COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

May 23, 2012

Facilitator's Summary

Facilitator: 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 Dam Releases – SOR 2012-FWS#1

Jason Flory, USFWS, described this year's request to implement operations in support of a sturgeon pulse and meeting bull trout minimums per 2008 settlement of the 2006 USFWS Libby BiOp. Jason described this as a 'Tier 4' year, meaning 1.1 MAF volume will be available for the sturgeon pulse. Temperature, reservoir elevation and presence of spawning ready females as triggers are identical to the triggers used last year, as is the ascending limb approach to the operation. Jason briefly described the operation, and said they expected, given forecasts and current conditions, to hit the triggers this weekend. Joel Fenolio, USACE Seattle District, provided additional information via Powerpoint slides attached to the meeting agenda to show what implementation of this request would look like given forecasts – and said this would be subject to change with shifting conditions. He showed BiOp requirements, May forecasts, and reminded TMT of the agreement reached earlier this year to support the Kootenai Tribe habitat project which moved the 2449' target elevation from the end of September to the end of August. He also said that with warmer temperatures expected to hit the basin in early June, the runoff flows should correspond well with the expected timing of the spill test. The spill test will likely commence between approximately June 1 and 4.

A question was asked about other scenarios that were considered by the Corps, e.g. lower flows in July to ensure meeting refill targets later. Joel responded that they did consider this option, but found it would not be feasible without forcing a double peak in flows. Jason Flory also clarified that the regional team of salmon biologists had determined that success criteria defined for the sturgeon operation were not met in 2008 and 2009, and this was the reason for doing the spill tests (not related to the Kootenai habitat project).

TMT Poll/Planned Operation:

TMT members were polled and all members present supported and/or did not object to the SOR: Montana, Washington, Oregon, Nez Perce, CTUIR (Umatilla Tribes), USFWS, NOAA, BPA, Reclamation and Corps. With that, the Corps planned to begin implementing the operation per the request and will continue to monitor and discuss the operation with TMT as the season progresses. Idaho was contacted by phone after the meeting and did not object to this operation.

Bonneville PH2 Operations

FPAC co-chairs Paul Wagner, NOAA, and Tom Lorz, CRITFC/CTUIR, shared that Snake River sockeye from the PIT-tagged group were expected to arrive at Bonneville around 5/26 based on

data from last year's flows and passage timing. Based on FPC data from 5/16 to 5/22 sockeye arriving at the project have seen variable descaling rates (Low on 5/17 of 5.0% to High on 5/21 of 24.1%) and mortality rates (Low on 5/21 of 0.0% and High on 5/16 of 9.8%) and at times these rates have been higher than normal, and therefore the salmon managers were requesting a special operation at Bonneville to improve passage conditions for the fish passing through Powerhouse 2 gatewells. Charles Morrill, Washington, updated with today's passage index data, saying there were 13,699 sockeye at the project with 9.2% mortality and 23.7% descaling rates. He added additional data about other fish passing the project. Given the increase in the number of sockeye observed at the project this morning, the salmon managers agreed they would like the special operation to begin as soon as possible and felt that protection of all sockeye, regardless of origin, was important. They proposed beginning an operation today and continuing through Tuesday evening, 5/29, at 6:00 pm.

The Corps' Doug Baus outlined the planned operation to meet the interests of this request, and said the specifics of the operation would be identical to what was provided last week. Baus provided a recap of the operation, as follows: To pass flows, the project will operate PH2 up to the mid-point (50%) of the operating range, then operate PH1 up to the upper limit (100%) of the 1% range. Then as flows increase, any water that would normally pass the project via PH2 units operating above the mid-point would instead be passed through PH1 units operating up to the best geometry point. Any flows that exceed the powerhouse capacity will be additional involuntary spill. He said TDG levels below Bonneville were continuing to exceed gas standards and therefore the action agencies required this operation to be flow-neutral so as not to knowingly exacerbate TDG. The salmon managers reiterated their concern and disagreement with operating PH 1 to open geometry, given the uncertainty of the biological impact to the passing fish. Paul Wagner added that the adult spring Chinook counts were down, signaling the likely end of the run and therefore there was not as big a concern for adult fallback or delays as had previously been discussed around operating Bonneville flows greater than 110 kcfs.

TMT poll/planned operation:

All TMT members present on the call today either supported or did not object to the Corps' planned operation: **Montana, Oregon, Washington, Nez Perce, CTUIR (Tom reiterated his concerns with the way this operation would be implemented), USFWS, NOAA, BPA, Reclamation and Corps**. With that, the Corps planned to begin this special operation today, 5/23, and continue through 6:00 pm on Tuesday, 5/29. The salmon managers via FPAC will monitor the operation and passage; and descaling and mortality issues, and determine whether to recommend continuation of the special operation. The 5/30 TMT conference call will stay on the schedule for now; Doug Baus and Paul Wagner will coordinate on 5/29 to determine if the meeting should be cancelled, and a notice of this cancellation will occur by 3:00 pm on Tuesday, 5/29.

Follow up email from Doug Baus 5/23/2012:

Please include no objection from IDFG Pete Hassemer (IDFG alternate) on both polled operations (LIB SOR and BON PH2) that occurred. Russ was not available during the call. Pete was followed up via phone.

Columbia River Regional Forum
TECHNICAL MANAGEMENT TEAM – OFFICIAL MINUTES

May 23, 2012
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 NOAA, Montana, Oregon, BOR, Washington, BPA, CRITFC/Umatilla Tribe, USFWS, COE, Nez Perce Tribe and others attended. This summary is an official record of the proceedings, not a verbatim transcript.

2. Libby Dam Releases for Sturgeon and Bull Trout Augmentation Flows (SOR 2012 FWS#1)

Jason Flory, USFWS, introduced the SOR which requests an operation for the third (and probably the last) year of spill testing for sturgeon under the 2008 Libby BiOp settlement agreement. The May final forecast is 7.1 MAF, which makes this a tier 4 year equivalent to 1.1 MAF of sturgeon volume. The SOR spells out the triggers for beginning the sturgeon pulse and gives details of the ascending and descending limb. These details are nearly identical to last year's SOR. The triggers are:

- Kootenai River temperature of at least 8 degrees C at Bonners Ferry.
- At least one spawning female sturgeon at Ambush Rock.
- Forebay conditions that allow flows to be released without causing river temperatures to drop more than 2 degrees C.

Flory said the sturgeon operation will probably be triggered this weekend or on Memorial Day. The SOR requests the following operation:

On the acending limb of the hydrograph: 15,000 cfs for 3 days, followed by discharge of 20,000 cfs for 3 days, discharge of full powerhouse capacity (PHC) for 3 days, and maintain peak discharge of PHC plus spill of up to 10,000 cfs for 7 days.

On the decending limb of the hydrograph: at approximately 6:00 AM, following peak outflow, reduce discharge from Libby Dam to PHC for 4 days. After four days at PHC, reduce discharge to 20,000 cfs for at least 3 days. This discharge period may be
extended if necessary to reduce the rate of reservoir refill.

Additional details regarding the SOR may be found on the following website:

http://www.nwd-wc.usace.army.mil/tmt/sor/2012/SOR_2012-FWS1.pdf

Joel Fenolio, COE, gave a presentation on how the operation, once triggered, will unfold. He discussed information contained in two links to this item on today's agenda, which provide details of the SOR as well as USFWS and NOAA BiOp requirements at Libby Dam.

This year's water supply forecast for Libby from April-August is 7.155 MAF, about 122% of average and about 1 MAF less than last year, Fenolio reported. According to the May volume forecast for Libby, the Action Agencies need to release 1.18 MAF in sturgeon flows this year. The May forecast also serves as the basis for the tiered bull trout minimum flow, set at 9 kcfs through August when the sturgeon pulse is done.

The sturgeon spill test calls for a forebay elevation of 2415 feet to spill 5 kcfs, and 2420 feet to spill 10 kcfs. Fenolio said these targets should be achieved by June 1-4. The sturgeon operation also targets an elevation within a foot of flood stage at Bonners Ferry.

The NOAA BiOp sets a target elevation for Libby reservoir of 2449 feet at the end of September, based on a forecast of over 7.2 MAF at The Dalles. However, in order to facilitate the implementation of SOR 2012-01 (Kootenai River Habitat Restoration Project Phase 2) the AAs coordinated with the TMT (March 28, 2012 meeting) and adjusted the target date for a Libby reservoir elevation of 2449 feet at the end of August. Another target is to maintain Libby forebay at 5 feet from full (2454 feet) during the summer months. Fenolio estimated the Libby forebay elevation will be within a foot of 2454 feet during the first half of August, with the exact date to be determined in season. VARQ outflows are expected to be 13.4 kcfs until May 28, when outflows ramp up to 15 kcfs and the sturgeon pulse begins.

When the operation ends, the project will release an estimated 17 kcfs from July 1 until the end of July, followed by another ramp down to 13-14 kcfs in August to attain 2449 feet by the end of August. The maximum projected elevation is 2453.3 feet on August 1. It was noted that the slide with a graph of elevations had an incorrect value for the maximum elevation. The graph shows 2443.3 but should be 2453.3. The project will ramp down in September to 6 kcfs, which is the minimum flow for bull trout.

Jim Litchfield, Montana, asked whether any other flow augmentation scenarios were considered beyond the one illustrated today. Would a lower flow in July help refill Libby reservoir? Fenolio said no, it's hard to get the reservoir up to 2454 feet or within 5 feet of full without creating a double peak, as it does in many scenarios. TMT members were polled on their views of the proposed sturgeon operation:

- **Montana** – Supports the SOR.
- **Washington** – Supports the SOR.
- **Oregon** – No objection.
- **Nez Perce** – No objection.
- **Umatilla** – No objection.
- **NOAA** – Supports the SOR.
- **USFWS** – Supports the SOR.
- **BPA** – Supports the SOR.
- **BOR** – Supports the SOR.
- **COE** – Supports the SOR.
- **Idaho** – No objection (TMT alternate polled via phone after today's meeting).

The COE will implement the operation as requested in the SOR and keep TMT informed as the sturgeon pulse progresses.

3. Bonneville Dam Powerhouse 2 Operations for Sockeye

This topic was added to today's agenda at the request of Paul Wagner, NOAA, on behalf of the Salmon Managers. PIT tagged Snake River sockeye have been passing Lower Granite and Little Goose dams over the past few days. Wagner showed TMT the descaling and mortality data for sockeye passing John Day and Bonneville dams over the past week (through May 23), linked to the TMT page. The conservative estimated arrival date at Bonneville Dam for these fish is May 26, based on the current flows of 380 kcfs in the Columbia (as compared to 500 kcfs at this time last year).

High descaling rates for sockeye have already been observed for fish passing PH2. Even with PH2 operating at the mid-point (50%) of 1% operating range, sockeye descaling rates through PH2 were in the range of 17-22% over the past few days, which is significantly higher than for other sampled species. Sockeye mortality rates at Bonneville are also higher than for other species. Therefore, Wagner said, the FPAC request is for a modified PH2 operation at Bonneville beginning at 6 pm May 26 through 6 pm May 29.

Charles Morrill, Washington, quoted statistics from an email update on sockeye that was sent out this morning. These statistics were so new that FPAC and TMT members had not yet had a chance to review them. Today's passage index for sockeye at Bonneville is 13,699 fish, higher than any count over the past 3 days, Morrill reported. Today the mortality rate for sockeye was 9.2% and the descaling rate was 23.7%. Mortality rates for most other species at Bonneville were 0.0% except for yearling Chinook at 2.9%. Descaling rates for other species ranged from zero for subyearling chinook to 9.5% for steelhead.

There was immediate consensus among the Salmon Managers present that this information means the requested operation to limit PH2 to the mid-point (50%) of the 1% operating range should begin immediately. There was also general agreement that these sockeye need protection regardless of whether they have been identified as endangered Snake River sockeye or mid-Columbia sockeye. Wagner noted that adult spring Chinook counts are down at Bonneville, probably indicating the end of the run as well as the potential tradeoff between adults and juveniles.

In light of these recommendations and current TDG levels, Baus outlined the operation the COE will implement to aid passage of juvenile sockeye at Bonneville. It is essentially the same flow neutral operation the AAs have implemented in coordination with TMT to limit PH2 to the mid-point (50%) of the 1% operating range:

1. Operate all PH2 units up to 25% of 1% operating range.
2. To pass additional flows, operate all PH1 units up to 100% of the 1% operating range.
3. To pass additional flows, operate all PH2 units within 25-50% of the 1% operating range.
4. To pass additional flows, increase operation ofPH1 units one at a time in the order of priority up to the best geometry point.

5. Any additional flow would exceed powerhouse capacity and would be passed as additional involuntary spill.

Baus said the AAs are currently managing TDG at Bonneville Dam as identified in the FOP to not exceed 120% in the tailrace and 115% in the next downstream forebay (equivalent is gauge at Camas-Washoughal). TDG has been and continues to exceed 120% in the tailrace (high of 123.5% on May 18 and low of 122.3 on May 22) as well as exceed 115% at Camas Washougal (high of 118.2 on May 21 and low of 115.3 on May 18). Spilling flow associated with capping PH2 to the mid-point (50%) of the 1 % range would equate to approximately 28kcfs of additional spill that would knowingly exacerbate already problematic levels of TDG downstream of the Bonneville Dam. Since this would not be consistent with current water quality requirements identified in the FOP the AAs will continue to support a flow neutral operation that redistributes flow from PH2 (an approximate 28 kcfs flow decrease resulting from capping PH2 to the 50% of the 1% operating range) to PH1 (an approximate 28 kcfs flow increase resulting from operating at best geometry) as this operation would improve PH2 passage conditions while not exacerbating current 120%/115% TDG water quality exceedances.

TMT members were polled on the operation for juvenile sockeye:

- **Montana** – No objection.
- **Washington** – No objection.
- **Oregon** – No objection.
- **Nez Perce** – Concurs with the operation.
- **Umatilla** – Concurs with the operation but has concerns about the effects of implementation.
- **USFWS** – No objection.
- **NOAA** – Supports the operation.
- **BPA** – Supports the operation.
- **BOR** – Supports the operation.
- **COE** – Supports the operation.
- **Idaho** – No objection (TMT alternate polled via phone after today's meeting).

The COE will implement the proposed operation for sockeye at Bonneville effective today through 6 pm, May 29.

4. Next TMT Meeting

A tentative conference call was scheduled for May 30 if needed to discuss sockeye passage at Bonneville. The next regular TMT meeting will be June 6.

Name	***Affiliation***
Doug Baus	COE
Lisa Wright	COE
Scott Bettin	BPA
Tom Lorz	CRITFC Umatilla
Paul Wagner	NOAA

Rick Kruger	Oregon
Margaret Filardo	FPC
Dave Benner	FPC
Russ Kiefer	Idaho
Scott English	COE
Bill Proctor	COE
Dan Feil	COE
Dave Wills	USFWS
Sheri Sears	Colville Tribe
Charles Morrill	Washington
Dave Statler	Nez Perce