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 51ºF 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 68ºF 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 63ºF, 64º at Little Goose and 63º at the Anatone gauge. Dworshak outflow temperatures were 45.5º.

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 2nd 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 2nd 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 2nd 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.

Name	***Affiliation***
Karl Kanbergs	COE
Tony Norris	BPA
Scott English	COE
Doug Baus	COE
Paul Wagner	NOAA
Jim Litchfield	Montana
Tom Lorz	CRITFC

Phone:

John Roache	BOR
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Tom Le	Puget Sound Enrgy
Doug Vine	Point Carbon
Ruth Burris	PGE

Steve Hall	COE
Russ Kiefer	Idaho
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