

Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Final MS Teams Meeting Summary
January 4, 2022, from 9:30 – 3:30

FTC Representative Attendees:

Travis Nelson	TPU
Carol Serdar	WA Dept. of Ecology
Bryce Glaser	WDFW

Additional Attendees:

Josua Holowatz	WDFW
John Serl	WDFW
Peggy Miller	WDFW
Sam Gibbons	WDFW
Brian Gale	WDFW
Todd Hillson	WDFW
Matt Bleich	TPU
Eric Shoblom	TPU
Chris Foster	TPU
Phil Sandstrom	TPU
Steve West	LCFRB
Debbie Carlson	BPA
Laura Wolfe	LCPUD
Russell Page	LCPUD
Lyn Wiltse	PDSA Consulting / Facilitator

2022 FTC Meeting Dates: Feb. 1, Mar. 1, Apr. 5, May 3, June 7, (no meeting in July), Aug. 2, Sept. 6, Oct. 4, Nov. 1, and Dec. 6

Approval of Last Meeting Summary

The December FTC public meeting summary was reviewed and approved with minor edits and will be posted for public review.

Review of FTC Protocols / Work Plan

All were asked to review the protocols and be prepared with comments for discussion at the February meeting. Pay special attention to the section for actual meetings (e.g., remote meetings, and how public comments are handled at public meetings). We will also review the draft 2022 work plan at that time including the frequency of the public meetings.

Announcements

- Carol announced that she will retire from Ecology on February 5. She looks forward to introducing her “replacement” (though there will be no replacing her) at the February 1 FTC meeting. In the meantime, she welcomes calls if anyone can recommend any potential candidates for the position.
- Russell Page announced they are currently recruiting for an operator and an engineer. Let Russell know if you know of any qualified applicants. They can apply through the PUD’s website.

- Chris noted Tacoma is seeking to fill two Cowlitz Falls Fish Facilities vacancies (7pm-7am shift). Let Chris know if you are aware of anyone who would be interested.

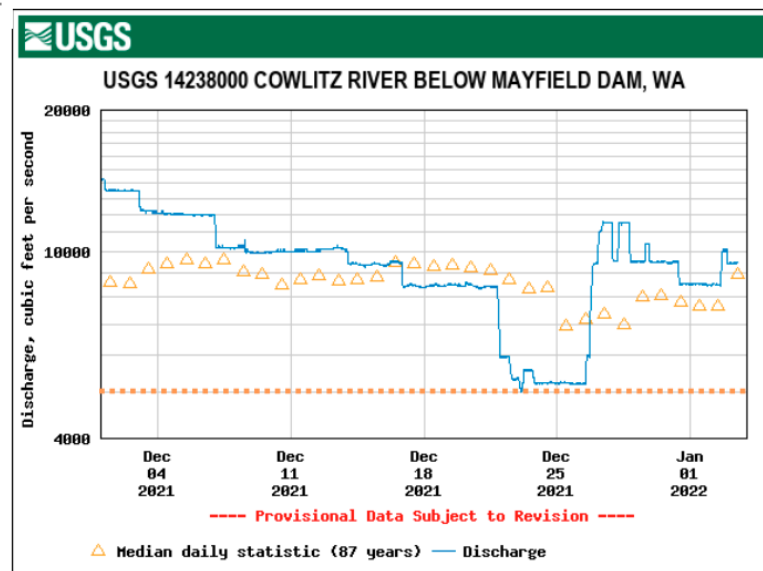
Updates

Hydro Operations

Melora reviewed the PPT emailed out during the meeting.

- Inflows: December daily mean inflows were 8,196 cfs, 88% of the historical average. The first two days of January were only about half the historical average (cold/dry), inflow likely to trend upward with precipitation through the month.
- Storage: Riffe Lake January 3 elevation was 730'. Max elevation since the last meeting was 736' on December 26. Mayfield has been operating in the typical 720-724' range.
- Snowpack is at or above average levels and there is more snow at lower elevations than we would typically see at this time of year.
- Outflows: There have been no exceedances on the minimum flow of 5K cfs. During a December 23 downramp Tacoma Power observed the USGS gage at Mayfield was reading below anticipated flow and also below 5K cfs. Tacoma increased flow and contacted the USGS. The USGS determined it was likely a stage calibration issue, adjusted the rating table, and retroactively adjusted discharge data, and will recalibrate the gage at the next low flow opportunity. The current USGS provisional data shows no exceedance. This event will be included in the 2022 annual 402 report to FERC. There were no unit trips or other unplanned flow changes or disruptions.
- 10-Day Forecast: 5-7" precipitation in Packwood with freezing levels from 500-5,000 ft. Inflows will stay above 10K cfs and storage may increase 3-4 ft after the Thursday rain event. Outflows are likely to increase to above 12K cfs.

Outflow



Minimum flow 5,000 cfs, no exceedances.

Link to the USGS real-time Cowlitz River hydrograph:

https://waterdata.usgs.gov/wa/nwis/uw/?site_no=14238000&PARAMeter_cd=00060.00065

Action Item: Melora – Follow up with Carol on the documentation shared with USGS re the gage issue.

Water Quality/Monitoring

Kosmos: Carol reported the Kosmos WQPP is not yet finalized. Ecology is working closely with Tacoma on this. Noting her retirement after the February FTC meeting, Carol thanked everyone for the great collaboration and fine work done over the years.

Fish Facilities: Eric provided the following on what turned out to be a great year! He noted in particular the strength of the NOR numbers:

Coho Adults

	Hatchery	Natural	Total
Total Returns	39,539	17,046	56,585
Shipped			
Tilton	11,773	6,510	18,283
Scanewa	10,388	7,593	17,981
Cispus	4,924	1,086	6,010
Upper Cowlitz	5,527	1,043	6,570

Brood Collection: Cowlitz broodstock targets have been met for all five species. Brood collection for winter steelhead started in early December (vs. February) to push the Lower Cowlitz program to an earlier return timing. The Tilton and Upper Cowlitz steelhead programs continue into May. Ten Lower Cowlitz winter steelhead have been collected so far. Collections for the Upper Cowlitz have not yet begun.

Ladder Outage at the Cowlitz Salmon Hatchery: Eric announced there will be an outage February 7-11 for ladder inspection, valve replacements, and repair of the electro-anesthesia basket.

Mayfield Downstream Juvenile Collector: Eric reminded all this collector operates April 1 – December 30, so operations have wrapped up for the year. On November 24, they shifted to bypass mode but operated for 24 hours every week as a spot check. Spot checks revealed only a slight decrease (a range of 18-45%) in Chinook mortality. Although mortality was significant, there were very low numbers of fish (a range of 6 to 62 total fish per spot check). Chinook are arriving in very poor condition - emaciated with heavy scale loss. By contrast, coho mortality continues to be below 1%.

Carol reminded Tacoma that their Water Quality Certification is for the protection of all aquatic life. She will follow up with a letter requesting documentation on this. The need to broaden the distribution of those informed of such events in the future was underscored.

Bryce requested an estimate of the total number of fish that have out-migrated. These data will be attached at the end of the CF Annual report which will be out Q1.

Cowlitz Falls Fish Facility: Chris reported they are still performing maintenance operations and the facility will start back up in mid-March.

Gravel Augmentation: Travis reminded all that on December 16 he emailed the engineering group report that Tacoma placed a total of 1,193 cubic yards immediately below the Barrier Dam. Travis is working with Melora to create the Gravel Augmentation Draft Long-Term Plan. He committed this plan will be out for FTC review in Q1 of 2022. Tacoma is still looking at future appropriate augmentation sites. This involves securing access to property downstream. Carol is still awaiting a report from the Barrier Dam gravel augmentation. The report is to include permit requirements, e.g., for going into the riparian area. This is another concern for Water Quality Certification. Travis will follow up with Carol offline.

Satellite Rearing

Presenter: Phil Sandstrom

Phil reported Tacoma is currently conducting an internal review of the potential impact for restoration/recovery (biological impact) of the various sites being considered. They are also working with their civil engineering group on associated cost estimates. He apologized for not being able to provide more detail at this time and looks forward to sharing more detail in at the February FTC meeting. Bryce indicated that WDFW looks forward to the review and/or assessment of the biological benefit of the proposed sites and scenarios being considered alongside the site evaluations and infrastructure alternatives.

Hatchery Alternative perspective: Eric reported this is still a work in progress. He looks forward to returning to evaluating the infrastructure alternatives after he finished with the bio-programming efforts associated with the FHMP transition planning.

M&E Subgroup

Presenter: Phil Sandstrom

Phil reported the topics discussed at the last meeting on December 15 included:

- M&E Monitoring plan that will be appended to the FHMP
 - Coordinated assessments data dictionary – Tacoma is reviewing this for the next meeting.
- Reviewed table to characterize all monitoring and evaluation activities and data collection needs in preparation for a prioritization exercise. WDFW and Tacoma are evaluating how their current work fits with the table. A subgroup will meet on January 12 to try to complete this work.
- Coho and fall Chinook harvest rates – WDFW working on this for SAR analysis with the idea of completing a similar analysis as what was done for spring Chinook.
- Steelhead enumeration project – ongoing with the next round of PIT-tagging to occur on January 11. There will be January 26 ponding for winter steelhead and the last rounds of winter steelhead will be put into lake 4 in mid-February.
- NOR coho were transported to Bremer Bridge to avoid angling impact. As angling subsided, NORs were transported up to the Gust Backstrom release site.
- Reviewed 2022 Tilton River transport plan. This may be included in APR discussions. The Subgroup will bring a recommendation on this to the FTC for discussion / approval.
- Genetics sampling / run timing – Tacoma is still considering the management implications of a genetics study. This includes how / if to move such a study forward given competing priorities.

Phil also reported the Analytics Meeting will be February 11 from 12:30-3:30. He will (through Lyn) send the agenda out ahead of time and all FTC folks are welcome to attend.

Downstream Adaptive Management Technical Work Group

Presenter: Matt Bleich

Cowlitz Falls Collector: Matt reported this group has been discussing the DD on what evaluations and operating period this work group is recommending. They are coordinating closely with LCPUD on this to ensure what they recommend works with the PUD's O&M activities from PUD. A decision needs to be made by the end of this month if it will be able to

conduct acoustic telemetry studies in 2022 regarding spring Chinook use of the entrance to the collector (acoustic tag studies – supply chain issues).

Mayfield Collector: Matt showed a plan view of Mayfield Dam – including the apex of the intake, the secondary separator, the path through the dam, the existing counting house, and the suspension bridge pipe. Studies over the past few years indicate Chinook survival challenges in the secondary separator and the pipe bridge. Tacoma has hired engineering consultants to help to identify how to solve problems with the pipe bridge (sagging and changes based on temperature). Tacoma has automated the flushing sequence in the secondary separator and will evaluate how that impacts Chinook survival.

After reviewing a number of other options to address the issues with the pipe bridge, Tacoma is recommending an option which will involve rerouting the pipe (Matt noted this happens to be the most expensive option). This option will also allow the transfer and handling systems in the existing counting house to be rectified, including even possible relocating it at some time in the future. Rerouting the pipe will also provide continuous velocities and include a budget for PIT-tag monitoring improvements and an auto-gated system for bypass.

Matt explained this recommended option is currently going through Tacoma's budgeting process. If approved, the design process would occur in 2022 – 2023 and construction would follow in 2024. Carol noted anything over an acre of disturbance requires a construction stormwater general permit. She encouraged Matt to see if Tacoma can tie this project into the water main activity.

Action Item: Matt - Send out written summary of recommendations and DD at least two weeks in advance of our next meeting.

LCPUD Dam Operations

Presenter: Russell Page

Russell reported the PUD is working closely with Tacoma on developing a 2022 schedule for maintenance and outage activities will impact fish collection. Planned activities include:

- Hatch cover replacement – involves removing associated flumes. They plan to start with Unit 2 in June, followed by Unit 1 in mid-July to August.
- Will also replace the flood control for Tacoma to adjust the flow in the flumes.
- Investigate moorage site for a debris deflector in 2023.
- Unit 2 outage will begin in late June. If they bring in divers to clear seals of any debris so they can dewater the units, the PUD would shut down both units and pass all water through spill gate 4. This usually only takes a half a day.
- Smaller projects include installing turbidity and sonar detectors, doing maintenance on transformers – one unit at a time. This is scheduled for the fall.

Russell reported the PUD is currently continuing to deal with effects of extreme weather. Considerable effort is required to continually thaw the spill gates. He will meet with Tacoma to discuss the schedule for these activities in a couple of weeks and then share a more detailed schedule at the next FTC meeting.

FHMP Transition Plans

Presenter: Matt Bleich

Matt thanked everyone, and notably John and Phil, for their help in getting the Transition Plans out for FTC review over Thanksgiving. Though the official deadline has passed, Tacoma will continue to accept comments over the next week. They are planning to hold a (virtual) public meeting the end of February and will send the documents out for public review three weeks in advance of that meeting which he and Bryce will lead. They will also have the bio-programming plan in time for those discussions.

The FTC will review a preliminary DD with the content of the transition plans at the February FTC meeting. At the March FTC meeting, we will discuss and modify the DD/transition plans based on feedback from the public. Bryce thanked Matt for allowing additional time for comments and assured him WDFW plans to wrap up their comments by early next week.

CRR Fund / Habitat and Production (HAP) Subcommittee

Presenters: Melora Shelton and Steve West

Melora reported Tacoma has been pulling together a consolidated version of HAP strategy and guiding principles. She was also pleased to report they are very close to getting a grant agreement finalized with the Cowlitz Tribe for their 2019 award.

The CRR annual report will be out later today for 30-day FTC review. She invited everyone to reach out during review if needed and to send comments to her and copy Travis.

Ongoing LCFRB Grant Round: Steve reminded everyone the LCFRB grant round opened on December 6 and preliminary applications are due March 1. They have received two pre-proposals to date – one from the Conservation District and another from the PUD and Conservation District. He reached out to the Forest Service to see if they plan to put forth a proposal but hasn't heard back yet.

Action Item: All – Send comments on the Cowlitz Article 3 CRR Report to Melora and copy Travis by February 4 (end of 30-day review period).

Topics for February 1, 2022 FTC Meeting

- Review of Protocols and 2022 FTC Work Plan
 - Public meeting frequency and protocols
- Updates incl. Hydro Ops, Water Quality
- LCPUD Dam Ops
- Fish Facilities
- Finalize Fish Protocols / Spring Chinook Fishery options for the Cowlitz
- Satellite Rearing
- Downstream Adaptive Mgt. TWG
 - DD - Alternatives analysis for improvements to Mayfield Collector
- FHMP Transition Plan Update / DD
- Planning for 2022 APR Process
- Satellite Rearing Program
- CRR Program
- M&E Subgroup
 - Marking Strategies
- Gravel Augmentation Timeline / Presentation
- Preview February 1 FTC Meeting topics

Meeting Evaluation

- Great participation
 - Good use of time – being flexible
 - Technology worked well
 - Josua's Quote: "Friendship takes time and energy if it's going to work. You can luck into something great, but it doesn't last if you don't give it proper appreciation. Friendship can be so comfortable, but nurture it - don't take it for granted." – Betty White
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Closing Remarks

Travis noted that just as new years signify new beginnings, every day can be seen as New Year's day. He looks forward to working with everyone and is very appreciative of everyone's dedication to natural resources protection during these meeting and outside of these meetings as well.

Parking Lot

- Presentation by Tacoma's Power Management Group
- Review Steelhead Recycling Program

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February 1, 2022, from 9:30 – 1:30

FTC Representative Attendees:

Travis Nelson	TPU
Carol Serdar	WA Dept. of Ecology
Bryce Glaser	WDFW

Additional Attendees:

Sheila Marcoe	WA Dept. of Ecology
Anne Baxter	WA Dept. of Ecology
Josua Holowatz	WDFW
John Serl	WDFW
Peggy Miller	WDFW
Sam Gibbons	WDFW
Brian Gale	WDFW
Todd Hillson	WDFW
Matt Bleich	TPU
Eric Shoblom	TPU
Chris Foster	TPU
Phil Sandstrom	TPU
Tim Hoffnagle	TPU
Steve West	LCFRB
Ann Weckback	Lewis County
Laura Wolfe	LCPUD
Lyn Wiltse	PDSA Consulting / Facilitator

2022 FTC Meeting Dates: Mar. 1 (Public Meeting), Apr. 5, May 3, June 7 (Public Meeting), (no meeting in July), Aug. 2, Sept. 6, Oct. 4, Nov. 1, and Dec. 6 (Public Meeting)

Approval of Last Meeting Summary

The January FTC meeting summary was reviewed and approved with minor edits and will be posted for public review.

Review of FTC Protocols

Travis displayed the protocols, and we made edits to reflect MS Teams as the default meeting mode. We also discussed how public comments are handled at public meetings. We will show the meeting ground rules and encourage use of the chat function. Other discussion included using the HAB Sub-committee as an example for establishing a subcommittee charter. We were reminded of the notes template that has been developed and used inconsistently by subcommittees. Travis will distribute this edited document with the meeting notes for additional review and approval at the March meeting.

Announcements

- Alas, this was Carol's last day with us as she retires on February 2. Sheila Marcoe, Carol's supervisor, is taking all calls and emails related to both sides of her position:

FERC Hydroelectric Projects and contaminated Construction Stormwater General Permit sites. She can be reached at (360) 522-2987 or sheila.marcoe@ecy.wa.gov. Anne Baxter will be taking over the FERC side of things until a permanent hire is made. She can be reached at anne.baxter@ecy.wa.gov. In addition to the customary limerick, several members of the FTC expressed their appreciation for Carol's drive, focus, directness, attention to detail, and ability to build open and trusting relationships. We miss her already and wish her well in her new endeavors.

- Scott Anderson is on a detail with USDA until the end of April. In the meantime, NOAA is working to find a replacement to serve on the FTC while he's out.
- Tacoma is seeking to fill a seasonal evening shift (7pm-7am) vacancy at the CF Fish Facility. Please let Chris know of anyone who may be interested.

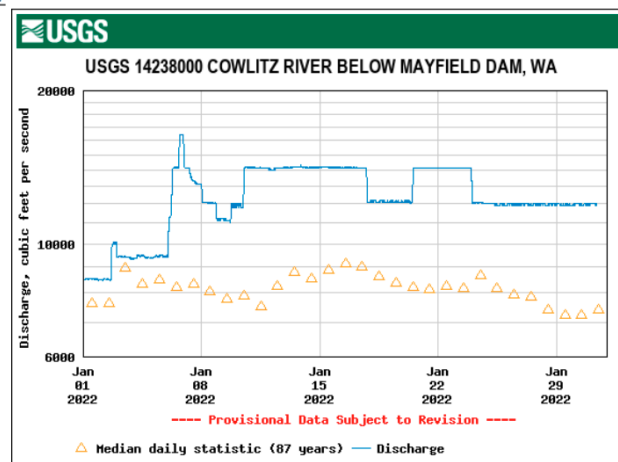
Updates

Hydro Operations

Melora reviewed the Hydro Ops PowerPoint Presentation emailed to all before the meeting.

- Inflows: January ended up at 145% of the historic average (over 13K cfs) with inflows on 1/30 at about 7K cfs.
- Storage: Riffe Lake was at 736.2' elevation on January 31. The max elevation since the last meeting was 744.9'. Mayfield operations have been typical.
- Snowpack: This has been building steadily and we are at or above average levels.
- Outflows: Mayfield is currently at 12K cfs with a minimum flow of 5K cfs. Operations have been above critical flow with no exceedances or unit trips. Down ramping restrictions are currently 2" per hour around the clock (until February 16). There was spill at Mayfield on January 6 (8 hours total, with max discharge of 16,400 cfs). Tacoma monitored for TDG during the spill and will report to Ecology per the Monitoring Plan.
- Ecology noted that they need more information re. regulating spill at Mossyrock as well as Mayfield (e.g., estimated discharge on the generating units). Matt Peter and Melora can work with Ecology on characterizing operations to meet Ecology's needs.
- 10-Day Forecast: Cooler and drier weather is expected. Lower freezing levels until February 4. Inflows are expected to stay low. Riffe Lake is likely to keep drafting with outflows expected to stay around 12K-13K cfs.

Outflow



Minimum flow 5,000 cfs. No exceedances.

Link to the USGS real-time Cowlitz River hydrograph:

https://waterdata.usgs.gov/wa/nwis/uw/?site_no=14238000&PARAMeter_cd=00060.00065

Water Quality/Monitoring

Carol reported that on January 31 she did some recon at the Kosmos site with her unit. It was raining and there was a sheen that was sampled. She appreciates Tacoma working with Ecology on the water quality concerns at Kosmos. She is approving the interim remedial investigation and is working on approval of the WQPP. The toxics clean-up evaluation is still going as part of the remedial investigation. The contamination at Kosmos is revealing itself to be a chronic (vs. acute) situation. Carol noted it may take another decade to complete all of the necessary work. She is also reviewing the Debris Removal WQPP – she has had it for a while.

Fish Facilities: Eric noted things are “sleepy” right now. That’s why Tacoma is planning the ladder outage for this time of year. They are still on schedule for the outage to occur February 14 -18 and use the time to repair and upgrade electro-anesthesia basket, replace a critical valve, and make other minor repairs to the ladder. They will operate the separator before and after the outage.

They have advanced broodstock collection for winter steelhead in hopes of providing additional angler opportunity. Bryce expressed appreciation for Tacoma working with WDFW on genetic screening on early returns. Pushing the run to return earlier is great progress toward our Transition Plans! Eric further reported that 110 winter steelhead have returned to the separator so far (above the 10-year average of 77). He is very pleased to see the stronger returns.

The coho return has dropped off significantly. There were zero returns to the separator on January 31.

Fishing regulations for spring Chinook: Josua provided an update on the Cowlitz Fisheries. After the meeting the Cowlitz Kalama Lewis Factsheet (CKL) document was distributed to the FTC along with the notes from this meeting. The document contains high-level spring Chinook run size forecasts for these tributaries along with hatchery escapement needs and expected harvest. WDFW feels like they can provide some opportunity for spring Chinook in the Cowlitz. Josua showed two tables from the document and also the NOAA stoplight chart for ocean conditions. Bryce reminded all the past few years the Cowlitz River fishery has been constrained. The purpose of this fact sheet is to share the information about forecasts, harvest and broodstock requirements, we have had some bad ocean conditions that show strong signs of improving. WDFW’s current fishery strategy is to limit retention to 1 adult hatchery Chinook and close the fishery the end of April (before the peak of the run in May) so broodstock goals can be met. In May, WDFW will reevaluate broodstock collection and returns and adopt additional fishery rules appropriately.

Cowlitz Falls Fish Facility: Chris reported they have been offline since end of October and are gearing up to start the next season on March 15. Carol asked Chris to let Anne and Sheila know when Tacoma does the debris removal project.

Gravel Augmentation: Travis is updating the schedule as well as continuing to work on another downstream site. The process of putting together the schedule includes ensuring permits and Water Quality Protection Permits (WQPPs), etc. are all in place. Carol reminded all gravel augmentation requires a WQPP. She asked that the next gravel augmentation at the Barrier Dam have its own WQPP with a corresponding map, a list of what Best Management Practices are being used, and that everyone respect the boundary. She also requested that Anne and Sheila be apprised when the gravel subcommittee is formed. Travis and Melora will

send out a draft of the Gravel Augmentation Draft Long-Term Plan for discussion at the March FTC meeting.

2022 FTC Work Plan: Travis will send out an updated draft for all to review so it can be finalized and approved at the March FTC meeting. The public meeting schedule is the main portion that has been updated. Public meetings in 2022 are scheduled for March, June, and December.

Satellite Rearing

Presenter: Phil Sandstrom

Phil reported Tacoma is looking forward to starting a conversation on the impacts of various alternatives. He walked through a PowerPoint presentation supplemented by great photos recently taken by Chris Foster. The DD approved by the FTC in November supported investigating Option 2 (overwintering fry/sub-yearling collection Upper Basin and 5 (using net pens). Site Evaluation Considerations (columns in the spreadsheet) included location, land ownership, land required, potential water sources, adult access/site fidelity, power availability, road access, and any other additional comments / misc.

Tacoma reviewed all sites within the above considerations and then their Engineering group reviewed the sites looking for constraints, etc. They narrowed the list down to five potential sites: two each on the Cispus and upper Cowlitz Rivers, and one at Mayfield Reservoir.

The draft document by R2 stipulated less than 4 cfs for the facility (for securing permits). Phil walked us through potential production for various species within that limit. He showed tables of max smolt production and expected adult returns from max smolt produces for SARs. Another table showed parr and fry migrants for the last five years collected at the North Shore Collector(?), with coho in the largest numbers. Chinook collection has been relatively low as are steelhead and cutthroat. He also projected potential production from a net pen program (number of returning adults to the separator for each of the adult returns) and what might be propagated into a net pen facility. R2 had considered 42 fish /lb. and rearing up to 80K fish.

Progress toward recovery:

- Increased spatial distribution
- Resiliency and stability
- Boost to NOR productivity – will result in higher number of fish at CF
- Ability to help multiple species/origins – both NOR and HOR spring Chinook needs a boost. A lot of potential benefit to steelhead as well). Coho don't seem to need a similar boost.

Feedback:

- Good to see this information. Appreciate the thinking that went into how these facilities might help us. This is a good start.
- For many years many groups have been pushing very hard to have these facilities constructed. Currently, WDFW is paying close attention to Collection Efficiency (CE) improvements and tracking NOR returns, overall abundance, etc. Future Recovery will continue to be driven by CE at CFFF. It has been stated that a focus of satellite rearing will be to boost spatial distribution. Do we have baseline information on this? Will we be able to document how much of a boost we get? What is the problem we are trying to solve? Life history/limiting factors? What is the expected boost compared

to other actions we might take? WDFW looks forward to seeing these questions addressed in the biological evaluation component of the alternatives analysis.

- It would be helpful to see the site evaluation component and biological evaluation components married together.
- It is good to do a species-by-species evaluation. We still have a ways to go on spring Chinook. Which species are we focusing on and why, and what benefit do we expect to achieve? We need goals that are clear, transparent, and measurable.

Phil thanked everyone for these comments. When looking at the number of NOR fish in the recent past, it is important to make sure we answer these types of questions. Matt noted Tacoma is taking a two-pronged approach to satellite rearing. Phil is working on how we can implement one of the facilities to meet Tacoma's licensing requirements. How does Tacoma balance / prioritize that within their portfolio? It is important that we are all on the same page as we go forward. Bryce agreed that everyone needs to agree on the expected benefit. Phil agreed we are in a good place to do that within the five sites being considered.

M&E Subgroup

Presenter: Phil Sandstrom

Phil reported they have been developing a list of baseline and directed studies to incorporate into the monitoring plan which will be an addendum to the FHMP. Subgroup members are working on prioritizing the list and also hoping to make additional progress on the big table.

Downstream Adaptive Management Technical Work Group

Presenter: Matt Bleich

Matt walked everyone through the DD that was sent out prior to the meeting. He noted that there have been continued staffing challenges at Tacoma that have required transitioning some efforts to others in the team until an additional hire can be made. He is pleased that Gabe Maguire is stepping in for now.

Matt reviewed the four recommendations listed in the DD and reminded all that the FTC has been discussing the contents of the DD at past meetings. The decision can occur at the March FTC meeting. The TWG has a charter that includes working through an annual work plan which includes making initial recommendations to the FTC in the fall, coordinating closely with the LCPUD and then finalizing recommendations with the FTC at this time of the year. LCPUD's maintenance activities would not have conflicted with doing with active tag evaluations this year. Tacoma had been looking at ordering the tags – then found that supply chain problems prevented them from moving forward for this year. Sigh. The good news is we can now take the time to be more intentional in planning to do the evaluation next year.

LCPUD Dam Operations

Presenter: Laura Wolfe

Laura reported Russel was unable to attend this meeting as he is focused today on fixing the boat barrier so folks can start using the park. The PUD was considering doing a drawdown in October, for a debris barrier program walkthrough (moorage site). They are planning a drawdown of around 20' in October 2022.

Clarification from Russell Page for additional drawdowns (email sent to WDFW on 02/23/2023).

The PUD will need to draw down the reservoir for an inspection of the moorage site, contractor walkthrough, as well as for the rehabilitation of the moorage site in preparation for the maintenance that will be taking place on the Debris Barrier in 2023.

1. The 2-3 day-drawdown for the walkthrough inspection is slated for October 2022 after fish collection. This will be a 20' drawdown to dry out and inspect the moorage site. This is also dependent on USACE approving our project for 2023.
2. The Debris barrier moorage site repair work drawdown is a separate drawdown and is slated for Q1, 2023 dependent on a dry window of time and lower flows. Several factors need to be worked out still including selection of a contractor, proper permitting for the removal of sediment and the contractors plan for the rehabilitation of the site. This could be a 2-3 week-drawdown for the repair work/removal of sediment.
3. The Debris barrier rehab – 20' drawdown is tentatively scheduled for early September thru late October, 2023. Currently we are waiting on permitting and still planning on doing the rehabilitation next year.

Carol cautioned that there is much more sediment stored behind the dam now than in 2015. Riffe Lake receives the input of the drawdowns and can fluctuate so timing of a large drawdown will be critical for the Cowlitz River project and the Kosmos project as well. The additional sediment might cause a backup into Rainy Creek, potentially putting the Kosmos project at risk. Laura will ask that the drawdown be done in February instead of October and will make sure Joe communicates with Ecology on this. All agreed February is a better timeframe for a large drawdown. Carol noted this shift would mean the PUD would be less likely to violate Ecology regulations in terms of turbidity.

Josua reiterated the need to disseminate timely and accurate information to the public. He suggested a press release and making sure the PUD's website is up to date.

Action Items:

- Laura: Suggest the debris program investigation be moved from October to February.
- Laura: Ensure the public is well informed (perhaps include Joe's phone number?) and will keep Josua in the loop.

FHMP Transition Plans

Presenter: Matt Bleich

Matt announced all the transition plans have been completed and the plan is to move forward with the plans as characterized in the FHMP and submitted to FERC in 2020. Information from the FHMP was used to develop the transition plans. "We've done the work. Why not use the work?" Bryce agreed and is excited to see the finish line on this.

Matt presented a DD for approval of the transition plans. There will be a meeting with the public before we finalize this DD. We will take the public comments and incorporate them. The transition plans will be considered complete once the DD is approved at the next meeting and then we can begin implementing the plans. There may need to be edits to the Coordination/Need section.

FTC will see the final plans after public comments have been incorporated and before they are sent to FERC.

Action Item: All - Send edits, especially to the Coordination section to Matt and copy Travis.

CRR Fund / Habitat and Production (HAP) Subcommittee

Presenters: Travis Nelson, Melora Shelton, and Steve West

Travis displayed a high-level flowchart showing how things might go once all the participants are identified and the HAP subcommittee is up and running. The diagram will be expanded to include interaction with / accountability to the FTC throughout the process. Melora expanded with examples of specific tasks to be asked of the subcommittee. Guiding Principles will be the first task and will be included in the charter/scoping. The Guiding Principles will come back to the FTC for approval and will be integrated into the implementation strategy. Melora is hoping the subcommittee can meet before the March 1 FTC meeting. She looks forward to input on the Guiding Principles, scope, and charter. Once complete, Carol requested these be forwarded to Anne and Sheila. Bryce noted WDFW can provide a template charter as a starting point. Melora will follow up.

Ongoing LCFRB Grant Round: Steve announced the pre-proposals are technically complete for this grant round. Draft proposals are due March 1. They have held three proposals for the CRR: Kiona Creek Design, Barrier Assessment, and Restoration on the upper Cowlitz tributaries.

HAP Subcommittee: Travis asked voting FTC members who they would like to be their representatives on the HAP committee. Bryce noted WDFW wants Sam Gibbons to be the primary rep with Brian Gale as the alternate once proposal solicitation/review begins. Peggy will be the rep for the initial work on Guiding Principles and charter development with Sam as the alternate. Travis noted that although we told the public we intended to have a HAP round this year, the round wouldn't actually occur until 2023. We can make this clear at the March FTC meeting that is open to the public. Travis sent out a document with HAP information and Guiding Principles that the subcommittee would be revising. This would then be put into the implementation strategy in its own section.

Action Item: Travis – Setup a Doodle Poll for a subcommittee meeting to take place before the March 1 FTC meeting.

Topics for March 1, 2022 Public FTC Meeting

- Review of Protocols and 2022 FTC Work Plan
- Usual Updates: Hydro Ops, Water Quality, Fish Facilities, etc.
- LCPUD Dam Ops
- Finalize Fish Protocols / Spring Chinook Fishery options for the Cowlitz
- Satellite Rearing
- Downstream Adaptive Management Technical Work Group
- FHMP Transition Plan Update
- Planning for 2022 APR Process
- Satellite Rearing Program
- CRR Program
- M&E Subgroup
 - Marking Strategies
- Gravel Augmentation Timeline
- Preview April 5 FTC Meeting topics

Meeting Evaluation

- Appreciate meeting Anne and Sheila

- Josua's Quote: "Today marks the end of the last chapter of the year. With the start of the first chapter of the New Year's book, let's put the old book on the shelf or even in the lower drawer, and let's pick up the new one, carry crayons in our hands, and start writing a new colorful story." — Nadine Sadaka Boulos
-

Closing Remarks

Travis thanked everyone for the good discussions and thoughtful collaboration as we move forward with many projects. And all wished Carol a final goodbye with gratitude for her excellent work. We look forward to seeing her in her retirement.

Parking Lot

- Presentation by Tacoma's Power Management Group
- Review Steelhead Recycling Program

**Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Final MS Teams Public Meeting Summary
March 1, 2022, from 9:30 – 2:30**

FTC Representative Attendees:

Travis Nelson	TPU
Anne Baxter	WA Dept. of Ecology
Bryce Glaser	WDFW

Additional Attendees:

Josua Holowatz	WDFW
John Serl	WDFW
Peggy Miller	WDFW
Sam Gibbons	WDFW
Brian Gale	WDFW
Todd Hillson	WDFW
Larona Newhouse	WDFW
Matt Bleich	TPU
Eric Shoblom	TPU
Chris Foster	TPU
Phil Sandstrom	TPU
Tim Hoffnagle	TPU
Jamie Murphy	TPU
Melora Shelton	TPU
Steve West	LCFRB
Ann Weckback	Lewis County
Debbie Carlson	BPA
Lyn Wiltse	PDSA Consulting / Facilitator

Attending Members of the Public:

Larry Pryor, Randy LeDuc, Greg King, and Jack Tipping

2022 FTC Meeting Dates: Apr. 5, May 3, June 7 (Public Meeting), (no meeting in July), Aug. 2, Sept. 6, Oct. 4, Nov. 1, and Dec. 6 (Public Meeting)

Approval of Last Meeting Summary

The February FTC meeting summary was reviewed and approved with edits and will be posted for public review.

**FTC Annual Protocol and Work Plan Approval
Presenters: Travis Nelson and Melora Shelton**

Protocols: Travis didn't receive any additional feedback from the last meeting. Minor updates included these meetings being held virtually, etc.

Work Plan: The gravel long-term plan will be included. A copy of the plan will be sent out after today's meeting. Travis expressed appreciation for Peggy's comments and edits which are being incorporated into the plan.

Bryce suggested separating the protocols from the work plan. The work plan will be treated as a living document and reviewed periodically. We will defer approval of the work plan until the next meeting.

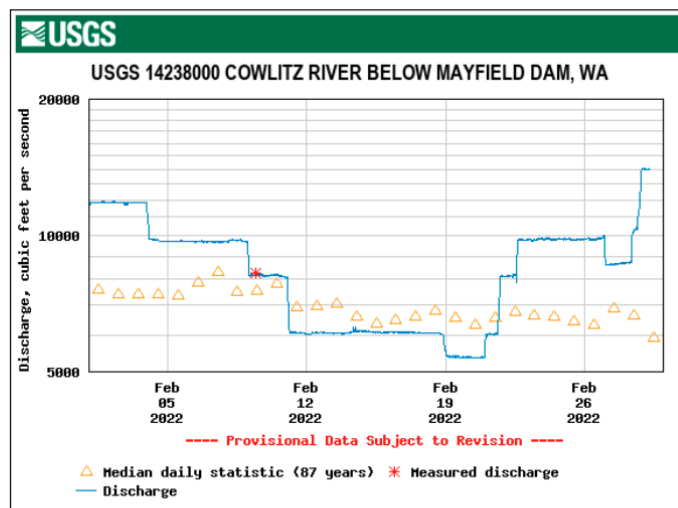
Updates

Hydro Operations

Melora reviewed the PPT emailed out just prior to the meeting.

- Inflows: While January was at 143% of the historical average, inflows for February were at 66% of the historical average due to little precipitation and low temperatures. February was pretty dry until the end when the warm/wet precipitation hit (steep increase in inflows, side flow management). There is a lot of variability in inflows – following a typical pattern. She showed hydrographs from three major tributaries which illustrated the impact of the recent rain event.
- Storage: Riffe Lake is a bit low for this time of year (was at 719.6' elevation on February 28) for the long-term average, but above the average since 2017. Mayfield has been operating in its typical band of 420'-424'.
- Snowpack: After a lot of variability early in the season, as of March 1, snowpack is near normal.
- Outflows: Started the month at 12K cfs and are currently at 14K cfs. Outflow varied with inflows and load requirements but were consistently above the minimum flow of 5K cfs. Zero daytime ramping below 6,000 cfs began on February 16. There were no ramping exceedances or other events.
- 10-Day Forecast: The outlook is for a little more rain as the current event wraps up, then it will be cooler and drier.

Outflow



3/1 14,000 cfs. Minimum flow 5,000 cfs. No exceedances.

Link to the USGS real-time Cowlitz River hydrograph:

https://waterdata.usgs.gov/wa/nwis/uv/?site_no=14238000&PARAMeter_cd=00060.00065

Water Quality/Monitoring

Matt Bleich will ask Tacoma's Matt Peter to join these meetings in the future to provide Water Quality reports as Anne gets up to speed in filling Carol's shoes.

Tacoma has been in close coordination with Ecology on their Kosmos Project and Barrier Dam (including gravel augmentation) project – going into year 2.

Action Item: Matt - Put Matt Peter in touch with Anne Baxter. *(Done on 1/3/22.)*

Fish Facilities: Jamie reported July 15 is start date for the Barrier Dam project.

The Cowlitz fish ladder (at Mayfield Dam) was shut down February 14-18 for annual maintenance. This time period was chosen as it had the least impact to fish. Instead of the usual two days, this shutdown was extended to accommodate additional work such as upgrading the electro-anesthesia basket, inspecting the crowders at the separator and holding pools. All infrastructure looked good, and no blockages were observed. As the separator was operated before and after the outage, there was a minimal gap in collection. There have been lower than average returns to the separator over the last few weeks. 21 winter steelhead returned between February 29 and March 1.

Broodstock: In the lower Cowlitz broodstock collection for winter steelhead began in December, which is earlier than in past years. The broodstock goal is 148 males and 148 females. There are currently 75 fish, 63 of which came in before February 1.

Genetic screening: Josua worked with WDFW's Thomas Buehrens to assess if Chambers Creek winter-run steelhead were among those initial 63 fish. They tissue sampled and floy tagged those fish and created an electronic copy of the data to send to the WDFW lab. The report back from the lab indicated two of the 63 had Chambers DNA in them. One of the fish was unable to be assigned. These three fish were removed from the Cowlitz broodstock. The goal was to have under 10% Chambers Creek stock. It looks like they are off to a great start.

Fishing Regulations for spring Chinook: Josua shared a fact sheet on this at the last FTC meeting. He announced new rules went into effect as of today (March 1) and will remain in effect until April 30 at which time they will be reevaluated. Lower Cowlitz limits include up to three steelhead and one Chinook. Boundaries have been moved to 400' mark. He explained WDFW is starting out conservatively because there are not a lot of fish returning to the Upper Basin at this time and we need to have a balanced approach to fisheries, broodstock collection and upstream transport.

Cowlitz Falls Fish Facility: Jamie reported smolt collection activities will start March 15 using the Northshore Collector. Tacoma is still hoping to fill a night seasonal shift vacancy by then.

Gravel Augmentation: Travis and Melora appreciate the input they have received on this from Peggy and others. Melora noted they will distribute a draft supplement to the Gravel Augmentation Plan in the next day or so. The supplement to the Plan is focused on the left side of Barrier Dam placement location and does not include other potential placement locations to which Tacoma lacks access. The Plan can be revised in the future to include other sites if/when they become available. Melora reminded everyone the supplement to the Plan includes all the work since gravel augmentation was halted in 2017 until the first placement last year in concert with the Barrier Dam work. The supplement to the Plan also captures the temporary strategy at Barrier Dam as well as the long-term plan at the same location.

Action Items:

- Travis: Send out the supplement to the Cowlitz Gravel Augmentation Plan for all to review.
- All: Review plan and send any comments to Melora, copying Travis by noon on April 4.

2022 Annual Program Review Process: Matt reported Phil is taking the lead on this and is putting a schedule together, including pulling the data together, scheduling the Science Conference and review, public meeting, and public input re modifications. This is an important step to take once the transition plans are in place as it will help with adaptive management. At this point, it looks like the Science Conference will take place in the April/May timeframe. The meeting will likely be virtual. Phil intends to get an agenda out 2-4 weeks in advance. Even when we return to in-person meetings, Tacoma will make a virtual platform available.

Monitoring & Evaluation Subgroup

Presenter: Phil Sandstrom

Phil reported they postponed the February meeting due to schedule conflicts. Their next meeting will be on March 16 and will focus on the prioritization process for monitoring needs. John organized data to develop preliminary estimates for 2021 adult fall Chinook abundance in the Lower Cowlitz. The Subgroup is making good progress and working well together on a number of projects.

Downstream Adaptive Management Technical Work Group

Presenter: Matt Bleich

This DD was presented at the last meeting. Looking for approval at this meeting. The Subgroup has the workplan for adaptive management recommendations. Experts from NOAA and WDFW are part of this group. The proposed decisions in the DD have been discussed for the past several months. Matt shared DD 2022-1 in track changes with Peggy's clarifying edits.

Matt briefly reviewed the four recommendations:

1. Opportunistically evaluate increased flow April – June from 500cfs to 750 cfs (same as last year).
2. Target modified floor geometry – capture zone – with focus on steelhead.
3. Improve spring Chinook entrance efficiency –pumpback discharge structure – changing hydraulics into the collector, doing a block study (biggest opportunity for improvement).
4. Extend operations mid-March through October to better understand collection for spring Chinook outmigrants – See how historical run timing might change as we continue to increase collection for these fish that are added to the operation.

There was consensus approval of the DD among FTC voting members and Matt will send the updated DD with edits accepted to Travis to email out for final approval.

FHMP Transition Plans

Presenter: Matt Bleich

At the last FTC meeting Matt presented a draft DD without knowing what public comments would be received. Since then, he has received public comments and is taking time to work through them and develop responses/recommendations to the FTC accordingly. He noted some of the public comments may be a better fit in the Annual Program Review (APR). Bryce noted WDFW has a few small edits to the initial version of the DD. He will see they are sent to Matt. Matt closed by noting Tacoma has met its obligation to FERC by submitting the FHMP. The transition plans show the various implementation strategies and will be posted for public review. The transition plans are an extension of the FHMP, but not a formal FERC requirement. Tacoma will send FERC a notice that plans are completed and available.

Action Items

- Matt: Send out summary of public comments and corresponding recommendations to the FTC by March 15.
 - All: Review and provide feedback / additional thoughts by March 22 with the idea of approving the DD at the April 5 FTC meeting.
-

Satellite Rearing

Presenters: Phil Sandstrom and Chris Foster

Phil reported Chris has been leading this effort by evaluating the potential development of sites on the Upper Cowlitz (Packwood and Cispus areas). Chris has reached out to landowners about partnerships to develop some of these sites. Landowners so far are open to the idea. Tacoma engineers will conduct site visits to review the feasibility of various sites, production capability, estimate costs, etc. There will be an hour-long update on this at the April FTC meeting. This will also be added to the next M&E agenda. Phil concluded by noting Tacoma is making great progress, sticking to the original timeline, and keeping lines of communication open.

Bryce noted WDFW supports building one of these sites this year if it can be shown there is a significant biological benefit. Otherwise, they would prefer the money be saved for a different project next year.

Eric reported little progress has been made on the hatcheries alternative piece. There will be more to report on this at the April meeting. Between now and then he will coordinate with Brian and Sam.

Matt reminded all that the FTC elected to take parallel paths on the satellite rearing strategy:

1. What alternatives might look like – satellite rearing vs other options including hatchery
2. Tacoma has committed to build a satellite rearing facility while alternatives are being evaluated.

Bryce reiterated WDFW wants to be sure there is a clear description of the bio benefit we expect to get for building a satellite rearing facility.

Cowlitz Restoration and Recovery Fund / Habitat and Production (HAP) Subcommittee

Presenters: Travis Nelson, Melora Shelton, and Steve West

Melora started by reminding all that on February 23 Tacoma filed their 2021 Annual Report for the Cowlitz Restoration and Recovery Fund. She also announced they have signed a grant agreement with the Cowlitz Tribe for Phase 3 of the Cispus Yellow Jacket project which was awarded to the Cowlitz Tribe in 2019. There will be an update on that project in April.

Steve West provided the following update while simultaneously responding to last-minute questions from project proponents as LCFRB draft proposals are due this day (March 1). For 2022 the LCFRB anticipated four applications: three are CRR only and the last one is for joint funding:

1. Upper Cowlitz Culvert Assessment – including the Barrier Dam and above (Lewis County Conservation District)
2. Kiona Creek Design (Lewis County PUD and Lewis County Conservation District)
3. Upper Cowlitz Tributary Restoration – around Camp Creek, Crystal Creek with in-kind match from the USFS (Cascade Forest Conservancy)
4. Cispus Yellow Jacket Project: Phase 4 – includes USFS and private land (Cowlitz Tribe)

HAP Subcommittee: The initial meeting of this group (with reps from Tacoma and WDFW) included discussions on how to bring a hatchery-associated project forward. Meetings are open to the entire FTC and participation is encouraged. The group will continue to meet on a regular basis. They are also putting together a scope and charter document in a DD format and anticipate getting a draft of this to the FTC in April. The second meeting is immediately following this meeting, at 2:30. There will be a standing meeting after the FTC meetings and if needed on the third Wednesday of each month.

Action Item: Travis - Send out meeting dates along with Teams link to the FTC.

Topics for April 5 2022 FTC Meeting

- Review/ Approval of 2022 FTC Work Plan
 - Usual Updates: Hydro Ops, Water Quality, Fish Facilities, etc.
 - LCPUD Dam Ops
 - Downstream Adaptive Management Technical Work Group
 - FHMP Transition Plan: DD Approval
 - Planning for 2022 APR Process
 - Satellite Rearing Program
 - CRR Program
 - Monitoring & Evaluation Subgroup
 - Gravel Augmentation Timeline
 - Preview May 3 FTC Meeting topics
-

Public Comment Session (*FTC responses appear in italics.*)

Jack: What are the numbers from the Mayfield Migrant Trap?

Matt: This trap has been shut down since end of 2021. Tacoma is still compiling the numbers which will be listed in the downstream report and be shared with the FTC and the public.

Larry: What water quality testing is being done at the Hatchery and for the satellite rearing facilities?

Eric / Larona: NPDES effluent testing is done as required by Ecology. We check dissolved oxygen and saturations. For NPDES testing we run effluent samples through the filters, send them to a lab for evaluation and the results are sent to Ecology.

Larry: What about testing for water hardness? 100-130 hardness is best for salmon.

Eric: Well water tested was found to be 38-45 parts per million (ppm); the river was found to be 20 ppm.

Larry: What are the impacts of high/low water on fish health?

Larona: Typically, fish hunker down in turbid environments. While this makes it harder to feed the fry, smolts do fine. We may see more breakup from pathogens in the water. We are doing more vacuuming to keep ponds as clear/clean as possible.

Greg: Why haven't any satellite rearing ponds been constructed yet? This is an obligation in the FERC license. Why not use the old FOC net pen area as a satellite facility? Time is of the essence as permitting will take a lot of time. Funding shouldn't be an issue. There currently aren't any sportsman projects on the Cowlitz. This is a big concern. Be aware that there are sportsmen willing to put boots-on-the-ground to help.

Travis: There has been a lot of great work on the satellite rearing ponds. We are making good progress toward fulfilling those obligations.

Bryce: WDFW sent a letter to Tacoma re satellite rearing ponds, suggesting it is worth taking a deeper dive into the value of the original strategy proposed 20 years ago and considering also where we are in the recovery process. The sea-run cutthroat program has not been cancelled. We just haven't been able to find a net pen location in the lower river. I have been trying to contact new leadership in FOC. After meeting with them once, I haven't heard anything back from the FOC/Fred Ming after reaching out multiple times. Can you help?

Larry: As a member of the FOC, I agree they have functionally dissolved for now. The CCA is the only group active that I know of currently.

- **Action Item:** Greg – Send FOC contact information to Bryce so he can contact them.

Larry: What's happening with the CRR program?

Travis: Tacoma has started this program over and are moving toward implementing Hatchery associated requests for proposals. We are currently set up with an agreement with the LCFRB who is implementing the habitat restoration program on behalf of the FTC. Other hatchery associated project proposals come to the FTC directly.

Jack: What are the metrics for success for fish production for the Yellow Jacket Project? I'm concerned that a lot of money is being spent for little or no benefits.

Travis: Other than baseline presence/absence escapement information, spot checking is a metric. I am not aware of anything other than using best available science for the structure – pool habitat and habitat complexity.

Larry: Can we apply some of what they are doing at Priest Rapid hatcheries, broodstock management and the successful return over 75K Fall Chinook to the Hanford Reach in 2020? This is run by Grant County PUD and is a WDFW program. Their SARs were 1-2%.

- **Action Item:** Lyn – Forward Larry's email with the link to the Priest Rapids Hatchery Monitoring and Evaluation Annual Report to the FTC (Done on 3/1/22.)

[https://www.grantpud.org/templates/galaxy/images/images/Downloads/ResourceCommittees/OtherDocuments/2021_12_09_Grant - Priest Rapids Hatchery Monitoring and Evaluation Annual Report for 2020-2021 Final Dec 8 2021.pdf](https://www.grantpud.org/templates/galaxy/images/images/Downloads/ResourceCommittees/OtherDocuments/2021_12_09_Grant_-_Priest_Rapids_Hatchery_Monitoring_and_Evaluation_Annual_Report_for_2020-2021_Final_Dec_8_2021.pdf)

Greg: Chum would be a great nutrient for the lower river. Are you looking for side channels?

Bryce / Todd: Bryce agreed that there is a section in the FHMP about the ability to at least accommodate a chum program. While this is on WDFW's list, WDFW is currently focused on monitoring and increasing the fall Chinook program. Todd Hillson used to run the regional chum program. Todd affirmed it is a goal to have a chum population in the Cowlitz. We just haven't gotten to this yet. The main problem is determining the appropriate broodstock. We would be starting with either a small population or bringing in an outside basin stock. Summer and fall chum seem to be very closely related.

Larry: In reviewing fish health reports and examinations, I found a 2014 report on acoustic tagging at Mayfield Dam. The commentary said it had a hard time finding fish without parasite infections in gills/gut. Is that still the case? Does FTC get fish health reports? I'd like to see fish health report information shared with the public.

Travis: Tacoma contracts with WDFW when fish health concerns come up. Sam Gibbons can describe fish health reporting. The Hatchery Coordination team meets weekly to discuss fish health, which is an ongoing battle. (Eric gave his number to Larry so he can follow up.)

Randy: How much longer before we can meet in person again?

Travis: That is undetermined at this time, subject to the policies of the City on in-person meetings. That said, I am optimistic that we will meet in person in June or September.

Travis offered to follow up with any member of the public regarding any of the issues raised at this meeting. If unable to answer questions directly, he will be happy to put people in touch with those able to do so.

Meeting Evaluation

- Technical issues with MS Teams were experienced by many
 - Good turnout and participation despite the tech difficulties
 - Appreciate everyone attending – great conversations
 - Josua's Quote: "My humanity is bound up in yours, for we can only be human together." – Desmond Tutu
-

Closing Remarks

Travis Thanked everyone for attending this meeting and contributing to the good discussions. He also encouraged everyone to spend time with people important to them during these times of angst in the world.

Parking Lot

- Presentation by Tacoma's Power Management Group
- Review Steelhead Recycling Program

Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Draft MS Teams Public Meeting Summary
April 5, 2022 from 9:30 – 2:30

FTC Representative Attendees:

Travis Nelson	TPU
Anne Baxter	WA Dept. of Ecology
Bryce Glaser	WDFW
James Archibald	NOAA
Bill Sharp	Yakama Nation

Additional Attendees:

Josua Holowatz	WDFW
John Serl	WDFW
Peggy Miller	WDFW
Todd Hillson	WDFW
Matt Bleich	TPU
Eric Shoblom	TPU
Phil Sandstrom	TPU
Tim Hoffnagle	TPU
Ann Weckback	Lewis County
Kyle Wright	USDA FS
Laura Wolfe	LCPUD
Lyn Wiltse	PDSA Consulting / Facilitator
Jamie Riche	PDSA Consulting / Facilitator (to facilitate 5/3 meeting)

2022 FTC Meeting Dates: May 3, June 7 (Public Meeting), (no meeting in July), Aug. 2, Sept. 6, Oct. 4, Nov. 1, and Dec. 6 (Public Meeting)

Approval of Last Meeting Summary

The March FTC meeting summary was reviewed and approved with edits and will be posted for public review.

Updates

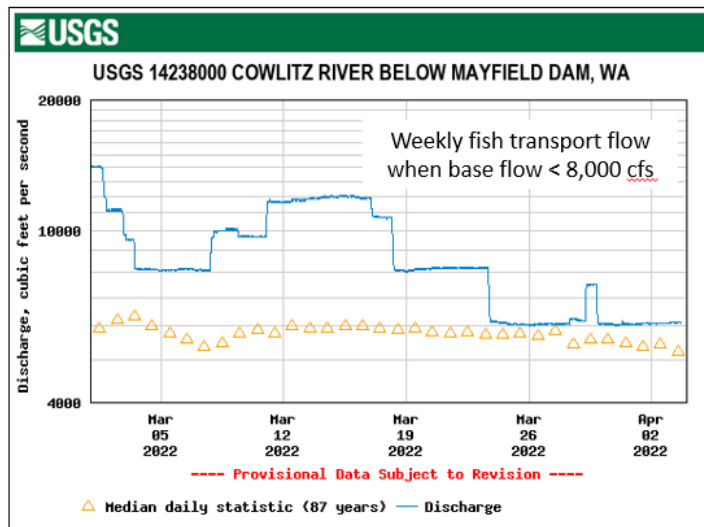
Hydro Operations

Travis provided the Cowlitz hydro status which was prepared on April 3 at the start of a significant early spring rain and low freezing-level snow event. It was emailed out for FTC review the afternoon of April 4. Please check <https://www.mytpu.org/community-environment/parks-recreation/river-flows-lake-levels/> for updated reservoir and flow data.

- Inflows: While February was at 66% of the historical average, inflows for March were at 152% of the historical average. Today Tacoma bumped fish transport flows at Mayfield up to 8K cfs and will drop them back to 6K cfs the end of the week. A major inflow event in early March was followed by more typical flows through the rest of the month. On April 2, the daily inflow was 5,847 cfs.

- Storage: Riffe Lake is right at the long-term average of 733' and above the more recent five-year average of 708.' Mayfield continues to operate in its typical band of 420'-424'.
- Snowpack: While snow water statistics are not available, snowpack at Paradise and White Pass were both below average. Snow melt from warmer weather on April 7 will cause more inflows into the river.
- Outflows: These are close to 6K cfs, just above the median daily statistic over the last 87 years. There was no daytime down ramping below 6K cfs. Nor were there any ramp exceedances or other events.
- 10-Day Forecast: The outlook is for rain through Wednesday, then cooler and drier.

Outflow



4/3 6,130 cfs, Minimum flow 5,000 cfs. No exceedances.

Link to the USGS real-time Cowlitz River hydrograph:

https://waterdata.usgs.gov/wa/nwis/uv/?site_no=14238000&PARAMeter_cd=00060,00065

Water Quality/Monitoring: Anne B. reported she has met with Matt Peter a few times and they are in the process of setting up some site visits. More to come!

Fish Facilities: The CFNSC started collection on March 15 and is operating well. There has not been much debris buildup since the last removal operation. The spillway flume system started up on March 31. Smolt numbers have been low but over 8K coho fry were collected and transported upstream. Temperatures have ranged from 5.8 C to 8.3 C and are currently nearing the lower range again. Discharge past Cowlitz Falls Dam has been steady, ranging between approximately 5,000-7,000 cfs.

The Mayfield Counting House was removed from bypass on April 1 and was run for the first time on April 4th. Tacoma made fish handling improvements to the facility to accommodate the new marking and counting strategies as described in the FHMP Transition Plans.

The Visitor Center opened back up on April 1 for first time since the Covid outbreak.

Approximately 700 fish (mostly steelhead) were handled last week at the separator. There were four spring Chinook last week and one so far this week. In accordance with

the FHMP Transition Plan, steelhead HORs are now being split between Cispus and Packwood sites. Eric noted the first load to Packwood was sent today.

It is still early for spring Chinook collection. Last year they didn't start arriving until late April. All HOR's are currently being retained for broodstock.

Winter steelhead broodstock collection: 148 winter steelhead of each sex were collected between December 15 and March 21, fulfilling the broodstock goal for the lower Cowlitz program. An additional 30 of each sex were also collected for the lower basin program. These will be surplus if not used. For the Tilton and Upper Basin winter steelhead program, they are keeping one NOR for every 9 they send upstream.

The shift in winter steelhead distribution in the Cispus and Upper Cowlitz is in concurrence with the Transition Plans. Bryce noted how pleased he was that we have been able to implement several Transition Plan actions already this year – new marking strategies, new transport to the two Upper Cowlitz sites, genetic screening, etc. Much to celebrate!

Gravel Augmentation: On March 2, Travis sent out the draft supplement to the Gravel Augmentation plan for a 30-day review requesting comments by noon today. WDFW submitted comments on 4/4. No other comments were received. He explained Tacoma intends to do another gravel augmentation operation of 1,000 cubic yards this July, using the same method and in the same location as last year. The contractor last year made better progress than only phase 1. Tacoma is hoping to get the rest of phase 2 and all of phase 3 completed this year. Gravel augmentation will be covered within the HPA. The intent is to accomplish gravel augmentation before the Barrier Dam project is completed this year. Tacoma also plans to monitor gravel movement to evaluate how well it distributes downstream. Drones are a cheaper alternative to aerial flights, WDFW has a drone and pilot on staff that may be able to help. John said WDFW would try to take photos during the lower river redd flights.

Downstream Adaptive Management Technical Work Group: This group is currently wrapping up their review of the draft report for last year's activities. The draft downstream report will be sent out in the next few days to kick off the 30-day review.

FTC Annual Work Plan Approval

Presenters: Travis Nelson

Travis displayed the 2022 Work Plan that had been emailed out on March 24. He noted he added that FTC meetings are scheduled for first Tuesday of each month except around holidays. He also added the Gravel Augmentation Plan and public meetings scheduled for the year. The Work Plan shows the Annual Operating Program (AOP) comes after Annual Program Review (APR). He reminded all the Work Plan will be treated as a living document and reviewed periodically. There was consensus approval of the 2022 FTC Annual Work Plan.

Monitoring & Evaluation Subgroup

Presenter: Phil Sandstrom

Phil reported this group last met on March 16 and started by discussing what to include in the April 21 Cowlitz Science Meeting (AM) and APR Meeting (PM).

Sam Gibbons attended the meeting to discuss 2022-2023 hatchery operations. They went through an exercise on how to proceed with CWT options for spring and fall Chinook and steelhead operations. There was great collaboration between the hatchery group and M&E Subgroup which helped to inform hatchery planning.

Other topics discussed included satellite rearing facilities and biological relevance, potential impacts of rearing NOR fish in facilities, and kelt reconditioning. In his subsequent research, Phil didn't find any stipulations that would preclude kelt conditioning, so this looks like a viable option for the future. Bryce stated WDFW would support the inclusion of kelt reconditioning, as part of the scoping for the current satellite rearing plans. Phil noted that while this wasn't being considered when Tacoma engineers did the site visits, Tacoma respects the idea and looks forward to seeing if it is workable. We will get an update on this at the May FTC Meeting.

There is value in spatial distribution of the populations. Acclimation sites for spring Chinook juveniles would also be a good idea. John noted if/when we get an integrated spring Chinook juvenile hatchery program up and running, doing so in a satellite rearing facility would be a ways down the road. The two species that need help are steelhead and spring Chinook. Coho are doing well in Upper Basin.

Satellite Rearing

Presenters: Phil Sandstrom

Phil started by explaining the presentation of the full specifications for potential satellite rearing sites that was intended for this meeting is being deferred to the May meeting. Of the three site visits with Tacoma engineers, two showed promise. Both had potential benefits that presented different opportunities. The third site at the Cispus Learning Center didn't work out due to ongoing restoration work there, uncertainty of side channels, etc.

The remaining two sites which are not yet being named are:

- Site 1 in the Cispus: There are cold water options and good year-round water supply for rearing fish. Power source nearby for operating pumps, etc.
- Site 2 in the Upper Cowlitz: Spring fed system. Might be temperature issues. The water supply there is not very robust. They are looking at options for providing power.

Feasibility of these sites including a logistical and biological reference framework will be shared in May. They won't exceed 4 cfs. Matt Peter is already working on permitting. Tacoma is looking for dual purpose sites – juveniles and kelts. Bill shared a relevant link <https://critfc.org/wp-content/uploads/2021/08/21-05.pdf>

Matt thanked Phil for coordinating so well with so many groups on this and also expressed his appreciation for the kelt reconditioning concept. Bryce reiterated that from a process standpoint, WDFW would support editing the DD to allow for doing the initial scoping through the lens of dual use and kelt reconditioning. The kelt reconditioning concept may be an issue that warrants a separate single-topic workshop vs trying to address it within an FTC meeting.

LCPUD Dam Operations

Presenter: Laura Wolfe

Laura reported the baffle panels were installed on March 22. The TDG monitor has also been installed. Sonar and turbidity sensors will be installed on the Cispus and Cowlitz River at Randle as well as in the forebay this spring. The PUD has been working with BPA to remove built up debris in front of the units and will continue to work toward a resolution. During several high flow events this year, CF was able to open the lower sluice gates help remove sediment from the forebay.

Other project updates:

- CF Maintenance on Unit 2 will begin in late June to early July (flow dependent) and continue through October with various maintenance projects. They do not anticipate having to use a 500 cfs variance this summer to perform the work.
- Inspection of the draft tube seals will happen this month or next in hopes of cleaning the sills manually. If, during the inspection, it is determined that the sills need to be cleaned by divers, a 2-3-hour outage would be scheduled, and spilling would go through spillway 4.
- Replacement of the Rittmeyer angle transducers on the fish flumes will take place after fish collection season. All materials have been procured and since the work will be done after fish collection, there will likely be no impact to fish collection.

Peggy asked if the large drop in flows on March 26 was needed to install the TDG monitor. Laura responded there could be a correlation there, but she was not able to speak to that with certainty. Anne B. asked how much sediment was removed when they lowered the sluice gates. Laura reported they will have a better idea of this after they install the sensors and complete the cross sections.

FHMP Transition Plans

Presenter: Matt Bleich

Since many public comments were received just prior to the last (public) FTC meeting, it made sense to defer approving the DD at that meeting. This allowed time for Tacoma and WDFW to draft responses to those comments before sending them out on March 17 for FTC review and feedback. As no additional feedback was received, Matt asked if the FTC was comfortable with approving the DD at this meeting. The significance of such an action is great as it will mean we are now at the finish line. With the FHMP and the associated Transition Plans complete, there is a clear path forward and it is time to begin to execute these plans.

This was also cause for celebration! Matt noted how much he appreciated the efforts of so many over the last few years. This collaborative success will shape the work of the FTC for the next 10 years. This was a very significant lift, which was compounded by personnel changes, and a bit of a bumpy road as we laid the groundwork for how the Transition plans would be written. Bryce noted we have landed with good strategy and direction for the programs. We are also starting to see implementation of some of these plans. We now get to start implementing those programs. He very much appreciates the effort, staff input, and time.

Matt walked through DD 2022-2 which had been revised based on public comments received. After a brief discussion, it was approved by consensus among attending FTC members and will be sent out to those representatives not attending the meeting for a 7-day approval period.

2020 Annual Program Review (APR) Process

Presenter: Phil Sandstrom

Phil reported APR includes the following process:

1. April 7: Meeting to discuss data gathering
2. April 21: First public meeting including the Science Conference in the morning and the APR in the afternoon. Public comment is welcome.
3. Discuss feedback from the public at the April 21 FTC Meeting.
4. Meet again with the public to discuss any adjustments.
5. Develop a DD that describes the program for FTC review at the May 3 meeting and approval at the June Public FTC Meeting.

Bryce noted it is important to identify clear options for public feedback. Due to the sideboards outlined in the Transition Plans, options especially around spring Chinook are limited.

Action Items:

- Phil: Send Lyn April 21 agenda to distribute to all.
 - Eric: Schedule a meeting with Sam, Matt, and Bryce re options offered to the public. It will be important to remind them that most of the shifts in the transition plan are good for fisheries and responsive to what the public has requested. Also, plan for questions around the FHMP making allowance for chum supplementation. WDFW has received requests for this from the public, including CCA.
-

CRR Fund / Habitat and Production (HAP) Subcommittee

Presenter: Travis Nelson

Travis walked through draft DD that was emailed out on March 29. He reminded all the purpose is for the FTC to endorse the development of the HAP Subcommittee, its Charter, members, and which documents (Guiding Principles, proposal evaluation materials, application materials, etc.) should require FTC approval. Approval of this DD is scheduled for the May FTC Meeting.

LCFRB update: Travis reminded LCFRB staff are unable to attend today's meeting as this is the first day of their grant round and virtual tours. They will host five days of virtual tours, which are considered public meetings. As such, FTC members (or anyone for that matter) may attend any/ all of these. Travis sent the itinerary to all on March 29. The CRR projects are scheduled for April 19.

Tuesday, April 19 Webinar Access Only	Webinar Connection: https://meet.goto.com/115833957		Phone: (646) 749-3122 Access Code: 115-833-957	
	Introductions	LCFRB		9:15 AM 9:30 AM
	22-1212 Lower Columbia Barrier Assessment- SRFB	LCEP	Keith Marcoe	9:30 AM 10:00 AM
	CRR_22_01 Upper Cowlitz Culvert Inventory- CRR	LCD	Kelly Verd	10:00 AM 10:30 AM
	Break			10:30 AM 10:45 AM
	CRR_22_02 Upper Cowlitz Tributary Restoration- CRR	CFC	Suzanne Whitney	10:45 AM 11:15 AM
	CRR_22_03 Kiona Creek Restoration- CRR	LCPUD	Laura Wolfe	11:15 AM 11:45 AM
	Lunch Break			11:45 AM 1:00 PM
	22-1273 Cispus-Yellowjacket Phase IV Restoration- CRR and SRFB	CIT	Eli Asher	1:00 PM 1:30 PM
	Wrap Up	LCFRB		1:30 PM 2:45 PM

Note: The HAP Subcommittee meeting which would have occurred on the heels of this FTC meeting was deferred due to the lack of availability of several key members. Protocols call for an additional meeting on the third Wednesday of each month as needed.

Action Item: Travis to work with Melora on date of next HAP Subcommittee meeting – April 20?

Topics for May 3, 2022 FTC Meeting

- Usual Updates: Hydro Ops, Water Quality, Fish Facilities, M&E Subgroup etc.
- LCPUD Dam Operations
- Downstream Adaptive Management Technical Work Group
- 2022 APR Process DD (20 min)
- Satellite Rearing Program (at least an hour)
- CRR Program (40 min) Approve DD
- Gravel Augmentation Timeline
- Preview June 7 FTC Public Meeting topics

Meeting Evaluation

- Efficient meeting hygiene
- Great participation and much to celebrate
- Technology worked well
- Good use of the Chat function, e.g., FHMP >> APR + AOP = FUN
- Josua's quote: "A river cuts through rock, not because of its power, but because of its persistence." James N. Watkins

Closing Remarks

Travis thanked everyone for the excellent and collaborative discussions. He also noted Tacoma is still waiting for an order from FERC re the FHMP. He recently checked with Tacoma's FERC rep and was told the order should be issued by June.

Parking Lot

- Presentation by Tacoma's Power Management Group
- Review Steelhead Recycling Program

**Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Final MS Teams Public Meeting Summary
May 3, 2022 from 9:30 – 2:00**

FTC Representative Attendees:

Travis Nelson	TPU
Anne Baxter	WA Dept. of Ecology
Bryce Glaser	WDFW
Jonathan Stumpf	Trout Unlimited

Additional Attendees:

James Archibald	NMFS
Josua Holowatz	WDFW
John Serl	WDFW
Peggy Miller	WDFW
Brian Gale	WDFW
Sam Gibbons	WDFW
Matt Bleich	TPU
Eric Shoblom	TPU
Phil Sandstrom	TPU
Tim Hoffnagle	TPU
Melora Shelton	TPU
Chris Foster	TPU
Ann Weckback	Lewis County
Laura Wolfe	LCPUD
Debbie Carlson	BPA
Steve West	LCFRB
Jamie Riche	PDSA Consulting / Facilitator

2022 FTC Meeting Dates: June 7 (Public Meeting), (no meeting in July), Aug. 2, Sept. 6, Oct. 4, Nov. 1, and Dec. 6 (Public Meeting)

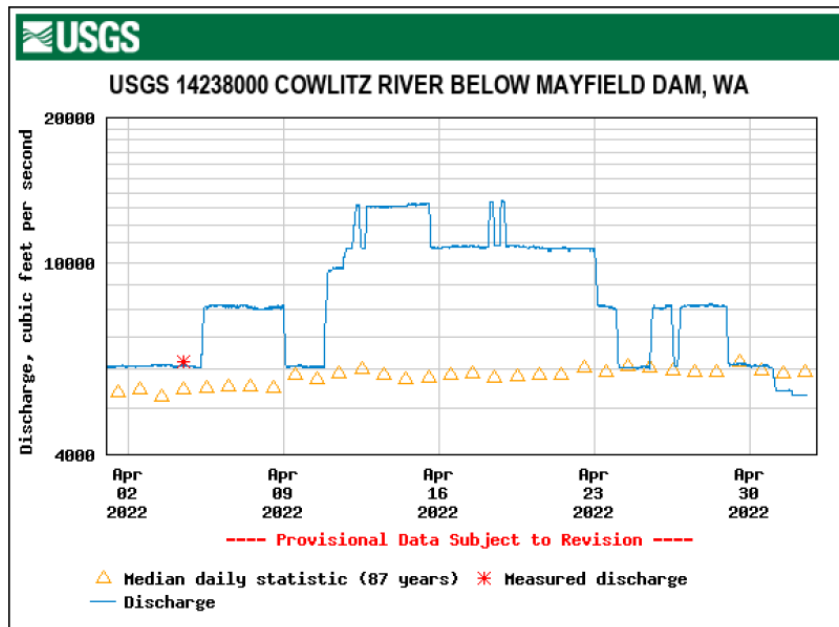
Approval of Last Meeting Summary

The April FTC meeting summary was reviewed and approved with edits and will be posted for public review.

Updates

Hydro Operations:

- Inflows: April inflows were 6,137 cfs, 75% of historical average.
- Snowpack: Snowpack continued building through April and is near or above-average at this time.
- Storage: Riffe Lake drafted during April; minimum elevation was 714 feet at end of April. Mayfield is operating within its standard band.
- Outflow: Currently at 5,300 cfs (minimum 5,000 cfs). Fish transport flows were provided when outflows were below 8K cfs. There have been no ramp exceedances.
- Forecast for next ten days: Outlook is for rain Thursday – Saturday, otherwise dry. Expecting less than 2 inches total precipitation. Outflows expected to be variable, 5,000 – 8,600 cfs and will include fish transport flow.



Link to the USGS real-time Cowlitz River hydrograph:
https://waterdata.usgs.gov/wa/nwis/uv/?site_no=14238000&PARAMeter_cd=00060,00065

Water Quality/Monitoring: No update at this time.

Fish Facilities:

Mayfield upstream collector - Adult spring Chinook numbers are continuing to increase: 113 last week, already 117 this week so far. Collecting 100% of HORs for brood stock. Expecting to have plenty of males and females to meet needs.

Mayfield downstream collector - Steelhead numbers are starting to climb; there were about 94 last week. Seeing tiger muskies and rainbow fallbacks. Those plants are isolated to the upper end of the Mayfield Reservoir to try to reduce fallback. The rainbow plants are conducted by WDFW. About 42k have been planted so far.

Release sites - All are in good shape, seeing a lot of use.

Cowlitz Falls Fish Facility - The Cowlitz Falls Fish Facility (CFFF) has been running since March 15. The steelhead are the main focus, and shortly we will see an uptick in the coho outmigration. Two steelhead release groups are in the system for Fish Capture Efficiency (FCE) trials. A third group will be tagged tomorrow. Might be able to tag the first release group of coho.

M&E Subgroup: There was no M&E meeting in April due to APR and other meetings. Monitoring plan material was distributed to the M&E group for their May meeting.

Gravel Augmentation: The edits and inputs received on the initial Gravel Augmentation Plan are being evaluated and finalized. Augmentation will happen in July at the same location and adding 1,200 cubic yards of gravel to the river.

Downstream Adaptive Management Workgroup: At the April meeting they discussed comments the TWG made internally on the draft 2021 report. They received a status update on how the season's collection and operations were happening at the Mayfield counting house (downstream collection facility) and CFFF.

LCPUD Dam Operations Update: No update at this time.

2022 APR Process Update

Presenter: Phil Sandstrom

2022 Cowlitz Annual Program Review (APR) Hatchery Production Plan presentation: The goal is to develop a population management strategy for the coming season.

Preparation for the APR and Science Conference was held April 7th; after which the 2022 Cowlitz Annual Program Review (APR) was held April 21st. Tacoma received some public feedback at that meeting and welcomed online feedback until May 2nd. The second public APR meeting is on hold for June 1 from 2-4 pm. The final 2022 Hatchery Production Plan will be brought back to the FTC as a decision document.

There have been no major changes in the Hatchery Production Plan in the last several years. This year is likely to be consistent as well, with one area of minor adjustments for FTC consideration. The proposed adjustments are in alignment with the transition plans.

Species	Before 2011 FHMP Update	2018 APR Goal	2019 APR Goal	2020 APR Goal	2021 APR Goal	2022 APR Goal
Fall Chinook	4,800,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000
Spring Chinook	959,800	1,738,529	1,738,529	1,738,529	1,738,529	1,678,000
Coho	2,835,000	2,178,000	2,178,000	2,178,000	2,178,000	2,178,000
Winter Steelhead	690,000	647,000	647,000	647,000	647,000	647,000
Summer Steelhead	550,000	625,000	650,000	650,000	650,000	650,000
Cutthroat	160,000	100,599	100,599	100,599	100,599	100,599

Winter Steelhead - The overall hatchery production numbers are staying about the same. The changes are to increase the size of the Tilton and Upper Cowlitz program and commensurately reduce the Lower Cowlitz program.

	Current	Transition	Difference
Lower Cowlitz Winters	478,500	308,500	-170,000
Tilton Winters	48,000	100,000	52,000
Upper Cowlitz Winters	118,000	236,000	118,000
Total:	644,500	644,500	0

Summer Run Steelhead and Cutthroat Trout - No changes are proposed from last year's program. Fall Chinook - Numbers are the same, but the proposal is to move to one integrated program rather than one integrated and one segregated program.

Coho – Numbers are the same. A pilot netpen program associated with potential spring Chinook poundage change may be considered.

Spring Chinook - SAR analysis based on CWT data was used to develop potential options.

Option 1: Poundage neutral, no rebalancing necessary between other programs, change in the poundage category (Pounds) is adjusted between number of fish per pound (fpp) categories (Size) and release dates are modified resulting in 3.3% more adults.

16FPP	Population	Size	Pounds	Release Date
Current	500K	16fpp	36,000*	Nov
Proposed	575K*	12fpp	47,917	Dec
Difference:	+75k	4fpp	+11,917	+4 weeks

8FPP	Population	Size	Pounds	Release Date
Current	800K	8fpp	100,000	Early Mar
Proposed	603K	8fpp	75,375	Mid Mar
Difference:	-197k	0fpp	-24,625	+1-2 wks

5FPP	Population	Size	Pounds	Release Date
Current	437K	5fpp	87,600	Early Mar
Proposed	500K	5fpp	100,000	Mid Apr
Difference:	+63k	0fpp	+12,400	+5 wks

Option 2: Increases poundage by 13.6K lbs, requires rebalancing between programs, total number of fish is reduced by 80K, change in the poundage category (Pounds) is adjusted between number of fish per pound (fpp) categories (Size) and release dates are modified resulting in 9.3% more adults.

16FPP	Population	Size	Pounds	Release Date
Current	500K	16fpp	31,250	Nov
Proposed	537K	12fpp	44,750	Dec
Difference:	+37k	4fpp	+13,500	+4 weeks

8FPP	Population	Size	Pounds	Release Date
Current	800K	8fpp	100,000	Early Mar
Proposed	420K	8fpp	52,500	Mid Mar
Difference:	-380k	0fpp	-47,500	+1-2 wks

5FPP	Population	Size	Pounds	Release Date
Current	437K	5fpp	87,400	Early Mar
Proposed	700K	5fpp	140,000	Mid Apr
Difference:	+263k	0fpp	+52,600	+5 wks

Option 2 has a lot of similarities with Option 1. Potential changes fall in line with the hatchery's best ability to approach the SAR analysis recommendations. There are some space limitations in the hatchery. A poundage gain of 13.6K is relatively minimal, would be the equivalent of displacing one pond of coho. At the APR meeting, a rebalance by adjusting other programs in the complex to offset the poundage gain in this program was proposed. The public didn't provide much feedback other than a small paragraph from the CCA. The other option for rebalancing is a one-year netpen pilot program. The pilot program would displace the one pond of coho. Funding for the one-year pilot program would require approval from Tacoma Power's Public Utilities Board. The pilot program would be evaluated before deciding whether to make a permanent change. If successful, the FTC and public would provide recommendations on whether to continue the program. Continuing the netpen program would require a different source of funding.

Public feedback was to go with the netpen pilot project and reduce the fall Chinook program by 13.6K lbs. This wasn't an idea formally presented to the public at the APR meeting. It was noted that reducing the fall run by 13.6K lbs equals over a million fish, or 1/3 of the program. Discussion:

- From WDFW's perspective, they would like to move forward with netpen improvements. They would be supportive of the neutral pound option now and then scoping and trying to secure funding for the coho netpen pilot program and trying to implement that as soon as possible. They've gotten a lot of questions about whether the netpens would work in the upper basin. They also replied after the first transition plan meeting to the CCA comments about the fall

Chinook reduction, noting that this is not something WDFW supports considering right now. The fall Chinook program provides fishing opportunities, supports the recovery objective, and also supports the state's killer whale priorities.

- Peggy asked about Tacoma's process for seeking funding from the board. Eric replied they're looking for more definitive answer from the FTC before taking this to the board.
- Bryce inquired about the location for the netpens: existing site or older Mossyrock site? This could be decided at the 2023 APR meeting. Eric added that if we went with the existing site, it would be more like a year out if the plan is to just replace nets. If the sites were moved, it would likely take at least 2 years. All of the infrastructure questions would have to be worked out, leading to a longer timeline and more expenses. He asked for input: do people even want to entertain the option of piloting one site vs. another? Bryce would like to do a pilot but does not have a site preference, would appreciate perspective on what makes sense logistically and gives the best chance for survival.
- Should the DD reflect the FTC's preference for the neutral poundage option for this year and the FTC recommendation pursuing the pilot project for netpens? Tacoma Power staff made a commitment to take the pilot netpen program forward to the board, likely to take place in the 2023 APR or perhaps the 2024 APR. A formal DD might not be needed because the notes indicate the FTC's recommendation pursue the netpen.
- WDFW has received comments regarding moving the recycling release location of the I-5 bridge downstream to Olequa. WDFW would support assessing the Olequa location as an option. It would spread out the fish more, giving anglers additional opportunities. WDFW suggests the FTC look at places where we can act on public comment, and this seems like one that is reasonable to consider. He also suggests the FTC be sensitive to the potential increase in straying in Olequa, but it seems like the stray risk will likely not be increased by much. This can be brought to the M&E for consideration.
- There were some challenges with getting APR meeting invitations widely shared. A lot of effort was put into the APR meetings, so it is disappointing when only eight or ten people show up. It makes it hard to know if we're getting good feedback. It was suggested to brainstorm additional ways to advertise the APR meeting at the FTC in October / November to help raise awareness.

Those who spoke were in favor of, at least in 2022, focusing on the poundage-neutral approach. The FTC can consider the netpen idea for future years, but not this year because it cannot be implemented without funding and infrastructure modifications (might need new nets). Attendees noted it feels like there is support for the poundage-neutral option while giving the netpen idea additional consideration.

Cowlitz Satellite Rearing Facility Discussion

Presenter: Phil Sandstrom

Cowlitz Satellite Rearing Facility presentation: Topics included context for the Tilton and Upper Cowlitz basins salmonid status, the site evaluation matrix, biological relevance, and sites they evaluated. Satellite facilities are intended to benefit the upper basin populations.

Current state of salmonids: Juvenile estimates in the presentation are strictly the fish handled at the Mayfield counting house. In summary, coho seem to be doing well in the hatchery and in terms of the transported adult NORs in both basins. The spring Chinook run seems like one that could use some help in terms of juveniles and returning adults. The fall Chinook in the Tilton leaves us with a lot of unanswered questions. Steelhead kelts are not included in the numbers presented today. As many as 400+ kelts have been handled at the CFFF in 2022.

Current State of Salmonids in Upper Basins

• Tilton River

- *Fall Chinook*: Adults – 1,444 (914-2,562) NOR 1,199 (775-1,527) HOR;
 - Juveniles 35,236 (7,658-97,000)
- *Coho Salmon*: Adults – 3,442 (1,348-6,585) NOR 11,503 (4,541-18,708) HOR;
 - Juveniles 34,655 (20,808-40,872)
- *Winter Steelhead*: Adults – 187 (72-260) NOR 64 (40-108) HOR;
 - Juveniles 6,367 (5,666-7,720)

• Upper Basin (Upper Cowlitz and Cispus rivers)

- *Spring Chinook*: Adults - 284 (149-549) NOR 3,070 (473-8,635) HOR;
 - Juveniles FPS: 62% (51-78) 33,345 (7,315-56,345)
- *Coho Salmon*: Adults - 6,325 (796-10,568) NOR 11,029 (6,275-21,089) HOR;
 - Juveniles FPS: 74% (52-93) 131,616 (26,196-158,096)
- *Winter Steelhead*: Adults - 332 (168-614) NOR 180 (69-301) HOR;
 - Juveniles FPS: 71% (57-83) 9,893 (4,860-14,450)

Satellite rearing site evaluation: Criteria include physical location, land ownership, land area required, potential water source, adult access, power, road access, permitting, and additional comments. This is a fairly simple list but did prove helpful in narrowing down the initial list of options to three sites.

Biological relevance: The number of returning adults / in gravel production, effects of domestication from program, current spatial distribution, and impacts to NOR populations of interest (does operating a satellite rearing program potentially impact returning adults or juveniles in terms of competition?) were considered.

Sites being considered (in no particular order): Mayfield Netpens, Tower Rock U-Fish, and the Energy Northwest (EN) Power Pool / stilling basin. Additional criteria include screening (<4 cfs), NPDES permits (5,000 pounds of feed (monthly) or 20K pounds of fish (annually)), and water rights (required for any pumping activity).

Mayfield Netpens: Holds approximately 300,000 HOR juvenile coho salmon and frees up one raceway (255K coho) in Salmon Hatchery. Netpens are an indirect approach to increase spring Chinook (50K Chinook could then be raised in that same raceway).

Tower Rock U-Fish: Has a good spring-fed water source, power available nearby, estimated capacity with fish number and size fpp, history of rearing fish in the past, road access, multiple releases possible, good site security, willing landowner however there may be potential long-term uncertainties. Some very rough ideas have been drawn up for this site, leading to high-level estimates of possible costs. Discussion:

- Anne asked about water quality and permitting requirements. Matt is working on this and noted that while it will take time, we have time and want to do this right.
- Bryce asked about the level of interest and relevancy / priorities. Phil noted that there has not been much interest raised regarding coho, but some interest about steelhead, and there has been discussion of utilizing juvenile spring Chinook to create relevancy. A small number of adults could be utilized, taking very few NOR fish and crossing them with HOR fish to get a program going.
- John suggested starting with a segregated, rather than an integrated program. Some benefits of the Tower Rock site include: an increase in spatial distribution, does not require large numbers of NORs (segregated program), potential to recondition kelts, and an increase in life history diversity.

EN Power Pool: Has a cool water source, stable water supply, flat work area near the pool, power nearby, area for potential tank and pump options, multiple release strategies and landowners seem

like willing partners. Tacoma conducted a site visit to measure the edges of the pool and to consider contingencies related to potential outages. They looked at netting off a portion of the pond vs. adding additional screens so that the full pond could be used. Whatever the program size, want to ensure that fish don't get stranded. Benefits to this location are similar to those at Tower Rock. Discussion:

- The BiOp requires the plant to be shut down from August 15 – September 15. During this time, EN is required to seine-net the power pool (aka stilling basin). The Power Pool can heat up and the closest temperature monitoring location is the upper tailrace. The fish screen at the base of the tailrace must remain in place per the BiOp.
- During relicensing, there were six netpens where they acclimated 100K steelhead smolts in this area, with no problems.
- Snyder Creek is being rerouted, so it no longer extends below the tailrace and may not be a good release option.
- An additional benefit is that when there is an outage, EN is able to pass water through the turbine without operating it, so there would no disruption in the flow into the power pool.

Kelt reconditioning is possible at Tower Rock and EN power pool but may not be possible at the Mayfield netpen program. A question was raised about the possibility of injury due to the nets. It is possible the Yakama Nation has reconditioned kelts in a netpen.

Site	Basin	Species Focus	Cost	Owner	Water source	Fish Reared	Permitting	Infrastructure	Kelt Recond	Biological Benefit
Tower Rock U-Fish	Cispus	Spring CK Steelhead	\$\$	Pete & Pam Del Duca	Spring	35,000+	401 NPDES Water Right	Water Road Power River Acc	Yes	<ul style="list-style-type: none"> • 175-525 adults • Alt juvenile LH • Increased Spat Dist • Resiliency/Stability • Program impacts can be controlled
Energy Northwest	Upper Cowlitz	Spring CK Steelhead	\$\$	Energy NW	Power Pool	100,000+	401 NPDES Water Right	Water Road Power River Acc	Yes	<ul style="list-style-type: none"> • 500-1,500 adults • Alt juvenile LH • Increased Spat Dist • Resiliency/Stability • Program impacts can be controlled
Net Pen Program	Tilton	Coho Spring CK	\$\$	NA	Mayfield	300,000	401 NPDES	Inside project boundary	?	<ul style="list-style-type: none"> • Better rearing for HOR spring CK

WDFW would like to have more time to think about what was shared today. All were asked to send comments to Tacoma by June 7. EN has offered to attend the next meeting, as have the owners of the Tower Rock site. Matt suggested it may be helpful to schedule a separate Q&A session with property owners.

CRR / HAP Update

Presenters: Melora Shelton and Steve West

Updates on Funded Projects: The Cispus River / Yellow Jacket Phase 3 project is currently on track for construction in summer 2023. Planning project implementation and logistics work will occur in order to begin construction in 2023. Contract coordination is underway for the Cispus Floodplain Reconnection project.

2022 LCFRB Grant Round: LCFRB ended this year's virtual tours. The three CRR projects are: Upper Cowlitz Culvert Inventory, Upper Cowlitz Tributary Restoration, and the Kiona Creek Restoration. Additionally, the Cispus Phase 4 project funding is from three sources included the CRR.

Final applications are due by noon on June 27. Then, on July 12, the LCFRB TAC will score and competitively rank all Salmon Recovery Fund Board (SRFB) projects and the three CRR-only projects. The final SRFB rankings will be published on July 27.

When conducting their internal project review, WDFW staff did not know to include the CRR-only projects which were new this year. They therefore have asked to be able to provide additional comments. For this year, Steve suggested that WDFW submit comments for CRR-only proposals to the LCFRB as soon as possible so he can share them with project proponents.

There was agreement that the process ensuring the FTC has ample opportunity to provide feedback to CRR proponents prior to project review can be improved. Being able to give project proponents feedback early in the process will help them improve their final applications.

Bryce asked for clarity about what the LCFRB will provide to the FTC. Steve responded that a single combined list would be difficult as the CRR project criteria are slightly different. One option may be to use everything but the CRR-specific criteria to illustrate where the CRR-only projects rank within the SFRB pool for sake of comparison.

Some proposals lacked detailed implementation information. Peggy suggested the CRR application be revised to request additional task and method information. She also asked if the FTC can decide to fund only certain/distinct tasks within a proposal. Steve replied that it would be hard to ask the proponents to parse out a project. It would be like asking them to rescope their proposal. This is something to consider for the future.

RCO has asked for an overview of the CRR work to include in the State of the Salmon report.

Update to the FTC on the HAP Subcommittee's actions to date: They have had four meetings since February and have been sending out notes. Their first task was to finalize the Charter. They then incorporated the HAP Guiding Principles into the CRR Implementation Strategy which will be available for review in advance of the 2023 grant round. Next steps include developing an application process which includes workshops and early feedback to the applicants. After this afternoon's meeting, Melora will distribute the draft work products to the FTC for feedback and will follow up in June.

Review and finalize the DD: The FTC reviewed and approved with edits DD 2022-3 CRR Hatchery-Associated Production (HAP) Subcommittee Charter that was first presented in April. While the HAP subcommittee is largely comprised of reps from the WDFW and Tacoma Power, anyone with technical expertise is welcome. At Anne's request, Travis added Ecology to the list of reps.

Per FTC Protocols FTC reps not present will be provided seven days to respond. If there are no objections, the DD will be approved on May 10.

Topics for June 7 FTC Public Meeting

- Public Comment Protocols
- Usual Updates
- Satellite Rearing
- Gravel Augmentation
- APR Update – DD
- CRR Update
- Downstream Adaptive Management Tech Work Group
- Barrier Dam Update

Meeting Evaluation:

- Jamie thanked everyone for their participation and patience
- MS Teams seemed to work better this time
- Good participation
- Good job, Jamie; thank you for filling in for Lyn
- Great to see Ecology and TU back at the table! (seconded and thirded!)

Josua's quote of the day:

Before sharing a quote, Josua noted that during our sound check this morning, several meeting participants responded in different languages. What a lovely and spontaneous way to demonstrate the diversity of our history and experiences.

In that spirit, the quote he shared comes from Rita Mae Brown: "Language is the roadmap of a culture. It tells you where its people come from and where they are going."

Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Final MS Teams Public Meeting Summary
June 7, 2022 from 9:30 – 3:30

FTC Representative Attendees:

Travis Nelson	TPU
Bryce Glaser	WDFW

Additional Attendees:

Josua Holowatz	WDFW
John Serl	WDFW
Peggy Miller	WDFW
Sam Gibbons	WDFW
Brian Gale	WDFW
Todd Hillson	WDFW
Matt Bleich	TPU
Eric Shoblom	TPU
Chris Foster	TPU
Phil Sandstrom	TPU
Tim Hoffnagle	TPU
Melora Shelton	TPU
Steve West	LCFRB
Laura Wolfe	LCPUD
Joe First	LCPUD
Ann Weckback	Lewis County
Debbie Carlson	BPA
Steve Lewis	BIA
Kyle Wright	USFS
Lyn Wiltse	PDSA Consulting / Facilitator

Attending Members of the Public:

Larry Pryor, Jack Tipping, and Dan Davison (“Rocky Point”)

2022 FTC Meeting Dates: (No meeting in July), Aug. 2, Sept. 6, Oct. 4, Nov. 1, and Dec. 6

Approval of Last Meeting Summary

Approval of the May FTC Meeting Summary was deferred until the August meeting after which it will be approved with edits and posted for public review along with the July notes.

- **Action Item:** Lyn to send preliminary drafts of each section of the FTC Meeting Summary to various presenters to proof and return to ensure the draft emailed out to all on the second Friday following the meeting is as complete and as accurate as possible.
-

Announcements

- Debbie Carlson is retiring the end of July. We appreciate her participation in this group over the years and wish her the very best as she “puts on new tires” for the next chapter in her life. Going forward, the BPA rep for this group will be Cherie Sonoda. We’ll miss you, Debbie! Note: In her last few weeks with BPA, Debbie is adding the following Apache Blessing to her email signature line:

May the sun bring you new energy by day.
 May the moon softly restore you by night.
 May the rain wash away your worries.
 May the breeze blow new strength into your being.

May you walk gently through the world and know its beauty all the days of your life.

- We were pleased to welcome Stephen Lewis to the FTC. He will attend these meetings representing BIA as Rudy Peone has for the past several years.

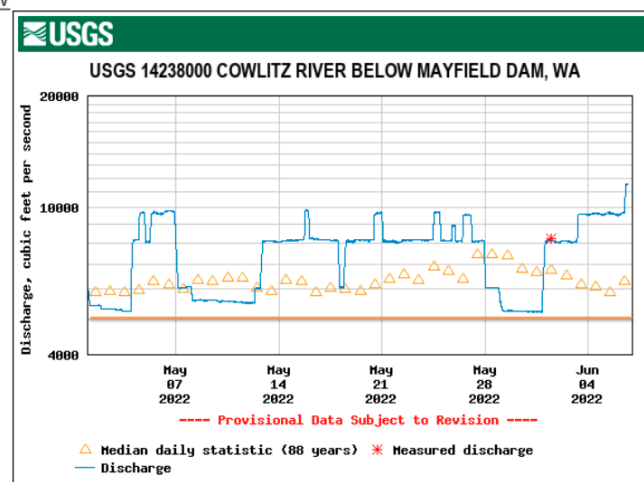
Updates

Hydro Operations: Melora will send out an updated PowerPoint after this meeting.

- Inflows: May inflows were 10,080 cfs (110% of average), with above average precipitation and below average temperatures. May is historically the highest inflow month during the spring with rain events and snowmelt starting in the upper basin later in the month. June has started off with inflows of 146% of average.
- Snowpack: Snowpack continued building through May and is at 135% of average at Paradise and 400% of average at White Pass, where a third of the snowpack remains.
- Storage: Riffe Lake elevation was below average at 736' on June 6 and, due to snowmelt, will continue to fill into June. The elevation at Mayfield Lake continues its typical fluctuation between 420-424'.
- Outflow: Currently at 11,600 cfs (minimum flow requirement of 5,000 cfs). There have been no ramp or minimum flow exceedances. Ramp restrictions below 6K cfs were followed (no daytime ramping, night time limited to no more than 2" per hour). Weekly fish transport flows continue to occur when flows fall below 8K cfs. There were no unit trips or unplanned flow changes.
- Forecast: After rain Thursday – Sunday, the outlook is relatively dry, but the rain event could bring very high inflows first. Riffe Lake elevation is slowly increasing. Daily average inflows are higher than the last couple of months. Outflows expected to vary 8.6K – 11.6K cfs.

Melora reminded FTC that outflow data below Mayfield and Riffe Lake elevation are updated on the Tacoma Power website on Mondays and Thursdays.

Outflow



6/6 11,600 cfs. Minimum flow 5,000 cfs. No exceedances.

Link to the USGS real-time Cowlitz River hydrograph:

https://waterdata.usgs.gov/wa/nwis/uv/?site_no=14238000&PARAMETER_cd=00060,00065
<https://www.mytpu.org/community-environment/parks-recreation/river-flows-lake-levels/>

Water Quality/Monitoring: No update at this time.

Fish Facilities: Eric walked through a PowerPoint presentation with photos of progress on the Barrier Dam and boat dock construction, as well as Separator Operations.

Barrier Dam: Progress is slow as carpenters are finishing the deflector plate template and boat docks. Rock hauling will pick back up June 13 with the crew bagging and stockpiling the super sacks with gravel. Work continues on the crane pad to accommodate the crane which is to be delivered on July 5. In-water work is set to begin July 15 and will be 15 days shorter than last year to protect Chinook broodstock collection since the operation is happening in the ladder side of the dam.

Separator Operations: On May 19, there was 3.5-hour ladder shutdown to install the transponder antennae which will allow PIT tag information to be automatically downloaded to the PITAGIS regional database as the fish come up the ladder. The manual detection process at the table was also upgraded and will serve as a double check.

Adult Returns:

- Hatchery-Origin Recruit (HOR) Winter-Run Steelhead: The season is pretty much over, with only two adults showing up last week. Broodstock collection is complete. This season is showing an improvement over the 10-year average, with a return so far of 5.6K, twice the last 5-year rolling average.
- Natural-Origin Recruit (NOR) Winter-Run Steelhead: These returns, at 507 to date, are close to the rolling 5-year average of 518.
- HOR Spring Chinook: 1,800 HOR returns to date are above the 5-year rolling average of 1427. Broodstock collection is going well. We're currently on track to exceed spring Chinook broodstock goals and are collecting Ad+CWT fish exclusively for the CWT data.
- NOR Spring Chinook: With 206 collected so far, these returns are nearly twice the 5-year average. Eric noted this is a great shot in the arm for the upper basin!

Mayfield Juvenile Collection: Numbers continue to rise for both steelhead and coho outmigrants at Mayfield. Crews are snout tagging all Chinook and coho smolts and dorsal sinus tagging all steelhead and cutthroat smolts. Phil stated that as of June 3 we've collected close to 8K NOR steelhead juveniles out of Mayfield!

Cowlitz Falls Fish Facility: Chris reported the CF Northshore Collector has been running non-stop since March 15 and will operate for another 115 days before shifting to fall operations. With snowpack above normal and runoff later than usual, they are making use of the collector's tailrace discharge gates in response to the high volumes of water (with fish and debris) coming through the project. The facility staff is busy during ascending flow events when fish and debris increase. Lewis County PUD has faced similar debris challenges on their unit intakes, with reduced generating capacity. Nearly 90K smolts have been collected this year with ~90% of those being Coho. Steelhead monitoring releases (Capture Efficiency) have concluded for the year with an average Capture Efficiency of 44.6%. Coho monitoring releases will wrap up in the next few weeks. Coho average Capture Efficiency is 25.4%. These numbers are still maturing and are considered preliminary. Chinook efficiency releases will start when collection numbers pick up.

Spill vs. FCE: Chris showed a figure illustrating how, as spill increases at Cowlitz Falls Dam, Fish Capture Efficiency observations decrease. When flows exceed generation capacity, Lewis County PUD must spill. This has been occurring more often this season. LCPUD's generation capacity has been reduced due to debris challenges at the unit intakes. There is still a lot of snow in the upper basin. Many elevations at 4-5K' are melting now and we have

yet to see any significant water from snowpack above 6K'. Crews are seeing a lot of fry and parr following the ascending flow events. These young fish are transferred up to suitable habitat locations so they can continue to grow before out-migrating.

M&E Subgroup: Phil reported the last few months have been busy for this group which didn't meet in April due to APR public meeting. At their meeting on May 18, they focused on moving the Monitoring Plan forward.

General Updates:

- Harvest Rates and SAR Analysis for Coho and fall Chinook: Josua is leading this effort which will be revisited in August after which the data will be incorporated into the SAR analysis as it was done for spring Chinook.
- Cowlitz Trout Hatchery Steelhead Enumeration Project – The PIT system and conductance counter both operated well and in high agreement (within 2K fish of each other). About 1,012,000 fish went out with a minimal survival estimate of over 94%. The group will meet with Thomas Buehrens and John Serl to wrap this up. And then they will prepare to start the whole process over again.
- Tilton River Transport Update: For the last three years, the subgroup has come to the FTC with recommendations on what to do with various species at Gust Backstrom and the Bremer Bridge site. They will share their recommended draft release plan with the FTC in August, seeking consensus on this before the fall Chinook return to the system.
- Spring Chinook Segregated HOR Jack Disposition: As there have been decent returns of HOR spring Chinook, there is a question about what to do with all the jacks coming back. Transport to upper watershed? At same rate as they transport HORS? Follow Adult Handling Protocol from WDFW? Until there are adequate data to make an informed recommendation, they will follow the AHP.
- Summer Steelhead Recycling Plan for 2022: With an eye toward providing angling opportunity, the numbers of fish being recycled doubled from 3300 to 6600. There are discussions about recycling fish sooner rather than holding them until they have a full load. There was support from NMFS to proceed and recycle those fish downstream. They are currently recycling every first-time arrival summer-run steelhead that comes into the facility and this will continue to do so until July. They also continue to floy tag summer-run steelhead. John, Josua, and Scott are leading this effort. This will be discussed further at their June meeting.

Bryce noted that regarding recycling, the FTC needs to consider how to implement the M&E Team's recommendations which originally came from Hatchery Operations and Maintenance (HOM) folks. Phil will add HOM folks including Eric, Phil, John, and Bryce to the next M&E meeting or set up a separate meeting to discuss what types of in-season recommendations need to come back to the FTC for a decision vs. being provided as an FYI. What is the scope of authority we give subgroups to make decisions? What falls into what category and then what is the implementation protocol?

Monitoring Plan Priorities: Phil explained the M&E Group is going through Appendix C of the Transition Plan. WDFW, NMFS, Tacoma, and LCPUD are reviewing the list to see if all the priorities they are recommending are in the list and if not, add them and then prioritize the list. This process is complicated as we have multiple programs and populations in the basin. There is a baseline need for each population and then directed studies for each population as well. They hope to make progress in the coming months and will keep the FTC updated.

Downstream Adaptive Management Technical Work Group (TWG):

Evaluation / Coordination Efforts for 2022: Matt reported they are already near the end of the spring closeout for the season with an eye toward the summer season. They will be evaluating key learnings to inform subsequent recommendations. They will also continue to coordinate with LCPUD. Comments from the TWG and FTC were incorporated into the report which should be distributed and posted to the FTC website in the next few weeks. This was the first year Tacoma staff produced the report which was much improved due to their on-the-ground knowledge. Special thanks to Tacoma's Gabe McGuire.

Gravel Augmentation: Travis shared that the plan is to perform the gravel augmentation this July, using the same location, similar quantity (1,200 cubic yards), same equipment, and same method of deployment as last year. They will use the gravel from the supersacks and will use the stockpile from the other side (left bank opposite of the salmon hatchery).

- Action Item: Travis to check to see if the contractor used any mitigation gravel on the right bank when they fill the supersacks.

Satellite Rearing Program

Presenter: Phil Sandstrom

Phil began by reminding everyone that three potential options (Tower Rock U-Fish, Energy Northwest (EN), and Net Pen Program) were discussed at the last meeting, along with associated programs. Much of the biological relevance content was focused on an integrated spring Chinook program. FTC members expressed a desire to circle back with their staff before providing feedback. When Tacoma reached out to offer additional information, etc. to help, they didn't receive any specifics.

At this time, while the Tower Rock U-Fish option is not entirely off the table, Tacoma recommends moving forward to design phase with the EN site. Phil noted the net pen option is also still on the table, though perhaps it should work through a pilot project based on APR discussions.

At the EN site, Phil noted there are willing partners at this location which would lead to satellite actions that could help lead to recovery of species. Site stability, ownership, etc. are all good at the EN site. Spring Chinook rearing and kelt reconditioning strategies are good options to pursue at this location. Pumps, tanks, etc. will all be built into the design phase, with a focus on rearing juvenile Spring Chinook. They would begin working on land use agreements and schedule follow up site visit. Engineering staff will work with Chris Foster who will become Project Manager from natural resource standpoint once the design phase begins. There will be an update to FTC in August along with a draft timeline and next steps.

WDFW asked for a risk benefit analysis to each of the proposed actions, with expected contributions to recovery for each site. At Bryce's request, Phil agreed to set up a meeting / workshop to discuss WDFW's suggestions of pre-design issues to consider, such as the infrastructure program and how best to phase in the program, etc. The workgroup should also think about the process for updating the DD as this is a bit of a departure from the original DD as they work toward a final adoption of an option.

Steve M asked about the broader recovery outcomes Tacoma is seeking. Phil responded these include spatial distribution, adult abundance to produce NORs to come back and feed into the population, genetic influence on the population, as well as which populations would benefit the most from these types of actions. There isn't a high need for a Coho-type program. Steelhead are more of a question. We don't know what the carrying capacity is as adult abundances haven't been high in the upper basin. There is a need to bolster the NOR Spring

Chinook which are low in numbers. There is a need to evaluate short-term vs. long-term impact of whichever option we pursue. Eric reminded all that we can work out program details along the way, especially if the site has enough flexibility (which is key) to support changes along the way. We need to develop our approach for an integrated spring Chinook Program – start off using ponds with current segregated spring Chinook populations to get them dialed in, etc.

- **Action Item:** Phil to set up a meeting / workshop to discuss WDFW's suggestions of pre-design issues to consider.
-

LCPUD Dam Operations

Presenter: Joe First

Joe First noted LCPUD is, at this point, still planning on a short reservoir drawdown in the September/ October timeframe. The project is a bit in flux and may need to be deferred, depending on permits and other considerations.

General Plant Operations: In response to high flows, they have been spilling the last couple of days and will continue to do so this weekend. A flood drawdown is anticipated for this weekend. They can still run the units during the drawdown. They may draw down below the level where Tacoma could collect fish at the CFFF.

General Project Work: They just awarded the contract for work for site improvements at the main rafter/kayaker take-out site (Copper Canyon Creek on the Cispus side) and construction of two new sites. This work should begin in late June/early July and wrap up in late fall/early winter.

Ongoing work that impacts the fish facility somewhat (replacing hand rails, north rock wall scaling, etc.) will start later this week. As river inflows fall below 5K cfs, they will take a unit out for annual outage. They estimate this outage will occur in mid-July or the August/September timeframe. There are no other planned outages for the units.

Tacoma works closely with the PUD during high flow events and other events that potentially interfere with each other. If the fall drawdown the PUD plans is done in September, it would interfere with Tacoma's plan to run the Northshore Collector until September 30. If the PUD delays until October, that could interfere with release strategies for adult coho. The Northshore Collector can operate later into the season. Anything below 860' elevation at Lake Scanewa would prevent fish collection. Joe noted the drawdown could be shorter if done in October. The Technical Working Group has come up with a recommendation on the timing of the drawdown. Out of consideration for the spring Chinook outmigrants which seem to be edging toward recovery, the TWG recommends the PUD do the drawdown in early September, when the temperatures are warmer instead of in October. Joe responded they could move the timing of the drawdown to any time after September 1. He also noted the PUD doesn't have the permit from the Corps yet, so it may need to be done during an entirely different time period. In the meantime, they will plan for early September.

2022 Annual Program Review (APR) Process Update

Presenter: Phil Sandstrom

Phil reviewed the DD with the proposed hatchery programs for the next year. Table 2 describes the 2022 APR release goals. Essentially nothing is changing in terms of actual numbers being targeted for release.

Table 2: Proposed program goals for the 2022 brood year of Coho, fall Chinook Salmon, Summer Steelhead and Cutthroat Trout. Winter steelhead and spring Chinook Salmon goals will take effect in the 2023 brood year as is typical of the APR process.

APR Production Goals						
Species	Before 2011 FHMP Update	2018 APR Goal	2019 APR Goal	2020 APR Goal	2021 APR Goal	2022 APR Goal
Fall Chinook	4,800,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000
Spring Chinook	959,800	1,738,529	1,738,529	1,738,529	1,738,529	1,678,000
Coho	2,835,000	2,178,000	2,178,000	2,178,000	2,178,000	2,178,000
Winter Steelhead	690,000	647,000	647,000	647,000	647,000	647,000
Summer Steelhead	550,000	625,000	650,000	650,000	650,000	650,000
Cutthroat	160,000	100,599	100,599	100,599	100,599	100,599

The second APR meeting this year was held on June 1. Tacoma's Monika Sundbaum is summarizing comments and responses from that meeting. The comment /response matrix will be incorporated into the DD and sent out in advance of the August FTC Meeting, at which time it will be finalized and approved.

- **Action Item:** By June 24 Phil to send out the DD along with the comment/response matrix from the June 1 APR meeting.

CRR Fund / Habitat and Production (HAP) Subcommittee

Presenters: Melora Shelton, Steve Manlow, Steve West

Hatchery-Associated Project (HAP) Subcommittee: This group has been meeting for a few months now and are currently defining project criteria. They hope to bring something to the FTC to review by the end of the year.

On June 6 Travis forwarded meeting materials for the 6/8 HAP subcommittee meeting (rescheduled from 6/7). These included a draft a DRAFT HAP calendar/process description for the subcommittee to discuss, as well as some potential applicant engagement workshops. This framework draws from, and potentially aligns with the LCFRB calendar and process, the 2022 version of which was included as an example.

LCFRB 2022 Cowlitz Restoration and Recovery Update

4 Projects sought CRR funding:

1. Cispus Yellow Jacket Phase 4 (Cowlitz Indian Tribe) - three separate funding sources with an approximate \$1.8 million CRR ask.
2. Upper Cowlitz Culvert Inventory (Lewis Conservation District)
3. Creating Habitat on Cispus Tributaries (Cascade Forest Conservancy)
4. Kiona Creek Restoration (LCPUD) in cooperation with Lewis Conservation District.

LCFRB's Technical Advisory Committee (TAC) will score the projects according to these categories: Benefits to fish, certainty of success, and cost, relative to expected benefits. These metrics would apply to any project seeking Salmon Recovery Funding Board (SRFB) funding along with CRR funding (e.g., the Cowlitz Indian Tribe project). The TAC will use two separate scoring systems for proposals seeking SRFB or CRR funding (specific to each program); CRR-only scoring will be used for projects only seeking CRR funding. The CRR evaluation questions and the supplemental questions for CRR applicants to include with their proposals were approved by the FTC prior to the 2019 grant ground and adopted for the 2022 June 07, 2022 Public FTC Meeting

grant round. The LCFRB will present all four CRR proposals and TAC scoring and ranking results the August FTC meeting.

LCFRB Calendar: The LCFRB sponsored five days of virtual project site tours. On May 2, the lead entity feedback was published on the RCO website. Comments were received from the Review Panel. On June 8 they will discuss the Cispus project. Steve W. let everyone know they were welcome to listen in. This project was considered *needs more information (NMI)*. Final applications are due June 27th. On July 12 TAC members submit scoring and rationales, followed by ranking meeting on July 26th, and the TAC Ranked List will be published July 27th. The ranked project list goes to the LCFRB Board for final approval on August 5 and will be published on August 8th.

The LCFRB will do a detailed presentation on the projects at the August 2 FTC meeting along with where the TAC landed on their recommendation and then the final list of projects with approved funding in the form of a draft DD at the September 6 FTC meeting. Steve W. stated that the ranked list should be considered “draft”, as due to scheduling, the LCFRB Board will not have approved the list in time for the August 2nd FTC meeting. The FTC will then finalize the DD at the October 4 meeting.

Steve W showed the ranked list from last year, noting they were able to chew up entire allocation of \$3.8 million. TAC members came in with scores and supporting rationale. This was very helpful to the sponsor. This program will be updated for 2023 by applying lessons learned from debriefs with Sponsors, the TAC, and the FTC.

Topics for August 2, 2022 FTC Meeting

- Debrief of this Public Meeting process
- Updates incl. Hydro Ops, Water Quality
- LCPUD Dam Operations
- Fish Facilities
- Satellite Rearing
- Downstream Adaptive Mgt. TWG
- Satellite Rearing Program
- CRR Fund / HAP Subcommittee (extra time)
- M&E Subgroup
- Gravel Augmentation Report
- Preview September 6 FTC Meeting topics

Public Comment Session (*FTC responses appear in italics.*)

Larry: Are you doing broodstock management with a focus on what will enhance adult returns? Grant County is having a lot of success as have the Yakama and Quinault Tribes

Eric: Yes – fairly extensive and have for decades: Maintaining proper integration rates, maximizing NOR fish, collecting across both ends of the runs, matrix spawning, extensive marking and tagging programs for juvenile releases. We are using data to ensure we are making good broodstock decisions. He invited Larry to reach out with additional questions.

Steve: Consider inviting Grant PUD to one of these meetings to discuss how to improve SAR, etc.

Larry: What is success? Meeting license requirements? Adult returns? Copy & paste from HSRG 2009 report to congress, page 11 Maximize Survival of Hatchery Fish In order for hatchery programs to effectively contribute to harvest and/or conservation, the reproductive success and survival of hatchery releases must be high relative to those of naturally spawning

populations. The primary performance measurement for hatchery programs should be the total number of adults produced (those caught in fisheries plus those that escape to the hatchery or natural environment) per adult spawned at the hatchery. All too often in the past, hatcheries have instead been evaluated based on the number of smolts released (which is like evaluating a farm based on the pounds of seed planted, rather than the size and quality of the crop produced). Cowlitz Salmon Hatchery fall Chinook past two years was .0007. That's .07%, springer salmon .0015 - .0031. This includes jacks - that's .15 to .3 %. Larry doesn't see Cowlitz hatcheries as successful in that they don't provide enough harvest opportunities. He doesn't hear the FTC discuss this enough.

Bryce: Acknowledged Larry has asked this question many times and assured him the FTC does talk about this in the HPMP, Transition Plans, life cycle modeling to better understand what abundance should look like in the upper basin, SAR Analysis (have done some and have more coming), etc. He is not sure what else to add that hasn't already been said.

Travis: We can also bring this up as part of an APR meeting. He feels we are making progress.

Jack: In the notes from last meeting, it is not clear that the CCA memo represented dozens and dozens of anglers. They were calling for a shifting of fall Chinook population to spring Chinook – which need supplemental imports.

Eric: Sorry if the small paragraph from CCA came off as minimizing. This is something that is being discussed and brought before a broader audience before any decisions are made. In the APR process, we are increasing the spring Chinook poundage.

Jack: Rainbow trout have been flushing out of Mayfield as have the tiger muskies. Would like to see the rainbow trout removed from Mayfield. They could be utilized at a higher rate elsewhere.

Jack: Re Satellite Rearing pond. Might see these ponds as dual use rather than just reconditioning kelts. It could be used to create a resident trout fishery in the pond for juveniles anglers.

Jack: In response to Steve's question earlier in the meeting about tiger muskies, Jack suggested the current population may be 500-1000 fish over 30 inches in length. Dozens had their stomachs pumped and contents were 98% northern pikeminnows and suckers.

Bryce offered to send Steve information on this. Steve is concerned - 2002 is a long time ago.

Josua: Doesn't think tiger muskies are marked when they get handled at the Mayfield counting house, so the same fish may be handled multiple times.

Larry: Re the satellite rearing programs, the Packwood area (EN site) has good potential. Considering any partial flow-through up there? RAS (Recirculating Aquaculture System)?

Chris: From the currently high-level evaluation, it appears there would not be a need for a re-use type water system at this time.

Eric: This is something that could be phased if/as necessary.

Larry: Is the parasite issue being addressed?

Eric: The fall Chinook coming through Mayfield are severely degraded. The coho are expected to be much more resilient there. They can also evaluate a location up at Mossyrock.

Dan: As stated at the last public FTC meeting, the cormorant situation continues to be bad and needs to be addressed. They roost above the bridge. Can't Tacoma Power apply for a permit to do some mitigation? Also, it is unfair to the public that they don't get a forecast/notice of changing water levels.

Travis: Since he and Dan last spoke, Travis has continued to work on this. He will update Dan on progress.

Jack: In the 1990s, the local wildlife agent and rep from the Dept. of Agriculture drove from Barrier Dam to above Longview and harvested as many cormorants, mergansers, and herons as possible. They got ~60 birds each day.

Dan: Effective deterrent actions can be taken that do not involve killing the birds.

Larry: How to build anti-predatory practices to increase adult returns? Releases during cover events? E.g., glacial flow, muddy events, etc.

Chris: Hasn't noticed a difference between high water events that are muddy and those that are clear in terms of fish moving on flow events. Tacoma provides transport flows this time of the year for hatchery releases.

Meeting Evaluation

- Everyone followed the norms and was respectful of each other's time
 - Work on getting the meeting notes out sooner
 - Good dialogue and participation
 - Hoping more than three members of the public next time
 - Good presentations
 - Time was used well
 - Got out a little late
 - Josua's Quote: "A rainy day is the perfect time for a walk in the woods." Rachel Carson
-

Closing Remarks

Travis thanked everyone for attending today's meeting. He especially appreciated the open dialogue, noting it takes all of us and we all are working hard to making a difference. He asked that we give each other space and grace as we work through these things.

Parking Lot

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

**Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee**

NO JULY MEETING

Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Draft MS Teams Meeting Summary
August 2, 2022 from 9:30 – 3:30

FTC Representative Attendees:

Travis Nelson	TPU
Bryce Glaser	WDFW
Jonathan Stumpf	TU
Anne Baxter	Ecology

Additional Attendees:

James Archibald	NMFS
Josua Holowatz	WDFW
Peggy Miller	WDFW
Sam Gibbons	WDFW
Brian Gale	WDFW
Todd Hillson	WDFW
Matt Bleich	TPU
Eric Shoblom	TPU
Chris Foster	TPU
Phil Sandstrom	TPU
Tim Hoffnagle	TPU
Melora Shelton	TPU
Steve West	LCFRB
Laura Wolfe	LCPUD
Russell Page	LCPUD
Steve West	LCFRB
Bill Sharp	Yakama Nation
Lyn Wiltse	PDSA Consulting / Facilitator

Remaining 2022 FTC Meeting Dates: Sept. 6, Oct. 4, Nov. 1, and Dec. 6

Approval of May and June Meeting Summaries

The revised version of the May FTC Meeting Summary was reviewed and approved with clarifying edits. The June FTC Meeting Summary was also reviewed and approved as edited.

Both will be posted for public review.

Updates

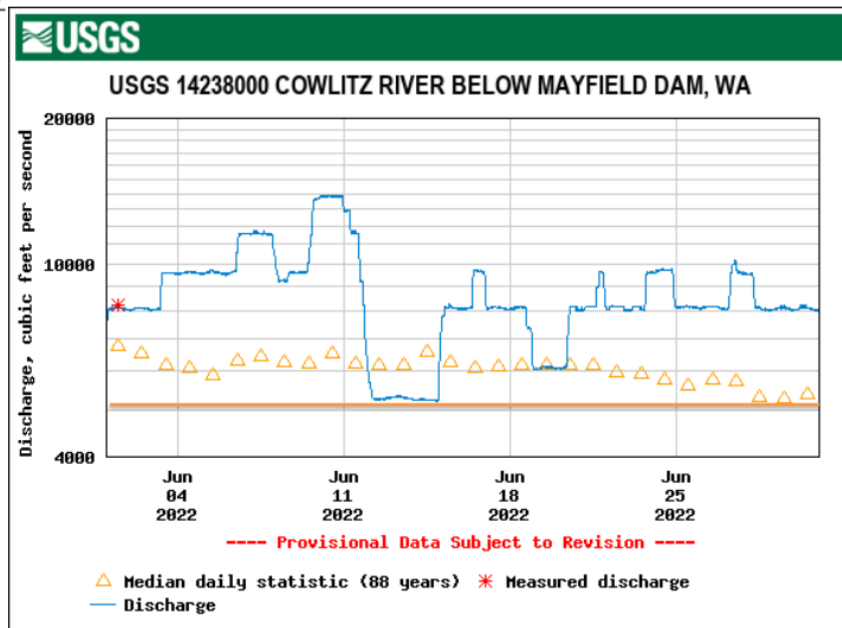
Water Quality/Monitoring: Anne requested that Matt Peter provide a brief water quality report during these meetings for now. It could include monitoring and the WQPP. The FTC looks to Ecology as the lead on this as they track key issues. Matt Peter was recently promoted (within the same group). Matt Bleich will follow up with the other Matt on Anne's request.

Hydro Operations: This presentation was emailed out on Monday before the meeting. As the FTC did not meet in July, this report covers hydro operations for both June and July.

- **Inflows:** High June inflows of 11,220 cfs (142% of average) were followed by July inflows of 4,127 cfs, which is right at the historical average despite the July heat wave.
- **Snowpack:** Paradise had melted out the end of July and White Pass at the end of June. Peak snow water equivalents were near or above average but were later than typical.
- **Storage:** Riffe Lake elevation on August 1, was 746.2' (just above the average of the last five years). Mayfield Lake continues its typical summer fluctuation of 421.5-424'.
- **Outflow:** June minimum flow requirement was 5,000 cfs, there were no exceedances. No fish transport flows were needed as flows each week reached at least 8K cfs. Minimum flow changed to 2K cfs July 1 and there have been no exceedances. The two downramps below 6K cfs met requirements. There were no unit trips or other unplanned flow disruptions.
- **Mayfield gage:** Cofferdam construction (starting July 12) has created a backwater effect at the Mayfield gage, similar to last year. Tacoma coordinated in advance with the USGS to provide estimated discharge data and establish a temporary discharge/stage relationship. USGS will true up the data and this will be updated on the USGS website and included in the annual report to FERC.
- **Forecast:** Dry with temperatures at/above normal. The freezing level is variable above 13,000'. Inflows will be in the mid-2,000s and Riffe will continue to draft. The current discharge of 5K cfs will ramp up to 7K cfs to test the Barrier Dam later today. Outflows are expected to vary below 7K cfs (max discharge during Barrier Dam work) through August 21. Max discharge will be 3.5K starting August 22 and going into the fall due to other projects.

Hydrograph for June:

Outflow



6/1-6/30 Minimum flow 5,000 cfs. No exceedances.

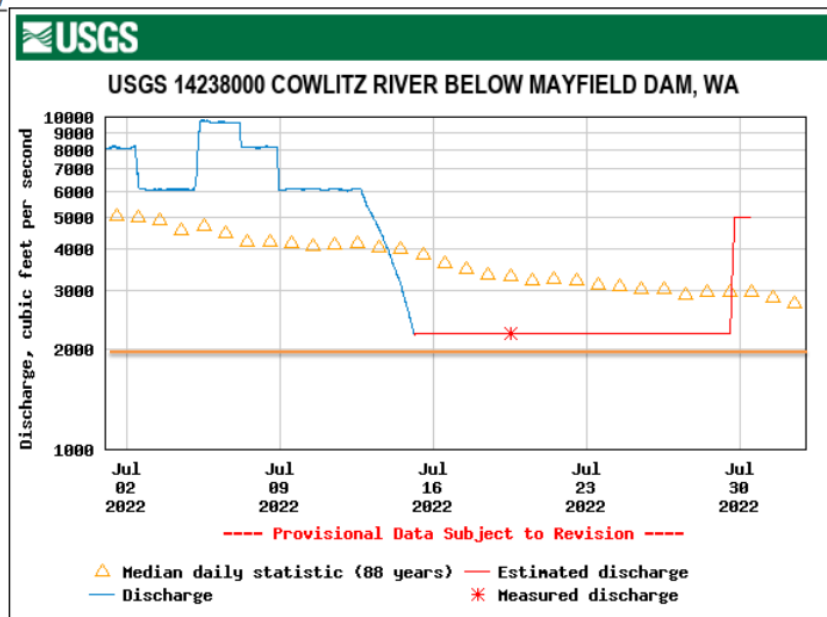
No fish transport flows (all weeks have flow \geq 8,000 cfs)

https://waterdata.usgs.gov/wa/nwis/uv/?site_no=14238000&PARAMeter_cd=00060,00065

<https://www.mytpu.org/community-environment/parks-recreation/river-flows-lake-levels/>

Hydrograph for July:

Outflow



7/1 - 8/1 Minimum flow 2,000 cfs. No exceedances.
8/1: 5,000 cfs

Barrier Dam Repair: Eric reported on Phase 2 of the Barrier Dam construction. He showed installation photos from July 26 and explained how they achieved a “dried in” state to allow for a fish salvage operation on July 28 that ended up being very successful and included clearing fish of the tunnel that connects the left bank fishway to the right bank fishway.

2022 Fish Salvage Numbers

	Parr		Smolt		MJX		Adult		Total
	HOR	NOR	HOR	NOR	HOR	NOR	HOR	NOR	
Chinook			71 (2)	9	10		1		93
Coho		167 (2)		24 (1)					194
Steelhead		2		2			1		5
Cutthroat				2					2
Sculpin								4	4
Whitefish								4	4
Crayfish								32	32
Shiner								5	5
RBT								1	1
Total:	0	171	73	38	0	10	2	46	340

() = Mortality Note: Mortality is included in the totals

Note: No lamprey were observed during the salvage effort

Flows of 5K cfs were used to test the coffer dam and will be increased to 7K cfs as a final test this evening. Crews had to dig out some gravel to get the pump down to the floor. This action created some muddy water. Tacoma noticed this in the first 15 seconds and halted the action, at the direction of Matt Peter, within 60 seconds. They took photos of the muddy water that had pumped into the canal. Eric was told three dead fish were found inside the

cofferdam area. Jamie is working on a report on this for NMFS. Eric will share the data for that report with the FTC as soon as it is available.

Fish Facilities:

Return Summary:

- Summer-Run Steelhead Adult Returns: Started collecting broodstock in early July and should easily meet broodstock goals. As of July 29, 1965 were recycled to the I-5 boat launch. Returns are in line with the ten-year average (much better than last year).
- Spring Chinook Adult Returns: Also seeing a good return. Have completed broodstock collection and have met our goals. As of July 29, returns included over 5K (4.3K HORs and 0.9K NORs). While jack numbers are not particularly high, crews have been noticing a lot of mini jacks. So far 4.3K HOR adults and an additional 2.4K mini jacks have been collected. Staff are differentiating Cowlitz vs. Kalama origin fish in the records. Tim has conducted some research in this area and can give a presentation in his findings to the M&E Subgroup and/or the FTC.
- NOR Spring Chinook Adult Returns: We experienced great returns in 2021 but this year is much better. This shows we are making good progress with more NORs going into the upper basin.

Mayfield: Staff conducted their first auto-flush for the secondary separator on July 19. This will be a recurring operation to remove fish that like to hang out there. Coho outmigrant numbers have dropped off as expected, they are getting 400-500 juvenile Chinook, most of which are sub-yearlings. Tagging operations continue per protocols.

Cispus Release Site: Now that flows have receded, it has become apparent that sediment accumulation at the release site has made the transition from the plunge pool to the thalweg extremely shallow.. Consequently, transported adults were stranding themselves on the gravel bar at the site. Tacoma is working with LCPUD to investigate short-and long-term alternatives. In the meantime, they will use the release sites at Lake Scanewa and the Franklin Bridge until water temperatures in Scanewa exceed 18C. Discussion:

- We need a good way to track when we change from the protocols.
- What about a temporary extension? It would have to be to be 80' over a flat area.

Eric is open to additional suggestions will keep folks posted on this. Laura assured everyone it is LCPUD's site and ensuring it is functional is a high priority.

Mill Creek Boat Launch: An accumulation of sediment there is preventing large boats from launching at low flows. An excavator is not available until late August. Eric will keep folks updated on this. Tacoma plans to dredge this out before their HPA work window closes on August 31.

Cowlitz Falls Fish Facility: Chris recounted some of the challenges they have worked through this season due mostly to the wet spring. 110K smolts have been collected so far. The 2022 trend is below the last four years of run-of-river collection. There was a significant amount of spill through CF Dam this year: 12.5% of the spring migration period (231 hours of spill). He reviewed a chart showing as spill increases, FCE tends to decrease.

- Steelhead Average Capture Efficiency: 45%
- Coho Average Capture Efficiency: 28%
- Chinook Average Capture Efficiency: 17%

Capture Efficiency percentages are subject to change.

Table 3. Spill events at Cowlitz Falls Dam during the spring migration period, April 15 – June 30, 2022. Data are derived from hourly average.

Spill Event	Start Date	End Date	Continuous ¹	Hours with Spill	Max Spill (hourly avg)	CFD Unit Discharge ² (hourly avg)	Reason for Spill
1	7-May	9-May	No	50	5,377	9,959	Over-capacity
2	17-May	17-May	Yes	3	2,728	7,061	Over-capacity
3	28-May	28-May	Yes	1	217	9,381	Over-capacity
4	28-May	28-May	Yes	1	300	9,368	Over-capacity
5	3-Jun	4-Jun	No	23	844	9,401	Over-capacity
6	5-Jun	7-Jun	Yes	56	4573	9,173	Over-capacity
7	10-Jun	13-Jun	No	92	10,921	9,226	Over-capacity, drawdown
8	16-Jun	16-Jun	Yes	8	6,375	3,949	Unplanned line outage

¹ Spill data are derived from an hourly average, continuous is defined as having a positive spill value within each one-hour period.

² Hourly average unit discharge during hours with spill.

Chris talked about increased spill events observed during the spring migration period. In anticipation of a high inflows, on June 10, there was a drawdown of Lake Scanewa when Cowlitz River flows approached 15K cfs in Randle. Drawdown events are not typical of spring and summer collection periods. This drawdown event halted fish collection activity until the lake was restored to a normal pool elevation. Also, there was an unexpected line outage on June 16 and LCPUD wasn't allowed to generate until the line was repaired. Last fall, and continuing into the spring, debris challenges have been impacting generation capacity at CF Dam. Reduced generation capacity compounded spill events by increasing spill frequency, longer duration of spill, and larger volumes of spill.

Downstream Adaptive Management Technical Work Group: Matt explained that after this group completes its review of the Draft Cowlitz Falls North Shore Collector (CFNSC) Spring Summary, it will be shared with the FTC. He looks forward to working with LCPUD to understand all available options to remain in prime collection operations as much as possible. When asked about potential for a secondary collector below Riffe, Matt responded the current focus is on improving the performance of this collector. Laura noted LCPUD will have an extended drawdown next summer during juvenile Chinook collection.

Gravel Augmentation Report: Anne asked about what was required and what has been done on this so far. No gravel was placed from 2016-2020. Tacoma is making up for that now. 795 cubic yards were distributed onto the Barrier Island in the same location as last year using the same gravel conveyor system in mid-July. The FTC is working on a plan that includes placement with what is needed. Travis will follow up with Anne on this and ensure she receives the entire DD package. Anne also noted the WQPP shows a map for the project area. It looks like the equipment that was used to distribute the gravel was positioned outside the approved boundary and inside the riparian area.

Mitigation Gravel: Travis will also follow up with the team on Peggy's question about if mitigation gravel on the right bank ended up in the supersacks. If so, it is important to avoid a net loss in accounting for the mitigation gravel (past mitigation gravel placed into super sacks then counted for 2022 gravel augmentation - double counting.)

- Action Item: Travis to follow up on mitigation gravel question.

Satellite Rearing Program

Presenter: Phil Sandstrom

Phil reported there was a Satellite Rearing Program meeting on July 1 for further discussions, primarily with WDFW staff and Steve Lewis (BIA). There was good input on infrastructure and

logistics, bio-programming considerations, and how best to measure success.

Recommendations including focusing on a segregated spring Chinook and kelt reconditioning program will be shared at September FTC meeting. There was a question about whether the DD 2021-07 (options 2 and 5) should be amended to note that the current direction/approach differs from what was outlined in the R2 document and the DD. After discussion, it was agreed that Phil will send out a new DD to reflect the change.

Phil also noted Chris has obtained 3 years of temperature data from Energy Northwest (EN). He will be the Project Manager for the initial phase. Many questions around infrastructure logistics and bio-programming remain to be addressed. Phil looks forward to continued discussions.

- **Action Item:** Phil to send out new DD to reflect the current intended direction and focus.

LCPUD Dam Operations

Presenter: Russell Page

Russell gave an update of the many projects the PUD is undertaking starting with this year:

- Unit 2 is currently shut down for maintenance. They will then move on to Unit 1.
- Cispus take-out site for kayaker/ rafter access project continues.
- Sept. 1-2: Spilling will occur for friction testing (in coordination with Tacoma, shutting down their sluice capture system to test trunnions on gates 2 and 3).
- Sept. 6-9: Transformer maintenance on Unit 2. This will involve bringing in a crane, killing the 230 line above the substation so will have to spill any excess flow. Unforeseen water in the oil can increase the time needed for maintenance.
- Sept. 13: Maintenance on Unit 1.
 - This work may involve taking an outage. Russell noted they can adjust flows later in the year, but not earlier. The contractor won't be onsite until Sept. 6. This repair has to be done before the flows pick up. There may be some flexibility within a weeklong window.
 - Russell noted the PUD will try to do sediment removal (from the October event) at the same time as it will be easier to remove sediment while the Unit is out.
 - An additional drawdown to inspect the debris barrier moorage site won't be necessary as they plan to improve efficiency during the inspection with a drone during this drawdown.
 - Following the transformer work, they will replace the transducers on fish gates 2 and 3 with a standard model that is easier to work with.

Projects for next year include:

- Feb/Mar timeframe: A tentative drawdown for debris barrier moorage work. (They are still waiting on permitting for this.) The new debris removal system will be less costly and more efficient. Hatch covers will be replaced at this time. It will affect the fish flume system.

Chris thanked Russell for all his efforts in coordinating activities with Tacoma and communicating this out to the FTC and the TWG.

M&E Subgroup

Presenter: Phil Sandstrom

Phil reported as their July meeting had light attendance, they discussed topics for the August 17 meeting: broodstock collection, sampling, and monitoring needs in the upper basin.

The Tilton River Salmon and Steelhead Transport Management Plan has been shared over the last three years and has been accepted as the Adult Handling Protocol (AHP) for the Tilton River. He noted the Bremer Bridge (BB) site is operational and has been used for all species to date. The 2022 recommendations are as follows:

- #3: Transport all NOR Fall Chinook, NOR Coho, and NOR Steelhead to the BB site and the majority (~3/4) of all HOR fall Chinook, coho, and steelhead to the site at Gust Backstrom Park (GBP). Transport a smaller proportion (~1/4) HOR Chinook, coho, and steelhead to the BB site for expanded fishing opportunity between the two sites. Identify a closed fishing area around the BB site.
- #10: Release all NOR sea-run cutthroat trout at the BB release site to reduce angler encounters at GBP.

Phil sees this as a form of adaptive management - separating NOR fish early on when they are vulnerable during harvest of HOR fish. As long as the FTC is supportive, AHP developed by WDFW and Tacoma becomes the transport document with no need for a DD.

Two reports are soon to be sent out for 30-day review:

- 2021 Lower Cowlitz River Monitoring and Evaluation Report
- 2021 Lower Cowlitz River Side Channel Monitoring and Use Report

All were encouraged to “channel” any question through Phil.

2022 Annual Program Review (APR) Process Update

Presenter: Phil Sandstrom

Phil reviewed the DD and explained that it requests FTC support for production sizes of each of the programs listed in Table 1: APR Production Goals. This strategy was developed with the FTC a few months ago and taking into consideration of input from the two public meetings. There was consensus approval of the DD by FTC voting representatives. Travis will send this out for electronic approval by FTC reps who were not present at this meeting.

CRR Fund / Habitat and Production (HAP) Subgroup

Presenters: Melora Shelton and Steve West

HAP Subgroup

Melora reminded all the draft DD and today's presentation was sent out on July 27 seeking FTC support for Subgroup recommendation to move HAP projects into the 2023 CRR Grant Round.

She reviewed the background for the DD by describing the HAP Subgroup and the work it has completed so far, including developing a charter and revising guiding principles. Subgroup discussions have been around components of a successful project, support for proposal development, and the roles of Technical Advisors and the HAP Subgroup. They are also engaged with screening and scoring criteria, the grant round calendar, and guidance manuals and application materials and forms. With all of these things in mind, the goal is to be able to incorporate the HAP projects into the 2023 CRR Grant Round. The FTC will be making Habitat and HAP decisions at the same time.

Melora described three high-level phases for the 2023 Grant Round:

- August - February: Proposal Development
- February - June: Application
- July - September: Final Review/Decision

Next steps beyond approving today's DD include the subgroup developing workshop materials, the evaluation materials (screening and scoring), and detailed schedule along with application materials by the end of this year for the 2023 round. Tacoma will also develop the Grants Manual by the end of December along with a comprehensive update to the Implementation Strategy for approval by the FTC at the December 6 meeting.

There was consensus by FTC voting representatives present to approve the DD. Travis will email this out to allow FTC voting members not present to also weigh in.

LCFRB 2022 Cowlitz Restoration and Recovery Project Synopsis

As requested at the June FTC meeting, Steve W provided a brief overview of the 4 Projects seeking CRR funding:

1. Cispus Yellow Jacket Phase IV Restoration (Cowlitz Indian Tribe) - three separate funding sources, including the Salmon Recovery Funding Board (SRFB).
2. Creating Habitat on Cispus Tributaries (Cascade Forest Conservancy) (CRR only)
3. Kiona Creek Restoration (LCPUD) in cooperation with Lewis Conservation District (CRR only).
4. Upper Cowlitz Culvert Inventory of anadromous streams incl. the Tilton and the Upper Cowlitz (Lewis Conservation District) (CRR only).

Steve W also reviewed the process and preliminary results of TAC scoring:

Scoring summary

Eight TAC members submitted scores this grant round, although two members did not score the Cispus-Yellowjacket proposal and one member did not score the Creating Habitat on Cispus Tributaries proposal due to potential conflicts of interest. All participating TAC members indicated the four CRR proposals met eligibility requirements. A ranked list based on average TAC scores for each scoring question is shown in Table 1. Scoring and ranking summaries are included below based on submitted scores for the five CRR evaluation questions. TAC scoring rationales are included for each grant proposal at the end of this summary.

Table 1. Ranked CRR proposal project list based on averaged scores for each scoring question from participating TAC members. Proposals are shown in ranked order based on total project score.

Project Number	Project Name	Pass/Fail Eligibility Questions			CRR - Scoring Questions					Total Project	
		Q1	Q2	Q3	Q1	Q2	Q3	Q4	Q5		
		Pass/Fail	Pass/Fail	Pass/Fail	Score	Score	Score	Score	Score	Score	Rank
22-1273	Cispus-Yellowjacket Phase IV Rest.	Pass	Pass	Pass	3.0	3.8	0.7	2.7	1.7	11.8	1
CRR-2022-002	Creating Habitat on Cispus Tributaries	Pass	Pass	Pass	3.0	3.4	0.3	2.0	1.7	10.4	2
CRR-2022-003	Kiona Creek Restoration	Pass	Pass	Pass	3.0	3.1	0.1	2.1	1.4	9.8	3
CRR-2022-001	Upper Cowlitz Culvert Inventory	Pass	Pass	Pass	3.0	3.4	0.1	2.3	0.4	9.1	4

Table 2. Score summary for the four submitted CRR proposals for the 2022 grant round. Proposals are shown in ranked order, and the range of submitted TAC scores for the five evaluation question (minimum and maximum) and rank positions. Average rank position is included. Averages for the other questions are included the ranked list summary table above.

Project Number	Project Name	Question 1		Question 2		Question 3		Question 4		Question 5		Rank Position		
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Average
22-1273	Cispus-Yellowjacket Phase IV Rest.	3	3	3	4	0	1	1	3	1	2	1	2	1
CRR-2022-002	Creating Habitat on Cispus Trib.	3	3	3	4	0	1	0	3	1	2	1	3	2
CRR-2022-003	Kiona Creek Restoration	3	3	2	4	0	1	1	3	0	2	1	4	3
CRR-2022-001	Upper Cowlitz Culvert Inventory	3	3	3	4	0	1	1	3	0	1	1	4	3

The Cispus Yellow Jacket Phase IV Restoration project was ranked #1 among the project seeking SRFB funding by the TAC members. There was additional discussion around the LCFRB scoring methods. In order to fund additional SRFB projects, request for CRR funds for this project was increased.

The LCFRB will come to the FTC in September with a draft DD for a funding recommendation. The information provided by Steve W provides context for that DD and the final decision will be made in October.

Steve W invited all to contact him directly with any questions and explained the ranking list is draft until it is approved by the LCFRB on August 5.

FTC Public Meeting Process Review

Presenter: Travis Nelson

Consensus was the June Public FTC meeting went well. It was good to keep public comments at the public comment period near the end of the meeting. We may want to restrict comments and questions to the topics on the agenda. It is important to be thoughtful about how we continue to receive public feedback. We could add a separate open comment period at the end. There wouldn't be an expectation for FTC members to necessarily respond to what was asked/said during that time.

Travis proposed all FTC meetings be open to the public. He reminded everyone that we, as the FTC, always have the option to go into executive session for discussions apart from the

public. The Open Public Meetings Act (OPMA) says when a group is voting on spending public money, those meetings need to be open to the public. As we move forward with the CRR program, we would be voting to spend public funding. This would qualify as something that falls under the OPMA. FTC voting reps reported all being supportive of this.

- **Action Item:** Travis will draft a DD for review at our September meeting and possibly finalizing it in October, depending on how the discussions go.
-

Topics for September 6, 2022 FTC Meeting

- Updates incl. Hydro Ops, Water Quality
 - LCPUD Dam Operations
 - Fish Facilities
 - Satellite Rearing
 - Downstream Adaptive Mgt. TWG
 - CRR Fund / HAP Subgroup
 - M&E Subgroup
 - Review DD on FTC Meetings being open to the public
 - Preview October 4 FTC Meeting topics
-

Meeting Evaluation

- Everyone followed the norms and was respectful of each other's time
 - Got out a few minutes late
 - Very productive - Approved 2 DDs
 - Great participation today
 - Kept up a great momentum throughout the meeting.
 - Todd and Melora shared helpful tech tips (F-5 for PPT and Ctrl + Scroll to zoom in)
 - Josua's Quote: "Life goes by fast. Enjoy it. Calm down. It's all funny. Next. Everyone gets so upset about the wrong things." Joan Rivers
-

Closing Remarks

Travis thanked everyone for the great participation at today's meeting. Tacoma is so very appreciative of the hard work and collaboration that exemplifies this team. And he echoed the Joan Rivers quote asking that folks try not to take things too seriously.

Parking Lot

- Review/Update FTC Protocols to include remote meeting procedures
- Presentation by Tacoma's Power Management Group and/or from Grant PUD re improving SAR
- Review Steelhead Recycling Program

Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Final MS Teams Public Meeting Summary
September 6, 2022 from 9:30 – 3:30

FTC Representative Attendees:

Travis Nelson	TPU
Bryce Glaser	WDFW
Jonathan Stumpf	TU
Anne Baxter	Ecology

Additional Attendees:

John Serl	WDFW
Peggy Miller	WDFW
Sam Gibbons	WDFW
Brian Gale	WDFW
Matt Bleich	TPU
Eric Shoblom	TPU
Chris Foster	TPU
Tim Hoffnagle	TPU
Melora Shelton	TPU
Matt Peter	TPU
Laura Wolfe	LCPUD
Russell Page	LCPUD
Steve Manlow	LCFRB
Steve West	LCFRB
Nick Grant	USFS
Steve Lewis	BIA
Ann Weckback	Lewis County
Lyn Wiltse	PDSA Consulting / Facilitator

Public Attendees: Larry Pryor, Jack Tipping, and Greg King

Remaining 2022 FTC Meeting Dates: Oct. 4, Nov. 1, and Dec. 6

Approval of August Meeting Summary

The revised version of the August FTC Meeting Summary was reviewed and approved with clarifying edits and will be posted for public review.

Updates

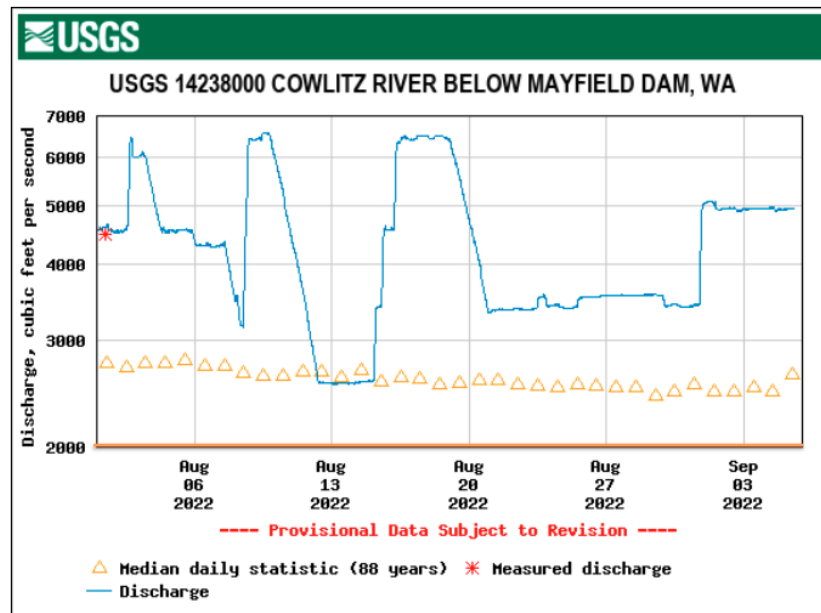
Hydro Operations (presentation emailed before the meeting):

- Inflows: August inflows were 1,945 cfs (93% of historical average). September inflows month to date are 1,436 cfs (82% of historical average). September is the annual low inflow period.
- Storage: Riffe Lake elevation on 9/5 was ~729 ft and has been drafting since August 1 (746 ft). This is a bit below the long-term average and is right at the average since 2017. Mayfield Lake continued its typical summer fluctuation of 421.5-424'.
- Outflow: The minimum flow requirement has been 2,000 cfs since the last meeting with no exceedances. On 9/5 total discharge was 4,900 cfs (3,500 cfs generation,

plus spill); the project is downramping today. There were two short-duration ramp exceedances (August 10 and 20), each less than 2 inches per hour. Both exceedances will be reported to FERC in the Annual Report. There were no unit trips or other unplanned flow changes or disruptions.

- Forecast: Dry with temperatures at/above normal. The freezing level is variable above 13,000'. Inflows are expected to be below 2,000 cfs and Riffe will continue to draft. Outflows: Downramping from 4,900 cfs, then 3,500 cfs through the week.

Outflow



Minimum flow 2,000 cfs. No exceedances.

9/5: ~4,900 cfs (3,500 cfs generation, plus spill starting 8/31)

Link to the USGS real-time Cowlitz River hydrograph:

https://waterdata.usgs.gov/wa/nwis/uv/?site_no=14238000&PARAMeter_cd=00060,00065

<https://www.mytpu.org/community-environment/parks-recreation/river-flows-lake-levels/>

Water Quality/Monitoring: Matt Peter reviewed the recent boat launch work at Barrier Dam and Mill Creek. Both Anne Baxter and Elliot Johnson (HPA Biologist from WDFW) have been onsite to ensure compliance with the Water Quality Protection Plan (WQPP) and Hydraulic Project Approval (HPA). Visual monitoring during the maintenance actions was ongoing at both sites.

Kosmos: WDFW and Ecology took part in a site tour in August. Shallow monitoring wells have been installed and they expect to install the deep-water wells in November to monitor ground water in the area.

Total Dissolved Gas (TDG): Matt Peter described a 1,000 cfs spill at Mayfield initiated on August 31 by Tacoma which resulted in TDG peaking at 108% saturation. As they increased the spill to 1,500 cfs there was a slight decrease in TDG. He showed a photo of water being spilled from Gate 3 and the path it takes – from the flip lip of the dam into a pool and then passing over a weir downstream to allow for off gassing if there is an increase in TDG. This will be documented in the year-end report. There were no violations. What drove the TDG reduction seems to be the temperature change.

Leak in Barrier Dam Construction: Anne Baxter reported she was notified of a leak that was discovered the morning of August 9 in the contained area of the cofferdam after Tacoma

ramped up flows to close to 7K cfs overnight. The contractors on site were very responsive. Flows were reduced after the incident and water was pumped out of the area. She showed photos of the Barrier Dam during the incident. The construction company employs a safety practice that involves removing their equipment from inside that area to upland secondary containers each night. This proved to be valuable as there were only a couple of boxes left in the area. Pads were used to absorb the oil sheen from the boxes and had the area cleaned up by 3pm the same day. They were also monitoring pH. WDFW was notified through Anne. It doesn't appear that any fish were present/ impacted. We look forward to getting an update on the actual cause of the leak. Anne noted this was an example of when it would have been appropriate to make use of the Environmental Report Tracking System (ERTS) so Ecology can broadcast the spill or environmental problem to a number of external partners. She will address this more thoroughly with the FTC at a future meeting. They can add Tacoma Power to the list for such instances.

- Action Item: Travis and Matt Peter to follow up with Anne Baxter on ERTS reporting, etc.

Barrier Dam Repair: Eric showed photos of progress on Phase 2 of the Barrier Dam repair. In-water work should be complete the end of September and the goal is to complete all repairs by November. Photos included concrete being poured into forms in the bays. Water quality is being monitored on a daily basis. The Embankment Dam at the site was re-worked to achieve the desired 2:1 slope. John reported his appreciation that this project is being completed in two years instead of three.

Fish Facilities:

Separator Collections: Staff have been running the separator 5 days a week and are seeing more fall Chinook and cutthroat returns as well as coho. They have just started collecting broodstock for these three species and will continue to do so through the end of this month.

Adult Return Summary:

- Spring Chinook: So far these returns are close to the 10-year average. They have completed broodstock collection. As of September 2, adult returns totaled 4,785 HOR and 889 NOR. Mini jack numbers (totaling 4,081) are dropping off. There are currently 1.39 adults per mini jack. Crews previously tagged each hatchery pond separately for this juvenile release of Cowlitz stock spring Chinook. Stay tuned for a summary of the tag data being processed.
- Summer-Run Steelhead: Started collecting broodstock in early July and easily met broodstock goals. These will be spawned in December. 3,022 summer steelhead been recycled. There have been 4 NOR returns this season to date.
- Coho: 10 showed up since September 2. They have begun collecting brood. For this year's single integrated coho program, in addition to HORs, collection includes up to one in three NORs from the Upper Cowlitz River will be collected for brood with the remainder transported to the Upper Cowlitz River.
- Fall Chinook: These appear to be average adult returns to date, though a little behind in the collection schedule. These fish will all be part of an integrated broodstock this year. Collection includes one in three NORs to brood, with the other two being transported to the Tilton River.

Mayfield Juvenile Collection:

- Primarily Chinook: 600-800/week (should increase into October)
- Coho: 110/week (have dropped off as expected)

MCH Season Totals to Date:

- Steelhead Juveniles: 7.2K
- Coho Juveniles: 30K
- Chinook Juveniles: 9.8K
- Cutthroat: 620

Boat Launch Dredging: On August 23, Tacoma used a big excavator to remove 25 cubic yards of sediment from the base of the Barrier Dam boat launch. This work restored the launch to a usable site. While the excavator was still on site, the following day they removed another 12 cubic yards of sediment that had formed a mound at the end of the Blue Creek boat launch.

Cispus Release Site: This site is still not usable. Laura noted the PUD is still working on it and the Copper Canyon site is still an alternative if temperatures are too high.

Cowlitz Falls Fish Facility: Chris noted at the end of August they shut down the spillway flume system. This will allow Lewis County PUD to pull out baffle panels and do some spillway testing in early September. They are still performing a directed study on Chinook using the pumpback discharge structure (no eddy condition and directed entrance flow).

Over 115K smolts have been collected to date (2022). This is less than the last 5 years of prior collection. There hasn't been much activity in the last month due to warm water temperatures. As temperatures cool off, more spring Chinook are starting to come in. Crews have continued releasing around 100 PIT-tagged spring Chinook weekly to monitor Fish Capture Efficiency (FCE). They are still seeing some fish from the earlier release groups coming back into the facility. They may continue to tag later into the season.

Average Capture Efficiencies:

- Chinook = ~30%
- Coho = ~28%
- Steelhead = ~45%

Chris also reported the Downstream Adaptive Management Technical Working Group (TWG) just completed its review of the Draft Cowlitz Falls North Shore Collector (CFNSC) Spring Summary. All were invited to let Chris know if they want to be added to the distribution list for the weekly report.

Downstream Adaptive Management Technical Work Group: Matt reported that in addition to the Spring Summary mentioned by Chris, there will be another seasonal report the end of the summer. At the next meeting of this group, they will start to discuss what the 2023 Annual Work Plan might look like. This will be done in coordination with the FTC and LCPUD. The August 17 Meeting was cancelled due to scheduling conflicts.

How will the LCPUD drawdown in September affect collection efficiency? They have been tagging later in the season based on number of fish available. This allows a better understanding of the later season collection efficiency (with flow distribution change) as we try to improve FCE going forward. Some fish will be lost during the drawdown, and we won't be able to collect during the drawdown and until the reservoir has refilled. It has been a challenging season.

M&E Subgroup:

Eric noted recent HOM meeting on Aug 26 included representatives from WDFW and Tacoma. They discussed communications procedures for last minute / emergency decisions at the separator, including which decisions should go to the FTC. Eric is working on a flow

chart to illustrate communication pathways when at the separator. They still need to work through some examples. There is general agreement that subgroups can move forward with decisions and communicate them to the FTC if they are laid out in a Transition Plan. In the event that something changes the direction or the program, then associated decisions should be made by the FTC.

Though the August 17 M&E meeting was canceled, Bryce reported he and Phil met on August 19 and made good progress on the spreadsheet on monitoring prioritization. The spreadsheet will be reviewed internally by both organizations before continuing discussions at the next meeting on September 21.

Satellite Rearing Program

Presenter: Chris Foster

DD 2022-07, reflecting the current intended direction and focus of this program, was sent out to all a week prior to this meeting. Bryce reported he and his team reviewed it and, in general, have no issues with the decision being proposed. They do have feedback on the structure of the DD itself.

Two main options were added into the DD: Recommendations including focusing on spring Chinook and kelt reconditioning and starting with a segregated program. WDFW is happy to see recognition that through the review process to date, these two options came forth. They would like to see that documented in the record. Discussions at the last FTC meeting included whether it was more appropriate to update the original DD (similar to what was done for the Gravel Augmentation DD update) or to draft a new one. At a minimum, there was a desire for the new DD to point to the original one (noting that we continue to concurrently move forward with alternative analysis of additional Satellite Rearing sites and also noting that nothing else is changing since the original DD except for the addition of those two options.) Bryce noted the schedule of completion also needs to be updated. Chris thanked Bryce for this feedback, and he will work with Phil on revising the DD accordingly.

- **Action Item:** Chris to work with Phil on addressing this feedback and send out a revised version of the DD for review and approval at the next FTC meeting.

LCPUD Dam Operations

Presenter: Russell Page

Russell provided the following update on the PUD's many maintenance activities:

- Today they began Transformer Maintenance on Unit 2.
- September 9: Maintenance on Unit 2 should be complete.
- September 10: Plan to start the drawdown so they can inspect the debris barrier moorage site. The drawdown will be 2-3 days and they will fill back up immediately after.
- September 12: Begin line outage for Unit 1 CT replacement which may take up to 2 weeks if they end up having to do a full CT replacement.
 - Laura and Joe are working on a letter to WDFW asking for a flow variance to increase the rate of reservoir refill. Laura agreed, saying the letter should be to Peggy this week.
- In mid-October (at full pool) they plan to clean out the debris in front of the units. The debris may have caused issues with fish operations. It will be good to get this taken care of.

- The debris barrier retrofit project is slated for next year.

Chris thanked Russell for the updates at this meeting. Russell invited everyone to let him know if they have any concerns and if the FTC would like a higher-level or more detailed LCPUD Dam Operation updates going forward.

CRR Fund / Habitat and Production (HAP) Subgroup

Presenters: Melora Shelton and Steve West

Steve W began by reviewing the 2022 grant round process to date. The TAC reviewed, scored, and ranked final CRR proposals in July and the LCFRB presented them to the FTC in August. With draft DD 2022-06, the LCFRB recommends approval all CRR proposals on the TAC's ranked list (see below), including three habitat restoration projects and one assessment for a total of \$2,800,420.

CRR Project Proposal	Total Project	CRR Request	Match
22-1273 <u>Cispus-Yellowjacket</u> Phase IV Restoration	\$ 3,469,260	\$ 2,457,187	\$ 1,012,000
CRR 2022-002 Creating Habitat on <u>Cispus</u> Tributaries	\$ 838,387	\$ 138,355	\$ 700,032
CRR-2022-003 <u>Kiona</u> Creek Restoration	\$ 140,141	\$ 70,071	\$ 70,070
CRR-2022-001 Upper Cowlitz Culvert Assessment	\$ 134,820	\$ 134,820	0*
	\$ 4,582,608	\$ 2,800,430	\$ 2,414,352

*Although not providing match, they are partnering with a region-wide culvert assessment funded through the SRFB grant program.

Steve welcomed any comments / feedback. There was clarifying discussion around total funding and match. This round closes the current \$3 million biennium; another \$3 million of CRR program funding will become available in the 2023-2024 fiscal biennium (starting calendar year).

- Action Item: All were asked to send any edits to DD to Travis and Steve West.

HAP Subgroup (Melora)

The Hatchery Associated Production (HAP) Subgroup has continued to meet, usually on the heels of an FTC meeting and once in between (most recently August 2 and 22). They have been reviewing draft scoring questions with an eye toward improving proposal evaluation and helping with project outreach efforts (will allow project proponents to better prepare). The subgroup is also drafting a project information form to help applicants to develop their projects and also kickstart the application process. They developed a recorded PowerPoint presentation that will be posted and distributed with an announcement about the program. They have also developed a tentative workshop calendar:

- Sept. 27 from 1-3: Initial workshop (in a virtual setting) with the Technical Advisory Group available
- October: Second workshop, similarly structured.

Their next meeting will begin at the close of this meeting and September 21. Melora expressed appreciation to her colleagues who have worked to diligently and moving this program forward! She also invited everyone to reach out to her, with any ideas and suggestions. All FTC attendees are welcome to attend the Subgroup meetings.

- Action Item: Melora will let the FTC know when a link is set up for the virtual workshop.

FTC Public Meeting Process Review

Presenter: Travis Nelson

Travis walked through the initial draft of DD 2022-08. He explained how FTC meeting summaries indicated the idea of opening up FTC meetings to the public was first proposed in 2008. In 2018, opening these meetings to the public began on a quarterly basis. Through the CRR program, as we vote to spend public funding for projects, Travis reminded all that the Open Public Meetings Act (OPMA) applies. This DD is in the interest of honoring that process and that law. The FTC can still have closed meetings as needed for sensitive projects / discussions. The DD recommends that starting in 2023, all FTC meetings will be open to the public. The venue for these meetings has yet to be decided. Tacoma will seek public input on preferred locations which will likely vary from the usual Chehalis Veterans' Memorial Museum.

DFW supports this idea and hopes the protocols do not limit public participation in any way. It is important to make these meetings open and accessible to as many people as possible.

- **Action Item:** Travis will edit the DD and Public Meeting Protocol document based on this discussion and send out for review ahead of the October FTC meeting where the DD will be reviewed for approval.

Topics for October 4, 2022 FTC Meeting

- Updates incl. Hydro Ops, Water Quality
- LCPUD Dam Operations
- Fish Facilities
- Satellite Rearing
- Downstream Adaptive Management. TWG
- CRR Fund / HAP Subgroup
- M&E Subgroup
- Review DD on FTC Meetings being open to the public
- Preview November FTC Meeting topics
 - Water Quality – ERTS

Meeting Evaluation

- Got out early.
- Lyn invited all to a CCR Concert!
- Everyone followed the norms and was respectful of each other's time
- Very productive – Making progress with DDs.
- Travis' Quote: "Whether you believe you can or not you're right." - Henry Ford

Public Comments

Larry: Is public participation limited to a 3-minute time slot at the end of the meeting? Why are only two members of the public attending today? Public participation in public meetings has fallen off since going remote due to the pandemic.

Bryce: The rules re public participation in DD 2022-08 can be updated. The idea is that the rules would be similar to those used in a Commission meeting. The intent is not to have the public sit at the table and interject throughout the meeting. It is making sure the meetings are open to the public and there is a period of public comment in each meeting. If folks want to discuss a particular item in more detail, they are also welcome to reach out to FTC members for offline discussions (as has been the practice).

Anne: It would be helpful to better define “public participation” in the protocols, so expectations are clear.

Bryce: Maybe say “public attendance” instead of “participation.” These are not public meetings such as the annual science meeting and APR meetings where we are soliciting public input/feedback. The FTC meetings are regularly scheduled monthly to implement the terms of the Settlement Agreement.

Travis: It would be good if, starting in January, we can start meeting in person at least periodically. In the meantime, he will follow up with folks to discuss this further as needed.

Bryce: Important to balance structure in the protocols re the 3-minute max along with flexibility.

Larry: Why release coho into Skate Creek? (Why are fry and parr returned to the reservoir instead of moved downstream?)

Chris: We aren't able to CWT some of the smaller fish to send downstream. We worked with M&E group to discuss release options for fry and parr. The M&E Subgroup can reevaluate if it makes sense to send coho downstream.

John: Since the new collector was built, the number of fry and parr collected at the CFFF have increased by an order of magnitude. Coho put in Riffe Lake are lost to anadromy. There probably is no good answer. Again, this is something the M&E subgroup can reevaluate.

Larry: Doing that with only coho?

Chris: Mostly coho – also with a handful of Chinook (680 Chinook fry this year). We have seen 87K coho fry at the collector this year. There are days when we get 10K fry. We are relocating parr back above CF Dam. Have several locations they use to redistribute parr. Some near the Cowlitz, some near Packwood, some down in the Cispus, colder bodies of water.

Jack: Eric mentioned the number of summer steelhead recycled. They are only recycled one time and through August. It would be good to see data showing why they can't be recycled twice and if they can be recycled through September.

Bryce: Some of the initial recycling work showed diminishing value the more often the fish were recycled. There is a cost/benefit to trying to recycle maiden fish. There is limited funding for this. There is guidance through the Mitchell Act Consultation with Fisheries. While that is WDFW's standard, it doesn't mean they can't look into that question. Where WDFW has monitored hatchery fish in the wild through snorkeling surveys, it is clear that as the fish begin to mature, they are less desirable for anglers. The cutoff date for recycling was extended this year from August 1 to August 15.

Jack: Even if fish that are recycled twice don't contribute as much to the sports fishery, if the percent goes from 20% to 15% (historically), and if under the 6,600 fish cap, it still makes sense to recycle fish twice unless tests show a detriment. Jack noted a study where fish recycled through September had a higher harvest rate.

Bryce: Thank you. This is definitely worth exploring.

John S: We also recycled a bit earlier this year as well as adding the extra 2 weeks at the end. And we had a higher cap. These are three things done this year to help harvest.

Larry: Is budget a driver that limits more recycling?

Bryce: Not necessarily. Trying to balance spreading the recycling across the return, not knowing what the return will be, and staying within the (expanded) cap. The primary driver is reintroduction.

Eric: The other species are not getting recycled as they are going into the upper basin – giving anglers more opportunity. As fish age, they are not in as good of shape, and just want

to drop their eggs. There are also space issues if we wait to start recycling after reaching transport capacity.

Jack: It is premature to spend millions of dollars on habitat restoration with smolt Collection Efficiency at 30-40%.

John: This has been a down year for CFFF collection. It takes a while to build and mature habitat projects.

Travis: We are trying to build out the habitat. It will take time to see the impact. We hope the impact aligns with the fish passage improvements we look forward to in the future.

Bryce: CE is the primary driver in all of this. The CRR funds are specifically devoted toward hatchery/habitat options that can promote faster recovery.

Jack: It would be good to prioritize hatchery production initially and then move into habitat improvement.

Jack: Tilton River flows are low – not a lot of water for (the large) adult Chinook which are vulnerable in that they could be plucked out of the water easily by animals or locals.

John: Water at Gust Backstrom park is typically low this time of year. That's why Tacoma has been using the second release site for fall Chinook – Bremer Bridge. It looks like we are getting better fall Chinook distribution and spawning. How this relates to Mayfield collection/passage remains to be seen.

Bryce: This is not much different from elsewhere in the Columbia. How much production comes out of the Tilton and how to adapt to that will help us answer some of those questions.

Jack: Glad you are tagging the fish at Mayfield so we can see their disposition.

Larry: Is there a Disaster Management Plan for the Tacoma / Cowlitz fish hatcheries? Disaster management and disaster management planning is a big deal. It includes the human side of things and fish side of things. It is very important to have a good list of available resources along with what-if scenarios.

Travis: Tacoma has an Emergency Action Plan (EAP) that is aimed more at personnel than infrastructure.

- Action Item: Travis will follow up internally re this question.

Jack: What is the status of CCA's written request for chum eggs?

Bryce to follow up.

Larry: Forecast for fall Chinook Returns?

Bryce: Started off with one-fish bag limit. WDFW watches the returns as they come in. At a 50% average return, they reevaluate the bag limit number. They are not anticipating making any changes right away.

John: The return is expected to be slightly above average.

Brian: 9,300 back to the Cowlitz and 3,400 getting back to the separator. NOR is around 4,700.

Bryce: The Transition plan (life cycle modeling, etc.) will inform next steps.

Larry: What's happening with satellite rearing?

Travis: After evaluating different alternatives and strategies, we narrowed it to sub-yearling program for spring Chinook and kelt reconditioning. More details are to come. Phil gave a nice presentation on this at the last FTC meeting.

Closing Remarks

Travis thanked everyone for the thoughtful input at today's meeting. This is what makes the FTC effective. He also hoped everyone would enjoy the last gasps of summer.

Parking Lot

- Review/Update FTC Protocols to include remote meeting procedures
- Presentation by Tacoma's Power Management Group and/or from Grant PUD re improving SAR
- Review Steelhead Recycling Program

Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Final MS Teams Public Meeting Summary
October 4, 2022 from 9:30 – 3:30

FTC Representative Attendees:

Travis Nelson	TPU
Bryce Glaser	WDFW
Jonathan Stumpf	TU
James Archibald	NOAA

Additional Attendees:

John Serl	WDFW
Peggy Miller	WDFW
Sam Gibbons	WDFW
Brian Gale	WDFW
Todd Hillson	WDFW
Josua Holowatz	WDFW
Matt Bleich	TPU
Eric Shoblom	TPU
Chris Foster	TPU
Melora Shelton	TPU
Matt Peter	TPU
Jenna Davidson	TPU
Laura Wolfe	LCPUD
Russell Page	LCPUD
Steve Manlow	LCFRB
Steve West	LCFRB
Steve Lewis	BIA
Ann Weckback	Lewis County
Lyn Wiltse	PDSA Consulting / Facilitator

Remaining 2022 FTC Meeting Dates: November 1, and December 6

Approval of September Meeting Summary

The revised version of the September FTC Meeting Summary was reviewed and approved with clarifying edits and will be posted for public review.

Announcements

- Tacoma is hiring for seasonal help at the separator and Mayfield currently. Please let Eric know if you are aware of anyone who might be interested.
 - We were pleased to have Tacoma intern Jenna Davidson attend and provide feedback.
-

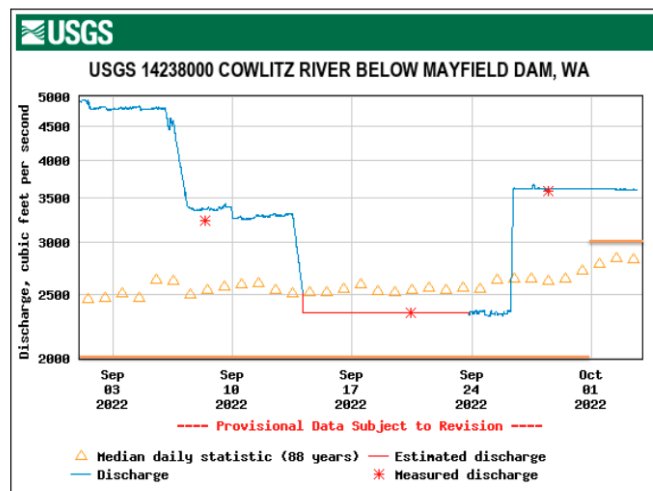
Updates

Hydro Operations (presentation emailed before the meeting):

- Inflows: Inflows dropped from 93% (August) to 70% (September) of historical average. Inflows should rise with if fall rains begin this month.

- Storage: Riffe Lake elevation is at ~717' (4' lower than the average of the last five years). Mayfield Lake operated within the typical off-season band of 420-424'. There is still access to the Mossy Rock boat launch despite the low elevation.
- Outflow: The minimum flow requirement has been 2,000 cfs since the last meeting with no exceedances. The USGS has adjusted its hydrograph to show correct discharge (2,400 cfs) during the Barrier Dam coffer dam deconstruction and reset the stage rating after that was completed. On October 3, total discharge was 3,600 cfs. There was one ramp exceedance (max rate of 1.6 inch/hour) caused by balancing between spill and generation while downramping from spill past Mayfield. Unit 41 ramped up faster than the spillgate closed during the final step taking off spill. This will be included in the annual report to FERC.
- Forecast: Dry with temperatures at/above normal. The freezing level is variable above 12,000'. Inflows are expected to be below 2,000 cfs and Riffe will continue to draft. Outflows are expected to be ~3,600 cfs through the week.

Outflow



Minimum flow 2,000 cfs (through 9/30) and 3,500 cfs. No exceedances.
10/3: ~3,600 cfs

Link to the USGS real-time Cowlitz River hydrograph:

https://waterdata.usgs.gov/wa/nwis/uv/?site_no=14238000&PARAMETER_cd=00060,00065
<https://www.mytpu.org/community-environment/parks-recreation/river-flows-lake-levels/>

Water Quality/Monitoring:

Kosmos: Matt Peter noted the additional four deep-water monitoring wells are scheduled to be drilled in the next month or so. For the next year and likely beyond, Tacoma will monitor for ground water levels and pulling samples.

Leak in Barrier Dam Construction: Matt P noted it 'appears' there was a lack of coordination between this group and what transpired during this incident. This issue should be viewed as a collective FTC issue as it is complex and involves much more than water quality. He would like to see communication be improved for future incidents and/or that additional protocols are in place to eliminate such incidents.

ERTS: The Ecology Reporting and Tracking System protocols will be discussed at the November meeting, with Anne in attendance.

Barrier Dam Repair: Eric reported this dam safety project is now complete, a year ahead of schedule. All in-water work has been completed. They are currently demobilizing operations, including hydro-seeding, repairing pathways, etc. This work should be complete by the end of

October. A question was raised regarding if the repair addressed the second entrance to fish ladder incorporated into Barrier Dam. Matt B noted the intent of the repair was to have two entrances available. After the repair, all the water is now flowing in the same/right direction. There were no changes made to the North entrance (primary location for collection). In the spirit of adaptive management, they will revisit the South entrance as needed. Steven expressed interest in exploring why fall Chinook are not using the South entrance. This may be discussed further at a Fish Passage meeting (which Steven would like to attend).

Fish Facilities:

Separator Collections: Adult numbers continue to increase as expected. Over 2,300 fish were at the separator on Monday and 616 was the total to date. They are releasing in Scanewa and Packwood for the upper Cowlitz. Strong fall rains may make Cispus release site usable. For the Tilton, HORs are being released at Gust Backstrom and NORs at the Bremer Bridge.

Adult Return Summary:

- Spring Chinook: Made brood goals and ended up close to the egg take goal. The HOR return was a little less than the 10-year average. The run timing looks to be later this year. This may be a factor of the large return in 2015. This can be discussed further through the APR Process. NOR spring Chinook returns were over 5K – great news!
- Summer-Run Steelhead: Returns this season of 4K were almost double the 5-year average and on par with the 10-year average. The return dropped off end of September, so we ended up not quite making broodstock goals. WDFW is still confident we can make program goals as they have enough for brood without the normal buffer for adult mortality. Over 3K were recycled this season.
- Coho: So far both HOR and NOR returns are similar to last year. This year there will be one, single integrated coho program. Upstream transports are currently sent to the Tilton, Scanewa, and Packwood. Return numbers are sufficient to get weekly brood, and crews are using AD+CWTs to supplement the 1:3 NOR collection as needed.
- Fall Chinook: We are about half way through the collection season with a month to go for broodstock collection. Although we are collecting 100% of the HORs to brood, it appears we may not make collection goals this season. Fall rain should help the numbers to pick up. Fall Chinook will also be integrated broodstock collection this year.
- John reported that on WDFW's spring Chinook aerial flights they observed a total of 393 redds which is normal for this time of year. They recovered 100 Chinook carcasses that were equally split between HOR and NOR. This year's Cowlitz Fall Chinook return is very poor compared to other watersheds. Even with the NOR return looking close to being normal at this point, the guidance in the Transition Plan shows we are short on NORs and HORs. There is a need to discuss how to implement that Transition Plan.
- Fisheries: Josua reported fisheries remain open for coho, steelhead and cutthroat. The Chinook fishery was closed October 1 and will remain closed until further notice. WDFW reviewed the historical run time for tules. Normally by this time, most have moved out of the mainstem and into the tributaries.
- Cutthroat: Eric reported there is no collection schedule for Hatchery cutthroat so all HORs are being collected for the brood program. Last year was a good year. We are hoping to see another spike in the returns.

Mayfield Juvenile Collection:

- These numbers continue to be a few hundred each week. They are seeing typical numbers. They are also seeing gill parasites as usual for this time of year. John suggested looking into a salt dip for these fish. Eric will follow up.

- They are running the auto-flush for secondary separator weekly.

Cowlitz Falls Fish Facility: Chris reported in prep for the PUD's maintenance on the floating debris deflector, there was a drawdown as planned September 10-15. Next year the PUD will perform the maintenance. Tacoma's fish collection went offline during the drawdown and brought things back online when the lake was refilled. Chris thanked Peggy and others for work on the flow variance which allowed fish collection to continue more quickly. He suggested this could be a useful tool again in the future. The CFFF was shut down last Friday, ending the traditional collection season (which started March 15). They are now into Fall operations using a block schedule (Tuesday - Friday) for each week in October. Fall operations are unique because of variable weather events. Fall collection operations continue to be used for monitoring life history strategy.

Downstream Adaptive Management Technical Work Group: Matt reported they haven't met since the last FTC mtg. They recently sent out seasonal summer update to the TWG to review (part of annual work plan approved by the FTC). Tacoma is working with the TWG and LCPUD to get draft recommendations together to present to the FTC. They are seeing poorer collection this year than the last several years with a wetter, more-prone-to-spill season, also operations related. The PUD's future maintenance and construction projects will/may impact the TWG recommendations for FCE/FGE studies that will be delivered at the December meeting.

Satellite Rearing Program

Presenter: Phil Sandstrom

Phil walked through a track-changes version of the DD 2022-07, noting it does not invalidate the prior DD. He and Chris edited the DD based on feedback from the last meeting. Chris added an updated table with a revised timeline. Temperature loggers are installed at the Energy Northwest (EN) site and at Tower Rock to gather information that may be useful in the future. At the last workshop, participants indicated a preference for the EN site. The DD still calls out the two options (options 2 and 5). Historically, steelhead smolts were acclimated in the spring in netpens at the EN site. Sam suggested since that site is below a hydro system TDG measurements may be important in evaluating water quality there. It was noted The Tower Rock site has also been used to rear fish (coho).

Feedback on Table: We added a new column to the table, so it shows "End Date" in addition to "Start Date." Bryce suggested adding a decision point / strategy selection component when we call out which of the two options to pursue. This wouldn't preclude a secondary option. Peggy noted if this applies to EN Stilling basin, starting construction in May of 2023 seems very ambitious as there would be a need for FERC approval and buy-in from the Agency Resource Committees from the Packwood Project. Matt Peter is working on water rights, etc.

There was support for Phil's suggestion for an additional workshop this month (prior to the next FTC meeting). Workshop participants will confirm the strategy selection component, review conceptual drawings along with temperature data, and discuss how best get feedback from the public. Phil thanked everyone for all the comments and feedback on the DD.

DD 2022-07 was approved, as edited, by consensus of voting members. Travis will email it out for review by absent FTC voting members. If no comments or edits are received, this DD will become final on October 11.

- **Action Item:** Phil to convene a workshop prior to the November 1 FTC meeting to recommend which strategy to pursue at that time, review design drawings, etc.

LCPUD Dam Operations

Presenter: Russell Page

Russell provided the following update on the PUD's many maintenance activities: Reservoir drawdown and outage of transformer maintenance work drawdown went quickly, and they are now back at full pool and spilling 750 cfs. Maintenance is ongoing for the Unit 1 and 2 transformers. They are having to address water entrained in oil issues in the transformers. The Current Transformer (CT) replacement will be delayed until next year. Transformer 1 should be back on line and generating the morning of October 7. Then they will then turn their attention back to Unit 2. Russell hopes the removal of debris from in front of the units will be done in the next couple of weeks. Other maintenance activities have been paused for now.

M&E Subgroup

Presenter Phil Sandstrom

Phil reported the Monitoring and Evaluation Plan discussions have included prioritizing a list of baseline and directed studies as well as updating and standardizing the language for the common tables to ensure a common understanding. Special thanks to Todd Hillson, Scott Gibson, and Trevor Johnson for their work on this. All are welcome to attend these (virtual) meetings the third Thursday of each month from 10-noon.

CRR Fund / Habitat and Production (HAP) Subgroup

Presenters: Melora Shelton and Steve West

Steve W reviewed Decision Document 2022-06 which listed the four projects totaling about \$2.8 million. There were no additional comments since the review of the document at the last meeting. Steve M reported the SRFB met since the last FTC meeting and approved the LCFRB ranked list, as submitted. The Yellowjacket Phase 4 project funding decision was made with funding from three sources, including the SFRB and PCSRF. That was the only CRR project that also requested SRFB Funds. (A total of 19 projects were funded by the SRFB this grant round to the tune of approximately \$19 million!)

DD 2022-06 was approved by consensus of voting members. Travis will email it out for review by absent FTC voting members. If no comments or edits are received, this DD will become final on October 11.

HAP Subgroup

Melora noted the Hatchery Associated Production (HAP) Subgroup has met twice since the last FTC meeting and has finalized the Project Information form for potential applicants to work on project development. They also planned for first virtual workshop which took place on September 27, with one member of the public attending. At their next meeting they will plan for the next workshop scheduled for October 18 from 1-3pm. Discussions will include how to carry forward lessons learned from the initial workshop. The subgroup will also reengage on project application materials and scoring frameworks.

FTC Public Meeting Process Review

Presenter: Travis Nelson

Travis walked through the edited draft of DD 2022-08 based on feedback received at the September meeting. It included edits to the first page and also the Public Meeting Protocols. He noted getting public participation at FTC meetings has been a long journey. Meeting remotely

has negatively impacted the ability of some members of the public to participate. 2023 may include a return to some in-person meetings on a periodic basis. The protocols reflect this.

DD 2022-08 was approved by consensus of voting members. Travis will email it out for review by absent FTC voting members. If no comments or edits are received, this DD will become final on October 11.

Topics for November 1, 2022 FTC Meeting

- Updates incl. Hydro Ops
- Water Quality
 - ERTS protocols
 - Dredge materials – cleaning of boat ramps
- LCPUD Dam Operations
- Fish Facilities
- Satellite Rearing
- Downstream Adaptive Management TWG
- CRR Fund / HAP Subgroup
- M&E Subgroup
- 2023 APR Process
- Preview December FTC Meeting topics
 - Planning for Public Meetings throughout 2023

Meeting Evaluation

- *6 to mute and unmute phone – Thanks Chris!
- Despite audio challenges – we persevered!
- Happy to have Jenna (Tacoma Power intern) join us today
 - She noted this meeting was engaging with inclusion and professionalism
- Very productive – Approved three DDs!
- Josua's Quote (thinking about Fall Chinook return, and, as a fisherman is an optimist):
"Urgent optimism is the desire to act immediately to tackle an obstacle, combined with the belief that we have a reasonable hope of success." – Jane McGonigal

Parking Lot

- Review/Update FTC Protocols to include remote meeting procedures
- Presentation by Tacoma's Power Management Group and/or from Grant PUD re improving SAR
- Review Steelhead Recycling Program

Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Final MS Teams Public Meeting Summary
November 1, 2022 from 9:30 – 3:30

FTC Representative Attendees:

Travis Nelson	TPU
Bryce Glaser	WDFW

Additional Attendees:

John Serl	WDFW
Peggy Miller	WDFW
Sam Gibbons	WDFW
Brian Gale	WDFW
Todd Hillson	WDFW
Josua Holowatz	WDFW
Matt Bleich	TPU
Eric Shoblom	TPU
Melora Shelton	TPU
Matt Peter	TPU
Tim Hoffnagle	TPU
Laura Wolfe	LCPUD
Russell Page	LCPUD
Steve West	LCFRB
Steve Lewis	BIA
Nick Grant	USDA FS
Michael Boyles	BPA
Bill Sharp	Yakama Nation
Ann Weckback	Lewis County
Lyn Wiltse	PDSA Consulting / Facilitator

2022/2023 FTC Meeting Dates: December 6, January 3, February 7, March 7, April 4, May 2, June 6, (No meeting in July), August 1, September 5, October 3, November 7, December 5

Approval of October Meeting Summary

The revised version of the October FTC Meeting Summary was reviewed and approved with clarifying edits and will be posted for public review.

Announcement

- We were pleased to welcome Michael Boyles as the new rep for BPA.
-

Updates

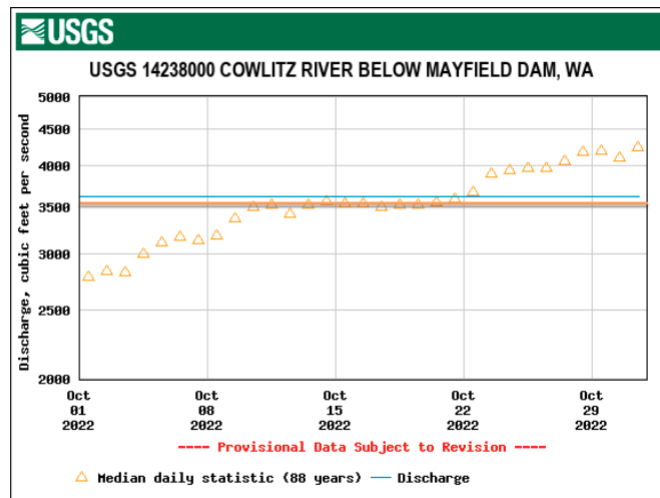
Hydro Operations (presentation emailed before the meeting):

- Inflows: Inflows continue to be low relative to the historical average (month to date 47% for October). Inflows typical increase substantially in November.
- Storage: Riffe Lake elevation is at ~702.9' and is drafting. The longest lane boat ramp is no longer accessible. This is the lowest elevation recorded for this date since limited reservoir operations started and is consistent with dry conditions. When asked about the "Disregard

forecast” note on the charts, Melora explained that the NWRFC forecast models have uncertainty in both weather/flow forecasts and hydro operation variables (e.g., discharge). They can indicate likely conditions early but are especially uncertain beyond 3 days.

- Outflow: These have been very consistent at 3,600 cfs with a minimum flow of 3500 cfs. Unit 41 at Mayfield is currently the only unit available for generation. There were no exceedances for flow or ramping.
- Forecast: Rain with typical temps for this time of year. Cooler than normal temperatures are expected for the weekend. Inflows are increasing and outflows will remain at 3,600 cfs (as the bank outage continues through November 18).

Outflow



Minimum flow 3,500 cfs. No exceedances for flow or ramping.
10/31: ~3,600 cfs

Link to the USGS real-time Cowlitz River hydrograph:

https://waterdata.usgs.gov/wa/nwis/uv/?site_no=14238000&PARAMeter_cd=00060,00065
<https://www.mtptu.org/community-environment/parks-recreation/river-flows-lake-levels/>

Water Quality/Monitoring:

Matt P noted the bank outage increased chances of spill until it was back online.

Kosmos: Kosmos monitoring well install, and borings are to be concluded by November 4.

ERTS Protocols/Dredge Material: Matt P noted there are ongoing discussion between Ecology and Tacoma on this as well as placing full spectrum material out of the wetted areas. In general, Matt reported there is not a lot of monitoring occurring currently.

Future Projects: These include some Riffe Lake improvements, culvert replacements, and gravel placement. Stay tuned...

2022 Gravel Augmentation:

Peggy asked about whether, and to what extent the gravel pile was distributing. Matt responded there was not a lot of opportunity for monitoring gravel movement.

Barrier Dam Repair:

This is the final report on this project which came in a year ahead of schedule. Eric reported all in-water work was completed the end of September and restoration of the upland site will also be completed ahead of schedule (by November 4 vs. the end of November). That will mean fishing access can be opened up to the 100' mark (more on that from WDFW).

Fish Facilities:

Separator Collections: This seems to be around the peak for coho. Last week there were over 8K coho at the separator and over 9K total fish.

In the Tilton, all hatchery origin fish (HORs) are being released at Gust Backstrom and all natural origin fish (NORs) are being released at the Bremer Bridge site. They have also transported 10.5K adult coho, a third of which were NORs, to Packwood and Scanewa.

Fall Chinook returns continue to be extremely low.

Broodstock Collection:

- Coho: Easily collecting weekly brood.
- Fall Chinook: They are sending one ad-clipped fish upstream for every one that is kept for brood. It looks like collection goals this year will not be met. Green egg take is at 1.6 million and the goal is 4.1 million. The good news is this lower number of fall Chinook will allow for experimenting with raising fall Chinook at lower densities in hopes of improving survival. Bryce acknowledged this had been a tough year for fall Chinook and that it will allow us to invest more in understanding the reason for this and how we might address it.
- Summer Steelhead: Collection ended the end of September.
- Cutthroat: They are not getting many currently – are retaining HORs for broodstock.

Specific adult collection and transfer information with historical averages, etc. are in Jamie's weekly report. Eric invited everyone to let him know if they would like to be included on the distribution for this report.

Mayfield Juvenile Collection:

There were ~600 juveniles at Mayfield last week (slightly lower than expected). Outmigrant mortality starts to increase this time of year. The WDFW pathologist noted an abundance of nematodes, and the fish had a low-fat content. They are processing these fish through the secondary separator. Eric noted they increased the frequency of the auto flush there from once to 3 times a week and will continue doing this through the end of the season.

They have started a weekly report for Mayfield (a work in progress). Let Eric know if you'd like to be added to the distribution list.

Fisheries: Josua confirmed that the fall Chinook brood collection is not only running behind schedule, but those returns are slowing considerably. WDFW increased the adult coho limit in the lower river to four, after closing Chinook retention early in the season. The fishing boundary is currently at the 400' mark below Barrier Dam. As the season progresses and the equipment is removed (safety is always a primary consideration), WDFW will look at moving the boundary up to the 100' limit (sometime after November 4).

Cowlitz Falls Fish Facility: Eric noted fall operations ended October 28. The Annual Report should be out in the first quarter of 2023. General maintenance is underway and will extend to March 2023. Operations are scheduled to resume on March 15.

Downstream Adaptive Management Technical Work Group: Matt reported this group met last week. They received an update of the summer season and recapped fall operations. They also reviewed results for the year – what may have influenced the down year (environmental factors, debris loading (LC PUD trash racks), etc. They are formulating recommendations with LCPUD and the TWG and then will share them with the FTC for 2023. Draft recommendations will go to Tacoma and LCPUD the end of November. They hope to share the recommendations with the FTC at the December or January meeting.

APR Process for 2023: Phil will distribute the information from last year and set up a meeting to start the initial piece of data gathering process in the January/February timeframe, letting folks know what information is needed from each group. He would also like to start working on the agenda for the science meeting a little earlier. Bryce suggested a topic for the science meeting be the M&E prioritization/work plan.

Satellite Rearing Program

Presenter: Phil Sandstrom

Phil announced the second workshop was successful. Workshop materials were sent out to all this morning. They are currently working on draft recommendations for the sites, taking temperature profiles into consideration. Sam will send WDFW questions/comments to Chris and Phil. Peggy suggested Phil reach out to Amy Kocourek, the NMFS representative for Energy Northwest (EN).

After some discussion, the recommendation was edited as follows:

Workshop recommendation to the FTC:

Based on conversation at the second satellite rearing workshop the group recommended moving two paths forward, rearing of sub-yearling spring Chinook and continued exploration of options for a winter-run steelhead kelt reconditioning program. The group recommends deprioritizing options 2 & 5. The main site focus will be at the Energy Northwest site, there are some considerations around their annual outage and temperatures in the summer months. The high temperatures are of concern for sub-yearling spring Chinook and may preclude kelt reconditioning. The Tower Rock site showed favorable temperature conditions between August and September for kelt reconditioning. The temperature logger data will be cleaned and shared with the FTC.

Next Steps: Phil will update the table in DD 2022-06. After FTC approval at the December FTC meeting, and public feedback has been received, there will be a third DD, likely in the January/February timeframe).

Action Items:

- Phil: Update the table in DD 2022-06.
 - Phil: Reach out to Amy Kocourek (NMFS) re schedule.
-

LCPUD Dam Operations

Presenter: Russell Page

Russell provided the following update on LCPUD's many maintenance activities. At Cowlitz Falls Dam, both units are now available. The baffle panels have been removed from in front of the units in preparation for fall runoff ('tis the season). All maintenance activities are complete except for some small projects - none will affect the run of river system

Debris removal: Shortly after the conclusion of this meeting Russell emailed the FTC that he had just received confirmation that the debris in front of the LCPUD Cowlitz Falls Project Unit 1 and Unit 2 will be removed starting November 7 and will take approximately four weeks to complete. The reservoir will stay at full pool, and they will be rotating between units during the removal work. Annual Meeting: The PUD has its annual coordination meeting with BPA and Tacoma Power on November 29.

Projects slated for 2023: The biggest project will be the hatch cover seal replacement project to remove the flume system. This project is estimated to take four months total, will likely occur in the May to September timeframe, and can be done with the reservoir at full pool.

Debris barrier moorage site clean-up and debris barrier coating: This project will require a drawdown and may be delayed until 2024. They are waiting on contractor approval and permitting. Rescheduling CT (Current Transformer) replacement for 2023: The PUD is in discussions with BPA about this. The schedule will likely be the same as for this year – taking the 230 kV line outage for two weeks.

Sluice gate repair: This project is still anticipated to occur in 2024-2025, after the crane rail extension which will likely occur in 2023.

M&E Subgroup

Presenter Phil Sandstrom

Phil reported recent subgroup discussions have included prioritizing a list of baseline and directed studies in the FHMP update. WDFW and Tacoma will share their respective prioritized rankings of top five directed studies at the November subgroup meeting. Todd is working on restructuring the baseline monitoring sheets. There will be an update to the FTC on all of this at the December meeting.

CRR Fund / Habitat and Production (HAP) Subgroup

Presenters: Melora Shelton and Steve West

HAP Subgroup

Melora briefly recapped the work done to date by the Hatchery Associated Production (HAP) Subgroup. This group has worked on screening, scoring, and evaluation materials in the past two months. They also held two workshops – one participant attended both.

After the FTC Meeting today, they will meet to finalize application questions and scoring approach. The subgroup will then take a well-deserved break while Melora pulls the information together to share with the FTC. They are looking forward to aligning with the LCFRB's grant round schedule. The determination for funding is set to occur at the FTC next October.

Implementation strategy and supporting materials will be deferred to the January FTC meeting. They will reengage the public at that time and hold workshops focused on the process involved for HAP funding. Special thanks to Sam, Brian, Eric, Phil, Travis, and Matt P for their help.

The Annual FERC report will be out for 30-day review before the end of the year. Everything appears to be on track for the Cispus Yellowjacket Phase 3 project with construction slated to begin in 2023.

Recent Recommended Articles

This story ran in Saturday's edition of the Centralia Chronicle (it was posted online Friday evening). She is looking to follow up on correcting the grant award amount.

[Group Raises Concerns on Hatchery Production After Grants Approved for Cowlitz Restoration | The Daily Chronicle \(chronline.com\)](#)

See below for an interesting article involving the Cowlitz Basin, Tacoma's CRR funds, and how they are integrating climate change.

Gifford Pinchot National Forest (@GPNF) tweeted at 11:33 AM on Fri, Oct 28, 2022: The @GPNF Aquatics Team along with critical partners like @CowlitzTribe are working to integrate climate change into watershed planning in key watersheds within the Forest.

Learn more: <https://t.co/HBRqv0B9bs> <https://t.co/u01OkRggxX>
(<https://twitter.com/GPNF/status/1586063498370437121?t=XJomvz1aktOFmaMcfBAd3A&s=03>)

Steve W reported the LCFRB thinks their grand round for 2023 will begin in early February, with CRR-specific workshop in mid-February. Site visits will likely shift from April to May (RCO dependent) and scoring likely due later in July. They are also working to slightly adjust scoring for CRR to align with that of the SRFB and LCFRB more closely. They are in contact with sponsors for projects for this year.

FTC Public Meeting Process

Presenter: Travis Nelson

Travis reminded all that we have been opening these meetings to the public on a quarterly basis. Our final quarterly meeting this year will be December 6. Starting in 2023, all FTC meetings will be open to the public.

Travis reminded everyone that we can always have closed meetings for topics “not quite ready for prime time.” He has received feedback from members of the public requesting these meetings be in person. Travis would like to suggest meeting in person on a quarterly basis, perhaps starting in March. We will get their feedback. It would be good to offer a hybrid approach to those who cannot attend in person. Bryce also noted we need to stick to the rules we have set out in the protocols. We need to keep the expectations that people comment on the agenda. We need to manage expectations for the public as well. This isn’t a place for the public to “lobby” the fish managers. The FTC is an advisory group to Tacoma Power license implementation. Peggy suggested also reminding the public that this is a meeting where they attend vs. participate in discussions. Level of detail for public questions and response in the notes? If specific to agenda topics, capture those broadly along with response in the notes. E.g., “Joe raised this issue; WDFW’s response was...” For general comment period, just note the topics raised, unless something rises to the level of a future FTC agenda item.

Topics for December 6, 2022 FTC Meeting

- Updates incl. Hydro Ops
 - Water Quality, incl. ERTS protocols
 - LCPUD Cowlitz Falls Dam Operations
 - Fish Facilities
 - Update on Cispus Release Site - Laura
 - Satellite Rearing
 - Downstream Adaptive Management TWG
 - CRR Fund / HAP Subgroup
 - M&E Subgroup
 - 2023 APR Process
 - Preview January FTC Meeting topics
-

Meeting Evaluation

- Prevailed despite technical difficulties.
- Doing Hybrid meetings is something we all are learning to deal with now. The more we learn, the better we get.
- Happy to have Michael Boyers with us from BPA
- Josua: Since yesterday was Halloween, instead of words of wisdom, I thought that today I would share a cultural snapshot: In Mexico and some other parts of Latin America, the two days after Halloween are celebrated as Día De Los Muertos. This is a holiday for us to celebrate those we’ve lost. Día De Los Muertos is an occasion to honor and remember the

those who have passed despite their departure from this world. It's a celebration and a chance to come together with your living relatives and friends who miss loved ones who have passed.

Parking Lot

- Presentation by Tacoma's Power Management Group and/or from Grant PUD re improving SAR
- Review Steelhead Kelt Recycling Program

Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Final MS Teams Public Meeting Summary
December 6, 2022 from 9:30 – 3:30

FTC Representative Attendees:

Travis Nelson	TPU
Bryce Glaser	WDFW
Anne Baxter	Ecology
Jonathan Stumpf	TU

Additional Attendees:

Bonnie Shorin	NMFS
John Serl	WDFW
Peggy Miller	WDFW
Brian Gale	WDFW
Todd Hillson	WDFW
Larona Newhouse	WDFW
Matt Bleich	TPU
Chris Foster	TPU
Eric Shoblom	TPU
Melora Shelton	TPU
Matt Peter	TPU
Tim Hoffnagle	TPU
Jamie Murphy	TPU
Laura Wolfe	LCPUD
Steve West	LCFRB
Steve Manlow	LCFRB
Nick Grant	USDA FS
Ann Weckback	Lewis County
Lyn Wiltse	PDSA Consulting / Facilitator

Public Attendees: Jack Tipping and Larry Pryor

2023 FTC Meeting Dates: January 3, February 7, March 7, April 4, May 2, June 6, (No meeting in July), August 1, September 5, October 3, November 7, December 5

Approval of November Meeting Summary

The revised version of the November FTC Meeting Summary was reviewed and approved with clarifying edits and will be posted for public review.

Announcements

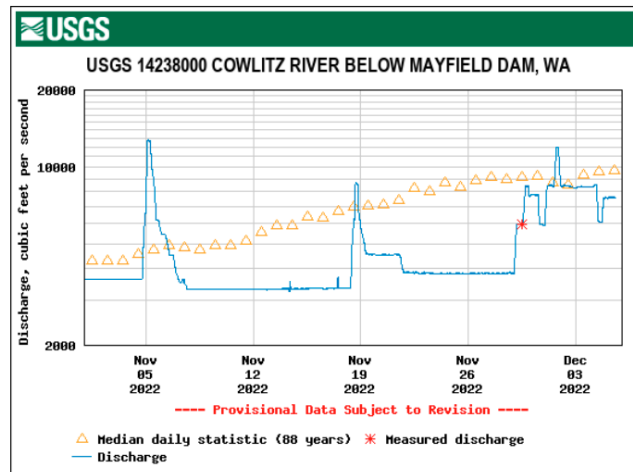
- Nick Grant announced his detail is ending so this is his last meeting with us. Thanks Nick! We've enjoyed having you with us.
- Chris Foster announced he has accepted a position with USFWS in Orofino, Idaho. His final day at the Cowlitz Falls Fish Facility will be January 27. January 3 will be his last FTC meeting with us. We will miss him and wish him well in his new position.
- Bryce noted the forecasts for spring Chinook returns are being reviewed by the Columbia River TAC and should be announced late this week or next.

Updates

Hydro Operations (presentation emailed before the meeting):

- Inflows: November daily inflows were 4,737 cfs (65% of the historical average. December inflows are currently 3,182 cfs; historical average is 9,350. Inflows have been below average since September.
- Storage: Riffe Lake continues to draft. 12/5 elevation was 700' which is more than 30' below the long-term and more recent historical averages. Mayfield continues to operate in its off-season band.
- Outflow: Currently at 7,620 cfs. The minimum Lower Cowlitz River flow is now 5K cfs. There was water management spill during high Mayfield sideflows from the Tilton during November 4-6 storms (max discharge 13K cfs, spill required at flow >3.6K cfs due to bank outage). The Mayfield Bank outage ended 11/18 with all units back in service. There were flow (11/14) and ramp (11/17) excursions during Mayfield Bank testing that be included in the annual report to FERC.
- Forecast: Snowpack is starting to build. Some precipitation is expected with below-normal temperatures. Inflows are likely to stay below 3K cfs. Riffe will continue to draft. Outflows are expected to be 5-7K cfs through the week.

Outflow



Minimum flow 3,500 cfs, reset to 3,892 cfs (11/21), reset to 5,000 cfs (12/3).
12/5: 7,620 cfs

Link to the USGS real-time Cowlitz River hydrograph:

https://waterdata.usgs.gov/wa/nwis/uv/?site_no=14238000&PARAMeter_cd=00060,00065
<https://www.mytpu.org/community-environment/parks-recreation/river-flows-lake-levels/>

Water Quality/Monitoring:

Matt P noted the November 4 sideflows mentioned by Melora resulted in Tacoma needing to spill around 6:00 that evening (due to Mayfield Bank outages). The TDG compliance limit is 110% saturation. Monitoring showed it remained above that threshold for ~9 hours. He explained this was a dam safety event and a letter discussing the exceedance will go out to Anne (Ecology) today. Anne thanked Matt for the dialogue during the spill event. He shared the following details from the Mayfield storm spill event.

- Generation limited to 3,600 cfs vs. 14,400 cfs
- Denitro tower activated 11/4
- Spill event duration: 11/4 @ 18:00 through 11/7 @ 11:00

- 11/5 @ 01:30 through 09:45 TDG surpassed the 110% compliance threshold
- Maximum TDG saturation of 114.6% reached at 02:45
- Maximum spill flow of approximately 9,300 cfs
- No observations of Gas Bubble Trauma/Disease reported
- Letter report of exceedance, cause and potential remedies
- Annual report summary of all events

ERTS Protocols: Ecology is responsible for making sure folks are compliant with water quality standards and Anne is currently in discussions with Tacoma re: *Why Ecology* requires the use of this environmental reporting tracking system. She emphasized that we are all working together to make improvements and adjustments because the environment is complex with many moving parts in which we all have a stake. The FTC works together to recommend actions to maximize the effectiveness of fisheries mitigation, protection, and enhancement measures in order to better the environment. ERTS reporting is a system that works to collect and disseminate data on the environment and is not a report card perse. For example: Municipalities are required to use ERTS to report any observed environmental problem related to any of their systems and this information is in turn reported and distributed to other stakeholders in the area so that one (or more) of them can work to address the issue. Anne noted Ecology can add Tacoma Power to the emails that get disseminated so that they can stay in the loop on these updates. E.g., if something happens at the Barrier Dam and is reported to ERTS, the email could be forwarded to Matt P. The idea is to collect data on the environment and to broadcast it digitally so that partners can work together to address the issue. ERTS - It's a system that enables us to work together to find solutions, build relationships of trust and communicate in a timely manner.

- Online: [Statewide Reporting Form](#)
- Email: swroerts@ecy.wa.gov
- Phone: (360) 407- 6300

Report other spills and environmental problems by web form, email or phone


If you see pollution or an environmental problem, you can report it via web form, email or phone. Our Environmental Report Tracking System (ERTS) staff will follow up.

- Contact the Ecology region office in the county where the problem is located.
- Call any time, 24 hours a day.
- If you are asked to leave a message, please do so and someone will call you back soon.
- You may request that your personal information remain confidential.

Southwest Region

Counties: Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, and Wahkiakum

Online: [Statewide reporting form](#)
Email: swroerts@ecy.wa.gov
Phone: 360-407-6300



<https://ecology.wa.gov/Footer/Report-an-environmental-issue>

Matt P thanked Anne for this presentation and her collaborative approach to ERTS protocols. Bryce reminded all that members of the public can also report. Anne agreed and said it is helpful if you see something to take a photo of it and upload it to the website. Ecology often gets public ERTS notifications and that most of the time they are followed-up by local organizations.

Kosmos: Matt noted Tacoma has finished all the monitoring wells and test pits and are waiting for the data to come back re the extent of the oil contamination. After that, they will put together a plan of action for the next several years. In the meantime, quarterly sampling is ongoing.

Other ongoing projects include the courtesy dock extension at North Taidnapam and a fish passage culvert replacement.

There was a general discussion on the potential to place full spectrum material below the ordinary high-water mark but above the wetted width when removing material. The intent of this is to assure material removed from the system is given the opportunity to continue its downstream migration rather than being pulled up land for permanent disposal/placement. Tacoma is applying for maintenance permits through the Corps. Anne noted that depending on what the material is, testing may be required.

Fish Facilities:

Separator Collections:

- Coho numbers continue to drop at the separator. There have been 56,770 coho adults so far this season. 40,308 HORs and 16,462 NORs. There were 1,872 coho adults last week.
- They are seeing a handful of summer steelhead and cutthroat trout each week.
- They continue to release HORs at Gust Backstrom and NORs at the Bremer Bridge for the Tilton. With 11,011 HORs, they are close to the 12K HOR coho adult limit. This week they are sending 200 HOR adults to the Tilton.
- The Cispus Release Site is still not available and 3 additional feet of water would be needed before we could consider using it again this year.

Brood Collection:

- They are continuing to collect UM+BWT coho for broodstock following the collection schedule. We are getting well over broodstock needs for UM+BWT's.
- We are continuing to collect HOR cutthroat trout for broodstock.
- Summer Steelhead – Collection ended at the end of September.
- HOR winter-run steelhead brood collection began on December 1. They have not had any since before December 1.

Mayfield Counting House

- They had around 1,100 juveniles at Mayfield last week.
- The mortality has bounced around a little but is nothing close to the 40% at the beginning of October. Last week's mortality rate was 7%. The Mayfield Mortality Table is below.
- They are running the auto-flush for the secondary separator 3 times a week.

Cowlitz Falls Fish Facility: Chris reported the Annual Report is being populated by Tacoma consultants and should be out in the first quarter of 2023. On November 29, Tacoma had their annual meeting with LCPUD and BPA to discuss opportunities to coordinate activities.

Cispus Release Site: Laura reported LCPUD is in negotiations with the USFS about what they will be able to do with the site. The PUD wanted to bring in equipment to remove some material there. The USFS responded they would prefer the PUD use a crane, however there are issues with the procurement process and the amount of time that would be added to the project. Laura is

awaiting a write-up from the USFS re: their main concerns. She is also waiting for PUD project folks to come up with what they can do in a short amount of time from a cost perspective. This involves consulting with contractors. There is no set timeline for action. She will provide another update at the January meeting. Discussion included doing what we can as the FTC to help express to the USFS the urgency that this site be available in the near term. Would it be possible to do a temporary release at the washout area? Laura responded there were concerns about that also. Her USFS contact has been Ken Wieman.

Action Item: Travis to contact the USFS about the urgency in getting this site up and running.

Downstream Adaptive Management Technical Work Group: Matt B reported Tacoma continues to work with LCPUD and the TWG on recommendations to share with the FTC at the January meeting. At the last TWG meeting, they discussed these four recommendations:

1. Getting agreement with TP and LCPUD re: reducing trash rack occlusion on the PUD's turbine units. This would involve regular frequency of cleaning along with cost sharing. This is the top priority to be addressed before the 2023 season.
2. Conducting post-hoc analyses using co-variants for entrances in CFFF. This would involve hypotheses and testing requirements for outmigrants with a focus on steelhead, using existing acoustic and radio telemetry data to observe/determine how fish behave with flow and operating conditions so they can develop hypotheses for future testing.
3. Conducting spillway flume flow when in single unit operation. There may be an opportunity to maximize the flume flows to 25-30 cfs.
4. Conducting fish behavior flow experiments under different settings to operationalize fish entrance efficiency for Chinook. Tacoma will reach out to local experts on this.

TPU will coordinate with vendors to see if it is possible to conduct an acoustic telemetry study in 2023. He noted Collection Efficiency calculations are an ongoing point of discussion and there is a need to work on capacity (available staff time) to move this forward.

Anne B noted there are some temperature issues that may be influencing fish passage. Ecology looks forward to being kept in the loop re temperatures in Lake Scanewa.

Action Item: Matt B will follow up with Anne, Laura, and Joe First on this.

APR Process for 2023: No updates at this time.

Satellite Rearing Program

Presenter: Chris Foster

Chris reported that since the second workshop in October where there were discussions about juvenile rearing at the EN site, WDFW submitted a letter detailing comments and concerns with some of the conceptual items. This was much appreciated. Chris and other at Tacoma are working on responses to those concerns.

During the evaluation process for juvenile rearing, the group discussed the potential for a kelt reconditioning program as well. Chris is working with others at Tacoma to put together a conceptual program for 200 kelts. Phil asked him to announce at this meeting that they would be putting together a PowerPoint on this by the week of December 12.

Chris noted he has appreciated working through all of this in such a collaborative manner.

Action Item:

- Matt B: Coordinate a meeting with Amy Kocourek (NMFS) to help bring her up to speed on this project.

LCPUD Dam Operations

Presenter: Russell Page

Russell was unable to attend the meeting. He offered to respond offline to any questions raised during the meeting. The only question was whether removal of the debris in front of the LCPUD Cowlitz Falls Project Unit 1 and Unit 2 had begun as scheduled on November 7 and if that work had been completed (was anticipated to take around four weeks).

Note: Russell responded via email after the meeting that this work has indeed begun and is expected to wrap up the end of the year.

M&E Subgroup

Presenter Bryce

Bryce reported recent subgroup discussions have been around:

1. Baseline monitoring that needs to happen with some level of frequency that is ongoing to collect information to evaluate programs. The subgroup needs to determine how best to apply monitoring metrics to each population. They are working toward a way to prioritize populations and baseline monitoring metrics for implementation. Todd developed a spreadsheet framework for this task and the group agreed it should work well.
2. Directed studies on specific issues/questions. This was the primary focus of the last subgroup meeting. They are working through a prioritization and scoring process and have identified the top 5-6 things to consider in the short term.

Ultimately, both of these will drive future work described in the annual Monitoring and Evaluation (M&E) Plan that needs to be developed.

CRR Fund / Habitat and Production (HAP) Subgroup

Presenter: Melora Shelton

Updates:

The HAP Subgroup has enjoyed a well-deserved month off while Melora worked on application materials. They will meet again on December 13 to review those documents.

The LCFRB is between grant rounds (“quiet time”) and is contracting for proposal awarded in 2022.

The Annual Report to FERC on the CRR Program will come out for 30-day review by the end of the year.

Discussion Topic: Implementation Strategy:

The 2017 original document was updated in 2021 (interim) to incorporate the LCFRB partnership knowing a comprehensive update was needed. The 2023 version has been restructured, brings more parity between the HAP and HAB program elements, and fully incorporates the HAP Guiding Principles (updated in May). WDFW comments from the 2021 update process were very helpful in making these improvements.

Melora shared a draft of the DD which will be presented for review at the January FTC meeting, including two crosswalk tables she put together to facilitate the review of the document.

Melora identified one topic for discussion from the original document Program Criteria and Priorities (number 4 below) because it came up at both the LCFRB and internally at Tacoma as potentially not aligning with the upper basis focus for the program. She asked for discussion to understand the FTC’s intent since this was before she was involved with the program.

"
By combining the species prioritization and the geographic boundaries, the CRR Program project priorities are listed in ranked order as follows."

"

Projects directly benefiting:

"

1. → Upper Cowlitz subbasin Spring Chinook
2. → Upper Cowlitz subbasin Steelhead and Coho
3. → Tilton salmon and steelhead (listed populations) and Upper Cowlitz Fall Chinook (distribution currently limited to the Tilton River)
4. → Lower basin listed salmon and steelhead having a high proportion of matching funds

Bryce recalled there had been discussion around if lower basin programs that reduced harvest impact on upper basin programs. We had not fully completed the criteria about what hatchery programs would look like and what actions could contribute to recovery populations of fish.

Peggy remembered discussing habitat projects and how they could occur in the lower basin if they benefited upper basin populations, e.g., migration holding area or rearing for upstream populations. She was not sure why the lower basin salmon populations were included. Melora noted it was part of the 2017 document.

John noted this may have come from Settlement Agreement language around the production cap.

Melora noted that the HAP subgroup has been specifically talking about how programs that don't necessarily target upper basin species can have other benefits associated with them. However, projects targeting lower basin populations should not be eligible without bringing a benefit back to the primary populations.

Melora suggested striking #4 for clarity and relying on the other three to get to the original intent of #4.

Peggy agreed and suggested striking #4 and also strike "directly."

Bryce noted that projects with direct benefits to 1-3 would be more supported than those with indirect benefits.

Ann W asked if it would be helpful to the LCFRB if "high proportion" was quantified such as a specific percent of the overall cost. Melora agreed with that suggestion.

Steve W suggested #4 should not be on the list. It could be mentioned otherwise. The focus here is on the upper basin fish. If held to the mainstem or confluence areas and it needs a high proportion of match, it may not qualify for SRFB funds.

Melora thanked everyone for this discussion and explained she wants to respect the intent of the original document to the extent it makes sense. When she sends this out for review, she will drop #4 and strike "directly" per Peggy's suggestion.

There was concern about how realistic it was to expect folks to return the document with comments by December 16 (to approve the DD in January). She asked that folks look at the documents and then let her know if the 16th seems doable. If not, she asked everyone to bring comments / questions back to the January 3 meeting after which they would do a post-meeting

review as they have done in the past. Jonathon and others supported this idea. January approval will support both grant rounds going live in early February. Steve W noted the LCFRB is still waiting on RCO, so their calendar is not firm yet. At this point, they plan to put the grant round online on Feb. 6.

Action Items

- Melora: By December 6, send draft DD along with clean version of the Implementation Strategy for all to review.
 - All: Let Melora know if you want to see the track changes version or a version with comments to aid with crosswalks. Comments received before the January 3 meeting will be consolidated to support January approval.
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Public Comment Period #1 - Agenda related

Jack Tipping asked about the number of Chinook juveniles tagged at Mayfield, and what percent of those juveniles were not tagged. Mortality? Breakdown of yearling vs. sub yearling? Continue with same tag code in 2023 as used for 2022?

Tacoma responded that 19,610 Chinook juveniles have been tagged at Mayfield and Chinook 377 (just under 2%) fry were untagged during 2022. For 2022, there were 795 Chinook morts out of the 19.6K Chinook. Moving to a new tag code in 2023 – may break it down further. 19,272 Chinook sub-yearlings (fry, parr, 0+ smolts) were collected at Mayfield along with 715 yearlings.

Re CRR: Jack noted the SA said hatchery production would increase substantially if downstream passage was discontinued which it has been. He reminded all that Jamie Herrera Butler wrote a letter to FERC asking about this. FERC has yet to respond. The public would like to see an investment on the lower river production without the requirement of matching monies. Per the prior discussion, Jack would like to see #4 remain on the list.

Topics for January 3, 2022 FTC Meeting

- Updates incl. Hydro Ops
 - Water Quality, incl. ERTS protocols
 - LCPUD Cowlitz Falls Dam Operations
 - Fish Facilities
 - Update on Cispus Release Site - Laura
 - Satellite Rearing DD
 - Downstream Adaptive Management TWG
 - CRR Fund / HAP Subgroup DD
 - M&E Subgroup
 - 2023 APR Process
 - Preview February FTC Meeting topics
-

Public Comment Period #2 – Any Topic

No topics were raised.

Meeting Evaluation

- We will disclose the agenda could change for future meeting announcements.
- Issues with A/V.
- Happy to have the public attending these meetings on an ongoing basis.

- Thank you, Jack and Larry, for attending!

Inspirational Quote offered by Travis:

“The world is full of a lot of great people. If you can’t find one, be one!” - Anonymous

Closing Remarks

Travis thanked everyone for the thoughtful input at today’s meeting. He is pleased that the public is now free to sit in on these meetings. This is what makes the FTC effective. He also wished everyone a wonderful holiday season.

Parking Lot

- Presentation by Tacoma’s Power Management Group and/or from Grant PUD re improving SAR
- Review Steelhead Kelt Recycling Program