

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

June 20, 2018

Facilitator's Summary

Facilitator: Emily Stranz; Notes: Nancy Pionk, DS Consulting

The following Facilitator's Summary is intended to capture basic discussion, decisions and actions, as well as 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 can be found on the TMT website: <http://www.nwd-wc.usace.army.mil/tmt/agendas/2018/>

Meeting Minutes and Summaries

TMT members reviewed and approved the meeting summaries and minutes for May 9, May 16, May 29 (summary only; there are no meeting minutes for this meeting), May 30, and June 1, subject to the edits identified below. It was noted that Paul Wagner, NOAA, who was not present, may have additional edits and if so will bring those to TMT.

- May 9th Minutes edit: Item 5, Paragraph 2: change "temperate" to "temperature."
 - May 16th Summary edit: Paragraph 2, last sentence: change "predict cumulative travel" to "predict cumulative conversion rates."
Minutes edits: Page 8: change "prediction of passage" to "prediction of expected counts".
Page 9, paragraph 2: change: "most important indicator" to "most important dam operation variable". Page 10, include USFWS vote of "no objection".
 - May 30th Summary edit: Under Adult PIT Tag Monitoring Tools, 6th sentence: change: "indicates delay from 85% ideal" to "indicates conversion below 85% threshold".
Minutes edit: Item #6, page 18: delete: "He asked: "Has hydro been altered too much to get flows back to where they used to be?" and change "responded" to "noted" in following sentence.
 - June 1st Minutes edit: item 4, page 3: delete description of the next TMT meeting (date and agenda content).
- **ACTION: TMT Members will send Donna (donna@dsconsult.co) edits to the May 25th meeting summary by Friday, June 22nd. Donna will get a final draft to the Corps on Monday, June 25th for posting.**
 - **ACTION: TMT members will review and approve meeting summaries and minutes for May 23, June 6, June 13 and June 20, and the Facilitator Summary for May 25th at the next Face-to-Face meeting on July 18, 2018.**

Dworshak Operations

Steve Hall, Corps, reported on current operations at Dworshak. Current reservoir elevation is 1,597.97 ft. and within 2 feet of being full. Inflows are 9.2 kcfs and 4.3 kcfs discharge. He noted that they are still running two units and are on track to get within the top 1 foot within the next week. He expects water temperatures in the Lower Granite tailrace to stay below 60 degrees and then bump up to 64-65 degrees by June 28.

The project plans to start testing Unit 3 on June 22 and to do so will increase flows by between 300 - 500 kcfs from June 25-28. They will use the temperature selector gate in full overshot position for the three-day testing period and then move back to undershot position. He expects that water temperatures downstream will increase by around 2 degrees during the test; the hope is that the temperature change coming out of unit 3 will be sufficient to deter fish from swimming up into the unit during testing.

Steve shared a water temperature model results (link provided on TMT website) for this period and noted that they are using 2016 for the analog year, which, while not an exact match, was the closest representative water year to 2018. Currently, he did not see the need for temperature augmentation based on the current forecasts and models. The Corps will continue to run the model two times a week and keep TMT updated as the season progresses.

RIOG Elevation

Doug Baus, Corps, notified TMT members that the State of Oregon elevated the Spring Spill Operation to the RIOG Chair on June 15th. The RIOG Chair requested that the Corps respond to the elevation memo by Monday, June 18, which the Corps has done. Doug was not aware of whether a date for a RIOG meeting had been set and indicated that if TMT members have questions, they should connect with their RIOG representative.

FOP Spring Spill Update

Dan Turner, Corps, presented an update on FOP Spring Spill. Today is the last day for spring spill in the Snake River; spring spill ended at the Columbia River projects on 6/15.

For the Snake River, he noted that several projects were operating at minimum generation and were still able to spill to the spill cap. Additionally, TDG levels at Lower Granite, Lower Monumental, and Little Goose have come back up over the last few days and have met the gas cap criteria for the most part. He noted that the "Overview Table" (available on the TMT website) reflects some bad data for Ice Harbor due to a gauge malfunction on 6/17/2018. They are working on scrubbing that data from the database.

In looking at the Snake projects in more detail, Dan pointed out that there were more exceedances to the state water quality standards in April than in June. He reminded TMT member that there are factors, besides spill, that impact TDG, such as barometric pressure and wind. At Lower Monumental (LMN), he noted that a windstorm with average winds of 13 MPH on June 8-9 degassed the river. Due to the uncertainty in the forecast on June 8, the Corps did not attempt to increase spill caps to increase TDG, as it was expected that TDG would go down and then come back up. TDG levels dropped as low as 109% in the forebay during this event. Dan also noted that they saw a forecasted TDG drop at LMN in their June 19th model runs, however, they did not respond with an increase in spill caps, as they were waiting for the 6/16/18 spill cap increase to arrive, and the forecast was for low wind, increased air temperature, and low barometric pressure.

As noted above, the lower Columbia projects transitioned to summer spill on June 16 at 0001 hours. As a result, spill rates have gone down; however, there were some TDG exceedances (6/17-18) due to TDG that is passing through the system.

Dan shared that the Corps utilizes the tools and data that they have on hand, including SYSTDG, which was run 11 times since June 5th. The Corps uses the best available weather forecasting and any improvements in forecasting weather such as barometric pressure or wind speed would be helpful. When asked whether the Corps changed their procedure and approach to setting gas caps in response to the June 13th TMT discussion, Dan noted that their procedures are laid out in the FOP and they've continued to follow those procedures. They also incorporate lessons learned, which includes lessons learned through TMT discussions.

With regard to lessons learned post-spring spill, the Corps will be evaluating how the SYSTDG model performed along with the 2018 data, including data from each gauge. Erick Van Dyke, OR, noted that it would be helpful to hear more on the model performance after the Corps' review. Dan expects that a presentation on lessons learned could occur at the TMT Year End Review. Julie Ammann also indicated that a higher-level concepts review could occur by the end of the summer.

TMT members appreciated the hard work Dan and team put into the spring spill operation.

Adult PIT-Tag Monitoring Tools

Dave Swank, USFWS, reported on adult passage. The FPC Passage Indicator and DART data indicate some delay in adult passage at Little Goose. Fish managers will look to see if PIT-Tagged fish are being detected at Lower Granite that may have been missed at Little Goose. It appears there may be an issue with the PIT-Tag antenna at the fish ladder at Little Goose that may be affecting detections. The Fish Passage Center is looking into the antenna issue. Their expectation was that passage will pick up with the shift to 30% spill as the project goes from spring to summer spill. Fish managers will continue to monitor passage and conversion rates.

- **ACTION:** TMT members agreed to schedule a check-in call on Friday, June 22, at 11:00 AM, as a placeholder to discuss passage and concerns around delay. Fish managers will confer earlier at 10 AM to determine whether the meeting is necessary. If a call is not needed, Dave Swank will contact Doug Baus; Doug will then send out a cancellation to TMT.

Trevor Conder, NOAA, noted that they are seeing an elevated rate of head burn on fish collected at the Lower Granite adult trap. Head burn is associated with TDG or contact with a structure while the fish is trying to find the ladder. There is a very high rate of pre-spawn mortality associated with head burn and the concern is that, even if fish are able to make it to the spawning grounds, they may die before spawning.

Operations Review

Reservoirs: Joel Fenolio, BOR, reported on Bureau of Reclamation projects:

- Hungry Horse midnight elevation was 3,556.4 ft. and is within four feet of full; current discharge is 9 kcfs and inflows are 10 kcfs. They expect to be within two feet of full by June 30 and intend to drop discharge to 6.5 kcfs this evening. Joel noted that there have been thunderstorms on the eastside of the Rockies that can be unpredictable. One rain gauge had recorded 4 inches in a 24 - hour period the previous day, which explains why they have not been aggressive with refill but will be dropping discharge to refill more rapidly toward the end of the month.
- Grand Coulee midnight elevation was 1,283.7 ft. Outflows are 130kcfs. The plan through the rest of June is to operate between 1,280 and 1,285 ft. and no higher the 1285 ft by June 29th. After the 29th of June the intention is to fill no higher than a 1/2ft per day to be at 1287.5 by July 4 for a maximum elevation on the holiday. After the July 4th weekend, they expect to fill, reaching 1,290 ft. by the second week of July.

Lisa Wright, Corps, reported on US Army Corps of Engineers projects:

- Libby midnight elevation was 2,436.9ft, with 20.1 kcfs inflows and 15 kcfs outflow.
- Albeni Falls midnight elevation was 2,062.3 ft.; average inflow was 60.9 kcfs; outflows were 56.1 kcfs.
- Dworshak midnight elevation 1,597.9 ft.; inflows were 9.2 kcfs; outflows were 4.3 kcfs.
- Lower Granite average outflows were 63.1 kcfs.
- McNary average outflows were 224.9 kcfs.
- Bonneville average outflows were 225.1 kcfs.

Steve Burrell, Corps, reported that flows at Lower Granite have dropped causing the tailwater elevation to drop below the minimum depth required for safe navigation at the Lower Granite navigation lock entrance in the tailrace. As a result the Corps increased the Little Goose forebay operating range to MOP

+0.5 on 6/16. They are coordinating to drop Little Goose to MOP, with the expectation to be back to MOP at 1800 hours today.

Treaty Fishing

Kyle Dittmer, CRITFC, reported that as of June 18, 2018, there were 359 nets in the lower Columbia River. CRITFC is also releasing a daily wind forecast which is helping to dramatically reduce fisherman deaths. It is expected to be windy through the weekend. Kyle will provide a treaty fishing update at the June 27th TMT meeting.

Fish Report

Trevor Conder, NOAA, provided an update on fish. He noted that adult summer Chinook counts have increased and plateaued with around 2,000/day at Bonneville Dam, which is to be expected. Shad are over 200,000/day and are overcrowding the ladders. Adult sockeye year-to-date counts are over 41,000 at Bonneville, with 13 at Ice Harbor. It was noted that very few sockeye passed The Dalles, using the north ladder, before 6/15, and that after 6/16, there is a significant increase. It appears that this was due to the shift to summer spill and reduced spill volume near the North Entrance. Chinook show a similar passage pattern. Trevor explained that there is a fairly strong correlation with spill flow and adult passage at The Dalles North Ladder. Sockeye passed in greater numbers at the north ladder when spill dropped from 104 kcf to 85 kcf. Similarly, Chinook passed in greater numbers when spill flow decreased from the uncontrolled spill condition that was occurring earlier in the year. Julie Ammann, Corps, requested that the Salmon Managers provide lessons learned regarding flows and passage at the Year End Review.

Trevor reported on juveniles, noting that the yearling run is finished and the subyearlings have been passing, although counts are declining but still variable. Dave Swank, USFWS, noted that lamprey had a good year compared to the 10-year average (almost 10,000 at Bonneville), however the numbers do not look as good as 2017 counts.

Russ Kiefer, Idaho, reported on Snake River sockeye. He noted that releases in 2016 were from both Springfield and Oxbow hatcheries and thus, they are anticipating a fair return this year. He also noted that estimates of adult Snake River sockeye passing Bonneville will be difficult this year due to a limited number of PIT-tagged fish. They will likely not get accurate estimates of returns until the fish are observed in the Snake River. Russ reported that improvements made to address the water chemistry issue at the Springfield hatchery appear to be successful and noted that they expect better conditions next year.

Power Supply

Tony Norris reviewed current data regarding BPA's Balancing Authority Load and Total Wind, Hydro, Fossil/Biomass, and Nuclear Generation. He noted that a high pressure system caused a decrease in wind and river flows also dropped, the two events causing more variance in hydropower. He explained that the wind forecast for areas with wind turbines does not correlate with forecasted wind on the rivers, as the wind patterns are different on the river versus the tops of the hills. The group also reviewed graphs reflecting California solar use and net demand.

**A check-in meeting regarding Little Goose passage is scheduled for Friday, June 22, at 11:00 AM.
The next regular TMT meeting will be a conference call on June 27, at 9:00 AM.**

June 27th Meeting Agenda

1. Dworshak Operations and Summer Forecast
2. Libby Summer Forecast
3. Treaty Fishing

This summary was prepared by the impartial facilitation team of DS Consulting. Please send questions, comments or revisions to nancy@dsconsult.co

Columbia River Regional Forum
TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES

June 20, 2018

Minutes: Melissa Haskin, FLUX Resources

1. Introduction

Representatives of BPA, NOAA, Corps, BOR, Oregon, Washington, Umatilla (CRITFC), Idaho, Nez Perce Tribe, and others participated in today’s TMT meeting chaired by Doug Baus, Corps, and facilitated by Emily Stranz, DS Consulting.

2. Review Meeting Minutes

The Official meeting Minutes and Facilitator’s Summaries for May 9, 16, 29, 30 and June 1 were approved after the following edits were made:

May 9 – Approved with one edit. In Item 5, second paragraph, line 2, “The temperate of the water will be controlled via selective withdrawal at Libby Dam in order to encourage sturgeon to spawn at the end not the beginning...”, temperate will be changed to temperature.

May 16 – Dave Swank, USFWS, pointed out that the FPC Passage Indicator predicts cumulative conversion rates as opposed to cumulative travel time. The notes will be updated to reflect Swank’s correction. Likewise, on page 8, “a prediction of future passage,” will be changed to “a prediction of expected counts.” Lastly, on page 9 of the notes, “where the adjustable spillway weir (ASW) is located, was the most important indicator in fish passage,” will be changed to “where the adjustable spillway weir (ASW) is located, was the most important dam operation variable in fish passage...”.

May 29 – Approved, no changes. Only the facilitator’s summary will be available for this meeting.

May 30 – Russ Kiefer, ID requested the word “ideal,” be changed to “threshold,” on Page 1, paragraph 3, sentence 4.

June 1 – An error in dates in Section 4, “Next TMT Meeting,” will be corrected.

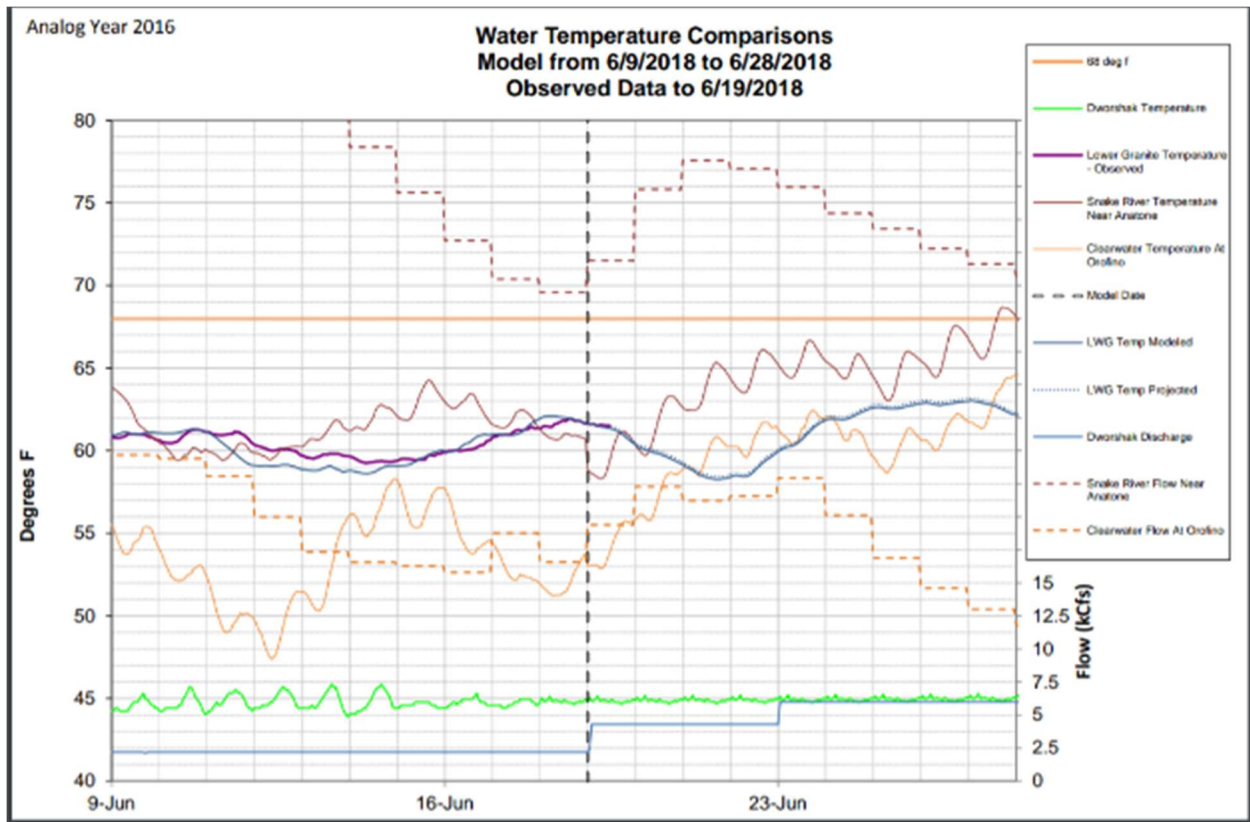
3. Dworshak Dam Operations - Steve Hall, Corps NWW

Current Hourly Data

Steve Hall, Corps NWW, updated TMT on Dworshak Dam operations. Dworshak’s midnight elevation was 1,597.97. Current inflows are 8 kcfs. Outflows are 4.3 kcfs. The dam is currently running on two units, is within two feet of full, and is expected to be within a foot of full by the end of the week.

Water Temperature Comparisons

June 19 water temperatures in the Lower Granite tailwater were 61 degrees F. Water temperatures in the Lower Granite tailwater are forecasted to decrease to 58 degrees F on June 22 and then increase up to 62 degrees F on June 26. Unit 3 testing is scheduled to begin on June 22, with primary testing occurring June 25-28. Hall shared the following water temperature forecast graph:



The graph is based on an analog year of 2016, which is a close representation to this year's conditions.

Hall reported that he did not see a need for temperature operations for the foreseeable future. However, he noted, that is weather dependent. He mentioned that the Corps runs models twice per week, once at the beginning and once at the end so that there are “no surprises” over weekends. As summer progresses and the reservoir drops, temperatures are expected to increase gradually.

4. RIOG Elevation - Doug Baus, Corps NWD

Doug Baus, Corps, reported that Oregon elevated the spring spill operation to the Regional Implementation Oversight Group (RIOG) chair on Friday, June 15. The RIOG chair requested the Corps respond by Monday, June 18, which they did. The RIOG chair then forwarded the

Corps' response to Oregon. A RIOG meeting date has not been set and TMT members with questions should contact their RIOG representatives.

5. FOP Spring Spill Update - Dan Turner, Corps NWD

Snake River TDG Overview Table

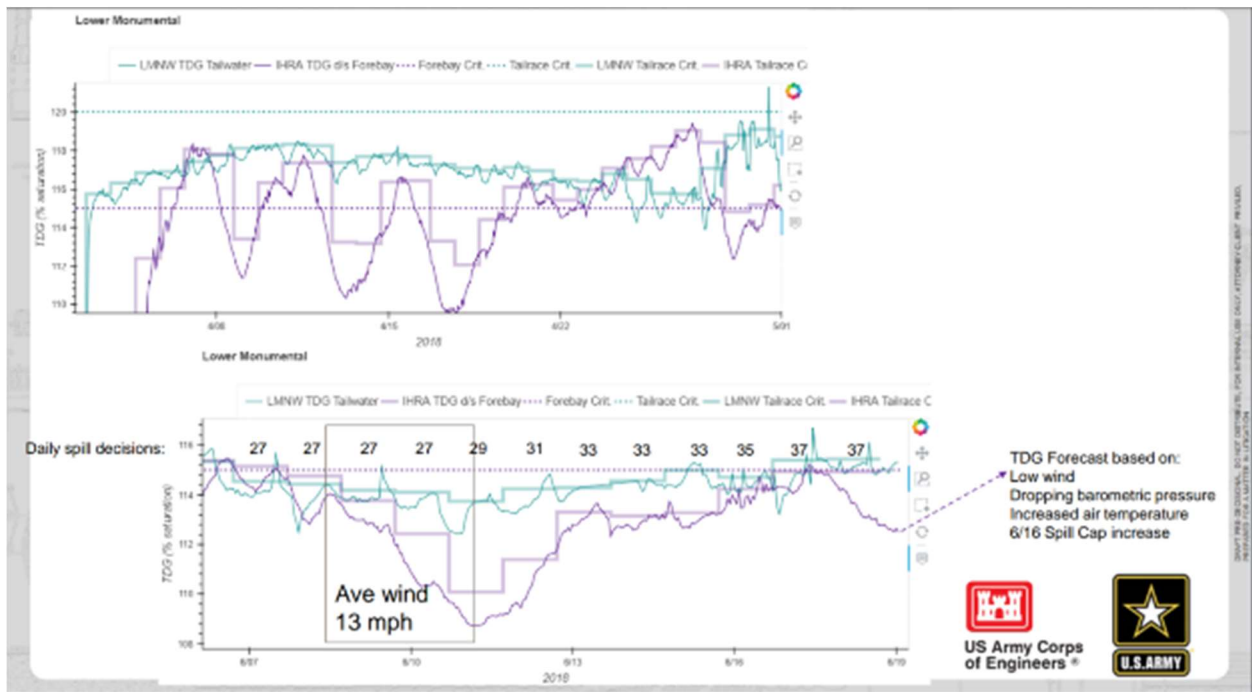
Today is the last day of spring spill on the lower Snake River. Lower Granite, Little Goose and Lower Monumental have been spilling at the spill cap. TDG went down last week and have gone back up. As of June 19, the Little Goose forebay was at 114% and the Lower Monumental forebay was at 116%, meanwhile the Ice Harbor forebay was at 114%.

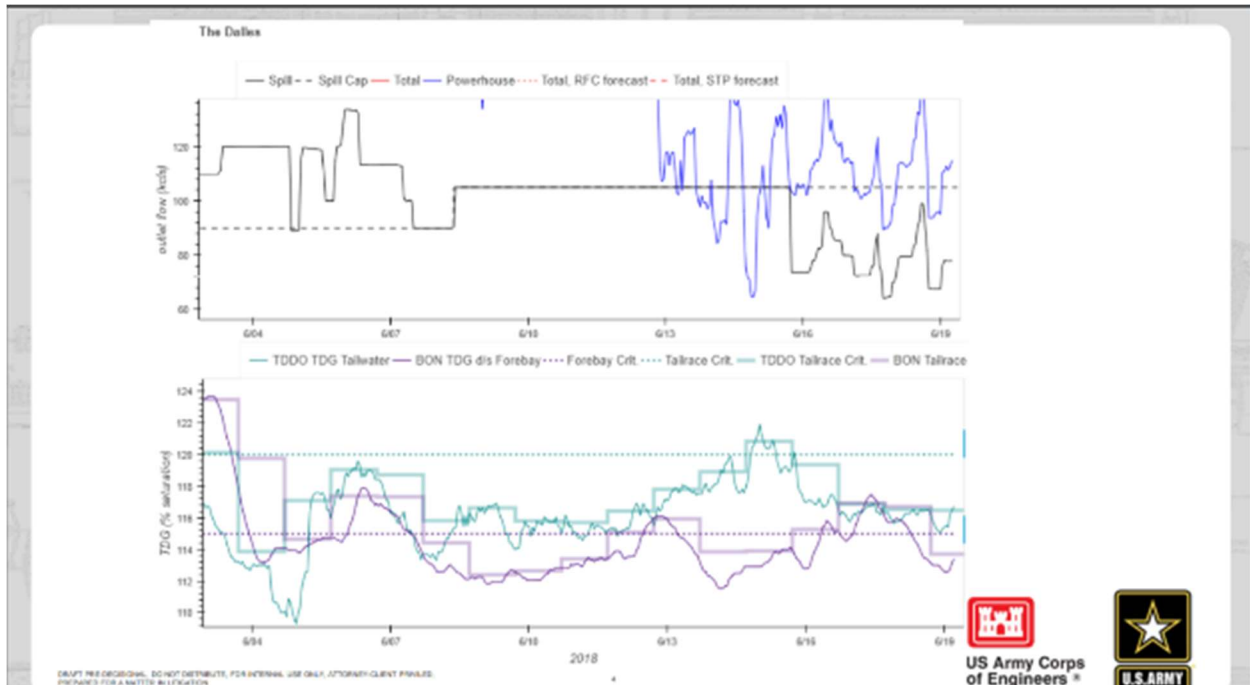
Turner pointed out some erroneous data, noting that there was a gauge malfunction at Ice Harbor on June 17 and June 18. The Corps will scrub the data from the database, if possible.

Columbia River TDG Overview Table

Spring spill on the lower Columbia River ended on June 15 and the Corps enacted the summer FOP on June 16. On June 17 and 18, TDG surpassed the gas cap as TDG passed through the system.

Turner provided the following forecast graphs:





Turner reported an uptick in exceedances in project forebays in April. In June, a decent size wind storm, averaging 13 mph winds for several days resulted in degassing. Turner noted it was interesting that The Dalles Dam tailwater increased to 120% on the June 15, but spill did not change – he noted there is still a lot of uncertainty in the system. TDG passed downstream and then increased above the gas cap several days later.

Dave Statler, Nez Perce, asked if following last week’s conversation at TMT, if the Corps treated assumptions related to spill caps any differently.

Turner responded that the Corps follows the procedures in the FOP but also tries to learn as they go. “The procedures stay the same but we try to apply what we learn.”

Charles Morrill, WA, asked if improving data for barometric pressure forecasting would be useful. Turner said the Corps is of course interested in any improvements they can make forecasting. Morrill followed up by asking if more weather stations would help, for instance if data from wind turbine stations could be used. Tony Norris, BPA, responded that the weather data for wind turbines can be much different than what happens on the river due to the locations of the stations.

Erick Van Dyke, OR, asked about the accuracy of current gauges. Turner said each gauge is evaluated for error.

6. Adult PIT-Tag Monitoring Tools – Dave Swank USFWS

Dave Swank, USFWS, reported on Adult PIT-Tag monitoring. There seems to be a delay at Little Goose. However, there may be an issue with PIT-Tag detection at Little Goose, as reported in PTAGIS as a “water event”. He said it seemed strange that almost no fish had been detected at Little Goose. FPAC is unsure of the exact details of the event and looking into it along with the validity of the data. This possible data issue is confounded by the fact that spill is over 50%.

In addition to these data, the FPC tool showed early indications of a delay.

The action that the Corps and BPA would take would be to spill 30%, which is the FOP summer spill rate that begins just after midnight tonight. However, additional actions may be necessary. Thus, members of TMT decided to wait a few days for data to come in and plan for an unscheduled TMT meeting Friday, June 22.

Trevor Conder, NOAA, noted that the adult trap at Lower Granite Dam has been reporting an increased rate of headburn from a usual rate of 1-2% to 2.5-2.9%. Headburn is associated with TDG as well as fish impacting the structure of a dam looking for a way through. This impact can lead to an infection and thus a high rate of pre-spawning mortality, even if the fish survive to the spawning grounds.

In sum, TMT will convene on Friday, June 22, 2018, to address the delay of adult Chinook at Little Goose Dam noted in the DART and FPC delay tools.

7. Operations Review

a. Reservoirs, Joel Fenolio, BOR

Joel Fenolio (BOR) and Lisa Wright (Corps) reported on reservoirs:

- Hungry Horse – elevation 3,556 ft (4 ft from full); inflows 10,000 cfs; outflows 9,000 cfs
- Grand Coulee – elevation 1,283.7 ft; outflows 130,000 cfs
- Libby – elevation 2,436.9 ft; inflows 20.1 kcfs; outflows 15 kcfs
- Albeni Falls – elevation 2,062.3 ft; inflows 60.9 kcfs; outflows 56.1 kcfs
- Dworshak – elevation 1,597.9 ft; inflows 9.2 kcfs; outflows 4.3 kcfs
- Lower Granite – outflows 63.1 kcfs
- McNary –outflows 224.9 kcfs
- Bonneville –outflows 225.10 kcfs

The BOR is targeting to be within 2 feet of full at Hungry Horse by June 30 and 10 feet from full on September 30. Russ Kiefer, ID, wondered why the target was 2 feet from full instead of completely full. Fenolio said this was to leave a little room so the BOR would not have to increase releases in the event of a storm and also to prevent jerking releases. The project is not

very good at dropping releases. He said refilling could be more aggressive but that it could have negative effects downstream.

At Grand Coulee the BOR will be targeting 1,280 to 1,285 ft elevation for the rest of this month, with elevations no higher than 1,287.5 ft on July 4. BOR will target full at Grand Coulee some time the week after the 4th.

Flows at Lower Granite dropped into the 50s range over the weekend causing the tailwater gauge to drop below safe navigation so Little Goose was increased to MOP + 0.5. With flows picking up again, the Corps coordinated to drop Little Goose back down to MOP by end of today, June 20.

b1. Fish, Kyle Dittmer, Umatilla/(CRITFC)

Historically there are 300-400 nets in the river this time of the year for treaty fishing. Currently there are 359, right on track with history.

b2. Fish, Trevor Conder, NOAA

Adults

At Bonneville Dam over the past five days, adult Chinook increased and then plateaued. They are currently around 2,000 per day. Shad are high this year with passage counts over 200,000 per day and a total passage of 3 million. Numbers are so high it can result in clogged ladders. Sockeye are at 41,000 and increasing, however there are only 13 at Ice Harbor.

The Dalles Dam ladder split report shows high rates of spill may have contributed to the delay of adult sockeye in the north ladder. In the week prior to the commencement of the FOP summer spill operation on June 16 at the Dalles Dam, daily sockeye passage was low (2-35 per day). When spill was reduced to 40% for the summer spill operation on June 16, adult sockeye passage increased significantly to 1,021 and have continued at high levels since. Adult sockeye not able to pass at the north fish ladder are still able to access the east fish ladder. Sockeye began passing when spill dropped from 205 to 114 kcfs. Condor noted anecdotal evidence that adult Chinook can be delayed at The Dalles Dam due to high rates of spill but tend to start moving once spill drops below 130 kcfs, whereas the breakpoint for sockeye is 85 kcfs.

Chinook jacks are low this year, which potentially means low adult returns next year.

Juveniles

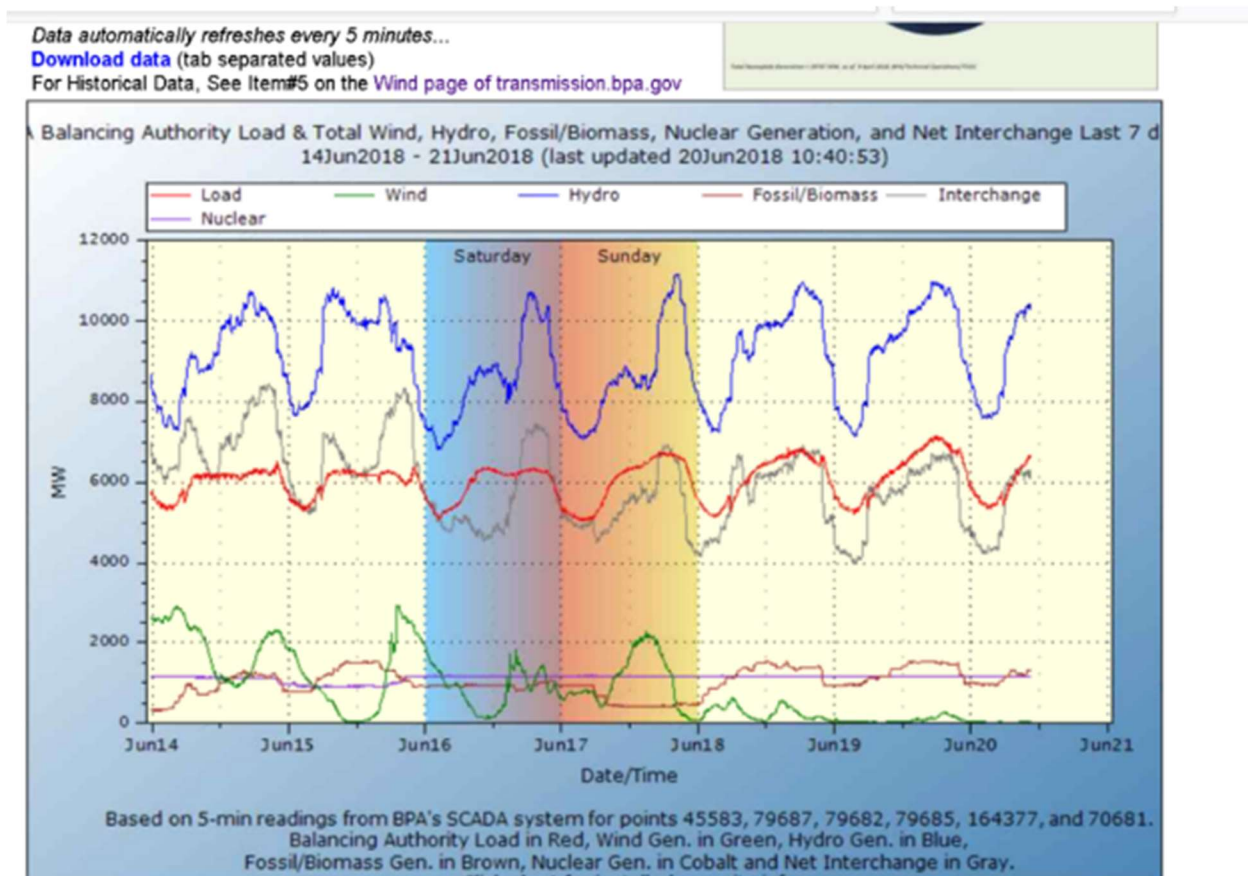
Yearlings are pretty much done. Subyearling counts are fluctuating but appear to be declining as well. An increase one day to 2,600 may be due to the hatchery release.

Dave Benner, FPC, reported Lamprey counts at 10,000 at Bonneville, which is marginally more than last year and well above the 10-year average.

Keifer reported on Snake River sockeye and the difficulties with the new hatchery. He believes this year will be much better for the smolt and spring release and will learn from this year and apply it to next year. He said he expects Snake River Sockeye to have good returns.

c. Power

Tony Norris, BPA, presented the following graph:



River flows have dropped off resulting in more variability in hydropower generation.

There were some questions regarding the maximum wind generation. Norris showed the current max capacity of the wind generators in the BPA Balancing Authority, which is 4,065 megawatts.

**WIND GENERATION NAMEPLATE CAPACITY
IN THE BPA BALANCING AUTHORITY AREA
(as of 12/14/2017)**

Content Manager for This Data: Bart McManus/TOT (bamcmanus@bpa.gov)

Plant	Nameplate Capacity MW	Date When Actual Gen First Exceeded 1/2 of Current Nameplate Capacity	Cumulative Nameplate Capacity MW
Vansycle	25	10/25/1998	25
Stateline	90	12/18/2001	115
Klondike I	24	1/16/2002	139
Condon	50	6/18/2002	189
Klondike II	76	6/28/2005	265
Hopkins Ridge	137	11/25/2005	422
Leaning Juniper	100	8/10/2006	522
Big Horn	200	10/4/2006	722
White Creek	200	10/5/2007	922
Klondike III	226	10/15/2007	1148
Biglow Canyon PH 1	126	11/17/2007	1274
Nine Canyon @ 28%	27	11/26/2007	1301
Goodnoe Hills	96	4/29/2008	1397
Nine Canyon @ 52%	24	5/10/2008	1421
Klondike 3a	75	6/6/2008	1496
Arlington	103	12/7/2008	1599
Willow Creek	72	1/1/2009	1671
Pebble Springs	100	1/27/2009	1771
Hay Canyon	100	2/12/2009	1871
Wheatfield	97	3/22/2009	1968
Tuolumne	137	5/1/2009	2105
Biglow Canyon Phase 2	149	8/6/2009	2254
Windy Flats Dooley (phase 1)	30	9/21/2009	2284
Windy Flats Dooley (phase 2)	233	11/30/2009	2517
Harvest	100	12/16/2009	2617
Combine Hills	63	1/1/2010	2680
Star Point	100	1/15/2010	2780
Linden Farm	50	6/6/2010	2830
Constal Energy	6	6/30/2010	2836
Biglow Canyon PH 2	14	8/11/2010	2850
Biglow Canyon PH 3	161	8/11/2010	3011
Big Horn II	50	10/8/2010	3061
Leaning Juniper II PH A	91	10/24/2010	3152
Kititas Valley	101	11/15/2010	3253
PATU	10	11/29/2010	3263
Leaning Juniper II PH B	109	12/1/2010	3372
Juniper Canyon	150	2/11/2011	3522
North Hurlbert	266	11/20/2011	3788
Lower Snake	343	2/29/2012	4131
South Hurlbert	290	3/11/2012	4421
Horseshoe Bend	290	5/17/2012	4711
No change	0	3/31/2013	4711
Goodnoe Hills (OUT to PAC BA)	-96	4/1/2013	4615
Leaning Juniper (OUT to PAC BA)	-100	4/2/2013	4515
No change	0	12/18/2014	4515
Tucannon River	267	12/19/2014	4782
No change	0	12/14/2017	4782
Biglow Canyon (OUT to PGE BA)	-450	12/14/2017	4332
Tucannon River (OUT to PGE BA)	-267	12/14/2017	4065
No change	0	12/14/2017	4065

To determine when to show a new wind generation facility as being part of our "nameplate inventory" we monitor the actual output of pending new wind gen facilities. When a new facility shows actual generation more than half of their pending nameplate capacity, then we add the full nameplate capacity of the new wind facility to the two externally posted wind gen plots and this data table. This is not a perfect science, and we do not wish to show the nameplate capacity as being truly "in place" while a new facility is still in the early stages of development/testing.

Note that movements of wind generation facilities out of the BPA Balancing Authority Area are shown as negative increments to capacity.

8. Next TMT

The next TMT meeting is an unscheduled TMT to discuss potential operational changes to address the delay of adult Chinook at Little Goose Dam. The meeting is scheduled for Friday, 22 at 11 a.m. with option for FPAC to cancel based on data. Dave Swank will report to Doug Baus, Corps, if the meeting is to be cancelled.

The next regularly scheduled TMT meeting will be on June 27 and will include Dworshak and Libby forecasts, as well as Treaty Fishing.

There will be no July 4 meeting.

Today's Attendees:

Name	Affiliation
Charles Morrill	WA
Dan Turner	Corps
Dave Statler	Nez Perce
David Swank	USFWS
Doug Baus	Corps
Erick Van Dyke	OR
Jim Litchfield	Montana
Joel Fenolio	BOR
Julie Ammann	Corps
Leah Sullivan	BPA
Lisa Wright	Corps
Russ Kiefer	ID
Tony Norris	BPA
Trevor Conder	NOAA
Aaron Marshall	Corps
Charles Wiggins	DS Consulting
Donna Silverberg	DS Consulting
Emily Stranz	DS Consulting
Melissa Haskin	Flux Resources
Mike O'Bryant	Columbia Basin Bulletin
Kyle Dittmer	CRITFC
Steve Hall	Corps
Alfredo Rodriguez	Corps
Amanda Morales	Corps
John Heitstuman	Corps
Laura Hamilton	Corps
Steve Burrell	Corps
Charles Pace	Citizen
Nancy Pionk	DS Consulting
Sheri Sears	Colville Tribe
Brian Zigler	Snohomish PUD
Eric Chow	Corps