

COLUMBIA RIVER REGIONAL FORUM
TECHNICAL MANAGEMENT TEAM
May 2, 2007 Meeting

FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Robin Harkless

Notes: Erin Halton

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.

Nighttime Spill at Little Goose

Jim Adams, COE, said that night spill of 29.3 kcfs at Little Goose began at 1600 hours on 4/29, and that gas levels of 115.6-118.6% at the Lower Monumental forebay were reported on 5/1. Adams said the rise in gas levels would likely prompt a drop in spill rates, likely down to 26.5 kcfs. He added that there had been some TDG exceedances at Ice Harbor, and that spill rates would likely be lowered there as well. Questions were raised as to whether there may be any errors in the Fixed Monitoring Station (FMS) readings at Ice Harbor or Lower Monumental; TMT Cathy Hlebechuk sent out the following email after the meeting:

"Due to the concerns of higher percent TDG readings at the Ice Harbor forebay gage (IHRA) compared to the Lower Monumental tailwater gage (LMNW), the USGS contractor went out to both sites and checked the TDG probes. The contractor reported today that both TDG probes are performing within specifications and did not require recalibration."

Spring Creek Release

Dave Wills, USFWS, reported that the final release from the Spring Creek Hatchery went out on 5/1; Margaret Filardo, Fish Passage Center, said 1536 fish had arrived at the project by 0250 hours on 5/2, and that samples showed mortality rates of 0.13%. Cathy Hlebechuk, COE, said that the COE planned to implement SOR # 2007-5 as submitted, with the caveat of further TMT discussion of the operation if there is a need to operate outside the 2007 spill operations Agreement.

Action/Next Steps: TMT will discuss the operation at the meeting on 5/9, with offline coordination between the COE, Dave Wills and Paul Wagner, NOAA, in the interim if necessary.

Priest Rapids Operations Update

Russell Langshaw, Grant County PUD, updated TMT on Priest Rapids operations; he referred to a graph posted to the TMT agenda, showing no exceedances of the flow bands. He noted that the installation of the new program had helped the success of the operation and that weekend provisions would begin on 5/5.

Action/Next Steps: Langshaw will provide another update on the flow protection operation at the 5/9 TMT meeting.

May 1 Inflow Forecasts

Cathy Hlebechuk, COE, referred TMT to inflows/whiskers plots and STP/ESP hydrographs for Libby, Dworshak and Hungry Horse, updated as of 5/1 and posted on the TMT website. She added that the Dworshak April-July volume forecast shows a downward trend, with the 5/1 forecast of 1868 kaf, and augmentation volume range of 364 kaf minimum and 942 kaf maximum.

Action/Next Steps: Flow forecasts will be on the agenda for the 5/9 TMT meeting.

Sturgeon Pulse Operations

Jason Flory, USFWS, shared information from a Libby BiOp policy team that has been discussing a Libby operations flow implementation plan for sturgeon. The group includes representatives from the Kootenai and Kootenai-Salish Tribes, Idaho, Montana, COE, USFWS, and BPA. The policy team put together a technical group to develop recommendations for sturgeon operations for 2007, and was scheduled to review those recommendations on 5/3. Jason reported that rather than develop a specific operation, the technical team developed criteria and triggers to guide decisions to start and shape the pulse based on river temperature, presence of fish and lower elevation runoff.

In addition, the policy group has been looking at restoration of the river reach above Bonners Ferry to increase the depth in the area for sturgeon. This year's plan was drafted and involves sampling of the area to determine the substrate of the riverbed.

Unfortunately, the barge that would be needed to do the sampling work may not be available until July (it is currently in the Gulf of Mexico.) The policy group is exploring alternative options for doing this work. One option is to shape Libby volumes for sturgeon differently, and a scenario was developed by the COE and shared with TMT. Essentially it would shift the pulse to later in the summer. Several graphs were posted to the TMT web page modeling the scenario compared to the standard pulse operation. It was noted that the scenario is just one option and that other options were still being explored by the technical and policy groups. Montana expressed concern that the option presented would initiate a 'double peak' with flows dropping dramatically in September. Montana stated its preference for a stable operation after the summer peak, similar to what was implemented in 2006.

Action/Next Steps: This item will be revisited at the 5/9 TMT meeting, after additional discussions occur amongst the Libby BiOp Policy Team and more information is gathered.

Dworshak Operations

Cathy Hlebechuk, COE, referred TMT to graphs linked to the TMT agenda that showed daily outflows and extremes of ESP flows. She said that the new end of May flood control target elevation was 1595.1', and that the project would be at full load through the following week. Average ESP volumes were 1952 kaf.

Next Steps: The COE will keep TMT updated as the operation progresses, and Dworshak Operations will be on the agenda for the 5/9 TMT meeting.

Snake River Transportation Operations

Paul Wagner, NOAA, referred to the DART page linked to the TMT agenda, showing in-season fish forecasts based on pit tag detections through 5/1. He said that Lower Granite collection began on 5/1, and that transport at Little Goose planned to start eight days after Lower Granite, with collection on 5/8 and transport on 5/9.

Action/Next Steps: Snake River Transport will be on the agenda for the 5/9 TMT meeting.

Chum Emergence

Two graphs were linked to the TMT agenda, with one showing the spike indicating continued chum emergence and need for continued elevation protection, and the other showing 1999-2007 compared timing of chum emergence.

Action/Next Steps: Chum emergence will be on the agenda for the 5/9 TMT meeting.

Water Management Plan Spring/Summer Update

Bernard Klatt, COE, said that the comments received were posted on the TMT website, and that IT would discuss the draft at its meeting on 5/3.

Action/Next Steps: Following IT review, TMT will finalize the draft at the 5/9 meeting.

Operations Review

Reservoirs – Grand Coulee was at 1249.5'; Hungry Horse was at 3538.24', releasing 7.8 kcfs and planning to hold outflows until the final end of May forecasts become available. Libby was at 2386.15', with outflows of 19.3 kcfs and inflows of 20 kcfs. Dworshak was at 1574.2', with inflows of 14 kcfs. Albeni Falls was at 2056' and releasing 33 kcfs. The seven-day average at Priest Rapids was 163.6 kcfs, McNary was averaging 226.4 kcfs, and Lower Granite was averaging 48.7 kcfs.

Fish – Paul Wagner, NOAA, referred to the Fish Passage Center website and said that passage numbers were seeing a climb in steelhead, and that numbers were generally up at Lewiston, John Day and Bonneville. Cindy LeFleur, WA, said that adult counts for Spring Chinook were discussed at TAC, and were still forecasted for about 86,000. She noted that jack counts were looking good, with a count of 1,649.

Action: Cindy LeFleur will provide a graph of adult counts for the 5/9 TMT meeting.

Power – nothing to report

Water quality – Laura Hamilton, COE, referred to a graph linked to the TMT agenda, showing TDG exceedances at Ice Harbor.

Next face-to-face TMT meeting: May 9th *NOTE: location change: NOAA Fisheries, Willamette Conference Room*

Agenda items will include:

- Spill Operations
- Spring Creek Hatchery Release

- Dworshak Operations
- Updated ESP / STP Model Runs
- Snake River Transportation
- Priest Rapids Update
- Chum Emergence
- Sturgeon Pulse / Libby Operations
- WMP Spring/Summer Update – Comments Finalized
- Night Spill at Little Goose
- Operations Review

**Columbia River Regional Forum
Technical Management Team Meeting
May 2, 2007**

1. Welcome and Introductions

Today's TMT meeting was chaired by Cathy Hlebechuk and facilitated by Robin Harkless, with representatives from CRITFC, BPA, COE, BOR, USFWS, NOAA, Idaho and Washington attending in person or by phone. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

2. Review Meeting Minutes

TMT minutes for meetings through April 27, 2007, have been posted for review. Robin Harkless (DS Consulting) suggested that all meeting minutes to date be reviewed and finalized at the next TMT meeting. She also proposed that comments on either the facilitator's notes or official minutes be aired in subsequent meetings so the comments can become part of the official record of that meeting.

3. Little Goose Nighttime Spill

This operation has been initiated by the salmon managers, Wagner said. Nighttime spill began at 6 pm Sunday, April 29, with a 30.4 kcfs spill cap, Jim Adams (COE) reported. The project was spilling 29.3, close to 30 kcfs, and the gas levels at Lower Monumental were below the 115% criteria until 4 pm, May 1, when they rose to 115.6% in the Lower Monumental forebay. Since then, gas levels at night have gone as high as 118.6%, so it's highly likely the COE will drop the spill cap at Little Goose by 2 or 3 stops (26.5 kcfs is 2 stops lower). At 30% spill, flows were about 20-22 kcfs with no exceedances, Adams said.

Meanwhile, there has been trouble in Ice Harbor forebay. On May 1, gas levels were 115.6%, meaning the COE will probably lower the spill cap at Lower Monumental, currently 15.4 kcfs. With higher gas levels coming from Little Goose, it's possible the COE will need to lower the spill cap even further. When flows are up at Little Goose, the default operation is to spill 30%, so when flows increase there, spill does too, and gas levels rise as a result. Adams speculated that higher flows at Lower Monumental would mean more generation, which would provide some diluting impact on gas levels in the Ice Harbor forebay.

Paul Wagner (NOAA) asked whether the SYSTDG model has been helpful in dealing with this problem. It works well as a predictor in some locations, but not others, Adams said. For difficult sites like Ice Harbor, COE looks at weather conditions and calculates predictions manually instead of relying on

SYSTDG modeling. Laura Hamilton (COE) explained that SYSTDG sometimes predicts conditions well at Lower Monumental, and sometimes not. For example, in summer 2005, what actually happened at Lower Monumental was very different from the modeled predictions. The same phenomenon appears to be happening now. Hamilton ran SYSTDG for several days to see whether lowering the spill cap at Lower Monumental would do some good. She ran it down to zero, and the model was still showing exceedances at Ice Harbor.

Margaret Filardo (FPC) asked, does SYSTDG predict lower TDG levels at Ice Harbor than in the Lower Monumental tailwater? The probability of gas generation being higher at Ice Harbor as a result of decreased spill at Lower Monumental is worth looking into, she said. TDG levels at Ice Harbor are a function not only of spill at Lower Monumental, but also what's passing through the powerhouse, Adams said. However, TDG levels in the Lower Monumental forebay were lower than at Ice Harbor several days ago. Nevertheless, Adams said, Filardo's point is a valid one, and if values at ICH continue to be higher than at LMN, the gage should be checked to ensure that it's working properly.

(That afternoon, Hlebechuk sent an email to TMT members: "Due to the concerns of higher percent TDG readings at the Ice Harbor forebay gage compared to the Lower Monumental tailwater gage, the USGS contractor went to both sites and checked the TDG probes. The contractor reported today that both TDG probes are performing within specifications and did not require recalibration.").

4. Spring Creek Release

The final 2007 release left Spring Creek Hatchery at 9:45 am on May 1, David Wills (USFWS) said. The fish began arriving at Bonneville at 2:50 am today, Filardo said. As of this meeting, researchers had observed a 0.13% mortality rate, with a scaling rate of 0.07%, and 0.2% for other injuries, based on sub-samples. These are good results, and sub-sampling will continue at intervals of approximately 3-4 hours, depending on the numbers of fish coming in.

Since last Friday's conference call, the COE held internal discussions and decided to implement both provisions of SOR 2007-05, including provision #2 which calls for spill above 100 kcfs if mortality goes above 2% and the spill cap is above 100 kcfs, Hlebechuk said. The minimum sample size to be used for determining mortality rates is 500 fish. Adams noted that the current spill cap at Bonneville is 94 kcfs, therefore provision #2 might not come into play. Wills expressed appreciation for the COE's willingness to take that extra step if it conforms to state water quality standards.

5. Priest Rapids Update

Russell Langshaw (Grant County PUD) presented a chart attached to today's agenda on the TMT calendar. During the previous two weeks, project inflows set Priest Rapids Dam discharge delta constraints (flow bands) at 60 kcfs and mean daily discharge was in range of 153-180 kcfs. Daily outflow deltas have ranged from 9.8 to 52.3 kcfs.

The weekend provision requiring weekend minimums based on average daily minimums of the previous Monday through Thursday will start May 5th. Accumulated Temperature Units (TU's) are now at 820 since the end of the spawning period. The weekend provision is initiated at 800 TU's and will continue for four consecutive weekends. The rearing period protections will continue until 400 TU's have accumulated after the end of the emergence period.

This program is looking good this year, Wagner noted. Langshaw will provide another update at the May 9 TMT meeting.

6. Updated Flow Forecasts

Cathy Hlebechuk (COE) presented the current hydrographs and box whiskers plots for Libby, Dworshak and Hungry Horse that are linked to today's agenda. She reminded TMT that the first 10 days of the run are a deterministic run with forecasted temperatures and precipitation rates, so they're identical for each year. Beyond that, historical temperatures and precipitation for each year yield 45 individual traces. At Dworshak, inflows in May are generally higher than in June. Litchfield noted that these graphics have helped him understand the level of uncertainty involved in predicting inflows

Hlebechuk presented four graphics depicting water supply forecasts for Dworshak: ESP hydrographs, inflows (daily box whiskers), the Dworshak April-July volume forecast comparison, and Dworshak augmentation volumes. Randy Wortman (COE) noted that the ESP volume forecast for April-July has been going down, and the COE's regression forecast has also been declining, so they're not far apart at this point. Things will change when the RFC forecast for May becomes available next week. Based on this ESP's Dworshak augmentation volumes range from a minimum of 364 kaf and a maximum of 942 kaf, Hlebechuk said.

Yesterday was the last warm day for awhile in the Hungry Horse area, John Roache (BOR) said. There were record highs close to 80 degrees, with peak outflows today around 12 kcfs, expected to drop. According to the ESP plots, it looks like peak flows will occur earlier this year. Historically, the peak occurs around the end of May or early June.

7. Sturgeon Pulse

Jason Flory (USFWS Spokane) presented charts depicting two scenarios for shaping sturgeon flows. Background: in 2006, the USFWS BiOp on Libby operations asked the COE to provide a flow implementation plan to achieve habitat the USFWS thought sturgeon needed. The USFWS formed a sturgeon policy group that discussed various powerhouse and stack flow operations with the COE, exchanging letters on this in early May of 2006. This year, the sturgeon policy group formed a technical team to provide advice on how to best use the available 2007 volume for sturgeon. USFWS has provided its recommendations to the policy team, which is in the process of reviewing and decision making. The technical team found it difficult to recommend a specific starting date for the sturgeon operation, Flory said. Instead of a firm date, the team developed criteria to help guide the start of sturgeon operations and shaping of the flows. River temperatures, the presence of fish in staging areas, and low elevation runoff are the three major criteria USFWS thinks should trigger the sturgeon pulse.

USFWS also recommended that the Action Agencies begin restoration of the braided reach on the Kootenai River above Bonners Ferry, where conditions might be compatible for sturgeon if the channel were deepened. Core samples of the substrate under the river are needed for the study, and USGS will need a barge with coring equipment there in June to take advantage of the high flows associated with the sturgeon pulse. Higher flows are needed in the river to float the barge to its sampling sites. However, the contractor that owns the barge says it's now in the Gulf of Mexico and can't get to Bonner's Ferry until July, when the sturgeon flows will have ended. Because of that USFWS is exploring other options for getting the coring done. One of them is to use the sturgeon volume coming out of Libby a little differently, Flory said.

USGS estimates that 20 kcfs will be needed to provide the proper depth for the barge to float. This water would be needed for the first two and a half weeks in July – if that is the chosen option. USFWS and USGS are still exploring other options in terms of getting the work done. They've submitted a request for use of sturgeon flows to the COE's Reservoir Control Center, which responded with updated models of what flows would be in the Kootenai River and (WHICH) reservoir, based on USGS's estimate of 20 kcfs needed to float the barge.

Another possible option is finding a different contractor, Flory said. However, contractors with the right equipment for that kind of work are rare. Yet another option is coring along the shoreline instead of in the river. Flory emphasized that alternatives are still being explored.

Comparing the two scenarios: The proposed sturgeon pulse will start on June 1, when Libby ramps up to full load and releases a small pulse for 5 days, Paul Koski (COE) said. Under the proposed sturgeon pulse, on June 5 outflows would be reduced to 15 kcfs, unless VARQ flows are higher than that. Then on

July 1, to accommodate the coring operation, outflows would increase to 20 kcfs and stay at that rate until the sturgeon volume is exhausted. Modeling the proposed pulse with the 45 different ESP inflows results in Libby reservoir reaching 45 different peak elevations. In the proposed pulse, VARQ flows serve as minimum flows through June, until the sturgeon pulse starts.

Under the standard pulse scenario, the pulse was modeled to start on May 25 all of the sturgeon volume would be exhausted in mid-June, and the system would go to flat flows to reach 2439' by the end of August. Based on this week's ESP the mean maximum elevation at Libby Reservoir would be 2,447.4 feet, as opposed to 2,454.2 feet under the scenario proposed to accommodate the river coring. Under the proposed scenario, Libby Reservoir refilled to within 5 feet of full in approximately half of the years studied. Under the standard pulse scenario, Libby Reservoir reached within 5 feet of full in only 6 or 7 years of the 45 years studied. In general, monthly pool elevations will be higher if the volume is pushed to later in the season than if it is exhausted by mid- June.

The model analysis also addressed the likelihood of spill under both scenarios. Under the standard scenario, the sturgeon volume is released earlier and there is spill in 3 years out of 45 (one of these was required spill under VARQ rules). By contrast, if the water is pushed to later in the summer to accommodate the coring, there was spill in 7 years out of 45. This resulted in a peak elevation of 1759 feet or higher at Bonner's Ferry in half of the years. Elevations were approximately a foot higher under the standard pulse scenario as this scenario involves more overlap with low elevation runoff than the proposed scenario. Hlebechuk summed up the comparison by saying that the analysis showed a chance of spilling 3 times greater with a delayed sturgeon pulse.

Scheduling the pulse for late May and the first few days of June appears to be optimal from Montana's standpoint, Brian Marotz (Montana) said. He favored shifting the pulse from the first week of June to the last week in May.

The plan for the barge appears to create a significant peak in July, but maintaining flows of 20 kcfs for the barge through July and then dropping them through Sept is not the stable operation Montana prefers, Jim Litchfield (Montana) said. Montana prefers a gradual decline after the spring freshet, which should be allocated where it can provide maximum benefit for sturgeon, then stable or declining flows through the end of September, Marotz said. Litchfield asked, what is the difference between coring in the channel and on shore? Bedrock is critical, Scott Bettin (BPA) said. The project involves digging 65 feet down and moving approximately 75 million cubic yards of material from the bottom of the river, so it's imperative to find out whether that material is sand, clay or gravel. The dredging operation is planned for the fall and winter of 2010-11. Marotz said the BiOp calls for project implementation to begin in 2009, and dredging to begin in the spring of 2010. The group agreed to check in on this agenda item at the next TMT meeting.

8. Dworshak Operations

Dworshak has been at full load and is now in refill mode, Hlebechuk said. She asked the salmon managers how they wanted the refill shaped from now until the end of June. She presented graphs showing Dworshak outflows, end of month elevations, and ESP volumes. Under a scenario of full outflows for another week (per Salmon Manager request), then dropping to outflows of 5 kcfs for the rest of May, the outflow needed to refill by the end of June in the driest ESP year was minimum flow of 1500 cfs. In the model, the target elevation for May was 1,595 feet; for June, 1,600 feet. Hlebechuk presented a graph showing the range of ESP volumes (1,600-2,300 kaf) with an average of 1,952 kaf. The May final forecast is 1,868 kaf, approximately 110 kaf lower than the April final forecast.

Hlebechuk asked the salmon managers to keep in touch with the COE regarding how they want this water shaped. TMT will check in on Dworshak operations at its next meeting May 9. In the meantime, the project will continue to operate at full load at the request of the Salmon Managers in an attempt to get the fish moving down the river. In general, she asked, do you want the flows to stay high once fish start moving? This year could be different because the flows will probably be low for the rest of the year, which places more emphasis on transportation at the end of the season anyway, Wagner said. He favored releasing more water in late May, when fish are in the river and it's most likely to do them some good.

9. Snake River Transport

Based on current and historical movements of PIT-tagged fish, yearling Chinook passage is 43% complete at Lower Granite, plus or minus 20%, Wagner said. Steelhead passage at Lower Granite is 23% complete, plus or minus 77%. The data suggest steelhead do better being barged this time of year, while spring Chinook do better in the river – that's why transport was delayed this year.

The next project where transportation is scheduled to start is Little Goose, where default mode is to start transportation 8 days after it begins at Lower Granite. The current plan, Wagner said, is to follow the default schedule but keep watching passage patterns and change the transportation plan if large numbers of steelhead appear. The first barge of yearling Chinook is leaving today from Lower Granite, with a prediction that 43% of the run has already passed. Wagner emphasized that these percentages have wide confidence intervals and provided an example of why this is so: at Lower Granite, 95 fish have been detected, with an assumption that 245 fish had already passed the project. Even if survival was 60% for the fish that have been detected, that's not saying much in terms of survival. The projection for steelhead is that 50% of them will have passed Lower Granite by May 9, again with a wide confidence interval, Wagner said. For past years, May 9 or even May 7 would have been a reasonable expectation for peak passage. This year, fish travel is slow because flows are lower than normal.

10. Chum Emergence

David Wills (USFWS) and Wagner presented the chum catch graphs (Rick Kruger, Oregon, was not at the meeting). In the Ives Island area, where numbers of fish collected via seining were only 10 to 40 daily, suddenly 142 fish were caught in one day. This is a strong indication that chum are still emerging, Wagner said. Chum redd protections should be kept in place, i.e. maintain a minimum 13 foot tailwater below Bonneville Dam, and increase the tailwater to 15 feet in the event of spill to compensate for higher gas levels.

11. Water Management Plan Spring/Summer Update

All comments have been incorporated and the draft is ready for IT review, Bernard Klatter (COE) said. The plan is to finalize it at the next TMT meeting, after IT members have had an opportunity to comment. Hlebechuk recalled that several weeks ago, she emailed a previous iteration of the Water Management Plan to IT members. The WMP will need updating when the new water supply forecast comes out. Monday, May 7, is the deadline for comments from the IT. The plan is to present the final WMP with all comments incorporated to the TMT at its next meeting on May 7.

12. Operations Review

A. Reservoirs. Grand Coulee is at elevation 1,249.5 feet, Roache said. Flood control elevation was 1,249.4 on April 3, so the project is passing inflows now. Next week, updated flood control modeling from the COE may provide additional guidance for future flood control operations at Grand Coulee through May and possibly June.

Hungry Horse is at elevation 3,538.24 feet. Discharges are 7.8 kcfs after ramping up April 30. That level of flows will be maintained until the May forecast is finalized next week. Roache said he's expecting a 2-3% drop in the water supply forecast then, meaning discharges could go down to around 6.5 kcfs.

Libby is at elevation 2,386.15 feet, with outflows of 19.3 kcfs yesterday, Hlebechuk said. The project went to VARQ flows of 14.4 kcfs on May 1. Inflows were 20 kcfs yesterday, so the project is filling slightly.

Dworshak is at elevation 1,574.2 feet, running a full load of about 9,800 cfs, Hlebechuk said. Inflows are 14 kcfs.

Albeni Falls is at elevation 2,056 feet, with 33 kcfs outflows. Priest Rapids outflows have averaged 153.6 kcfs outflows from April 3 until May 1, when outflows were 158 kcfs. Little Goose has averaged 48.7 kcfs from April 10 to May 1, with outflows of 83 kcfs on May 1.

McNary has averaged 226.4 kcfs from April 10 to May 1, with a daily average of 256 kcfs outflows, as of May 1. Wagner asked, is it common for there to be such a difference between Libby Basin and Hungry Horse, given that they're not far from each other? Roache said it's not unusual, particularly when winter storm tracks bypass Hungry Horse.

B. Fish. Recently a number of fish were caught at the Lewiston trap, which indicates the fish are starting to migrate, Paul Wagner (NOAA) said. Research indicates that flows of 85-90 kcfs provide a directional cue orienting them toward the ocean. RSWs also help in this regard by providing a surface passage route. Wagner noted that 66,000 fish is the highest passage index yet for this year – fish counts of 200-300,000 by this time of year are not uncommon. We're approaching peak passage time, and numbers should pick up substantially, he said. Further down the river, numbers are picking up for yearling Chinook. There aren't a lot of steelhead in the lower river yet.

Cindy LeFleur (WDFW) reported on adult migrations. The pre-season forecast for spring Chinook in 2007 is 78,500 at the river mouth. It's hard to predict whether the run will be on time or late this year. In another week, it might be easier to determine that. It appears to be past the peak, which is usually around April 23-27, Wagner and LeFleur agreed. Last year – the latest on record – the peak migration was from May 15-18.

Someone asked whether counting jacks (3-year-old spring Chinook) would be a good indicator of 4-year-olds to come the next year. LeFleur said yes, that's what WDFW uses to predict future runs. She offered to put together a graph of WDFW's findings for the TMT.

C. Power. There is nothing new to report, Robyn MacKay (BPA) said.

D. Water Quality. The TMT web page includes information on spill and TDG exceedances (under "spill" and "water quality data" links), Hamilton said. She pointed out that of 28 TDG exceedances this month, 14 were in the Ice Harbor forebay and the rest were scattered elsewhere throughout the system.

13. Next TMT Meeting

The next meeting is scheduled for May 9, 2007, at NOAA Fisheries offices in Portland, in the Willamette Room on the 11th floor. Agenda items will include spill operations, current inflows and forecasts, a Spring Creek Hatchery update, a Priest Rapids update, Little Goose nighttime spill, the sturgeon pulse, Dworshak operations, Libby operations, Snake River transportation, chum emergence, finalizing the WMP spring/summer update, and the usual operations review. This meeting summary was prepared by consultant and writer Pat Vivian.

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