russ George	WMC
Barry Espenson	CBB
Rob Allerman	Deutsch Bank
Doug Vine	Thomson Reuters
Steve Hall	COE Walla Walla
Tom Le	Puget Sound Energy
Tom Lorz	CRITFC
Scott Bettin	BPA
Jason Flory	USFWS
Richelle Beck	DRA
Ruth Burris	PGE

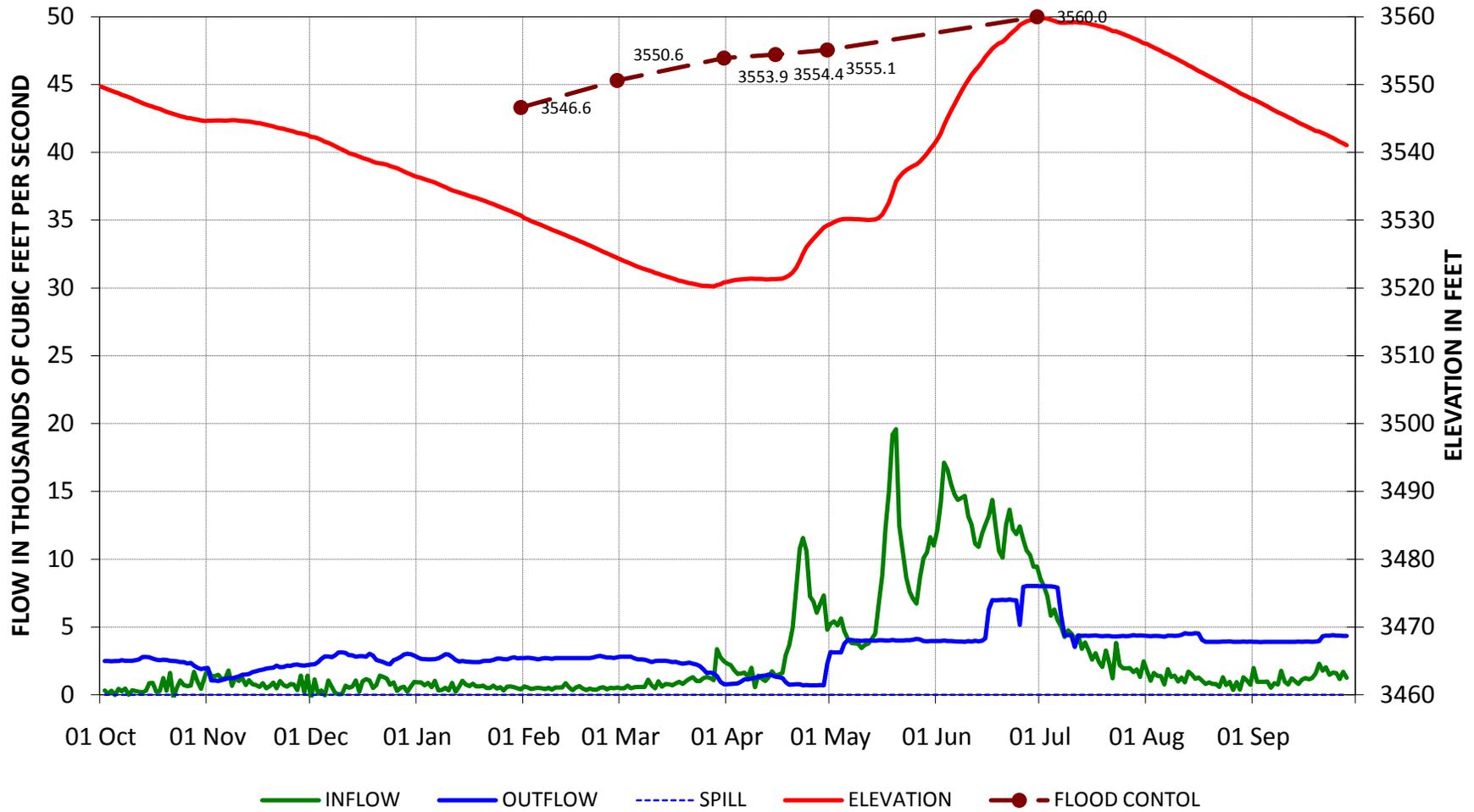
# LIBBY DAM AND RESERVOIR

## Water Year 2010



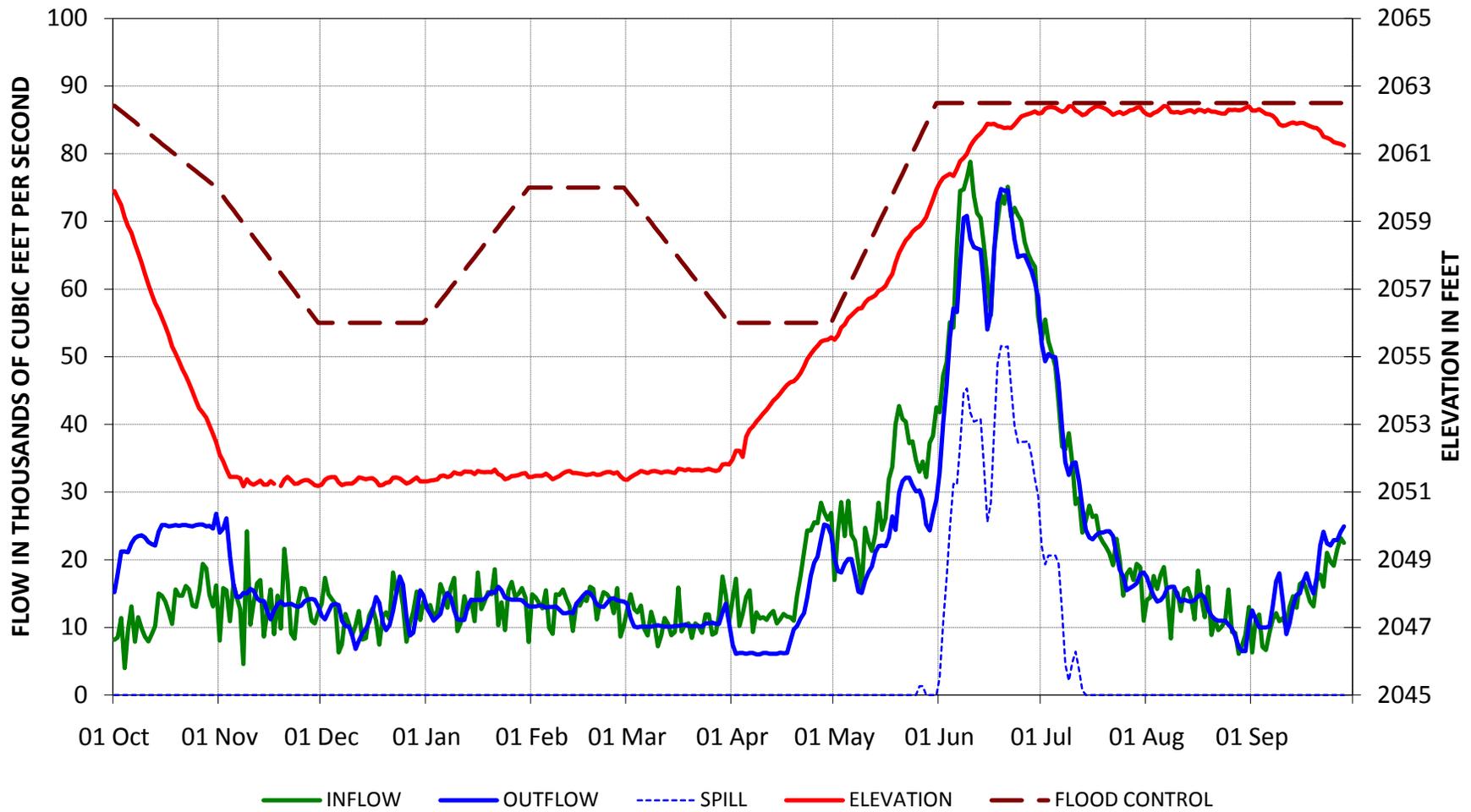
# HUNGRY HORSE DAM AND RESERVOIR

## Water Year 2010



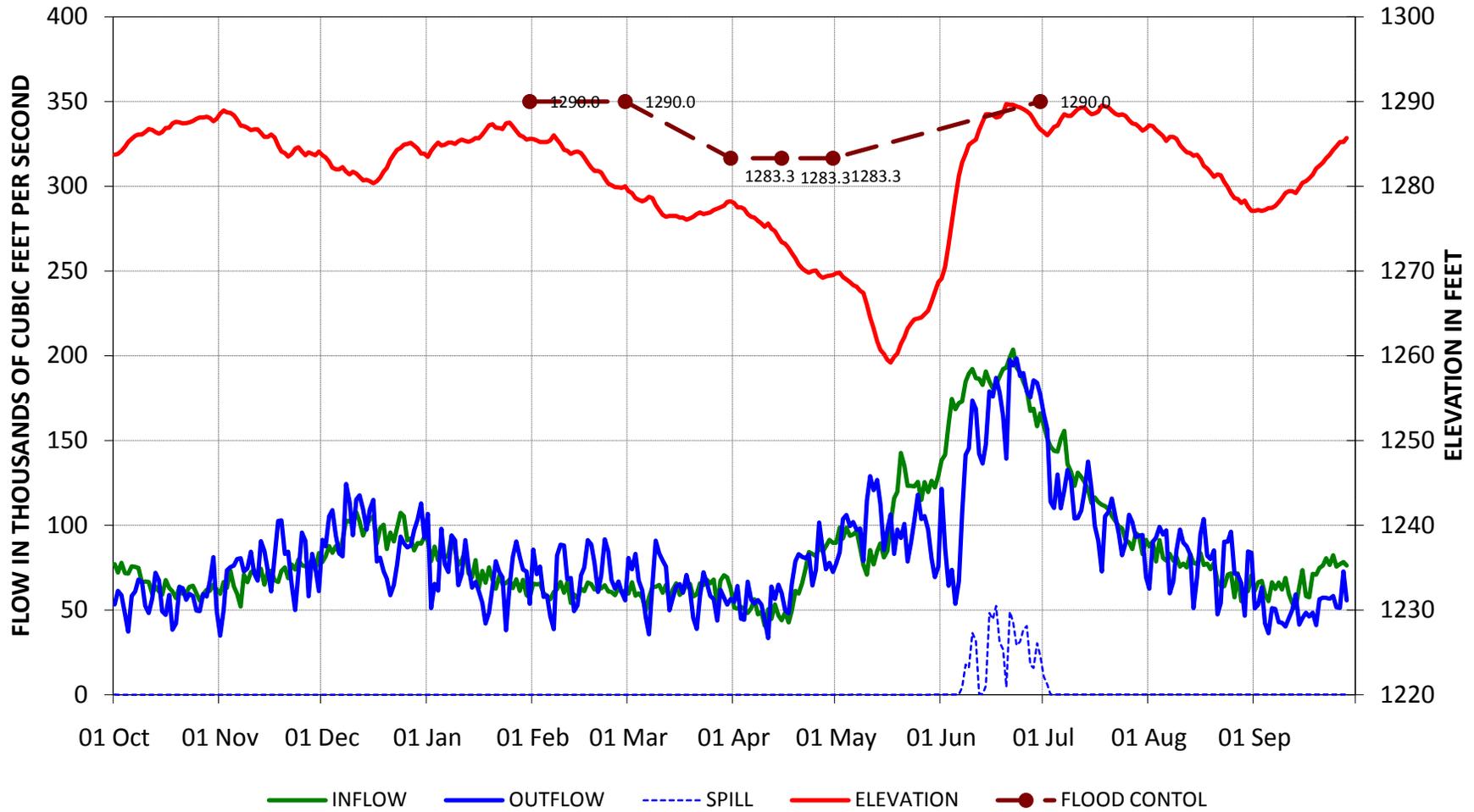
# ALBENI FALLS DAM AND RESERVOIR

## Water Year 2010



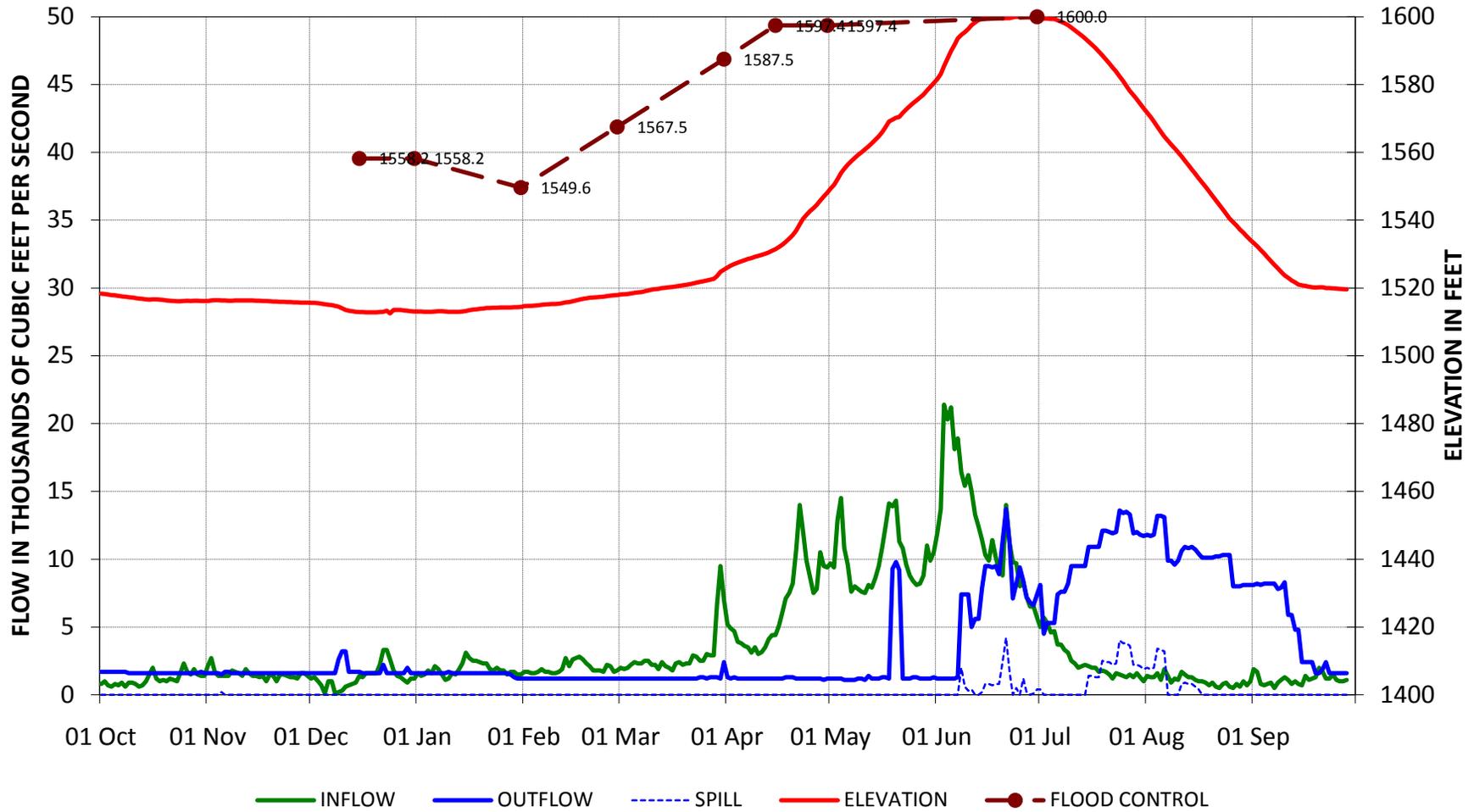
# GRAND COULEE DAM AND RESERVOIR

## Water Year 2010



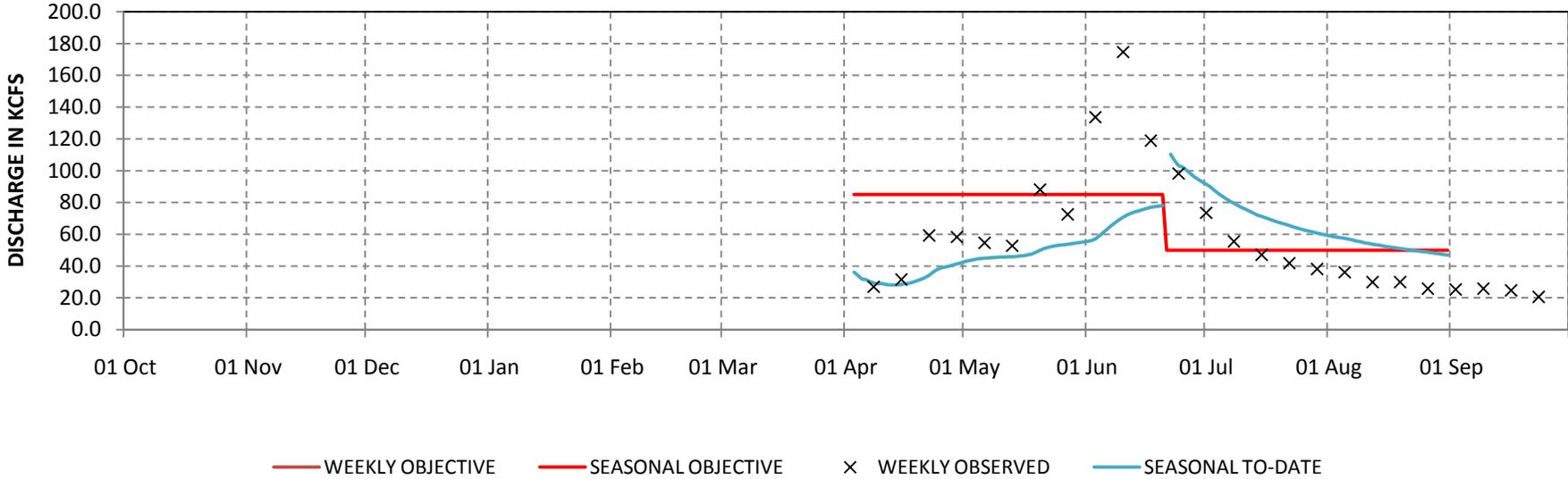
# DWORSHAK DAM AND RESERVOIR

## Water Year 2010

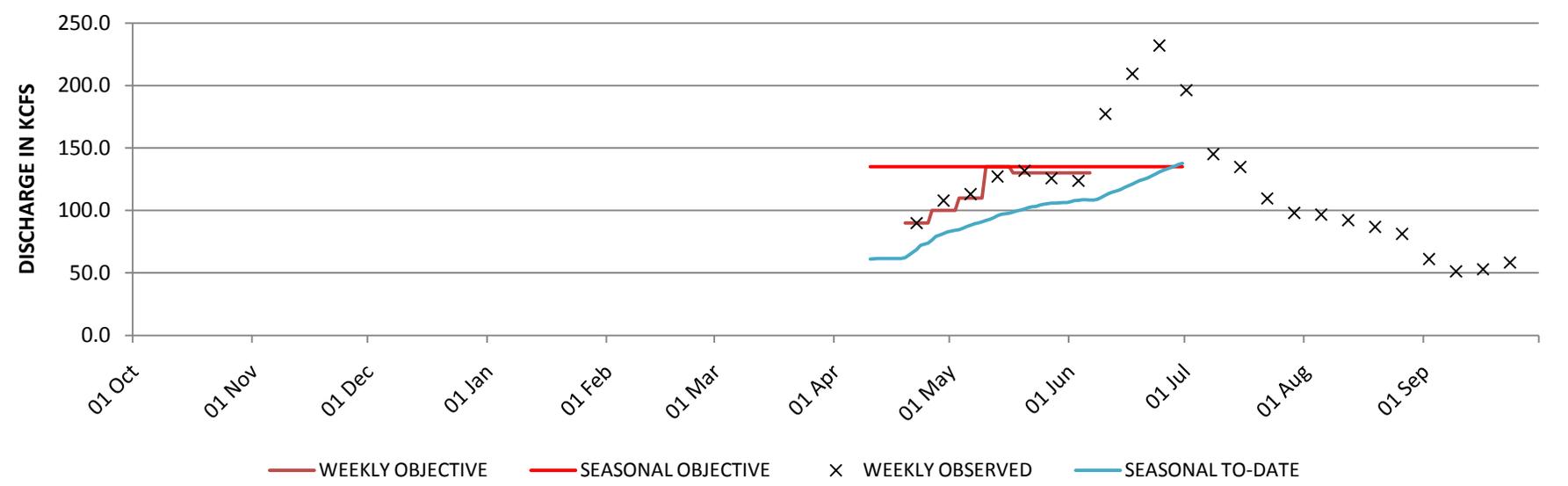
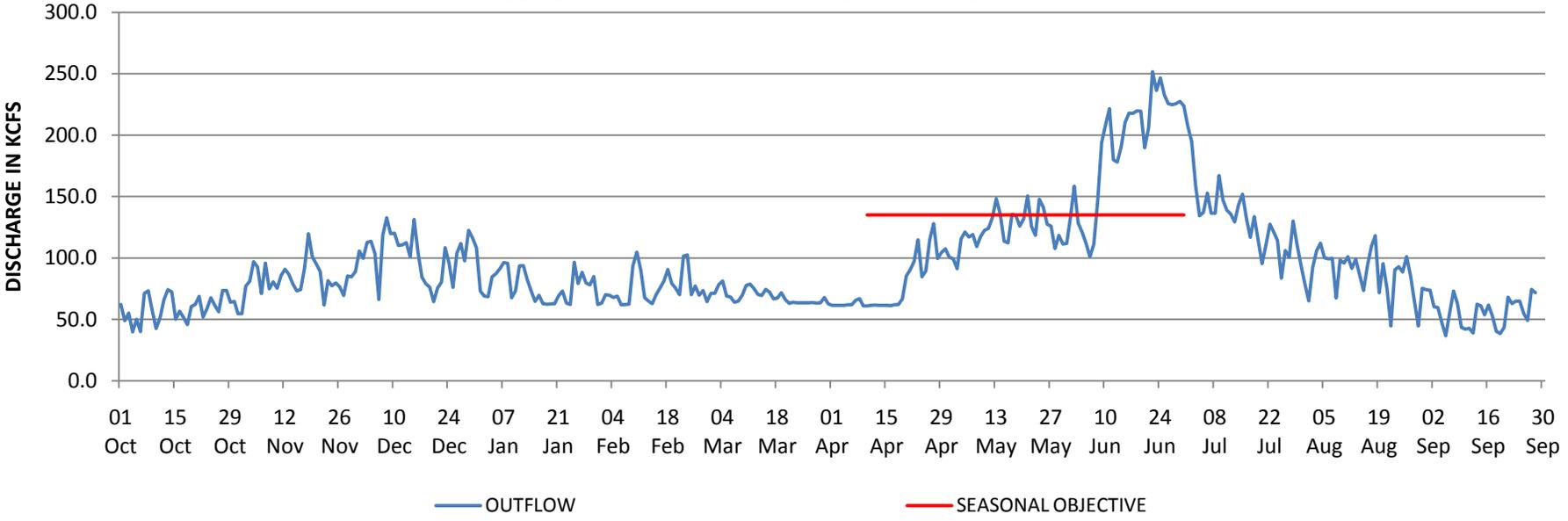


# PROJECT DISCHARGE SUMMARY

## SNAKE RIVER AT LOWER GRANITE DAM

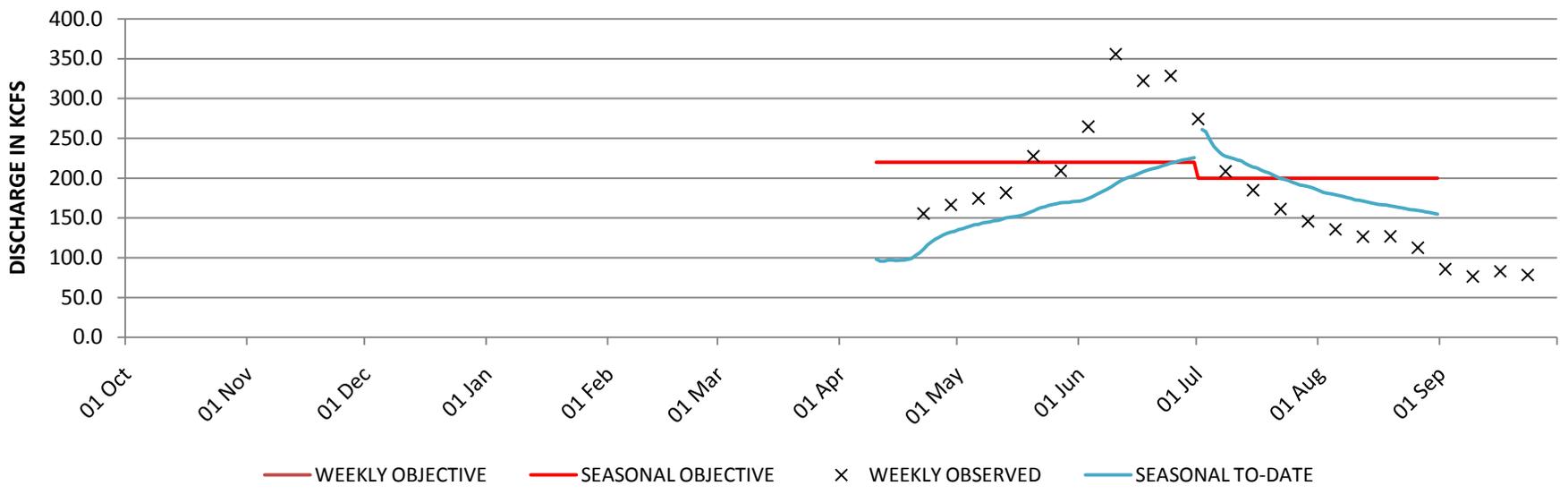
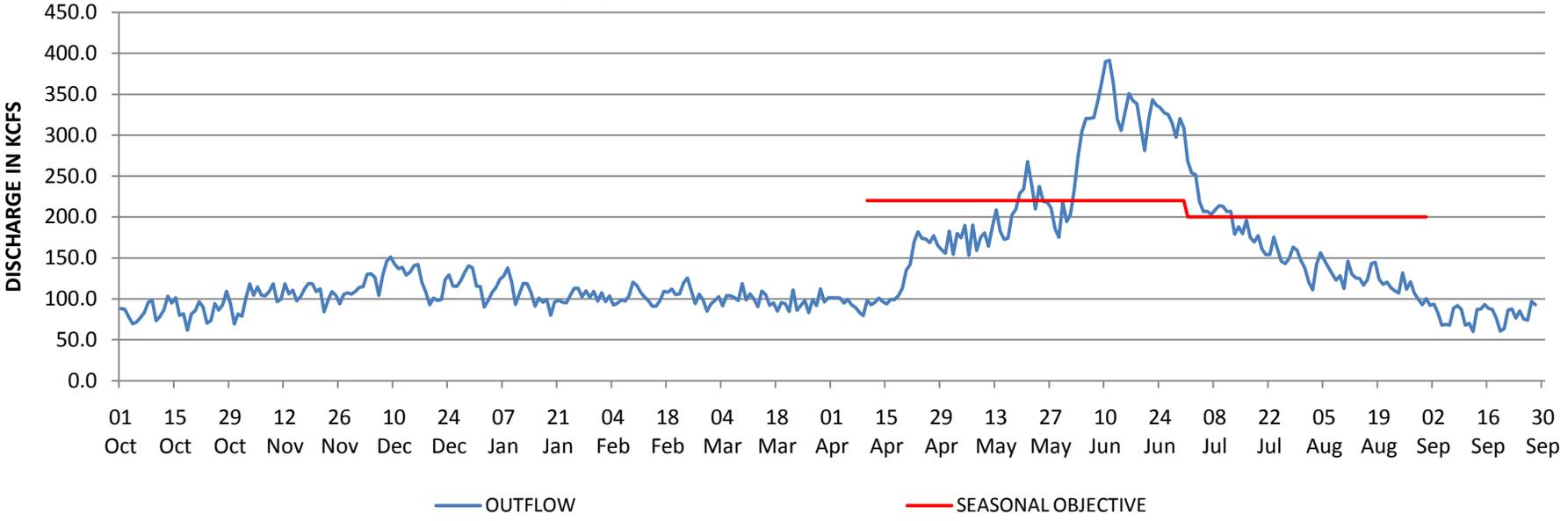


# PROJECT DISCHARGE SUMMARY COLUMBIA RIVER AT PRIEST RAPIDS DAM



# PROJECT DISCHARGE SUMMARY

## COLUMBIA RIVER AT McNARY DAM





## 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: 2010 C-10

TO: Brigadier General McMahon COE-NWD  
James D. Barton COE-NWD-NP-Water Management  
Steve Barton, Karl Kanbergs COE-NWD-NP-WM-RCC  
D. Feil, R. Peters, D. Ponganis COE-NWD-PDD (Fish Management Office)  
Col. Steven R. Miles COE-Portland District  
Paul Cloutier COE-Portland District (Tribal Liaison)  
Karl Wirkus USBR- PNW Regional Director  
Steven J. Wright BPA Administrator  
Steve Oliver, Greg Delwiche BPA-PG-5  
Tony Norris, Scott Bettin BPA-Operations Planning-PGPO  
Stan Speaks, Keith Hatch BIA, Northwest Regional Office

FROM: Babtist Paul Lumley, *Executive Director*

DATE: September 24, 2010

SUBJECT: **Operation of the Lower Columbia Pools for the Autumn 2010 Treaty Fishery**

The Columbia River Inter-Tribal Fish Commission, on behalf of its members, the Nez Perce Tribe, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes of the Warm Springs Reservation of Oregon, and the Confederated Tribes and Bands of the Yakama Nation, requests the following reservoir operations in "Zone 6" (Bonneville to McNary dams) during the 2010 autumn Treaty fishery. This effort supports the 2010 autumn ceremonial, subsistence, and commercial Treaty fishery times as established by the tribes and the Columbia River Compact.

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

**September 27, 2010, 6 am, Monday, through 6 pm, September 29, 2010, Wednesday.**

**Bonneville: Operate the pool within a 1.5 foot band during the treaty fishing period.**

**The Dalles (Celilo): Operate the pool within a 1.5 foot band during the treaty fishing period**

**John Day: Operate the pool within a 1.5 foot band during the treaty fishing period.**

JUSTIFICATION:

The 2010 autumn treaty fishing season is of critical importance to CRITFC's member tribes. The escapement of an estimated of **415,000** (Columbia at Bonneville Dam) adult fall Chinook (above normal rank) and **378,000** steelhead (above normal rank), will create harvest opportunities for tribal fishers who will exercise their treaty rights by participating in this harvest, using platform and gillnet fishing methods. This harvest will provide for the cultural, religious, and economic needs of the treaty tribes.

CRITFC has sponsored 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 September 14, 2010 survey showed 758 nets in the Zone 6 pools, as follows: 303 (40%) in Bonneville, 175 (23%) in The Dalles, and 280 (37%) 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 more than 1.5 foot 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 or change local currents that affect fishing success, (3) boat access problems, and (4) nets torn from their anchors if pools are raised after nets are set. Nets and gear are costly to replace and may become "ghost nets" that continue to catch fish and may negatively affect fish populations outside of the treaty fishing period.

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

If this SOR cannot be accommodated, CRITFC requests a verbal response with an explanation from the federal operators by COB Monday, September 27, 2010. Thank you for considering this request. Please contact Kyle Dittmer or Bob Heinith should you have any questions at (503) 238-0667.

cc: Tribal staffs and attorneys



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 13, 2010

MEMORANDUM FOR: F/NWR5 - Bruce Suzumoto  
FROM: F/NWC3 - John W. Ferguson  
SUBJECT: Preliminary survival estimates for passage during the spring migration of juvenile salmonids through Snake and Columbia River reservoirs and dams, 2010

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 2010 spring outmigration. We also provide preliminary estimates of the proportion of Snake River smolts that were transported from Snake River dams in 2010. 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 2010, NOAA Fisheries PIT tagged approximately 16,170 river-run hatchery steelhead, 11,990 wild steelhead, and 17,000 wild yearling Chinook salmon for release into the tailrace of Lower Granite Dam. From studies funded by the USACE, we used about 122,360 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 between 54.9 and 69.7% since 1998. Mean estimated survival to Lower Granite Dam tailrace for the index hatchery release groups in 2010 was 64.1%.

Estimated survival for Snake River yearling Chinook salmon (hatchery and wild combined) in 2010 was above the average (1993-2010) in almost every reach (Tables 2 and 4, Figures 2 and 3). Mean estimated survival for yearling Chinook salmon from Lower Granite Dam tailrace to McNary Dam tailrace in 2010 was 77.2% (95% CI: 74.8, 79.6%). Mean estimated survival in 2010 from McNary Dam tailrace to Bonneville Dam tailrace was 73.8% (95% CI: 66.2, 81.4%). Mean estimated survival for yearling Chinook salmon from Lower Granite Dam tailrace to Bonneville Dam tailrace in 2010 was 57.0% (95% CI: 50.8, 63.1%). Estimated survival for the Lower Granite project (head of reservoir to tailrace) was 96.3%, 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 2010 was 54.8% (95% CI: 47.4, 62.2%).

For Snake River steelhead (hatchery and wild combined), mean estimated survival in 2010 was above the average (1993-2010) in every reach (Tables 3 and 5, Figures 2 and 3). Mean estimated survival for steelhead from Lower Granite Dam tailrace to McNary Dam tailrace in 2010 was 77.4% (95% CI: 73.3, 81.5%). Mean estimated survival in 2010 from McNary Dam tailrace to Bonneville Dam tailrace was 78.7% (95% CI: 72.6, 84.8%). Mean estimated survival from Lower Granite Dam tailrace to Bonneville Dam tailrace was 60.9% (95% CI: 55.2, 66.6%). Estimated survival for the Lower Granite project (head of reservoir to tailrace) was 100% (actual model calculation was 101.3%), 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 2010 was 61.7% (95% CI: 54.8, 68.6%).

For PIT-tagged hatchery yearling Chinook salmon originating from the upper Columbia River in 2010, estimated survival from McNary Dam tailrace to Bonneville Dam tailrace was 75.1% (95% CI: 67.7, 83.4%; see Table 6).

For PIT-tagged hatchery steelhead originating from the upper Columbia River in 2010, estimated survival from McNary Dam tailrace to Bonneville Dam tailrace was 62.6% (95% CI: 56.5, 69.4%; Table 6). 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.

Estimated survival in 2010 of Snake River sockeye salmon (hatchery and wild combined) from the tailrace of Lower Granite Dam to the tailrace of Bonneville Dam was 54.4% (95% CI: 41.3%, 71.7%; Table 7). Estimated survival in 2010 of Columbia River sockeye salmon (hatchery and wild combined) from the tailrace of Rock Island Dam to the tailrace of Bonneville Dam was 48.8% (95% CI: 31.4%, 75.8%; Table 7).

Our preliminary estimates of the proportion transported of non-tagged wild and hatchery spring-summer Chinook salmon smolts are 38.2% and 22.6%, respectively. For steelhead, the estimates are 36.8% and 34.8% 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 2009, but not lower than those in 2007. The estimates for both hatchery and wild steelhead are lower than from any year 1995-2009. The differences among years for both Chinook and steelhead are due to differences in collection probabilities at the collector dams and differences in timing of the smolt migrations relative to transportation start dates.

## **Discussion**

Estimated survival for Snake River yearling Chinook salmon and steelhead through the hydropower system (Snake River trap to Bonneville tailrace) in 2010 was relatively high compared to recent years. The 2010 estimated hydropower system survival for yearling Chinook was 54.8%, which is higher than the average of 49.3% and higher than the 2009 estimate of 53.1% (Table 4), although there was no statistical evidence that hydropower system survival in 2009 and 2010 were different ( $P = 0.71$ ). For steelhead, the 2010 estimated hydropower system survival was 61.7%, which is higher than the average of 40.4% but lower than the 2009 estimate of 67.8% (Table 5). There was no statistical evidence that hydropower system survival for steelhead was different between 2009 and 2010 ( $P = 0.38$ ).

The higher survival in the last few years for yearling Chinook and steelhead is likely due in part to changes in dam operations during that period. Operations at most dams in 2010 were similar to those in 2009. The adjustable spillway weir (ASW) installed in 2009 at Little Goose Dam was in its second year of operation. The

removable spillway weir (RSW) at Lower Monumental Dam and the temporary spillway weirs (TSW) at John Day Dam were in their third year of operation in 2010. Also the new spillway guidance wall at The Dalles Dam, which was partially complete in 2009, was completed in March of 2010.

Snake River flow volume in 2010 was low compared to that of recent years for most of the migration period (Figure 4). The flow volume and pattern in 2010 were most like those of 2004, 2005, and 2007. Although mean spill volume at the Snake River dams in 2010 was low to average when compared to recent years, mean spill as a percentage of flow was relatively high (Figure 5). Spill percentages in 2010 were much like those in 2007 and 2008 until mid-May, when they decreased with increasing flow. Spill percentages in 2010 were higher than those in 2009 for most of the season. Water temperatures in the Snake River in 2010 fluctuated, with peaks in late April and mid-May, with the fluctuations nearly spanning the range of temperatures experienced at the same times during recent years (Figure 6).

Estimated survival from Lower Granite Dam to McNary Dam for daily groups of yearling Chinook showed an overall gradual decline through the season, with a dip occurring for groups released from Lower Granite between about 25 April and 5 May (Figure 7). Estimated survival from Lower Granite Dam to McNary Dam for daily groups of steelhead showed a dip occurring in a similar period as that for Chinook, but was higher for fish released in early mid-to-late May than for those released in April (Figure 8). There are multiple possible explanations for these observed patterns, and more extensive analysis is required to uncover possible relationships.

Estimated percentages of yearling Chinook salmon and steelhead transported from Snake River dams were among the lowest seen from 1995-2009. High spill percentages, in combination with surface bypass collection at each of the collector dams on the Snake River, resulted in low proportions of fish entering juvenile bypass systems. For yearling Chinook in 2010, estimated percentages entering the bypass systems at Lower Granite Dam, Little Goose Dam, and Lower Monumental Dam were 26%, 26%, and 8% for wild, and 16%, 12%, and 2% for hatchery, respectively. The transport percentage was lower for hatchery than for wild Chinook salmon because of the difference in percentages entering bypass systems. For steelhead in 2010, the estimated percentages entering the bypass systems at Lower Granite, Little Goose, and Lower Monumental were 23%, 22%, and 6% for wild, and 20%, 23%, and 6% for hatchery, respectively. These bypass percentages are among the lowest estimated from 1995-2009 for both yearling Chinook and steelhead.

Transportation began on 23 April at Lower Granite Dam, 1 May at Little Goose Dam, and 3 May at Lower Monumental Dam. These start dates were earlier than those in 2009 (1 May at Lower Granite, 5 May at Little Goose, and 8 May at Lower Monumental). The very first arrivals of yearling Chinook and steelhead smolts at Lower Granite Dam in 2010 occurred later than in 2007-2009 (Figure 9). When transportation began at Lower Granite on 23 April, only about 2% of the yearling Chinook and 1% of the steelhead had already passed the dam. However, the cumulative passage distribution for Chinook climbed rapidly and approximately 50% of the run had passed Lower Granite through 3 May. The steelhead run was a little more protracted; 50% of the run had passed through 11 May. Despite the earlier transportation start dates and relatively later run passage timing in 2010 than in 2009, the higher spill percentages and consequent lower collection rates resulted in lower percentages of fish transported.

cc: F/NWC3 - Faulkner  
F/NWC3 - Muir  
F/NWC3 - Smith  
F/NWC3 - Williams  
F/NWC3 - Zabel

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), 2008 through 2010.

Hatchery	2008		2009		2010 <sup>a</sup>	
	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	0.737 (0.011)	0.534 (0.016)	0.696 (0.007)	0.544 (0.010)	0.898 (0.017)	0.780 (0.014)
Kooskia	0.631 (0.015)	0.509 (0.052)	0.633 (0.012)	0.456 (0.017)	0.744 (0.030)	0.624 (0.022)
Lookingglass (Catherine Cr.)	0.455 (0.008)	0.379 (0.028)	0.371 (0.006)	0.298 (0.012)	0.447 (0.020)	0.369 (0.015)
Lookingglass (Grande Ronde)	0.416 (0.016)	0.352 (0.050)	0.444 (0.022)	0.295 (0.036)	0.422 (0.029)	0.356 (0.034)
Lookingglass (Imnaha River)	0.694 (0.008)	0.518 (0.022)	0.699 (0.009)	0.555 (0.017)	0.680 (0.025)	0.563 (0.017)
Lookingglass (Lostine River)	0.600 (0.012)	0.480 (0.036)	0.585 (0.010)	0.474 (0.024)	0.512 (0.022)	0.395 (0.024)
McCall (Johnson Cr.)	0.330 (0.030)	0.317 (0.052)	0.309 (0.019)	0.326 (0.072)	0.322 (0.018)	0.230 (0.022)
McCall (Knox Bridge)	0.578 (0.007)	0.403 (0.013)	0.513 (0.005)	0.414 (0.008)	0.566 (0.014)	0.462 (0.010)
Rapid River	0.801 (0.004)	0.593 (0.012)	0.728 (0.005)	0.631 (0.010)	0.786 (0.019)	0.666 (0.012)
Entiat	---	---	---	---	---	---
Winthrop	---	0.574 (0.074)	---	0.372 (0.043)	---	0.634 (0.069)
Leavenworth	---	0.567 (0.022)	---	0.478 (0.020)	---	0.653 (0.028)

a. Estimates are preliminary and subject to change.

Table 2. Annual weighted means of survival probability estimates for yearling **Chinook** salmon (hatchery and wild combined), 1993–2010. Standard errors in parentheses. Reaches with asterisks comprise two dams and reservoirs (i.e., two projects); the following column gives the square root (i.e., geometric mean) of the two–project estimate to facilitate comparison with other single–project estimates. Simple arithmetic means across all years are given. Abbreviations: Trap–Snake River Trap; LGR–Lower Granite Dam; LGO–Little Goose Dam; LMO–Lower Monumental Dam; IHR–Ice Harbor Dam; MCN–McNary Dam; JDA–John Day Dam; TDA–The Dalles Dam; BON–Bonneville Dam.

Year	Trap–LGR	LGR–LGO	LGO–LMO	LMO–MCN*	LMO–IHR IHR–MCN	MCN–JDA	JDA–BON*	JDA–TDA TDA–BON
1993	0.828 (0.013)	0.854 (0.012)						
1994	0.935 (0.023)	0.830 (0.009)	0.847 (0.010)					
1995	0.905 (0.010)	0.882 (0.004)	0.925 (0.008)	0.876 (0.038)	0.936			
1996	0.977 (0.025)	0.926 (0.006)	0.929 (0.011)	0.756 (0.033)	0.870			
1997	NA	0.942 (0.018)	0.894 (0.042)	0.798 (0.091)	0.893			
1998	0.925 (0.009)	0.991 (0.006)	0.853 (0.009)	0.915 (0.011)	0.957	0.822 (0.033)		
1999	0.940 (0.009)	0.949 (0.002)	0.925 (0.004)	0.904 (0.007)	0.951	0.853 (0.027)	0.814 (0.065)	0.902
2000	0.929 (0.014)	0.938 (0.006)	0.887 (0.009)	0.928 (0.016)	0.963	0.898 (0.054)	0.684 (0.128)	0.827
2001	0.954 (0.015)	0.945 (0.004)	0.830 (0.006)	0.708 (0.007)	0.841	0.758 (0.024)	0.645 (0.034)	0.803
2002	0.953 (0.022)	0.949 (0.006)	0.980 (0.008)	0.837 (0.013)	0.915	0.907 (0.014)	0.840 (0.079)	0.917
2003	0.993 (0.023)	0.946 (0.005)	0.916 (0.011)	0.904 (0.017)	0.951	0.893 (0.017)	0.818 (0.036)	0.904
2004	0.893 (0.009)	0.923 (0.004)	0.875 (0.012)	0.818 (0.018)	0.904	0.809 (0.028)	0.735 (0.092)	0.857
2005	0.919 (0.015)	0.919 (0.003)	0.886 (0.006)	0.903 (0.010)	0.950	0.772 (0.029)	1.028 (0.132)	1.014
2006	0.952 (0.011)	0.923 (0.003)	0.934 (0.004)	0.887 (0.008)	0.942	0.881 (0.020)	0.944 (0.030)	0.972
2007	0.943 (0.028)	0.938 (0.006)	0.957 (0.010)	0.876 (0.012)	0.936	0.920 (0.016)	0.824 (0.043)	0.908
2008	0.992 (0.018)	0.939 (0.006)	0.950 (0.011)	0.878 (0.016)	0.937	1.073 (0.058)	0.558 (0.082)	0.750
2009	0.958 (0.010)	0.940 (0.006)	0.982 (0.009)	0.855 (0.011)	0.925	0.866 (0.042)	0.821 (0.043)	0.906
2010 <sup>a</sup>	0.963 (0.041)	0.963 (0.011)	0.975 (0.019)	0.851 (0.018)	0.922	0.947 (0.021)	0.780 (0.039)	0.883
<b>Mean</b>	<b>0.939 (0.010)</b>	<b>0.928 (0.009)</b>	<b>0.914 (0.011)</b>	<b>0.856 (0.015)</b>	<b>0.925</b>	<b>0.877 (0.023)</b>	<b>0.791 (0.036)</b>	<b>0.887</b>

a. Estimates are preliminary and subject to change.

Table 3. Annual weighted means of survival probability estimates for **steelhead** (hatchery and wild combined), 1993–2010. Standard errors in parentheses. Reaches with asterisks comprise two dams and reservoirs (i.e., two projects); the following column gives the square root (i.e., geometric mean) of the two–project estimate to facilitate comparison with other single–project estimates. Simple arithmetic means across all years are given. Abbreviations: Trap–Snake River Trap; LGR–Lower Granite Dam; LGO–Little Goose Dam; LMO–Lower Monumental Dam; IHR–Ice Harbor Dam; MCN–McNary Dam; JDA–John Day Dam; TDA–The Dalles Dam; BON–Bonneville Dam.

Year	Trap–LGR	LGR–LGO	LGO–LMO	LMO–MCN*	LMO–IHR IHR–MCN	MCN–JDA	JDA–BON*	JDA–TDA TDA–BON
1993	0.905 (0.006)							
1994	NA	0.844 (0.011)	0.892 (0.011)					
1995	0.945 (0.008)	0.899 (0.005)	0.962 (0.011)	0.858 (0.076)	0.926			
1996	0.951 (0.015)	0.938 (0.008)	0.951 (0.014)	0.791 (0.052)	0.889			
1997	0.964 (0.015)	0.966 (0.006)	0.902 (0.020)	0.834 (0.065)	0.913			
1998	0.924 (0.009)	0.930 (0.004)	0.889 (0.006)	0.797 (0.018)	0.893	0.831 (0.031)	0.935 (0.103)	0.967
1999	0.908 (0.011)	0.926 (0.004)	0.915 (0.006)	0.833 (0.011)	0.913	0.920 (0.033)	0.682 (0.039)	0.826
2000	0.964 (0.013)	0.901 (0.006)	0.904 (0.009)	0.842 (0.016)	0.918	0.851 (0.045)	0.754 (0.045)	0.868
2001	0.911 (0.007)	0.801 (0.010)	0.709 (0.008)	0.296 (0.010)	0.544	0.337 (0.025)	0.753 (0.063)	0.868
2002	0.895 (0.015)	0.882 (0.011)	0.882 (0.018)	0.652 (0.031)	0.807	0.844 (0.063)	0.612 (0.098)	0.782
2003	0.932 (0.015)	0.947 (0.005)	0.898 (0.012)	0.708 (0.018)	0.841	0.879 (0.032)	0.630 (0.066)	0.794
2004	0.948 (0.004)	0.860 (0.006)	0.820 (0.014)	0.519 (0.035)	0.720	0.465 (0.078)	NA	NA
2005	0.967 (0.004)	0.940 (0.004)	0.867 (0.009)	0.722 (0.023)	0.850	0.595 (0.040)	NA	NA
2006	0.920 (0.013)	0.956 (0.004)	0.911 (0.006)	0.808 (0.017)	0.899	0.795 (0.045)	0.813 (0.083)	0.902
2007	1.016 (0.026)	0.887 (0.009)	0.911 (0.022)	0.852 (0.030)	0.923	0.988 (0.098)	0.579 (0.059)	0.761
2008	0.995 (0.018)	0.935 (0.007)	0.961 (0.014)	0.776 (0.017)	0.881	0.950 (0.066)	0.742 (0.045)	0.861
2009	1.002 (0.011)	0.972 (0.005)	0.942 (0.008)	0.863 (0.014)	0.929	0.951 (0.026)	0.900 (0.079)	0.949
2010 <sup>a</sup>	1.013 (0.031)	0.965 (0.028)	0.983 (0.043)	0.881 (0.030)	0.939	0.953 (0.053)	0.822 (0.038)	0.907
<b>Mean</b>	<b>0.951 (0.009)</b>	<b>0.915 (0.012)</b>	<b>0.900 (0.015)</b>	<b>0.752 (0.038)</b>	<b>0.862</b>	<b>0.797 (0.057)</b>	<b>0.747 (0.035)</b>	<b>0.862</b>

a. Estimates are preliminary and subject to change.

Table 4. Hydropower system survival estimates derived by combining empirical survival estimates from various reaches for Snake River yearling **Chinook** salmon (hatchery and wild combined), 1997–2010. Standard errors in parentheses. Simple arithmetic means across all years are given. Abbreviations: Trap–Snake River Trap; LGR–Lower Granite Dam; MCN–McNary Dam; BON–Bonneville Dam.

Year	Trap–LGR	LGR-MCN	MCN-BON	LGR–BON	Trap–BON
1997	NA	0.653 (0.072)	NA	NA	NA
1998	0.924 (0.011)	0.770 (0.009)	NA	NA	NA
1999	0.940 (0.009)	0.792 (0.006)	0.704 (0.058)	0.557 (0.046)	0.524 (0.043)
2000	0.929 (0.014)	0.760 (0.012)	0.640 (0.122)	0.486 (0.093)	0.452 (0.087)
2001	0.954 (0.015)	0.556 (0.009)	0.501 (0.027)	0.279 (0.016)	0.266 (0.016)
2002	0.953 (0.022)	0.757 (0.009)	0.763 (0.079)	0.578 (0.060)	0.551 (0.059)
2003	0.993 (0.023)	0.731 (0.010)	0.728 (0.030)	0.532 (0.023)	0.528 (0.026)
2004	0.893 (0.009)	0.666 (0.011)	0.594 (0.074)	0.395 (0.050)	0.353 (0.045)
2005	0.919 (0.015)	0.732 (0.009)	0.788 (0.093)	0.577 (0.068)	0.530 (0.063)
2006	0.952 (0.011)	0.764 (0.007)	0.842 (0.021)	0.643 (0.017)	0.612 (0.018)
2007	0.943 (0.028)	0.783 (0.006)	0.763 (0.044)	0.597 (0.035)	0.563 (0.037)
2008	0.992 (0.018)	0.782 (0.011)	0.594 (0.066)	0.465 (0.052)	0.460 (0.052)
2009	0.958 (0.010)	0.787 (0.007)	0.705 (0.031)	0.555 (0.025)	0.531 (0.025)
2010 <sup>a</sup>	0.963 (0.041)	0.772 (0.012)	0.738 (0.039)	0.570 (0.031)	0.548 (0.038)
<b>Mean</b>	<b>0.947 (0.008)</b>	<b>0.736 (0.018)</b>	<b>0.697 (0.028)</b>	<b>0.519 (0.029)</b>	<b>0.493 (0.028)</b>

a. Estimates are preliminary and subject to change.

Table 5. Hydropower system survival estimates derived by combining empirical survival estimates from various reaches for Snake River **steelhead** (hatchery and wild combined), 1997–2010. Standard errors in parentheses. Simple arithmetic means across all years are given. Abbreviations: Trap–Snake River Trap; LGR–Lower Granite Dam; MCN–McNary Dam; BON–Bonneville Dam.

Year	Trap–LGR	LGR-MCN	MCN-BON	LGR–BON	Trap–BON
1997	1.020 (0.023)	0.728 (0.053)	0.651 (0.082)	0.474 (0.069)	0.484 (0.072)
1998	0.924 (0.009)	0.649 (0.013)	0.770 (0.081)	0.500 (0.054)	0.462 (0.050)
1999	0.908 (0.011)	0.688 (0.010)	0.640 (0.024)	0.440 (0.018)	0.400 (0.017)
2000	0.964 (0.013)	0.679 (0.016)	0.580 (0.040)	0.393 (0.034)	0.379 (0.033)
2001	0.911 (0.007)	0.168 (0.006)	0.250 (0.016)	0.042 (0.003)	0.038 (0.003)
2002	0.895 (0.015)	0.536 (0.025)	0.488 (0.090)	0.262 (0.050)	0.234 (0.045)
2003	0.932 (0.015)	0.597 (0.013)	0.518 (0.015)	0.309 (0.011)	0.288 (0.012)
2004	0.948 (0.004)	0.379 (0.023)	NA	NA	NA
2005	0.967 (0.004)	0.593 (0.018)	NA	NA	NA
2006	0.920 (0.013)	0.702 (0.016)	0.648 (0.079)	0.455 (0.056)	0.418 (0.052)
2007	1.016 (0.026)	0.694 (0.020)	0.524 (0.064)	0.364 (0.045)	0.369 (0.047)
2008	0.995 (0.018)	0.716 (0.015)	0.671 (0.034)	0.480 (0.027)	0.478 (0.028)
2009	1.002 (0.011)	0.790 (0.013)	0.856 (0.074)	0.676 (0.059)	0.678 (0.060)
2010 <sup>a</sup>	1.013 (0.031)	0.774 (0.021)	0.787 (0.031)	0.609 (0.029)	0.617 (0.035)
<b>Mean</b>	<b>0.958 (0.012)</b>	<b>0.621 (0.045)</b>	<b>0.615 (0.047)</b>	<b>0.417 (0.048)</b>	<b>0.404 (0.049)</b>

a. Estimates are preliminary and subject to change.

Table 6. Estimated survival and standard error (s.e.) through reaches of the lower Columbia River hydropower system for hatchery yearling **Chinook** salmon and **steelhead** originating in the upper Columbia River, 1999–2010. Abbreviations: Rel–Release site; MCN–McNary Dam; JDA–John Day Dam; BON–Bonneville Dam.

Year	Yearling Chinook Salmon				Steelhead			
	Rel–MCN	MCN–JDA	JDA–BON	MCN–BON	Rel–MCN	MCN–JDA	JDA–BON	MCN–BON
1999	0.572 (0.014)	0.896 (0.044)	0.795 (0.129)	0.712 (0.113)				
2000	0.539 (0.025)	0.781 (0.094)	NA	NA				
2001	0.428 (0.009)	0.881 (0.062)	NA	NA				
2002	0.555 (0.003)	0.870 (0.011)	0.940 (0.048)	0.817 (0.041)				
2003	0.625 (0.003)	0.900 (0.008)	0.977 (0.035)	0.879 (0.031)	0.471 (0.004)	0.997 (0.012)	0.874 (0.036)	0.871 (0.036)
2004	0.507 (0.005)	0.812 (0.019)	0.761 (0.049)	0.618 (0.038)	0.384 (0.005)	0.794 (0.021)	1.037 (0.112)	0.823 (0.088)
2005	0.545 (0.012)	0.751 (0.042)	NA	NA	0.399 (0.004)	0.815 (0.017)	0.827 (0.071)	0.674 (0.057)
2006	0.520 (0.011)	0.954 (0.051)	0.914 (0.211)	0.871 (0.198)	0.397 (0.008)	0.797 (0.026)	0.920 (0.169)	0.733 (0.134)
2007	0.584 (0.009)	0.895 (0.028)	0.816 (0.091)	0.730 (0.080)	0.426 (0.016)	0.944 (0.064)	0.622 (0.068)	0.587 (0.059)
2008	0.582 (0.019)	1.200 (0.085)	0.522 (0.114)	0.626 (0.133)	0.438 (0.015)	NA	NA	NA
2009	0.523 (0.013)	0.847 (0.044)	1.056 (0.143)	0.895 (0.116)	0.484 (0.018)	0.809 (0.048)	0.935 (0.133)	0.756 (0.105)
2010 <sup>a</sup>	0.655 (0.014)	0.933 (0.041)	0.804 (0.050)	0.751 (0.040)	0.512 (0.016)	0.996 (0.054)	0.628 (0.038)	0.626 (0.033)
<b>Mean</b>	<b>0.553 (0.017)</b>	<b>0.893 (0.033)</b>	<b>0.843 (0.052)</b>	<b>0.767 (0.035)</b>	<b>0.439 (0.016)</b>	<b>0.879 (0.036)</b>	<b>0.835 (0.059)</b>	<b>0.724 (0.039)</b>

a. Estimates are preliminary and subject to change.

Table 7. Estimated survival and standard error (s.e.) for **sockeye** salmon (hatchery and wild combined) from Lower Granite Dam tailrace to Bonneville Dam tailrace for fish originating in the Snake River, and from Rock Island Dam tailrace to Bonneville Dam tailrace for fish originating in the upper Columbia River, 1996–2010. Note that this table represents all available data on sockeye, and so estimates are provided regardless of the size of their associated standard errors. The estimates to Bonneville tailrace are of questionable quality in several cases due to small release sizes and low detection probabilities. Caution is warranted if using those estimates for inference. Abbreviations: LGR–Lower Granite Dam; MCN–McNary Dam; BON–Bonneville Dam; RIS–Rock Island Dam.

Year	Snake River Sockeye			Upper Columbia River Sockeye		
	LGR-MCN	MCN-BON	LGR-BON	RIS-MCN	MCN-BON	RIS-BON
1996	0.283 (0.184)	NA	NA	NA	NA	NA
1997	NA	NA	NA	0.397 (0.119)	NA	NA
1998	0.689 (0.157)	0.142 (0.099)	0.177 (0.090)	0.624 (0.058)	1.655 (1.617)	1.033 (1.003)
1999	0.655 (0.083)	0.841 (0.584)	0.548 (0.363)	0.559 (0.029)	0.683 (0.177)	0.382 (0.097)
2000	0.679 (0.110)	0.206 (0.110)	0.161 (0.080)	0.487 (0.114)	0.894 (0.867)	0.435 (0.410)
2001	0.205 (0.063)	0.105 (0.050)	0.022 (0.005)	0.657 (0.117)	NA	NA
2002	0.524 (0.062)	0.684 (0.432)	0.342 (0.212)	0.531 (0.044)	0.286 (0.110)	0.152 (0.057)
2003	0.669 (0.054)	0.551 (0.144)	0.405 (0.098)	NA	NA	NA
2004	0.741 (0.254)	NA	NA	0.648 (0.114)	1.246 (1.218)	0.808 (0.777)
2005	0.388 (0.078)	NA	NA	0.720 (0.140)	0.226 (0.209)	0.163 (0.147)
2006	0.630 (0.083)	1.113 (0.652)	0.820 (0.454)	0.793 (0.062)	0.767 (0.243)	0.608 (0.187)
2007	0.679 (0.066)	0.259 (0.084)	0.272 (0.073)	0.625 (0.046)	0.642 (0.296)	0.401 (0.183)
2008	0.763 (0.103)	0.544 (0.262)	0.404 (0.179)	0.644 (0.094)	0.679 (0.363)	0.437 (0.225)
2009	0.749 (0.032)	0.765 (0.101)	0.573 (0.073)	0.853 (0.076)	0.958 (0.405)	0.817 (0.338)
2010 <sup>a</sup>	0.723 (0.039)	0.752 (0.098)	0.544 (0.077)	0.778 (0.063)	0.627 (0.152)	0.488 (0.111)
<b>Mean</b>	<b>0.598 (0.048)</b>	<b>0.542 (0.099)</b>	<b>0.388 (0.069)</b>	<b>0.640 (0.035)</b>	<b>0.788 (0.122)</b>	<b>0.520 (0.083)</b>

a. Estimates are preliminary and subject to change.

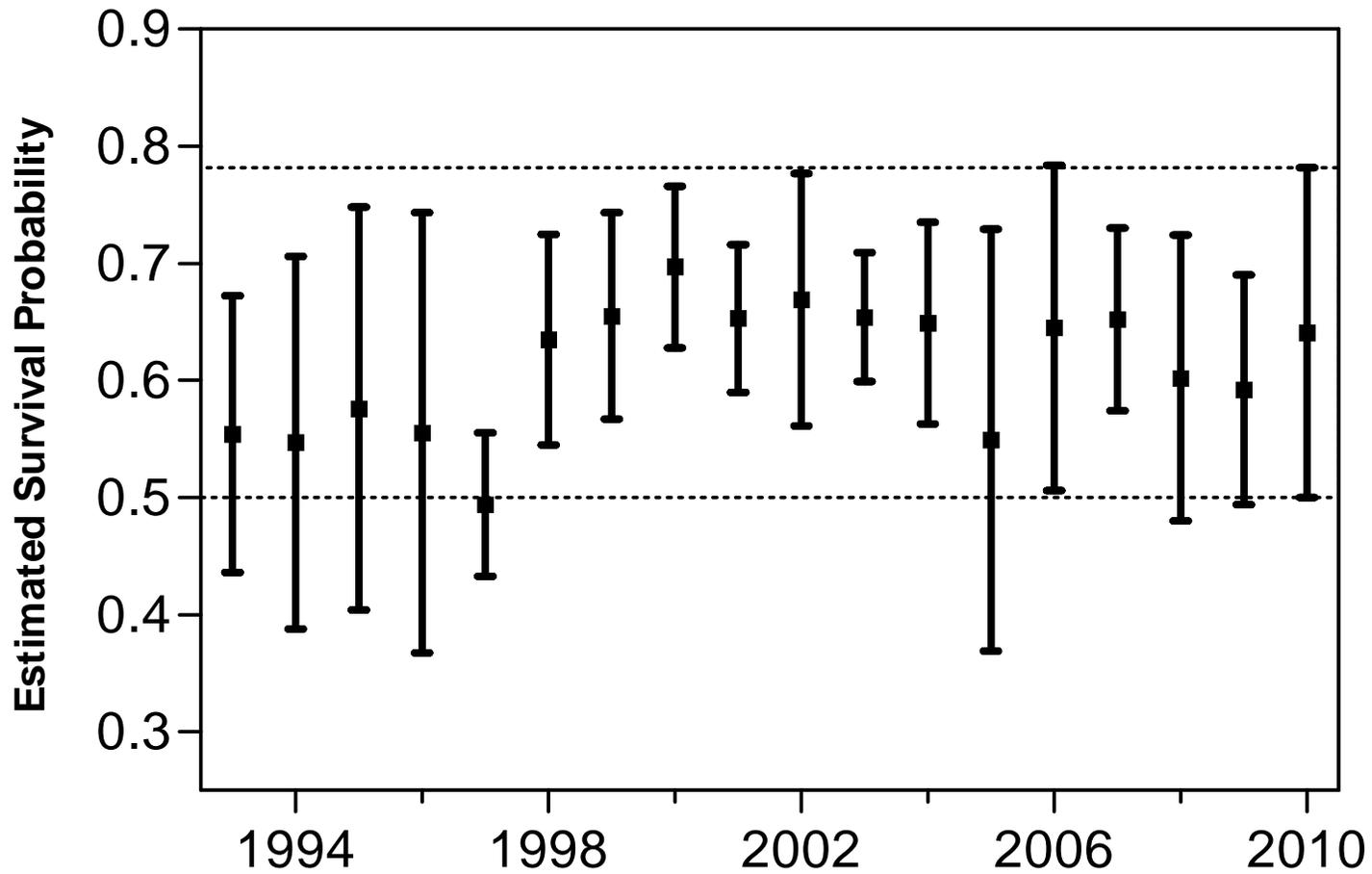


Figure 1. Annual average survival estimates from release to Lower Granite Dam for PIT-tagged yearling Chinook salmon released from Snake River Basin hatcheries, 1993-2010. Hatcheries used for average (index groups) are those with PIT-tag releases through a long series of years. Vertical bars represent 95% confidence intervals. Horizontal dashed lines are the 2010 confidence interval endpoints and are shown for comparison to other years.

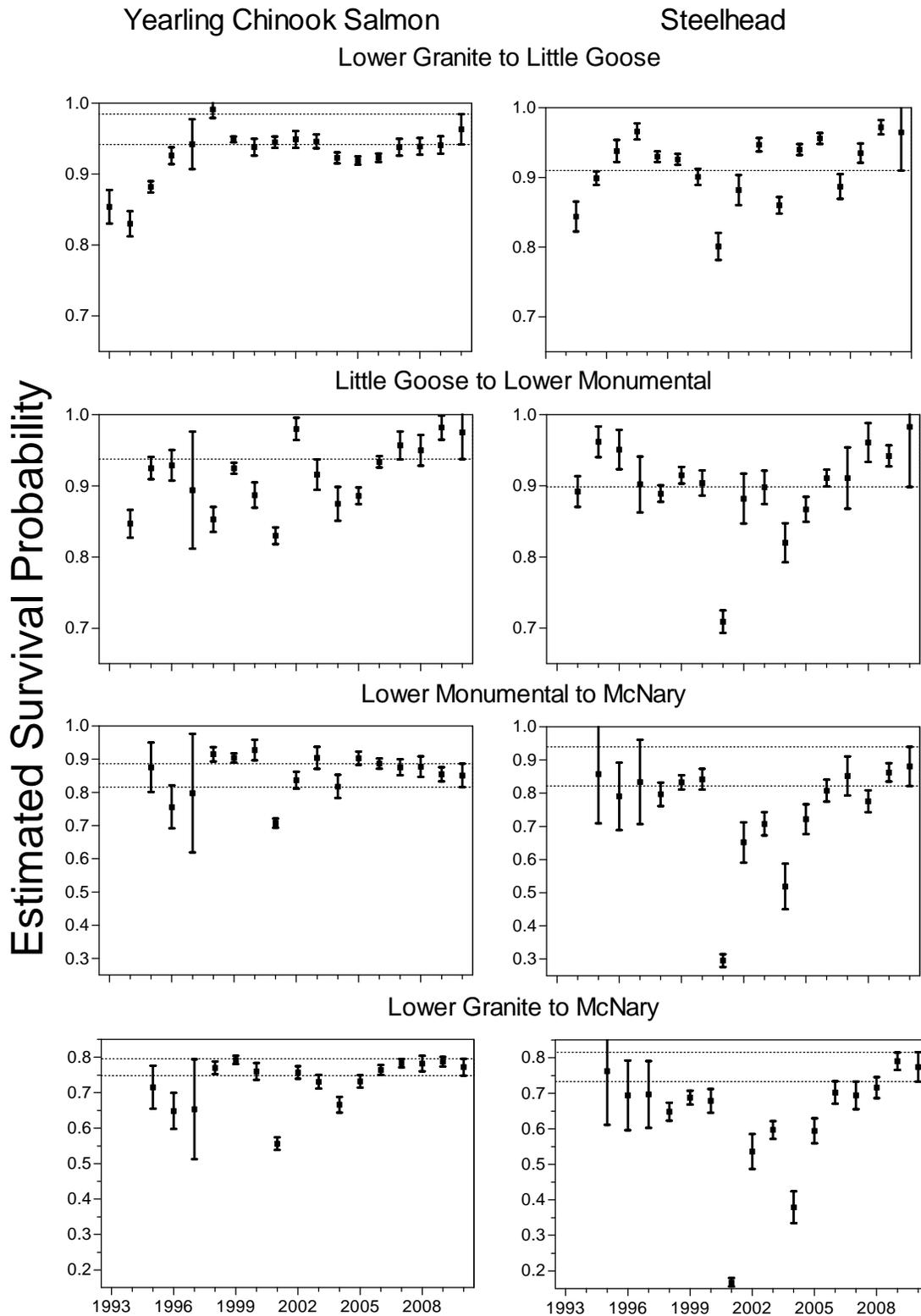


Figure 2. Annual average survival estimates for PIT-tagged yearling Chinook salmon and steelhead, hatchery and wild fish combined. Vertical bars represent 95% confidence intervals. Horizontal dashed lines are 95% confidence interval endpoints for 2010 estimates.

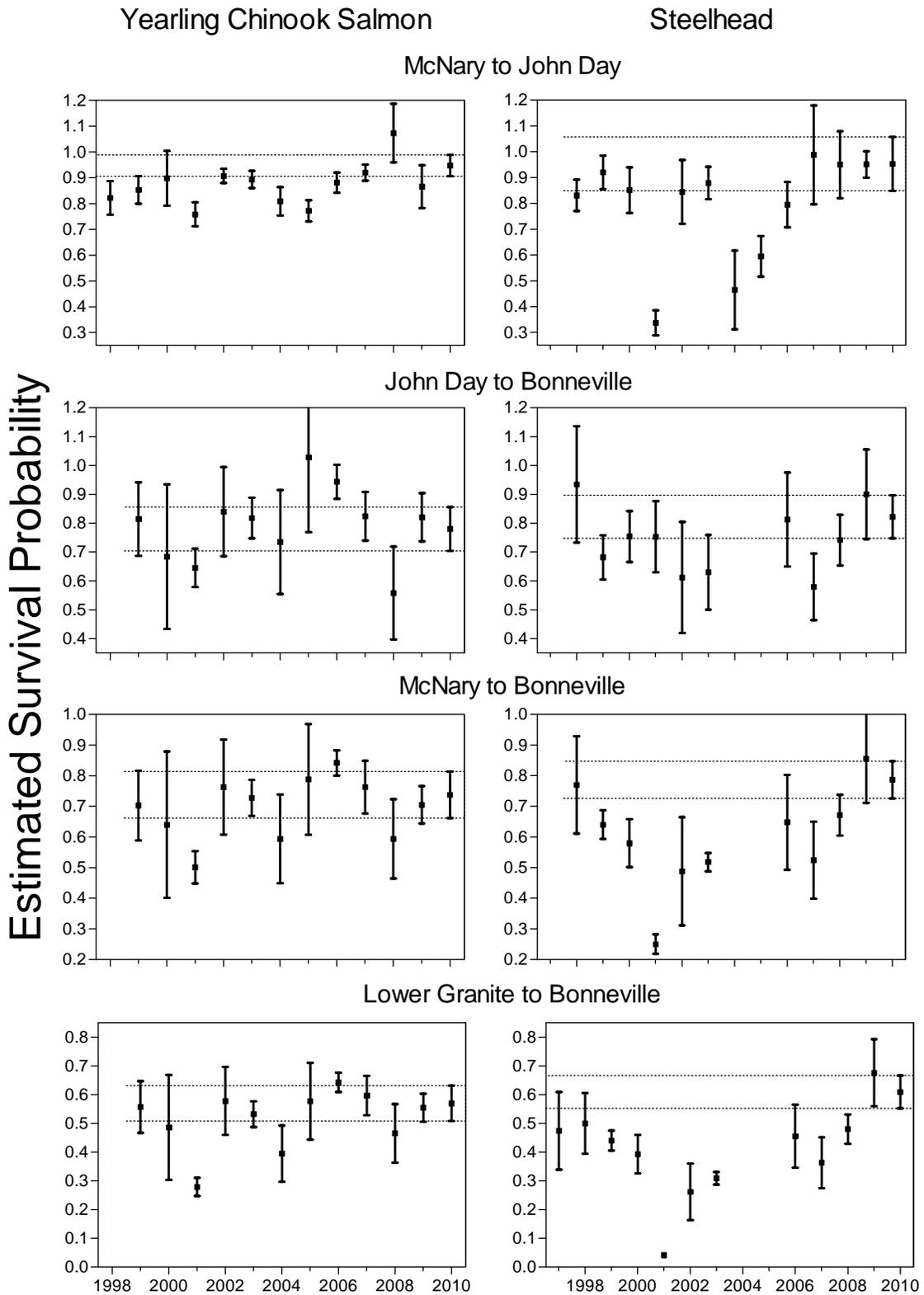


Figure 3. Annual average survival estimates for PIT-tagged yearling Chinook salmon and steelhead, hatchery and wild fish combined. Vertical bars represent 95% confidence intervals. Horizontal dashed lines are 95% confidence interval endpoints for 2010 estimates.

# Flow

## Little Goose Dam

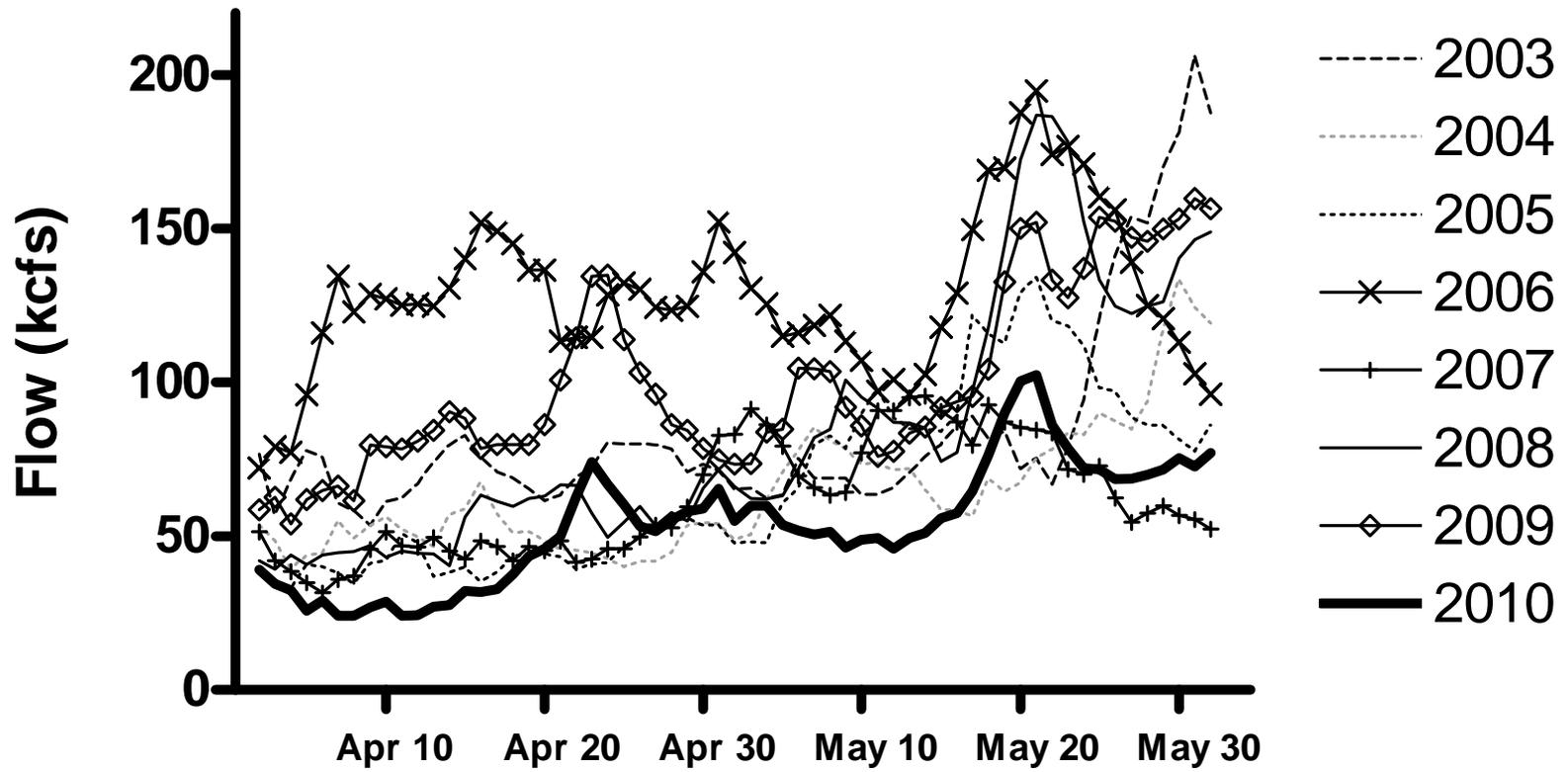


Figure 4. Snake River flow (kcfs) measured at Little Goose Dam during April and May, 2003-2010.

### Mean Spill LGR, LGO, LMN

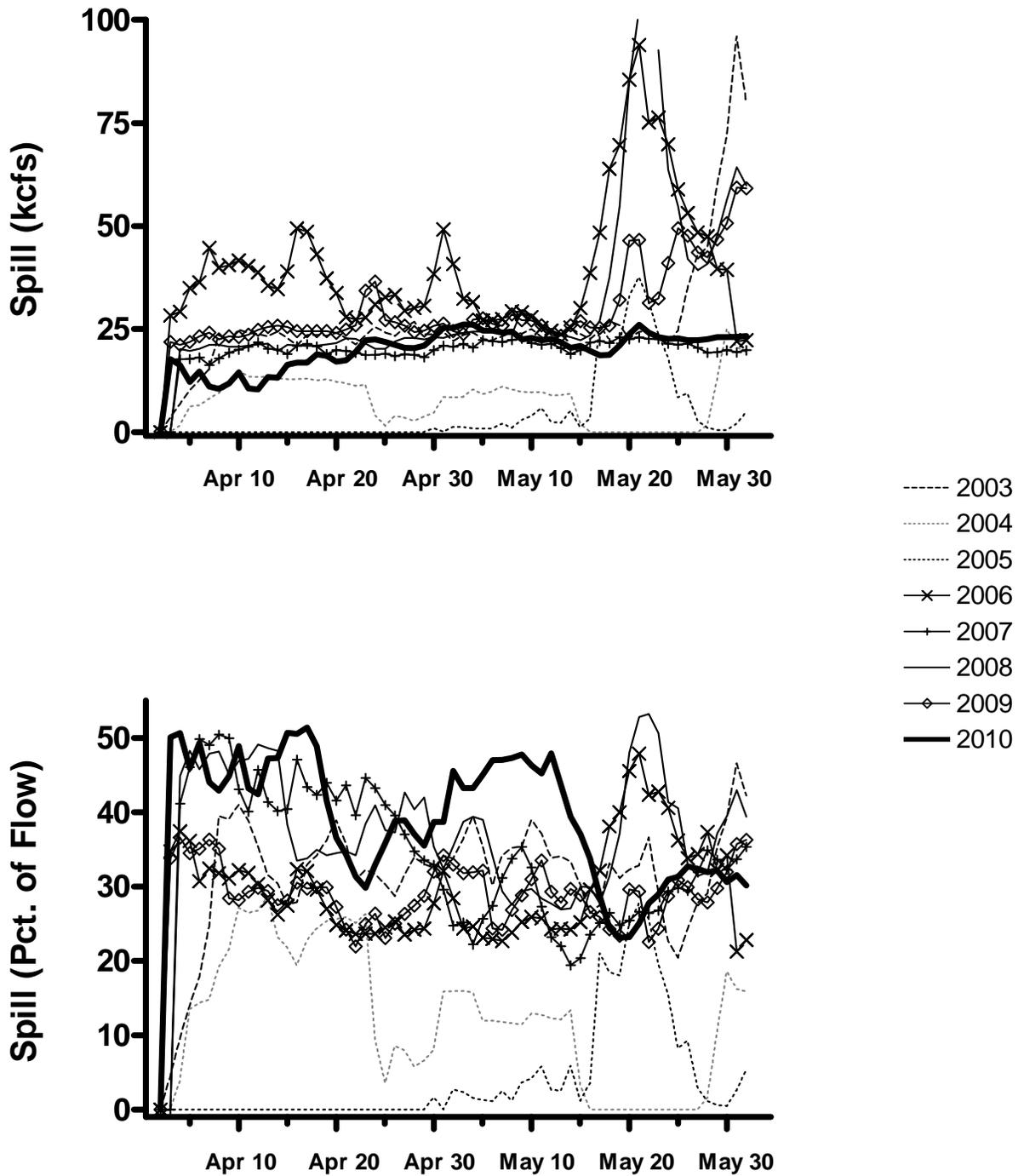


Figure 5. Mean spill (top=kcfs; bottom=percentage of total flow) at Snake River dams during April and May, 2003-2010

# Temperature

## Little Goose Dam

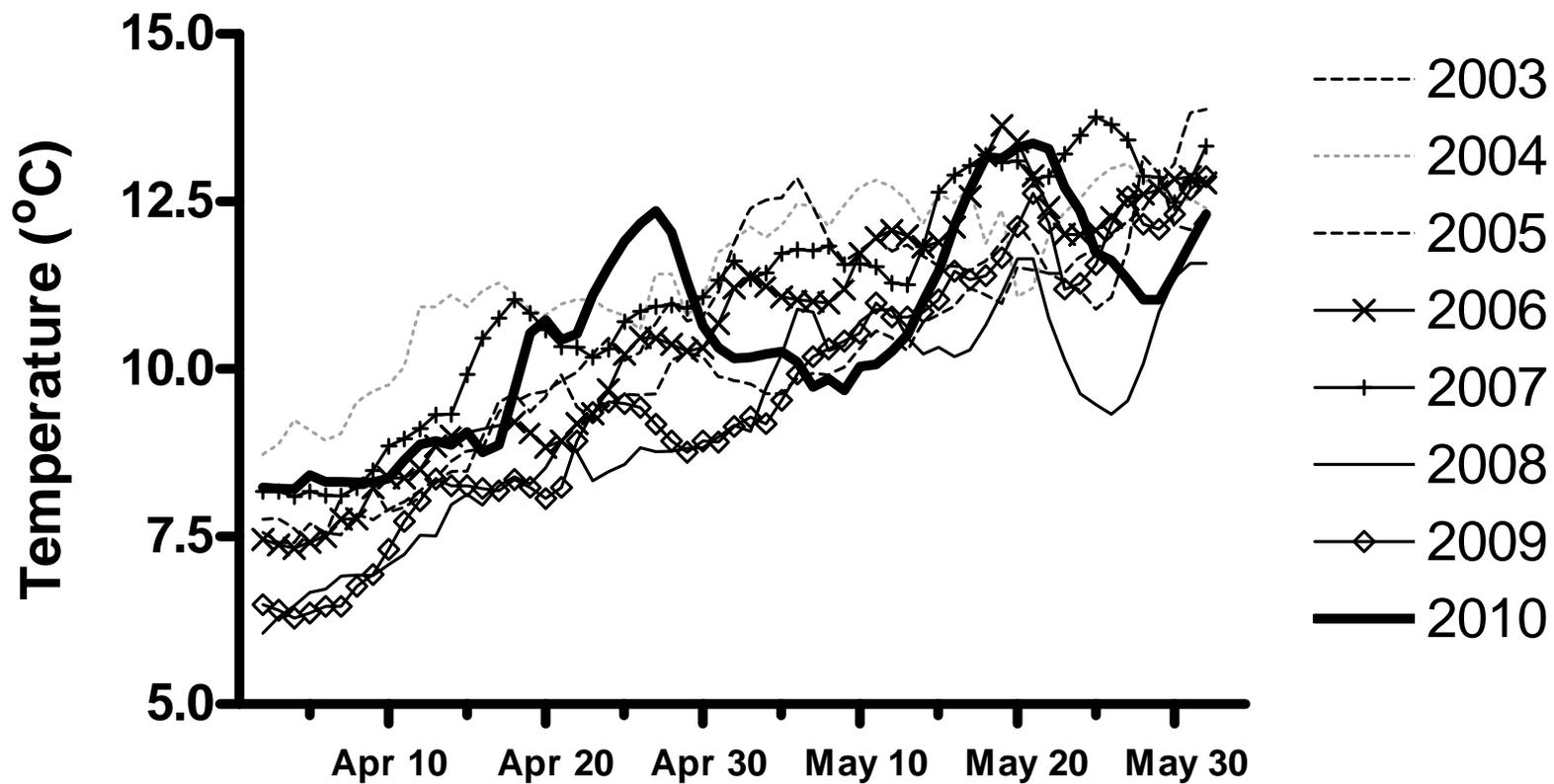


Figure 6. Snake River water temperature (°C) measured at Little Goose Dam during April and May, 2003-2010.

## Survival, Flow, Passage Index Yearling Chinook 2010

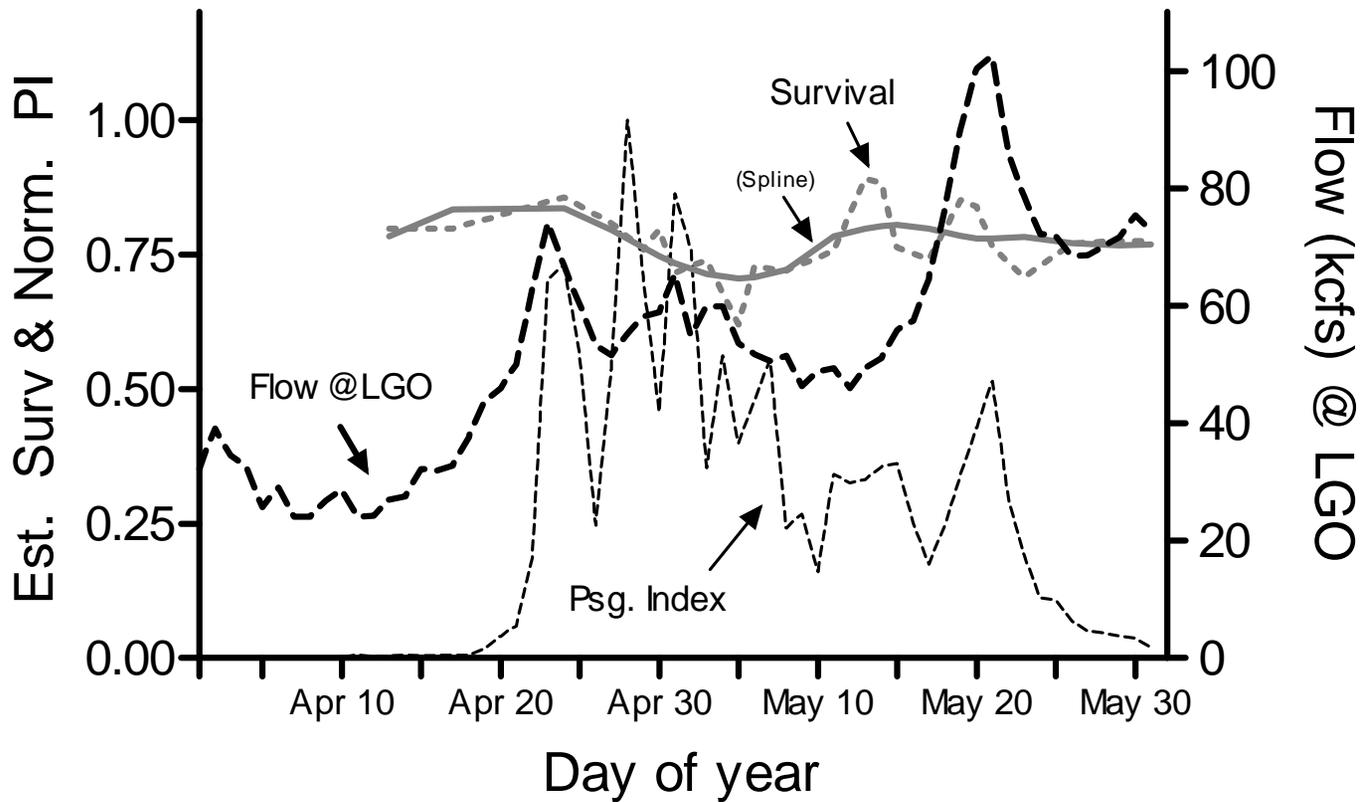


Figure 7. Estimated survival probability for yearling Chinook salmon from Lower Granite Dam to McNary Dam, flow volume at Little Goose Dam, and passage index at Lower Granite Dam (normalized: peak day = 1.0) by day of year, 2010. A curve showing a spline smooth of estimated survival is included.

## Survival, Flow, Passage Index Steelhead 2010

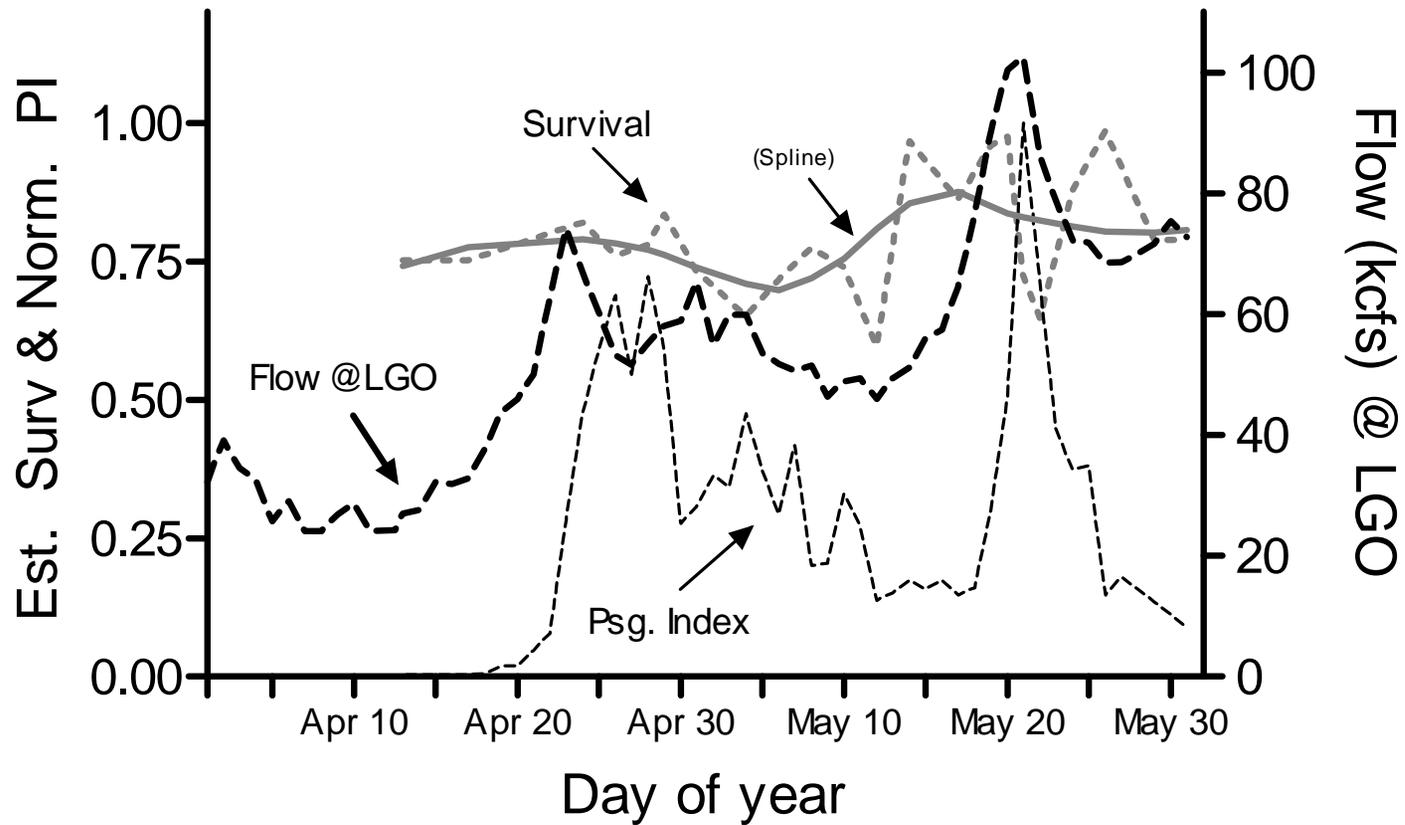
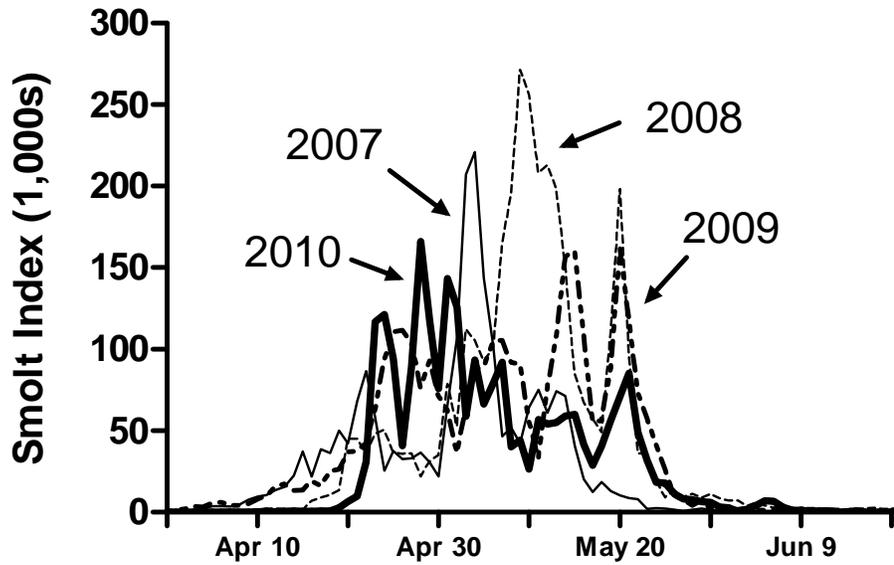


Figure 8. Estimated survival probability for steelhead from Lower Granite Dam to McNary Dam, flow volume at Little Goose Dam, and passage index at Lower Granite Dam (normalized: peak day = 1.0) by day of year, 2010. A curve showing a spline smooth of estimated survival is included.

# Smolt Passage at Lower Granite Dam

## Yearling Chinook



## Steelhead

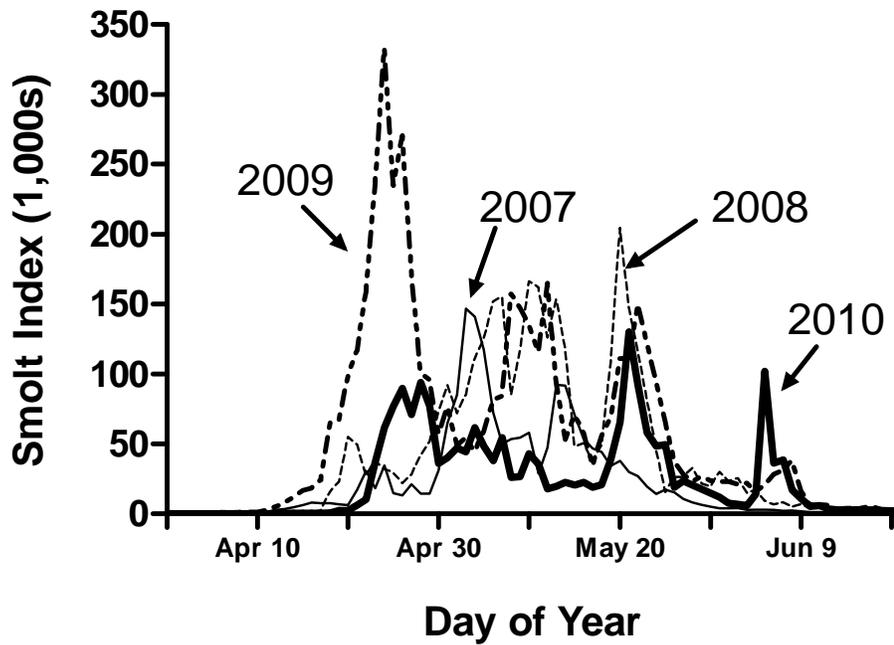


Figure 9. Smolt index in thousands at Lower Granite Dam 2007-2010 for hatchery and wild combined yearling Chinook and steelhead.

# TECHNICAL MANAGEMENT TEAM

**BOR:** John Roache / Mary Mellema / Pat McGrane

**NOAA-F:** Paul Wagner / Richard Dominigue

**OR:** Rick Kruger / Ron Boyce

**WDFW:** Cindy LeFleur / Charles Morrill

**Salish-Kootenai:** Joe Hovenkotter

**Colville:** Sheri Sears / Steve Smith

**Shoshone-Bannock:** Lytle Denny

**Yakima:** Bob Rose

**Umatilla:** Tom Lorz (CRITFC)

**BPA:** Tony Norris / Scott Bettin / Robyn MacKay

**USFWS:** David Wills / Steve Haeseker

**ID:** Russ Kiefer / Pete Hassemer

**MT:** Jim Litchfield / Brian Marotz

**Spokane:** Deanne Pavlik-Kunkel / Andy Miller

**Kootenai:** Sue Ireland / Billy Barquin

**Warm Springs:** Brad Houslet

**Nez Perce:** Dave Statler

**COE:** Steve Barton / Karl Kanbergs / Doug Baus

## TMT MEETING

Wednesday October 6, 2010 9:00am - 12:00pm

NOAA Fisheries  
Columbia Room 11th Floor  
1201 NE Lloyd Blvd Suite 1100  
Portland, OR 97232

### CONFERENCE CALL INFORMATION

Phone Number (877) 336-1274

Access Code 3871669

Security Code 6845

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 Erin Halton with any issues or concerns they would like to see addressed.  
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 September 29 [[Meeting Minutes](#)]
3. NOAA Juvenile Survival Memo - Paul Wagner, NOAA Fisheries
  - a. [Survival Memo](#)
4. Libby Operation - Doug Baus, COE-NWD
  - a. [Libby Reservoir Operations Sept-Oct 2010](#)
5. Albeni Falls Operations - Steve Barton, COE-NWD
6. Autumn Treaty Fishing Summary - Tom Lorz, CRITFC

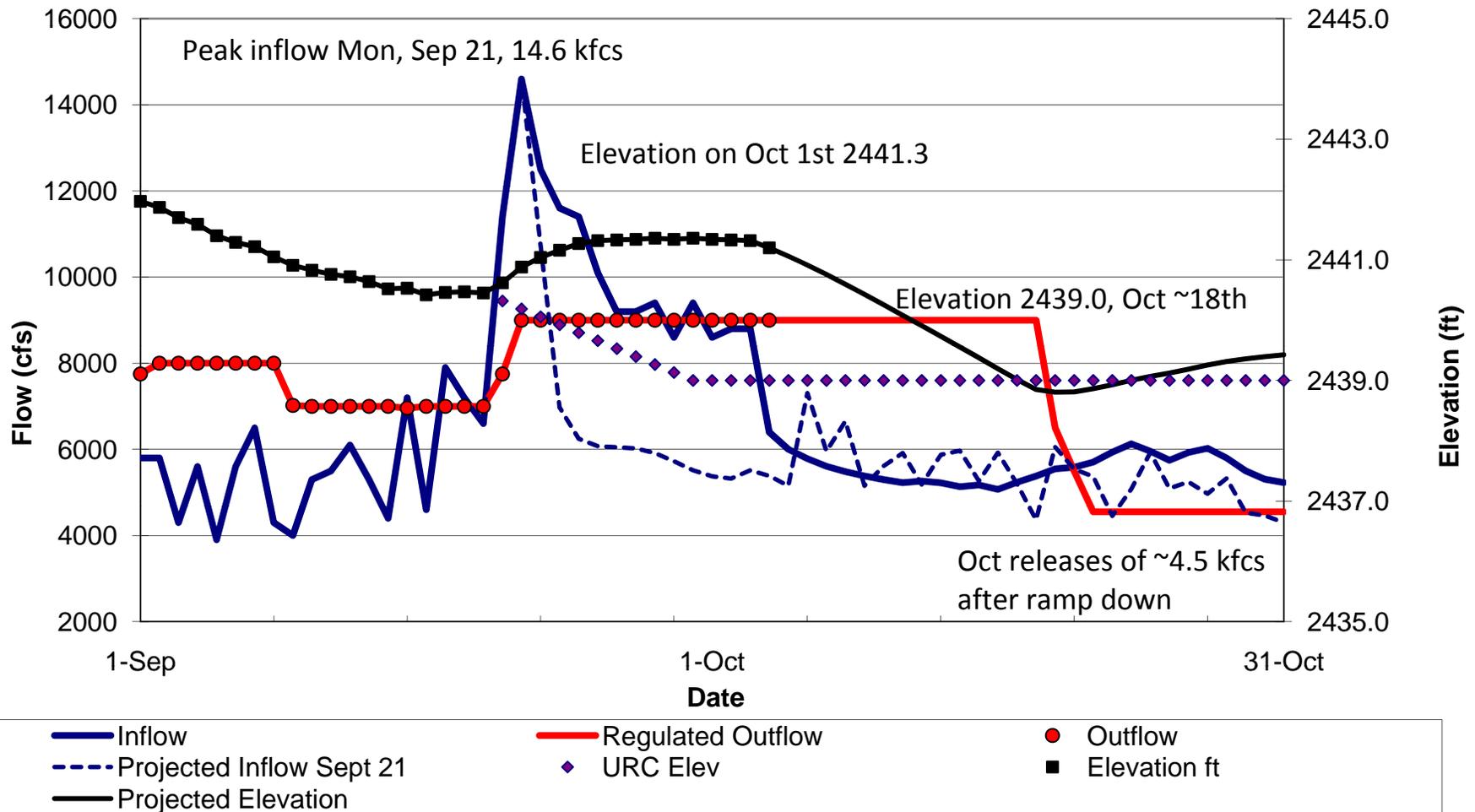
7. Operations Review
  - a. Reservoirs
  - b. Fish
  - c. Power System
  - d. Water Quality
8. Other
  - a. Set agenda and date for next meeting - **October 20, 2010**
  - b. [\[Calendar 2010\]](#)

*Questions about the meeting may be referred to:*

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

*[Doug Baus](#) at (503) 808-3995*

**Figure 1. Libby Reservoir Operations Sep-Oct 2010**  
**Holding 9 kcfs until reaching 2439.0', then One Unit Efficient**



## COLUMBIA RIVER REGIONAL FORUM

### TECHNICAL MANAGEMENT TEAM

October 6, 2010 Meeting

#### FACILITATOR'S SUMMARY NOTES

Facilitator: Erin Halton

Notes: Robin Gumpert

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.

#### **Meeting Minutes**

The 9/29 Official Meeting Minutes and Facilitators' Summary were open for review. Some TMT members needed more time to review the Official Minutes, so the review period will be extended and TMT will look to finalize the 9/29 and 10/6 sets at the 10/20 face-to-face TMT meeting.

#### **NOAA Juvenile Survival Memo**

Paul Wagner, NOAA, shared a memo from the NMFS Science Center with preliminary juvenile survival estimates for 2010. The final numbers, he noted, might change by a percent or two. Paul shared some of the highlights from the memo:

- Snake River yearling Chinook wild and hatchery numbers were above the 10-year average, while the Lower Granite to Bonneville reach showed a 57% survival rate – this was average, and, given the low flow year, a good percentage.
- Snake River steelhead survival, normally in the 40s and 50s percentile range, was 69% in 2009. Because of the high rate last year and the low flow conditions, it was ‘remarkable’ that survival this year was 61%. The scientists suggest the improvements to survival since 2007 were due to changes in dam operations, infrastructure modifications (e.g. spillway weirs, bird wires and The Dalles spillwall) and more in-river fish.
- Survival percentages for both Chinook and steelhead in the Columbia were about average.
- Transported fish saw the lowest percentages since 1995: Spring Chinook wilds were 38.2%, hatchery fish were 22.6%; steelhead wilds were 36.8% and hatchery fish were 34.8%.
- The highest survival percentage for Chinook was in the Lower Granite – McNary reach. The highest survival percentage for steelhead was in the Lower Granite – Bonneville reach. Sockeye from Lower Granite to McNary also showed a strong percentage.

Paul said that additional details of the juvenile survival counts would be shared at the TMT Year End Review. In response to a question, he added that NOAA will look at other survival studies to see how well they track with NOAA's counts, as well as to evaluate

for BiOp survival standards. Finally, he said that the preliminary results would be presented and discussed at this year's AFEP review, scheduled for November 29-December 3.

### **Libby Operations**

Doug Baus, COE, provided a summary of Libby operations to date that led to the current operation of 9 kcfs out of Libby to manage for the higher flows that had entered the basin over the last few weeks. Joel Fenolio, Seattle District COE, shared the latest model run depicting inflows and operations. The graph projected that if it were continue to operate at 9 kcfs outflows, the project would reach the targeted 2439' elevation around 10/18. The COE acknowledged that the projected date had changed again, due to inflows staying in the 9 kcfs range over the last week, but that inflows had begun to recede some over the last couple days. The current elevation was 2441.15'.

TMT discussed the possibility of ramping down outflows sooner in an effort to provide good biological conditions for a smoother, more gradual transition to lower flows.. This would move the operation away from an elevation target (2439') and focus instead on flows. They discussed the biological impacts (Jason Flory, USFWS, suggested that a gradual ramp down operation such as was being discussed would be acceptable to the project), BiOp requirements (some said the project was no longer operating under BiOp restrictions), and impacts to other operations (how would chum operations be impacted from holding Libby to the 2439' target vs. ramping outflows down sooner?).

TMT members present – Montana, Washington, NOAA, USFWS, CRITFC, BPA, Reclamation and the COE – were polled on the following new proposed alternative operation that was discussed today that could be implemented pending additional coordination: ramp down to 8 kcfs using acceptable ramp rates starting this Friday, 10/8 and then drop outflows to 7 kcfs on 10/9 and hold the project there through the end of October. TMT members present did not object to the proposed operation; however, as members said they needed to discuss the operation internally with their respective agencies to confirm support, and agreed to communicate back to the COE by mid-day on Friday 10/8.

**Process next steps:** The COE will coordinate internally and with TMT members not represented at the meeting today to discuss the new proposed operation that was presented at TMT today. After the coordination process is complete the COE will provide TMT with an email update on the plan that will be implemented to complete the Libby operation. The COE expects the additional TMT coordination to finalize the operation will occur via email and/or conference call by mid-day on Friday 10/8. TMT member feedback regarding the proposed operation discussed today must be shared with the COE by noon on Friday, 10/8. The COE will share an operations update at the next TMT meeting.

### **Albeni Falls Operations**

Doug Baus, COE, shared that the COE is awaiting an SOR for Albeni Falls operations, and is currently operating to reach elevation 2057.5'. TMT will revisit this operation at their 10/20 meeting.

### **Autumn Treaty Fishing**

Tom Lorz, CRITFC, reported that a COMPACT meeting was scheduled for this Thursday, 10/7, to discuss and determine whether to request further treaty fishing operations. Tom will email the COE with any such requests as soon as they are known.

### **Operations Review**

**Reservoirs** – John Roache, Reclamation, reported on Hungry Horse and Grand Coulee. Hungry Horse was at elevation 3539.53', with 1.2 kcfs outflows; gauge work below the dam was scheduled for next week and would continue for up to a week of in-water work. While it was not anticipated to have any impacts on Columbia Falls minimums, John said he coordinated with Brian Marotz, MT FG&R and will likely start the work on Wednesday 10/13. Grand Coulee, he reported, was at elevation 1278.8'. Karl Kanbergs, COE, reported on COE projects. Libby was at elevation 2441.5', with 7.9 kcfs inflows and 9 kcfs outflows. Albeni Falls was at elevation 2060.09' with 17.4 kcfs inflows and 24 kcfs outflows. Priest Rapids outflows averaged 77.5 kcfs; McNary averaged 106.2 kcfs (higher than the previous few days); and Bonneville averaged 112.6 kcfs (also higher than previous days). Karl closed with a comment that the system had not experienced extreme low flows to any great extent this year.

**Fish** – Paul Wagner, NOAA, reported on the adults: Fall Chinook counts totaled 450,000 at Bonneville, with daily counts in the range of 3,500-1,700 (decreasing trend). Steelhead counts totaled 400,000 at Bonneville, with dailies ranging 1,300-485. Similar trends were seen in the Snake, with Snake River Fall Chinook counts around 1,000/day at Lower Granite (35,000 total) and steelhead total counts at 151,000; sockeye counts at Lower Granite were 2,201. Fall Chinook jacks were not tracking as strong this year as they did in 2009. Juvenile migration, he reported, was nearly done – about 1,000/day were seen at Lower Granite, from the Clearwater.

**Power System** – Nothing to report.

**Water Quality** – Nothing to report.

### **Next TMT Meeting: Face to face 10/20 at NOAA**

Agenda items include:

- Meeting Minutes Review
- Libby Operations Update and Phase II Storage Accounting
- Albeni Falls Operations
- Water Management Plan
- Operations Review

**Reminder:** The BPA presentation on June high water event will be held on 10/12 at BPA. See the 9/29 TMT agenda for a link to the details.

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**

**October 6, 2010**  
Notes: Pat Vivian

***1. Introduction***

Today's TMT meeting was chaired by Doug Baus (COE) and Karl Kanbergs (COE) and facilitated by Erin Halton (DS Consulting). Representatives of the COE, USFWS, Montana, NOAA, BOR, BPA, CRITFC and others attended. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

***2. Meeting Minutes for September 29, 2010***

Review of meeting minutes for September 29 was postponed until the next TMT meeting on October 20.

***3. NOAA Juvenile Survival Memo***

Paul Wagner (NOAA) briefed TMT on the Science Center's annual memo containing preliminary estimates of juvenile survival in 2010. He noted that the final numbers might vary by a few percentage points, but the report gives a good idea of how PIT tagged juveniles fared this year in terms of survival percentages.

Snake River yearling Chinook salmon (both hatchery and wild) had a survival estimate of 57% from Lower Granite tailwater to Bonneville tailwater, which was above the 10 year average. From McNary to Bonneville, the estimate was 73.8% which is nothing special for that reach. However, from Lower Granite to McNary, the survival estimate of 77% is one of the highest ever seen.

Snake River steelhead had a surprisingly good estimate of 61% survival from Lower Granite to Bonneville in 2010 – much better than 2007, a similar low-flow year with a survival estimate in that reach of only 39%. Last year's estimate of 69% for steelhead was phenomenal in comparison to the typical estimates in the high 40<sup>th</sup> or low 50<sup>th</sup> percentile. One possible explanation for the big improvement in survival rates is that features added to the hydro system since 2007 – e.g. the spillway weirs at John Day, Little Goose and Lower Monumental dams; bird wires at John Day; the spill wall at The Dalles – are effective in improving survival odds. From McNary to Bonneville, an estimated 78.7% of steelhead survived in 2010, a very good number for that reach. Snake River sockeye survival estimates are close to 55% which is considered good in comparison to past results. For the upper Columbia from McNary to Bonneville, the survival estimate is 62%, nothing extraordinary for that reach.

Bill Muir of the Science Center will give a more in-depth presentation on juvenile survival findings at the TMT year-end review. Jim Litchfield (Montana) asked how these estimates relate to the BiOp performance standards of 93% and 96% survival. Wagner said this will be tracked but didn't have a definitive answer today. He noted there have been additional survival studies on the lower river from John Day to Bonneville Dam using acoustic tagged fish. Preliminary information on the acoustic tag research will be presented at the AFEP review on November 29-December 2, 2010, Dave Wills (USFWS) noted.

**Transportation:** Estimated percentages of yearling Chinook and steelhead that were transported from the Snake River in 2010 were among the lowest seen in the last 15 years, Wagner reported. High spill percentages accounted for much of that decline in numbers of transported fish. Preliminary estimates of non-tagged wild and hatchery spring Chinook smolts that were transported in 2010 are 38.2% and 22.6% respectively. For steelhead, the transport estimates are 36.8% wild and 34.8% hatchery smolts.

#### ***4. Libby Operations***

Doug Baus (COE) gave a recap of Libby operations in recent weeks. Significant precipitation during the week of September 20 led to higher inflows than expected and an unscheduled TMT meeting on September 22 to consider alternative ways of meeting the 2,439-foot end of September elevation target at Libby. At that meeting, TMT members either supported or didn't object to a COE proposal to move the elevation target out to October 3-9 rather than meet it on September 30. The goal of modifying the operation was to minimize adverse biological impacts downstream of Libby Dam.

At the next TMT meeting September 29, the COE reported that the elevation target of 2,439 feet would be attained on approximately October 15. Today Joel Fenolio (COE Seattle) walked TMT members through the latest modeling of Libby operations, which shows the elevation target of 2,439 feet extended to October 18. Inflows however have dropped dramatically in the past few days, Karl Kanbergs (COE) reported. And current weather trends indicate there will be no rain in the interior Kootenai basin that feeds Libby reservoir.

With the September 30 BiOp elevation target collaboratively extended, TMT considered alternatives today for Libby operations until the next TMT meeting October 20.

One option the COE suggested was holding outflows at 9 kcfs until the end of this week, then ramping down over the weekend. Or, for a more gradual ramp down, the operation could target elevation 2,439 feet at the end of October by ramping down to 8 kcfs soon, then to 7 kcfs for the rest of October. The COE needed to confer internally and with other stakeholders not present at today's

meeting before committing to this specific operation. Other meeting participants also said they needed more internal discussion before casting a definitive vote.

The COE wanted to hear initial feedback from TMT members on today's new proposal to ramp Libby down to 8 kcfs on October 8, then to 7 kcfs on October 9 or 10, holding 7 kcfs out until elevation 2,439 feet is attained, pending further consultation. This led to discussion of whether a conference call on Friday, October 8, would be needed to poll TMT members in time to raise any objections before the ramp down begins. Fenolio noted the ramp rates at Libby are a maximum of 2,500 cfs per day from October 6-9.

TMT members present gave their views of the alternative Libby operation presented today:

- **Montana** – Favors a more gradual ramp down operation, targeting elevation 2,439 feet on October 31. Gave conditional approval of the COE proposal, pending internal consultation. Favored TMT notification of Libby operations via email rather than a Friday call, allowing time for any serious objections to be raised.
- **NOAA** – A ramp rate of 7 kcfs appears to be acceptable, pending confirmation that it's consistent with the BiOp. Suggested a faster ramp down to move water now into Grand Coulee reservoir for chum operations beginning November 7, but it was noted that Grand Coulee is at 1,287 feet elevation or 2 feet from full.
- **USFWS** – Supports NOAA's concept of providing water for chum. Wants to confer with the other Salmon Managers before giving definite approval of the proposal. Generally favors a gradual ramp down.
- **Washington** – No objections to proposed operation; will double-check internally.
- **CRITFC** – No objections to proposed operation; will double-check internally.
- **BPA** – Would like the project to ramp down as soon as possible. Prefers to target specific flows rather than an elevation. Doesn't expect these releases to "make or break" the chum operation.
- **BOR** – No objection to proposed ramp down.

After additional coordination internally and externally the **COE** will notify TMT via email in the next day or two regarding Libby operations. This includes a potential Friday TMT call to poll stakeholders.

## **5. Albeni Falls Operations**

The COE is awaiting an SOR on the Lake Pend Oreille winter operation, Baus reported. Until the SOR is received, the COE will operate the project to a mid-month elevation of 2,057.5 feet. TMT will revisit this operation at its October 20 meeting.

## **6. Autumn Treaty Fishing Summary**

The treaty compact will meet October 7 to count the tribal catch and determine whether further allocation remains under the harvest agreement, Tom Lorz (CRITFC) reported. If so, there will be 1 or 2 additional days of fishing next week. The COE will notify TMT if a tribal fishery SOR is received.

## **7. Operations Review**

**a. Reservoirs.** Hungry Horse is at elevation 3,539.53 feet, discharging 1.2 kcfs. The project has been gradually ramping down this week to minimum flows. Next week outflows will be limited to 1,000 cfs to accommodate work on the gauge below the dam. At present, it looks like that operation will meet the Columbia Falls minimum flow requirement, but there's a possibility it could fall short. BOR has been coordinating this with Montana. Grand Coulee is at elevation 1,287.8 feet, close to full.

Libby is at elevation 2,441.15 feet, with inflows of 7.9 kcfs and releases of 9 kcfs. Albeni Falls is at elevation 2,060.09 feet with inflows of 17.4 kcfs and average releases of 24 kcfs. Average releases at Priest Rapids are 77.5 kcfs.

Dworshak is at elevation 1,519.0 feet, with inflows of 1.3 kcfs and outflows of 1.6 kcfs. Lower Granite outflows are 21.5 kcfs. McNary outflows are 106.2 kcfs, but ranged from 78-100 kcfs over the previous 4 days. Bonneville outflows are also higher at 112.6 kcfs compared to the range of 81-112 kcfs over the previous 4 days.

**b. Fish. Adults:** Fall Chinook and steelhead migration is active, with fall Chinook counts between 3,500-1,700 per day at Bonneville Dam. Passage to date is 455,000 fall Chinook at Bonneville, well above the 10 year average. Fall Chinook passage at Priest Rapids Dam was around 26,000 fish per day, which is close to the 10 year average. Spring Chinook passage at Priest Rapids exceeded the 10 year average. Steelhead passage, however, at Priest Rapids fell below the 10 year average. Steelhead passage has slowed to 485 fish per day at Bonneville, with a high count for this week of 1,300 fish per day. Approximately 400,000 steelhead have passed Bonneville so far this year, which is less than the 10 year average. For Snake River fish, fall Chinook passage is close to 1,000 fish per day, with a record-setting total of 35,000 fish, well above the 10 year average. Steelhead passage of 151,000 fish was also good but not

record-setting in the Snake. Sockeye passage is nearly done. The latest count at Lower Granite is 2,201 fish per day.

Juveniles: Passage is nearly done, with 1,000 smolts from the Clearwater River passing per day at Lower Granite and Little Goose.

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

**d. Water Quality.** There was nothing to report today.

### **3. Next Meetings**

The next TMT meeting will be in person October 20. The agenda will include review of meeting minutes, a Libby operations update and phase 2 accounting item, an Albeni Falls update, the WMP comment period, and the usual operations review. Subsequent TMT meetings are scheduled for November 3, 10 and 24. The annual TMT year-end review will be on December 8.

<b><i>Name</i></b>	<b><i>Affiliation</i></b>
Doug Baus	COE
Dave Wills	USFWS
Jim Litchfield	Montana
Paul Wagner	NOAA
Karl Kanbergs	COE
<b><i>Phone:</i></b>	
John Roache	BOR
Scott Bettin	BPA
Tony Norris	BPA
Tom Lorz	CRITFC
Jason Flory	USFWS
Eric Volkman	BPA
Steve Hall	COE Walla Walla
Tim Heizenrader	Centaurus
Joel Fenolio	COE Seattle
Alex Cibarro	Grant PUD
Margaret Filardo	FPC
Glen Trager	Iberdrola Renewables
Barry Espenson	CBB
Russ George	WMC
Doug Vine	Thomson Reuters
Rob Allerman	Deutsch Bank
Tom Le	Puget Sound Energy
Richelle Beck	DRA
Scott English	COE

# TECHNICAL MANAGEMENT TEAM

**BOR:** John Roache / Mary Mellema / Pat McGrane

**NOAA-F:** Paul Wagner / Richard Dominigue

**OR:** Rick Kruger / Ron Boyce

**WDFW:** Cindy LeFleur / Charles Morrill

**Salish-Kootenai:** Joe Hovenkotter

**Colville:** Sheri Sears / Steve Smith

**Shoshone-Bannock:** Lytle Denny

**Yakima:** Bob Rose

**Umatilla:** Tom Lorz (CRITFC)

**BPA:** Tony Norris / Scott Bettin / Robyn MacKay

**USFWS:** David Wills / Steve Haeseker

**ID:** Russ Kiefer / Pete Hassemer

**MT:** Jim Litchfield / Brian Marotz

**Spokane:** Deanne Pavlik-Kunkel / Andy Miller

**Kootenai:** Sue Ireland / Billy Barquin

**Warm Springs:** Brad Houslet

**Nez Perce:** Dave Statler

**Kalispel:** Joe Maroney

**COE:** Steve Barton / Karl Kanbergs / Doug Baus

## TMT CONFERENCE CALL

Wednesday October 8, 2010 10:00am - 11:30am

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

### CONFERENCE CALL INFORMATION

Phone Number (877) 336-1274

Access Code 3871669

Security Code 6845

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 Erin Halton with any issues or concerns they would like to see addressed.  
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. Libby Operations - Steve Barton, COE-NWD
3. Other
  - a. Set agenda and date for next meeting -
  - b. [\[Calendar 2010\]](#)

*Questions about the meeting may be referred to:*

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

*[Doug Baus](#) at (503) 808-3995*



## COLUMBIA RIVER REGIONAL FORUM

### TECHNICAL MANAGEMENT TEAM

October 8, 2010 Conference Call

#### FACILITATOR'S SUMMARY NOTES

Facilitator: Erin Halton

Notes: Robin Gumpert

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.

#### **Libby October Operations**

Steve Barton, COE, began the discussion with a recap of operations at Libby over the last several weeks. He reminded TMT that their recommendations had guided the COE's operations to manage higher flows in to the Kootenai Basin since September. Barton noted TMT's recommendations to maintain 9 kcfs with a goal of intersecting elevation 2439.0 ft sometime in October rather than increasing outflows to keep up with inflows and meet an end of September target elevation of 2439.0 ft. Lingering high flows have not allowed the COE to reduce outflows at the project, and the changing inflow assumptions have continued to shift the projected date for meeting the target elevation later into October (the latest estimate was October 18-20.)

Given all this, TMT had discussed an alternative operation during the 10/6 meeting that would bring the project closer to ‘normal’ October operating flows. Today, Steve shared a range of options for moving forward that included increasing discharge to meet 2439’, ramping down to one unit (~4.5 kcfs); holding the project at a discharge lower than 9 kcfs flows; or maintaining status quo of 9 kcfs outflows. Before he invited TMT input, he shared the COE's preference to initiate a steady ramp down (of about 1 kcfs every other day) to reach 4.5 kcfs around mid-October and then hold the project at ‘normal’ October operations. (He later emphasized that this would be the COE's preference for this year only, and was not intended to set a precedent for future years.)

TMT members weighed in. Paul Wagner, NOAA, reiterated the proposal he suggested on the last TMT conference call, to ramp the project down to 4.5 kcfs over the next few days if this operation would provide some assurance that the chum operation could start earlier in November. He said he shared this proposal with the Salmon Managers at FPAC and did not have any additional input to share from that discussion. Jim Litchfield, Montana, said his preference would be for a gradual ramp down and said mid-month would be an acceptable time frame to get to 4.5 kcfs. He also noted that he was pleased with the Fall operation this year. Ron Boyce, Oregon, expressed concern that the operation was morphing from the original intent, which was to support summer juveniles by targeting 2439’ at the end of September. He recalled agreeing to the shifting operation in September with the assurance that the elevation would be met in October. In order not to

set a precedent, he felt the COE should continue to operate toward that target elevation. Dave Wills, USFWS, shared Oregon's concern for precedent-setting, and also said he would support the operation proposed by NOAA for this year only in order to support the possibility of starting the chum operation sooner. The action agencies (COE and BPA) responded that this operation would have no bearing on the start date for chum operations and urged the Salmon Managers to make recommendations today independent of their interests for chum operations. Steve Barton added that water sent to Grand Coulee will be stored as space is available, and will be used to support chum operations; he further clarified that no decision on the near term operation of Libby will impact the volume of water that will be available for that later operation. Russ Kiefer, Idaho, said that if this operation will not have any net change in benefit to anadromous fish, he would propose the COE operate to Montana's preference for its resident fish. Dave Wills, USFWS, echoed this sentiment.

**Planned Operation:** Given the discussion heard today, the COE shared its planned operation: Starting this afternoon, ramp the project down to reach one small operating unit of ~4.5 kcfs outflows next week using a ramp rate of 1 kcfs/day (likely reaching that outflow by Tuesday 10/12). The following TMT members were polled:

- Oregon – While this is not the preferred operation, no objection. This should not set a precedent for future years, and the goal should remain to release the water in September to support migrating juvenile salmonids.
- Montana – Supports the operation.
- Idaho – No objection.
- Washington – No objection.
- Spokane Tribe of Indians – Abstain.
- Kootenai Tribe of Idaho – No objection.
- USFWS – No objection. (Jason Flory, USFWS at Kootenai, shared a preference for a slow ramp rate, and said 1 kcfs/day was acceptable.)
- NOAA – Supports the operation.
- BPA – Supports the operation.

**Action/Next Steps:** The COE planned to begin its operation later today. Steve Barton thanked everyone for working through this issue together and seeking to find a beneficial solution to the unforeseen and changing conditions.

### **TMT Call to Discuss Albeni Falls SOR**

There is a need to convene a TMT conference call next week to discuss an SOR for Albeni Falls. TMT members expressed a preference to hold the call on the afternoon of Thursday 10/14 or morning of Friday 10/15.

**Action/Next Steps:** Steve Barton and Russ Kiefer will work together to set a date and Steve will send email notification with date, time and call-in information to TMT as soon as possible. The next face to face TMT meeting will be held on Wednesday 10/20 at NOAA Fisheries.

## **TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**

**October 8, 2010**

Notes: Pat Vivian

### ***1. Introduction***

Today's TMT conference call was chaired by Steve Barton (COE) and facilitated by Erin Halton (DS Consulting). Representatives of Washington, BPA, NOAA, USFWS, Montana, Oregon, Idaho, the Kootenai Tribe, Spokane Tribe and others attended. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

### ***2. Libby Operations***

TMT had a conference call September 22 to discuss Libby operations in terms of reaching elevation 2,439 feet by September 30, Barton recalled. With the late season inflows from rainfall at the end of September, drafting to 2,439 feet would have resulted in increased discharges out of Libby, which the Salmon Managers felt would be detrimental to river conditions. So TMT agreed to push the Libby elevation target out to the first 10 days of October.

Since then, cool rainy weather has kept inflows high, and maintaining the current operation of 12 kcfs flows would put the reservoir at elevation 2,439 feet around October 18-20, with a risk that it could be pushed out even further. Libby inflows are hovering around 6.5 kcfs and the basin has been showing signs of saturated soils. There's a storm coming this weekend and an outside chance that if precipitation continues, the reservoir may not reach elevation 2,439 feet at all this fall.

The purpose of today's meeting was to reach consensus on a reasonable operation for Libby under these conditions. Options the COE identified are:

1. Pick up discharges as needed to bring the reservoir down to 2,439 feet elevation.
2. Ramp down to 1 unit at peak efficiency or around 4-4.5 kcfs.
3. Pick a lower flow level than the current 9 kcfs and hold it until the end of October.
4. Consider other options that provide a smoother ramp down.

Barton asked TMT members to state their preferences, noting that, between now and the end of October, the COE would prefer a steady ramp down of around 1 kcfs per day until the operation reaches 1 unit at efficient loading (about 4-4.5 kcfs). That would put the reservoir at 2,439 feet in mid October. He noted that this operation is being suggested only for this year in response to current conditions.

The Salmon Managers discussed the Libby ramp down options and how these might affect the chum operation in November. They considered the current projection of 7 kcfs out for the rest of the month vs. 1 unit at peak efficiency. It would take approximately 2 days of 25 ksf augmentation per day to provide additional chum flows for the first few days of November.

The Action Agencies noted that flows from Libby won't affect the ability to implement the chum operation in November. If chum show up on November 2 or 3, water will be available at Grand Coulee to implement the chum operation at that time. The following views of the Libby operation were expressed:

**NOAA** suggested saving volume by ramping down quickly if that will provide assurance chum flows can begin early in November. **USFWS** supported NOAA's recommendation re: chum flow storage. Starting the chum operation closer to November 1 could be helpful this year, when an unknown number of fish will be returning. Noted that chum have begun spawning almost immediately in years when chum flows started earlier than usual.

**Oregon** recommended staying with an operation that gets the reservoir to elevation 2,439 feet. On September 22, Oregon didn't object to changing the Libby elevation target from the end of September based on an understanding that 2,439 feet elevation would be attained no later than October 10. Concerned about Libby operations morphing beyond their original intent, which is to augment summer flows for juvenile salmon. Agreed with the Action Agencies that there's no certainty chum will be present to benefit from flow augmentation if it begins early.

**Montana** noted the fall operation of Libby has been successful and ramping down now is appropriate. Preferred a more gradual ramp down from 9 to 4.5 kcfs over a couple of days for the sake of the river environment, regardless of whether fish are moving at present. There's an advantage to storing water as high in the system as possible because it provides extra flexibility later. If it's possible to store water higher in the system now without affecting resident fish, that would be the best approach.

**Idaho** advocated an operation that would benefit Montana's resident fish, as it appears that Libby operations will have no significant impact on anadromous fish at this time. Agreed with Montana that it's best to store water as high in the system as possible.

**BPA** saw no direct connection between Libby operations now and chum flows in November. Decisions about these operations should be made separately. Water stored at Libby will end up at Grand Coulee, where it will be available when chum need it. The chum operation usually begins when chum arrive around November 5-10, so releasing flows before then would negate the

benefits of storage. Whatever is stored at Libby now will be drafted out before the end of December. The **COE** agreed with BPA's characterization of water storage for chum in November. Libby operations now won't affect storage of water for chum; the operational decisions are separate.

In response to the above comments regarding Libby, the COE proposed a weekend ramp down to minimum flows of around 4.5 kcfs early next week at a ramp down rate of approximately 1-1.5 kcfs per day. Upon reach 4.5 kcfs, the project will maintain minimum flows for the rest of this fall. TMT members were polled on this operation:

- **Oregon** – Prefers to draft the reservoir toward elevation 2,439 feet, but didn't object to the proposal. Expressed hope that in future years Libby reservoir will be operated as intended for juvenile salmon.
- **Montana** – Supports the proposed operation.
- **Idaho** – No objection.
- **Washington** – No objection.
- **Spokane Tribe** – Abstained from voting.
- **Kootenai Tribe** – No objection
- **USFWS** – No objection
- **NOAA** – No objection
- **BPA** – No objection.

The COE will initiate the Libby ramp down this evening until 1 unit at efficient loading is reached. At that point normal operations will resume.

### **3. Next Meeting**

The next TMT meeting will be a conference call at the end of next week to discuss the winter Albeni Falls operation. The next regular TMT meeting in person will be October 20 at NOAA's offices in Portland.

<b>Name</b>	<b>Affiliation</b>
Steve Barton	COE
Charles Morrill	Washington
Tony Norris	BPA
Scott Bettin	BPA
Paul Wagner	NOAA

David Wills	USFWS
Jim Litchfield	Montana
Ron Boyce	Oregon
Billy Barquin	Kootenai
Joel Fenolio	COE Seattle
Kristian Michelson	COE Seattle
Tim Heizenrader	Centaurus
Jason Flory	USFWS Spokane
Doug Baus	COE
Deanna Pavlik-Kunkel	Spokane
Russ Kiefer	Idaho
Karl Kanbergs	COE

# TECHNICAL MANAGEMENT TEAM

**BOR:** John Roache / Mary Mellema / Pat McGrane

**NOAA-F:** Paul Wagner / Richard Dominigue

**OR:** Rick Kruger / Ron Boyce

**WDFW:** Cindy LeFleur / Charles Morrill

**Salish-Kootenai:** Joe Hovenkotter

**Colville:** Sheri Sears / Steve Smith

**Shoshone-Bannock:** Lytle Denny

**Yakima:** Bob Rose

**Umatilla:** Tom Lorz (CRITFC)

**BPA:** Tony Norris / Scott Bettin / Robyn MacKay

**USFWS:** David Wills / Steve Haeseker

**ID:** Russ Kiefer / Pete Hassemer

**MT:** Jim Litchfield / Brian Marotz

**Spokane:** Deanne Pavlik-Kunkel / Andy Miller

**Kootenai:** Sue Ireland / Billy Barquin

**Warm Springs:** Brad Houslet

**Nez Perce:** Dave Statler

**Kalispel:** Joe Maroney

**COE:** Steve Barton / Karl Kanbergs / Doug Baus

## TMT CONFERENCE CALL

Friday October 15, 2010 10:00am - 11:00am

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

### CONFERENCE CALL INFORMATION

Phone Number (877) 336-1274

Access Code 3871669

Security Code 6845

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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. Albeni Falls / Lake Pend Oreille SOR - Russ Kiefer, IDFG
  - a. [SOR USFWS/IDFG 2010-1](#)
3. Dworshak Operations - Steve Barton, COE-NWD & Steve Hall, COE-NWW
  - a. [October Runoff Forecast & Flood Control Calculation](#)
4. Other
  - a. [\[Calendar 2010\]](#)

*Questions about the meeting may be referred to:*

*Steve Barton at (503) 808-3945, or*

*Doug Baus at (503) 808-3995*

# Dworshak : October Runoff Forecast & Flood Control Calculation

WY 2011

## Runoff Forecast and Flood Control

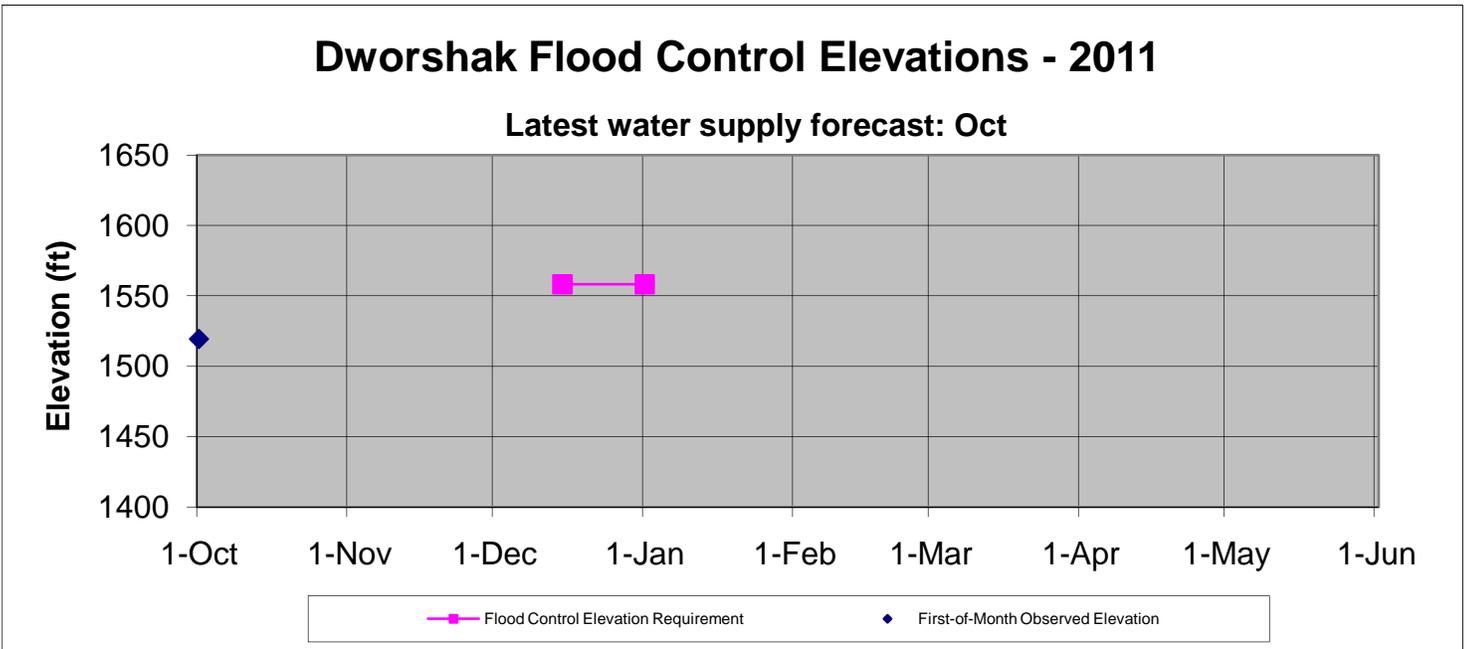
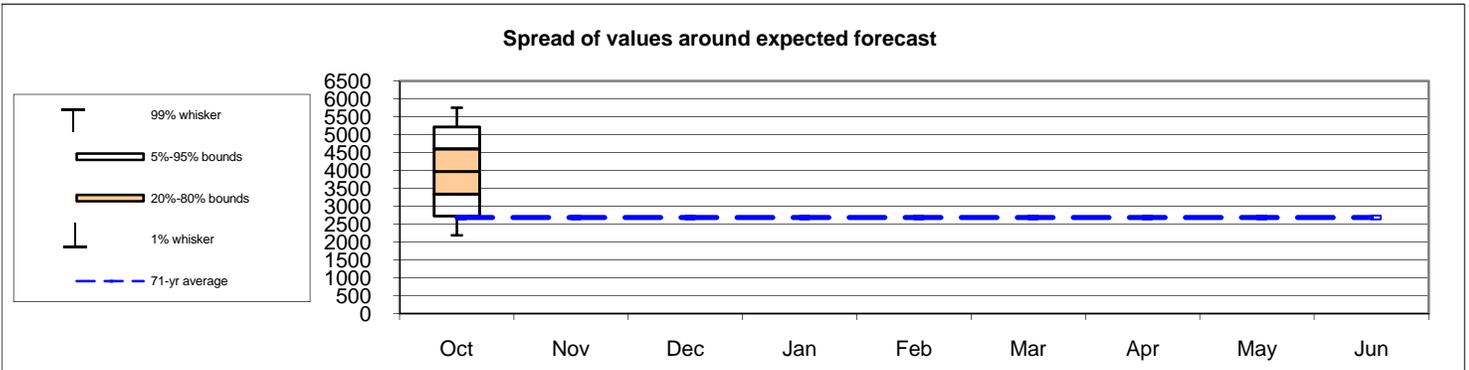
Most Probable Runoff Volume	Apr-Jul	3972	KAF
	May-Jul	2931	KAF
31-Dec Flood Control Space		700	KAF
31-Dec Flood Control Elevation		1558.2	ft

1929-1999  
Average

Percent of  
Average  
2683 148%  
1980 148%

## Seasonal Flood Control (assumes no shift of flood control space to Grand Coulee)

Forecast Date>>	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Apr-Jul Runoff Forecast	3972								
First-of-Month Elev	1519.4								
Date >>		15-Dec	31-Dec	31-Jan	28-Feb	31-Mar	15-Apr	30-Apr	
Flood Control Space	--	700	700						
Flood Control Elevation	--	1558.2	1558.2						



Notes:

1. The given forecast is the official Corps of Engineers forecast for Dworshak. If you have any questions please contact Steve Hall (509 527 7550), or Kevan Schneidmiller (509 527 7285).
2. Due to updated values for precipitation, snow or streamflow, subsequent forecasts may be different from the forecast published herein.
3. 15-Dec and 31-Dec flood control space is fixed at 700 KAF.

# Dworshak : October Runoff Forecast & Flood Control Calculation

Apr-Jul Runoff Forecast Calculation:					
Variable	Month	Observed Value	% of Average	Regression Coefficient	Marginal Runoff (KAF)
		A		B	=A*B
SOI	Sep	2.60		511.73	1330.5
Intercept		1		2641.52	2641.5
1-Oct Forecast (KAF)				$\Sigma$	3972.0

Data Station	Sept	Nov	Dec	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun
<b>Climate (Stdzd SOI)</b>									
September SOI	2.60								
<b>Precipitation (monthly depth, inches)</b>									
Headquarters, ID		--	--						
<b>Snow Water Equiv (first of month SWE depth, inches)</b>									
Elk Butte, ID				--	--	--	--	--	--
Hemlock Butte, ID				--	--	--	--	--	--
Hoodoo Basin, MT				--	--	--	--	--	--
Pierce RS, ID				--	--	--			
Shanghi Summit, ID							--	--	
Lost Lake, ID								--	--
<b>Streamflow (monthly volume, KAF)</b>									
Dworshak Inflow				Jan	Feb	Mar	Apr	May	Jun
				--	--	--	--	--	--

**COLUMBIA RIVER REGIONAL FORUM**  
**TECHNICAL MANAGEMENT TEAM**  
October 15, 2010 Conference Call  
FACILITATOR'S SUMMARY NOTES

Facilitator: Erin Halton

Notes: Robin Gumpert

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.

**Albeni Falls SOR #USFWS/IDFG 2010-1**

Russ Kiefer, Idaho, thanked everyone for taking time to discuss the SOR for Albeni Falls operations. He described the request submitted on behalf of USFWS and IDFG to draw Lake Pend Oreille to a minimum winter elevation of 2055’ by 11/15 and for the duration of the winter to support spawning kokanee as an important food source for listed bull trout. He added that a parallel effort to reduce predators in the lake in order to recover declining populations was working well. He also acknowledged that the recommendation was partially based on the number of kokanee females expected to spawn in the lake, and because of this, the request could not be submitted sooner. He suggested that the decision tree used to develop the recommendation was intended to strike a balance for all needs in the system, including power, recreation, and listed chum below Bonneville and resident kokanee in the lake.

Russ walked the group through the decision tree, which was included on the last page of the SOR. He noted that factors included in the development of the SOR included the water supply forecast (third week of September), number of female kokanee spawners, percentage of chum dewatered the previous year and the previous two years’ lake elevation. Given the La Nina forecast this year, fall precipitation was expected to be above average; less than 70,000 females were expected to spawn in the lake this year; greater than 10% of the chum were dewatered last year; and the lake was held at 2051’ the previous two years. All this led to the recommendation to hold the lake at elevation 2055’ this year. Again, Russ suggested that the desire with the decision tree is to fairly distribute the benefits from Albeni Falls operations, and he felt that this recommendation would do that.

Paul Wagner, NOAA, said he agreed with Russ’s characterization about the intent of the decision tree, and acknowledged that the recommendation was largely based on the water supply forecast. He shared observations from the gill net commercial fishery which indicate that the chum run may be early this year, and suggested that NOAA’s interest is for an appropriate start date and sustainability of chum operations.

Tony Norris, BPA, asked what population of kokanee would be needed to support bull trout, to which Russ Kiefer and Jason Flory, USFWS, responded that the goal is to have abundant numbers to provide a healthy food source for bull trout and to meet sport fishery demands in the lake. Once both populations are recovered, Russ indicated that

modifications to the decision tree would be easier to accept. Tony Norris shared that rate payers pay for much of the costs for this operation and stated an interest on their behalf to understand when those costs might start to 'tail off'. Russ acknowledged that aspect and said he appreciated the region's support for this operation, and reminded everyone that Lake Pend Oreille is not a reservoir.

Tony Norris shared BPA's preference to operate the lake to a 2053' elevation; however, he said they would not object to the SOR this year. BPA would like to work with IDFG, USFWS, Kalispell Tribe and other stakeholders to find a different outcome next year. Tony added that the chum operation is supported by flow augmentation from Grand Coulee, and that an earlier start date for chum operations will have a direct impact on Grand Coulee.

Steve Barton, COE, shared the COE's perspective that the rationale supporting the recommendation was sound; he also acknowledged BPA's preference for a higher elevation and said the COE reserves the right to take in to account all compelling information to aid in operations decisions.

With that, TMT members present on the call were polled for their support of the recommendation:

- Montana – No objection
- Idaho – Supports the recommendation
- USFWS – Supports the recommendation
- NOAA – No objection
- Reclamation – No objection
- BPA – No objection for this year
- COE – Supports the recommendation

**Planned Operation:** Given no stated objections to the operation, the COE planned to draw Lake Pend Oreille to elevation 2055' by 11/15 and maintain until the end of spawning or 12/31, whichever occurs first. The lake will be held at a 1.5' operating range. The top of the winter flood control curve is 2056'.

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**

**October 15, 2010**

Notes: Pat Vivian

**1. Introduction**

Today's unscheduled TMT conference call was chaired by Steve Barton (COE) and facilitated by Erin Halton (DS Consulting). Representatives of Idaho, USFWS, COE BPA, BOR, IDFG, Montana, NOAA and others attended. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

**2. Albeni Falls Operations – Lake Pend Oreille SOR-USFWS/ IDFG-2010-1**

Russ Kiefer (Idaho) began today's discussion of this SOR, linked to today's agenda. The decision tree on page 3 of the SOR has been developed to guide the complex decision every year regarding the winter minimum control elevation of Lake Pend Oreille. The purpose of this process is to make a decision that gives equal weight to multiple uses of the lake – power production, chum salmon, bull trout, recreation and the local economy.

This year, based on the decision tree analysis, the SOR requests a minimum control elevation of 2,055 feet and presents the justification for that request. Because kokanee are an important resource for listed bull trout, and kokanee abundance in Lake Pend Oreille has been declining, IDFG has been studying kokanee recovery for the past 15 years. This work consists of two main efforts: (1) reducing predation from nonnative rainbow and lake trout; and (2) improving egg-to-fry survival. Predation control efforts appear to be paying off, as 59,000 female kokanee adults were available to spawn in the lake this year.

Area residents, represented by the North Idaho Lakes Commission, would prefer an elevation of 2055 feet every winter, Kiefer explained. However, if not for chum protection flows downstream, IDFG would advocate drafting the lake to 2,051 feet every fourth winter, thus allowing wave action to clean the gravel spawning beds. Such cleaning leads to higher egg-to-fry survival in subsequent years because female spawners are able to dig deeper redds in clean gravel.

In general, it's more beneficial to provide water for chum and power during a dry fall, and the converse is true when conditions are wet. The goal of the decision tree is to provide water releases from the lake when they offer the greatest opportunity to benefit power production and listed chum salmon, and keep an extra 4 feet in the lake when it will most benefit resident fish and the local economy.

Tony Norris (BPA) asked whether a specific population of kokanee could be expected to support enough listed bull trout for them to recover. Kiefer couldn't give a precise number but explained that enough kokanee are needed to support a healthy resident fish and bull trout population – enough eventually to reopen what used to be a large recreational fishery that provided significant economic activity. Jason Flory (USFWS) agreed there's no specific number of kokanee associated with bull trout recovery. When Idaho proposes reopening the recreational fishery, Kiefer suggested that would be a good indication that kokanee have recovered in sufficient numbers to support listed bull trout as well as the sport fishery. We're not there yet, he said. BPA would like at some point to establish at what point the Lake Pend Oreille decision tree can be removed from the bull trout BiOp, Norris said.

Kiefer walked TMT through the steps in the decision tree, which starts with the National Weather Service precipitation forecast for November-January. When the forecast is above normal, as it is in this La Nina year, providing an extra 4 feet of water from Lake Pend Oreille will have less benefit for power and might actually make spawning conditions worse for chum, increasing the risk that redds will be dewatered. The second step in the decision tree is to consider whether there are more or less than 70,000 estimated kokanee spawners in the lake. For the past two winters the lake elevation has dropped to 2,051 feet, meaning the gravel at that elevation has been well cleaned and will provide good spawning conditions if it's covered this year. So keeping the lake elevation at 2,055 feet could result in higher egg-to-fry survival. The decision tree also considers the percentage of chum redds dewatered last year. A higher percentage shifts the decision toward 2,055 feet elevation.

Paul Wagner (NOAA) agreed with the recommendation as well as the decision process behind it, based on predictions that winter 2010-11 will be a wet La Nina winter. He recalled that last year, chum protection flows had to be terminated in mid-March, and more than 10% of the chum redds were estimated to have been dewatered. This year could bring a good-sized chum run, perhaps spawning earlier this year than in other years.

BPA expects to be able to provide the appropriate spawning elevation for chum below Bonneville Dam this winter. Chum spawning protection flows are expected to claim approximately half a foot of elevation out of Grand Coulee reservoir, or 3.5 feet per week. Norris explained that BPA had put together a proposal for an alternate operation at Lake Pend Oreille but has withdrawn the request and doesn't oppose the SOR as it stands. Other TMT members were polled on the SOR:

- **Montana** – No objection.
- **USFWS** – Supports the SOR.
- **NOAA** – No objection.

- **BOR** – No objection.
- **BPA** – No objection.
- **COE** – Supports the SOR.
- **Idaho/IDFG** – Supports the SOR.

Hearing no arguments against the SOR, the COE will implement it as written, managing the Lake Pend Oreille elevation to 2,055 feet, starting no later than November 15, with a half foot operating range, ending December 31 or when spawning is declared over, whichever occurs first. BPA’s request for a clearer definition of bull trout recovery was noted. Barton added that 2,056 feet elevation will be the upper end of the flood control refill curve at Lake Pend Oreille until March.

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

The next TMT meeting will be October 20 at NOAA. The agenda will include meeting minutes review, Libby operations, Albeni Falls operations, the WMP, planning for chum flows and the usual operations review.

<b><i>Name</i></b>	<b><i>Affiliation</i></b>
Russ Kiefer	Idaho
David Wills	USFWS
Steve Barton	COE
Scott Bettin	BPA
John Roache	BOR
Tony Norris	BPA
Andy Dux	IDFG
Jason Flory	USFWS Spokane
Glen Trager	Iberdrola
Tom Le	Puget Sound Energy
Richelle Beck	DRA
Rob Allerman	Deutsch Bank
Russ George	WMC
Jim Litchfield	Montana
Doug Vine	Thompson Reuters
Paul Wagner	NOAA
John Hart	EWEB
Margaret Filardo	FPC

**SYSTEM OPERATIONAL REQUEST #\_\_\_ - USFWS/IDFG -2010-1**

**TO:** Brig. Gen. John R. McMahon COE-NWD  
Jim Barton COE-Water Management  
Steve Barton COE-NWD-NP-WM-RCC  
David Ponganis COE-PDD  
Karl Kanbergs COE-NWD-NP-WM-RCC  
Col. Anthony Wright COE-Seattle District  
Karl Wirkus USBR-PNW Regional Director  
Steven Wright BPA-Administrator  
John Roache USBR-PNW  
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  
Bryon Holt, Acting Assistant Field Supervisor, U.S. Fish and Wildlife Service

**SUBJECT:** Request to implement a 2010-2011 winter lake elevation of 2055' for Lake Pend Oreille, Idaho.

**SPECIFICATIONS:**

Draw Lake Pend Oreille down to a winter minimum control elevation (MCE) no lower than 2055' while minimizing or eliminating the need to spill at Albeni Falls Dam. During the past four years, kokanee spawning has commenced around November 8-10 (earlier than years prior). We therefore request that the drawdown be completed by November 8 if reasonably possible. If this is not possible, the MCE should be reached no later than November 15 and should not be dropped below this elevation for the duration of the winter. This proposed operation is not anticipated to cause exceedence of the state maximum total dissolved gas standards at downstream projects barring unforeseen circumstances. The lake will then be held within 0.5' above the MCE to the end of kokanee spawning [monitored by Idaho Department of Fish and Game (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, with an estimated number of 59,000 female kokanee expected to spawn this fall. Research indicates three decades of annual deep draw downs during the winter months was the primary factor contributing 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 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 draft decision tree has been developed (Table 1) to help guide selection of Lake Pend Oreille winter elevation. This decision tree recommends an elevation for this winter of 2055'. The primary factors guiding this recommendation are as follows:

First, the National Weather Service's Climate Prediction Center forecast on September 16 was for above normal precipitation during November, December, and January. Given the strong La Nina conditions in the Pacific, it is unlikely that the October forecast will shift from above average to below average precipitation. Only a below average forecast would result in a 2051' recommendation in the decision tree. Keeping Lake Pend Oreille winter elevation at 2055' in years with above average November – January precipitation may benefit Chum salmon below Bonneville Dam by reducing flows during the spawning period in November, and thus helping to reduce the probability that redds will be established at elevations that could be dewatered in the late winter-early spring before complete fry emergence.

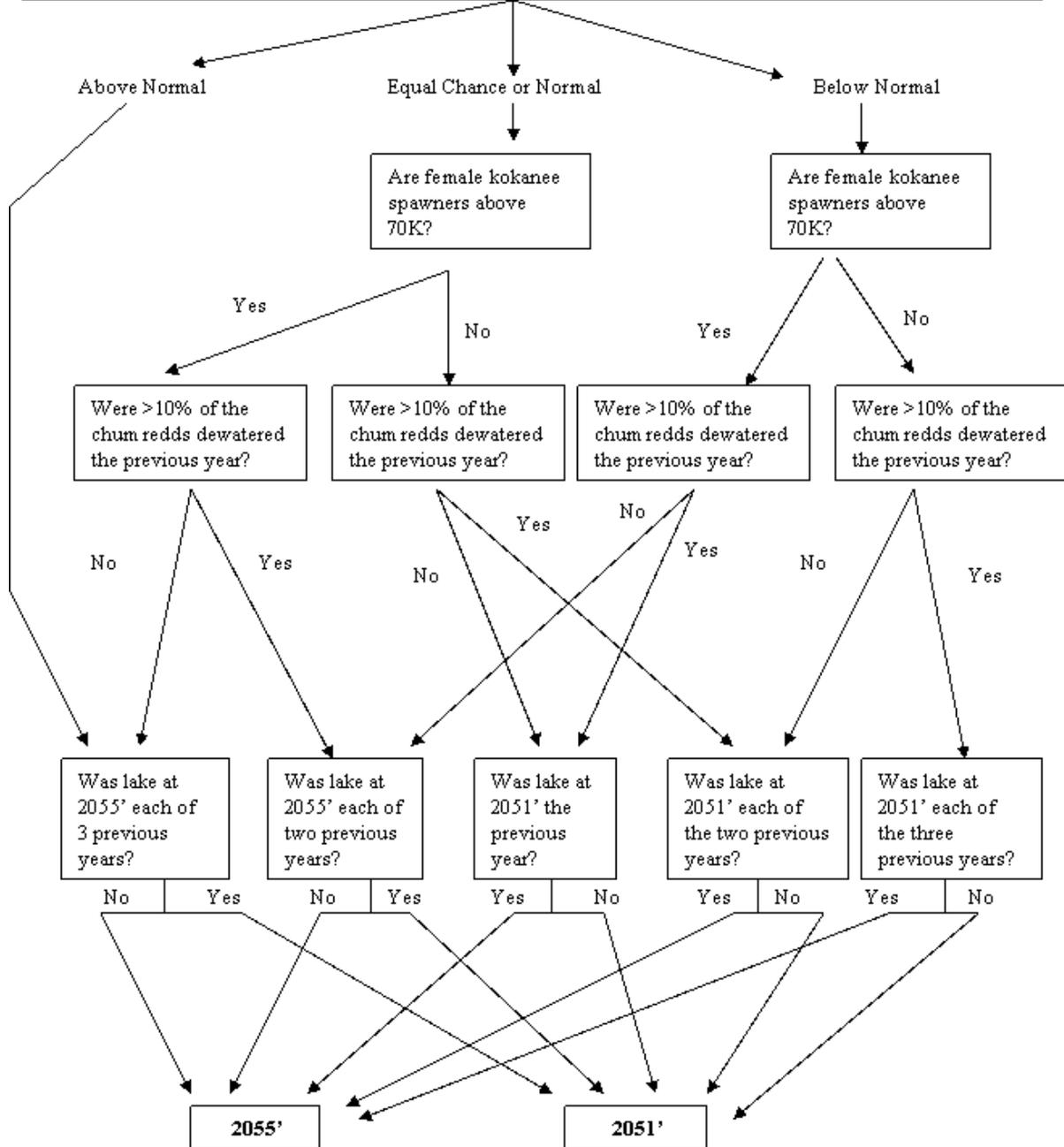
Second, keeping the Lake Pend Oreille elevation higher during the winter following a full draw down the previous winter has been shown to result in higher quality spawning habitat for kokanee. The higher lake level inundates shoreline areas that were previously exposed to wave action, thus providing more abundant gravel substrate for spawning. Given that Lake Pend Oreille has been held at 2051' the past two winters, spawning habitat has been improved and should provide excellent spawning conditions if the lake is held at 2055' this winter. Surveys conducted by IDFG indicate that kokanee spawner abundance has increased annually since 2007. Also, kokanee survival rates have increased substantially since 2007, indicating that predation is playing a reduced role in kokanee population dynamics. Thus, providing the greatest opportunity for high egg-to-fry survival this year is important for taking advantage of both improved spawner abundance and survival rates that should allow a higher proportion of fry to reach maturity.

For these reasons, we recommend drafting Lake Pend Oreille to elevation 2055' during the upcoming winter and maintaining the spawning elevation as the minimum through kokanee emergence.

Start

Table 1. **Draft** decision tree to guide selection of the winter lake level for Lake Pend Oreille.

What is the weather forecast for precipitation during Nov, Dec, and Jan by the National Weather Service, Climate Prediction Center on the third Thursday of September (<http://www.cpc.noaa.gov/products/predictions/90day>). Prediction is for the majority of the Columbian River watershed.



# TECHNICAL MANAGEMENT TEAM

**BOR:** John Roache / Mary Mellema / Pat McGrane

**NOAA-F:** Paul Wagner / Richard Dominigue

**OR:** Rick Kruger / Ron Boyce

**WDFW:** Cindy LeFleur / Charles Morrill

**Salish-Kootenai:** Joe Hovenkotter

**Colville:** Sheri Sears / Steve Smith

**Shoshone-Bannock:** Lytle Denny

**Yakima:** Bob Rose

**Umatilla:** Tom Lorz (CRITFC)

**BPA:** Tony Norris / Scott Bettin / Robyn MacKay

**USFWS:** David Wills / Steve Haeseker

**ID:** Russ Kiefer / Pete Hassemer

**MT:** Jim Litchfield / Brian Marotz

**Spokane:** Deanne Pavlik-Kunkel / Andy Miller

**Kootenai:** Sue Ireland / Billy Barquin

**Warm Springs:** Brad Houslet

**Nez Perce:** Dave Statler

**Kalispel:** Joe Maroney

**COE:** Steve Barton / Karl Kanbergs / Doug Baus

## TMT MEETING

Wednesday October 20, 2010 9:00am - 12:00pm

NOAA Fisheries  
1201 NE Lloyd Blvd Suite 1100,  
St. Helens Room  
Portland, OR 97232

### CONFERENCE CALL INFORMATION

Phone Number (877) 336-1274

Access Code 3871669

Security Code 6845

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 Erin Halton with any issues or concerns they would like to see addressed.  
Please e-mail her at [ehalton@cnnv.net](mailto:ehalton@cnnv.net) or call her at (503) 248-4703.*

## AGENDA

1. Welcome and Introductions
2. Review October 6, 8 & 15 Meeting Minutes [[Meeting Minutes](#)]
3. Treaty Fishing SOR - Tom Lorz, CRITFC
  - a. [SOR C-11](#)
  - b. [SOR C-12](#)
  - c. [Treaty Fishery Announcement](#)
4. Albeni Falls Operations - Steve Barton, COE-NWD
5. Chum Operations - Steve Barton, COE-NWD & Paul Wagner, NOAA-F

6. Water Management Plan - *Steve Barton, COE-NWD*
7. Operations Review
  - a. Reservoirs
    - i. [Summary Plots](#)
  - b. Fish
  - c. Power System
  - d. Water Quality
8. Other
  - a. Set agenda and date for next meeting - **November 3, 2010**
  - b. [\[Calendar 2010\]](#)

*Questions about the meeting may be referred to:*  
[Steve Barton](#) at (503) 808-3945, or  
[Doug Baus](#) at (503) 808-3995

**COLUMBIA RIVER REGIONAL FORUM**  
**TECHNICAL MANAGEMENT TEAM**  
October 20, 2010 Meeting  
**FACILITATOR'S SUMMARY NOTES**

Facilitator: Erin Halton

Notes: Robin Gumpert

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.

**Meeting Minutes**

The Official Minutes and Facilitator’s Summary Notes from TMT meetings 9/29, 10/6 and 10/15 were up for review.

- 9/29 Facilitator Notes: Russ Kiefer, Idaho, made the following edits under the Albeni Falls Operations discussion: *IDFG and USFWS developed the SOR and Paul Wagner, NOAA, planned to coordinate with Andy Ducks at IDFG” regarding development of the SOR.*
- 9/29 Facilitator Notes: Russ added a correction the fish status update indicating that *steelhead numbers were slightly above the 10-year average.*
- 10/15 Facilitator Notes: Russ submitted edits to this set of notes on the Albeni Falls discussion: *Once both populations are recovered, Russ indicated that modifications to the decision tree would be easier to accept.*

**Action:** The changes will be made to the notes and redistributed. With these edits, the notes under review were considered final.

**Treaty Fishing SORs**

Steve Barton, COE, reported that the operation per the request in SOR C-11 had been completed, and that SOR C-12, a request for treaty fishing operations for the period 10/19-10/22 were being implemented as written. Tom Lorz, CRITFC, clarified for the group that ‘above normal rank’ language in the request refers to above average fish counts.

**Albeni Falls Operations**

Steve Barton, COE, reported that per discussions at the last TMT meeting, the COE was operating Albeni Falls to target a 2055’ Lake Pend Oreille elevation by 11/5 (with a ½ foot operating range, the project would target 2055.5’). The COE will run its next STP model using this operation scenario.

**Chum Operations**

Paul Wagner, NOAA, shared that chum surveys conducted on 9/24, 10/1, 10/14 and 10/19 reported no observed chum; however commercial gill net activites have caught observed some chum in the lower river areas, indicating they are in the lower river and getting ready to spawn. Four fish had been observed passing the fish ladder at Bonneville Dam. Paul wondered whether the fish are waiting for additional water in the area to begin

spawning. He also suggested that some precipitation is expected in the area over the weekend, and that these natural flows might be beneficial to the chum. He suggested a check in after the weekend to determine if and when to request a specific operation for chum.

The COE noted that work at Powerhouse 1 the first week of November may impact chum operations, in that flows in excess of PH 2 capacity would need to be spilled. Paul Wagner, on behalf of the salmon managers, suggested that TDG levels up to 120% would be acceptable, and again suggested the need for a check in next week on this issue.

**Action:** TMT will hold a conference call next Tuesday, 10/26 at 3:00 pm to discuss chum operations.

### **2011 Draft Water Management Plan**

Steve Barton, COE, reminded TMT that comments on the first draft WMP are due by next Friday, 10/29. The COE will reissue a draft in mid-November with all comments received by that date. The WMP will be finalized by 12/31.

He also reported that draft Seasonal Updates of the WMP will be issued by 11/1. They will come in a new 'living document' format that allows for updates as the season progresses.

### **Operations Review**

**Reservoirs** – John Roache, Reclamation, reported that Hungry Horse was at elevation 3538.88' and operating at 1 kcfs outflows. Gauge work downstream of the project requiring this outflow was impacting Columbia Falls, which was currently operating at 3.0 kcfs (just below its minimum 3.3 kcfs). John said this work should be completed this week and that Columbia Falls would be up to its minimum after the weekend. Grand Coulee was at elevation 1287.75'.

Steve Barton, COE, reported that Libby was at elevation 2441.3', with 4.9 kcfs in and 4.5 kcfs out. Albeni Falls was at elevation 2057.0' with 15.7 kcfs in and 18.0 kcfs out. Dworshak was at elevation 1517.8' with .9 kcfs in and 1.6 kcfs out. Lower Granite flows were 15.5 kcfs; the previous week's average was 19.0 kcfs. Priest Rapids flows were 75.6 kcfs with a weekly average of 84.2 kcfs. McNary flows were 103.4 kcfs with a weekly average 105.7 kcfs). Bonneville flows were 108.2 kcfs with a weekly average of 115.3 kcfs.

**Fish** – Paul Wagner, NOAA, shared adult count totals at Bonneville: 464,000 Fall Chinook; 413,000 total steelhead and of those, 154,000 wild steelhead. He noted that the percentage of wild steelhead was the highest it has ever been. Wild steelhead counts were strong at Lower Granite too, and Fall Chinook counts were 40,000 at Lower Granite, again an unprecedented number. Factors for these strong numbers, he suggested, could include increased hatchery production and the summer spill program. *[NOTE: following the meeting, Paul noted that he should have included a discussion of the good ocean conditions which existed in 2008 as likely being a contributing factor. The Northwest*

*Fisheries Science Center had reported that 2008 was the most productive year they have documented thus far. ] Paul said the Upper Columbia numbers were not as high as those seen in the Lower Columbia and Snake. Regarding juveniles, Paul said some Fall Chinook passage remained at Lower Granite and Little Goose. Juvenile monitoring was scheduled to be completed for the season at the end of October.*

Power System and Water Quality – Nothing to report.

**Upcoming TMT Meetings**

- 10/26 Conference Call at 3:00 pm: Chum Operations, WMP Comments Status
- 11/3 and 11/10 Face to Face Meetings: Agendas TBD
- 11/17 Conference Call as needed

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**

**October 20, 2010**

Notes: Pat Vivian

**1. Introduction**

Today's TMT meeting was chaired by Steve Barton (COE) and facilitated by Erin Halton (DS Consulting). Representatives of NOAA, BOR, Montana, the COE, Washington, USFWS, Idaho, the Colville Tribe, BPA, CRITFC and others attended. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

**2. Meeting Minutes for September 29 and October 6, 8 and 15, 2010**

September 29 facilitator's notes – Russ Kiefer (Idaho) submitted an edit to the section on Albeni Falls operations. Replace “NOAA will participate in the drafting of the SOR with IDFG,” with, “Paul Wagner noted he will coordinate with Andy Dux, IDFG, regarding the SOR, and the SOR will be developed by IDFG and USFWS.”

October 15 facilitator's notes – Kiefer submitted edits to the 4<sup>th</sup> paragraph which says, “...Once both are met, Russ suggested the decision tree would no longer be used in bull trout BiOp recommendations.” He sent the following revision to clarify his intended meaning: “Once both populations are recovered, Russ indicated that modifications to the decision tree would be easier to accept.” Halton will distribute the revised notes with this change.

There were no other comments on meeting minutes or facilitator's notes.

**3. Treaty Fishing – SOR C-11 and C-12**

Steve Barton (COE) explained that SOR C-11 covered the fishery that occurred October 11-13, and SOR C-12 covers the period from 8 am October 19 to 6 pm October 22. Both SORs, attached to today's agenda, made the usual request for 1.5-foot operating bands at Bonneville, The Dalles and John Day dams. The COE has instructed project personnel to implement the SORs as written.

Paul Wagner (NOAA) asked what the phrase “above normal rank” means in the Justification portion of the SOR, which quotes escapement of 465,000 fish this season at Bonneville Dam. It means the count this year was above average, Tom Lorz (CRITFC) explained.

#### **4. Albeni Falls Operations**

Last Friday, October 15, TMT reviewed SOR USFWS/IDFG 2010-1, which recommends a winter minimum elevation of 2,055 feet at Lake Pend Oreille. Hearing no objections, the COE is implementing the SOR as written.

The current operation is expected to take the lake to elevation 2,055.5 feet by November 5. The lake will then be held at that elevation with a half-foot operating range until either kokanee spawning is done or the end of December, whichever comes first. For the remainder of fall and winter, the COE will provide updates on Albeni Falls operations as part of the operations review unless there's an unexpected development.

#### **5. Chum Operations**

Chum salmon are expected to arrive in the Ives Island area below Bonneville Dam during the first week of November. Ongoing weekly chum surveys in the area since September 24 have identified Chinook salmon but no chum yet, Paul Wagner (NOAA) reported. Chum will need flows to reach the spawning grounds, unless they have another means of getting there.

Chum have recently been found in gill nets in the lower river at Gray's Harbor and Deep River fisheries, and 4 chum have been observed passing the ladder at Bonneville Dam. These are all indications that chum will be arriving soon in the Ives Island area. Wagner noted that the weather forecast is for significantly increased precipitation throughout the basin. Tony Norris noted that BPA needs more than 2 days' notice to start the chum operation.

The COE will be doing maintenance work on the 1<sup>st</sup> powerhouse outfall during the first week of November, Barton said. This will only be an issue if the 1<sup>st</sup> powerhouse is impaired to the point that it can't provide the discharges needed to meet the chum spawning elevation range. At that point it would become necessary to spill, and TMT would need to discuss the resulting TDG levels. Chum eggs are tolerant of TDG levels up to 120% resulting from spill, but during the sac fry stage TDG levels should be limited to 105% because sac fry are highly sensitive to TDG, Wagner explained.

TMT scheduled a conference call for 3 pm Tuesday, October 26, to begin planning the chum operation after the next survey results are released.

#### **6. Water Management Plan**

Comments on the initial WMP draft are due Friday, October 29. To date the COE has not received any comments. If none are submitted by the deadline, no new draft will be issued, and the COE will set a new deadline for comments on the final version. If the COE does receive comments by October 29, a second

draft of the WMP will be issued around November 19 for the next round of reviews. The COE will issue a draft update by November 1, and future updates will be made throughout the season to the living document rather than in spring/summer and fall/winter iterations as in past years.

TMT will revisit the WMP during its October 26 conference call.

## **7. Operations Review**

**a. Reservoirs.** Hungry Horse is at elevation 3,538.88 feet, discharging 1 kcfs. The BOR is working on the downstream gauge so the maximum discharge requirement is 1 kcfs. That will last at the most through this coming weekend, probably ending earlier. As a result, flows are 3 kcfs which falls below the Columbia Falls minimum requirement of 3.3 kcfs. When the work is done, flows will be ramped up to meet the Columbia Falls minimum. Grand Coulee is at elevation 1,287.75 feet.

Libby is at elevation 2,441.3 feet, discharging 4.5 kcfs. Albeni Falls is at elevation 2,057.0 feet with discharges of 18 kcfs and inflows of 15.7 kcfs.

Dworshak is at elevation 1,517.8 feet with inflows of 0.9 feet and outflows of 1.6 feet. Lower Granite is discharging 15.5 kcfs; last week's average was 19 kcfs. Priest Rapids is discharging 75.6 kcfs; last week's average was 84.2 kcfs. McNary is discharging 103.4 kcfs; last week's average was 105.7 kcfs. Bonneville is discharging 108.2 kcfs; last week's average was 115.3 kcfs.

**b. Fish. Adults:** Fall Chinook passage at Bonneville is trailing off, Wagner said. The season total of 464,000 adults means a good year. The steelhead count of 413,000 is average, but the wild component (155,000) is greater than 30% – the highest percentage seen. Lower Granite also saw good steelhead runs. The wild component of 55,000 steelhead is just under 30% of the total run count of 185,000 for the season. Fall Chinook adults passed Lower Granite in the highest numbers (40,000) seen since the dams were built. Norris asked whether the reason for such increases is known. It's probably due to changes in hatchery production, the provision of summer spill for migrants as opposed to transportation only, and other factors that will be ferreted out via an ongoing study of adult survival. It usually takes at least a year to figure out the actual percentage of wild fish in a given year's run.

**Juveniles:** Smolt passage is nearly done, with fall Chinook the only species still passing Lower Granite, Little Goose and Bonneville dams. This year's passage counts are in line with previous years. Current daily passage rates are 200 fish per day at Lower Granite, less than 100 per day at Little Goose, and a few hundred per day at Bonneville.

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

**d. Water Quality.** There was nothing to report today.

### **3. Next Meetings**

TMT will discuss chum operations and touch base on the WMP in a 3 pm conference call Tuesday, October 26. The next regular TMT meetings in person will be November 3 and November 10, followed by a conference call November 17 if needed. The annual TMT year-end review will be December 8.

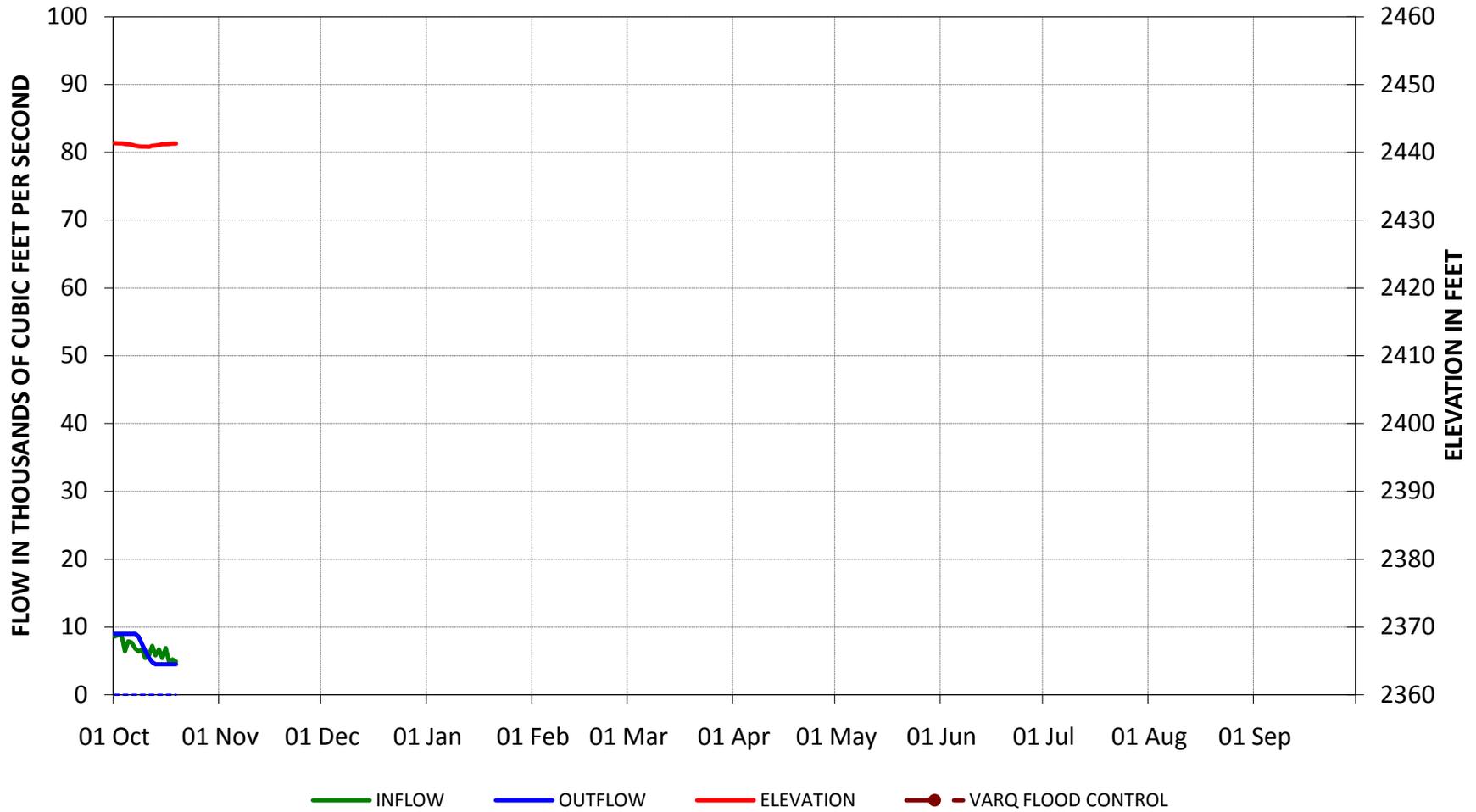
<b><i>Name</i></b>	<b><i>Affiliation</i></b>
Paul Wagner	NOAA
John Roache	BOR
Jim Litchfield	Montana
Steve Hall	COE Walla Walla
Charles Morrill	Washington
David Wills	USFWS
Steve Barton	COE
Leah Linstrom	COE
Carrie Oliver	COE
Tony Norris	BPA
Tom Lorz	CRITFC

***Phone:***

Russ Kiefer	Idaho
Steve Smith	Colville
Margaret Filardo	FPC
Shane Scott	PPC
Mike Shapley	Snohomish PUD
Richelle Beck	DRA
Dave Benner	FPC
Kristian Michelson	COE Seattle
Rob Allerman	Deusch Bank

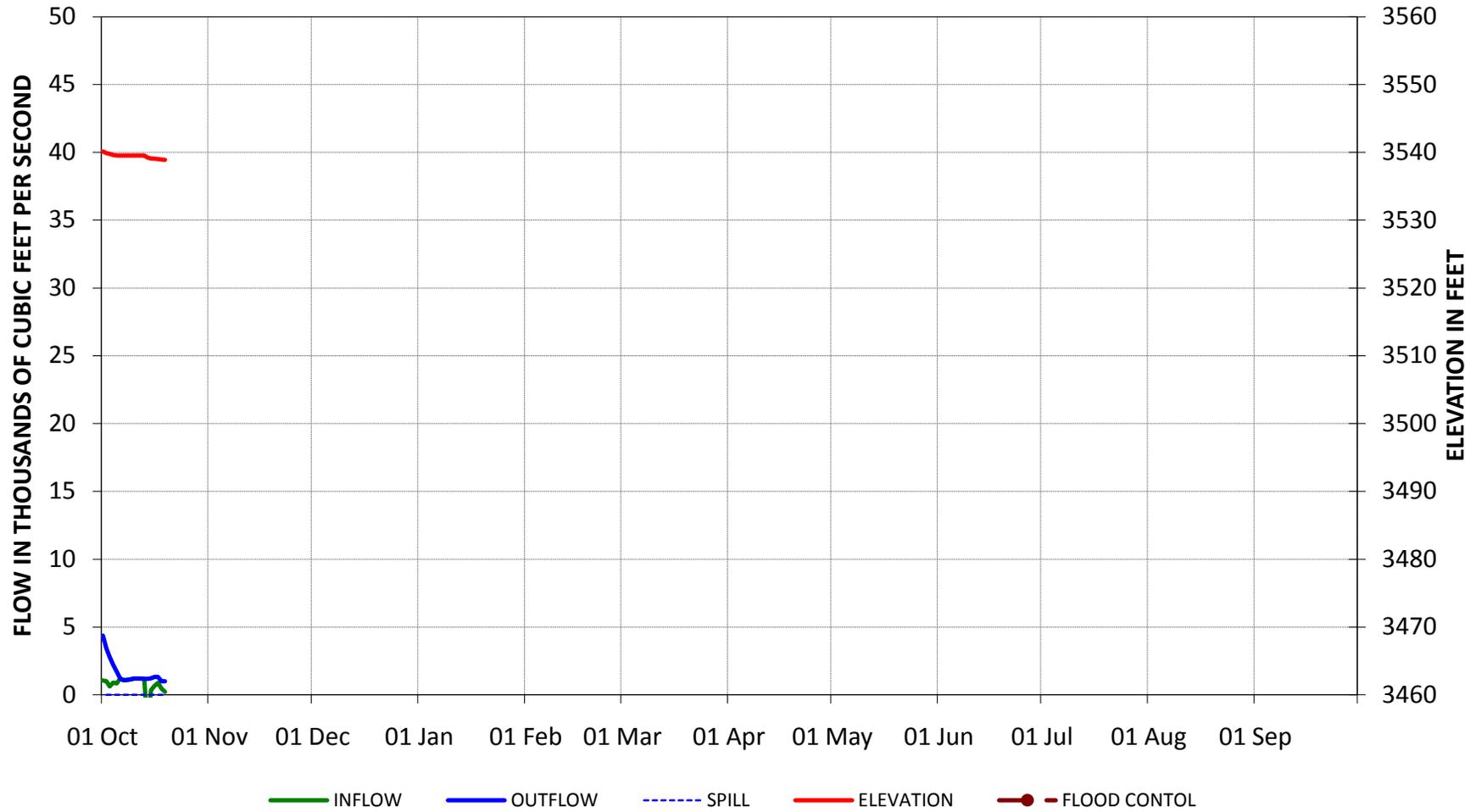
# LIBBY DAM AND RESERVOIR

## Water Year 2011



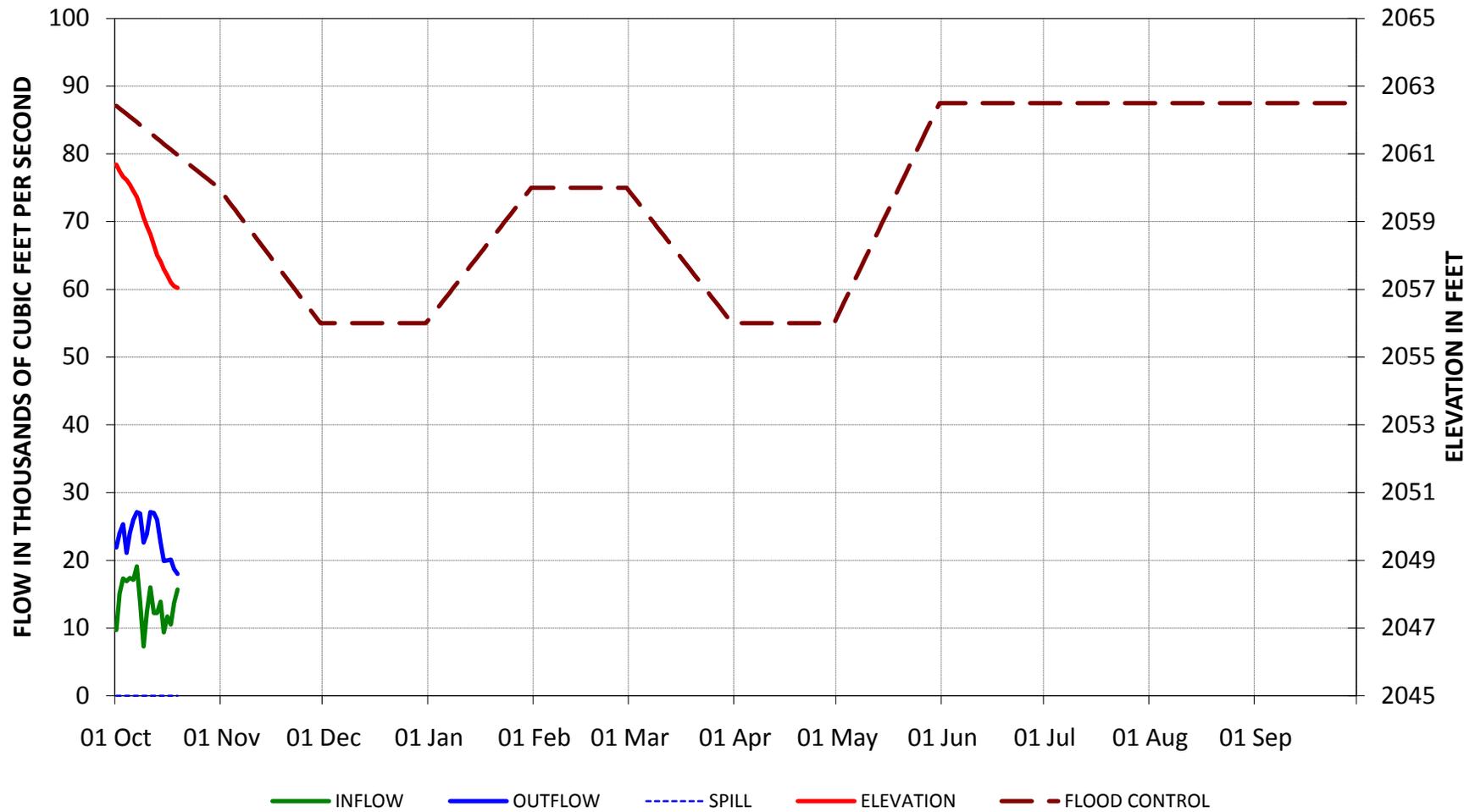
# HUNGRY HORSE DAM AND RESERVOIR

## Water Year 2011



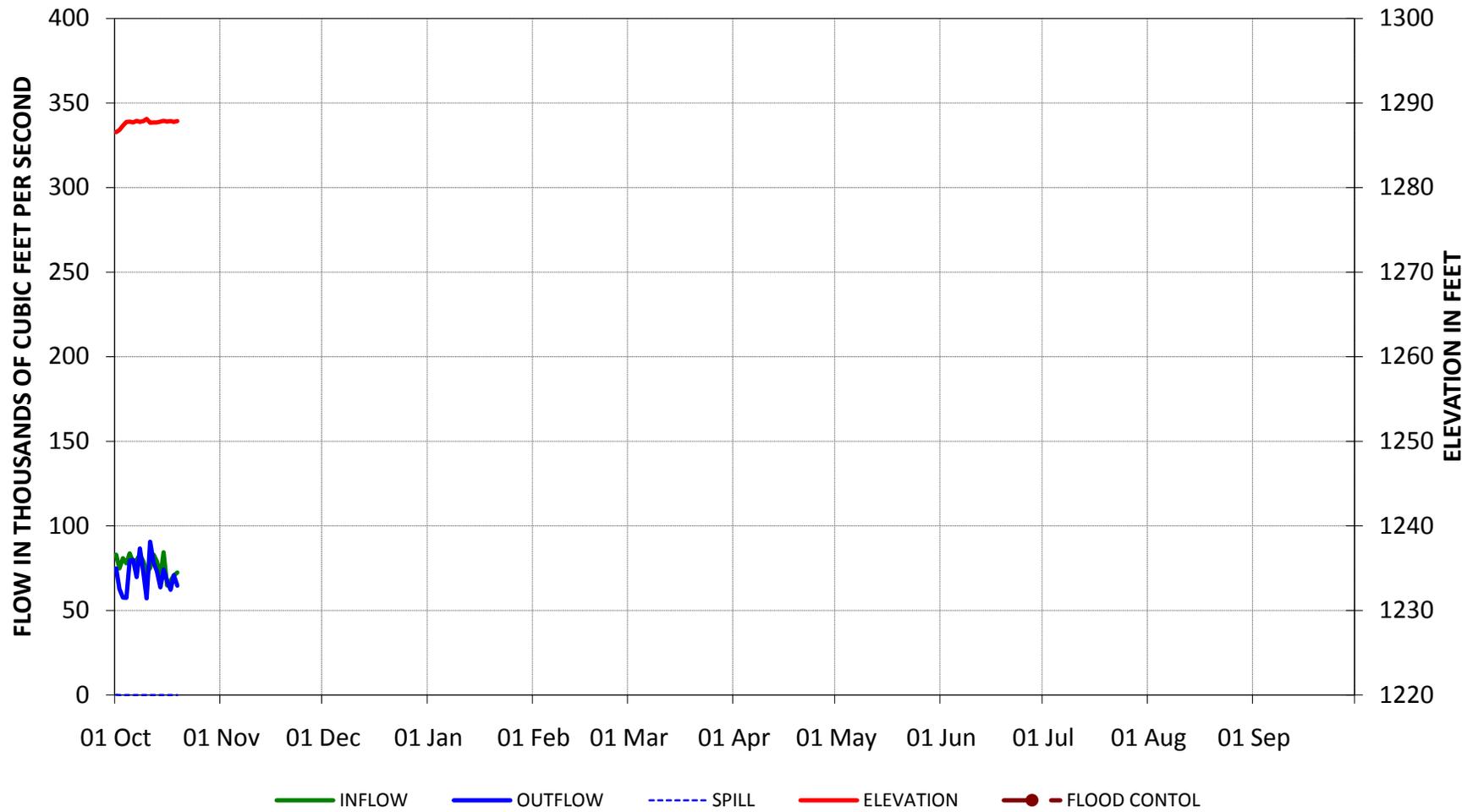
# ALBENI FALLS DAM AND RESERVOIR

## Water Year 2011



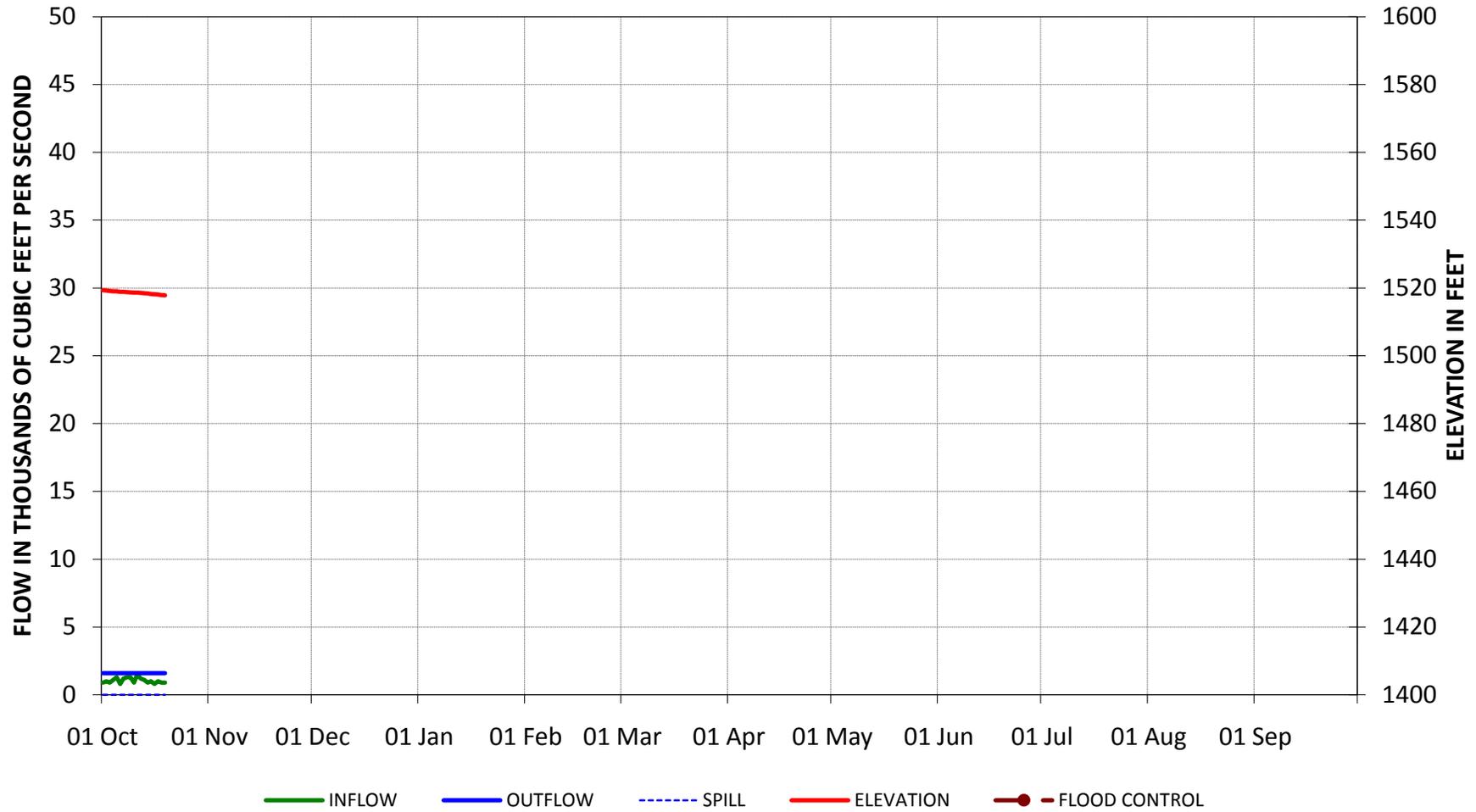
# GRAND COULEE DAM AND RESERVOIR

## Water Year 2011



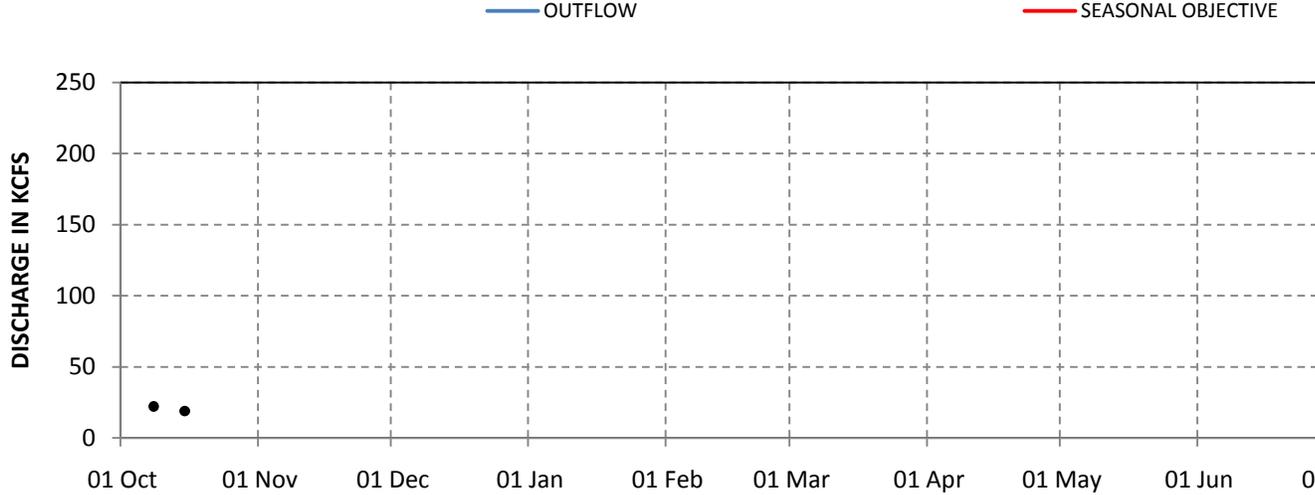
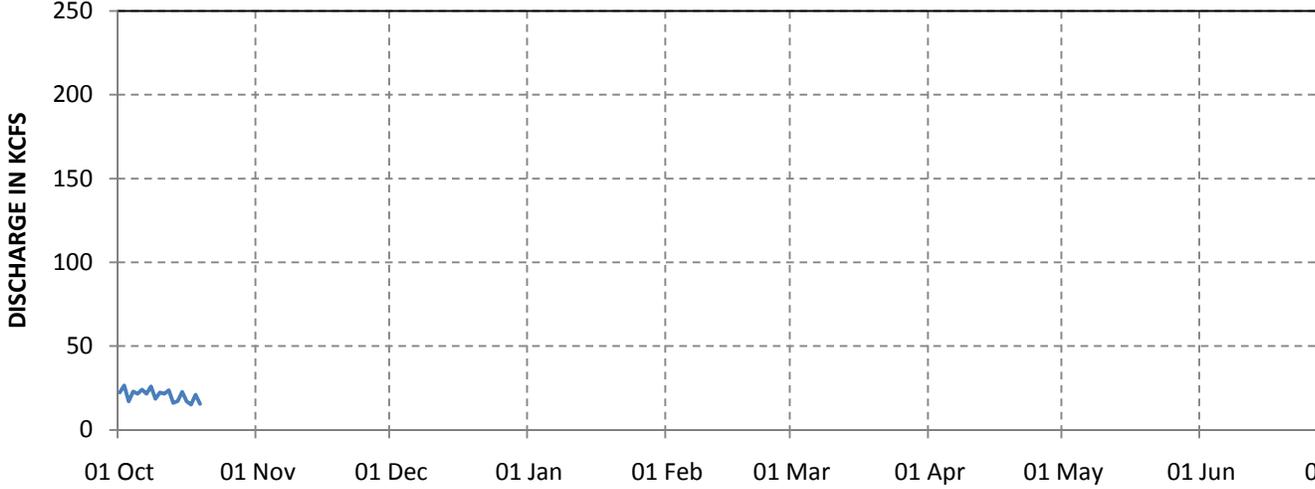
# DWORSHAK DAM AND RESERVOIR

## Water Year 2011



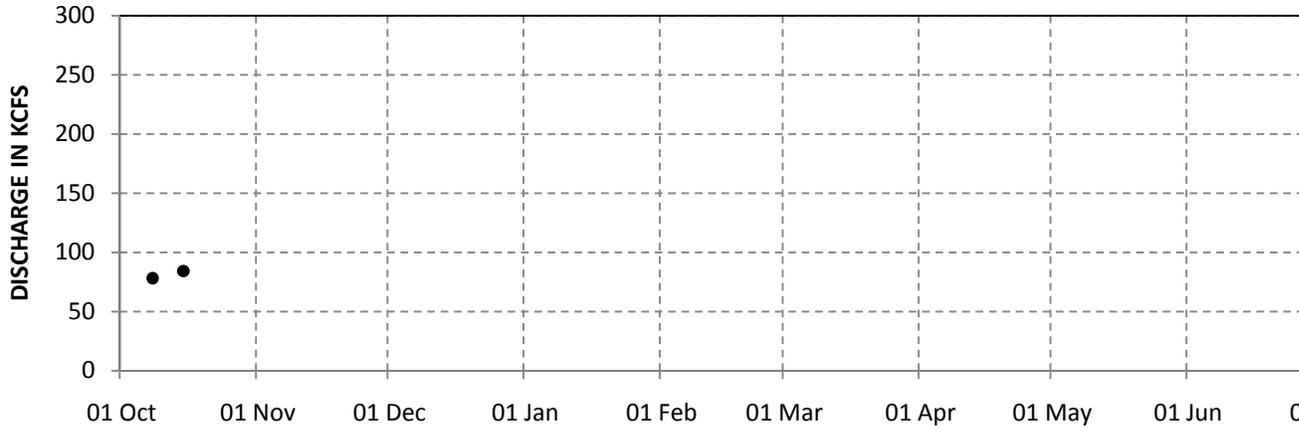
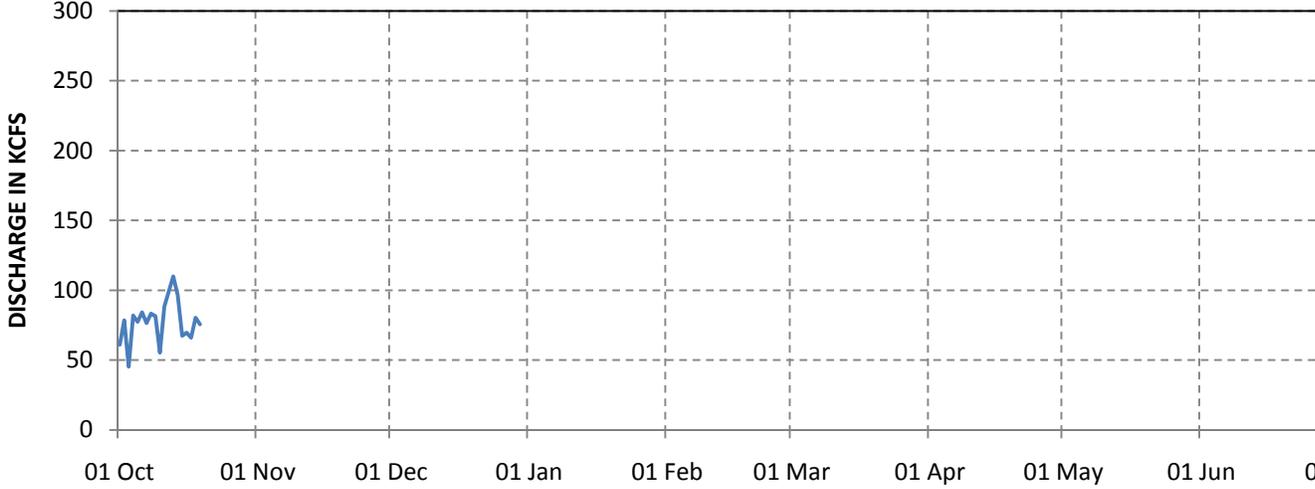
# PROJECT DISCHARGE SUMMARY

## SNAKE RIVER AT LOWER GRANITE DAM



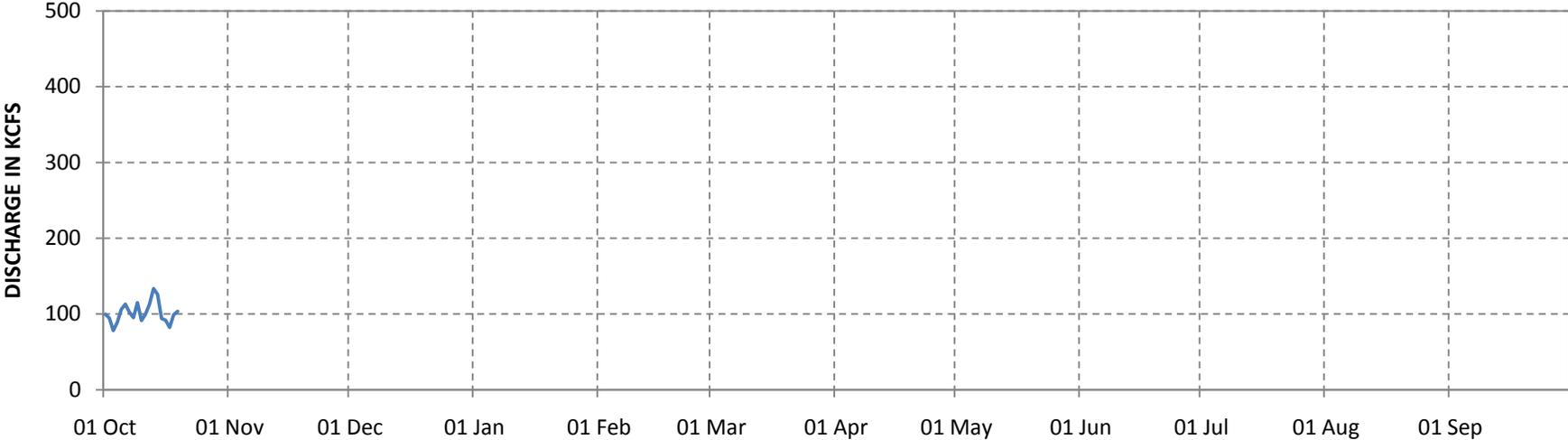
— WEEKLY OBJECTIVE    — SEASONAL OBJECTIVE    ● WEEKLY OBSERVED    — SEASON

# PROJECT DISCHARGE SUMMARY COLUMBIA RIVER AT PRIEST RAPIDS DAM

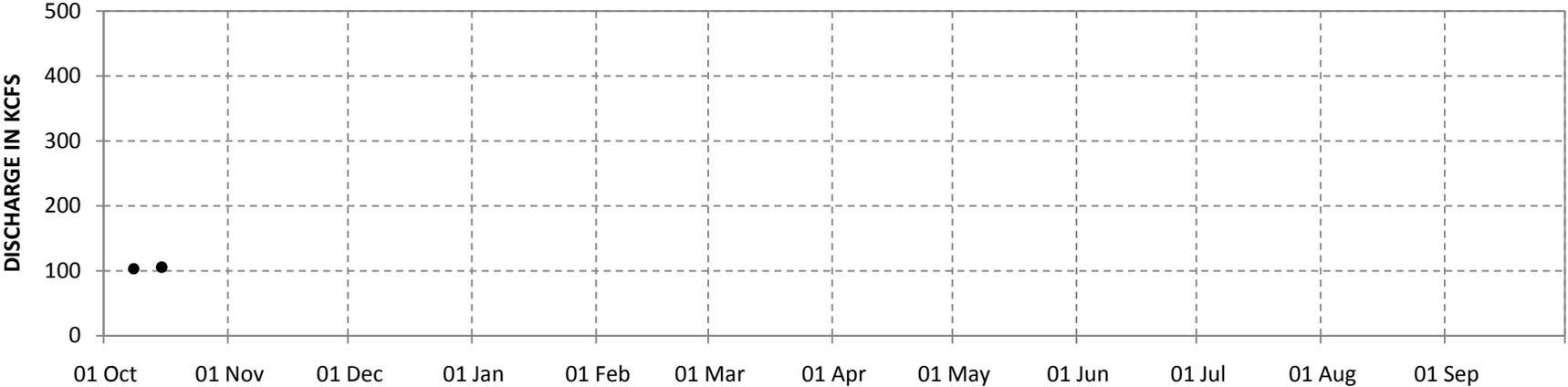


# PROJECT DISCHARGE SUMMARY

## COLUMBIA RIVER AT McNARY DAM



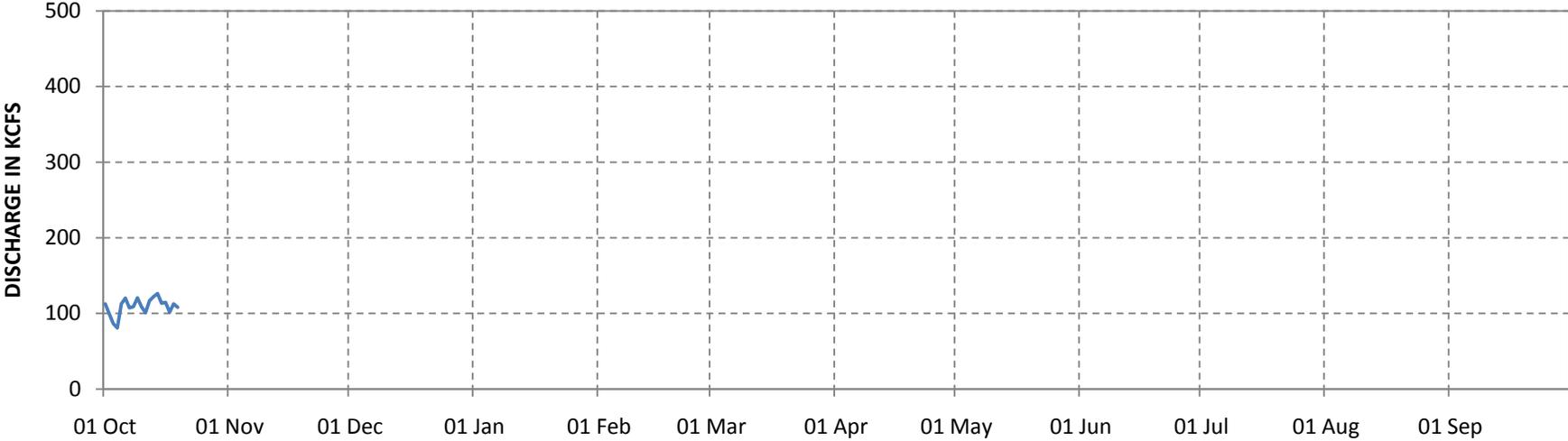
— OUTFLOW — SEASONAL OBJECTIVE



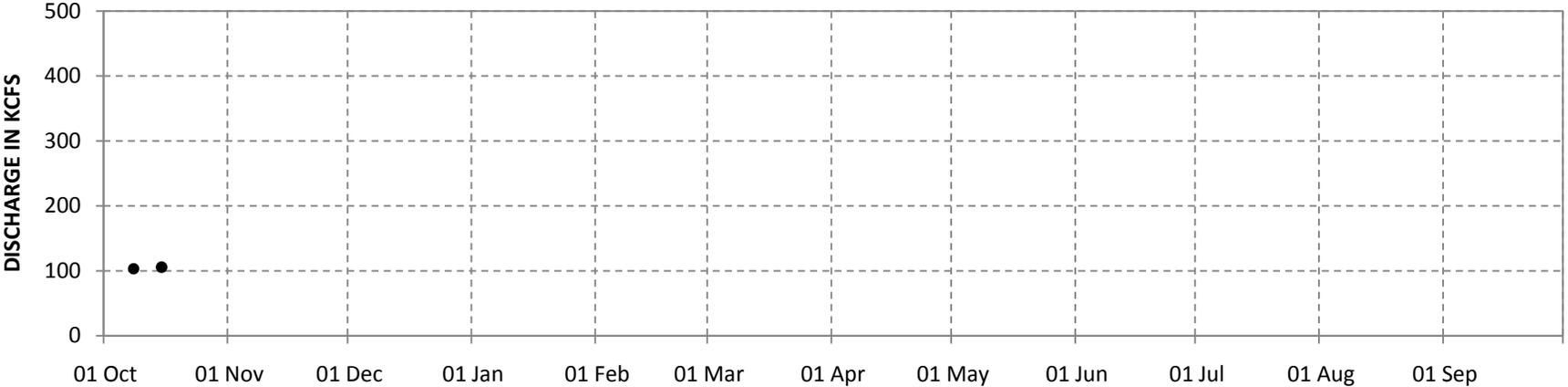
— WEEKLY OBJECTIVE — SEASONAL OBJECTIVE ● WEEKLY OBSERVED — SEASONAL TO-DATE

# PROJECT DISCHARGE SUMMARY

## COLUMBIA RIVER AT BONNEVILLE DAM



— OUTFLOW — SEASONAL OBJECTIVE



— WEEKLY OBJECTIVE — SEASONAL OBJECTIVE ● WEEKLY OBSERVED — SEASONAL TO-DATE



## 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: 2010 C-11

TO: Brigadier General McMahon COE-NWD  
James D. Barton COE-NWD-NP-Water Management  
Steve Barton, Karl Kanbergs COE-NWD-NP-WM-RCC  
D. Feil, R. Peters, D. Ponganis COE-NWD-PDD (Fish Management Office)  
Col. Steven R. Miles COE-Portland District  
Paul Cloutier COE-Portland District (Tribal Liaison)  
Karl Wirkus USBR- PNW Regional Director  
Steven J. Wright BPA Administrator  
Steve Oliver, Greg Delwiche BPA-PG-5  
Tony Norris, Scott Bettin BPA-Operations Planning-PGPO  
Stan Speaks, Keith Hatch BIA, Northwest Regional Office

FROM: Babtist Paul Lumley, *Executive Director*

DATE: October 8, 2010

SUBJECT: **Operation of the Lower Columbia Pools for the Autumn 2010 Treaty Fishery**

The Columbia River Inter-Tribal Fish Commission, on behalf of its members, the Nez Perce Tribe, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes of the Warm Springs Reservation of Oregon, and the Confederated Tribes and Bands of the Yakama Nation, requests the following reservoir operations in "Zone 6" (Bonneville to McNary dams) during the 2010 autumn Treaty fishery. This effort supports the 2010 autumn ceremonial, subsistence, and commercial Treaty fishery times as established by the tribes and the Columbia River Compact.

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

**October 11, 2010, 6 am, Monday, through 6 pm, October 13, 2010, Wednesday.**

**Bonneville: Operate the pool within a 1.5 foot band during the treaty fishing period.**

**The Dalles (Celilo): Operate the pool within a 1.5 foot band during the treaty fishing period**

**John Day: Operate the pool within a 1.5 foot band during the treaty fishing period.**

JUSTIFICATION:

The 2010 autumn treaty fishing season is of critical importance to CRITFC's member tribes. The escapement of an estimated of **465,000** (Columbia at Bonneville Dam) adult fall Chinook (above normal rank) and **385,000** steelhead (above normal rank), will create harvest opportunities for tribal fishers who will exercise their treaty rights by participating in this harvest, using platform and gillnet fishing methods. This harvest will provide for the cultural, religious, and economic needs of the treaty tribes.

CRITFC has sponsored 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 September 28, 2010 survey showed 657 nets in the Zone 6 pools, as follows: 235 (36%) in Bonneville, 142 (22%) in The Dalles, and 280 (43%) 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 more than 1.5 foot 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 or change local currents that affect fishing success, (3) boat access problems, and (4) nets torn from their anchors if pools are raised after nets are set. Nets and gear are costly to replace and may become "ghost nets" that continue to catch fish and may negatively affect fish populations outside of the treaty fishing period.

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

If this SOR cannot be accommodated, CRITFC requests a verbal response with an explanation from the federal operators by COB Tuesday, October 12, 2010. Thank you for considering this request. Please contact Stuart Ellis or Bob Heinith should you have any questions at (503) 238-0667.

cc: Tribal Staffs and Attorneys



## 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: 2010 C-12

TO: Brigadier General McMahon COE-NWD  
James D. Barton COE-NWD-NP-Water Management  
Steve Barton, Karl Kanbergs COE-NWD-NP-WM-RCC  
D. Feil, R. Peters, D. Ponganis COE-NWD-PDD (Fish Management Office)  
Col. Steven R. Miles COE-Portland District  
Paul Cloutier COE-Portland District (Tribal Liaison)  
Karl Wirkus USBR- PNW Regional Director  
Steven J. Wright BPA Administrator  
Steve Oliver, Greg Delwiche BPA-PG-5  
Tony Norris, Scott Bettin BPA-Operations Planning-PGPO  
Stan Speaks, Keith Hatch BIA, Northwest Regional Office

FROM: Babtist Paul Lumley, *Executive Director*

DATE: October 18, 2010

SUBJECT: **Operation of the Lower Columbia Pools for the Autumn 2010 Treaty Fishery**

The Columbia River Inter-Tribal Fish Commission, on behalf of its members, the Nez Perce Tribe, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes of the Warm Springs Reservation of Oregon, and the Confederated Tribes and Bands of the Yakama Nation, requests the following reservoir operations in "Zone 6" (Bonneville to McNary dams) during the 2010 autumn Treaty fishery. This effort supports the 2010 autumn ceremonial, subsistence, and commercial Treaty fishery times as established by the tribes and the Columbia River Compact.

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

**October 19, 2010, 6 am, Tuesday, through 6 pm, October 22, 2010, Friday.**

**Bonneville: Operate the pool within a 1.5 foot band during the treaty fishing period.**

**The Dalles (Celilo): Operate the pool within a 1.5 foot band during the treaty fishing period**

**John Day: Operate the pool within a 1.5 foot band during the treaty fishing period.**

JUSTIFICATION:

The 2010 autumn treaty fishing season is of critical importance to CRITFC's member tribes. The escapement of an estimated **465,000** (Columbia at Bonneville Dam) adult fall Chinook (above normal rank) and **385,000** steelhead (above normal rank), will create harvest opportunities for tribal fishers who will exercise their treaty rights by participating in this harvest, using platform and gillnet fishing methods. This harvest will provide for the cultural, religious, and economic needs of the treaty tribes.

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If this SOR cannot be accommodated, CRITFC requests a verbal response with an explanation from the federal operators by COB Tuesday, October 12, 2010. Thank you for considering this request. Please contact Stuart Ellis or Bob Heinith should you have any questions at (503) 238-0667.

cc: Tribal Staffs and Attorneys

**Scaffold Fishery Sales Continue**  
**Additional Commercial Gillnet Fishing Period Adopted 10/19-22**  
Monday, October 18, 2010

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

**NEXT COMMERCIAL GILLNET SEASON**

**AREA:** All of Zone 6

**DATES:** 6:00 AM Tuesday, Oct. 19 through 6:00 PM, Friday, Oct. 22 (3.5 days)

**GEAR:** There will be an **8 inch minimum** mesh size restriction.

**ALLOWABLE SALES:** Chinook, coho, steelhead, walleye, carp, yellow perch, catfish, bass and shad may be sold or retained for subsistence. Sturgeon may not be sold. Sturgeon between 43-54 inches fork length in The Dalles and John Day pools may be retained for subsistence. Sturgeon between 38-54 inches fork length in the Bonneville pool may be retained for subsistence. 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. The Standard Spring Creek Hatchery sanctuary will not be in effect as the hatchery is not collecting more fish this year.

There will be some sturgeon research fishing for "young of the year" sturgeon in The John Day Pool this week. This research is a cooperative project between the tribes and the states and is important in monitoring sturgeon populations. Researchers are aware of the fishery and will attempt to avoid any conflict with tribal fishing activities.

*Fish harvested between 8:00AM Tuesday 10/19 and 6:00 PM Friday 10/22 in the Zone 6 PLATFORM/SCAFFOLD/HOOK AND LINE fisheries may be sold or kept for subsistence purposes. The allowed sales are the same as stated above for the gillnet fishery. Fish harvested after 6:00 PM Friday October 22 may not be sold.*

\*\*\*\*\*

***PLATFORM/HOOK AND LINE FISHERIES downstream of Bonneville Dam continue in accordance with Yakama, Warm Springs, and Umatilla MOUs.***

***Sales of fish are prohibited on USACE property at Bonneville Dam.***

\*\*\*\*\*

Sales are also allowed for fish caught in overlapping portions regularly scheduled Yakama Nation tributary fisheries in the Big White Salmon River, Drano Lake, 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. AVOID OVERLOADED BOATS.**

# TECHNICAL MANAGEMENT TEAM

**BOR:** John Roache / Mary Mellema / Pat McGrane

**NOAA-F:** Paul Wagner / Richard Dominigue

**OR:** Rick Kruger / Ron Boyce

**WDFW:** Cindy LeFleur / Charles Morrill

**Salish-Kootenai:** Joe Hovenkotter

**Colville:** Sheri Sears / Steve Smith

**Shoshone-Bannock:** Lytle Denny

**Yakima:** Bob Rose

**Umatilla:** Tom Lorz (CRITFC)

**BPA:** Tony Norris / Scott Bettin / Robyn MacKay

**USFWS:** David Wills / Steve Haeseker

**ID:** Russ Kiefer / Pete Hassemer

**MT:** Jim Litchfield / Brian Marotz

**Spokane:** Deanne Pavlik-Kunkel / Andy Miller

**Kootenai:** Sue Ireland / Billy Barquin

**Warm Springs:** Brad Houslet

**Nez Perce:** Dave Statler

**Kalispel:** Joe Maroney

**COE:** Steve Barton / Karl Kanbergs / Doug Baus

## TMT CONFERENCE CALL

Tuesday October 26, 2010 3:00pm - 4:00pm

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

### CONFERENCE CALL INFORMATION

Phone Number (877) 336-1274

Access Code 3871669

Security Code 6845

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 Erin Halton with any issues or concerns they would like to see addressed.  
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. Chum Activity - Paul Wagner, NOAA-F, and Steve Barton, COE-NWD
  - a. [Spawning Surveys Below Bonneville Dam](#)
3. Other
  - a. Set agenda and date for next meeting - **November 3, 2010**
  - b. [\[Calendar 2010\]](#)

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

[Doug Baus](#) at (503) 808-3995

# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

October 26, 2010 Conference Call

### FACILITATOR'S SUMMARY NOTES

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.

#### **Chum Operations**

Paul Wagner, NOAA, shared that FPAC members held a discussion earlier in the day regarding chum status and any potential recommendation for the Bonneville tailwater elevation. Wagner said that so far 247 chum have been caught in gill nets in the area near Grey's River and 19 chum have been observed passing the Bonneville fish ladder to date. He added that the 10/26 spawning survey had not observed any spawning, but low tailwater elevation may have been a factor. Wagner said FPAC discussion resulted in a recommendation for a 10.5-11' tailwater range for the next few days, until 11/1 when the 11.3-11.7' range will be implemented by BPA. Wagner noted that the objective is to provide a sustainable elevation range where the fish can have access to spawning habitat.

BPA shared that there is some challenge in implementing an operation for this week, given the efforts already underway to prepare for next week's operation. However, BPA said that they could provide a tailwater elevation minimum of 9.5' starting the morning of 10/27. BPA clarified that excess water would be moved during nighttime hours. TMT members present on the call (USFWS, NOAA, ID, WA, Umatilla Tribes, Spokane Tribes, Reclamation, COE and BPA) had no objection to the BPA proposed operation.

Deanne Pavlik-Kunkel, Spokane Tribe, reported that there have been an unprecedented number of kokanee in Lake Roosevelt this year and until the end of the month is reached, they are still uncertain as to exactly when they will pull the trap. John Roache, Reclamation, reported that the latest STP model run showed that Grand Coulee's November 15 elevation level will be at 1283' or a little higher. Reclamation and BPA offered to keep in close contact with their Spokane Tribe partners regarding Grand Coulee's status. The COE reminded TMT of the work at Powerhouse 1 the last week of October.

**Action:** BPA will operate Bonneville to provide a tailwater elevation minimum of 9.5' starting the morning of 10/27, until 11/1 when the 11.3-11.7' range will be implemented. TMT will discuss chum operations at the next TMT meeting, scheduled for 11/3.

#### **Upcoming TMT Meetings**

- 11/3 and 11/10 Face to Face Meetings:

- 11/17 Conference Call as needed

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**

**October 26, 2010**

Notes: Pat Vivian

**1. Introduction**

Today's TMT conference call was chaired by Doug Baus (COE) and facilitated by Erin Halton (DS Consulting). Representatives of the COE, Washington, USFWS, BOR, BPA, Spokane Tribe, NOAA, CRITFC, Idaho and others attended. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

**2. Chum Operations**

FPAC met this morning and discussed whether to recommend a tailwater operation, Paul Wagner (NOAA) reported. So far this fall, 247 chum have been caught in gillnet fisheries near Grays River, where most of the chum population returns to spawn. Also 19 chum have passed Bonneville Dam. So, although surveys to date haven't indicated spawning activity, chum are in the river. Recent storm activity and forecasts of wet weather for the next 10 days increases the risk of inundating chum redds later. Therefore the Salmon Managers agreed the chum operation should get started this week or as soon as possible, first by raising the Bonneville tailwater elevation to 10.5-11 feet, then to the standard daytime chum operation of 11.3-11.7 feet beginning November 1.

The FPAC call included representation from CRITFC, Idaho, Washington and USFWS as well as NOAA. However, Deanne Kunkel (Spokane Tribe), present on today's TMT call, was not on the FPAC call this morning. She explained the tribe's biggest concern is maintaining the requested minimum elevation of 1,283 feet at Lake Roosevelt during kokanee spawning. Reclamation and BPA will keep in contact with the Spokane Tribe in regards to Grand Coulee's forecasted elevations over the next several weeks during kokanee spawning.

In response to the request to get the chum operation started this week, Tony Norris (BPA) said it's problematic to operate to a tailwater elevation range on short notice. BPA needs approximately 4 days to establish an elevation and begin reverse load factoring to maintain the desired elevation range. Adjustments made to power schedules at the end of the month make it difficult to start the chum operation before November 1. Norris asked whether in the short term the Salmon Managers want a flatter discharge during the day, or a flatter around-the-clock elevation. On 26 Oct there were hourly tailwater readings of 8.5 feet during the chum survey and this low tailwater does not promote spawning activity therefore a more stable daytime operation around 10 feet would be preferable,

Wagner replied. Norris asked whether there's a preferred bottom elevation at Bonneville tailwater; Wagner said a minimum elevation of 9.5 feet would be acceptable. Norris said BPA can provide that starting November 1.

The Salmon Managers gave their views of the BPA proposal to start the chum operation tomorrow, October 27, with a minimum tailwater elevation of 9.5 feet below Bonneville Dam. Starting November 1, the operation will move to a daytime elevation range of 11.3-11.7 feet with excess water to be moved at night.

**NOAA** – Supports the proposal.

**USFWS** – Supports the proposal.

**CRITFC** – No objection.

**Idaho** – No objection.

**Washington** – No objection.

**Spokane Tribe** – Will coordinate with BPA and BOR to ensure that kokanee needs are met, therefore no objection.

**BOR** – No objection.

**COE** – Supports the proposal.

**BPA** – Supports the proposal.

### **3. Next Meeting**

The next TMT meeting will be in person on November 3. Chum operations, a review of Libby data, meeting minutes, possibly a treaty fishing wrap-up, and the usual operations review will be on the agenda. Halton reminded everyone that comments on the first draft of the 2011 Water Management Plan are due on October 29.

<b>Name</b>	<b>Affiliation</b>
Doug Baus	COE
XX	Snohomish PUD
Rich Hilt	COE
Tom Le	Puget Sound Energy
Rob Allerman	Deutsch Bank
Karl Kanbergs	COE
Charles Morrill	Washington
Russ George	WMC
David Wills	USFWS
Margaret Filardo	FPC
John Roache	BOR
Tony Norris	BPA
Scott Bettin	BPA
Deanne Kunkel	Spokane Tribe
Paul Wagner	NOAA
Tom Lorz	CRITFC
Richelle Beck	DRA

Russ Kiefer

Idaho

# TECHNICAL MANAGEMENT TEAM

**BOR:** John Roache / Mary Mellema / Pat McGrane

**NOAA-F:** Paul Wagner / Richard Dominigue

**OR:** Rick Kruger / Ron Boyce

**WDFW:** Cindy LeFleur / Charles Morrill

**Salish-Kootenai:** Joe Hovenkotter

**Colville:** Sheri Sears / Steve Smith

**Shoshone-Bannock:** Lytle Denny

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**Umatilla:** Tom Lorz (CRITFC)

**BPA:** Tony Norris / Scott Bettin / Robyn MacKay

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**MT:** Jim Litchfield / Brian Marotz

**Spokane:** Deanne Pavlik-Kunkel / Andy Miller

**Kootenai:** Sue Ireland / Billy Barquin

**Warm Springs:** Brad Houslet

**Nez Perce:** Dave Statler

**Kalispel:** Deane Osterman / Joe Maroney

**COE:** Steve Barton / Karl Kanbergs / Doug Baus

## TMT MEETING

Wednesday November 3, 2010 9:00am - 12:00pm

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

### CONFERENCE CALL INFORMATION

Phone Number (877) 336-1274  
Access Code 3871669  
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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 October 26 Meeting Minutes [\[Meeting Minutes\]](#)
3. Libby Data - Steve Barton, COE-NWD
  - a. [Data Table](#)
4. Chum Operation - Paul Wagner, NOAA Fisheries
  - a. [Spawning Surveys Below Bonneville Dam](#)
5. Water Management Plan - Steve Barton, COE-NWD
6. Operations Review
  - a. Reservoirs

- i. [Summary Plots](#)
  - b. Fish
  - c. Power System
  - d. Water Quality
- 7. Other
  - a. Set agenda and date for next meeting - **November 10, 2010**
  - b. [\[Calendar 2010\]](#)

*Questions about the meeting may be referred to:*

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

*[Dong Baus](#) at (503) 808-3995*

Today Count 29-Oct 65

Today 10-day RFC forecast STP Inflows

Sturgeon Pulse Start 8-Jun April VarQ Flow 14800.0 May VarQ Flow 14500.0 June VarQ Flow 13600.0

Column	(A)	(B) VarQ (800 KAF)			(E) Dev(SOR 800 KAF plus 260 KAF)			(H) Storage	(I) Sturgeon Vol VARQ (KAF)	(J) Minimum Flow (cfs)
		Outflow cfs	Storage KAF	Elevation ft	Outflow cfs	Storage KAF	Elevation ft			
Start of Refill	Date	Inflow cfs	Outflow cfs	Storage KAF	Elevation ft	Outflow cfs	Storage KAF	Elevation ft	VarQ-Dev KAF	Minimum Flow (cfs)
	17-Apr	2500	4000	3568	2402.4	4000	3568	2402.4	0.0	800
	18-Apr	3800	4000	3568	2402.4	4000	3568	2402.4	0.0	800
	19-Apr	5400	4000	3571	2402.5	4000	3571	2402.5	0.0	800
	20-Apr	5400	4000	3573	2402.6	4000	3573	2402.6	0.0	800
	21-Apr	9400	4000	3584	2402.9	4000	3584	2402.9	0.0	800
	22-Apr	13200	4000	3602	2403.4	4000	3602	2403.4	0.0	800
	23-Apr	15500	4000	3625	2404.1	4000	3625	2404.1	0.0	800
	24-Apr	15400	4000	3648	2404.8	4000	3648	2404.8	0.0	800
	25-Apr	13400	4000	3666	2405.3	4000	3666	2405.3	0.0	800
	26-Apr	12200	4000	3683	2405.8	4000	3683	2405.8	0.0	800
ICF Date and when VarQ Ops would have started	27-Apr	10500	9000	3686	2405.9	4000	3696	2406.1	9.9	800
	28-Apr	10200	10200	3686	2405.9	4000	3708	2406.5	22.2	800
	29-Apr	11400	11400	3686	2405.9	4000	3723	2406.9	36.9	800
	30-Apr	9300	9300	3686	2405.9	4000	3733	2407.2	47.4	800
	1-May	10200	10200	3686	2405.9	4000	3745	2407.6	59.7	800
	2-May	8300	8300	3686	2405.9	4000	3754	2407.8	68.2	800
	3-May	7000	7000	3686	2405.9	4000	3760	2408.0	74.2	800
	4-May	11000	11000	3686	2405.9	4000	3774	2408.4	88.1	800
	5-May	10300	10300	3686	2405.9	4000	3786	2408.7	100.6	800
	6-May	8000	8000	3686	2405.9	4000	3794	2408.9	108.5	800
	7-May	7600	7600	3686	2405.9	4000	3801	2409.1	115.6	800
	8-May	7100	7100	3686	2405.9	4000	3807	2409.3	121.8	800
	9-May	8200	8200	3686	2405.9	4000	3816	2409.5	130.1	800
	10-May	6900	6900	3686	2405.9	4000	3821	2409.7	135.9	800
	11-May	6200	6200	3686	2405.9	4000	3826	2409.8	140.2	800
	12-May	6200	6200	3686	2405.9	4000	3830	2409.9	144.6	800
	13-May	6700	6700	3686	2405.9	4000	3836	2410.1	150.0	800
	14-May	8200	8200	3686	2405.9	4000	3844	2410.3	158.3	800
	15-May	9800	9800	3686	2405.9	6000	3851	2410.5	165.8	800
	16-May	11900	11900	3686	2405.9	6000	3863	2410.8	177.5	800
	17-May	16600	14500	3690	2406.0	6000	3884	2411.4	194.4	800
	18-May	21900	14500	3704	2406.4	6000	3916	2412.3	211.2	800
	19-May	33900	14500	3743	2407.5	6000	3971	2413.8	228.1	800
	20-May	37900	14500	3789	2408.8	6000	4034	2415.5	245.0	800
	21-May	36000	14500	3832	2410.0	9100	4088	2416.9	255.7	800
	22-May	27300	14500	3857	2410.7	12300	4117	2417.7	260.0	800
	23-May	21600	14500	3871	2411.1	14200	4132	2418.1	260.6	800
	24-May	18500	14500	3879	2411.3	14500	4140	2418.3	260.6	800
	25-May	17600	14500	3886	2411.5	14500	4146	2418.4	260.6	800
	26-May	15500	14500	3888	2411.5	14500	4148	2418.5	260.6	800
	27-May	17400	14500	3893	2411.7	14500	4154	2418.6	260.6	800
	28-May	17000	14500	3898	2411.8	14500	4159	2418.8	260.6	800
	29-May	17200	14500	3904	2411.9	14500	4164	2418.9	260.6	800
	30-May	20500	14500	3915	2412.3	14500	4176	2419.2	260.6	800
	31-May	20500	14500	3927	2412.6	14500	4188	2419.5	260.6	800
	1-Jun	21700	14500	3942	2413.0	17000	4197	2419.8	255.7	800
	2-Jun	24100	14500	3961	2413.5	17700	4210	2420.1	249.3	800
	3-Jun	29400	14500	3990	2414.3	17700	4233	2420.7	243.0	800
Decrease VARQ to 13.6	4-Jun	31000	13830	4024	2415.2	17700	4260	2421.4	235.3	800
	5-Jun	29300	13600	4055	2416.0	17700	4283	2422.0	227.2	800
	6-Jun	27300	13600	4083	2416.8	17700	4302	2422.5	219.0	800
<b>The Following Comments Reflect the Sturgeon Operations for flows in Column (B)</b>	7-Jun	26200	13600	4108	2417.4	17700	4319	2422.9	210.9	800
Increase flow at 2300 hr to 16.1 kcfs	8-Jun	29100	13700	4138	2418.2	21000	4335	2423.3	196.4	781
Increase flow to 26 kcfs using 5 kcfs/hr	9-Jun	29700	23320	4151	2418.6	25970	4342	2423.5	191.2	69.5
	10-Jun	30700	31520	4149	2418.5	31520	4340	2423.4	191.2	688
	11-Jun	29400	33950	4140	2418.3	33950	4331	2423.2	191.2	628
Used 26 kcfs for QPHC	12-Jun	27500	34000	4127	2417.9	34000	4318	2422.9	191.2	569
	13-Jun	27500	33840	4115	2417.6	33840	4306	2422.6	191.2	510
	14-Jun	32500	33608	4113	2417.5	33900	4303	2422.5	190.6	451
	15-Jun	37000	33550	4119	2417.7	33800	4309	2422.7	190.1	392
	16-Jun	36800	33200	4127	2417.9	33200	4317	2422.8	190.1	1.1
Decrease from 32 kcfs to 26.8 kcfs; 3.5 kcfs/hr ramp	17-Jun	33700	28170	4137	2418.2	28400	4327	2423.1	189.6	287
Decrease from 26.8 kcfs to 21.6 kcfs; 3.5 kcfs/hr ramp	18-Jun	34200	22970	4160	2418.8	24870	4346	2423.6	185.9	249
Extra day at 20 kcfs; decrease from 21.6 kcfs to 20 kcfs	19-Jun	30200	20400	4179	2419.3	22500	4361	2424.0	181.7	216
Decrease to 17 kcfs	20-Jun	28400	17750	4200	2419.8	21860	4374	2424.3	173.6	189
Decrease to 16 kcfs	21-Jun	30700	16250	4229	2420.6	20500	4394	2424.8	165.1	165
	22-Jun	34600	16000	4266	2421.5	19990	4423	2425.5	157.2	141
	23-Jun	35300	16000	4304	2422.5	20000	4453	2426.3	149.3	117
	24-Jun	36500	16000	4345	2423.6	20000	4486	2427.1	141.3	93
	25-Jun	35500	16000	4383	2424.5	18500	4520	2428.0	136.4	70
Decrease to 14 kcfs	26-Jun	34700	14540	4423	2425.5	18000	4553	2428.8	129.5	49
Decrease to 12 kcfs	27-Jun	32200	12540	4462	2426.5	17300	4583	2429.5	120.1	32
Decrease to 10 kcfs	28-Jun	30000	10540	4501	2427.5	16300	4610	2430.2	108.7	19
Decrease to 8 kcfs	29-Jun	29900	8560	4543	2428.5	15900	4637	2430.9	94.1	10
Decrease to 7 kcfs	30-Jun	30400	7270	4589	2429.7	14900	4668	2431.6	79.0	3
	1-Jul	28100	7000	4631	2430.7	13800	4697	2432.3	65.5	0
	2-Jul	24200	7000	4665	2431.5	11900	4721	2432.9	55.8	0
	3-Jul	21100	7000	4693	2432.2	10900	4741	2433.4	48.0	0
	4-Jul	20200	7000	4719	2432.8	10000	4761	2433.9	42.1	0
	5-Jul	18000	7000	4741	2433.4	10000	4777	2434.2	36.1	0
	6-Jul	18600	7000	4764	2433.9	10000	4794	2434.6	30.2	0
	7-Jul	16200	7000	4782	2434.4	9900	4807	2434.9	24.4	0
	8-Jul	16200	7000	4801	2434.8	9000	4821	2435.3	20.4	0
	9-Jul	16200	7000	4819	2435.2	9000	4835	2435.6	16.5	0
	10-Jul	21100	7000	4847	2435.9	9000	4859	2436.2	12.5	0
	11-Jul	16800	7000	4866	2436.4	9000	4875	2436.6	8.5	0
	12-Jul	21500	7000	4895	2437.1	9000	4900	2437.2	4.6	0
	13-Jul	16800	7000	4915	2437.5	8200	4917	2437.6	2.2	0
	14-Jul	17600	7000	4936	2438.0	8000	4936	2438.0	0.2	0
	15-Jul	15290	7000	4952	2438.4	7200	4952	2438.4	-0.2	79.1

# COLUMBIA RIVER REGIONAL FORUM TECHNICAL MANAGEMENT TEAM

November 3, 2010 Meeting

## FACILITATOR'S SUMMARY NOTES

Facilitator/Notes: Robin Gumpert

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.

### Meeting Minutes

With no further comments, the 10/26 Conference Call Facilitators' Summary and Official Meeting Minutes were considered final.

### Libby Data

The COE provided a recap of the Libby operation from April 17-July 15 in table format, to show the numbers behind the charts that had been presented during the operation. This information was shared in response to a request, and was linked to the TMT agenda for review by anyone interested. The COE clarified the columns: (A) Inflow; (B) (C) and (D) Theoretical Baseline Operations; (E) (F) and (G) Actual Operations; (H) Storage Accounting; (I) Sturgeon Volume; and (J) 4 kcfs Bull Trout Minimum Flow.

### Chum Operation

Cindy LeFleur, Washington, provided the latest update on spawning surveys from 11/2 – this data had not yet been posted to the TMT web page. 18 live chum, 1 dead and 4 redds were observed in the Ives/Pearce area. She noted that some Chinook and Coho were spotted in the area as well.

**Planned Operation:** The COE shared that it would continue operating Bonneville at elevation 11.3-11.7' around the clock to support the spawning chum. They also reported that Powerhouse 1 required restricted generation for pipe removal on 11/1, but that it had been restored and spill was no longer being required to support the chum operation. TMT will check in on this issue as the season continues – the next TMT conference call is scheduled for 11/10.

### Water Management Plan

Steve Barton, COE, reported that several comments had been received on the first draft of the 2011 WMP, and all had been posted to the website. The next draft, addressing these comments, will be available on 11/16. The seasonal Update to the WMP had also been posted, and TMT members were asked to review this particularly for the new format changes that had been made. There is an Elements Update Table that keeps track of the date and section that updates are made, for easy reference. Comments on the Update and the second draft of the full WMP will be due by 12/3.

## **Operations Review**

**Reservoirs:** John Roache, Reclamation, reported on projects. Grand Coulee was at elevation 1288.5' and using storage to support chum below Bonneville. Hungry Horse was at elevation 3538.45' and releasing 1.1 kcfs. Maintenance at Hungry Horse that John had reported on at previous TMT meetings had been completed. Steve Barton, COE, also reported on projects. Libby was at elevation 2441.7', with 7.5 kcfs inflows and 4.5 kcfs outflows. Albeni Falls was at elevation 2055.8', with 12.9 kcfs inflows and 19.3 kcfs outflows. Dworshak was at elevation 1518.0', with 2.5 kcfs inflows and 1.6 kcfs outflows. Lower Granite flows were 20.8 kcfs, with a weekly average of 20.0 kcfs; Priest Rapids flows were 83.9 kcfs, with a weekly average of 67.3 kcfs; McNary flows were 94.9 kcfs, with a weekly average of 94.4 kcfs; and Bonneville flows were 121.5 kcfs, with a weekly average of 105.7 kcfs.

**Fish:** Paul Wagner, NOAA, reported on adult passage, noting that the run was winding down. Fall chinook counts at Bonneville were 100-200/day; jacks were in the teens, coho were 400-1,000/day and steelhead were less than 100/day. Paul also reported that juvenile monitoring had ended at Lower Granite, Little Goose and Bonneville on 10/31. The final juvenile counts showed a range of 200-500 fish/day at Lower Granite and Little Goose. These, he said, are typically Clearwater fish. Dave Wills, USFWS, added that full flow bypass continues until the screens are pulled (later this year) so PIT-tag detections will continue.

**Water Quality:** Scott English, COE, reported that the annual TDG and temperature monitoring report will be completed and available by the end of December. A post-spill monitoring review meeting was going to be held later today.

## **Next Meeting, November 10 Conference Call:**

Agenda items include:

- Chum Operation
- Other?

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**

**November 3, 2010**

Notes: Pat Vivian

***1. Introduction***

Today's TMT meeting was chaired by Steve Barton (COE) and facilitated by Robin Gumpert (DS Consulting). Representatives of Montana, BPA, the COE, NOAA, USFWS, the Colville Tribe, Washington, CRITFC, Idaho and others attended. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

***2. Meeting Minutes for October 26, 2010***

The facilitator's notes have been revised and re-posted in response to comments received. There were no other comments today, so the October 26 facilitator's notes and official minutes are considered final.

***3. Libby Data***

The table linked to this item on today's agenda is provided in response to data requests the COE received in late September and early October regarding storage accounting for the deviation request TMT made for Libby Dam this summer, Barton said. Joel Fenolio (COE Seattle) explained the contents of the data table. Columns B, C and D show the standard baseline operation, while columns E, F and G show actual Libby operations per the deviation request. Column H gives a daily account of the storage and release of the 260 kaf under the deviation request. Column I accounts for the sturgeon volume, and Column J the 4 kcfs minimum used to calculate the sturgeon volume. The two data sets converged on July 15, thus ending the operation.

***4. Chum Operations***

Yesterday's spawning survey found 18 live chum, 1 dead chum and 4 chum redds, as well as Chinook and coho, in the Ives Pierce area below Bonneville Dam, Cindy LeFleur (Washington) reported. The COE has issued instructions to the project to maintain a tailwater elevation of 11.3-11.7 feet.

On November 1, generation was restricted at Bonneville Powerhouse 1 for dive safety associated with removal of the juvenile bypass system, Barton reported. This resulted in some spill in order to meet the chum flow minimum requirements. Sufficient units have been restored that spill is no longer necessary to meet minimum flow requirements. The COE will keep TMT updated on any other actions at Bonneville that might impact the chum operation.

## **5. Water Management Plan**

The COE is in the process of incorporating comments received on the first draft of the WMP, Barton reported. The draft will be reissued on November 16 for another round of comments due December 3.

The seasonal update (formerly the fall/winter and spring/summer update) will be available for comments on the same schedule. The seasonal plan is a living document that will be continuously updated, even as it's being reviewed. Tony Norris (BPA), who designed the new WMP format, suggested that TMT members cultivate a habit of checking the seasonal update before every TMT meeting to keep in touch with the latest water management information. The COE will add the WMP to future TMT agendas whenever new forecasts come in or conditions change.

## **6. Operations Review**

**a. Reservoirs.** Grand Coulee is at elevation 1,288.5 feet, currently operating and drafting to support chum spawning below Bonneville Dam. Hungry Horse is at elevation 3,538.45 feet, releasing 1.1 kcfs. The BOR recently completed required maintenance at Hungry Horse more quickly than expected, so flows only fell below the Columbia Falls minimum for 5 days.

Libby is at elevation 2,441.7 feet, with inflows of 7.5 kcfs and flat discharges of 4.5 kcfs. Albeni Falls is at elevation 2,055.8 feet, with inflows of 12.9 kcfs and a daily average discharge of 19.3 kcfs. Dworshak is at elevation 1,518.0 feet, with inflows of 2.5 kcfs and discharges of 1.6 kcfs.

Lower Granite is discharging 23.8 kcfs; last week's average was 20 kcfs. Priest Rapids is discharging 83.9 kcfs; last week's average was 20 kcfs. McNary is discharging 94.9 kcfs; last week's average was 67.3 kcfs. Bonneville is discharging 121.5 kcfs; last week's average was 105.7 kcfs.

**b. Fish. Adults:** Chum spawning is the only adult activity at present, Wagner reported (see above).

**Juveniles:** This is the last week of smolt passage monitoring at Lower Granite, Little Goose and Bonneville dams. For the past few days, Lower Granite has been passing 300-500 fall Chinook per day and Little Goose has been passing 400-450 fall Chinook per day. Typically these are Clearwater River fish at this time of year. Fish screens will be pulled in November or December, depending on the project

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

**d. Water Quality.** The COE will release the annual dissolved gas and water temperature monitoring report at the end of December, Scott English (COE) reported. This afternoon, the COE will host the annual post-spill season monitoring system review meeting.

### **3. Next Meetings**

TMT will meet next on November 10 via conference call. A chum update and report from a November 8 navigation meeting will be on that agenda. A potential TMT conference call was scheduled for November 17. The next TMT meeting in person will be on December 1. The annual TMT year-end review will be on December 8.

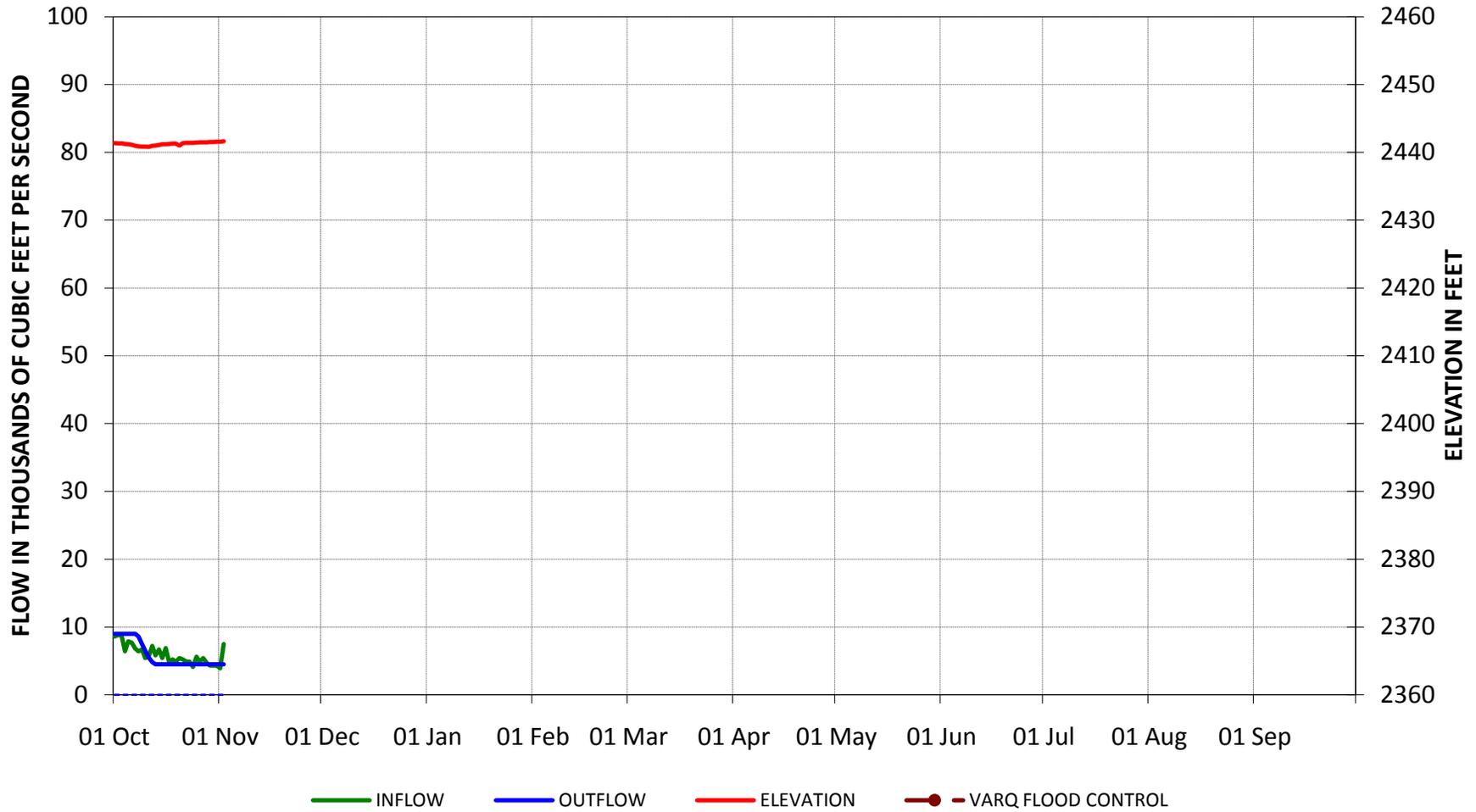
<b><i>Name</i></b>	<b><i>Affiliation</i></b>
Steve Barton	COE
Jim Litchfield	Montana
Tony Norris	BPA
Doug Baus	COE
Karl Kanbergs	COE
Paul Wagner	NOAA
David Wills	USFWS
Laura Hamilton	COE
Joel Fenolio	COE Seattle
Kristian Michelson	COE Seattle
Scott English	COE

***Phone:***

Sheri Sears	Colville Tribe
Tim Heizenrader	Centaurus
Cindy LeFleur	Washington
Ruth Burris	PGe
Margaret Filardo	FPC
Dave Benner	FPC
Barry Espenson	CBB
Russ George	WMC
Rob Allerman	Deutsch Bank
Tom Le	Puget Sound Energy
Doug Vine	Thomson Reuters
Charles Morrill	Washington
Mike Shapley	Snohomish PUD
Glen Trager	Iberdrola
John Roache	BOR
Ryan Dorsch	Capitol Power
Eric Trautman	BP
Tom Lorz	CRITFC
Russ Kiefer	Idaho

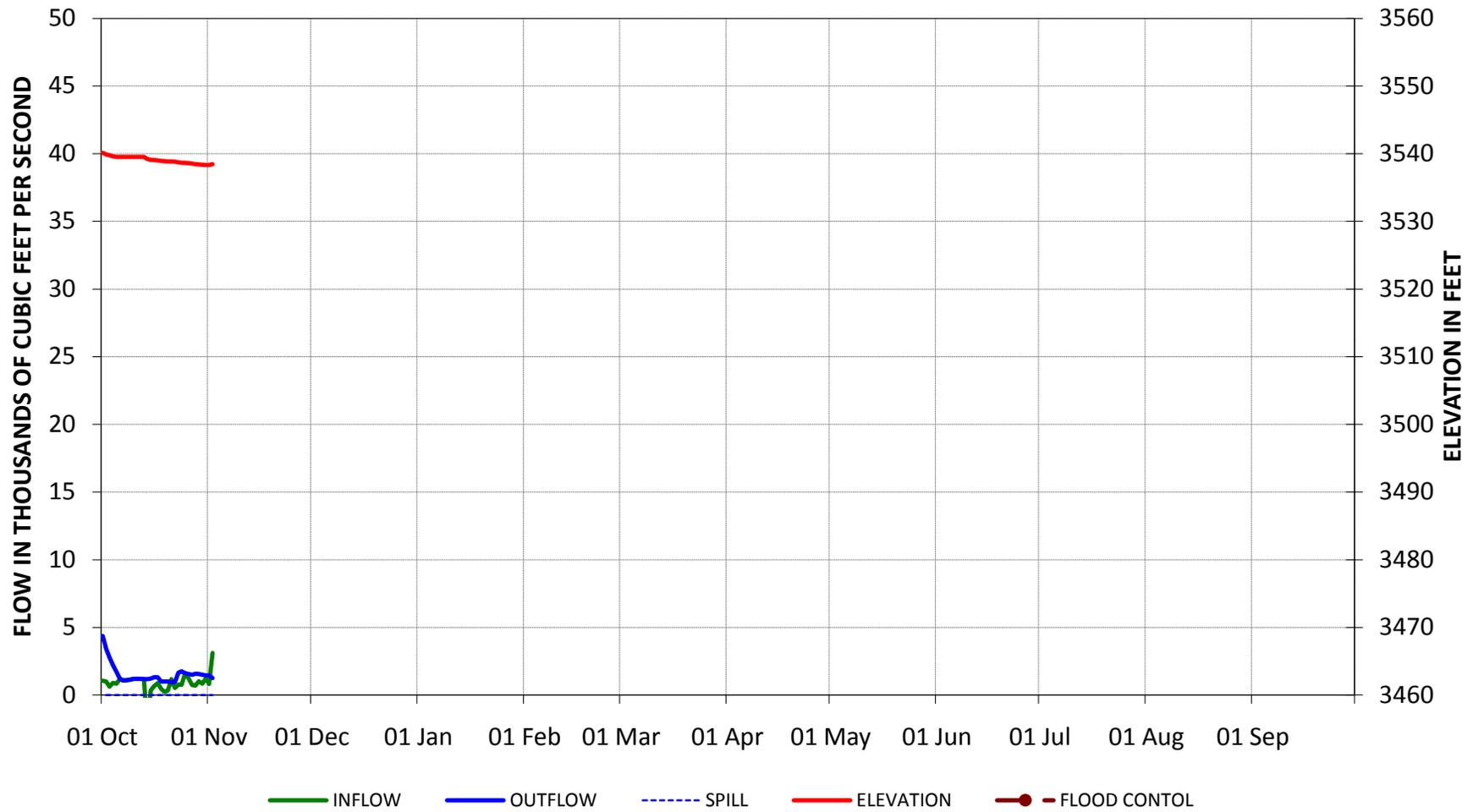
# LIBBY DAM AND RESERVOIR

## Water Year 2011



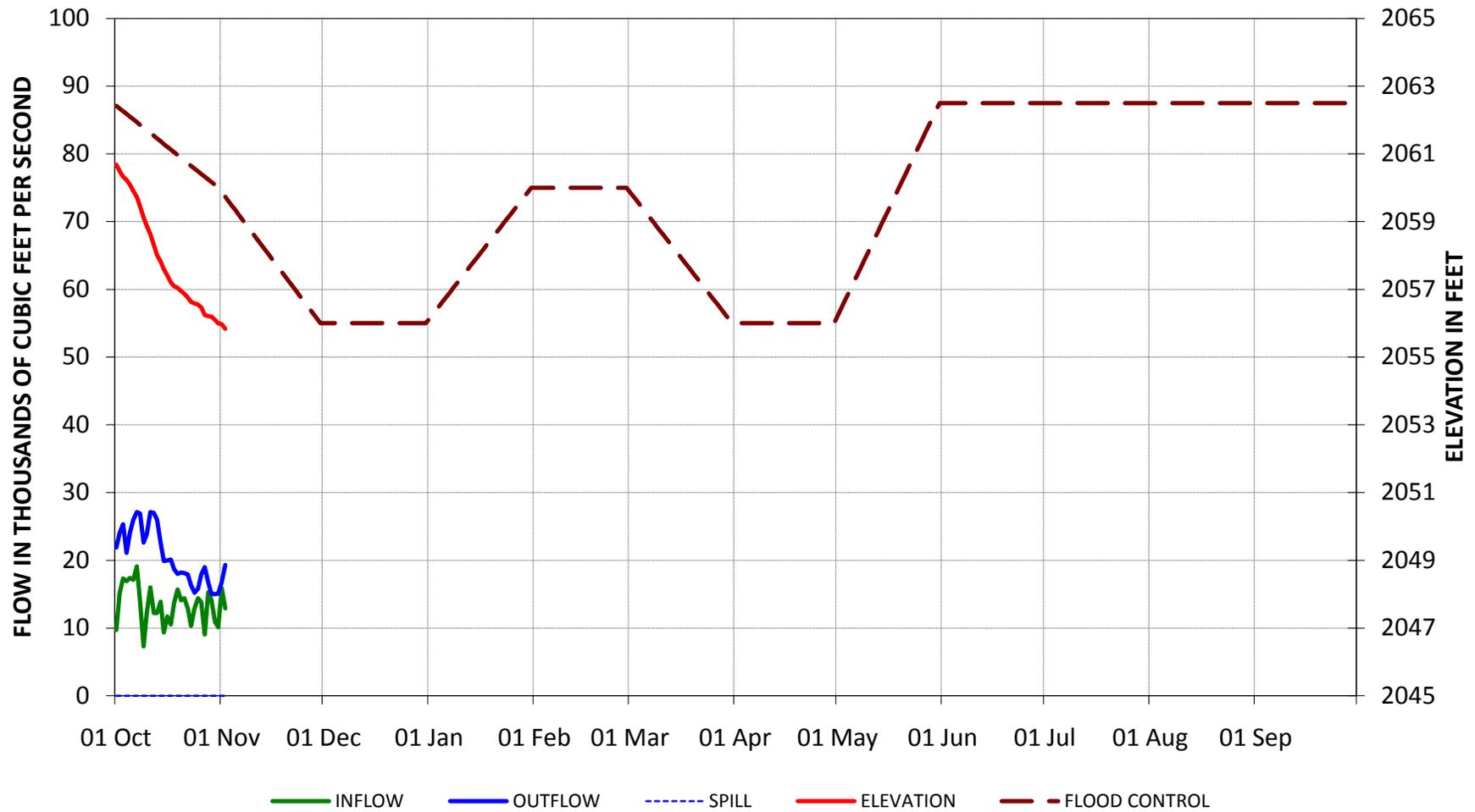
# HUNGRY HORSE DAM AND RESERVOIR

## Water Year 2011



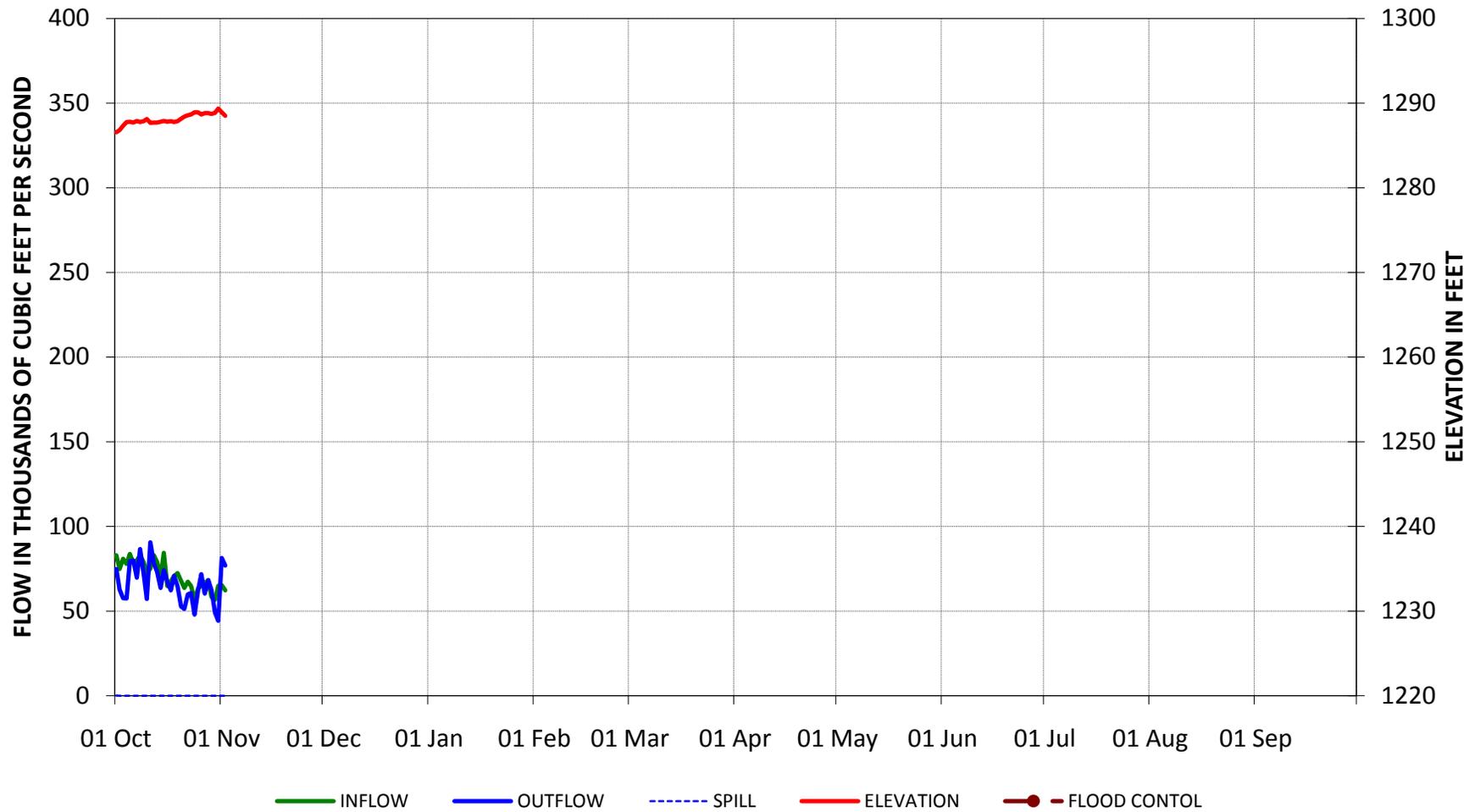
# ALBENI FALLS DAM AND RESERVOIR

## Water Year 2011



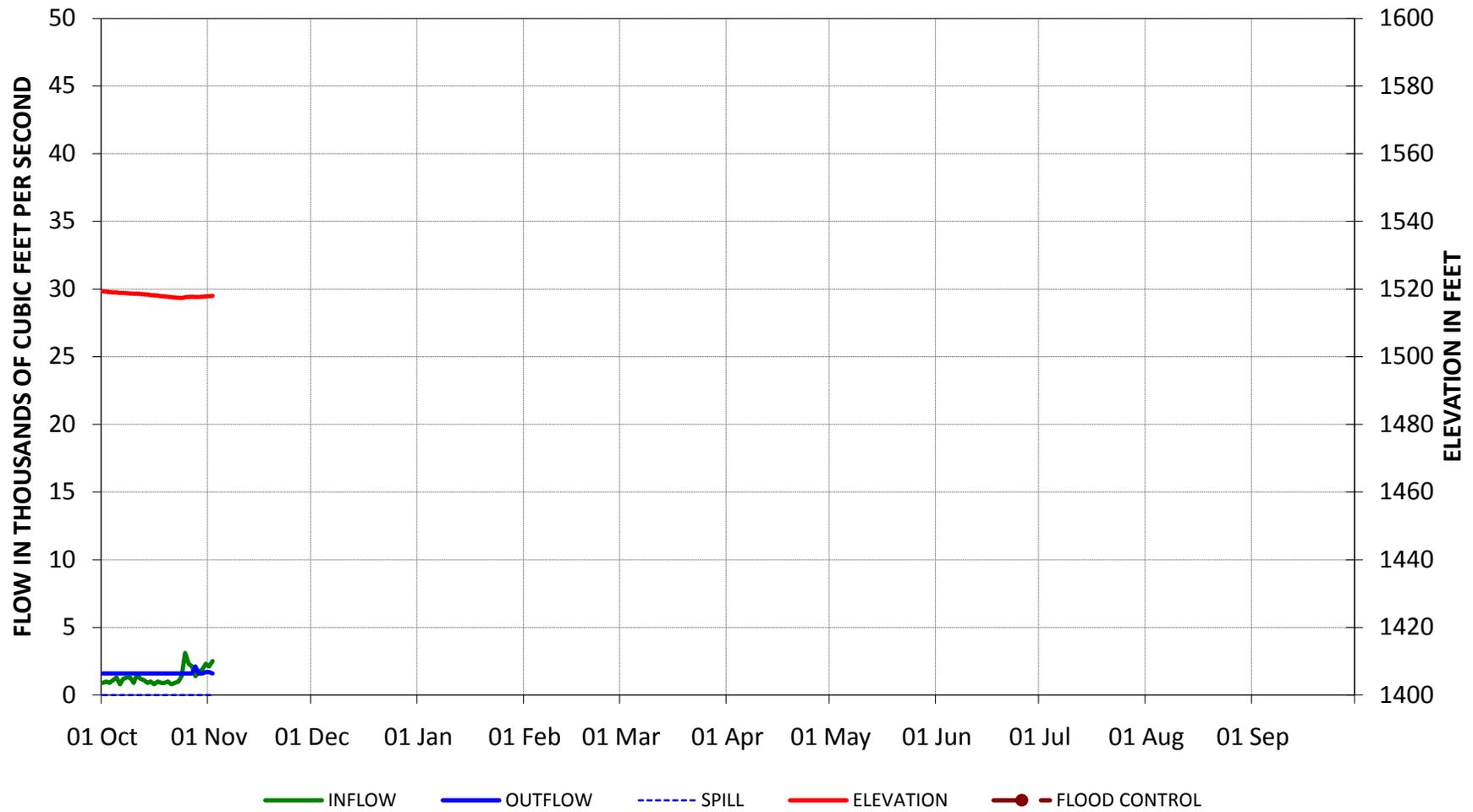
# GRAND COULEE DAM AND RESERVOIR

## Water Year 2011



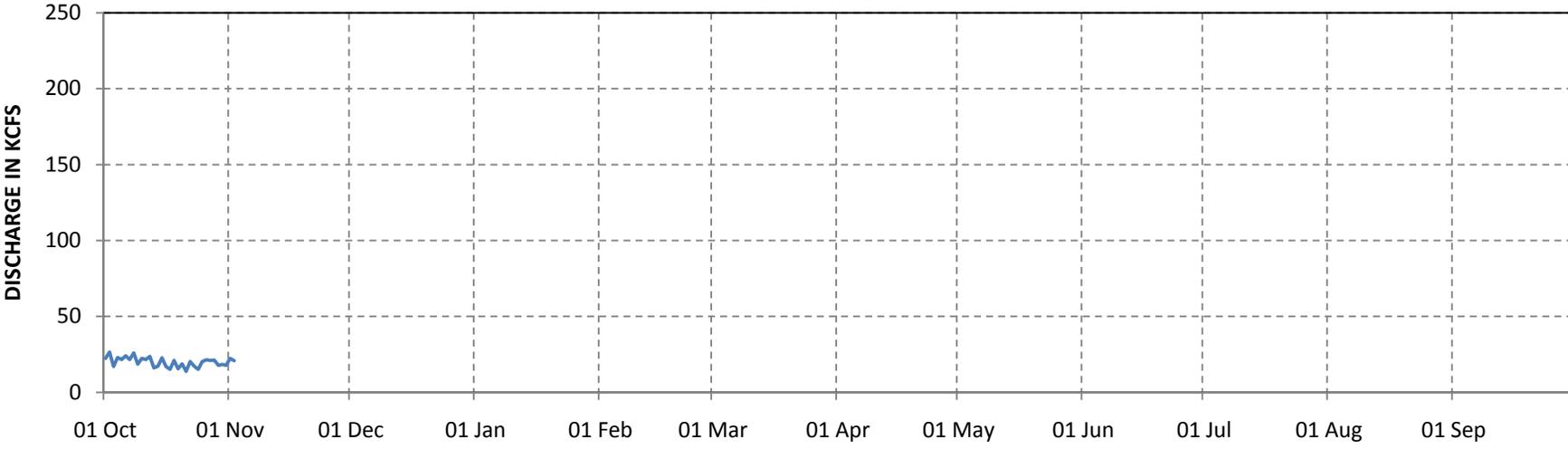
# DWORSHAK DAM AND RESERVOIR

## Water Year 2011

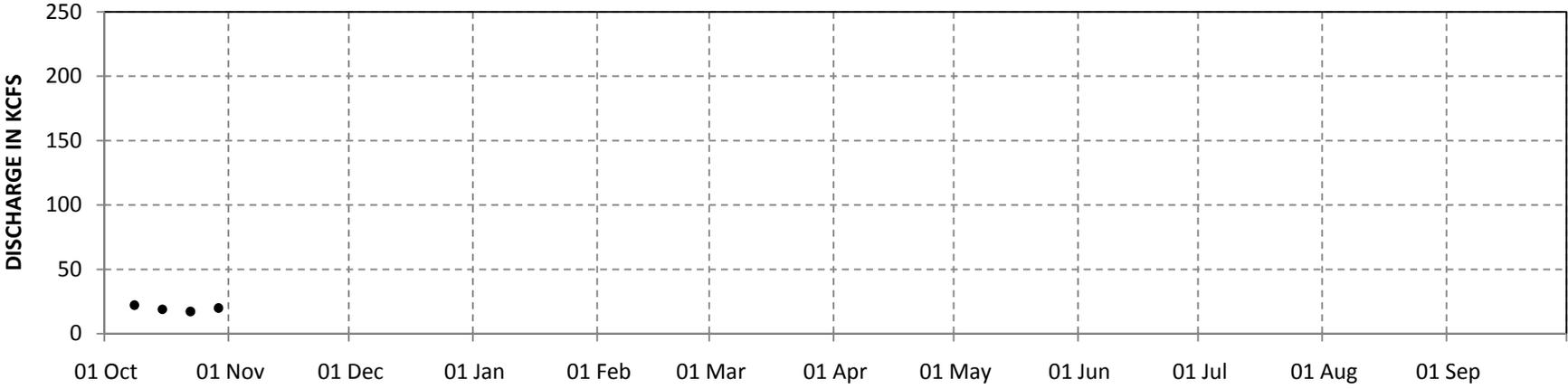


# PROJECT DISCHARGE SUMMARY

## SNAKE RIVER AT LOWER GRANITE DAM



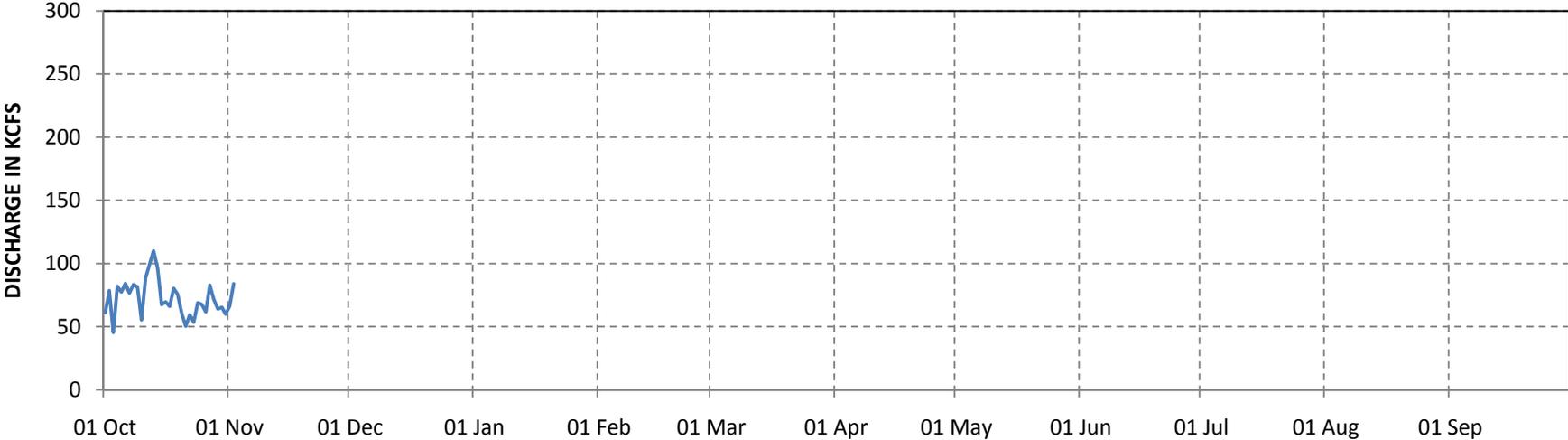
— OUTFLOW — SEASONAL OBJECTIVE



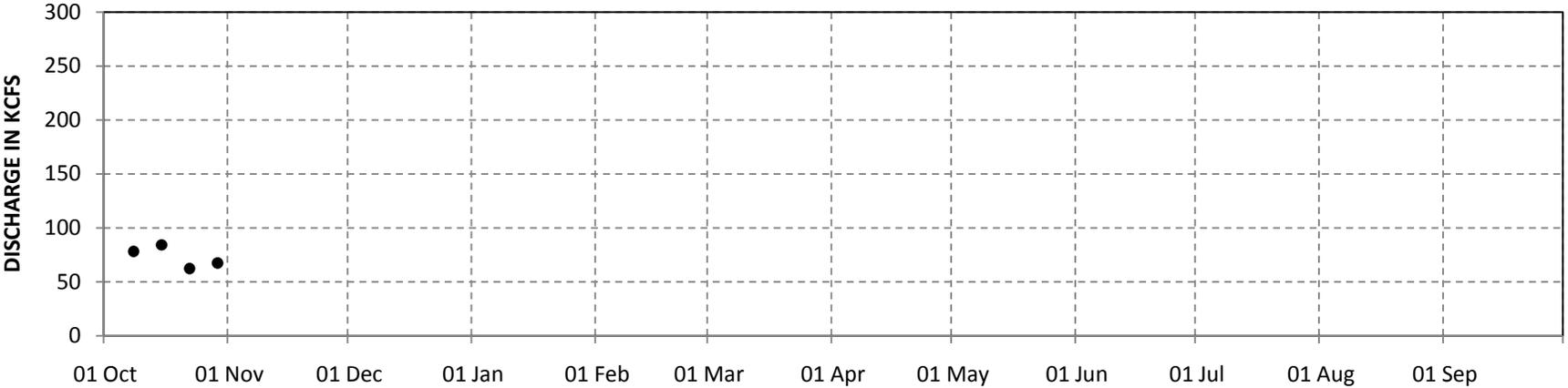
— WEEKLY OBJECTIVE — SEASONAL OBJECTIVE • WEEKLY OBSERVED — SEASONAL TO-DATE

# PROJECT DISCHARGE SUMMARY

## COLUMBIA RIVER AT PRIEST RAPIDS DAM



— OUTFLOW — SEASONAL OBJECTIVE

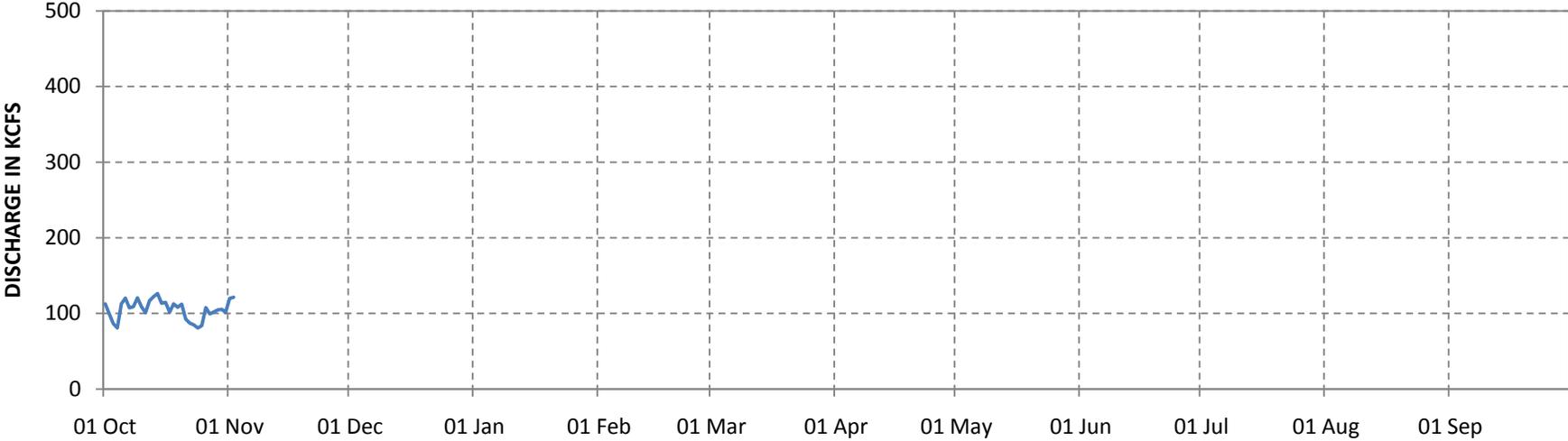


— WEEKLY OBJECTIVE — SEASONAL OBJECTIVE ● WEEKLY OBSERVED — SEASONAL TO-DATE

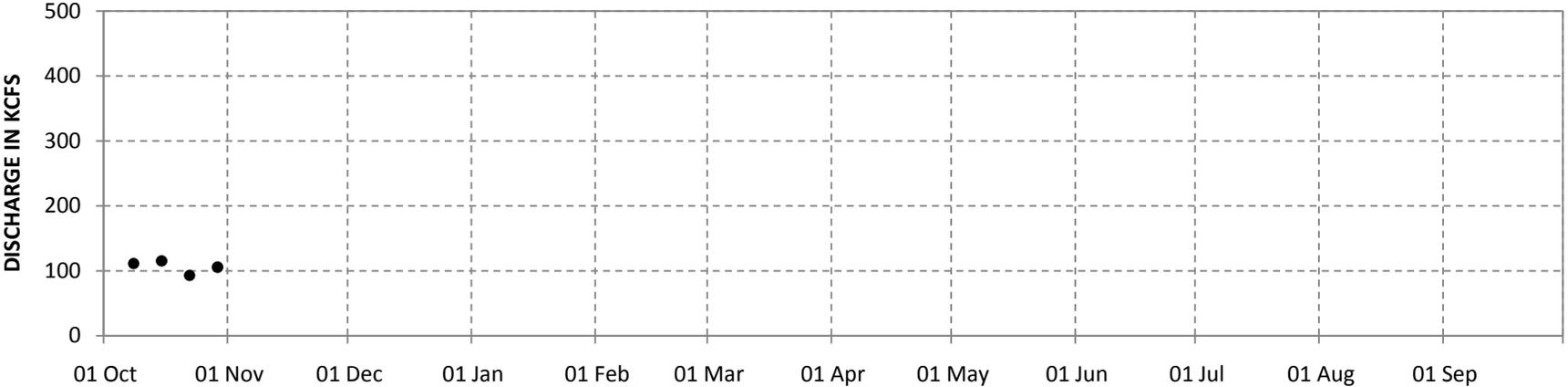


# PROJECT DISCHARGE SUMMARY

## COLUMBIA RIVER AT BONNEVILLE DAM



— OUTFLOW — SEASONAL OBJECTIVE



— WEEKLY OBJECTIVE — SEASONAL OBJECTIVE ● WEEKLY OBSERVED — SEASONAL TO-DATE

# TECHNICAL MANAGEMENT TEAM

**BOR:** John Roache / Mary Mellema / Pat McGrane

**NOAA-F:** Paul Wagner / Richard Dominigue

**OR:** Rick Kruger / Ron Boyce

**WDFW:** Cindy LeFleur / Charles Morrill

**Salish-Kootenai:** Joe Hovenkotter

**Colville:** Sheri Sears / Steve Smith

**Shoshone-Bannock:** Lytle Denny

**Yakima:** Bob Rose

**Umatilla:** Tom Lorz (CRITFC)

**BPA:** Tony Norris / Scott Bettin / Robyn MacKay

**USFWS:** David Wills / Steve Haeseker

**ID:** Russ Kiefer / Pete Hassemer

**MT:** Jim Litchfield / Brian Marotz

**Spokane:** Deanne Pavlik-Kunkel / Andy Miller

**Kootenai:** Sue Ireland / Billy Barquin

**Warm Springs:** Brad Houslet

**Nez Perce:** Dave Statler

**Kalispel:** Deane Osterman / Joe Maroney

**COE:** Steve Barton / Karl Kanbergs / Doug Baus

## TMT CONFERENCE CALL

Wednesday, November 10, 2010 9:00am - 12:00pm

CALL IN ONLY

### CONFERENCE CALL INFORMATION

Phone Number (877) 336-1274

Access Code 3871669

Security Code 6845

**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 Erin Halton with any issues or concerns they would like to see addressed.  
Please e-mail her at [ehalton@cnnw.net](mailto:ehalton@cnnw.net) or call her at (503) 248-4703.*

## AGENDA

1. Welcome and Introductions
2. Chum Activity - Paul Wagner, NOAA-F
  - a. [Spawning Surveys Below Bonneville Dam](#)
3. Lower Granite Spring Pool Operations for Navigation - Steve Hall, NWW & Steve Barton, NWD
4. Other
  - a. Set agenda and date for next meeting - **November 17, 2010**
  - b. [\[Calendar 2010\]](#)

*Questions about the meeting may be referred to:*

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

*[Doug Baus](#) at (503) 808-3995*



**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**

**November 10, 2010**

Notes: Pat Vivian

***1. Introduction***

Today's TMT conference call was chaired and facilitated by Steve Barton (COE) with representatives of BPA, BOR, USFWS, NOAA, COE, Washington, CRITFC, Montana, Idaho and others participating in the discussion. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

***2. Chum Operations***

Yesterday's chum spawning survey in the Ives Island complex found 38 live chum, 2 dead and 11 redds, Paul Wagner (NOAA) reported. He commended the Action Agencies for providing such a steady tailwater operation for chum.

Glen Vanselow (Pacific NW Waterways Association) asked whether the current 11.3-11.7 foot tailwater elevation below Bonneville Dam means that more water is being released than 2 weeks ago. Yes, flows are being augmented using upriver storage, Tony Norris (BPA) replied. This operation is identical to chum operations in years past, Barton added.

***3. Lower Granite Spring Pool Operations for Navigation***

On November 8 the COE Walla Walla office hosted a public meeting to discuss navigation concerns on the Snake River. Steve Hall (COE Walla Walla) gave a report. In September 2009, the COE received a request from navigation stakeholders in the Lewiston/Clarkston area to maintain an elevation of at least 1 foot above MOP in the Lower Granite pool to support safe loading of grain barges and access to terminals. The COE attempted to meet the request when MOP ended in August 2010 by maintaining an additional foot of elevation in the Lower Granite pool. Part of the request was to repeat the navigation operation in spring 2011, with more time to examine the alternatives.

This year will bring an extended lock outage at Lower Granite for work at The Dalles, John Day and Lower Monumental dams, Hall said. The outage will no doubt affect the ability of grain shippers in the area to move their product to market before the next year's crop arrives. In response to the shipping concerns, the COE has been working to minimize the lock outage as much as possible. It won't be easy because the job is huge – installing a massive gate at Lower Monumental Dam. The gate will be shipped downstream in 3 sections and assembled onsite, using a large crane that's being built now.

The tow boaters have asked the COE to operate the Lower Granite pool from elevation 734-737 feet, with 734 feet as a minimum through March 2011. Once Lower Granite operation has entered the MOP phase, the request is for an additional foot of elevation, for a range of 734-735 feet, rather than 733 – 734 feet, the usual MOP range, through the end of June 2011. Their concern is that the shortened window for shipping will affect their opportunity to ship grain from Lewiston to Clarkston by the beginning of July when the 2011 harvest begins. These navigation concerns are focused mainly on a 3-mile stretch from the port of Lewiston, at mile 1.2 on the Clearwater River, to mile 138 on the Snake River near the port of Clarkston, Idaho.

Barton asked for clarifying questions from TMT members to get an early start on defining a course of action to resolve these concerns. Norris asked what an extra foot of elevation will allow in added increments of grain shipped. Fletcher replied that it amounts to a substantial increase in volume and he could supply exact figures later. Due to increased siltation at the confluence of the Clearwater and Snake rivers, Vanselow said, shippers have been trying to maintain existing capability to load their barges, not increase shipping capacity.

Jennifer Bly (Port of Clarkston) said the port's main concern is safety and economic impacts if cruise ships are blocked from using the tour dock facility. The local economy suffers whenever the river is down. The port is seeking a dredging permit for the sludge problem, depending on whether funding is available. Barges are difficult to steer when turbidity is high, Fletcher explained. He recalled strict shipping limitations in the summer of 2010 due to low river elevations at Lower Granite. The goal is to maintain at least 14 feet of depth in the shipping channels.

Hall described a presentation on sedimentation that was part of the November 8 navigation meeting and Wagner expressed interest in hearing that presentation at TMT. Barton asked TMT members to direct any questions on this issue to him or Steve Hall, who will coordinate the communications with navigators regarding this issue.

#### ***4. Proposed Spill Patterns for 2011 Passage Season***

This item was added to today's agenda at the request of Brian Fletcher (Tidewater Barge Line). This past fish passage season, there were instances of actual or near collisions with guide walls at dams, or other navigation mishaps at lockages, Barton recalled. The COE is therefore considering a number of changes to the 2011 Fish Passage Plan regarding spill patterns and concerns raised during the 2010 passage season.

Tow boaters submitted an SOR to the COE during the low flows and navigation challenges of August 2010, Fletcher recalled. This year, the tow boaters want to understand ahead of time (i.e. before August) if there will be any

spill patterns or modifications that could affect navigation. These changes could originate at McNary or John Day dams as well as at the Lower Granite Dam.

In response to these concerns, the COE will lead an ongoing regional discussion of spill patterns between now and March 2011 when the 2011 Fish Passage Plan is published, Barton said.

### **5. Next Meeting**

Because the next 10-day weather forecast is relatively benign, and Thanksgiving is looming, TMT canceled its November 17 call and scheduled the next TMT meeting in person on December 1. If any unexpected events or issues arise before then, the COE will notify TMT and schedule a meeting as needed. The 2010 TMT year end review will be held on December 8.

<b>Name</b>	<b>Affiliation</b>
Steve Barton	COE
Tony Norris	BPA
Mary Mellema	BOR
David Wills	USFWS
Paul Wagner	NOAA
Cindy LeFleur	Washington
Charles Morrill	Washington
Tom Lorz	CRITFC
Jim Litchfield	Montana
Steve Hall	COE Walla Walla
Glen Vanselow	Pacific NW Waterways Association
Brian Fletcher	Tidewater Barge Line
Jennifer Bly	Port of Clarkston, ID
Dave Benner	FPC
Margaret Filardo	FPC
Russ George	WMC
Tim Heizenrader	Centaurus
Rob Allerman	Deutsch Bank
Richelle Beck	DRA
Mike Shapley	Snohomish PUD
Karl Kanbergs	COE
Doug Vine	Thompson Reuters
Tom Le	Puget Sound Energy
Russ Kiefer	Idaho
Scott Bettin	BPA

# TECHNICAL MANAGEMENT TEAM

**BOR:** John Roache / Mary Mellema / Pat McGrane

**NOAA-F:** Paul Wagner / Richard Dominigue

**OR:** Rick Kruger / Ron Boyce

**WDFW:** Cindy LeFleur / Charles Morrill

**Salish-Kootenai:** Joe Hovenkotter

**Colville:** Sheri Sears / Steve Smith

**Shoshone-Bannock:** Lytle Denny

**Yakima:** Bob Rose

**Umatilla:** Tom Lorz (CRITFC)

**BPA:** Tony Norris / Scott Bettin / Robyn MacKay

**USFWS:** David Wills / Steve Haeseker

**ID:** Russ Kiefer / Pete Hassemer

**MT:** Jim Litchfield / Brian Marotz

**Spokane:** Deanne Pavlik-Kunkel / Andy Miller

**Kootenai:** Sue Ireland / Billy Barquin

**Warm Springs:** Brad Houslet

**Nez Perce:** Dave Statler

**Kalispel:** Deane Osterman / Joe Maroney

**COE:** Steve Barton / Karl Kanbergs / Doug Baus

## TMT MEETING

Wednesday December 1, 2010 9:00am - 12:00pm

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

### CONFERENCE CALL INFORMATION

Phone Number (877) 336-1274  
Access Code 3871669  
Security Code 6845

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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 November 10 Meeting Minutes [\[Meeting Minutes\]](#)
3. Chum Operation - Paul Wagner, NOAA Fisheries
  - a. [Spawning Surveys Below Bonneville Dam](#)
4. Water Management Plan - Doug Baus, COE-NWD
5. Snake River Nighttime Zero Flow - Paul Wagner, NOAA Fisheries
6. Operations Review
  - a. Reservoirs
    - i.

- b. Fish
  - c. Power System
  - d. Water Quality
7. Other
- a. Set agenda and date for next meeting - **December 8, and possibly December 22, 2010**
  - b. [\[Calendar 2010\]](#)

*Questions about the meeting may be referred to:*

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

*[Doug Baus](#) at (503) 808-3995*

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**

**December 1, 2010**

Notes: Pat Vivian

***1. Introduction***

Today's TMT meeting was chaired by Doug Baus (COE) and facilitated by Donna Silverberg (DS Consulting). Representatives of Montana, the COE, BPA, BOR, NOAA, Washington and others attended. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

***2. Meeting Minutes for November 10, 2010***

There were no changes to the meeting notes today. A few TMT members needed more time to review.

***3. Chum Operation***

The latest count was November 23, with 130 live chum observed and 39 redds in the Ives Island complex below Bonneville Dam, Paul Wagner (NOAA) reported. In terms of other locations, the highest chum count this season is at the Woods Landing site near the I-205 bridge, where 252 live chum were observed on November 23.

Due to habitat concerns about overcrowding of redds and superimposition, which diminishes redd productivity, the Salmon Managers are considering whether to recommend a tailwater elevation increase to 13.5 feet from the current 11.3-11.7-foot range. Wagner said the Salmon Managers are aware that raising the tailwater elevation carries the added risk of maintaining the higher elevation through emergence. Because the Ives Island area tends to be warm, emergence there can happen sooner than at other locations.

If the Salmon Managers recommend an elevation increase, it would be made to the Action Agencies next Tuesday, December 7, after FPAC meets. TMT considered the possibility of a conference call at 3 pm on December 7 or a scheduled time at the year-end review on December 8 to discuss the chum operation. Charles Morrill (Washington) added that WDOE crews recently observed 45 live fish in the Ives complex and believe there are more in the area.

Tony Norris (BPA) noted that a tailwater elevation increase combined with curtailment of powerhouse capacity to allow removal of the BGS (see agenda item 7 below) could result in Bonneville having to spill.

***4. Water Management Plan***

Comments on the final version of the 2011 WMP are due December 3, Doug Baus (COE) reported. While the October 1 posting showed prior revisions in track changes format so the edits can be easily identified, the November 16 posting of the WMP doesn't use track changes. However, if people want the revisions posted and explained, the COE would be willing to consider that. Jim Litchfield (Montana) suggested holding a WMP workshop to clarify the changes and reasoning behind them to ensure that commenters' intentions were clear to the COE. The COE will consider this suggestion, Baus replied.

## **5. Snake River Zero Nighttime Flow**

A 2005 SOR submitted by the Salmon Managers suggested guidelines for determining when "few if any" steelhead are passing Lower Granite, Wagner recalled. The language in the WMP said that zero nighttime flows could be adopted as a measure when "few if any" steelhead are passing. Definition of "few if any" was based on a sliding scale according to population size. For this year, the number of steelhead passing Lower Granite to date is 205,000, so the "few if any" criterion is 80 fish. For wild fish, a total of 66,900 have passed, so the "few if any" criterion for wild fish is 35. In the past few days, 66 steelhead have passed, 23 of them wild. According to these numbers, the "few if any" criteria have been satisfied on both counts.

However, Dave Benner (FPC) recalled that the SOR based the "few if any" criteria on fish counts since June 1, not for the year to date. That puts the "few if any" criteria at 65 steelhead and 20 wild. According to those numbers, the latest counts are one fish over criteria in both categories. If the criteria are met within the next seven days, Norris asked whether it would be acceptable for the Action Agencies to coordinate their response via email and teletype the change to the project; Wagner said yes.

## **6. Operations Review**

**a. Reservoirs.** Grand Coulee is at elevation 1,279.3 feet, currently operating to maintain the chum elevation below Bonneville Dam. Hungry Horse is at elevation 3,539.33 feet, with outflows of 1.5 kcfs.

Libby is at elevation 2,434.19 feet, with inflows of 4.7 kcfs and outflows of 9.3 kcfs. Albeni Falls is at elevation 2,055.33 feet, with inflows of 17.6 kcfs and outflows of 16.2 kcfs. Dworshak is at elevation 1,519.68 feet, with inflows of 1.9 kcfs and outflows of 1.7 kcfs.

Lower Granite inflows are 19.4 kcfs, Priest Rapids inflows are 121.2 kcfs, McNary inflows are 136.2 kcfs, and Bonneville inflows are 141.4 kcfs.

**b. Fish.** Chum spawning is the only activity at present.

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

d. **Water Quality.** There was nothing to report today.

### **7. Other – Bonneville BGS Removal**

The Bonneville 2<sup>nd</sup> powerhouse will go to a two-unit operation starting next week so barges and equipment can move in to remove the behavioral guidance structure, Greg Bowers (COE) said. The operation will run from 5 am to 6 pm weekdays, December 6, 2010, through January 7, 2011, unless the work is completed sooner.

It's unlikely that Bonneville could support a higher chum tailwater without spilling while BGS removal is underway, Tony Norris noted. Scott English (COE) reminded everyone that the TDG standard for this time of year is 110% without state waivers for spill season.

### **8. Next Meetings**

TMT will meet next on December 8 for the annual TMT year-end review. The next regular TMT meeting will be December 22.

<b>Name</b>	<b>Affiliation</b>
Jim Litchfield	Montana
Rich Hilt	RCC
Tony Norris	BPA
Scott English	COE
Greg Bowers	COE
Laura Hamilton	COE

#### Phone:

John Roache	BOR
Bruce McKay	Consultant
Russ George	WMC
Richelle Beck	DRA
Ruth Burris	PGE
Tom Le	Puget Sound Energy
Paul Wagner	NOAA
Alex Ibarra	Grant PUD
Steve Hall	COE Walla Walla
Charles Morrill	Washington
Dave Benner	FPC

# 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 / Charles Morrill      **MT:** Jim Litchfield / Brian Marotz  
**Kootenai:** Sue Ireland / Billy Barquin      **Spokane:** Deanne Pavlik-Kunkel / Andy Miller  
**Colville:** Sheri Sears / Steve Smith      **Nez Perce:** Dave Statler  
**Umatilla:** Tom Lorz (CRITFC)  
**COE:** Steve Barton / Karl Kanbergs / Doug Baus

## TMT CONFERENCE CALL

Wednesday December 22, 2010 9:00am - 12:00pm

### CONFERENCE CALL INFORMATION

Phone Number (877) 336-1274

Access Code 3871669

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

## AGENDA

1. Welcome and Introductions
2. Chum Operation - Paul Wagner, NOAA Fisheries
  - a. [Spawning Surveys Below Bonneville Dam](#)
3. Other
  - a. Set agenda and date for next meeting - **January 12, 2011**
  - b. [\[Calendar 2010\]](#)

*Questions about the meeting may be referred to:*

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

*[Doug Baus](#) at (503) 808-3995*

# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

December 22, 2010 Conference Call

### FACILITATOR'S SUMMARY NOTES

Facilitator/Notes: Robin Gumpert

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.

#### **Chum Operations**

TMT members held a conference call to discuss the status of chum spawning and operations at Bonneville. Paul Wagner, NOAA, reviewed the posted spawning survey information, which included data through the 12/13 survey. In addition, he shared that he and others joined the crew for a survey on 12/17 to investigate the impact a 48-hour higher tailwater elevation (due to excess precipitation in the system) had on spawning chum. No redds were observed at higher levels than had been seen earlier in the year, and three new redds were discovered. Paul said FPAC had discussed on 12/21 and there were no objections, pending no new observed redds, to transitioning to incubation operations which would require just a day time minimum tailwater elevation of 12.2 feet, with no night time constraint.

A question was asked about what minimum tailwater could be used to support the majority of the spawned chum, to which Paul suggested GPS data could provide the answer to this question.

**Action:** Paul will gather and share the GPS data with TMT and have it posted to the TMT web page.

Given this new information (that a tail water elevation of 12.2 feet should provide adequate protection to established redds and spawning appeared to be complete+), salmon managers discussed and those present (Idaho, USFWS, NOAA) on today's TMT call raised no objection to moving to incubation operations.

**Action/Planned Operation:** With that, the COE planned to issue a teletype later today reflecting the end of chum spawning operations and transition to incubation—with a change in operation to a minimum day time elevation of 12.2 feet.

#### **Next TMT Meeting**

The next TMT meeting will be held on Wednesday, January 12 at 9:00 am. The meeting will likely be held at NOAA Fisheries – details will be posted in the coming weeks.

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**

**December 22, 2010**

Notes: Pat Vivian

***1. Introduction***

Today's TMT conference call was chaired by Doug Baus (COE) and facilitated by Robin Gumpert (DS Consulting). Representatives of BPA, the COE, BOR, USFWS, Idaho, NOAA and others attended. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

***2. Chum Operations Update***

Chum spawning survey results are posted on the TMT page for December 14, when survey crews observed 5 live and 7 dead chum, Paul Wagner (NOAA) reported. There have been two additional surveys since December 14. A December 17 survey documented the effects of higher flows and runoff below Bonneville. In response to unexpected precipitation and high flows, there was a decision to maintain an around-the-clock operation of 18.5 feet for 48 hours or longer, while acknowledging the risk that chum might spawn at higher elevations during that time. The December 17 survey, however, found no evidence that spawning occurred at high elevations. A couple of recently created redds were visible but fully submerged at a tailwater elevation of 12.2 feet, putting them in at around 12 feet elevation.

The crews' opinion is that spawning is nearly done, Wagner said. The Salmon Managers agreed at FPAC yesterday that if the December 21 spawning survey – the last of the season – found no more live chum in the area, spawning would be declared done. Yesterday's count of 1 fish was not, in Wagner's opinion, sufficient to change course on that plan. Discussion turned to identifying the lowest possible elevation that would protect the majority of chum redds. The newest redds are in the range of 12 feet elevation below Bonneville; Wagner said a tailwater elevation below 12.2 feet would most likely keep them inundated. There was discussion of using a GPS map of the chum redds to help establish an actual minimum elevation for chum incubation. Wagner suggested that TMT plan on discussing the GPS findings in January.

TMT members present today – **USFWS, NOAA, Idaho and BPA** – had no objections to transitioning to a chum incubation operation of 12.2 feet minimum elevation below Bonneville. The **COE** will send a teletype to the project operators specifying that a minimum tailwater elevation of 12.2 feet will be maintained for chum incubation. Karl Kanbergs (COE) noted that the minimum tailwater

elevation could be dropped, based on the GPS data on redd locations. Wagner will follow up with TMT via email when the GPS data become available.

### **3. Other – Lake Pend Oreille Operations**

On December 17, the IDFG officially declared an end to kokanee spawning in the gravel beds of Lake Pend Oreille, Russ Kiefer (Idaho) reported. This year brought a substantially stronger return of adults spawning in the clean gravel beds. With spawning done, there is no further need to maintain Lake Pend Oreille within a half-foot of its minimum control elevation of 2055 feet through January 1, as requested in the SOR submitted by IDFG and USFWS regarding winter operations of Lake Pend Oreille. Operational flexibility can increase to the 1-foot range at this time.

### **4. Next Meetings**

TMT will meet next on January 12 and again on January 26, pending further discussion among TMT members regarding potential schedule conflicts. Gumpert will follow up with TMT members on the January meeting dates.

<b><i>Name</i></b>	<b><i>Affiliation</i></b>
Tony Norris	BPA
Scott Bettin	BPA
Doug Baus	COE
Barry Espenson	CBB
Karl Kanbergs	COE
John Roache	BOR
Alex Cibarra	Grant PUD
Richelle Beck	DRA
Tom Le	Puget Sound Energy
Russ George	WMC
Rob Allerman	Deutsch Bank
Glen Trager	Iberdrola
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Dave Wills	USFWS
Russ Kiefer	Idaho
Paul Wagner	NOAA
Laura Hamilton	COE
Scott English	COE