

COLUMBIA RIVER REGIONAL FORUM

TECHNICAL MANAGEMENT TEAM

June 2, 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.

Review of Meeting Minutes for May 26, 2010

The Official Minutes and Facilitator Notes had not yet been posted to the web. TMT members indicated the need for more time to review the notes, so it was agreed that both sets of notes from the May 26 meeting would be finalized at the next face to face meeting scheduled for June 16th.

Libby Operations

Steve Barton, COE, shared with TMT that, since the last TMT meeting, discussions with BC Hydro indicated that a swap would not be mutually beneficial, therefore was unlikely and was at this point off the table. The COE provided two scenarios for drafting Libby, which Seattle District's Joel Fenolio and Jeremy Giovando explained in detail. The first scenario would draft 260 KAF out by June 30, with a step-wise ramp down from 20 kcfs to 16 kcfs, then to bull trout minimums (around 7 kcfs) for the remainder of the draft. The second scenario would extend the draft out of Libby, with a shorter period of higher flows up front, and a step-wise ramp down to bull trout minimums into July to release the full 260 KAF by July 15. Fenolio noted that second scenario was a response to a request from Montana to show the descending limb shape if the 260 KAF release was to be extended into July. Fenolio also clarified that last week's graph for Libby had a much higher inflow because last' week's data indicated the precipitation and snow melt would be higher than this week's data were showing.

It was noted that spill for sturgeon would begin next week, per recommendation from the USFWS as advised by the Sturgeon Recovery Team. The COE also explained that the inflow forecast would not impact the operation much, particularly during the sturgeon pulse. Barton clarified that the COE was currently operating to the first scenario, targeting release of the 260 KAF by June 30 as stated in the “Alternative 1” operation agreed to by TMT at the 4/28 meeting. TMT members noted that part of what was agreed to back in April was to re-asses the June 30 date as actual conditions progressed through May. Barton stated that the COE's goal is to blend Libby operations nicely with the sturgeon operation and maintain as much balance as possible for the in-river fish populations. The second scenario would require about a 40 KAF differential in volume. Initial questions and comments discussed by TMT members are summarized below:

- Montana has concern with the first scenario given the steep ramp down during the critical sturgeon incubation period– also need to gather input from the Kootenai Tribe on this option.
- NOAA suggested there may be other ways to shape the flow/manage the ramp down to better meet the multiple needs in the river – this should be the focus for TMT.
- Suggestion: explore the option to make up 40 KAF from Grand Coulee. TMT members agreed that this option would be worth exploring. It was estimated that the 40 KAF would draft Grand Coulee by June 30 by about an additional ¾'. Rick Kruger, OR, stated that they would support drafting Grand Coulee as long as the lower river was made flow neutral.
- Clarification: as to why there is not a “smoother” ramp down, Scott Bettin, BPA, stated that given the lack of volume in the system, and the need to move the water per ramp down rates in the BiOp to support the sturgeon.)
- Clarification: as to what the end of spawning is dependent on and whether it would be possible to shape the water based on those factors, Jason Flory, USFWS, said that spawning is primarily related to the hydrograph and temperature.
- Clarification: as to the potential biological effects on Fall Chinook, the first week of July is a prime migration period at John Day.
- TMT members agreed that it is important to balance the effects of the operation between the upper and lower river.

Action/Next Steps: The COE will model additional scenarios with the suggested use of Grand Coulee to make up for the approximately 40 kaf volume needed to shift the water into July. These scenarios will be shared in time for the FPAC to review them during their 6/7 afternoon call. TMT will revisit the Libby operation discussion during their conference call on 6/9.

Rick Kruger, Oregon, noted that he will not be able to attend TMT next week, but again stated that any operation that is ‘flow neutral’ would be acceptable to Oregon. He will provide input at the FPAC meeting next week.

Scott Bettin, BPA, will email TMT an update with the Sturgeon Recovery Team’s preference for the start of the sturgeon pulse operation, after their meeting tomorrow (6/3).

The COE will also look into the possibility of drafting additional water out of Libby to satisfy the interest in extending the draft into July, and will share feedback with TMT at the June 9 TMT meeting.

Dworshak Operations

Steve Barton, COE, shared that given the forecast for an increase in precipitation, a ‘runoff event’ is likely to occur with potential impacts to Dworshak. Steve Hall, Walla Walla District COE, provided additional details about the June final forecast: the April-August forecast is up from May, at 1,630 KAF (61% of normal) and the June-July

forecast is up to 1,632 KAF (68% of normal). He also shared that there is now a 74% chance that the project will refill – an improved outlook from previous forecasts. The COE will continue to track and meet snow criteria, try to refill the project and hold minimum flows.

Flow Objectives/Transition to Refill and Grand Coulee

Paul Wagner, NOAA, shared that FPAC discussed a flow objective and recommended that the action agencies hold McNary flows as high as possible while operating to meet Grand Coulee refill. They asked the Action Agencies to shape flows to provide more flow now/less later, while maintaining the Grand Coulee refill target. John Roache, Reclamation, acknowledged this interest and said the agency would do its best to meet these criteria. BPA agreed with Reclamation's response to the salmon managers' request; they added that the anticipated increase in flows out of the Snake River over the next few weeks will provide an opportunity to raise the Grand Coulee pool while also operating with the intent to provide good flows for fish. Russ Kiefer, ID, noted that sockeye and wild Chinook smolts, both important listed fish, would be supported with this operation.

Action/Next Steps: The Action Agencies will operate to refill Grand Coulee while also trying to maintain higher flows in the near term to take advantage of the forecasted rain events. For next week, the Action Agencies expect flows will be well over 200 kcfs, with the caveat that this will hinge on actual precipitation and other variables.

Treaty Fishing Count Totals

Tom Lorz, CRITFC, reported on preliminary fishing count totals: 8,600 from ceremonial permit fishing, 4,970 from platform fishing, and 19,108 and 18,800 from gill nets. Final numbers and the breakdown by fish type will be shared in two weeks, at the June 16 face to face TMT meeting.

Operations Review

Reservoirs: Grand Coulee was at elevation 1269.1' and operating to refill as well as meet flow targets at McNary. Hungry Horse was at 3541.87', with 4 kcfs outflows and 11 kcfs inflows. Libby was at 2419.66' with inflows of 21.7 kcfs and outflows of 17 kcfs. Albeni Falls was at 2060.13' with inflows of 41.8 kcfs, and outflows of 32.9 kcfs. Dworshak elevation was 1581.6' with inflows at 11.9 kcfs and outflows at 1.2 kcfs. Lower Granite outflows were 78.8 kcfs. The Priest Rapids daily discharge was 132.6 kcfs, with a weekly average of 125.7 kcfs. McNary daily average outflows were 202.8 kcfs.

Note: The flow summary charts were revised per a request from TMT – they now show seasonal discharge objectives and weekly observed actual discharges.

Fish: TMT looked at data posted to the Fish Passage Center site. Paul Wagner, NOAA, reported on juveniles: spring Chinook and steelhead smolts are trending downward; yearling spring Chinook numbers were in the several 1,000s at Lower Granite; 40,000 at McNary and 20,000 at Bonneville. Steelhead subyearling counts were 15,000 at Lower Granite. Sockeye counts at Lower Granite were 400-500 and about 4,000 at Bonneville. A question was asked about whether sockeye releases out of Canada had been coordinated, and whether the high passage numbers near Rock Island were hatchery releases.

Action: Sheri Sears, Colville Tribe, offered to check in to this and report back to TMT.

(Note: Sheri sent the following response to TMT following the meeting: “they are the result of a huge escapement 2 years ago. ONA told me they estimated 8 million smolts in Osoyoos Lake for this year whereas in past years they have estimated either 1 million. ONA was surprised that Osoyoos could rear that many sockeye and still have them reach full size and didn’t anticipate the size of run they had this year.”)

Paul reported that there was a surprising increase in adult passage numbers at Bonneville, with about 3,000 spring Chinook passing per day. Jack counts were not as high this year as last year. Following up from discussion during last week’s TMT meeting, he reported that adult counts at Lower Granite, Little Goose and Lower Monumental were similar, so the operation of the spillway weir at Little Goose no longer appears to be an impediment to adult passage.

Power: Nothing to report at this time.

Water Quality: Scott English, COE, reported that all gauges are operational and that any TDG exceedances over the last week have been minor.

The next TMT meeting will be: a conference call on 6/9 at 9:00 am.

Agenda items will include:

- Water Supply Forecasts
- Libby Operations Update
- Operations Review

Columbia River Regional Forum
TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES

June 2, 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, Washington, Montana, Oregon, COE, USFWS, 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 provide them to the TMT chair or bring them to the next meeting.

2. Review Meeting Minutes for May 26

Review of the May 26 official minutes and facilitator's notes was postponed until TMT meets next in person on June 16.

3. Libby Spring Operations

At the May 26 meeting, the COE informed TMT that a proposed Libby-Arrow swap with Canada could maintain flow neutrality of the phase 2 Libby operation while allowing a more gradual release of the stored 260 kaf. Today Barton told TMT that option is now off the table because BC Hydro wants the stored water to remain in Libby until after Labor Day, which would contradict the objectives for releasing the phase 2 water – flow neutrality and a moderate discharge hydrograph.

Earlier in May, TMT agreed conditionally on flow neutrality of the Libby phase 2 operation by June 30 with the condition that TMT will revisit flow neutrality in June to see if it still makes sense. To help TMT address this question, Joel Fenolio and Jeremy Giovando (COE Seattle) presented two graphs depicting storage accounting scenarios at Libby, attached to today's agenda. Both graphs are based on one of the ESP trace inflow projections.

Attachment 3a, June 30 Accounting, depicts the current Libby operation, assuming the stored 260 kaf will be released by June 30, absent an agreement to extend the release into July or devise a mechanism to maintain flow neutrality. Attachment 3b, July 15 Accounting, shows a more gradual descending limb, which is how the Libby hydrograph might look if release of the 260 kaf were extended into July.

The sturgeon pulse is expected to begin around June 5, triggered by water temperatures and spawning behavior, Fenolio said. Under the deviation scenario shown in attachment 3a, Libby will maintain spill of more than 5 kcfs during the peak of the sturgeon pulse. The 260 kaf would be released in discharges of 20

kcfs for 4-5 days after the peak, then 16 kcfs for approximately 10 days, finally ramping down to 7 kcfs bull trout minimum flows.

As depicted in Attachment 3b, if the June 30 deadline is extended into July, Libby would release 20 kcfs for 2 days after the peak of instead of the 4-5 days shown in the first graph. Outflows would ramp down to 16 kcfs from June 19-28, then to 9 kcfs from July 1-10, and finally down to 7 kcfs. This scenario was assembled in response to Montana's request to reshape the descending limb of the Libby hydrograph. The operation appears to address Montana's concerns, Jim Litchfield (Montana) said. Adverse biological effects of abrupt ramp downs on fish and wildlife below Libby Dam occur at flows of less than 10-12 kcfs, while at higher flows the adverse impacts are increasingly diminished. Litchfield asked how runoff volumes might affect the July 15 scenario. Runoff and inflow at Libby would affect only spill amounts and reservoir elevation, not the operation itself, Fenolio replied.

At this point, TMT focused on whether the June 30 deadline for flow neutrality makes sense to all parties. The difference between the two scenarios in terms of volume shaped into July 1-15 is about 40 kaf. At the suggestion of Paul Wagner (NOAA), TMT considered various ways to shape the Libby operation that might achieve both objectives – flow neutrality by June 30 with a gradual ramp down after the sturgeon pulse ends.

Litchfield asked about the biological effect on fall Chinook of shifting the 40 kaf into the first half of July. The shift amounts to 20 ksfd flows at McNary, Tony Norris (BPA) said. Fall Chinook migration at McNary typically peaks during the first week of July, Wagner noted. All hatchery releases for Snake River populations will probably arrive in the McNary and John Day pools during the first week of July, so keeping flows up from late June through mid July is important.

Dave Wills (USFWS) suggested the possibility of making up the 40 kaf needed for flow neutrality with water from Grand Coulee, an idea seconded by the BOR, COE and Oregon. The estimate of 40 kaf is equivalent to $\frac{1}{2}$ to $\frac{3}{4}$ of a foot of elevation in Grand Coulee forebay, Roache said. There was general consensus that using water from Grand Coulee to meet both of the Libby objectives is a viable option.

In terms of the sturgeon pulse, it's important to avoid a steep descending limb because that is when sturgeon spawn, Jason Flory (USFWS) said. Spawning begins after flows peak and continues through the end of the pulse. This year, it won't be possible to provide a smoother descent than shown in attachment 3a due to lack of water. The descending limb adheres to ramp rates in the BiOp, Scott Bettin (BPA) said.

No final decisions were made today regarding the Libby operation. The COE will provide updated graphs by the morning of June 7 for FPAC and TMT to use in devising a compromise operation. There was general consensus to seek a compromise somewhere between an updated version of attachment 3b that

extends 40 kaf into July, and the ideal sturgeon operation. TMT will be notified via email when the sturgeon pulse begins, probably on June 11.

TMT members informally defined their positions on Libby operations:

Montana – Favors a more gradual ramp down by shifting flows into July as depicted in attachment 3b. The impact of a steep decline in flows is more immediate on the environment below Libby Dam than on the lower river. Montana seeks a reasonable balance between the needs of listed Snake River fall Chinook and the needs of listed fish in the lower river. Will consult with the Kootenai Tribe of Idaho (not represented today) on the Libby operation.

Oregon – Would object to a shift of approximately 40 kaf into July as shown in attachment 3b unless Grand Coulee flows are used to keep the Libby operation flow neutral. Shifting flows of more than 40 kaf into July would be acceptable as long as the operation remains flow neutral. Kruger won't be able to attend next week's TMT meeting and will try to schedule an alternate. For the record, Oregon would object to any Libby operation that isn't flow neutral.

BOR – Using Grand Coulee flows to achieve flow neutrality is a good idea that should be investigated. At this time foresees no negative impact in missing the Grand Coulee refill objective by 2-3 feet (80 kaf at Libby =1 foot elevation at Grand Coulee). Since this operation would have no effect on the summer draft elevation of Grand Coulee, there would be no effect on Grand Coulee elevations during the fall.

BPA – Will work with the COE on defining how the Libby operation might affect the reservoir this summer and next year.

COE – Focused on meeting multiple obligations, including the needs of migrating salmon and resident fish, while maintaining as high a forebay elevation as possible. Has no interest in holding Libby flows above 7 kcfs once the 260 kaf is out of the reservoir.

NOAA – At this point the operation shown in attachment 3a doesn't appear to be problematic. There may still be options, such as providing higher flows at the end of June, that would achieve the June 30 objective and provide a gradual ramp down per Montana's request.

USFWS – Supports release of the 260 kaf by the end of June because it would enhance the sturgeon spawning operation.

4. Dworshak Operations

Several days of precipitation across the basin will melt the high-elevation snow and create a runoff event at Dworshak over the next several days, Barton said. The COE's June inflow forecast for Dworshak was released on June 1, Steve Hall (COE) said. The April-July forecast is 1,630 kaf, 61% of normal, up

3% from the May forecast. The June-July forecast is 632 kaf, 68% of normal. Based on this forecast, the project has about a 74% chance of refilling. Approximately 109 kaf of flexibility remains as the project goes into refill.

According to snow covered area criteria, which are used as a flood control requirement for Dworshak, the current estimate of 32-33% snow covered area means about 175 kaf of required space in the reservoir. As of yesterday, the reservoir has a little over 350 kaf of space, twice the requirement, so Hall didn't foresee a problem. The COE will track this flood control requirement on a daily basis. The COE's intent is to maintain discharges at current levels so long as they don't violate flood control requirements.

TMT will cover Dworshak operations next week as part of a generic agenda item on managing refill of projects throughout the system.

5. Flow Objectives/Transitioning to Refill at Grand Coulee

With no updated STP traces or modeling results available at yesterday's meeting, FPAC wasn't able to identify a specific flow objective for McNary, Wagner reported. The general idea is to refill Grand Coulee while keeping flows as high as possible in the near term to aid remaining spring migrants in the lower river, especially below McNary Dam.

That objective coincides exactly with BPA's and BOR's plans, Norris and John Roache (BOR) agreed. McNary flows are expected to exceed 200 kcfs during this precipitation event. The Action Agencies will attempt to maximize Grand Coulee refill while maintaining a weekly flow average of 220 kcfs at McNary Dam, subject to unregulated flows from the Snake River.

In terms of historic smolt timing, sockeye and wild Chinook in particular will benefit from the precipitation, Russ Kiefer (Idaho) said. He asked the Action Agencies to weigh the needs of these fish against the importance of refill. Tom Lorz (CRITFC) suggested the COE look at ways to shape releases from Dworshak at the end of June right after the freshet, ramping down gently. The COE will keep Lorz' suggestion in mind as it manages refill. There's still a chance that Dworshak won't refill this year, Hall said.

TMT will monitor flow objectives throughout the rest of passage season as part of its regular operations review.

6. Treaty Fishing Count Totals

Tom Lorz gave preliminary totals from the spring treaty fishery. Fishers with ceremonial permits caught 8,600 spring Chinook, and platform fishers caught 4,970 fish. Gillnet fishers caught 19,108 fish.

7. Operations Review

a. Reservoirs. Grand Coulee is at 1,269 feet elevation, managing for refill and the McNary flow objectives as previously discussed.. Hungry Horse is at elevation 3,541.87 feet with discharges of 4 kcfs. Inflows are around 11 kcfs, expected to rise to 16 kcfs by the end of this week. Libby is at elevation 2,419.66 feet with inflows of 21.7 kcfs and outflows of 17 kcfs.

Albeni Falls is at elevation 2,060.13 feet with inflows of 41.8 kcfs and outflows of 32.9 kcfs. Dworshak is at elevation 1,581.6 feet with inflows of 11.9 kcfs and outflows of 1.2 kcfs.

In response to feedback from TMT, the COE revised the graphs for Lower Granite, Priest Rapids and McNary dams. Lower Granite is discharging 78.8 kcfs, forecasted to rise above 133 kcfs in the next few days. Priest Rapids discharged 132.6 kcfs yesterday. With a weekly average of 125.7 kcfs, the operation is meeting its flow objective of 130 kcfs plus or minus 5 kcfs. McNary outflows were 202.8 kcfs yesterday.

b. Fish. Juveniles: Spring Chinook and steelhead smolt migrations are on a downward trend, Wagner said, unless the missing fish from the Snake River appear. Several thousand fish per day are passing Lower Granite, around 4,000 per day at Little Goose, and around 2,000 per day at Lower Monumental. Most smolt migration at this point is occurring in the lower river, with 40,000 fish per day passing McNary and 20,000 per day at Bonneville.

Passage of steelhead subyearlings has risen from a few thousand per day to 10,000-15,000 fish per day at Lower Granite. About 4,000 steelhead per day are passing McNary and John Day, and 10,000-30,000 per day at Bonneville.

Sockeye passage at Lower Granite is several hundred fish per day, with similar numbers at Little Goose Dam. McNary and John Day are both passing large numbers, 380,000 sockeye per day at McNary and 150,000 per day at John Day, mostly mid Columbia fish. Bonneville is passing 95,000 sockeye per day. Tony Norris asked if the peak in sockeye passage at Rock Island Dam was due to hatchery releases. Sheri Sears (Colville Tribe) said they were most likely hatchery releases as part of the Canadian sockeye recovery effort. *(Note: In a June 2 email to TMT after today's meeting, Sears clarified that the high sockeye counts were not due to Canadian hatchery releases but were the result of a large escapement 2 years ago.)*

Adults: Spring chinook passage rates have risen from just over 1,000 fish per day to more than 3,000 fish per day at Bonneville. Unlike last year, jack counts this year are not unusually high. The Little Goose weir issue seems not to be a problem for adults at present, so the combination of a higher crest operation and a spill pattern for low flows appears to be working.

Power. There was nothing to report today.

Water Quality. All fixed monitoring stations are working, and a few recent TDG occurrences were quickly corrected, Scott English (COE) reported.

9. Next Meeting

The next TMT meeting will be a conference call on June 9, followed by a meeting June 16 in Portland, location TBA. The June 9 call will cover Libby operations and updated water supply forecasts.

Name	Affiliation
Paul Wagner	NOAA
Charles Morrill	Washington
Jim Litchfield	Montana
Doug Baus	COE
Rick Kruger	Oregon
David Wills	USFWS
John Roache	BOR
Tony Norris	BPA
Scott Bettin	BPA
Laura Hamilton	COE

Phone:

Russ Kiefer	Idaho
Steve Barton	COE
Tom Lorz	CRITFC
Joel Fenolio	COE Seattle
Jeremy Giovando	COE Seattle
Steve Hall	COE Walla Walla
Jason Flory	USFWS
Margaret Filardo	FPC
Barry Espenson	CBB
Tim Heizenrader	Centaurus
Holli Krebs	JP Morgan
Scott English	COE
Ruth Burris	PGE
Russ George	WMC
Rob Allerman	Deutsch Bank
Richelle Beck	DRA
Rob Dies	Iberdrola Renewables
Tom Le	Puget Sound Energy
XX	Seattle City Light
Sheri Sears	Colville Tribe