COLUMBIA RIVER REGIONAL FORUM

TECHNICAL MANAGEMENT TEAM
MEETING NOTES
June 26, 2002
CORPS OF ENGINEERS NORTHWESTERN DIVISION OFFICES –
CUSTOM HOUSE
PORTLAND, OREGON

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

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.

Weather Update:
Marty Lee, RFC, reported high (some record) temperatures throughout the region for the next day or so with a weaker trough moving in over the weekend and bringing some light precipitation, cloud cover, and a slight cooling trend.

Sturgeon Pulse:
Three sturgeon larvae will be released out of the hatchery near Libby. One larva was released last week, another is scheduled this week, and one more will be released next week. It is hoped that the that additional flows this year will help fish movement, some of which has been observed in wild fish. The cooler temperatures have led to fewer spawners this year, an anomaly that has been seen before but is still not well understood.

Libby Spill Test Update:
The spill test at Libby began June 25 in the face of very high inflows to the reservoir. What is left of the winter snow pack is coming off and fast! COE noted that the total dissolved gas cap of 125% was reached sooner than expected: as early as spill releases of 6,000 cfs. Under different circumstances, this would have stopped the study. However, due to the natural high flows and spill being done for flood control measures, the COE has continued to collect study related data. Local biologists are closely monitoring initial observations of gas bubble trauma to fish in net pens and two wild fish (trout). The regional Water Quality Team will be alerted to the situation. At the same time, spill data is being collected and will be for some time. It was noted that thorough documentation of this high flow situation and its effects on fish will be very important for continued learning of the system. The COE's Rudd Turner asked TMT for input as the Corps moves into a flood control operation at Libby. TMT did not object to the proposed gradual ramping up to 32,000 cfs.

Lower Columbia Adult Migration Studies:

David Clugston, COE, and Chris Perry, University of Idaho, reported their initial assessment of a spill test at Bonneville. While the intent of the study was to examine adult fallback, preliminary analysis shows a relationship between changes in spill and fish movement, but the connection between passage times in relation to high and low spill is not so clear. It was noted that this could be a result of the high number of adults returning. In any event, the data needs to be more thoroughly analyzed before any conclusions are drawn. The data collection will continue through the summer with summer Chinook. ODFW's Ron Boyce requested that communications between the researchers and the Salmon Managers be kept open as the study continues through the summer. He noted they are expecting record number of returns and information on fallback or impacts to harvest due to the spill fluctuations would be helpful.

Next Steps: Chris and David will discuss further data assessment from this study at the July 10 TMT meeting.

Review Current System Conditions:
Fish: Paul Wagner reported that yearling Chinook are on the wane after a very large spring return. Sub-yearling numbers have increased and should peak in late August.

Paul also noted that with the higher flows at the John Day pool decreasing the likelihood of predation and the lower temperatures at JDA and McNary, NMFS is requesting that transport at McNary not begin just yet. He noted that the situation will need to be closely monitored, but as yet NMFS does not believe the "end of spring-like conditions" has been reached. Paul will report on temperatures at McNary and Lower Granite at a special July 3rd call to discuss the beginning of transport.

Action: After some discussion about what should be considered the "end of spring-like conditions", the group agreed to wait to begin full transport operations at McNary until further discussion next Wednesday. Any TMT member may call an emergency if in-river temperatures rise to dangerous levels for fish (over 17 degrees for a period of days). **Conference call at 9 am Wed. July 3rd to discuss this issue.**

Chum emergence: Ron Boyce handed out preliminary graphs on chum emergence; a full report will be out in September. The group agreed that this report would be helpful to inform decisions for Fall chum operations. Ron will provide graphs on chum emergence numbers, locations, and elevations from the 2001/2002 season so that TMT can start to track the new movements of chum **at the July 10 TMT meeting**.

Reservoir operations: Rudd Turner reported that all COE projects are close to full. The current Dworshak operation is to pass inflow at around 18 kcfs until July 7, then operate at full powerhouse plus 110% TDG until the end of August. This modeled operation, Rudd said, is open to future TMT discussions. Lori Posthlethwait reported on BOR projects. Hungry Horse is five feet from full and expected to be full after the first week in July. Grand Coulee will fill after the July 4 holiday weekend. They are not anticipating any of the Snake River projects to fill this year with 61% for the Upper, 77% for the Boise and 98% for the Payette the expected fill levels.

Water quality: Dick Cassidy reported that maximum TDG levels have been reached at Dworshak over the past week. Due to high flows and involuntary spill, they have been struggling with TDG exceedences of 120% at McNary, John Day and Bonneville.

SOR 2002 C-8:
Tom Lorz discussed the Dworshak summer operations plan as requested by the Nez Perce Tribe, CRITFC, and Idaho. The request is to keep Dworshak full until July 14, then begin ramping down through September 29. The request is mindful of temperatures and flows, and is open for modification as conditions change and is needed. Washington supports the guidelines within the request, but would like to see flexibility with the ending elevation. Oregon is concerned with shifting water from summer to fall, and supports implementation of the Biological Opinion. USFWS is concerned that water be available in July for the early part of the run, but feels that based on this year's flows, there may be some water left over in August to be used as per the request. NMFS said this is looking like a year they might be able to accommodate this request from the tribes given this year's conditions.

Action: The request will be implemented at least until July 3. Dworshak will remain full until the TMT revisits the issue at TMT's call on July 3. In addition, there is a request to utilize one Walla Walla COE monitoring station for this operation. Dick Cassidy will explore with the Walla Walla group ways to implement this part of the request. All members will discuss the request with their agencies and report back on July 3.

Review Recommended Operations:
TMT reviewed all projects and agreed to the recommended operations until July 3.

Other:
The Salmon Managers are working on an SOR for BOR and Brownlee project operations and will have it available next week.

The Salmon Managers are coordinating with the COE and BPA on an emergency action list. An updated draft was handed out. The Action Agencies will examine the list and Scott Bettin will present scenarios and additional information at the next FPAC meeting. TMT will discuss any changes to the list at their July 10 meeting with the intent of creating a "TMT Guidance" document for schedulers/operators. In the interim, the list provided at this meeting will be utilized.

A separate TMT Water Management Plan meeting will be held July 17 from 9 am to 12 pm. TMT will discuss just the WMP and will not discuss operations.

Next Meeting, July 3 (call):
Agenda Items:
- McNary
- SOR 2002 C-8—beyond July 4

- SOR from Salmon Managers re: BOR projects & Brownlee

<u>July 10 Meeting</u>:
Agenda Items:
- Chum numbers, locations from 2002
- Bonneville Spill Test – Additional Analysis
- Next Steps on Emergency Action List
- Weather Update

Meeting Minutes

1. Greeting and Introductions

The June 26 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. Weather Update.

A National Weather Service representative briefed the TMT on current weather conditions across the basin; he said that, over the past three days, temperatures have been ramping up. That will be a continuing trend over the next 24 hours until we head into a gradual cooling trend, he said. Boise temperatures are expected to hit 102 degrees today; in Missoula, 94 degrees. Temperatures will be cooling off over the next two days, however, he said. There is a chance of minor precipitation on the east side of the Cascades from this weak front, he said. Once we reach the weekend, a second front might provide a bit more in terms of effective cooling and cloud cover, with the possibility of a few scattered showers in the Middle Snake and up into the Idaho panhandle.

3. Sturgeon Pulse/Libby Spill Test Update.

Turner reported that there is considerable inflow at Libby currently – 50 Kcfs-70 Kcfs, which is expected to persist for the next two or three days. The project is about eight feet from full. The spill test got underway yesterday, Turner said. There is still some snow up there, and the shape of what's left becomes very important at this point in the season. We may need to hold discharge above full powerhouse capacity – as much as 10 Kcfs spill – past the planned duration of the test – it looks as though we'll need to hold 35 Kcfs for several days in order to delay refill, Turner said. Spill does create gas at Libby, Turner said, so we're going to try to minimize that as much as possible.

Bob Hallock reported that the first batch of sturgeon larvae were released last Friday; a couple of more batches are expected to be ready in the next few days. We'll only be spawning three sturgeon in the hatchery this year, Hallock said, adding that the high flows currently being experienced in the Kootenai should be beneficial to natural spawners in the system. In response

to a question from Paul Wagner, Hallock said field personnel have documented some wild sturgeon spawning in the Kootenai. The current flow at Bonners Ferry is about 35 Kcfs, added Scott Bettin.

Marian Valentine reported on the spill test at Libby; she noted that the plan for the test has been altered in response to the most recent weather and runoff forecasts. She noted that safeguards are in place to stop the test if signs of gas bubble trauma were seen in net-pen rainbow trout or if dissolved gas levels exceeded the 125% threshold below the project. Both of those parameters were exceeded at 6 Kcfs spill yesterday, Valentine said; however, because of the current high inflows Libby is experiencing, we did not stop the test. Instead, the decision was made to continue to gather physical and biological data during this period of high flow and spill at Libby. Technically, Libby is now into a flood control operation, not a spill test, added Hallock; however, we are going to continue to collect data. In response to a question from Turner, Valentine said preliminary monitoring results showed gas levels of 110% at 3 Kcfs. At 4 Kcfs, we saw TDG levels of 115%-122%, Hallock added.

We're now heading toward 10 Kcfs spill for an indeterminate period? Jim Litchfield asked. We haven't decided that yet, but it is possible, Turner replied – the project is now releasing 25 Kcfs through the powerhouse and 5 Kcfs through the spillway. There is a conference call scheduled for this afternoon to talk about going to a total discharge of 32 Kcfs, 7 Kcfs of which would be spill, Turner said. He added that, based on the current spreadsheet, it appears that some spill could occur at Libby through the month of July. We'll give you a further update at next week's TMT call, he said.

4. Lower Columbia Adult Migration Study.

Turner reminded the group that there had been a request, at a previous TMT meeting, to hear some preliminary results from the ongoing Lower Columbia adult migration study; in particular, the effects of the ongoing spill study at Bonneville on adult passage and fallback at that project. Turner introduced David Clugston of the Corps and Chris Peery of the University of Idaho, two of the principals involved in the test.

Clugston said the Bonneville spill test began on April 10; it consists of two-day blocks of 75 Kcfs spill followed by two days of spill up to the gas cap, about 134 Kcfs on average. So far, everything has cooperated, flow-wise, and we've been able to achieve good study conditions, he said. One thing we saw right away is that the adult passage counts changed noticeably and consistently in response to the two spill regimes, Clugston said – during the high-spill blocks, counts went down, and when spill was reduced to 75 Kcfs, passage came back up. This was particularly apparent at the Cascade ladder, he said; at the Washington ladder, the pattern was less well-defined, which is indicative that the spillway channel the fish choose to take is involved to some degree. He noted that the majority of the adults are using the Washington ladder, according to the PIT-tag data.

Peery then described his radio-telemetry work to evaluate passage conditions for adults through the basin; he said adult fish are collected and radio-tagged at Bonneville, and are then released about five miles downstream from the project. The fish are then monitored as they make

their way back upstream. We're tracking travel time from release to the Bonneville trailrace, then from the tailrace to the fishways, under both low and high spill conditions. In general, he said, we're seeing little difference in travel time under the high and low spill conditions, Peery said. Do you have any feel for whether or not there is a difference in fallback rates under the high and low spill conditions? Ron Boyce asked. I don't have a feel for that at this time, no, Peery replied; it takes a lot of processing to evaluate the telemetry data. Based on a cursory look at the data, fallback has been relatively low this year – about 5% of the total number of fish passing. He added that average travel times have been somewhat slower this year than normal; this is most likely a reaction of the fish to the spill treatment. In looking at the data, it appears to me that the fish are reacting to the change in spill from low to high and high to low, rather than the absolute level of spill that is occurring, Peery said. He reiterated that all of these data are preliminary, and said his final report will contain a much more refined evaluation of what occurred in the spring of 2002.

In response to a question from Boyce, Clugston said the plan is to continue the Bonneville spill test into the summer period. Boyce noted that a record summer chinook run is forecast for this year, the highest since the 1950s; he said there is a great deal of concern among harvest managers about the possible detrimental impacts of the spill test on those fish. It is very important that you communicate any problems with respect to delay or fallback immediately, Boyce said. We'll do our best, Clugston said; however, it takes a long time to get the telemetry data into coherent shape. The reality is that this is a research project, not a monitoring project, he said – we're just not set up to provide the kind of real-time data you're talking about.

In response to a question from Silverberg, Peery said it should be possible to provide more detailed information from the test at the next face-to-face TMT meeting. What we're particularly interested in is any problems you saw with adult fallback during the spring period, before we get too deep into the summer run, said Boyce. Is it fair to say that you're not seeing any significant adverse impact on adult passage with either the high spill or the low spill treatments? Turner asked. Not so far, Peery replied. That's good, said Turner – we feel this test is giving us some very valuable information, and intend to continue it through the end of August, unless there is strong evidence that the test is significantly impacting adult passage.

5. Current System Conditions.

With respect to the status of the migration, Wagner said yearling chinook migrants are definitely on the wane; we saw a slight bump in the indices at Lower Granite and Little Goose during the few days leading up to May 20, with steelhead showing a similar trend while high levels of spill were being provided at those projects. While we're only talking about a few thousand fish per day out of a run of 2.8 million, he said, these are valuable, late-migrating fish.

We're now seeing a dramatic increase in subyearling passage at Lower Granite, Wagner continued, although we're not seeing huge numbers at Little Goose or Lower Monumental as yet. At McNary, we saw 589,000 subyearling chinook yesterday; transport has not yet begun at that project, because flows continue to be high and temperatures are still relatively low. The question now becomes, when will we reach the 95% passage point in the subyearling migration past Lower Granite, said Wagner; the current estimate is that 22% of the run has now passed that

project (with error bounds of 28%), and the prediction is that 50% of the run will pass Lower Granite by about July 8, with the 95% point of passage reached sometime around mid-August.

With that in mind, he said, we'll be managing the system primarily for flow and temperature over the next two months, particularly given the fact that water temperatures are expected to approach the 20 degree C threshold in the Lower Snake River by mid-July. The current water temperature at the Lower Granite forebay is about 14.5 degrees C; they will only climb from here, with air temperatures forecast to be in the 90-degree+ range for the foreseeable future.

Wagner noted that, while water temperatures are now approaching 17 degrees C at McNary, flows are still well in excess of 220 Kcfs, so the decision, at this point, is to continue to leave the fish in the river and not to begin transport at McNary at this time. We'll check back in on that decision as conditions change, Wagner said; with flows as high as they are currently, predation is less of a concern than it might normally be at this point in the season.

Turner noted that the BiOp states that, as long as flows exceed 220 Kcfs and water temperatures are less than 17 degrees C, springlike conditions persist. He said the Corps' interpretation of that statement is that once either or both of those conditions no longer exist, springlike conditions no longer exist. We've got some concern about that, he said; despite the fact that flows remain high, water temperatures are on the rise. What it comes down to is that we want to be sure that we're implementing the Biological Opinion, Turner said. It sounds to me as though, if flows remain high but water temperatures reach 17 degrees C at McNary, we may want to go ahead and start transporting, he said.

We may, Wagner agreed; however, the best study data we have shows little benefit to transportation from McNary until late July and August. The 1995-'96 study showed only a slight benefit to transport from McNary across the entire summer season. The bottom line, he said, is that I am not overly concerned that we must start transport once water temperatures at McNary reach 17 degrees. Is that your interpretation, or NMFS' interpretation? Silverberg asked. That is NMFS' position, Wagner replied. Boyce added that the other salmon managers are concerned about the number of subyearlings transported in previous years, and would prefer, given the uncertainty of the science about the benefits of subyearling transportation, to achieve a greater balance between transportation and in-river migration.

After a few minutes of further discussion, it was agreed to revisit the McNary transport issue at the July 3 TMT conference call; until that time, there will be no transport from McNary, with the caveat that any TMT member can convene an emergency conference call if water temperatures rise above 17 degrees C.

Moving on to current system operations, Turner said most of the storage reservoirs in the system are now nearing full, and the project operators are managing those facilities to smooth the operation out to the greatest extent possible. Flows at Bonneville averaged 326 Kcfs last week; at McNary, 330 Kcfs; at Lower Granite, 90 Kcfs. Day-average flows at Lower Granite were 91.5 Kcfs yesterday; there is still some involuntary spill occurring at that project due to lack of unit availability.

At Dworshak, we're currently releasing full powerhouse capacity plus 2 Kcfs spill and the reservoir is hanging in there within a half-foot of full, 1599.6 feet, Turner said. Inflows to the project continue to be in the 16 Kcfs range. It's basically a pass inflow operation at Dworshak, currently; this week's spreadsheet shows that operation continuing until July 7, said Turner. After that, the spreadsheet shows us releasing full powerhouse capacity plus spill to the 110% TDG level in order to achieve elevation 1520 feet by August 31, he said. That's a modeled operation, he said, but we're open to further discussion about what the actual operation should be.

The current elevation at Libby is 2451 feet, Turner continued; the project is releasing 30 Kcfs, with the possibility of up to 35 Kcfs outflow from that project later this week. The spreadsheet shows us running full and spilling at Libby through the month of July, he said. Libby will then release full powerhouse capacity through July, drafting about a foot per day to reach elevation 2439 by August 31. Albeni Falls is very close to full and releasing 75 Kcfs, he added.

Lori Postlethwaite reported that Grand Coulee is now about 5 feet from full, and will likely fill some time after Fourth of July weekend. In the Upper Snake, only the Cascades project is expected to refill this year. The Upper Snake projects are only expected to reach 61% of full this year; the Boise projects are forecast to be 77% full, and the Payette system will be at about 98% full/ She added that Hungry Horse is expected to fill to elevation 3560 feet by the first week in July; there is a possibility that it will surcharge slightly above that elevation.

Moving on to water quality, Dick Cassidy went through some of the current total dissolved gas hot spots in the system. Flows continue to be high throughout the Snake and Lower Columbia; involuntary spill is occurring at Lower Granite, McNary, John Day and Bonneville. In general, he said, there are still a number of exceedances of the 120% TDG standard occurring. The power system continues to be in good shape, Bettin said.

6. New System Operational Requests.

On June 26, the action agencies received SOR 2002 C-8. This SOR, supported by the Columbia River Inter-Tribal Fish Commission, requests the following specific operations:

1. Keep Dworshak full (elevation 1600) through July 14. Pass inflow and use 47 degree F water
2. Ramp up flows to 6 Kcfs by mid-day July 15; hold this outflow through July 21
3. Ramp up flows to 9 Kcfs by mid-day July 22; hold this outflow through July 28
4. Ramp up flows to 13 Kcfs by mid-day July 29; hold this outflow through August 4
5. Ramp up flows to 14 Kcfs by mid-day August 5; hold this outflow through September 1
6. From September 2 through September 8, reduce flows to 10 Kcfs
7. From September 9 through September 15, reduce flows to 7 Kcfs
8. From September 16 through September 22, reduce flows to 2.5 Kcfs
9. From September 23 through September 29, reduce flows to near minimum (1.4 Kcfs)

Tom Lorz spent a few minutes going through this SOR, the full text of which is available via the TMT website. Bettin noted that, given the fact that Dworshak will be passing inflow for

at least the next week, it probably isn't necessary for the TMT to make a decision on this SOR at today's meeting. Lorz agreed, saying that the tribes felt it would be prudent to get their Dworshak operations proposal out on the table now to give the other stakeholders adequate time to assess it. In response to a question, Lorz said EPA has not yet had an opportunity to model the expected water temperatures under this proposed operation.

The group devoted a few minutes of discussion to CRITFC's proposal; Boyce noted that Oregon supports the BiOp direction that Dworshak be drafted to elevation 1520 feet by August 31. David Wills said the Fish and Wildlife Service feels the earlier part of the run is the most important, and that all of the available draft from Dworshak should be used in July and August if needed. It may not be possible to get all of that water out by August 31 this year, however, he said, so Mother Nature may implement this SOR whether or not we intend to. Wagner noted that, in most previous years, low summer flows and high water temperatures have made it difficult or impossible to implement the tribes' recommended summer operation and save some of the Dworshak water for use in September; this year, however, it appears that we should be able to come closer to that operation, if not achieve it. NMFS is supportive of the concept of using a portion of the cooler water from Dworshak in September, with the caveat that, once Snake River flows begin to decrease and water temperatures rise, we begin flow augmentation from Dworshak. We're certainly in favor of postponing the draft of Dworshak as long as possible, Wagner said; we are interested in working with others around this table to implement this SOR, as long as we don't violate the objectives laid out in the BiOp.

Ultimately, it was agreed to revisit SOR 2002 C-8 at next week's TMT conference call.

7. Recommended Operations for July 1-14.

The recommended operations for the period of July 1-14 were covered during the previous agenda item; they will be revisited at next week's TMT conference call.

8. Summer Operations Emergency Priority List.

Chris Ross led a discussion of the most recent draft of the emergency priorities list; various TMT participants offered changes and additions to the list. It was agreed that a revised emergency priorities list will be distributed prior to the next TMT meeting, and that the group will attempt to finalize the list at its July 10 meeting.

9. 2003 Water Management Plan.

It was agreed to set a meeting date to begin development on next year's plan, so that it is completed in time to meet the September delivery date called for in the BiOp; July 17 was the date set for that meeting.

9. 2002 Chum Emergence Data.

As requested at a previous TMT meeting, Boyce provided a memo detailing the timing of

2002 Lower Columbia chum emergence. He noted that this data is preliminary; it has not been reviewed by WDFW or the Fish and Wildlife Service. We'll be producing a fact sheet on chum abundance, spawning and emergence in September, prior to the planning season for the 2002 chum spawning, Boyce said. Bettin said that, from his perspective, information on the number of spawners and the location and elevation of the 2001 chum redds would be most useful to our discussions this fall. We can provide that, Boyce replied.

10. Next TMT Meeting Date.

The next meeting of the Technical Management Team (a conference call) was set for Wednesday, July 3. Meeting summary prepared by Jeff Kuechle, BPA contractor.

TMT Meeting Attendance

June 26, 2002

Name	**Affiliation**	**Phone**
Rudd Turner	COE	503/808-3935
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