

Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Final MS Teams / Conference Call Summary
August 3, 2021, from 9:30 – 3:30

FTC Representative Attendees:

Travis Nelson	TPU
Carol Serdar	WA Dept. of Ecology
Scott Anderson	NMFS
Josua Holowatz	WDFW

Additional Attendees:

John Serl	WDFW
Peggy Miller	WDFW
Sam Gibbons	WDFW
Brian Gale	WDFW
Jim Pacheco	WA Dept. of Ecology
Matt Bleich	TPU
Eric Shoblom	TPU
Phil Sandstrom	TPU
Tim Hoffnagle	TPU
Chris Foster	TPU
Leah Marquez-Glynn	TPU
Steve West	LCFRB
Laura Wolfe	LCPUD
Ann Weckback	Lewis County
Bill Sharp	Yakama Nation
Lyn Wiltse	PDSA Consulting / Facilitator

Remaining 2021 FTC Meeting Dates: Sept. 7, Oct. 5, Nov. 2, Dec. 7

Announcements

- We were pleased to welcome Matt Bleich to the meeting in his new role as Tacoma Power's Natural Resources Manager. Congratulations Matt!
- It seems Rich Turner has retired from NMFS. We appreciate his many years of service on the FTC and wish him well!

Approval of Last Meeting Summary

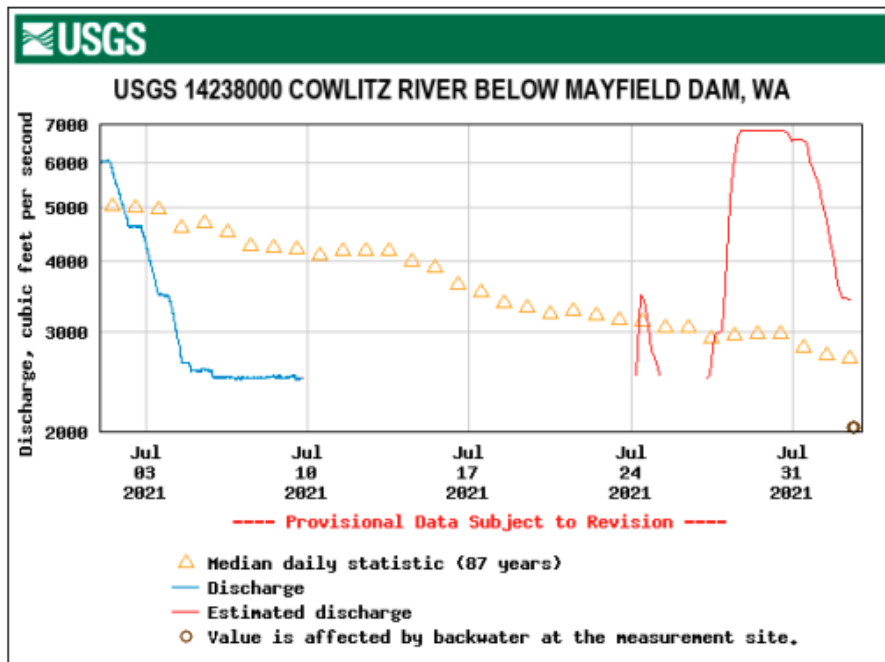
The June FTC public meeting summary was approved with edits and will be posted to the FTC public website.

Updates

Hydro Operations

Melora started by describing the status of the Mayfield Gage one mile upstream from Barrier Dam. Backwater caused by the coffer dam pushed the gage reading to ~5K cfs above what it should read. The USGS is aware of this and is providing a discharge estimate based on generation. This also affects the calculation of side flows. The back water effect will persist throughout the construction period, after which Tacoma will coordinate with USGS to ensure the long-term record is corrected.

- Inflows: These were low in April and May. June was typical and July was quite low (69% of historical average). August inflows are anticipated to be 2K cfs. Mayfield side flows for July will be confirmed next month. Inflows to Mossyrock and Tilton trended down in July and have remained fairly constant over the last ten days.
- Snowpack: White Pass melted out in early June and Paradise has been completely melted out as of July 13.
- Storage: Riffe Lake elevation is down ~3' since July. It has drafted down ~5' in the last week and is currently at 742.7'. The Mayfield summer minimum is 421.5'.
- Outflows: Minimum flow from July 1 through August 15 is 2K cfs. Flows have remained 2,400 – 2,500 cfs throughout the coffer dam installation and are currently at 3,500 cfs. There were no minimum flow or ramp exceedances since the July update. Nor were there any unit trips or other unplanned flow disruptions. Ramps are executed at 1MW/hr. (less than 0.8in/hr. and below the ramp limit).
- 10-Day Forecast: Warmer temperatures are expected through Thursday with much-needed light precipitation at the end of the week. Freezing levels will be between 8K' and 24K'. Tacoma anticipates a slow draft from 742' at Riffe Lake. Melora closed the presentation by announcing that all of this information is being updated to the Tacoma Power website twice a week. MyTPU.org/LakeLevels.



Link to the USGS real-time Cowlitz River hydrograph:
https://waterdata.usgs.gov/wa/nwis/uv/?site_no=14238000&PARAMeter_cd=00060.00065

Update on Cowlitz Minimum Flow Reduction

Leah reminded all that on May 18, the refill forecast was only at 35% and it appeared we would need to reduce flows to 3-3.5K cfs in order to raise the probability of refilling Riffe Lake to 95%. However, the combination of rain and snow melt from hot weather through the end of July led to inflows above 8K cfs. As it turns out, the outcome would have been very similar even without the carefully planned and coordinated flow reduction.

Key Takeaways:

- Tacoma made the reduction to guard against the 65% of cases where we did not refill. This was based on a dry forecast.

- As things changed (rain in May and June), we adapted by pausing the flow reduction.
- The rain and heat (snow melt) in late June put us at the 81st Percentile inflows.
- We increased discharge at the end of the refill period to ensure the reservoir was at the right elevation to begin the Barrier Dam construction project.

Carol asked about spill gate testing. Matt responded Tacoma normally conducts monthly spill gate testing. They didn't do the testing in July and don't plan to do it in August or September (because of the Barrier Dam construction project). They are coordinating with FERC on this. Carol reminded Matt that Ecology also needs to be informed about this. Although Tacoma was required to keep Cowlitz River outflows below Mayfield Dam at ~2.5K cfs for the last few weeks due to the construction, they are now able to increase flows again and move back to their typical operations. On July 28, they increased flows to 3.5K cfs and discharge went as high as 6.4 cfs through July 30. The coffer dam is being constructed to handle flows up to 7.5K cfs. The WQPP was written by a consultant, and Carol and Matt Bleich agreed is not as clear as it should be and may need to be revised. Carol and Matt P will follow up on this.

Water Quality/Monitoring:

Dredging at Blue Creek: Carol was unable to be onsite July 30 for the rewatering. Jamie Murphy followed up to let her know there was not a turbid discharge associated with the rewatering and will send her a report on this. A note on secondary containment: The pump with fuel in it was on a bridge over the water. Ecology is very passionate about secondary containment especially when so close to the water. Carol, Eric, and later Brian all gave kudos to Jamie Murphy for being such a clear communicator and so easy to coordinate with. Some FTC members broke out in spontaneous song and dance.

Barrier Dam: Carol displayed a photo of a pile of "washed" rock that is now in the super sacks. These will be used for gravel augmentation at the end of September and hopes the rock is adequate for fish. She is regulating Construction Stormwater General Permit and the WQPP for this activity. The coffer dam is fully installed. The super sacks that are downstream and are open on top will be the cleaner rocks. Any that are spilled above the Barrier Dam will not count for the 500 cubic yards/year that Tacoma is obligated to provide. It remains to be seen how much turbid discharge will occur when the sacks are released. The gravel size specification was included in the DD and that information was passed on to the contractor.

Kosmos: Lake levels are now above the hydrocarbon-contaminated sediment along a small portion of the top edge of the slope and water quality samples were taken from the lake show that discharges to waters of the state leach hydrocarbons and metals. Neither Chris nor Josua have received any reports of distressed or dying fish in that area. Josua noted WDFW has launched a portal for the public to report fish kills. They will notify Ecology ASAP if they receive any such reports by calling Environmental Report Tracking System (ERTS) at 360-407-6300.

Cowlitz Debris Removal: Carol also noted she is behind on the WQPP which needs to be reviewed and approved. Ecology requests Tacoma call ERTS if there is turbid discharge beyond 150' in lake conditions (woody debris placement in river point of compliance is 300' downstream).

Fish Facilities

Cowlitz Falls Fish Facility: Chris Foster began by assuring Carol that Tacoma is very supportive of Ecology, and they appreciate Carol's guidance. He showed a photo of the Cowlitz Falls project for the visualization of, the fish facility, Spillway Flume Collection

entrance, CFNSC entrance, and Pump-back Diffuser Structure (with a series of baffles). From April 25 – June 30, Tacoma completed the ramp weir study (capture zone) with a focus on steelhead collection. CFNSC 750 cfs opportunistic spill settings were available during the spring collection period, which allowed one overcapacity event to utilize up to 750 cfs tailrace discharge through the collector.

FCE: Six steelhead and ten Coho study groups have been released above CFD (April 21-June 30). Chinook FCE releases continue with 5 groups currently in the system. Elevated water temperatures are a concern for future release groups (~20C). They are likely to get a sixth release group out the week of August 2. On July 1 Tacoma began a Pump-Back Discharge System study which is ongoing. In this study baffles in the forebay are opened and or closed to direct flow into the CFNSC entrance (treatment) vs uniform flow distribution across all baffles (baseline). Settings are changed based on a randomized treatment schedule. Observed Coho fry and parr collection in 2021 may be an indicator of a potentially big year for juvenile Coho collection at CFFF in 2022.

Remaining 2021 CFFF Activities: The Spillway Flume Collection System will shut down on August 31. The CFNSC will shut down on September 30. There will be a fall collection operation in October utilizing a block schedule similar to previous years with the CFNSC only. Chris concluded his report by noting they collected a brown trout in the facility for the first time since the fish facility started collecting fish in 1996. He is saving it in the freezer for John Serl.

Blue Creek Dredging: Eric showed several photos from this project, the purpose of which is to remove gravel that amasses there and backwaters hatchery drainage which floods hatchery grounds and sends adult fish into the return ditch. Tacoma has done annual dredging in the past. This year they rerouted Blue Creek, so it follows the bypass ditch. They conducted fish salvage efforts on July 26 and 27. Eric commended the crew for their work. They left rip rap and some of the larger boulders to armor the bank. They will reseed when the fall rains come. They also put some straw down on exposed soil in upland areas. Due to the low flow of Blue Creek, the re-watering effort occurred very slowly and was very clean. He expects they will do this dredging every three years. Josua asked if the sediments from the dredging were mostly fines. Eric will follow up with him on this. The sediment was placed in an upland location on the trout hatchery property behind the ozone plant. Peggy noted there are some invasive species along the shoreline. Josua suggested that juvenile lamprey collection be part of fish salvage activities. While these are not ESA listed, they are a species of concern, especially in dredging or sediment removal activities where the sediment is deposited in upland disposal areas. Eric responded that Tacoma has been including lamprey in their fish salvage activities and there were 47 lamprey in Blue Creek.

Gust Backstrom: Eric showed photos of the issues with the boat launch which is no longer usable by fish trucks at this site. Tacoma plans to address this by placing Ecology blocks on their sides and filling in between them with rock. They are in the process of getting an HPA in coordination with the City of Morton. They have some in-house safety concerns as the park is very busy this time of year (needing people to watch for traffic and the swing of the excavator, etc.). In the meantime, they will continue to use the Bremer Bridge fish release site. Carol inquired whether Tacoma is going to require an Individual or programmatic Section 401 (will be dependent on whether and which nationwide permit might be required by the Corps). Jamie Murphy is leading this project and is coordinating with Matt P who has been in touch with the USACE on this.

Barrier Dam: Eric showed before and after photos of this project. Super sack placement began on July 7. They have installed 2,270 super sacks (holding 1 cubic yard each) to construct the coffer dam. Fish salvage was conducted on July 23. 18 crew members worked long hours on this effort. All of the gravel piles have been removed along with large chunks of tree trunks that were stuck on the fish ladder side. The condition of the apron was in much better condition than they had anticipated. They are making good progress and the contractor is on schedule. Flows on July 28 were at 6,850 cfs. Crews installed an additional row of super sacks (one high and 2 deep) to increase the coffer dam freeboard. There was some slippage on the liner that caused minor seepage.

Fish Facilities:

- Spring Chinook: Eric was pleased to report they made broodstock collection goals. WaHOOO! So far, they have up-streamed 870 HORs and 524 NORs back into the Upper Cowlitz – making great progress together! This, combined with improving ocean conditions will really help jump start this population.
- Summer Steelhead: These are coming in slowly. So far, they are meeting brood targets and maintaining some excess that they are able to recycle (~75/week).
- Fall Chinook: There is a fishing closure on these for the beginning of the season due to low return predictions. The closure is likely to continue until we get to 50% of the run and have a better idea of broodstock collection.

Downstream Adaptive Management Technical Work Group: Matt reported the spring report (a high-level summary of results from the prior year) will soon be released to the FTC. All are encouraged to ask questions through their reps who attend the TWG. All are also welcome to attend any of the meetings. Matt noted this is not the final report. It is more of a tool for developing next steps. The summer report will also be shared with the FTC.

There have been improvements to the juvenile bypass system at Mayfield. Consultants have been working on the suspension bridge there. It had a sag in it that had caused delays and subsequent mortality for fish. They are also considering alternatives such as rerouting the pipe. They are working with the consultant on some clarifications in the report and plan to share an updated version of the report at the next FTC meeting. John added they are also looking at how to calculate Fish Passage Survival (FPS) and noted that Fish Capture Efficiency (FCE) is the main metric that feeds FPS. The TWG is looking at different ways to approach this measurement.

M&E Subgroup Report

Phil reported the M&E Subgroup last met in July 21. They focused on spring Chinook management in low abundance years – esp. CWT fish. They also worked on the Tilton River Salmon & Steelhead Disposition Plan as well as the Big Table, data visualization, etc. Their next meeting will be August 13 from 10-noon. They still look forward to receiving topics for FTC presentations. The date of the M&E Analytics Meeting was shifted to mid-November.

Steelhead Tilton River Disposition Plan: The purpose of this plan is to minimize the impact of anglers and handling stress on NORs while also maintaining the ability to have recreational harvest of HORs. In 2020, NOR and HOR fish were separated by site (NORs transported to the Bremer Bridge and HORs to Gust Backstrom Park) throughout the release period. No issues were reported by WDFW. In 2021, the subgroup proposes following the same strategy from the start of the season until the Tilton River is above 150 cfs, at which time both NORs and HORs could be released at the Bremer Bridge to reduce angler encounters. NOR and HOR steelhead would be released between the two sites all

season and cutthroat (NOR) would be released only at the Bremer Bridge site. Phil requested comments on this proposal by August 10 as fall Chinook will be arriving and they need to know where to transport them.

Steelhead Enumeration: This project has been going on for the last four years. Results look favorable with over 90% survival estimates. PIT-tagged fish showed the highest survival at 98%. They will pool the detection probability estimate. For fourth year, the conductance counter and PIT system readings are within a couple of percentage points of each other. Final numbers will be shared at the next meeting.

Fry Stranding Surveys - Article 409: Tacoma met with WDFW staff to plan these surveys. Four sites were identified as risk for stranding when flows ranged from 4.6K - 5K cfs. First survey on June 9 had the highest numbers (~1600 juveniles). The second and third surveys were much smaller – a few hundred stranded. On the last survey, 40 Brook lamprey were found. All of this information will be sent out to FTC and will go into next year's report. Phil will share an Excel file that shows species and numbers by site. The 409 Filing is due to FERC October 1. Carol reminded all that Tacoma has obligations with respect to water quality and that Ecology, through the 401 Water Quality Cert looks at all aquatic life. Travis announced that Tacoma looks forward to further offline discussions with Ecology on this. Josua noted it would be good to have a modern evaluation of the efficacy of Fish Transport Flows, and the risk to fish especially newly emergent fry.

FHMP Annual Status Update Report: The draft report was finished on June 30. Worked on making the report easier for the FTC and the public to use as a reference report. To that end, they added more information to the Executive Summary. They would love to get feedback from the FTC and others so they can use it to create a report in the future that better serves the FTC and the public. Phil extended thanks to John and others at WDFW for all the great survey work they do. They also have species summaries going back to 2010 looking at abundances. Winter Steelhead - huge harvest impact on the HOR fish. That is a good outcome. It is a different story with spring Chinook which have low HOR returns and low NOR adult abundances for transport. Fall Chinook - good numbers of NOR fish in lower Cowlitz and Tilton, no major PHOS issues.

- **Action Item:** By August 10 all to send comments to Phil on the Steelhead Tilton River Disposition Plan.

Gravel Augmentation

Presenter: Travis Nelson

Travis explained they are working through edits received. The current focus is getting the 500 cubic yards in the short term into the river through the Cowlitz Barrier Dam project. The gravel from the super sacks should be put into the river the end of September, making use of the crane that is already in place. The idea is to place them on Barrier Island. Carol emphasized that the thalweg between Barrier Island and the left bank is where the gravel should be placed so it will disperse as soon as it hits the river. The WQPP has to be specific. She is working on this with Matt P. At the September FTC meeting, Carol will explain the eddy effect at these lower elevations and how it makes turbidity monitoring especially challenging. Travis also reported Tacoma continues to work on acquiring access to the downstream piece of the Jorgensen property.

FHMP Transition Plans

Presenter: Matt Bleich

Matt reported the last workshop was July 16 and the next one will be August 18. The focus of both of these workshops is finalizing the Winter Steelhead and Spring Chinook Transition Plan (he will send to the FTC in the near term) and developing the Coho Transition Plan, which will be the last of the Transition Plans. John and Phil met ahead of the July meeting to work on a suggested marking strategy. Homework assignments were given out to various members. Disposition tables within the transition plans are due to Matt on August 11.

The next step will be going through the bio programming exercise to bring all the transition plans together. The FHMP was drafted with the idea of getting the first three species down in a year and the other within two years. There is a need to communicate to FERC that we are instead completing all of the plans in the first year.

Satellite Rearing Program

Presenter: Matt Bleich

On June 14 Matt emailed out the Satellite Facility Draft Workplan spreadsheet for all to review. The plan outlines next steps for satellite facilities. WDFW and LCFRB comments have been incorporated into the version of the plan reviewed at this meeting.

Matt met with Bryce to discuss WDFW's concerns that the timeline seemed overly aggressive. They agreed on the idea of taking a more deliberative approach on the workplan, while also noting that Tacoma has been working on this for the past 20 years without yet constructing any satellite rearing facilities. They therefore recommend getting one of the facilities designed and on-the-ground and then taking a more deliberative approach with the other two. The current plan shows 5 recommended options. What these would look like are TBD.

Matt recommends we consider these two options:

One of the "2" Options e.g., Option 2C (Overwinter fry/sub-yearling collection, upper Basin rearing, and Acclimation at Cowlitz Falls) and Option 5 Lower Basin Finishing (involves spawning Coho and incubating eggs at the hatchery and rearing within acclimation facilities at the upper basin and finishing with net pens at Mayfield and release at the hatchery again).

Brainstorming Hatchery Infrastructure Options:

Eric kicked off the discussion by noting that hatchery infrastructure options that would replace a satellite rearing facility tend to be large infrastructure changes. As such, these would need to be vetted for logistics (e.g., hydraulic grade) and cost. He reviewed the following three options and asked for feedback including additional options.

- Rehab Cowlitz Salmon Hatchery Kettles
- Build additional ponds/raceways for Coho utilizing re-use water to increase on-station capacity for spring Chinook. This option also has the most unknowns including high cost and staffing needs.
- Build additional capacity into the Cowlitz Trout Hatchery Remodel - new lake, ozone for early rearing, lake screen sizing

There are lots of options to benefit the upper basin. Josua offered to send ideas on this that the CRAG brainstormed a couple of years ago. Eric welcomes this and any additional feedback/ suggestions from the FTC by August 17.

There is a possibility of doing a net pen array at Mayfield. We would need to determine how long to hold them, address disease issues, etc. (Option #5 as mentioned above).

- **Action Item:** Matt will revise the workplan based on comments received. At the September FTC meeting Tacoma will come back with a recommendation/DD on how to proceed.

CRR Fund / HAP

Presenter: Travis Nelson

Travis reported Tacoma is in final stages of an agreement with the LCFRB. They are still talking through the updates to the guidance docs around HAP and will flag areas for improvements and identify organizations to participate in HAP subcommittee to prepare for 2022 round for HAP-related projects. Next steps will include documentation for LCFRB to include CRR fund as a funding source to their grant round. Travis notes a Cispus project this year is a potential candidate for a trial run on the HAP projects. Peggy reminded all there are other improvements to be made to the implementation strategy in addition to the HAP projects, such as reducing the overhear cap, etc. in the eligible projects section. Melora has some early presentations that identified those items.

Review of Annual Program Review (APR)

Presenter: Matt Bleich

Matt will put out a DD on the process used this year for the APR meetings for electronic approval between now and the September FTC meeting.

Topics for September 7 FTC Meeting

- Updates incl. Hydro Ops, Water Quality
- LC PUD Dam Ops
- Fish Facilities incl. Barrier Dam Project overview
- Satellite Rearing DD
- Downstream Adaptive Mgt. TWG
- FHMP Transition Plan
- Satellite Rearing Program
- APR Data Gathering Meeting (15 min.)
- CRR Program
- M&E Subgroup
- Gravel Augmentation
- Preview October 5 FTC Meeting topics

Meeting Evaluation

- Tacoma has a lot of visuals, presentations. A picture is worth 1,000 words!
- MS Teams issues continue.
- Good turnout.
- Appreciate the frank and candid conversations with Tacoma especially around compliance.
- Everyone appreciates Jamie Murphy's good (golden) efforts.

- Josua's quote: The raw tomato, devoured in the garden when freshly picked, is a horn of abundance of simple sensations, a radiating rush in one's mouth that brings with it every pleasure. . . . a tomato, an adventure. -- Muriel Barbery
-

Parking Lot

- Review/Update FTC Protocols to include remote meeting procedures
- Presentation by Tacoma's Power Management Group
- Review Steelhead Recycling Program