COLUMBIA RIVER REGIONAL FORUM

TECHNICAL MANAGEMENT TEAM
MEETING NOTES
May 26, 2004
CORPS OF ENGINEERS NORTHWESTERN DIVISION OFFICES – CUSTOM HOUSE
PORTLAND, OREGON

TMT Internet Homepage: http://www.nwd-wc.usace.army.mil/TMT/index.html

DRAFT

FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS
Facilitator: Donna Silverberg

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.

Status of Hanford Reach:
Chris Carlson, Grant County PUD, reported on the weekly average flows at Hanford Reach for May 17th-23rd. 146 temperature units have been reached since the May 10th end of emergence; the targeted 400 tu's are expected to be reached around June 12th. Chris will provide another update on the status on Hanford Reach at next week's TMT meeting.

Mid-Columbia Flow Objectives:
The COE posted an ESP run for Priest Rapids flows, which showed a projection of 98-112 kcfs in June. The difference between this graph and the STP run (which projected higher flows for June) was likely caused by higher than expected precipitation in May. The April-September water supply forecast at Grand Coulee is 51-54.8 MAF, and the May mid-month showed inflows of 53 MAF. Grand Coulee is targeted to fill to 1280' by the end of August, and 1283' by the end of September. Remembering that no forecast is always "accurate", the COE suggested that TMT rely on ESP as a more accurate long term prediction tool, and that the STP is a good short term (10 day) tool. In the ESP model, Libby was assumed to meet 1239' at the end of August using a flat flow, including the sturgeon pulse operation expected for this year.

SOR 2004-12:
The salmon managers presented SOR 2004-12, recommending a 125 kcfs week average flow at Priest Rapids starting on June 1st and continuing until further notice. The salmon managers were interested in protecting out-migrants now *and* maintaining flows at Priest Rapids for late June subyearling migration. After a caucus, the salmon managers reached a consensus to revise the SOR, recommending a minimum operation of 125 kcfs as a hard constraint and making every effort to get as close to (without exceeding) 135 kcfs, while not jeopardizing refill at Grand Coulee.

ACTION: For May 31-June 6, the action agencies will operate Priest Rapids at a hard constraint minimum of 125 kcfs and look for available water to provide up to a 135 kcfs weekly average while meeting Grand Coulee refill objectives. There is flexibility around the start date of this operation but the salmon managers prefer higher flows through Monday, May 31st. TMT will revisit this issue during a conference call on **Friday, June 4, at 1:30 pm**.

SOR 2004-FWS1:
SOR 2004-FWS1 was presented by the USFWS today. Sturgeon were found in spawning areas as of May 25th; if spawning occurs on or before the weekend, Bob Hallock will contact the COE to start the sturgeon pulse requested in SOR 2004-FWS1. If spawning occurs over the weekend, the field biologists will contact the COE. The COE agreed to notify TMT if/when the sturgeon pulse operation occurs. The COE provided models of Libby operation scenarios at the request of Montana. Montana expressed a preference for stable flows through the summer months at Libby and requested that the salmon managers consider this as they identify best operations for the protection of salmon.

ACTION: Prior to the June 9th TMT meeting, the USFWS will send an email to TMT about paragraph two from the SOR (under specifications), clarifying the priority for the sturgeon pulse operation: 18 kcfs at Leonia gauge or releases from Libby?

UPDATE: An email message was sent out by the COE's Cathy Hlebechuk on Tuesday, June 1 – spawning occurred and Libby was ramped up for the sturgeon pulse on Saturday, May 29th.

SOR 2004-C-4:
Kyle Martin, CRITFC, presented this SOR for a spring treaty fishery May 26th at 6 am through May 28th at 6 pm. Similar to the last SOR, the tribes requested that the COE operate the Bonneville, The Dalles and John Day pools within a 1' range. There were 130 nets in the river as of May 20th, and about 1,000 fish left in the allocation. The COE issued a teletype to operate the Bonneville pool at a 1.5' hard constraint operating range. The COE agreed to keep in mind the request, and will operate The Dalles and John Day to meet BiOp requirements. Kyle will provide a review of the spring treaty fishery at the June 9th TMT meeting.

McNary 1% Test Operation:
Mark Smith, Walla Walla COE, provided a summary of last week's FFDRWG discussion on the McNary modernization test. Using information that all FFDRWG members felt was relevant, the updated analysis showed less impact of operating outside 1% on mortality and descaling than originally thought. While the COE felt that descaling levels were similar to past years, they did agree to change the study to test two units instead of four outside of 1%. Unit 6 will be operated within 1% so the fish can be tested and compared to those who pass units operating outside 1%. If there is less than 5% difference in treatments, the COE will continue with the modernization study. If the difference is more than 5%, the COE will consider discontinuing the study. The test will be completed on Thursday, June 3, after which the subgroup will hold a conference call to discuss the results. TMT will be updated on this issue at the June 9th TMT meeting.

BPA Response to SOR 2004-10:
John Wellschlager, BPA, expressed an apology that BPA was not available during the last TMT meeting to discuss the salmon managers' SOR 2004-10. He congratulated COE and BPA operators for their precision in meeting spill targets so closely during the season and

acknowledged the COE and salmon managers' desire to be even more precise in the future. He suggested that a subgroup of TMT get together to discuss spill precision and reach some resolution that can be brought back to the larger group at the June 9th TMT meeting.

Steve Barton, BPA, presented information to TMT about spill determinations, communication and timing issues. He noted that scheduling constantly changes throughout the hour, and that there are many between hour operating considerations so that there is some "noise" when reading hourly data. Steve's presentation can be found on the TMT web page as a link to today's agenda. He suggested that the TMT sub-group consider what is happening at the projects within and between hours and discuss whether there is some flexibility around management practices.

ACTION: The salmon managers will discuss and notify John Wellschlager of who should be part of the subgroup to meet and discuss this issue with BPA and the COE before the June 9th TMT meeting.

System Status Update:
Reservoirs: McNary is releasing 215 kcfs; Lower Granite is releasing 68 kcfs; Dworshak was expected to fill about 4' over the weekend with full powerhouse out on Monday morning. Libby is at elevation 2427.9' with 14 kcfs in and 4 kcfs out. Hungry Horse is at 3546.6', which is 13' from full. The project is expected to fill by the end of June.

The May mid-month water supply forecast is: The Dalles – 79.7 MAF; Lower Granite – 14.2 MAF (66% of normal); Dworshak – 2.19 MAF (83%); Libby – 4.72 MAF (76%); and Grand Coulee – 51.5 MAF (82%).

Fish status: Yearling chinook migration at Lower Granite is nearly complete, as expected. Steelhead saw a second wave of migration at Lower Granite, due to higher flows. Adults are at 167,000 at Bonneville, with a total projection of 190,000. This estimate is about half of the pre-season forecast.

Power status: The system is operating to meet load, and 135 kcfs at Priest Rapids.

Water quality: Exceedance tracking and high 12-hour TDG averages reports can be found on the TMT web page. NOAA congratulated the COE on their attempts to meet spill volumes at Bonneville and McNary.

TMT Meeting Schedule:
There will be a conference call on **Friday, June 4 at 1:30 pm** to discuss Mid-Columbia Flow Objectives.

The next face to face TMT meeting will be held on **Wednesday, June 9th, 9am-noon**. Agenda items include:

- Hanford Reach
- Sturgeon Operations (including "priority" email from USFWS – see SOR 2004-FWS1 discussion above)
- CRITFC Treaty Fishing
- McNary 1% Test
- Spill Management Subgroup Report

- Mid-Columbia Flows
- System Status Review

Meeting Minutes

1. Greeting and Introductions

The May 25 Technical Management Team meeting was chaired by Rudd Turner of the Corps and facilitated by Donna Silverberg. The following is a distillation, not a verbatim transcript, of items discussed at the meeting and actions taken. Anyone with questions or comments about these minutes should call Turner at 503/808-3935.

2. Status of Hanford Reach.

Chris Carlson reported that, for the week ending May 23, the average flow at Priest Rapids Dam was 132.3 Kcfs. The flow band was 60 Kcfs on Monday, May 17 and 40 Kcfs for the remainder of the week. The flow band was exceeded slightly on May 18, 19 and 21, but flows were within the band on the other days. As of May 23, the fish have accumulated 146 temperature units since the end of emergence, again working toward a target of 400 temperature units, at which point the 2004 Hanford Reach fish protection operation will end. Grant County PUD now estimates that this will occur on or around June 12. The group briefly discussed the reasons for the large drops in Priest Rapids flow seen on the morning of Monday, May 24; Grant County's Greg Lange explained the reasons for this operation.

3. Mid-Columbia Flow Objectives.

Turner drew the group's attention to the forecasted Priest Rapids and Grand Coulee flows graphs, dated May 18. He explained how these ESP runs were generated, noting that they were based on last week's flow data. The Dalles was used as an indicator of overall basin conditions, noting that the May mid-month water supply forecast at that project was 68.6 MAF. During the early part of June, according to this run, Priest Rapids outflow will range between 98 Kcfs and 112 Kcfs, depending on runoff shape and volume. Paul Wagner noted that the most recent STP run shows 120 Kcfs to 125 Kcfs during the month of June. Turner replied that precipitation is running above-average so far in May, which has caused a slight rebound in some of the mid-month forecasts. He noted that the ESP run provides a somewhat conservative view of the overall situation.

At Grand Coulee, said Turner, based on a mid-month forecast of 53 MAF, inflows are forecast to run in the 120 Kcfs range during June; outflows are forecast to run in the 80 Kcfs-100 Kcfs range during June; Grand Coulee would fill by June 30 and draft to 1280 by August 31. Grand Coulee is currently at elevation 1276, with inflows of 125 Kcfs? Wagner asked. Correct, Turner replied. Can we then set this graph aside? Wagner asked. Again, it is based on last week's information, Turner replied, and conditions have changed over the past week – precipitation so far in May is running 115% of normal for the Grand Coulee basin. There are signs that runoff may be more robust than anticipated last week. Wagner asked about the relative forecast

accuracy of ESP and STP procedures. Julie Ammann, COE, said that ESP seems to be a better long-term predictor of flows, while the STP is a good short term (10 day) tool. In the ESP model, Libby was assumed to meet 1239' at the end of August using a flat flow, including the sturgeon pulse operation expected for this year. Kyle Martin noted that the forecast over the next few weeks is for much wetter and colder weather than normal. In response to a question, Turner said the Corps will provide an updated ESP run at the June 9 TMT meeting (later agreed to provide this for the June 4 TMT conference call).

With respect to Mid-Columbia flows during the coming weekend, John Wellschlager said BPA would prefer to begin the rampdown from 135 Kcfs at Priest Rapids on Memorial Day, this Monday. After a brief caucus break to discuss the new water supply and flow forecast information, Wills said the salmon managers would like to revise the recommendations in the SOR: they would like to see 125 Kcfs as a hard constraint minimum flow, with the opportunity to go above that if precipitation continues – asked the action agencies to provide additional flow up to 135 Kcfs at Priest Rapids as long as this does not detrimentally impact Grand Coulee refill. So through June 1, you're requesting 125 Kcfs minimum, 135 Kcfs maximum, and trending toward the higher flow, at Priest Rapids, with Grand Coulee refill as the highest priority? Wellschlager asked. Correct, with the understanding that we also don't want to see Mid-Columbia flows drop to 70 Kcfs during the June refill period, said Wagner. And we'll follow this up with a TMT conference call next week, added Wills. It was agreed that the Corps will provide the most recent STP run in time for discussion at that meeting. It was agreed that the TMT conference call will take place on Friday, June 4 at 1:30.

In summary, said Turner, the action agencies will operate the system from May 31-June 6 to provide a hard minimum flow of 125 Kcfs at Priest Rapids, with a soft constraint of 135 Kcfs, providing flows above 125 Kcfs as a weekly average, if above-average precipitation allows for the release of additional water over and above that needed to assure Grand Coulee refill by June 30.

4. Sturgeon SOR.

On May 20, the action agencies received SOR 2004-12 from the U.S. Fish and Wildlife Service. This SOR, which covers sturgeon and bull trout flows from Libby Dam, requests the following specific operations:

- Beginning when the first evidence of sturgeon spawning is observed in the Canyon reach of the Kootenai River (estimated to occur during the last week in May) target a flow of 18 Kcfs measured at the Leonia gauge for four consecutive weeks. Based on ESP runs of comparable runoff years, this may be achieved by consecutive increasing releases of 13 Kcfs during the first week, 14 Kcfs during the second week, 15 Kcfs during the third week and 16 Kcfs during the fourth week.
- If the start date occurs during the third week in May, the target would be increased to 19 Kcfs, but the actual releases from Libby would remain as above. Alternatively, if the start date occurs during the first week of June, the target would be 17 Kcfs at the Leonia gauge, and again the actual releases from Libby would remain as above.
- Evidence of sturgeon spawning to trigger initiation of sturgeon flows may include either the capture of sturgeon eggs, or the abrupt and rapid downstream movement of a radio-tagged female. This is a characteristic movement of a post-spawning female white sturgeon.
- A second and equal trigger to initiate augmentation flows would be capture of eggs on mats placed over gravel substrate in the immediate vicinity of Bonners Ferry.
- The Fish and Wildlife Service will directly contact the RCC to request that flows be ramped up for sturgeon flows immediately when any of the above triggers is to be activated.
- In the event that neither of the above triggers is activated, there will be no request for sturgeon flows. This possibility would occur when the Fish and Wildlife Service determines that there are no more females remaining and expected to spawn over gravel substrates, and little likelihood remains of capturing any additional females for transport. This determination would not likely occur before the third week in June, and again USFWS will directly contact the RCC when this determination is made.
- Should this latter situation (no sturgeon flows) occur, it is recommended that, after coordination with USFWS, flows be immediately ramped up to meet the tiered minimum flow for bull trout identified in the 2000 BiOp.
- Otherwise, sturgeon augmentation flows should be followed by a rampdown to the tiered bull trout minimum flow. Greater flows may occur during this period depending on recommendations from NOAA Fisheries.
- If at the end of the fourth week of sturgeon augmentation flows, additional water is available without compromise of refill, we recommend splitting that additional volume equally to extend the duration of the current target sturgeon incubation flow, and to achieve a higher tiered bull trout flow through July.

The full text of this SOR is available via hotlink from today's agenda on the TMT homepage; please refer to this document for full details and justification.

David Wills provided an overview of the sturgeon SOR, noting that there are currently two female sturgeon known to be in the spawning areas. Once evidence of spawning is observed, Bob Hallock will contact the RCC directly to initiate the increase in Libby outflow. Turner said everything is in place to allow this SOR to be

implemented; he added that Libby Dam is currently at minimum outflow, and will remain there until the sturgeon pulse begins.

The group briefly discussed the ramp-up and ramp-down rates associated with this operation, as well as the specifics of the requested flows; it was agreed that the Fish and Wildlife Service will provide a clarifying email explaining its rationale.

The group then discussed the four model runs the Corps has produced regarding various Libby operational scenarios. In the first scenario, once the sturgeon pulse is complete, Libby would release a flat 15.17 Kcfs through August 31, targeting an elevation of 2439 feet on that date. The project would then release the bull trout minimum (7 Kcfs) through September 30. In Scenario 2, following the conclusion of the sturgeon pulse, the Corps modeled a flat flow of 8 Kcfs from the last week in June through the last week in July, followed by a ramp-up to 23 Kcfs, again targeting elevation 2439 on August 31. In Scenario 3, following the sturgeon pulse, the Corps modeled a flat Libby outflow of 13.18 Kcfs through the end of September, targeting a September 30 Libby elevation of 2439. Under Scenario 4, following the sturgeon operation, Libby would release 8 Kcfs through the last week in August, followed by a ramp-up to 16.15 Kcfs through the end of September, again targeting elevation 2439 by September 30.

How has precipitation been in the Libby Basin recently? Wills asked. Below average, Turner replied – 75% of normal for May. The Corps' May final water supply forecast for Libby was 4.95 MAF, but the May mid-month forecast from the River Forecast Center fell slightly to 4.72 MAF, 76% of average.

Litchfield noted that the State of Montana would prefer to avoid a double peak in Libby outflow, so they would rather concentrate on Scenarios 1 and 3, despite the fact that Libby would not completely refill in 2004. There may be some flexibility to work on a declining hydrograph if the water supply forecast continues to decline, Litchfield said, but at this point, Montana would prefer Scenario 3 – that would allow us to do something for sturgeon, something for bull trout and something for salmon.

5. Spring Treaty Fishery (SOR 2004 C-4).

On May 25, CRITFC submitted SOR 2004 C-4, covering the fourth spring treaty fishery in Zone 6. This SOR requests that the action agencies maintain the following pool elevations in support of the tribal treaty fishery (during the period 6 a.m. May 26 through 6 p.m. on May 28):

- Bonneville: 1.0 feet from full pool (msl elevation 76.5-75.5)
- Celilo (The Dalles): operate pool within 1 foot of full pool (msl elevation 159.5-158.5)
- John Day: operate the pool within 1 foot (msl elevation 264.5-263.5)

Kyle Martin went briefly through the contents of this SOR, the full text of which is available via hot-link from the TMT homepage. Martin said there are about 68 nets in

the Bonneville pool, 31 in The Dalles pool and 31 in John Day pool. This will be the last spring treaty fishery of the 2004 season, he added.

Turner said the Corps has already sent a teletype to Bonneville Dam, specifying elevation 76.5-75 as a hard constraint and 76.5-75.5 as a soft constraint during the treaty fishery period. The Dalles will operate within a 3-foot range but the actual operating range will likely be much narrower; John Day pool will be operated in a 1.5-foot range – in essence, the same operating ranges we have provided during the previous three treaty fisheries, Turner said. Martin said he will provide a review of the 2004 spring treaty fishery at the June 9 TMT meeting.

6. McNary 1% Test Operation.

Turner said the Corps prepared a memo (available via hotlink from today's meeting) summarizing the discussion of this topic at last week's FFDRWG meeting in Walla Walla. Mark Smith provided a brief overview of this discussion and FFDRWG's recommendations; essentially, a re-analysis of the data provided by the salmon managers showed a lesser impact in terms of descaling and mortality. He noted that a significant amount of trash was removed from the trash rack of the test unit where a high incident of descaling and mortality was seen earlier in the season; descaling and mortality was subsequently reduced at that unit. He noted that the analysis is very sensitive to the number of samples, and many of the salmon managers' conclusions were based on a very small number of samples.

We developed a plan to use Unit 6, where we can collect fish in an orifice trap, before they pass through the entire system, he said. Beginning tonight, we will be collecting data on fish under maximum discharge at the test unit to get a more distinct comparison between the maximum discharge and normal unit operations. Once we have the data from that test, he said, we will instigate a conference call to discuss it, and if, as anticipated, descaling and mortality is within the normal range, the Corps would like to continue the modernization study as planned, but using two test units rather than four, said Smith. He added that a FFDRWG subgroup will be convened soon to discuss McNary modernization test plans for the remainder of 2004 and 2005. And we'll plan to get an update on planned test operations for the remainder of 2004 at the June 9 TMT meeting, said Silverberg.

7. BPA Response to SOR 2004-10.

Wellschlager apologized for not being present at last week's meeting when this issue was discussed. He said Bonneville has looked at the data provided in the SOR; he congratulated the Corps and BPA schedulers for doing an outstanding job in meeting the spill threshold targets – we have come within 0.6% of meeting the target so far this spring. However, we have heard from the salmon managers that they would like us to do better, he said, and share that goal, as does the Corps. It would be helpful if we could see the data underlying the salmon managers' analysis. Wellschlager suggested that a TMT subgroup be formed to investigate ways to improve the action agencies' spill target performance. The subgroup could then bring its recommendations to the full TMT. To me, that would make more sense than trying to discuss this issue here, said Wellschlager.

Turner noted that the Corps has made some changes, particularly during the ramp-up and ramp-down phase at John Day, starting spill a little earlier and ending it a bit later. There was general agreement that the spill management subgroup would be useful, and should be convened sooner, rather than later.

8. BPA Spill Compliance Presentation.

BPA's Steven Barton provided a presentation titled "Within-Hour Operations and Their Impacts to Spill Accounting." This presentation is available via hot-link from today's agenda on the TMT homepage; please refer to this document for details on this topic.

In the course of this presentation, Barton responded to a variety of clarifying questions and comments regarding the technical details of project and power system operations. At the conclusions, the TMT thanked Bonneville for a very informative presentation.

9. Libby Operational Scenarios.

This topic was discussed during Agenda Item 4, above.

10. Status of Operation.

Turner said McNary outflow was at 215 Kcfs yesterday; Lower Granite was at 86.7 Kcfs yesterday, up from 69 Kcfs last week. Lower Granite flows are expected to remain in that range for the next few days. At Dworshak, the project filled four feet over the weekend; Dworshak outflow was increased to full powerhouse discharge (9.6 Kcfs) on Monday morning. Project elevation was 1589.1 feet last night. The Corps is projecting that they will need to continue to release full powerhouse discharge from Dworshak through the end of May in order to avoid spill, but with more precipitation in the forecast, spill is a possibility at Dworshak this spring, said Turner. Libby was at 2429 feet last night and releasing 4 Kcfs. Albeni Falls has filled slightly more than a foot over the past week to elevation 2059.2; it is releasing 43 Kcfs with inflows in the 50 Kcfs range.

Reclamation reported that Hungry Horse was at 3546.6 feet as of midnight last night, releasing 4.7 Kcfs on a weekly average with inflows in the 7-8 Kcfs range. Hungry Horse is expected to refill by June 30.

With respect to the mid-month water supply forecast, Turner said there was no percentage change at The Dalles a 79.6 MAF volume. At Lower Granite, the mid-month forecast was 14.2 MAF, 66% of average, up 5% over the May final forecast of 13.1 MAF. At Dworshak, the mid-month forecast is now 2.19 MAF, up 7% over the May final forecast. The Libby forecast dropped to 4.72 MAF, down 3% from the May mid-month forecast of 4.95 MAF. At Grand Coulee, the forecast is now 51.5 MAF, down slightly from the May final. May precipitation in the Mid-Columbia and Snake River Basins is running 117-118% of normal, Turner added.

With respect to fish passage, Wagner said things are following their expected path; the spring chinook outmigration is now almost finished at Lower Granite. The big news is a double peak last week in steelhead outmigration at Lower Granite, no doubt in response to the higher flows we're seeing through the Snake River, Wagner said.

11. Next TMT Meeting Date.

The next Technical Management Team meeting was set for Friday, June 4 at 1:30 p.m. (a conference call) with the next face-to-face meeting scheduled for May 9. Meeting summary prepared by Jeff Kuechle, BPA contractor.

TMT Participant List

May 26, 2004

Name	**Affiliation**
Rudd Turner	COE
Donna Silverberg	Facilitation Team
Jim Litchfield	Montana
Michael Schilmoeller	NWPPC
Paul Wagner	NOAAF
Robin Harkless	Facilitation Team
Ron Boyce	ODFW
John Wellschlager	BPA
Cindy LeFleur	WDFW
David Wills	USFWS
Nic Lane	BPA
Julie Ammann	COE
Steve Barton	BPA
Scott Boyd	COE
Tom Haymaker	PNGC
Tina Lundell	COE
Tim Heizenrater	PPM
Lee Corum	PNUCC
Russ George	WMCI

Kyle Martin	CRITFC
Michele DeHart	FPC
Mary Mellima	USBR
Lance Elias	PPL
Chris Carlson	GCPUD
Greg Lange	GCPUD
Ruth Burris	PGE
Glenn Traeger	Avista
Cindy Reece	COE
Mark Smith	COE