

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

May 31, 2017

Facilitator's Summary

Facilitator & Notes: Emily Stranz; Support: Colby Mills, 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/2017/>

Review Meeting Minutes

The TMT approved the May 10th Facilitator's Summary and Official Minutes. A few edits were noted on the May 17th meeting minutes and there was request for another week to review of the May 17th summary and minutes; the TMT will revisit these at next face-to-face meeting.

NW RFC Update on Current Conditions

Doug Baus, Corps reported on current flow and weather conditions. He noted that flows are still high and are forecasted to stay high. The Dalles 5 day QPF for April to August has increased since the official water supply forecast was released; it is now forecast at 113 MAF. The inflow forecast is also up, at 400kcfs over the last few days; a peak flow is expected around 450kcfs later this week, followed by a recession down to around 410kcfs. Forecasts for Lower Granite look similar, with inflows expected to peak later this week around 180kcfs. The 5 day QPF is at 143% of average at Lower Granite with 28 MAF for the period of April to July.

Looking at forecast temperature and precipitation, over the next 6-10 days temperatures are expected to be above average and precipitation is expected to be below average in the Northwest. The same trends are expected for the next 8-14 days. Looking out 30 days, there is equal chance that the temperature and precipitation will be above or below average. In eastern Idaho and NW Montana, both temperature and precipitation are above average.

Russ Kiefer, ID, pointed out that as of the 3rd week of January 2017, Lower Granite had a below average water supply forecast, however, it turned around quickly and by this first week in February was way above average. For example, the Boise River here in town has been running above flood stage since mid-February, yet there is still concern that we have not been able to move enough water out of the system. Water volumes are expected to remain above average in June and in July and August should be closer to average. Currently, The Dalles has the 9th highest volume since 1960; Lower Granite has the 11th.

Operations Review

Reservoirs: Mary Mellema, BOR, reported on Bureau of Reclamation projects:

- Hungry Horse midnight elevation was 3,538.7ft, current discharge is 10.5 kcfs.
- Grand Coulee midnight elevation was 1,256.7ft; the project is currently filling.
- Mary noted that there will be sufficient water for the 487kaf for the Snake flow augmentation effort this year.

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

- Libby midnight elevation was 2,397.5, current inflows are 59.5 kcfs, discharge is 18 kcfs.
- Albani Falls midnight elevation was 2,059.8ft, yesterday's average inflow was 88.6 kcfs and outflows were 82 kcfs.
- Dworshak midnight elevation was 1,576.5ft, inflow yesterday was 21.5 kcfs and discharge was 6.1 kcfs.
- Lower Granite average outflows were 148.4 kcfs.
- McNary average outflows were 427.2kcfs.
- Bonneville average outflows were 426.4 kcfs.

Fish: Paul Wagner, NOAA, reported on fish. He noted that there has been an increase in adult Chinook passage at Bonneville. Passage at Bonneville is 55% of the 10-year average; however, considering the lag in passage, this is good news. The increase in passage has not yet translated upstream: McNary Chinook passage is at 38% of the 10-year; Lower Granite is at 18% of the 10-year; and Priest Rapids is at 21% of the 10-year average. Jacks at Bonneville are looking better; they are at 86% of the 10-year average. To the extent that jacks can be considered a precursor for the following year, there

is hope for 2018. Paul noted that last year Jacks were around 40-50% of the 10-year average. On June 1st, the run will shift from spring to summer Chinook at Bonneville; upstream the dates are a bit later. Sockeye passage is just starting at Bonneville, with 44 past.

Juvenile yearling Chinook passage is tapering off, however, is mostly following the 10-year averages in numbers and timing. The situation for steelhead juveniles is similar, however, has been a bit earlier. Sockeye are also earlier and tapering off. The numbers are not comparable to the 10-year average because spill has been significantly more this year than in previous years.

Water Quality: Dan Turner, Corps, reported that involuntary spill is continuing at the projects and that there are high levels of TDG in the system. TDG is above the Oregon and Washington standards at all of the projects.

Power System – Tony Norris, BPA, shared that there is nothing to report.

The next TMT meeting will be a face to face on June 7th at 9:00.

Columbia River Regional Forum
TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES

May 31, 2017
Minutes: Pat Vivian

1 Introduction

Representatives of the COE, Nez Perce Tribe, BPA, NOAA, USFWS, BOR, CRITFC, Washington, Colville Tribe, Yakama Tribe, Oregon, Idaho and others participated in today's TMT meeting chaired by Doug Baus, COE, and facilitated by Emily Plummer, DS Consulting.

2. Review Meeting Minutes – May 10 and May 17

The facilitator's summary and minutes for the May 10 meeting were approved as final. The minutes for May 17 are on hold for comments from Paul Wagner, NOAA, and Tony Norris, BPA, regarding adult fallback and reascension at McNary Dam. It was noted that FPAC did not know about adult passage issues at McNary until TMT met that day, and there were two separate proposals from NOAA and BPA to build 2 kcfs contingency reserves by operating outside of 1% turbine efficiency at McNary. The record for May 17 will be revised accordingly and finalized at the next TMT meeting June 7.

3. NWRFC Update on Current Conditions

Baus reported that high flows continue throughout the Columbia basin.

3a. The Dalles Dam Water Supply Forecast. The April-August volume forecast for the lower Columbia River at The Dalles has risen to 113 maf since the official May water supply forecast was released. River flows from above The Dalles have been 400 kcfs for the past several days. The forecast calls for continued high flows with a peak of 450 kcfs in 2-4 days and a slight recession to 400 kcfs at the end of the 10 day period. Overall, inflows continue to be high at The Dalles and on the lower Columbia.

3b. Lower Granite Water Supply Forecast. The April-July water supply forecast is 28 maf, 143% of average. In the next 10 days inflows at Granite are expected to peak at around 180 kcfs then gradually decline to 140 kcfs.

3c. River Forecast Center Climate Forecast. It appears a drying trend may be on the way. The 6-10 day temperature outlook calls for above average temperatures in Oregon, Washington, Idaho and northwestern Montana. The 8-14 day forecast calls for above average temperatures and below average precipitation.

The 30-day forecast shows an equal chance of above or below average temperatures east of the Cascades in Washington and Oregon. West of the Cascades could see above average temperatures over the next 30 days. There's also an equal chance of above or below average precipitation in Washington and Oregon, but above average precipitation in eastern Idaho and northwest Montana.

River flows continue to be high. The Boise River has been above flood stage since mid-February, Russ Kiefer, Idaho, reported, despite the fact that in late January the water supply forecast for Granite was below average.

Tony Norris pointed out that when a forecast exceeds the ESP traces by 90% or more like this year (or below 10% like 2015) it's highly likely that conditions will not resemble any of the 66 years of record, and actual volumes will be more or less than the current forecast. ESP forecasting loses predictive value when temperatures or precipitation exceed the historical range.

Jay Hesse, Nez Perce Tribe, asked whether recent years, 2015 in particular, are included in the ESP set of 66 traces. Could TMT play a role in encouraging the RFC to add data for 2016-17 given the extreme conditions? Paul Wagner will follow up on this request and let the Nez Perce know when the Columbia River flow forecasting group meets next.

Although 2017 has brought remarkably high flows, they rank ninth, not first, for April-August volume at Lower Granite since 1960, Lisa Wright noted.

4. Operations Review

4a. Reservoirs. Mary Mellema, BOR, and Lisa Wright, COE, reported.

Hungry Horse is at elevation 3538.7 ft, discharging 10.5 kcfs. Grand Coulee is at elevation 1256.7 ft and continues to fill. There is every reason to expect the Upper Snake system will provide the full 487 kaf of flow augmentation this summer.

Libby is at elevation 2397.5 ft with inflows of 59.5 kcfs and discharges of 18 kcfs. Albeni Falls is at elevation 2059.8 ft with inflows of 88.6 kcfs and discharges of 82 kcfs. Dworshak is at elevation 1576.5 ft with inflows of 21.5 kcfs, discharging 6.1 kcfs.

Lower Granite outflows are 148.4 kcfs, McNary outflows are 427.2 kcfs, and Bonneville outflows are 426.4 kcfs.

4b. Fish. Paul Wagner reported.

Adults: In the past week there's been a rally in adult spring chinook counts from disappointingly low numbers. Total arrivals at Bonneville are now 82,313 for the year, which is 55% of the 10 year average – a big improvement over previous counts. The double peak at Bonneville hasn't migrated upriver yet, with a McNary count of 33,543, just 38% of the 10 year average. Spring Chinook returns to Lower Granite are 8,091, just 17% of the 10 year average, and the Priest Rapids count is 2,834, just 21% of the 10 year average. These numbers can be expected to rise when Bonneville returns start showing up.

Jack counts at Bonneville have likewise improved, with 17,789 to date, 86% of the 10 year average. Last year's jack counts were in the 40-50% of normal range, so with this year's counts at 86% of normal, next year's return could be better than this year.

Adult sockeye passage has just begun. Adult lamprey returns are coming on strong with a sudden peak of 3,700 lamprey arriving at Bonneville in the past few days.

Juveniles: According to the DART site, yearling chinook passage at Lower Granite is trending down. Passage is slow at Lower Granite, Rock Island and all the way downriver.

Steelhead have followed the same pattern, arriving earlier at Lower Monumental, McNary and John Day. Bonneville saw relatively few steelhead smolts, which was not surprising given the amounts of spill this year. Sockeye timing is early this year, with low numbers passing Lower Granite, Little Goose and Lower Monumental.

There was discussion of when spring runs convert to summer, an arbitrary distinction that occurs on different dates at different projects. For example, summer fish counts start on June 1 at Bonneville, June 4 at The Dalles, and June 18 at Lower Granite.

4c. Water Quality. Dan Turner, COE, reported. Involuntary spill at projects throughout the system made for a maze of red figures on the COE's water quality management page. Red indicates that TDG measurements at that project exceeded state water quality standards.

4d. Power. There was nothing to report today.

5. Next TMT Meeting

TMT will meet next in person on June 7.

Name	Affiliation
Doug Baus	COE
Lisa Wright	COE
Jay Hesse	Nez Perce
Tony Norris	BPA
Paul Wagner	NOAA
Julie Ammann	COE
Dan Turner	COE
Makary Hutson	BPA
Alyssa Benini	DSC
Colby Mills	DSC
Dave Swank	USFWS
Aaron Marshall	COE

Phone:

Mary Mellema	BOR
Tom Lorz	CRITFC
Charles Morrill	Washington
Scott Bettin	BPA
Sheri Sears	Colville Tribe
Wayne Jousma	COE Walla Walla
Alfredo Rodriguez	COE Walla Walla
Tom Iversen	Yakama

Jay Fentz
Erick Van Dyke
Michael Bryant
Steve Hall
Russ Kiefer

Chelan PUD
Oregon
CBB
COE
Idaho