

Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Final Conference Call/GoToMeeting Summary
January 5, 2021 from 9:30 – 2:30

FTC Representative Attendees:

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

Additional Attendees:

James Archibald	NMFS
Rich Turner	NMFS
John Serl	WDFW
Peggy Miller	WDFW
Sam Gibbons	WDFW
Josua Holowatz	WDFW
Brian Gale	WDFW
Jim Pacheco	WA Dept. of Ecology
Matt Bleich	TPU
Eric Shoblom	TPU
Phil Sandstrom	TPU
Tim Hoffnagle	TPU
Chris Foster	TPU
Gabe McGuire	TPU
Ann Weckback	Lewis County
Steve West	LCFRB
Kate Day	USFS
Laura Wolfe	LCPUD
Bill Sharp	Yakama Indian Nation
Lyn Wiltse	PDSA Consulting / Facilitator

Attending Members of the Public:

Larry Pryor, Chris Vandenberg, and Greg King

2021 FTC Meeting Dates: Feb. 2, Mar. 2, Apr. 6, May 4, June 1, July 6 (tentative), Aug. 3, Sept. 7, Oct. 5, Nov. 2, Dec. 7

Approval of Last Meeting Summary

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

Updates

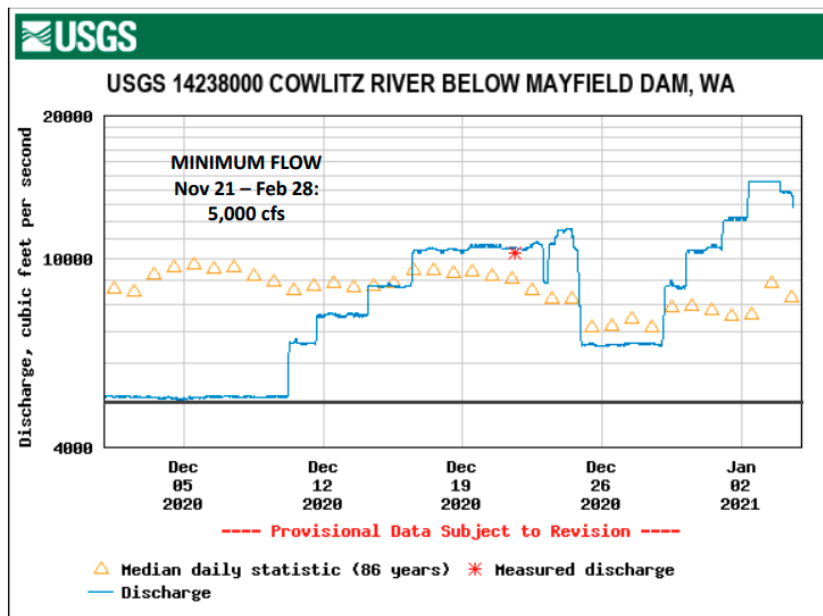
Hydro Operations:

- Inflows: After typical inflows from September – October, December inflows at 7.6K cfs were lower than the historical average of 9.4K cfs. There were lower precipitation and snow levels in December as well. The first few days in January brought winter

rains and snow contributing to a daily inflow of 23K cfs on January 3. So far, the daily average for this month is 15.6K cfs, far above the historical daily average of 9.4K cfs. Inflows are expected to drop close to 9K cfs in the next few days.

- Storage: The Riffe Lake elevation had been a bit above the historical average of 732'. On January 4 it had risen to 736'.
- Snowpack is starting to build and is above average at both Paradise and White Pass (in line with La Niña pattern).
- Mayfield Outflows: The current outflow is ~11.7K cfs. The minimum flow of 5,000 cfs will continue through the end of February. There are no minimum flow exceedances or ramp events to report.
- Forecast: Typical precipitation and snow levels are expected over the next ten days. Freezing levels are 3K – 6.5K'. Inflows will likely be 9K cfs by the weekend.

Outflow



No minimum flow or ramp 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: Carol noted that Ecology is in the process of reviewing the Water Quality Plans received from Tacoma Power. Ecology is seeking reasonable assurance that water quality standards (and the 401 Water Quality Certification) will be upheld during Barrier Dam construction, so through the review of the Water Quality Protection Plan she noted that typically in construction projects, specifying too much detail results in many change orders and cost increases. If the contractor is permitted to use the 1,000 cubic yards of gravel to create the coffer dam and reuse it from year to year vs. using it as gravel augmentation, they may choose the one that costs less. This gravel will be trucked in on the left bank which adds to the cost of the importation of gravel. She reminded all that the location of the placement of the gravel (as part of the gravel augmentation plan, on barrier island) should be specific and not be left to the contractor's discretion. The specifics to the means and methods should be addressed soon. Matt assured her Tacoma's intent is to place gravel on an annual basis. Carol is also looking forward to learning who the new PM is for the Kosmos clean-up project.

Fish Facilities: Eric reported this is a slow time of year for adult returns, primarily Coho along with a few winter Steelhead. All egg takes look good for fall programs. The Mayfield juvenile collector was shut down for the season the end of December and will be in bypass mode until April 1. Operations at the Cowlitz Falls Fish Facility concluded October 20 and will start back up on March 15.

Trout Hatchery Remodel Project: Tacoma is currently advertising for a lead biologist for this project. After this person is hired, Tacoma will work on developing the design criteria and then select a design firm for the project.

Satellite Rearing: Matt reported the public review period ended December 21. He is in the process of consolidating these comments, along with those from the FTC and others throughout the region. These may be worked through in an FTC workshop. Options will be revisited and there will be an update on the status of this plan in the next few months.

CRR: Travis explained he has been engaged in discussions with Steve Manlow of the LCFRB about the CRR. The focus moving forward is on how best to improve based on lessons learned from the initial grant round. Tacoma anticipates advertising requests for grant projects proposals the end of 2021, with public outreach occurring in the June/July timeframe.

2021 FTC Work Plan

Presenter: Travis Nelson

Travis projected an initial high-level draft of what the 2021 FTC Work Plan might look like. He reminded everyone that this is an initial draft, and he welcomes feedback on these three tables. This plan can be combined with the FTC protocols. He envisions us refreshing the tables in January and July of each year. He looks forward to integrating feedback and proposing an updated version for approval in the coming weeks. Discussion highlights:

Table 1: FTC Meeting Topics

- Several items on the table are monthly updates. (Hydro Ops, Fish Facilities, etc.) Should all these be added to the list as well?
- Consider putting the non-monthly topics in a separate table.
- Add context for FTC members for each topic so they can be better prepared.
- Maybe split the table into annual activities vs. 2021 activities.

Table 2: FTC Committee Reviews

- Shows reports coming to the committee for review along with due dates to FERC.
- Add the year the next report is expected (e.g., woody debris is every 10 years).

Table 3: Public Meeting Location

- The current thought is to have three public meetings this year. January, June, and December, then February/March instead of January in 2022.
- Schedule the APR review meeting to coincide with one of the public meetings.

He also reminded all that he had emailed the Cowlitz Article 3 Report for 30-day review with comments due to him and Melora by February 4.

Action Items

- All: Send comments on the Work Plan to Travis by January 15.
 - Travis: Integrate comments into a new draft plan and send out for review and possible approval at the February meeting.
-

Downstream Adaptive Management Technical Work Group

Presenter: Matt Bleich

Matt reported the November and December meetings were combined into a single meeting on December 9. The main topic was preparation of the Cowlitz Falls Northshore Collector Decision Document 2021-2 for this FTC meeting which was emailed out to all for review on December 24. He walked through the seven specific actions the group is recommending to the FTC for this year. These actions are intended to test theories about salmon and steelhead collection efficiency related to the CFNSC configuration, dam operations, and life history strategies. These recommendations have all been discussed at prior FTC meetings so no surprises. He also noted that this will likely be a low abundance year for Spring Chinook. PIT-tagging for efficiency evaluation may further reduce abundance. Discussion highlights:

- Increasing inflow within the collector from 500 to 750 cfs during spring freshets: existing screens do not allow increasing flows to 1,000 cfs.
- Being cognizant of Water Quality Protection Plans when doing the debris management evaluation study.

Decision Document 2021-2 was approved by consensus as written and there was great rejoicing.

Action Item: Matt to send the approved Decision Document to Travis to distribute.

Gravel Augmentation

Presenter: Travis Nelson

Travis walked us through the Gravel Augmentation Long-Term Decision Document 2021-1 that was sent for review on December 17 and again with a few slight revisions on January 4. He reminded all that this was the long-term version of the plan that was requested at prior meetings. This DD is intended to capture what's happened to date with a commitment to what's happening in the future – includes Barrier Dam project and gravel bar downstream.

Discussion highlights:

- Appreciation to Melora for providing the Framework and History section of the DD.
- It is important to include milestones for the long-term strategy and what exactly is will include. Need specific goals and the strategies to achieve them.
- There have been several DDs on this that assure Tacoma's commitment is to put gravel in place.
- It would be helpful to provide folks more time for additional comment.
- Matt talked with Matt Peter during the break and was assured of Tacoma's intent to place gravel during the construction period. They want to leave flexibility for the contractor to reuse a portion of the gravel that is used for the coffer dam. River conditions during construction may not allow them to place the gravel at the prescribed location. The 500 cubic yards of material done by the contractor is independent of the supersack materials. If there is annual shortfall from the supersacks, Tacoma will ensure 500 cubic yards of gravel is placed in the river for years 2021-23. The quantity is specified as is the place, as per the WQPP for the barrier dam activities. Carol noted Ecology wants assurance that the gravel augmentation placement will be accounted for, below the barrier dam and not if the supersacks rip upstream of the dam. Any volume lost above Barrier Dam should not be added to the gravel augmentation volume. This DD provides for gravel

augmentation for the next three years, and that a plan will be developed during the same timeframe. Carol wants to see a real gravel augmentation plan not just the calculations on what might happen in the future. She wants assurances that gravel will be placed below Barrier Dam for the next three years.

- The Barrier Dam Project is an opportunity to try to get more rock in the river and Tacoma is committed to doing this. They are also committed to augment gravel in sites that provide the best opportunities.
- Carol suggested that Tacoma consider again forming a subcommittee to help with the writing of a plan.
- If 500 cubic yards can't be reached with the super sacks, would Tacoma make up the difference? Travis responded yes, if they can't do the augmentation at Barrier Island, Tacoma will make it up within the allotted reach.
- How to account for the amount of gravel the contractor can recycle from Barrier? Can the 11-mile-long reach be tightened up by the FTC? The plan approved by FERC identifies the 11-mile reach. Jim suggested the DD language be changed to "downstream" instead of the 11-mile reach downstream of Barrier Dam.
- Ecology wants to have someone observing the contractor when augmentation occurs downstream of the dam.
- We had a DD for the Barrier Dam Project that says up to 1K cubic yards were to be placed annually. WDFW wants assurance that at least 500 cubic yards are placed.
- For accountability add "by when" to the tables.
- Add footnotes showing where the gravel was placed,
- other edits to the DD were provided by Ecology and WDFW but the edited versions were not shared during the meeting.

Ecology expressed concern about Tacoma's plans to remove the natural gravel recruitment to the Cowlitz River, where the landslide deposited material adjacent to the boat ramp at Mill Creek below the Barrier Dam. Ecology believes that gravel as a result of a natural process should be left in the river. This natural recruitment below the Barrier Dam has occurred in the same location that had been targeted for gravel augmentation. Travis will provide Ecology an audience to further discuss the issues related to removing gravel from the river within a few feet of where gravel was proposed to be augmented.

Action Items

- Travis: Send out revised DD by Jan. 8 highlighting additions from feedback at this meeting.
- All: Send additional comments back to Travis by January 18 so he can integrate them into the DD we review and hopefully approve at the February FTC meeting.
- Travis: Follow up with Carol about her concerns related to natural recruitment of gravel.

FHMP: Next Steps

Presenter: Matt Bleich

Matt thanked those who participated in the Fall Chinook Transition Plan Workshops on December 16 and 23. The next meeting will be January 6 to discuss triggers and transition timing, as well as harvest. They will also meet on January 13 to resolve any remaining items. They are drafting an initial cut of bio-programming and tagging needs for fall Chinook. The FTC is invited to participate in the approximately twice monthly workshops to develop the transition plan .

The transition plans are about making concepts actionable. Though the FHMP allows for 1-2 years (depending on the population) to complete the plans, Matt explained they are on track to get everything done this year, using, and modifying as needed, the plan template they developed. They are currently about halfway through the fall Chinook workshops. The initial focus has been on marking and escapement for fall Chinook. The last workshop was on the adult brood source collection plan. At the end of the month, they will do a process check to see what to change for other species based on lessons learned from fall Chinook. They will start on Winter Steelhead in early February.

	A	B	C
1	Workplan - Fall Chinook Transition Plan		
2	Task	Responsible	Dates
3	Discuss and Finalize Workplan	FTC	11/3/2020
4	Develop Workshops	FTC	11/3/2020
5	Develop Draft Transition Template	Tacoma/FTC	11/17/2020
6	Finalize Draft Transition Template	FTC	12/8/2020
7	Workshop on marking and escapement	FTC	week of 12/16/20
8	Adult Collection plan (i.e. brood source)	FTC	week of 12/16/20
9	Workshop on trigger points/transition timing	FTC	week of 1/4/21
10	Workshop on Bioprogramming needs	FTC	week of 1/11/21
11	Workshop on harvest	FTC	week of 1/18/21
12	Schedule reality checkin	All	1/31/2021
13	Draft final of Fall Chinook Transition Plan	All	2/2/2021
14	Winter Steelhead Transition Plan	All	2/1/21 - 2/28/21
15	Spring Chinook Transition Plan	All	3/1/21 - 4/15/21
16	Coho Transition Plan	All	5/1/21 - 6/15/21
17	Combined review of Transition Plans	FTC	7/1/21 - 7/31/21
18	Solicit public input on Transition Plans	Public	8/1/21 - 9/1/21
19	Edit Transition Plans (as necessary)	FTC	10/1/21 - 10/15/21

Matt will continue to send related materials out weekly after each meeting and welcomes any feedback or concerns along the way. Bryce agreed that they are making good progress despite the holidays.

Monitoring & Evaluation (M&E) Subgroup

Presenter: Phil Sandstrom

Phil reported that at their last meeting on December 16, the primary focus was on:

- SP Chinook SAR project
- SH weir site selection (TPU will be funding the weirs)

They will discuss the adult handling protocol at a future meeting. Phil sent out the notes from this meeting for all to review. Discussion highlights:

- These are adult weirs and do not affect the outmigration of smolts.
- John reported no dead smolts have been observed on the weirs. Even Steelhead smolts (12") can easily move through the weirs without getting impeded.
- Josua has seen out-migrating smolts easily pass through the pickets which have at least a 1- and 3/8-inch gap between them. He has also observed smolts use the weirs as protection from predators.

Phil reminded all that this group continues to welcome ideas of presentations on topics of interest to the FTC. Their next presentation to the FTC will likely be in April.

Action Items:

- All: Get presentation suggestions to Phil before their next meeting on January 20.
- Phil: Plan to make the next M&E Subgroup presentation available to the public.
- Phil: Send invite to next analytics meeting to FTC members.

Potential Topics for February 2 FTC Meeting

- Updates incl. Hydro Ops, Water Quality, Fish Facilities, Satellite Rearing Update, Downstream Adaptive Mgt. TGW
- TPU Flow Planning Presentation (?)
- LCFRB Presentation (45 min?)
- CRR
- 2021 FTC Work Plan
- FHMP Transition Plans
- M&E Subgroup (Spring Chinook SAR?)
- Gravel Augmentation Work Plan (revised high-level DD?)
- Preview March FTC Meeting topics

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

Chris Vandenberg:

Open up all virtual FTC meetings to the public? Every six months is not enough, especially if they can't make a meeting.

Travis appreciated this suggestion and will discuss this internally. Currently there are three meetings tentatively scheduled in 2021 for public participation. He will also reach out to the Cowlitz River Advisory Group and a few others who asked to be put on the list.

Great Cutthroat returns! Are all 6K cutthroats going into the broodstock program?

Note: The 2020 adult cutthroat disposition was misreported during the meeting. Eric has since clarified that adults show as being sent to broodstock as these were the only available locations to place them until they could be transported. Adults that were not needed for broodstock were either recycled downstream (majority) or culled after the spawning season. We had some excess Cutthroat Trout juveniles, as we did last year, and due to space limitations, planted them in Riffe Lake again. No adults were sent to Riffe.

Bryce noted a few groups were recycled early on before the decision was made about how to deal with the abundance.

Satellite Rearing: Was disappointed there wasn't an opportunity to participate in the scoping meeting. He has since submitted written comments asking for clarification about why some options were included and others excluded. He has discussed this with Matt and understands that it's a long process. Still, he strongly suggested the options in the scoping document be reconsidered.

Matt assured Chris he did receive his written comments. He hasn't distributed any of the comments yet. He reassured all that we are still in a very early part of Phase 1 of this process and there will be continued opportunities to provide comment.

Larry Pryor:

Why the cutthroat success? Fishing pressure?

We don't know at this point. Chris noted there was good press in the Centralia Chronical and many took notice. WDFW also advertised the strong fishery. This was an example of great collaboration. Matt also noted they made some tweaks at the hatchery. It is unclear if/how these may have impacted the fishery.

He goes to mytpu.org website every Monday to look at the fish return graphs. Wild Steelhead, Coho, and Chinook seem to be doing better than their hatchery counterparts. There is a higher adult survival ratio from fish from the Upper Basin than the hatchery fish.

Public FTC meetings: He has observed public participation seems to be waning in these FTC meetings as well as the CRAG meetings. The perception is that FTC meetings are exclusionary and is disappointed there are only three members of the public at this meeting.

Travis agreed with the observation that public participation is waning. He cannot account for the reason. Maybe they have found these meetings to be less than exciting.

Who is replacing Paul Sparks? Does it have to be someone from TU or American Rivers? Not all signatories are also FTC representatives.

Travis confirmed that Paul has stopped attending the meetings but is still monitoring things electronically. The SA calls for one representative of an environmental group. We anticipate getting a replacement from TU. Peggy clarified that not all signatories of the SA are the voting members of the FTC.

Climate change impacts on water flows: Climate change is real and will impact flows and timing of hatchery releases and other issues related to hatchery management. Is this being accounted for in adaptive management planning?

There is a natural relationship between Tacoma's power/water management and the fish-related departments. Tacoma is taking climate change into consideration in their planning processes. In the meantime, we are fortunate that the Cowlitz River has lower water temperatures than other rivers in the state.

Are assessments of fish health being done prior to releases out of the hatchery certifying fish are healthy?

Yes, a WDFW pathologist performs that assessment. Tacoma also provides fish transport flows between March and June (when most fish were released).

Greg King:

Gave kudos to TPU for their diligent work on the collection facility at Cowlitz Falls. 11K Coho is something to celebrate! He noted this all started with Project Genesis back in the 1990s. Much credit goes to Bob Reid, Dave Becker and John Squires. These HORs are helping with recovering. This is important and should be recognized publicly.

Yes, this has been a success and is the result of hard work and collaboration by many, including the BPA, who built the original Cowlitz Falls Fish Facility and started the original reintroduction program.

Doesn't like the lack of concern for tributaries below the Barrier Dam. They seem to be in bad shape. It is important to recover NORs in whole system – not just the Upper Watershed.

John is optimistic about the fish in the lower river also. There have been up to 14K NOR (wild) Coho returning to Cowlitz tributaries below the Barrier Dam. There is good habitat there also. 2K Coho went to the Tilton and over 8K to the Upper Cowlitz. This is great and there is still room to improve.

There are 14 years left on the current SA. It will soon be time to submit another FHMP to FERC. This should be something that's done between WDFW and Tacoma - not the whole FTC. It's frustrating that this process has become so incredibly lengthy.

Matt reported the FHMP was submitted to FERC last October and included expanding the revision cycle to every ten years instead of every six years. This should help.

It would be good to add a member of the public to the FTC. They care about the Cowlitz River and its future for now and future generations.

Net Pen project at Mayfield Lake? This would alleviate some of the frustration on the part of the public. This is something that could be done in the near term. He suggested locating it across the road from the Mossy Rock Trout Hatchery.

Matt assured Greg this is in the plan and asked for additional feedback from Greg on this.

Greg concluded his comments by stating his appreciation for the Chum piece in the FHMP.

Meeting Evaluation

- Appreciated the break music
- Great attendance and participation was good
- Good time management
- Nice to have extra time at the end (ended at 2:30 instead of 3:30)
- Keep the AM and PM breaks
- Nice flow to the meeting
- Folks were appreciative of each other's contributions
- Participation was well balanced
- Quotable Quote: "You don't have to be perfect to help people. All you have to be is real." Trent Shelton

Parking Lot

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

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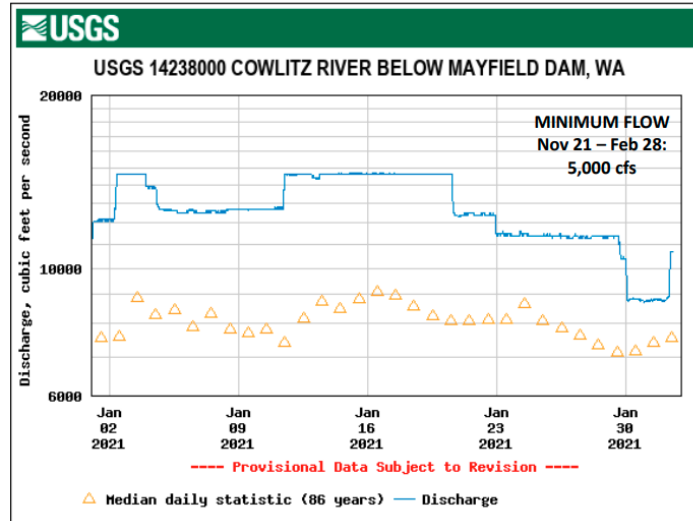
Updates

Hydro Operations:

- Inflows: After a very wet January, inflows at 12.8K cfs were much higher than the historical average of 9.4K cfs. The daily average for February is 8.4K cfs. Over the last 10 days, inflows have been below 7K cfs and are trending lower.
- Lower freezing levels moderated Upper Cowlitz/Cispus inflows. The maximum total inflows to the Cowlitz Project exceeded 35K cfs on January 13. There were four precipitation events, the highest of which was mid-January.

- Storage: At 733', the Riffe Lake elevation is a bit above the historical average of 730'. On January 4 it had risen to 736'. Mayfield reservoir levels have been fluctuating between 420' and 423'.
- Snowpack slightly above average at Paradise and on track for White Pass.
- Mayfield Outflows: The outflow is currently at 10.7K cfs and will likely decrease over weekend. There are no minimum flow or ramp events to report.
- Forecast: Cooler weather is expected with freezing levels below 3K' but expected to rise over the weekend.

Outflow



*No minimum flow or ramp exceedances
2/1/2021: 10,700 cfs.*

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: Carol gave a brief report on the Barrier Dam construction project. Ecology has provided comments to the draft Water Quality Protection Plan (WQPP) and Construction Stormwater General Permit (CSWGP) for the activities at the Barrier Dam. She is pleased with the assignment of Tacoma Power's Donna Ebi as the construction inspector. She is impressed with Donna's attention to detail. Carol noted the initial phase of this work will be to fill the scour hole through an approach from the left bank. The CSWGP is currently under review and has not yet been issued. Section 402 relates to the National Pollutant Discharge Elimination System (NPDES) permit. The in-water work is covered by the WQPP, requiring BMPs and monitoring for pH and turbidity. The CSWGP requires monitoring of upland discharges and BMPs. The contractor will be onsite February 8 for the mobilization of equipment and begin setting up BMPs, to fill the scour hole repair before beginning construction repairs of the dam. Carol will email Matt Peter about moving forward with the work and the email will suffice for a CSWGP until it is issued. Eric noted that filling the hole above the Barrier Dam will require a crane to be onsite (across from the hatchery). Eric will send Carol a photo when the crane is present. TPU needs to be sure the road will be maintained to prevent failure or turbid discharges.

Fish Facilities: Eric noted this is a slow time of year for adult returns, only a few winter Steelhead (fewer than 40 in the last 7 days). This is pretty typical of early February. The annual ladder inspection at the Cowlitz Salmon Hatchery is coming up on February 9. And the week of February 8, they may see contractor (Quigg Bros., Inc.) at the Barrier Dam with

a 110-ton crane as they fill the depression Carol referred to just upstream (south side of the river). Their work window is until March 15th. They are requiring a 200' safety radius. All egg takes look good for fall programs and juveniles are healthy. The Mayfield juvenile collector was shut down for the season the end of December and will be in bypass mode until April 1. Operations at the Cowlitz Falls Fish Facility concluded October 30 and will start back up on March 15. Tacoma is advertising for temporary positions now.

Trout Hatchery Remodel Project: They are currently advertising for a lead biologist for this project. After this person is hired, Tacoma will work on developing the design criteria and then select a design firm for the project. They are prepping for interviews now.

Downstream Adaptive Management Technical Work Group: Matt reported they have continued to meet since the 2021-2 DD was approved at the last meeting. They are getting study plans together for the next season and will be reviewing the 2020 report.

CRR: Travis explained he has been talking with Steve Manlow about working together on the future of the CRR Program, including preparing to solicit for a grant round. At this point, Tacoma is still doing an internal review of how to improve over the initial grant round and is planning to send information on this out to the FTC during the second or third quarter, and possibly advertising in the fourth quarter. Given that the prior CRR Program Manager has left the company and all the complications due to COVID, Tacoma can't yet commit to specific program information delivery dates as they are still in the midst of developing this year's strategy. Peggy suggested a DD would be called for if a grant round doesn't occur in 2021. Rudy reminded all that there will likely be a three to-four-year period between any announcement of grant funds and parameters and the completion of any substantial projects. He also cautioned against changing the rules "midstream."

The CRR report is out for review with comments due February 4. Bryce offered that a subgroup could share the workload (e.g., updating some of the criteria before the next round).

Action Item: Travis to send out the most recent version of CRR DD for all to review and identify what portions may need to be edited.

FHMP: Next Steps

Presenter: Matt Bleich

Matt reported that the workshops are proceeding according to schedule. He is keeping everyone informed with the meeting notes and materials developed along with way. At this point, they have completed the fall Chinook Workshops and the transition plan is complete. Today is the additional date they were holding as reality check. After an editorial review today, this piece will go out to the FTC for review.

Tomorrow is the first workshop for winter steelhead, and they will take a different approach with the aim of improving efficiency by providing background work that includes marking and other data gaps in adult collection. After completing the steelhead transition plan, they will work on spring Chinook and then coho. They will perform a bio-programming exercise when each section is complete. They will also adjust based on public input.

In summary, the process appears to be working well. Bryce hopes all can review the initial drafts and provide feedback as it is important to get things right.

Monitoring & Evaluation (M&E) Subgroup

Presenter: Phil Sandstrom

February 02, 2021 FTC Meeting

Phil reported this group continues to meet regularly. He is providing notes from these meetings in two formats and is also recording the meetings as an option for those unable to attend. He has sent out the draft agenda for the February meeting. He invited folks to email him or Lyn if they have trouble with the link. More comments, more ears, more thoughts are helpful and most welcome!

Phil once again reminded all that the M&E Subgroup sees themselves as employees of the FTC and they welcome any topics beyond the SAR analysis that the FTC would like them to take a deep dive on and present their findings.

In terms of moving forward the monitoring and evaluation component of the FHMP, Bryce wants it to include *all* the monitoring Tacoma is doing – not just down river. Phil agreed and noted this will be discussed at the February M&E Plan meeting.

Spring Chinook SAR Presentation:

Thomas Buehrens, Senior research scientist with WDFW, does a lot of work on quantitative monitoring. Working with others in the M&E Subgroup, he pulled a data set together and analyzed it to see what factors were related to return rates. The objective of the study is to identify rearing and size at release strategies that maximize returns for the segregated spring Chinook program. This will include:

- Analyzing CWT data to determine survival rates by size, age, and timing of release
- Finding the right balance of release dates and sizes, with equivalent use of resources (time, space, money, etc.).

Analyzing these data should allow for better decision making on rearing and release strategies for Spring Chinook in the Cowlitz River. Considerations:

1. Starting assumption: Larger smolts and more smolts = greater adult return rates.
2. There is a poundage production obligation in the SA.
3. There are facility constraints – how much water and space is there to rear fish in the Cowlitz.
4. There are also brood constraints – need to get enough broodstock to replace the previous generation.
5. Rearing more fish to smaller size and releasing earlier vs. rearing for 1.5 years before release

Research efforts were aimed at coming up with the optimal size at release (or suite of sizes) that will generate the most adult returns and be a sustainable program. Other considerations are age, timing, and release by calendar day of the year.

Thomas worked to identify a process that would be inclusive and yield consensus-based results. CWT data was an attractive option since it includes information about size at release, timing of release, etc. If terminal fisheries harvest sampling is less than 2.5%, it can introduce bias due to low sample size and few CWT recoveries. He, therefore, expanded the escapement recoveries back out to the Cowlitz river mouth. He then eliminated jacks and mini jacks and came up with a common set of definitions to define SAR.

In the name of transparency, the data set is in a reproducible / downloadable repository available to the public through GitHub. https://github.com/tbuehrens/CWT_SAR_Analysis Within the main landing page, there is a “readme” document describing how the repository works, which will guide users interested in the Cowlitz to the .rmd and .pdf files with the

word “Cowlitz” in them located on the repository homepage. These files detail how to reproduce the analysis. There is also a “projects” folder with the Cowlitz results in it.

Model results show a tradeoff between adult return per lbs of smolts released and the ability to make brood. On average, we don't get to Smolt to Adult Ratio (SAR) survivals that allow the population to replace itself using the early release strategies. The strategy most likely to meet SAR is the fall release strategy. Releasing fish as yearlings is the only strategy with high survival and allow the population to replace itself, but it is inefficient in terms of space. We know survival is variable year to year. Releasing some baseline number of smolts as yearlings each year is a strategy that will likely create a self-sustaining population. Releasing the excess early as sub-yearlings and the baseline as yearlings will address space constraints. Thomas was pleased to observe that this strategy is what is already going on – We haven't always released fish at multiple dates per year. Conclusions:

Survival varies by:

Size:

- Bigger is better, but there is a threshold of ~50 grams with more modest benefits above that.

Brood year:

- Big & variable effect on survival
- Therefore, it is necessary to account for year effects when comparing size and timing of release.

Day of year:

- There is clearly a peak that occurs on average from Mid-April through Mid-May, with lower survival earlier in the spring and later in the summer.
- There is considerable uncertainty in the effect of release date other than the spring because we haven't used a crossed experimental design to assess factors affecting survival -- particularly high uncertainty for summer and mid-winter release dates.

We don't currently have enough data to estimate interactions—would need ‘crossed study design.’ Models explain most of the variability in survival (~90%)

Optimal Release Strategies:

There is a tradeoff between adults per pound of smolts and adults per adult.

- Strategies that release small fish return more adults per pound of smolts but have lower productivity.
- Survival too low for ‘replacement’ until winter-spring as juveniles. become yearlings.
- This suggests the current program is ‘close to optimal.’
- Can fine tune exact size of yearling release to optimize size vs. number of yearlings.

Other tradeoffs and final recommendations are “beyond our scope.”

- Tradeoffs in space usage between spring chinook and other species
- Total poundage limit
- If sub-yearlings residualize, determining an acceptable level.

Future work may include comparing SARs with other regional programs, taking into account residualism, and evaluating the effect of different age at return on adult age comp and fecundity.

Phil credited the success of the study to great collaboration between Tacoma and WDFW. Kudos to Josua, John, Tim, Bryce, and Matt. Bryce observed this is one of the areas where

we've gotten criticism in the past about not having clear data sets or having a thoroughly vetted analysis. We now have a reliable data set to inform future decision making.

Thomas thanked all for the opportunity to present and invited folks to email with questions or feedback on the study at Thomas.Bureans@dfw.wa.gov. His presentation is available with additional detail, on the TPU website as well as on the internal FTC website.

2021 FTC Work Plan

Presenter: Travis Nelson

Travis reminded all that the intent of the work plan is to get projects on our radar so we can plan accordingly. He reminded everyone that this is an initial draft, and he welcomes feedback on the three tables. This plan will be treated as a living document and can be combined with the FTC protocols. He asked for feedback on the three tables in the plan. He looks forward to integrating feedback and proposing an updated version for approval in the coming weeks. Discussion highlights:

Table 1: Put all monthly updates in a single table.

Table 2: FHMP will shift to October. Include annual review of protocols. Add the year to 10-year reports (LWD); add Gravel, FERC report. Note which are FERC filing reviews and when FTC is to respond.

There were no comments on Table 3.

Action Items

- Travis: Integrate comments into a new draft plan and send out for review and possible approval at the February meeting and conduct internal Add protocols to this.
- All: Send comments on the Work Plan to Travis by February 19.

LCFRB Presentation

Presenter: Amelia Johnson

Amelia Johnson provided an overview of the Upper Cowlitz/Cispus strategy. The LCFRB has regional species goals for the Upper Cowlitz and Cispus. They are focused on how the Upper Cowlitz and Cispus connect with what is needed on the Lower Columbia. There is room for improvement to meet the regional goals.

Recovery Scenario				
Region-scale success depends on local, watershed-scale successes.				
Watershed	Population	Recovery Priority	2016 Species-Scale Viability	Recovery Viability Target
Upper Cowlitz	Spring Chinook ^{1, 2}	Primary	Very Low – Low	Very High
	Coho	Primary	Moderate	High
	Winter Steelhead ^{1, 2}	Primary	Moderate	High
Cispus	Spring Chinook ^{1, 2}	Primary	Very Low – Low	Very High
	Coho	Primary	Moderate	High
	Winter Steelhead ^{1, 2}	Primary	Moderate	High

¹ Historical core population
² Genetic legacy population

The vision for the LCFRB Habitat Strategy is to develop a habitat restoration and protection strategy to support short- (ESA delisting) and long- (healthy and harvestable) term ESA-listed salmon and Steelhead recovery needs in a way that works for fish and for people.

The LCFRB met monthly with a diverse group of stakeholders, including FTC members, from the spring of 2018 to December 2019. They identified landscape units. Within these units, they created a hierarchy of actions including opportunities for planning and collaboration up front and watershed processes and habitat benefits down the road. Actions also include providing habitat features where there are no watershed processes. Tacoma and WDFW provided data that helped work group members to identify what was happening historically in the rivers and where there are areas for improvement – now and in the future. All of the data are on LCFRB website along with the strategy itself.

Identified habitat action types include (in this order) protection, strategic actions, connect and restore, and enhance and create. She showed a table of Landscape Unit Ecological Indicators for Hillslopes, Cowlitz River Valley Bottom, and Cispus River Valley Bottom. She also showed maps that detail the optimal areas for various types of actions. She ended her presentation reminding all that habitat actions represent a range of options based on watershed conditions and fish needs. Implementing projects based on these requires partnering with willing landowners.

Discussion:

- Amelia reiterated Rudy's earlier point that there will be a lag in time between funding work and seeing the work carried out on the ground.
- Peggy suggested looking to the LCFRB website and reviewing the Executive Summary. She also noted that, in one of the appendices, there is a very helpful table that has a \$ column noting the relative expense of each project.
- Steve M noted the whole intent of this project is to provide the technical foundation for CRR fund and others as well.
- The LCFRB has opened up their grant round and are currently working with sponsors on pre-proposals. Proposals are due in February, with sponsor presentations in March, and TAC scoring in July. The LCFRB will then submit their recommended list to the SRF Board to make their decision, and the round will wrap up by fall. They are allocated \$3.6 million per year for each grant round.
- He also reported the LCFRB is in the process of revising their regional strategy. This will inform which funds they should rely on to get habitat projects on the ground.
- SRFB applications are due February 24 for the Lower Columbia.

All of the resources are on the LCFRB website:

<https://www.lcfrb.gen.wa.us/salmon-recovery-funding-board>

The link to the UCC habitat strategy also is in the FTC agenda and on the mytpu.org/CRR website. This presentation will also be posted on Tacoma's website as a pdf.

Travis thanked the LCFRB for the presentation and their work toward salmon recovery in the region.

Satellite Rearing

Presenter: Matt Bleich

Matt reminded all they closed out the end of the calendar year with a draft Satellite Rearing Plan which was released for public review. Tacoma received comments from various

members of the angling community as well as the LCFRB, LCPUD, WDFW, and Energy NW. These comments will be shared in their entirety with the FTC.

Discussion:

- Peggy suggested looking back to what Northwest Fisheries Enhancement (NWFE) submitted in the prior CRR grant round to get a better understanding of Chris Vandenberg's remarks.
- Bryce reported when WDFW reviewed the plan, they were struck by the difference between where we are in terms of recovery compared with when the satellite rearing facilities were envisioned 20 years ago. If we implement these, it is important to be sure we are doing what is best for the fish and that it is a good use of money and resources. He cited good discussions on this within M&E subgroup and in Transition Planning Workshops. We need to better understand where we are in terms of recovery. It feels like we are in a good place with coho – improving ocean conditions will aid recovery. In addition to water sources, and logistics, WDFW would like Tacoma to work with the FTC to do species population-level status evaluations. Based on those results, it may be prudent to consider what other concepts might get us to the desired end point. He suggested one option could be doing a short-term pilot study with a portable satellite rearing pond before investing in many of them. Other suggestions: Chum reintroduction in the lower river, using Mayfield net pens to create more space, and investing some of the funds into a trust that can be growing interest. These ideas were all captured in WDFW's comment letter to Tacoma.
- John Serl noted (in the Chat) that back in the late 1990's, WDFW and HARZA were able to acclimate 75,000 steelhead smolts in the stilling basin of Energy NW's Packwood Hydro Project. They used six net pens and there was room for at least a few more. He confirmed that the stilling basin is the pond that leads to a concrete flume at the bottom of the hill by their powerhouse.
- Steve W reported that LCFRB had commented on the style and substance of the report which they found difficult to follow. He further stated that Article 5 is short, and is not very prescriptive, specific to the satellite rearing ponds. They would like the report to tie to salmon recovery and what the subbasin plan says (not just recovery). They also wanted to look at opportunities for rearing facilities to address all VSP parameters (abundance, productivity, diversity, and spatial structure).
- Laura explained the LCPUD felt like the report should be more detailed. For the Table 2 recommended attributes, there is a need to come up with a ranking system based on importance.

Next steps: Matt had been planning to do a feasibility study on the top strategies listed in the report. Instead, he will now take time to review all the comments received in more detail and bring specific recommendations back to this group regarding next steps and how to incorporate comments and identify next steps.

Jamie Herrera Beutler Letter to FERC

Just prior to this meeting, Travis sent out this letter dated January 15 along with the January 29 article from the Centralia Chronicle. The letter asks FERC to clarify requirements in the Cowlitz River Project license pertaining to satellite rearing facilities, Hatchery production requirements, and improving survival rates of hatchery fish.

This request fits well with WDFW's sentiment to assess population-level status and perhaps do something different than was originally envisioned. Bryce reminded all that we have some issue papers on these topics. It may be helpful to go back and review these for

applicability to today. It is important to assess where are we now and to make the right choices about moving forward. Matt will draft an initial response and describe the background and the current status of where we are with survival rates, hatchery production, the FHMP and the research Thomas reported on today.

Discussion:

- The SA says the CRR funds are to be used for recovery. We don't want to see the whole fund go to production. The focus is on habitat restoration.
- The FTC reviewed this in 2016 and identified CRR could be used for hatchery production if there was a recovery linkage. The CRR Implementation Strategy strikes that balance.
- AHA modeling exercise did a review of the overall cap for the basin as being 840,000 pounds. There is currently not room in the hatchery for reaching that limit.

Travis has been talking with FERC about this. With approval of abandonment of volitional passage, the FERC order notes that hatchery production could be increased.

Four objectives:

- Rebuild the Salmon Hatchery.
- Expand the Trout Hatchery.
- Construct three satellite rearing facilities.
- Upstream volitional passage construction (now these funds have shifted to CRR fund with main focus being habitat with an opportunity to increase hatchery production if there is a connection to recovery).

All agreed there is a need to review the license requirements. Tacoma will not walk away from any obligations. The FHMP has been a big lift for everyone and this is an opportunity for the FTC to resolve some key outstanding issues so we can all move forward in a meaningful and collaborative way. Travis thanked everyone in advance for the work ahead.

By the end of the meeting Travis had emailed out relevant background documents, including issue papers from May of 2016. This topic will be on the March FTC agenda.

Gravel Augmentation

Presenter: Travis Nelson

Travis thanked Carol and Peggy for working with him and Melora on revising the draft long-term DD 2021-1 since the last meeting.

Key components are accountability, annual reporting, if additional gravel is put in the river, how it should be identified and shared with the FTC before Tacoma takes credit for it, and milestones to prepare a plan to develop a new site for gravel augmentation.

After a brief discussion and review of the edited DD, it was approved by consensus, and there was great rejoicing.

Action Item

- Travis: Send out the approved DD to all.

Potential Topics for March 2 FTC Meeting

- Updates incl. Hydro Ops, Water Quality, Fish Facilities, Satellite Rearing Update, Downstream Adaptive Mgt. TGW
- Response to Letter to FERC

- TPU Flow Planning Presentation (?)
 - 2021 FTC Work Plan
 - FHMP Transition Plans
 - M&E Subgroup (Spring Chinook Handling Protocol?)
 - Gravel Augmentation
 - Preview April FTC Meeting topics
-

Meeting Evaluation

- Singing and dancing
- Tech difficulties
- Very informative presentations!
- Learned a lot about where the FTC has come from and the background on the CR
Appreciated the use of the chat function.
- Approved Gravel Augmentation DD
- Lots of collaboration FHMP, ME, Gravel, LSFRB, etc.
- Nice that we got out early without having to cut any discussions short.
- Quotable Quote: "I have just three things to teach: simplicity, patience, compassion. These three are your greatest treasures." - Lao Tzu

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 Meeting Summary
March 2, 2021 from 9:30 – 2:30

FTC Representative Attendees:

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

Additional Attendees:

James Archibald	NMFS
Rich Turner	NMFS
John Serl	WDFW
Peggy Miller	WDFW
Sam Gibbons	WDFW
Josua Holowatz	WDFW
Brian Gale	WDFW
Matt Bleich	TPU
Eric Shoblom	TPU
Phil Sandstrom	TPU
Tim Hoffnagle	TPU
Chris Foster	TPU
Ann Weckback	Lewis County
Steve West	LCFRB
Laura Wolfe	LCPUD
Kate Day	USFS
Rudy Salakory	Cowlitz Indian Tribe
Lyn Wiltse	PDSA Consulting / Facilitator

2021 FTC Meeting Dates: Apr. 6, May 4, June 1, July 6 (tentative), Aug. 3, Sept. 7, Oct. 5, Nov. 2, Dec. 7

Approval of Last Meeting Summary

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

Announcements

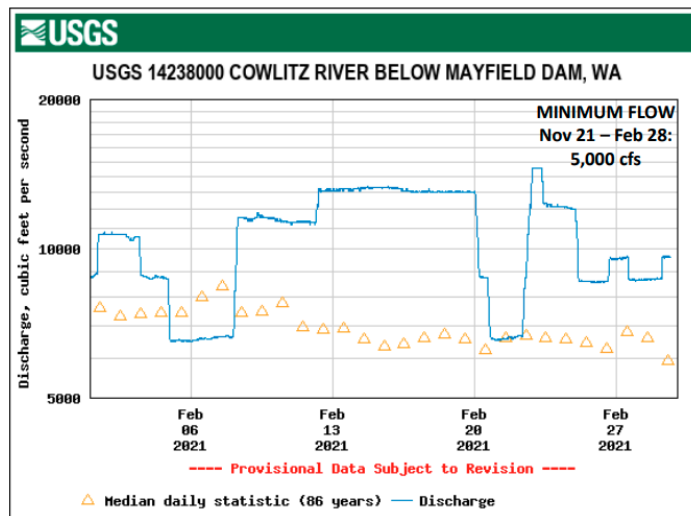
- Travis announced that as of March 1, Keith Underwood is no longer with Tacoma Power. Tacoma is moving forward with recruiting for a replacement. In the interim Matt Bleich is acting Natural Resources Manager. Nothing in Tacoma, mission, strategies, etc. has changed.
 - Travis noted these meetings will be conducted on the Teams platform going forward. He will add a phone number.
-

Updates

Hydro Operations:

- Inflows: December flows were a bit low. After a very wet January, February inflows, at 8.7K cfs, were just a bit higher than the historical average of 8.4K cfs. The daily average for February started off quite low but a big event (18.6K cfs) on February 23 brought the average flows up to average. Tacoma had to do some side flow management to deal with those high inflows. The historical average for March is just above 7K cfs.
- Storage: At 722', the elevation of Riffe Lake is 6' above the historical average and well within the operational max of 749'. Tacoma drew down Riffe Lake to 722.5 on March 1. Mayfield is operating within its typical operating band.
- Snowpack has increased considerably in the last 30 days and Paradise and White Pass are currently at 147% of average. Great news!
- Mayfield Outflows: There were no excursions or exceedances over the last month. Outflows are at 9.6K cfs and are expected to be between 8.9K and 9.6K cfs in the next few days and may decrease later in the week. Tacoma will initiate fish transport flows as needed.
- Forecast: Fairly typical and relatively dry. Freezing levels are mostly below 5K' but expected to rise over the weekend.
 - Action Item: Matt to follow up with Carol about Ecology's concern about weather extremes as occurred like last year, especially with the amount of exposed contaminated material at the Kosmos contaminated site (CSID9890) project.

Outflow



No minimum flow or ramp exceedances; 3/1/2021: 9,600 cfs.
Minimum flow 3/1-6/30: 5,000 cfs plus fish transport flow (<8,000 cfs).

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: Carol showed a map of the Barrier Dam Repair project which contains the area for future gravel augmentation (2021-2023). She noted this is not yet covered under an approved Construction Stormwater General Permit (CSWGP) or Water Quality Protection Plan (WQPP), Ecology and Tacoma Power are working diligently to get approvals in order. She pointed out the scour area (current, urgent work) and the position of

the crane. She noted the turbidity compliance point (300' downstream of in-water work) and showed a video of clean (uncontaminated) soil, but turbid water passing over the dam. It is critical that the turbidity is not visible at 300' downstream. When she arrived on site March 1, there was someone on top of the dam monitoring for turbidity. The CSWGP will be issued before the contractor for Phase 1 is selected. Carol also mentioned the Kosmos oil seep location and the 45-day period during which Tacoma will put together a remedial investigation plan, which will likely expand the cleanup action area to include the stockpile area of contamination. They will then meet with Ecology about a path forward. Josua announced that fishing boundary signs near Barrier Dam will be moved down to the typical 400' downstream of the dam this week; Carol was thankful, since she had seen someone within a few feet of the 300' compliance point stake when she was out there. Eric showed some photos of the barrier dam construction including the crane from other side of the river with the rock/boat sled they use to dump rock into the river. Kevin Smith is the PM for that activity. Rock placement is going well and with the crane the work is also going quickly and should conclude by March 12.

Fish Facilities: At the Salmon Hatchery separator, they are currently receiving ~30 winter steelhead/day, indicating the run is starting to normalize. Eric is hearing reports of folks catching decent numbers in the lower river, with some fish weighing in at 21-23 lbs! They are starting spring Chinook juvenile releases now and will continue through mid-March. The CF collector will start back up on March 15 and Mayfield juvenile collection will begin on April 1 (and that's no joke).

Trout Hatchery: Eric reported there has been a pause in interviews for the Trout Hatchery biologist. The intent had been for this person to develop the criteria for the Design Team. With Keith leaving Tacoma and a restructuring in Tacoma's Engineering Department due to a recent retirement, Eric's current priority relative to the Trout Hatchery is confirming with current leadership that Tacoma is still onboard with the original strategy, including what to contract out, what they have the capacity to do internally, and whether there should be a revised job description for the new biologist.

Blue Creek Dredging: This will proceed after WQPPs are approved. Tacoma plans to handle this work in house and is anticipating doing the work in August.

Downstream Adaptive Management Technical Work Group: Matt reported they are currently between seasons and preparing for the start-up of the collector. This means finishing up reports, study designs, and other prep for the upcoming season. TWG members received a draft 2020 Season Cowlitz Falls collection report last week. Comments are due in two weeks. Tacoma will then have the contractor make revisions accordingly. The FTC can expect to see the report in around six weeks.

M&E Subgroup Report: Phil reported their February meeting was supplanted by the FHMP Steelhead Transition Planning Workshop. They did discuss the M&E work plan document which has been sent out to the group. They will cover the February agenda topics at their March meeting and will continue to share information and recommendations with the FTC. Their current focus is planning the data meeting for the Annual Program Review (APR) process. Stay tuned.

2021 FTC Work Plan: Travis reminded all this plan will be treated as a living document and can be combined with the FTC protocols. He will integrate also the feedback and proposing an updated version for approval in the coming weeks.

Action Items

- Travis: Integrate comments into a new draft plan that includes FTC protocols and send out for review by March 12 for possible approval at the April meeting.
- All: Send comments on the Work Plan to Travis by March 19.

Gravel Augmentation: Travis reminded all that the plan is still to add 500 cubic yards of gravel into the river below Barrier Dam this year and any additional material released beyond the required amount associated with the Barrier Dam Repair would also be calculated in. Tacoma will request an agency rep to be onsite when the Barrier Dam Repair gravel is released and that material amounts are calculated accurately. After the placement at Barrier Island, Tacoma will continue to work toward the Plan that outlines the long-term strategy.

Bryce reminded Travis once again that forming a subgroup would help alleviate the workload associated with the Gravel Augmentation Plan. Travis plans to send the initial draft of the plan out for FTC review in the April/May timeframe.

Last week Travis walked the ground on the Jorgensen property downstream. He is continuing discussions with Jorgensen that Florian had initiated in 2018. The outlook is very promising. They are working through some preliminary options currently. Peggy thanked Travis for reengaging with the Jorgensen property folks.

FERC Letter: Peggy and Bryce described a letter sent by FERC on February 8. (Travis forwarded the letter to all.) The letter had to do with Article 402 and the elements of the 2019 Instream Flow Annual Monitoring Report for the Cowlitz (daily flow record, deviation from instream flow, actual vs. required flow, etc.) This report doesn't have to go to the FTC for 30-day review. It mentioned requirements for ramping rates and stranding. Bryce noted WDFW is very interested in how best to minimize stranding. Bryce thinks the potential for stranding is increasing. Can we incorporate this into the Monitoring Plan through the FHMP? How do we determine the site of the problem and how best to mitigate it? If there is ramping, Tacoma needs to check to see if there is stranding and needs to coordinate with WDFW on those efforts – perhaps thru M&E group or the M&E Plan. Melora confirmed 6K cfs is the critical flow below which ramping rates apply. WDFW looks forward to working with Tacoma on this.

Cowlitz Fishery: Bryce reported briefly on spring Chinook outlook for the Lower Columbia River. There are still concerns with the Cowlitz return. WDFW has established a closure bubble around the mouth of the Cowlitz River to provide extra protection for Cowlitz fish hanging out there. All fishing opportunities will be reduced this year due to lower forecasts. Rule packages will be out in the next few days.

FHMP: Next Steps

Presenter: Matt Bleich

Matt reported that the workshops are proceeding according to schedule. Participants are highly engaged and making good progress. He is keeping everyone informed with the meeting notes and materials developed along with way. The Fall Chinook Transition plan is substantially complete and has been sent out for FTC review. The team will revisit it again at the end in the context of all the transition plans. The focus of the last two workshops and the March 3 workshop is winter steelhead. Tacoma has also begun preparing background material for the transition plans to spring Chinook and coho.

The Winter Steelhead Workshops have focused on the current status and future of the early winter steelhead program. They are evaluating various options available and how to strategically fit these into the transition plans. The March 3 workshop should result in one or possibly two recommendations. They will then flesh out adult collection tables and draft harvest strategies including the M&E work plan. At the March 10 workshop they will discuss assignments and turnaround time.

Satellite Rearing / Response to Herrera Beutler Letter to FERC

Presenter: Matt Bleich

Matt began by noting Tacoma has not received any direct communication from FERC on the congresswoman's letter. He expects they will ask for how TP will address the key concerns listed in her letter:

- Satellite rearing facilities timeline and plan
- Hatchery production requirements (clarification around 650K lbs to 771.5 lbs.)
- Improving survival rates for hatchery fish (asking that we do what we said we'd do)

Matt reviewed the key points of the letter and discussed potential responses to each. He asked for feedback as Tacoma wants to be sure the FTC supports their response which will include how they encourage further engagement from the public in transition planning and the APR process. Matt thanked everyone for their help in reviewing the response points. The more we can show that we are all in this together the better, Travis has been discussing this with Erich Gaedeke from FERC. Tacoma would like to get FTC buy-off on certain initiatives and the associated timelines. They will draft their response and then send it out to the entire FTC for further review / comments. They will also consider whether a decision document might be appropriate.

Satellite Rearing: Matt will review all the comments received on the draft report and bring specific recommendations back to this group regarding next steps and how to incorporate comments and identify next steps.

Annual Program Review (APR)

Presenter: Matt Bleich

Matt announced that it was time once again to plan for the APR.

2020 APR Draft Plan

Step	Task(s)	Purpose	Date	Who
Status and Trends Workshop	<ul style="list-style-type: none"> • Natural Population Metrics - Run size, <u>Spawner</u>, Abundance, pHOS, recruits per <u>spawner</u>, pre-terminal catch, terminal catch • Hatchery Population Metrics - Annual hatchery run size, Broodstock collected, pNOB, PNI, Hatchery surplus, number released and locations, pre-terminal catch, terminal catch 	Update M&E data to represent 5 year trends to reflect progress toward program goals	End of March	Phil and <u>X</u> Lead Subgroup assigned by M&E
Public Meeting #1 - Science/APR Conference	<ul style="list-style-type: none"> • Purpose of APR/FHMP Status • Summarize 5 year trends <ul style="list-style-type: none"> ◦ Habitat ◦ Natural Production ◦ Pre-terminal/terminal harvest ◦ Hatchery operations • Public Feedback, interim actions 	Science and information update. Public engagement with programs and interim program adjustments.	May	<ul style="list-style-type: none"> • Matt • Travis/Melora • Phil • WDFW • Eric • Matt • Public
Decision Rules Review	<ul style="list-style-type: none"> • Presentation and Discussion with FTC • Review Program Adjustment Options for 2021/2022 	Review Existing Decision Rules and suggested interim program adjustments	6/6/21	Matt (or delegate)/FTC
Public Meeting #2 - Decision Rule/Annual Adjustment Implementation	<ul style="list-style-type: none"> • Present options to public and receive feedback • FHMP Public Review/Q&A • Satellite Rearing Ponds Report Presentation/Request for Public Comment 	Communicate annual plan and make final adjustments if necessary	End of June	Matt/FTC/Public
Action Plan	<ul style="list-style-type: none"> • Develop Action plan based on 2021 APR process 	Documentation	August 1, 2021	Phil/Eric

Discussion:

- Should we plan additional discussion topics as outlined in the FHMP?
 - Steelhead recycling is always a popular topic.
 - Need to check the May date for Science/APR Conference and the June Public Meeting – Annual Program Review
-

CRR Fund

Presenter: Travis Nelson

Travis reported Tacoma is having discussions internally and with the LCFRB re next steps. Travis is optimistic about the progress in these talks and intends to come up with a good plan forward in May. It appears the last DD finalized by the FTC on this was from the Nov. 2019 FTC meeting.

Action Item: Travis to send out the most recent version of CRR DD for all to review and identify what portions may need to be edited.

Potential Topics for April 6 FTC Meeting

- Updates incl. Hydro Ops, Water Quality, Fish Facilities, Satellite Rearing Update, Downstream Adaptive Mgt. TGW
 - Response to Letter to FERC
 - TPU Flow Planning Presentation (?)
 - 2021 FTC Work Plan
 - FHMP Transition Plans
 - M&E Subgroup (Spring Chinook Handling Protocol?)
 - Gravel Augmentation
 - Preview May FTC Meeting topics
-

Meeting Evaluation

- Great attendance
- Impressive that folks could pivot from GoToMeeting to MS Teams.
- There was some levity and it felt good to be part of this meeting.
- Appreciate everyone being flexible, leaning in, and participating.
- Tech difficulties
- Very informative presentations!
- Learned a lot about where the FTC has come from and the background on the CRR fund.
- Appreciated the use of the chat function.

Quotable Quotes (listed in the order in which they were shared):

- From Carol: “The solution to pollution is dilution.” Dr. Sherry Rogers
- From Eric: “Only dead fish go with the flow.” Eric’s T-shirt
- From Josua: “Sunshine is delicious, rain is refreshing, wind braces us up, snow is exhilarating; there is really no such thing as bad weather, only different kinds of good weather.” John Ruskin

Parking Lot

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

Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Final Conference Call Meeting Summary
April 6, 2021 from 9:30 – 2:30

FTC Representative Attendees:

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

Additional Attendees:

James Archibald	NMFS
Rich Turner	NMFS
John Serl	WDFW
Peggy Miller	WDFW
Sam Gibbons	WDFW
Josua Holowatz	WDFW
Brian Gale	WDFW
Matt Bleich	TPU
Eric Shoblom	TPU
Phil Sandstrom	TPU
Tim Hoffnagle	TPU
Chris Foster	TPU
Steve Manlow	LCFRB
Steve West	LCFRB
Laura Wolfe	LCPUD
Rudy Salakory	Cowlitz Indian Tribe
Debbie Carlson	BPA
Lyn Wiltse	PDSA Consulting / Facilitator

2021 FTC Meeting Dates: May 4, June 1, July 6 (tentative), Aug. 3, Sept. 7, Oct. 5, Nov. 2, Dec. 7

Approval of Last Meeting Summary

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

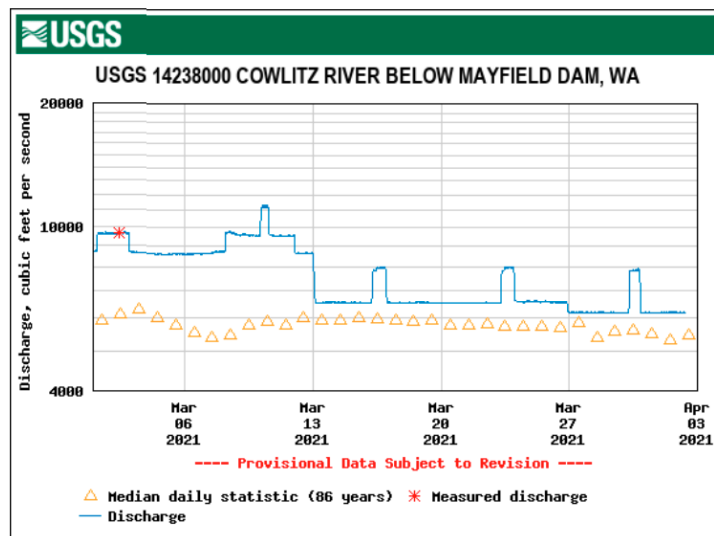
Updates

Hydro Operations:

- Inflows: While in February we saw typical inflows, in March, inflows were lower (5.5K cfs compared to the historical monthly average of 8.4K cfs). The historical average for April is 7.7K cfs. Inflows as of April 1 were 4.6K cfs.
- Snowpack remains high and continued to increase in March and Paradise and White Pass are currently at 138% and 146% of average respectively.
- Storage: Riffe Lake elevation as of April 1 was 707', much lower than the historical average of 733.5' and 1.5' lower than the drawdown average over the last three years.

- Mayfield Outflows: There were no minimum flow or ramp exceedances. Outflows as of April 2 were at 6.2K cfs. Tacoma is continuing to provide pulse flows (fish transport) on a weekly basis and will continue to provide a Minimum flow of 5K cfs through the end of June.
- Riffe Lake Elevation Update: Boat ramps closed on March 30 due to inaccessibility because of low lake elevation. There is angler concern as the current elevation is at 706' and boat launches at Riffe become unusable at 708'. Travis reported this will be an ongoing issue. Tacoma is also working to balance the need for low elevation to safely conduct Barrier Dam repairs vs the high snow pack. Carol is working with Matt Peter on how best to manage the ooze at Kosmos if elevations suddenly increase due to a Pineapple Express-type snow melt.
- Forecast: The 10-day outlook is typical, then cooler, and relatively dry. Freezing levels should be below 6K ' and inflows are expected to range from 5-6K cfs.

Outflow



No minimum flow or ramp exceedances; 4/2/2021: 6,190 cfs.
Minimum flow 3/1-6/30: 5,000 cfs plus fish transport flow (<8,000 cfs).

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: Carol reported last month, Ecology sent Tacoma an approval and concurrence letter to Tacoma related to the 2002 Water Quality Certification; this letter concludes all water quality parameters, except Total Dissolved Gas (TDG). Tacoma is awaiting Ecology's review of the TDG Plan. Matt thanked Ecology and others for their collaboration in completing the summary of the water quality data and the cessation of monitoring was approved of by Ecology. All are in agreement now that the water quality monitoring needs at the Cowlitz River Project have been satisfied and the focus will now shift to the TDG plan that will require monitoring of all operational and storm spills. Carol also reported that she has a couple Water Quality Protection Plans (WQPP) awaiting her review for approval. The WQPP will be for the dredging at Blue Creek is top of the list to proceed after reviewing the TDG Monitoring Plan.

Fish Facilities: Eric reported for the Barrier Dam project they finished placing the rock in scour hole on March 8 (four days early). The contractor was completely demobilized by

March 11. Many thanks to the many different agencies, contractors and staff who worked together so well to complete this project.

The design team for the upgrade to the spillway project selected Shimmick Construction out of Bellevue. Pending Public Utility Board approval and contracting completion, they will mobilize as early as this May and start work on the coffer dam in mid-July.

Tacoma is currently collecting Winter Steelhead according to schedule and it looks like they will meet broodstock goals. Fishermen are having good success despite the low numbers coming into the separator.

Mayfield juvenile collection began on April 1 and just a handful of fish have been collected so far. The Cowlitz Falls collector started up on March 15 and they have collected ~200 smolts. These numbers are expected to increase as temperatures and flows increase. The Cowlitz Salmon hatchery has recently finished releasing their yearling Spring Chinook and are currently marking Fall Chinook. The Cowlitz Trout hatchery is in the process of releasing summer steelhead and will release the winter steelhead immediately thereafter.

Downstream Adaptive Management Technical Work Group: Matt reported their last meeting was focused on wrapping up reporting and gearing up for the current season. The TWG has reviewed the Annual Report and it will be out this week to the FTC for a 30-day review.

2021 FTC Workplan: Travis projected the updated version of the Workplan and welcomed additional comments/suggested edits. He combined the plan with the FTC protocols, noting the protocols should be revisited to include remote meeting procedures. He separated out the monthly updates schedule from the scheduled updates. Table 2 shows the 30-day review (typically send at least 45 days before the filing). Additional suggestions:

- Show which plans are complete. For plans not finished, show when the last one was.
- Show periodic M&E presentations. Do this also for TWG and HOM. These will be adjusted over time.
- At one point, each subgroup was going to write an annual work plan noting what they've done and what they anticipate for the coming year. We will add this and check on it twice a year. Include subgroup reports in the FTC annual Work plan.

Action Item:

- Travis: Integrate feedback and send out an updated version for approval by April 20 for approval at the May meeting.

Gravel Augmentation: Travis emailed out DD 2021-01 that was approved at the Feb. 2 FTC meeting. He also emailed out and displayed a proposed outline and crosswalk from the original 2004 FERC approved Gravel Augmentation Plan including proposed 2021 updates. He described the outline as the “first blush” of where Tacoma has been and where they intend to go. He noted that even if the FTC doesn't finalize the plan, it is important that we coordinate on this to ensure we are all on the same page before gravel placement starts on Barrier Island (after approval of the HPA – likely this summer). Carol noted the HPA will have the WQPP attached. Matt Peter is working with the Corps on a Programmatic Permit.

Action Items:

- All: Please send any comments to Travis and Melora on the outline between now and the May Meeting.
- Travis: Draft new long-term Gravel Augmentation Plan document and send out to all before the May meeting.

Travis closed by assuring everyone that the Jorgensen site is still in the mix, though there is no update since the March meeting.

North of Falcon Meeting: Josua reported on the April 1 North of Falcon Columbia River Fisheries meeting which outlined forecasted numbers, season proposals, and supporting logic. WDFW presented proposed fishery rules for tributaries. They are cautiously optimistic as they anticipate a robust return of 1.5 million coho to the Columbia. They are proposing a bag limit of three adipose clipped adult coho per day for the Cowlitz. They will adaptively manage the program throughout the season, depending on whether the hatchery return is adequate to meet broodstock goals and transport to upper basin. They are also awaiting public input on their recommendations. The coho retention rule for the Cowlitz will be similar to Lewis and Kalama. Although, on the Cowlitz, there will be a closure for fall Chinook. Josua provided the following links for more information:

See the meeting materials list (handout and trib proposals) for forecasted numbers, season proposals and logic.

<https://wdfw.wa.gov/get-involved/calendar/event/north-falcon-columbia-river-fisheries-discussion-0>

Columbia mainstem proposal is from the Recreational Breakout

https://wdfw.wa.gov/sites/default/files/2021-04/2021_col_river_fishery_proposals.pdf

M&E Subgroup Report

Presenter: Phil Sandstrom

Phil displayed the Workplan document and explained it will be included in the FHMP as an appendix. The March 31 M&E meeting resulted in good discussions which included wrapping up the Spring Chinook SAR exercise. They are now ready to look at other species (also covered the Workplan). He thanked WDFW for their many comments which made the Workplan more robust. Members from the Downstream Adaptive Management TWG joined the M&E Subgroup for this review of Spring Chinook study designs. They also reviewed the APR and AOP process.

The Science Meeting is planned to occur on May 19. At the end of the meeting, he sent out a Doodle Poll for next Analytics Meeting near the end of July. Lyn forwarded the Doodle link to the FTC as all are invited to attend.

At the next M&E Subgroup Meeting on April 21, they will identify missing topics and develop a prioritization matrix. At the May 4 FTC meeting will review Workplan templates and list of projects (line12). We will also review/approve the accompanying DD. Based on the prioritization matrix, they will determine if additional workshops need to be scheduled. The rest of the tasks listed in the table will be TBD.

Action Items:

- Phil: Send out a draft DD by April 20 for approval at the May FTC meeting.
 - All: Review the DD and send any comments to Phil before May Meeting.
-

FHMP: Next Steps

Presenter: Matt Bleich

Matt reported that the workshops are proceeding according to schedule. Transition planning for Winter Steelhead last met on March 24. (He sent those materials along with materials for April 14 meeting a few hours after this meeting.) WDFW's harvest strategy will be incorporated into the draft Transition Plan. They are also reviewing the M&E Workplan.

They spent the majority of the time talking about Cowlitz program options and alternatives. Options discussed include:

- Doubling integrated programs in the Tilton and Upper Basin
- Increasing abundance by expanding egg take for upper river integrated program and then culling out undesirable fish (those not likely to smolt) with the goal of increasing the SAR.

They will compare the pros and cons along with assumptions for both options. Thomas and Phil are working on this and will bring a list back for review by all at the April 14 mtg.

Winter Steelhead Goals include:

- Increasing abundance for the Upper Cowlitz/Cispus and Tilton basins, including increased abundance of HORs for transport during the reintroduction phase.
- Move return timing earlier for the lower river program and expand overall duration of the combined hatchery program returns.
Increasing angling opportunity

Matt will incorporate this into the rest of the document as he did with fall Chinook. They will begin on the Spring Chinook Transition Plan on the 14th as well, starting with a background information created by Tim. They also have supplemental info (SAR evaluation) that they can integrate into this transition plan. This population is also in the abundance building phase and there is a need to optimize size at and time of release strategies to increase abundance for upstream transport.

Satellite Rearing / Response to Herrera Beutler Letter to FERC

Presenter: Matt Bleich

Matt will review all the comments received on the draft Satellite Rearing report and bring specific recommendations back to this group regarding next steps and how to incorporate comments and identify next steps.

Matt walked through the draft letter from Tacoma to FERC in response to the letter sent to FERC by Congresswoman Jamie Herrera Beutler. Matt reminded all that while this is Tacoma's letter, they are seeking agreement on tone and sentiment. Bryce didn't see any red flags, noting he appreciated language in Satellite Rearing Facilities which reflects comments from WDFW. The four steps listed combine what the FTC is doing and where we are going with the program.

Tacoma Power solicited public comments on the Satellite Rearing Facility Plan and we received comments between November 16, 2020 and January 19, 2021. Comments were received from five members of the public, Lewis County Public Utility District, the Lower Columbia Fish Recovery Board and Washington Department of Fish and Wildlife. These comments were discussed at the Fisheries Technical Committee (FTC) on February 2, 2021. Next steps identified at the meeting included: 1) an assessment of the current Cowlitz Hatchery Complex to evaluate if modifications to facilities for similar costs can meet similar recovery and harvest outcomes as Satellite Rearing Facilities; 2) an assessment of how Satellite facilities support recovery by conducting a status review of Upper Cowlitz populations; 3) an upper basin satellite site assessment; and 4) the development of a schedule for public participation that would inform the development of plans and land use agreements.

There was discussion around the hatchery production requirement, which is of most concern to the public. It was noted the CRR funds may also be used for production projects if they are intended for recovery.

Improving Survival Rates of Hatchery Fish: Much on this is included in the FHMP and the FTC will be working with the public on this (they have voiced concerns with pinnipeds and birds).

Satellite Rearing: Travis and Matt will check to see that the comments have been posted. The FTC will see recommendations in the form of a workplan. Matt noted if we pivot to a different approach than described in the current draft plan, there wouldn't be any benefit to finalizing that plan.

Annual Program Review (APR)

Presenter: Matt Bleich

Matt reminded all the APR is a process we agreed to as per the following SA Articles:

- Article 3: Abandoning volitional passage and instituting CRR funding for HAP and HAB projects
- Article 5: Fish production and hatcheries (up to 650 lbs. of release and how to mix)
- Article 6: FHMP including evaluation for monitoring, adjustments based on fish passage, SARs, adult returns, etc.

This year's APR process will start with a (virtual) public meeting on May 19 where they (Phil) will start by discussing the Annual Operating Plan for production per the FHMP and the science to back it up and then, after a break, Bryce and Matt will do the APR portion of the meeting. They will work with Sam and Eric re the production mix and will present recommendations for changes in upcoming year (Chapter 12 of FHMP) and get feedback from the public. They will also provide an update on the Transition Plans, which should be complete by the end of the summer.

The public comments will be reviewed at the June 1 (public meeting) to determine if changes need to be made to production strategy. The third meeting is tentatively scheduled for June 23. Bryce, Matt, and Sam will let the public know if, how (and why/or why not) their feedback has been incorporated into plans for this year. They will also provide update on transition plans.

Next steps: Phil will forward draft agenda to Bryce to review.

2021 CRR Program Update

Presenters: Steve Manlow and Travis Nelson

Steve and Travis have been discussing a strategy to restart the CRR program through a partnership between LCFRB and Tacoma Power. They walked through a PowerPoint Presentation that outlined opportunities and considerations for the 2021 CRR program. Travis notes this is being presented to the FTC as an opportunity. If FTC wants to move forward, discussions will continue. Travis will send out a DD for review at the next FTC meeting.

Habitat (HAB) Projects: Tacoma Power proposes to engage the LCFRB for the 2021 grant round. Support for this proposal by FTC would be requested in the DD at the May meeting. The opportunity is for a service from LCFRB to provide process and ranking support to Tacoma for the CRR program beginning in 2021 for habitat restoration projects in the Cowlitz watershed. This service would be funded out of Tacoma coffers separately from the CRR escrow account. The LCFRB would rank projects and present the rankings to the FTC for consideration. The LCFRB would run the CRR process parallel with the LCFRB process

already underway. When asked if we would be “joining the party” a little late for this year, Steve explained there is a design process for the Cispus and Upper Cowlitz (by the Learning Center) that is eligible for funding this year and then we could catch up to the entire LCFRB grant round process in 2022.

Tacoma would maintain \$3 million /biennium funding rate through 2034-2035. The FTC would identify an equitable split of CRR Funds between HAB and HAP projects and revisit the split periodically.

Hatchery Type (HAP) Projects: Tacoma would run the grant rounds for production projects by supporting HAP subcommittee made up of production experts that could include membership beyond the FTC. The HAP round would start in June (could use existing framework and would allow six months before making an award). It would be necessary to identify who would be part of that process, etc. Another option would be to wait until December of this year. Regardless of the timing, Melora would be available for production-related proposals to assist as needed. The FTC would approve the HAP round process. All HAP projects would require a sponsor (FTC or natural resource agency). To avoid any conflict of interest, project sponsors would likely recuse themselves when voting on their own projects.

The HAP Subcommittee would include production experts and would create a ranking of projects to be presented to FTC in the same manner LCFRB would present HAB proposals. The FTC would then have a one-day meeting that would include HAP and Habitat projects for funding decisions.

Discussion:

- We need to decide how to proceed by May and memorialize with DD.
- If the FTC wants to proceed, Steve will propose doing so at their board meeting on May 7.
- In the full grant round for 2022, we would see all the LCFRB projects including where the Cowlitz projects ranked relative to each other as well as to the others in the region.
- The LCFRB always ranks projects according to:
 - Benefits to fish; certainty of success; cost relative to benefitsProjects that don't include all three are deemed as projects of concern by the State Review Panel and are not funded.
- On the HAP side of things: June seems too quick. There is still work to do internally with the FTC to approve the plan and identify the appropriate equitable split. There were some things identified in the hatchery project review criteria that need to be reviewed/revised before doing another round.
- There would be some WDFW involvement in the panel – concern with time commitment due to all the FHMP transition planning.
- We don't want to get out in front of the Transition Plans. Maybe consider smaller pilot projects? December seems more realistic. Want to make sure we get it right. If concerned about habitat projects getting ahead of production projects (project proponents being upset), then we could explain how we are working on the process to review and fund projects. The habitat projects may be more sophisticated and easier to gear up than the production projects.
- During initial CRR projects, it was assumed that for any hatchery production projects to be brought forward, there would have to have been many discussions with WDFW

and Tacoma already, e.g., net pen production (pending permitting). When we solicit for proposals, it is important to be very clear about what types of projects we are seeking and how all of this would mesh with the Transition Planning process.

- The account has \$18M in it now and we have 15 years left on the license.
- Take FTC protocols into account when discussing composition of subcommittee. Don't want an overly complicated selection process.
- How best to incorporate public comment into the process? The CRR implementation strategy DD needs to be updated and approved again. Steve may need to bring that document to his Board.

All agreed it would be good to go to May 19 APR meeting with alignment on direction.

Next steps: FTC consider proposal and decide on CRR program future by May:

- Equitable split (decide before June Public FTC meeting)
 - Does split apply just for next grant round? Next 15 years?
- Will you be a sponsor?
- How will voting work?
- HAB projects: Join the LCFRB process now?
- HAP projects: Kick off in June or December?

Steve M thanked everyone and said he and Steve West welcomes any questions on the LCFRB grant round process.

Action Item: Travis to send out draft DD with LCFRB running the HAB grant rounds by April 20 to be reviewed and approved at the May FTC Meeting.

Potential Topics for May 4 FTC Meeting

- Updates incl. Hydro Ops, Water Quality, Fish Facilities, Satellite Rearing Update, Downstream Adaptive Mgt. TGW
 - TPU Flow Planning Presentation (?)
 - 2021 FTC Work Plan
 - FHMP Transition Plans
 - APR Meeting
 - CRR Program: Review Draft DD for 2021 Grant Round
 - M&E Subgroup
 - Gravel Augmentation (?)
 - Preview June Public FTC Meeting topics
-

Meeting Evaluation

- Great attendance
- Appreciated the puns (They are like auditory emojis)
- Happy that FTC discussions on CRR have restarted
- Josua's quote on kindness from an anonymous/unknown author: "It's nice to be important, but more important to be nice."

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
Final MS Teams Meeting Summary
May 4, 2021, from 9:30 – 2:30

FTC Representative Attendees:

Travis Nelson	TPU
Bryce Glaser	WDFW
Carol Serdar	WA Dept. of Ecology
Scott Anderson	NMFS
Bill Sharp	Yakama Nation

Additional Attendees:

James Archibald	NMFS
Rich Turner	NMFS
John Serl	WDFW
Peggy Miller	WDFW
Sam Gibbons	WDFW
Josua Holowatz	WDFW
Brian Gale	WDFW
Matt Bleich	TPU
Eric Shoblom	TPU
Phil Sandstrom	TPU
Tim Hoffnagle	TPU
Chris Foster	TPU
Steve Manlow	LCFRB
Steve West	LCFRB
Laura Wolfe	LCPUD
Kate Day	USFS
Ann Weckback	Lewis County
Rudy Salakory	Cowlitz Indian Tribe
Debbie Carlson	BPA
Lyn Wiltse	PDSA Consulting / Facilitator

2021 FTC Meeting Dates: June 1 (Public Meeting), July 6 (tentative), Aug. 3, Sept. 7, Oct. 5, Nov. 2, Dec. 7

Approval of Last Meeting Summary

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

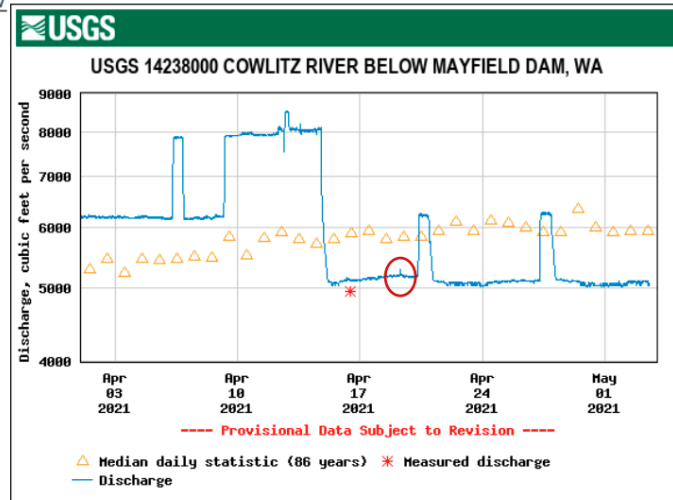
Updates

Hydro Operations:

- Inflows: With cool weather and very little precipitation, March and April inflows were both 78% of the historical average. May inflows are predicted to be 89% of historical average.
- Storage: Travis was pleased to report the elevation at Riffe Lake is finally back up to 708' which means the boat ramp there is usable and will reopen today (May 5).

- Mayfield Outflows: There were no minimum flow exceedances and one ramp exceedance of 100 cfs during annual maintenance on April 19. It was resolved within an hour. Outflows as of May 3 were at just above 5K cfs. Tacoma is continuing to provide pulse flows (fish transport) on a weekly basis and will continue to provide a minimum flow of 5K cfs through the end of June.
- 10-day forecast is atypically dry. Snowpack is still at 122% and is decreasing.
- Mayfield Bank Outage: This is planned for the fall and involves taking a unit out of commission. Planning for this may affect summer reservoir elevations.

Outflow



Ramp restrictions below 6,000 cfs: no daytime ramping, 2 inch limit at night
Daytime exceedance on 4/19

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: Ecology provided approval for the Water Quality Protection Plan (WQPP) for dredging at Blue Creek. Carol sees associated turbidity discharges as likely. With umbrella of WQPP they have a plan to monitor and to report any exceedances and continue to use BMPs to prevent and minimize turbid discharges. Therefore, they have coverage for incidental discharges. She expressed appreciation to Tacoma for putting together BMPs and what-if scenarios for a well-rounded WQPP.

Ecology requests notification if there are to be changes to instream flows due to the Barrier Dam construction activities. It was also requested that fishermen be kept as far from construction as possible. Previously there were fishermen within a few feet of the 300' point of compliance for turbidity monitoring. There is supposed to be continuous monitoring within 300' downstream of the farthest activity. Someone needs to be standing there monitoring for a turbidity plume. At times, the point of compliance will be further downstream than it was before due to cofferdam construction and associated activities.

Carol also asked to be notified prior to debris removal from Mayfield and Riffe Lake, until the WQPP for this activity is approved by Ecology.

Kosmos update: Carol showed a map of the oil ooze and where the contaminated material was removed and stockpile location. She was concerned about contamination eroding into the creek, so Ecology tested a sample and learned the sediment is highly contaminated with diesel (22k ppm) and oil (41K ppm) range of hydrocarbons. This area is exposed to waters of the state when the lake level is up.

She has asked Tacoma to remove what they can along the ledge and then cap it with rock. Tacoma has been very responsive, and Carol noted the FTC should be proud of the actions and reactions.

Fish Facilities: Eric reported that the Barrier Dam contractors should start to mobilize any day now as they finalize the contracts. In-water work starts on July 1 and concludes September 30. This is the first of a three-year in-water work window. Every effort will be made to minimize the number of turbid discharges.

It looks like the winter steelhead broodstock collection is on target. Spring Chinook returns are critically low for this time of year. Broodstock collection is far behind. They have only been able to collect 175 vs. the end-of-week target of 671. 45 NORs have returned to date. Options to address the spring Chinook shortage are currently unclear. The Cowlitz Falls juvenile collector operations started on March 15. There are not many fish moving due to low temperatures and low flows. The situation at Mayfield is much the same – minimal fish collected. Eric expects fish migration to increase as temperatures and flows pick up.

Downstream Adaptive Management Technical Work Group: Matt reported their last meeting was brief. They have been through all the study planning, reporting and are gearing up for the current season. They have released the first two tagged groups of steelhead and one group of coho through the collector to check Fish Collection Efficiency (FCE) which translates to Fish Passage Survival (FPS). They will have more data to report at the next FTC meeting. There has been a slow start to the season. The TWG has reviewed the Annual Report and it will be out this week to the FTC for a 30-day review.

2021 FTC Workplan: This Work plan with edits suggested at the last meeting was sent out on April 29. Travis projected the updated version of the Workplan and welcomed additional comments/suggested edits.

Satellite Rearing: Matt reported that he has drafted a work plan that will be reviewed internally and there will be an update at the June meeting.

Gravel Augmentation

Presenters: Travis Nelson

Travis explained that he and Melora have been working on the outline that he shared at the last meeting which is a supporting document to the DD that was approved at the February FTC meeting. The timeline in the DD for the long-term plan has slid a bit as there is a need to approve the outline before identifying specific sites in addition to Barrier Island. Discussions about access to the Jorgensen property are continuing.

Action Item:

- All: Please send any comments to Travis and Melora on the outline between now and the June Meeting.

M&E Subgroup Report

Presenter: Phil Sandstrom

The M&E Subgroup last met on April 21. They had a lengthy discussion re “The Big Table” of what is known and where there are data gaps, and how best to proceed from short-and long-term perspectives. They decided not to fill out the table annually. Instead, they will populate a spreadsheet that all can access. They didn’t make much progress on the Spring

Chinook Study Plan. This will be integrated into the M&E Workplan and will include what management decisions would come from the work design.

The Analytics meeting will be July 21 from 1-5pm. Discussions will include various analytical techniques and how best to improve M&E efforts. All FTC members are welcome to attend.

Phil reviewed with all the draft DD for the workplan for the Monitoring Workplan that was emailed out on April 30. This DD needs to be approved by the FTC before proceeding with the Workplan which was developed as a supplement to the 2020 submitted FHMP. The DD includes specific language from the FHMP such as defining what kinds of elements need to be included in study design templates, what is needed for baseline conditions, etc. It outlines the review process and the many opportunities the FTC will have to provide comments on the Workplan. Phil imagines providing monthly updates, re: schedule, issues that arise, etc. As Phil walked through the DD, he made edits as suggested by the FTC. He will insert a table showing the timeline from the spreadsheet after pushing the dates back a month. All agreed to the process of reviewing and approving the DD electronically. The M&E Subgroup will meet again in June.

Action Items:

- Phil: Update the DD (insert table showing timeline) and send it out to all along with the Excel Spreadsheet. *(Done on May 4).*
- All: Review the updated DD and provide any additional comments to Phil by May 10.
- Phil: Incorporate any additional comments and send out for another round of review. If there are no comments, it will be sent out again as Final.

FHMP: Next Steps

Presenter: Matt Bleich

Matt reported that the workshops continue to proceed according to schedule. The last workshop was held on April 28 where they focused almost entirely on completing the Draft Winter Steelhead Transition Plan. Matt will email out the summary documents in the next week. The focus is on Tilton and upper basin Steelhead populations based on the modeling efforts of Thomas Buehrens and Phil who have framed different strategies available and how to proceed with the integrated and segregated programs. It appears there is no “silver bullet” solution. During low SAR years, it is better to increase production strategies without a culling strategy. During high SAR years, it makes sense to keep culling as an option. Now that there is a path forward including how much to increase the program and by what method, Tacoma will fill out an adult brood table in the next month, listing all the options. After technical editing is complete, it will go out for FTC review.

They will review the Draft Spring Chinook Transition Plan template at their next meeting (May 26). They have already discussed a marking strategy and it seems like this will be a relatively simple transition plan with a focus on the abundance phase – not yet moving into the integration phase. The plan will include how to improve hatchery programs – tweaks to improve SAR in the near term. The final transition plan will be for coho. After that, they will do a comprehensive review of all the programs in total. Eric reminded all of the importance of doing a bio-programming exercise at the end to ensure there is sufficient space within the hatchery for all production.

Bryce noted that for the Steelhead they talked about management prioritization – final transition plan trajectory with recovery objectives as primary focus and then trying to

maximize harvest opportunities after that. He also expressed concerned with this year's spring Chinook Cowlitz return which is much lower than in other areas. He suggested the FTC consider brainstorming data gaps / root cause of this decline at the next meeting.

Matt thanked everyone for their time, effort, and expertise in the transition planning workshops. It has been a great effort and the meetings have been highly productive. We all recognize how critical this is and everyone is on the same page about where we want to go.

Annual Program Review (APR)

Presenter: Matt Bleich

Phil is coordinating the science meeting that is being tied into the APR meeting which will be hosted by WDFW and Tacoma. The science side gives regional scientists and the public a chance to see the life cycle and impact to fisheries in general, including hatchery impacts, production, habitat, etc. for this year and how it related to the last five years.

The APR side of things is largely production oriented and includes things such as modifications to the Cowlitz Falls collector. The initial APR meeting will be on May 19 this year and will start with the science and end with recommendations which will mostly be maintaining the status quo with the explanation that we are developing transition plans (will forecast some of the changes per the transition plans). At that point, the public will provide feedback which will be shared at the June 1 FTC meeting. Then, at the June 23 APR meeting, Tacoma and WDFW will restate what they heard at the initial APR meeting and describe how it impacts production plans. They will also share an update specifically on each transition plan and the upcoming schedule including further public involvement.

The formal agenda for APR will go out today. Bryce and Matt will schedule time to prep for the meeting.

2021 CRR Program Update

Presenters: Steve Manlow and Travis Nelson

Steve and Travis reviewed the DD that was emailed out on April 16 and asked for feedback/edits. There was general support for the approach outlined in the DD. The DD was approved by consensus with edits. Carol expressed appreciation and support for WDFW's edits. The hatchery related project component of the CRR process will remain with the FTC for implementation. Discussions on how to kick this off will be forthcoming.

The CRR Program habitat grant round will be integrated into the LCFRB's existing SFRB grant program. The LCFRB also will manage grants administration for habitat projects that are awarded CRR funds by the FTC. Tacoma Power will reimburse the LCFRB for its services to implement and administer the habitat portion of the CRR Program using generation/natural resources/operating funds. Tacoma Power will pay grant award funds for distribution by the LCFRB directly from the CRR Fund. They noted that the CRR Fund will not be used to pay for any of the LCFRB services.

In 2021, the LCFRB may recommend that the FTC fund any project in the grant round that would have been otherwise recommended to the SFRB and that also meets CRR Program priorities. Beginning in 2022, the CRR Program will be fully integrated into the LCFRB's grant round.

Steve M thanked everyone for the opportunity to partner with Tacoma and put funding to work on the ground. He will report back to confirm LCFRB's role after their Board meeting

on May 7. Carol reminded all that Ecology needs to approve any ground disturbing work or in-water work.

- **Action Item:** Travis to send out Final DD to all. *(Done on May 4).*
-

Members of the Cowlitz Fishing Community Remembered

Travis announced that passionate anglers, and former Cowlitz River Advisory Group members Bob Reid and Donny Glaser have passed away since the last Public FTC meeting. He invited Stan Bartle and Greg King to say a few words at the June 1 FTC meeting to acknowledge their contributions to the watershed. It was agreed to also announce their passing and express gratitude for their many contributions at the Science meeting which will be better attended.

Potential Topics for June 1 Public1 FTC Meeting

- Updates incl. Hydro Ops, Water Quality,
 - Fish Facilities (10-15 min.) incl. Barrier Dam Project overview
 - Satellite Rearing Update
 - Downstream Adaptive Mgt. TWG
 - 2021 FTC Work Plan
 - FHMP Transition Plans (30 min.)
 - Satellite Rearing Program
 - APR Meeting (60 min.)
 - CRR Program - How to stand HAP up - By year end?
 - M&E Subgroup (Something from APR meeting?) (30 min.)
 - Gravel Augmentation
 - Preview July or August FTC Meeting topics
 - Public Comment Session (30 min.)
-

Meeting Evaluation

- Record attendance!
- Good discussion / edits on both DDs
- Josua's quote: "Choose to confide in friends with sunny dispositions who will encourage you to be more positive." Zayne Parker

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
Final Public Meeting Summary
June 1, 2021, from 9:30 – 3:30**

FTC Representative Attendees:

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

Additional Attendees:

James Archibald	NMFS
Rich Turner	NMFS
John Serl	WDFW
Peggy Miller	WDFW
Sam Gibbons	WDFW
Josua Holowatz	WDFW
Brian Gale	WDFW
Matt Bleich	TPU
Eric Shoblom	TPU
Phil Sandstrom	TPU
Tim Hoffnagle	TPU
Chris Foster	TPU
Leah Marquez-Glynn	TPU
Steve West	LCFRB
Laura Wolfe	LCPUD
Ann Weckback	Lewis County
Debbie Carlson	BPA
Lyn Wiltse	PDSA Consulting / Facilitator

Attending Members of the Public:

Larry Prior, Jack Tipping, Stan Bartle, Greg King

Remaining 2021 FTC Meeting Dates: Aug. 3 (no July meeting), Sept. 7, Oct. 5, Nov. 2, Dec. 7

Approval of Last Meeting Summary

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

Updates

Water Quality/Monitoring: Carol noted that while the Water Quality Protection Plan (WQPP) has been approved for the Blue Creek dredging, there will be continual adjustments to BMPs to prevent/ minimize turbid discharges depending on the amount of water in the creek at the time of the dredging. The WQPP for the Barrier Dam project along with the Construction Stormwater General Permit was issued, and is now being transferred to the contractor, who is on site and prepping for in-water work starting on July 1.

The Mayfield debris removal is proceeding today. Carol apologized that she has not yet had the time to approve the WQPP for that project. Eric confirmed they plan to burn the debris on the shoreline. Carol noted that practice may require additional BMPs because the WQPP is not yet approved and adding charcoal to waters of the state violates water quality standards. Travis offered to follow up as needed.

Kosmos update: Carol showed a photo of Rainy Creek which flows into Riffe Lake. When it rains, toxins from the hydrocarbon-contaminated sediment (along a small portion of the top edge of the slope) discharges into the water. While this is an ongoing concern of Ecology, Carol expressed appreciation that TPU has been very responsive to meeting water quality requirements.

Fish Facilities

Barrier Dam Project: Eric reported that they just started the process of setting up to make repairs to the Barrier Dam. He showed an aerial view of the restricted areas for the project. Parking will also be restricted, but there will be fishing access on the bank at the 400' line. Carol reiterated her previous request that fishermen be kept as far from construction as possible so as not to interfere with turbidity monitoring. Ecology requires continuous monitoring within 300' downstream of the farthest in-water work. Bryce noted anglers would only be allowed to fish below the 400' WDFW boundary, which they see as adequate. Travis will follow up on the adequacy of the signage to keep people away from the monitoring location. Bryce reported WDFW's hooking mortality study has been completed. He also reminded folks that the fishing boundary is not the same as a public access boundary. There will be water quality monitoring any time work is being done in the river. The contractor has installed temporary docks on both sides of the river for access. The contractor is also finishing improvements to the access road and lay down area. Tacoma will lead fish salvage efforts in cooperation with the contractor. The widening of the access road was done to accommodate the crane.

Cowlitz Separator: WDFW finished up the spawning for winter steelhead and goals were met. For spring Chinook, they are currently a week past the peak of the run and are currently short on males and females with an excess of jacks. They have been retaining all the jacks in case any of them, as they mature, are identified as females. Tacoma will be looking for guidance from the M&E Subgroup on whether to put surplus HOR jacks in addition to NORs upstream. Summer steelhead have just started to come in. They have already collected a few for recycling which starts June 4 for the first group. Brood collection begins in July.

Mayfield Update: Steelhead outmigrant numbers are declining commensurate with an increase in coho. The crew is dorsal tagging all steelhead and cutthroat. They had ~4,800 smolts the week of May 24-28. There were no fry or parr.

Cowlitz Falls Fish Facility: Chris reported they wrapped up the month of May collecting approximately 98% of this season's smolts to date during the last month. 16K smolts came through the last weekend alone. The staff worked hard all weekend to keep up and transferred the smolts to the stress relief ponds.

Downstream Adaptive Management Technical Work Group: Matt reported that Tacoma received comments on how they measured Fish Capture Efficiency (FCE) in last year's report. The TWG has been working on how best to calculate FCE. The current report will still use the calculation Tacoma has used historically, and they plan to use the new calculation, as suggested by DFW in the future. Steelhead FCE is currently at 72% for the June 01, 2021 FTC Meeting

year so far, while coho is at 73%. These percentages have been pretty steady, along with flows. No spill events so far, though this may change this week due to snow melt runoff. One of the testing scenarios was to increase tailrace flow to see if the CFFF could collect more fish at 750 cfs. The current flow situation will provide an opportunity to test this. They will be monitoring fish health continuously (using NOAA standards) as they will be testing above screening criteria. Laura asked if they have baseline data on fish health for comparison purposes.

At the last TWG meeting they discussed reviewing the draft Adaptive Management Plan to see if updates are needed. This should result in a roadmap of what the TWG should focus on. Matt will send out the notes from the last TWG meeting within a week.

2021 CRR Program Update: Travis reported conversations continue with LCFRB on standing up the habitat portion of the program this year. The LCFRB will administer the habitat grant round and present a prioritized list of projects to the FTC for decision. Projects that are selected will be administered by the LCFRB with Tacoma providing the funding.

The hatchery portion will be administered and funded by Tacoma. Evaluation of potential projects will be performed by a subcommittee with production expertise. This will be done in a manner consistent with the license with the goal of recovery and wanting to increase adult return numbers. The subcommittee will likely include members of FTC. Peggy asked about when it would be appropriate to update the CRR Fund Implementation Strategy document (developed and approved by the FTC in 2017). Travis responded that this will be addressed by Tacoma which should be up and running in the next few months. Steve M reported the LCFRB Board gave a thumbs-up to this collaboration with Tacoma at their May 7 meeting. The LCFB and Tacoma are currently meeting on this weekly.

M&E Subgroup Report: Phil reported the M&E Subgroup didn't meet in May as they used the time to conduct the APR Science meeting which went very well. A draft annual report should be delivered to TPU by June 30, and available for FTC review after that. John Serl set up three working meetings to ensure report completion. Phil expressed appreciation for all the great teamwork and organizational skills that resulted in a successful APR meeting.

Satellite Rearing: Matt reported that he has developed a draft work plan that is being reviewed internally. He structured the workplan on Tacoma's response to the Jamie Herrera-Beutler letter. He looks forward to FTC feedback on this to ensure the timeline is realistic and that it adequately addresses public comment. 3 phases.

1. Analyzing hatchery vs satellite rearing options (pros and cons of each)
2. Soliciting public feedback.
3. Developing schedule for engineering, construction, design, etc.

Matt estimates it will take a year to get through all the phases. The FTC can expect to see the draft workplan in the next few days.

APR Highlights: Matt reported that Phil and all the presenters did a great job at the first APR meeting on May 19. The research that was shared was excellent and received rave reviews. Most of the presenters took the perspective of talking about 2020 results along with the 5-year outlook. John Serl and Thomas Buehrens went back further in their presentations. All did a great job bringing information together for the APR. They are in the process of shoring up the data (numbers by brood year or release year) in the presentations before posting

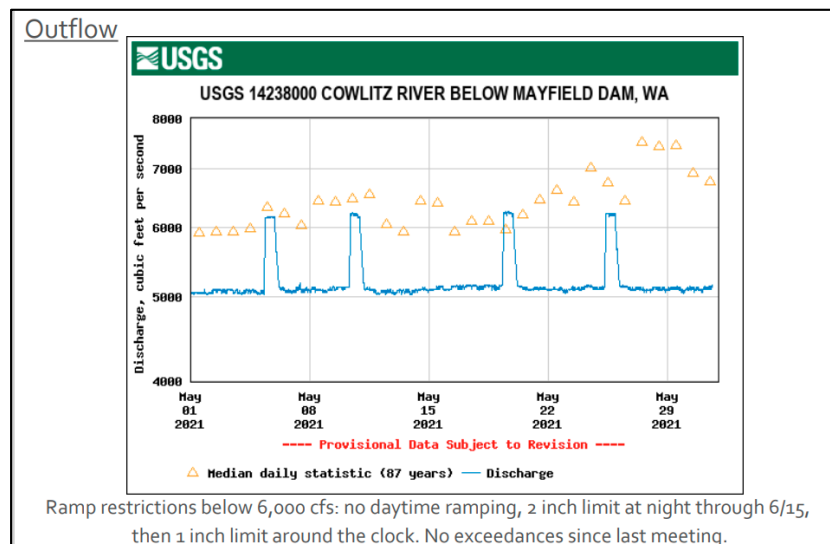
them to the website. He reminded all that the goal of the APR is to be able to point back to a single date source to create consistency in language and format to facilitate FTC review.

Hydro Operations Update

Presenters: Melora Shelton and Leah Marquez-Glynn

Melora kicked off the presentation with the usual Hydro Ops presentation:

- Inflows: These were high in January, typical in February, and low in March and April. Precipitation in the last week of May brought inflows up from 78% to 88% of the historical average.
- Snowpack – Paradise is still holding at 131% of average. There has been considerable melt out at White Pass which is down to 60% of average.
- Storage: Riffe Lake is up 18.5' since our last meeting with the current elevation at 726'. Mayfield's operating band is at the summer minimum of 421'.
- Outflows are steady at just above 5K cfs plus fish transport pulse flows. There were no minimum flow exceedances in May. Ramp restrictions were below 6K cfs.
- 10-Day Forecast: Little precipitation is anticipated. Freezing levels will be at 10K' through Thursday and then drop to 5K' over the weekend.



Link to the USGS real-time Cowlitz River hydrograph:

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

Proposal for June minimum flow reduction to support refill at Riffe Lake: Leah (the resource Operations Lead at Tacoma Power) briefly reviewed the snowpack situation and reported there was an 85% chance of refill in early March (based on River Forecast Center data). The April 19 model still showed 85% chance of refill, even with diminishing snowpack. Despite the low precipitation in March and April, the April 19th model indicated there were still decent refill projections into the first week of May. She noted the entire PNW region is currently experiencing various levels of drought. While Inflows have been elevated due to snowmelt, they are still below normal. May 17 had only a 35% chance of refill if continuing the 5K cfs discharge. The bottom 75% of the scenarios modeled didn't even come close to refill.

Leah explained Tacoma wants to protect against the lowest inflow scenario to provide as much recreation opportunity as possible, while also meeting the summer power demand.

The swim beach is barely usable at 730'. Carol expressed concern that reducing flows may risk inundating the Kosmos site. Leah responded she is confident elevation levels wouldn't come close to 755' elevation at Kosmos. (The contaminated ledge is at 758'.) Construction at Barrier Dam will have limited discharge out of Mayfield – down to ~2500 cfs. There is a need to enter that period being able to manage those flows without picking up discharge.

Leah noted that even with the 3" of precipitation the last half of May, the total precipitation for May is still a record low. The snowpack is continuing to melt. There is currently an 8% likelihood of refill. Leah recommends reducing minimum flows in the Cowlitz to 3,500 cfs plus fish transport pulses in June. The lowest elevation scenario extends only to 742'. Dry weather is predicted for June and July.

The DD sent out on May 18 described consulting with the FTC to change minimum flows to 3,500 cfs plus fish transport flows. While there are mostly juvenile fish this time of year, it is also important to protect flows for adult Chinook in the fall as they return to spawn.

Consensus Decision: After much discussion, there was consensus among the attending FTC representatives to, starting June 4, initiate a more natural, and gradual reduction in flows (a daily reduction of 100-125 cfs) than what Tacoma had originally proposed in order to reach 2,500 cfs by July 1. Fish transport flows will continue unaltered. Travis will follow up with USFWS and Yakama Nation reps so this decision can be considered final on June 3.

It was noted this will provide an opportunity to monitor for stranding and compare prior results to results with this more gradual method. Bryce suggested some kind of buffering earlier in the year would be helpful as it would reduce the risk of these things continuing to happen with such frequency. Fish forecasting and hydro needs are difficult to predict. Leah agreed and noted she has been more conservative in her management approach as she balances business and ecological needs.

Action Items:

- Leah: Do additional modeling as per the direction suggested by WDFW and revise the DD accordingly.
- Travis: Contact the FTC representatives from the Yakama Nation and USFWS to describe the proposed action and gage their support.
- Travis: On June 3 send the revised DD reflecting changes to down ramp gradually over the month of June from 5,000 cfs to 2,500 cfs.
- All: Review the revised DD and let Travis know of any questions or concerns by end of day on June 3. Barring any objections, the flow reduction will begin on June 4.
- Melora: Coordinate with Monika Sundbaum to make sure river users are informed of this action.
- Phil: Put this topic on the M&E Subgroup agenda so they can review the revised model and suggest protocol for monitoring for fry stranding.
- Melora: In accordance with Peggy's suggestion, add to the August Hydro Ops presentation a slide that shows actual ramping as showing cfs only doesn't give us the stage information (instead of just the discharge).
- Melora: Send out Hydro Status Update in first week of July including update from Leah on where we ended up relative to target elevation.
- Melora: Send out corrected PPT presentation.

Gravel Augmentation

Presenters: Travis Nelson

Travis explained that he and Melora are extending the comment period on long-term plan and crosswalk until mid-July. Still planning to place material on Barrier Island this fall as part of the Barrier Dam Construction process. Still working on an alternate downstream location. Talks re access to the Jorgensen property are continuing.

Action Item:

- All: Please send any comments to Travis and Melora on the outline by July 16.
-

FHMP: Transition Plans

Presenter: Bryce Glaser and Phil Sandstrom (for Matt Bleich)

Bryce reported the last workshop was May 26. They made good progress. Mostly focused on SP Chinook transition planning – how to start some of the bio-programming exercises. Using the SAR analysis as a guide. There have been some good discussions re: transport strategy for those fish. Considering when to transition to an integrated program. Have not quite finished the steelhead piece, but more good discussions – especially about transitioning the winter programs. They have calendared another meeting a few weeks out. Have some offline work to do. Coho is up next – looking at key questions to address. Still on track – looking to circulate drafts to FTC and the public later this summer. The next workshop will be June 16.

Potential Topics for August 3 FTC Meeting

- Updates incl. Hydro Ops, Water Quality
 - Fish Facilities incl. Barrier Dam Project overview
 - Satellite Rearing Update
 - Downstream Adaptive Mgt. TWG
 - FHMP Transition Plan
 - Timeline to get info out to the public
 - Satellite Rearing Program
 - APR Meeting
 - CRR Program - Stand up HAP by year end?
 - M&E Subgroup
 - Gravel Augmentation
 - Preview September 7 (day after Labor Day) FTC Meeting topics
-

Members of the Cowlitz Fishing Community Remembered

Travis noted that two passionate anglers, and former Cowlitz River Advisory Group members have recently passed away. Bob Reid passed away four weeks ago, and Don Glaser six weeks ago. Larry noted both were among the founding members of the Friends of the Cowlitz. Both were also guides on the Cowlitz and cared deeply about fish recovery and spent lots of time at meetings trying to get fish collection at Cowlitz Falls. They gave their passion, time, and effort, and much of their lives toward restoring the Cowlitz fishery.

Donny received WDFW's Volunteer of the Year award. He and his wife Karen owned Barrier Dam Campground tackle shop for 32 years (until 2020). He was a very dedicated angler with colorful language and enjoyed helping people fish in the Cowlitz River and Mayfield Lake.

Bob was passionate fisherman and also a real data guy. He attended many of these meetings. He was very dedicated to the Cowlitz. While he wasn't known for a polished demeanor, he was very clear about his message and had the data to back him up.

Due to their efforts, we now have a recycling program on the summer runs. Bob was relentless in pursuing and gaining access to the Wallace property.

Stan closed by expressing appreciation for the improved communication with the FTC. This was something that Don and Bob had hoped to see.

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

Larry Prior:

Chris Vandenberg wanted to bring up the question of why FTC meetings are not subject to open public meetings act.

Travis: When we get out of the pandemic, we will revisit this. It is mostly a capacity issue (physical space limitations). We have moved to opening these up to the public on a quarterly basis. Tacoma is looking at doing this more often in the best way possible. Bryce notes WDFW is also open to opening up FTC meetings to the public – in whatever manner.

In the current list of FTC members, representation from fishing community is missing.

If there were no dams here flows in August and September would be ~700cfs. Dams allow us to preserve water for fisheries where there wouldn't be water otherwise. Larry hears a lot about planning and goals (PHOS, etc.). He is interested in adult return goals. A few years ago, Don and Larry put some adult return goals together – Larry included NOR goals. The production-only mentality has been to the detriment of our fishing. He wants also to see accountability for when adult return goals aren't met. He noted having such goals can really increase creativity among fisheries staff.

DFW Escapement reports: Priest Rapids Hatchery produced fall Chinook with 40K returning. Why can't the Cowlitz do this as well?

Jamie Herrera-Beutler's letter echoes a lot of the fishing community's frustrations.

Bryce: Some of these issues are tied to the APR process and may be revisited during that part of today's discussion. His understanding is the 2011 FHMP shifted from using adult return targets to evaluating juvenile production targets. We are now trying to build some adult targets back in through the transition plan process, such as adult seeding capacity targets and WDFW is also looking to use SARs to predict a range of adult return goals from hatchery programs throughout lower Columbia programs. Setting adult return targets with the accountability piece has sometimes been met with reluctance due to factors outside of our control that impact adult returns. Agree that we need to do a better job describing what we can expect to see from hatchery production.

Tacoma needs to do a better job of getting the word out about these meetings. There is a need to do a better job of building participation from the community.

Travis: Agreed and will improve the notification process for the next meeting.

Jack Tipping:

The Tilton River Fall Chinook Program listed in the FHMP does not look like it will work. The Plan indicates wanting to get 3K NORs up there. We are seeing 20K smolts in the Mayfield trap. Also, it makes sense to assume a similar life history for fall Chinook in the Tilton, as in June 01, 2021 FTC Meeting

the lower river. He hates to see the program go forward without anglers on the lower river having the opportunity to harvest fall Chinook.

Bryce: There is an opportunity to engage on this through the Transition Plan review process. The Fall Chinook Plan is close to being released for public review. There is a broodstock collection component that includes a marking strategy that will allow for evaluation of fall Chinook population origin for returns to the Separator. The assessment of carrying capacity of the Upper Watershed/Tilton will be helpful as will better escapement estimate methodology for the lower river. This is all information that will be needed for us to implement harvest of natural origin fish with NOAA under the ESA. The intent is finding the best strategy that includes the harvest of NORs after sufficient abundance has been established.

What can we do to expedite getting NOR fish escapement numbers? How can the public help?

Bryce: The transition plans discuss doing some life cycle modeling to establish biological targets for seeding capacity for fall Chinook. This is a high priority. Some of that work has already been done and there are coarse level estimates of carrying capacity completed for Tilton fall Chinook. Travis agreed noting this is a work in progress. Phil explained they are working toward life cycle models for coho and fall Chinook.

Steelhead: In coastal strategies, Bryce's understanding is that many places do have adult escapement targets they work on achieving annually with co-managers. In the lower Columbia tributaries, we are more driven by impact rates than escapement targets.

Meeting Evaluation

- Appreciated the attendance and appreciation of Larry, Jack, and Stan.
 - Wish we had more members of the public – need to do a better job advertising these meetings.
 - Appreciate Leah's presentation and discussion.
 - MS Teams seemed to be acting up today.
 - Investigate adding the ability to call into the Teams meeting on August 3. Chris Vandenberg and Ann Weckback would have appreciated being able to phone into this meeting.
 - Look at setting up the Teams site so it is accessible to all and available (document access and retrieval, etc.)
 - Great discussion on summer flows and how to hold water, save water, and still have water for recreation and fish.
 - Josua's quote: "A good collaboration pushes the boundaries of both partners." -- Neil Blumenthal.
-

Annual Program Review (APR) – Day 2

Presenter: Matt Bleich

Matt reminded all that May 19 was first APR meeting for the year. At that meeting, he shared a table of the various populations in the Cowlitz along with recommended considerations listed in the FHMP, the recommendation for 2021 and supporting rationale.

There were few changes in recommended actions since 2017. He noted it makes sense to stay the course given the current focus on transition planning.

APR Thoughts Today – From 2020 FHMP			
Population	Recommended Considerations from FHMP	Recommendation	Reason for Recommendation
Fall Chinook	Increase max transport to Tilton above 1,600	Do not proceed in 2021	Control hatchery influence on NORs
Fall Chinook	Evaluate Current Net Pen Strategy in Mayfield	Bioprogram and evaluate benefit of shift to Coho	Potential benefits to capacity and fish health
Spring Chinook, Coho, Winter Steelhead	Modify Adult Hatchery Release Strategy upstream from Cowlitz Falls	Spring Chinook and Coho – 25% Cispus; 25% Upper Cowlitz; 50% Scanewa Winter Steelhead – 50% Cispus; 50% Upper Cowlitz	Distribution across tributaries for opportunity and seeding. Lake plant for opportunity and self sorting
Coho	Increase max HORs transported above 25K	Proceed up to 40K	Increased opportunity and abundance building
Coho	Increase max HORs to Tilton above 6K	Proceed up to 12K	Increased opportunity and abundance building
Winter Steelhead	Consider moving to a segregated program in Lower Cowlitz Subbasin	Being addressed in Transition Plan to also include early run timing.	Increased opportunity
Winter Steelhead	pHOS management strategy at Blue Creek including harvest management or barriers	Continue to provide harvest opportunity; split Blue Creek from pHOS calc.	Blue Creek pHOS drives increases in estimates of hatchery influence
Summer Steelhead	Consider increased recycling in Lower Cowlitz	Up to 6,600 and earlier in 2021	Increased opportunity

This is the second APR meeting, where the plan will be adjusted based on feedback / comments received at the initial meeting. Matt summarized those comments as follows:

Fall Chinook: Recommendation to bioprogram and evaluate benefit of shift to coho: Received the suggestion to be sure to get feedback from industry leaders if deciding to go this route, so you do it right. This would involve implementing a marking shift.

The Winter Steelhead Transition Plan will be out in 2021.

Summer Steelhead: Consider doubling the recycling and extending the length of the program. The ESA constraint for pHOS shows an end date of August 31. For 2021 can we extend the back end of season by two weeks to end of August? Phil volunteered to give Rich the numbers of summer steelhead through end of August to assist with NOAA's decision to support the extension to the end of August. WDFW noted that when running the weirs through the summer, they rarely saw any fish move into the weirs. This is due to the low water levels in the tributaries that time of year. A key influencer is when the first big rain happens (usually September). With NOAA's concurrence, there was agreement to proceed. At the third and final APR meeting on June 23, Matt will let folks know we will extend the recycling window (if we have excess fish) by two weeks.

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
Final MS Teams / Conference Call Summary
August 3, 2021, from 9:30 – 3:30

FTC Representative Attendees:

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

Additional Attendees:

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

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

Announcements

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

Approval of Last Meeting Summary

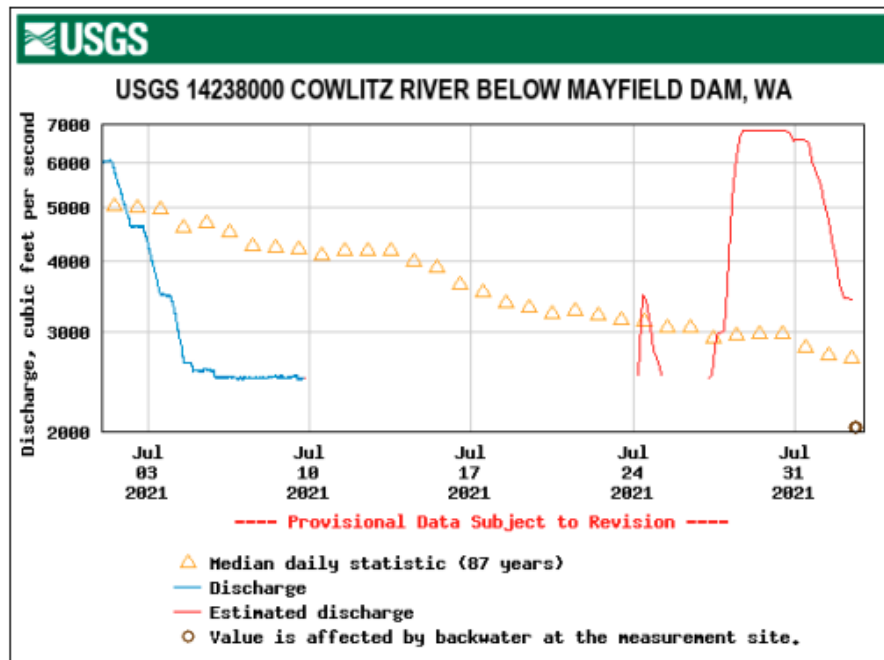
The June FTC public meeting summary was approved with edits and will be posted to the FTC public website.

Updates

Hydro Operations

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

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



Link to the USGS real-time Cowlitz River hydrograph:

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

Update on Cowlitz Minimum Flow Reduction

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

Key Takeaways:

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

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

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

Water Quality/Monitoring:

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

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

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

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

Fish Facilities

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

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

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

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

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

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

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

Fish Facilities:

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

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

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

M&E Subgroup Report

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

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

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

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

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

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

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

Gravel Augmentation

Presenter: Travis Nelson

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

FHMP Transition Plans

Presenter: Matt Bleich

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

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

Satellite Rearing Program

Presenter: Matt Bleich

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

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

Matt recommends we consider these two options:

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

Brainstorming Hatchery Infrastructure Options:

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

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

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

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

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

CRR Fund / HAP

Presenter: Travis Nelson

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

Review of Annual Program Review (APR)

Presenter: Matt Bleich

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

Topics for September 7 FTC Meeting

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

Meeting Evaluation

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

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

Parking Lot

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

Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Final Conference Call Summary
September 7, 2021, from 9:30 – 3:30

FTC Representative Attendees:

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

Additional Attendees:

John Serl	WDFW
Peggy Miller	WDFW
Sam Gibbons	WDFW
Brian Gale	WDFW
Matt Bleich	TPU
Eric Shoblom	TPU
Phil Sandstrom	TPU
Chris Foster	TPU
Steve Manlow	LCFRB
Steve West	LCFRB
Laura Wolfe	LCPUD
Russell Page	LCPUD
Kate Day	USFS
Lyn Wiltse	PDSA Consulting / Facilitator

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

Approval of Last Meeting Summary

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

Updates

Hydro Operations

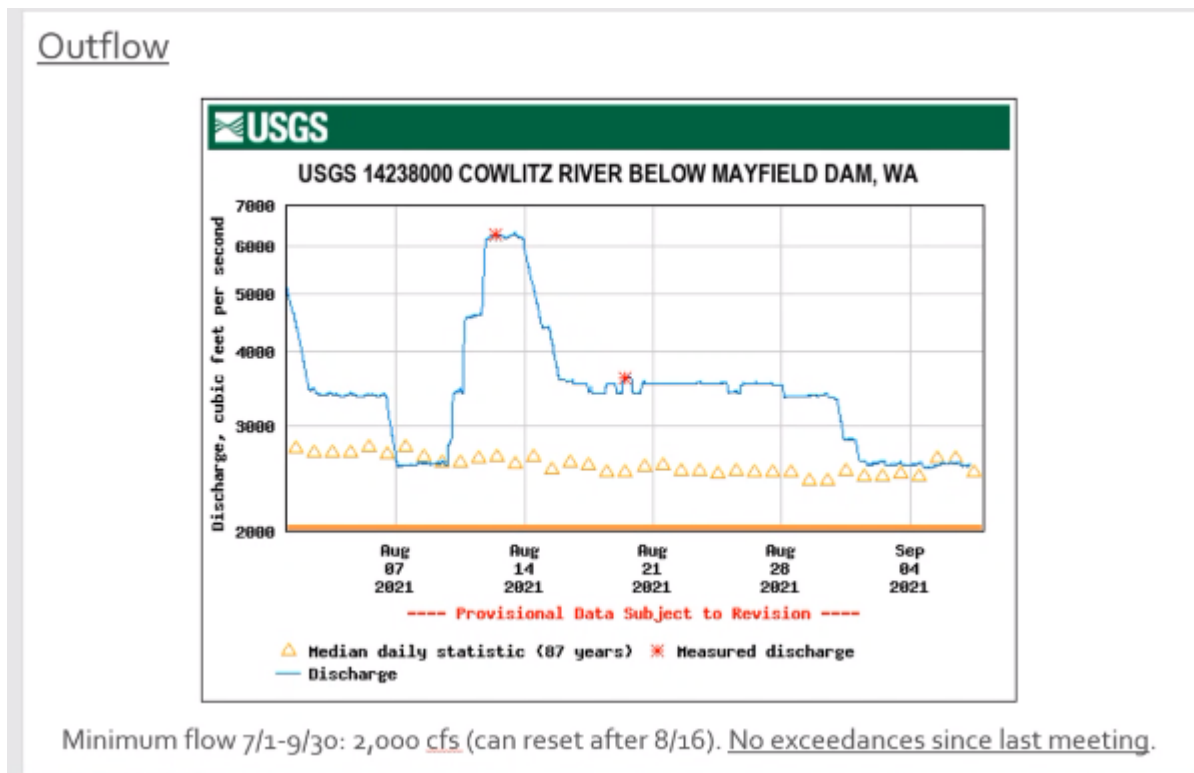
Melora reminded all that Tacoma is still working with USGS on the backwater situation with the USGS Cowlitz River below Mayfield Dam, WA gage. In the meantime, a temporary gage has been installed to provide real-time stage readings. There will be a transition as they deconstruct the Barrier Dam and USGS replaces the temporary gage with the original one. During deconstruction minimum flow will be measured using outflow at Mayfield Dam. Afterward, Tacoma will work with USGS to correct records if needed.

- Inflows: While typical in June, August inflows have since been lower than the historical average. This trend is expected to continue through September.
- Storage: Power Management kept Riffe lake at 728' through Labor Day weekend, After Labor Day the Mayfield operating band goes down to 420'.
- Outflows: The minimum flow remains at 2K cfs through September with potential to reset after August 16 if MDF exceeds 5K cfs for 5 consecutive days. Outflows are

currently running 2.5-3.5K cfs. There were no exceedances since the last meeting. Ramping is being carefully managed to the limit of 1" per hour.

- 10-Day Forecast: Warmer temperatures are expected for the next couple of days and then cooling off to more typical temperatures. Inflows are expected to continue at ~1.4K cfs. Outflows will ramp up between 3K and 3.5K cfs for next couple of days and will cap out 3.6K cfs until the other units come online in mid-October.

Discussion followed including WQPP requirements to do fish stranding surveys after ramping violations. A fish kill mentioned at the August 2021 FTC meeting has still no report or an ERTS submitted to Ecology. Carol read a portion of the January 15, 2002 Water Quality Certification and requested that the minutes of this FTC meeting reflect that Ecology has now asked twice for the fish kill report. Matt and Travis committed to follow up with Carol in the next few days to set a meeting to discuss this further.



Link to the USGS real-time Cowlitz River hydrograph:

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

Melora noted Tacoma has been operating only with Unit 41 at Mayfield. This is because the other units were taken offline to prepare for a planned maintenance outage later in the fall. Due to supply chain issues, that outage will not happen. Tacoma anticipates it will take until mid-October to bring the other units back online. Typically, Tacoma can meet the October 1 3.5K cfs minimum flow requirement running Unit 41 at full gate (100% open). However, there is uncertainty about how the Barrier Dam coffer deconstruction will affect the USGS gage, and whether readings will accurately reflect the flow released from Mayfield Dam (i.e., that the gage will indicate less than 3,500 cfs with Unit 41 at full gate).

Tacoma proposed in the DD operating Unit 41 at full gate (100% open) starting October 1, 2021 to meet the 3.5K cfs minimum flow requirement until additional operating units are available later in the month. Tacoma is not asking for a variance or flow reduction. They are

describing how they intend to comply with their obligation. Tacoma will explain any gage reading within 5% below 3,500 cfs during this time as a function of the gage and not as a minimum flow exceedance, after confirming that Unit 41 was a full gate during the low readings. After coffer dam deconstruction, the compliance point for minimum flow will transition back to the gage and USGS will recalibrate the flow curve to ensure readings are accurate.

The FTC determined this action did not rise to the level of needing a decision document and recommended Tacoma use the flow released from the dam for measuring minimum flow compliance.

Carol asked how the backwatering is impacted by the coffer dam. She reminded all that in regulating for TDG, etc., she needs to be able to monitor at Mayfield Dam as well, especially when the coffer dam is being removed. Melora committed to giving Carol and anyone else who asks the flow information as they deconstruct the coffer dam. Bryce asked and was assured the generation record will document outflow at the dam.

Melora will share generation records when she reports on this at the October FTC meeting. The report on this will go to FERC as part of their annual reporting requirement.

Water Quality/Monitoring:

Barrier Dam: Carol noted there is a Construction Stormwater Water Quality Permit for this project. The August 19, 2021 inspection report just went out and was favorable, although it did not include the work on the upland of the left bank. The inspector was unable to get to the left bank side where the infiltration of stormwater and pH dewatering water was occurring. Carol may have to do this. This project is likely to be done in a two-year timeframe.

Dredging at Blue Creek: No updates or additional challenges to report. The fall rains may bring additional information.

Kosmos: This is a time-consuming project for both Tacoma and Ecology. Ecology's toxics cleanup program has SOPs for managing such sites. There is a 30-day comment period for any interim action that may occur. When covered with water, the hydrocarbon ledge at Rainy Creek leeches into the water. Therefore, Ecology's Water Quality Program (Carol) will work with Tacoma to review and approve a WQPP for cleanup actions for September 2021. Carol noted Tacoma has been really receptive and responsive, especially Kevin Smith and Matt Peter. They talked about how to minimize disturbance as they put together the work plan. There will be BMPs to prevent turbid discharges or capture contaminated sediment from entering waters of the state.

Fish Facilities

Gust Backstrom: Eric showed a series of photos before the repairs showing sloughing of the boat launch there. Tacoma obtained all necessary permits and implemented a safety plan to perform the repairs. He then showed the current, repaired condition of the boat ramp and described how they placed ecology blocks on their sides and tied them together to minimize erosion beneath the ramp. Carol asked if the straw wattle at bottom of the slope / at the water's edge was used to capture fines that may have occurred. She noted that drilling into concrete creates fine dust which is a pH modifier. Eric responded affirmatively that the wattle was part of the project BMPs.

Barrier Dam: Eric Showed photos of pre-existing conditions underneath the Barrier Dam and described the bays that have received concrete, are currently undergoing final finish work and those that are only partially poured. The remaining bays will be poured on September 8.

The newly formed ogee is solid concrete. Flows will not exceed 3.7K cfs through the end of this first construction season. Carol gave kudos to Tacoma for doing such a great job of managing this project which is proceeding on schedule and within budget. Carol asked if the contractor poured concrete in the upland to create a staging area for their large crane. Eric will follow up to ensure that if they do so, it is within the Construction Stormwater Permit work area.

Adult returns / brood collection update:

- Spring Chinook: Broodstock collection goals have been met though they are seeing some lower fecundities.
- Summer Steelhead: These are coming in slowly. It looks like they are on track to meet broodstock goals, while maintaining some excess to recycle (~75/week).
- Fall Chinook: Fishing closure on these as a low return of 3.5K is predicted and brood requires 2.3K.
- Coho: These are just starting to show up at a rate similar to past years. Higher-than-average returns are predicted.
- Mayfield: 2.5K smolts (mostly Chinook sub-yearlings) were collected at the Mayfield trap. This number is down slightly from the prior week.

Cowlitz Falls Fish Facility: Chris reported the spillway flume system has already been shut down (August 31) and full operation of the Northshore Collector will be shut down at the end of September. Tacoma plans to use the first four weeks of October, running the Northshore collector in a block schedule aimed at investigating life history strategy.

Downstream Adaptive Management Technical Work Group: Matt announced the reporting schedule is on track and they will be discussing recommendations for the joint working group meeting with TPU and LCPUD (which will subsequently be shared with the FTC). The TWG is also working on action items previously discussed with the FTC e.g., agreeing that the later water years they have been using are representative and will continue to review them. The FCE calculation is another pending action item. They are tackling this with two different options as they head into the annual report. Matt is optimistic they will be able to do this with the assistance of Thomas Buehrens. The methodology / requirements piece of this will be presented to the FTC. Phil noted they have handed the data off to Thomas and is hoping to schedule next steps with him later this month. Matt noted he appreciates the cooperative solution and effort which all leads to better recovery efforts.

M&E Subgroup

Phil reported the M&E Subgroup last met August 18 from 10-noon. The meeting included status updates on the SAR process. They are looking at using the spring Chinook analysis as a template for other species. They also discussed Coho broodstock sampling rates. They touched on the M&E workplan and distributed a template for comment. Other topics include carcass tagging and continuing to collect genetic information. Their Analytics Meeting will be in mid-November and will include fall Chinook. Phil will also combine the TWG and M&E groups to discuss spring Chinook life history.

Cascade Aqua Farms: Phil showed photos and described the current status of the Cascade Aqua Farms weir and fish ladder. Tacoma is concerned about the condition of the ladder, especially with regard to potential fish passage problems for fish migrating upstream of the new release site at Bremer Bridge. It appears that at current flows, the only way the fish can pass is through the ladder. A lot of gravel has been moved around at the ladder to put water through for the intake. Steve M said it looks like there is a need for an HPA or Section 404,

as this appears not to meet State or NOAA fish passage standards. There may also be other regulatory issues. WDFW originally permitted this facility in 1992. There is a mitigation agreement that includes Cascade Aqua Farm's ability to keep flow moving toward the intake. Bryce's understanding is they are operating within their agreement. LCFRB offered to follow up with regulatory agencies. Carol expressed water quality concerns (e.g., whether the wood installed there had been treated). Bryce responded there have been no observations of fish stacking up below the ladder and there would be a need for evidence that there is a fish passage concern before WDFW would be able to consider reopening the agreement. Bryce offered to have further discussions on this with Steve Manlow and Carol and reiterated to date, there is zero evidence that this is a fish passage issue. Bryce wondered if this is a topic that should be high on the FTC's priority list or if other topics should take precedent. Travis closed the discussion by thanking everyone and noting Tacoma just wanted to raise this for FTC awareness.

APR Data Gathering Meeting

Presenter: Phil Sandstrom

Phil reminded all they are trying to improve this process every year. Many thanks to all who helped bring these data together – WDFW, Tacoma – huge effort to get the numbers to feed into the system. This meeting was on March 19. Each group presented data and discussed data gaps, etc. The data are entered into tabs in an Excel spreadsheet (a stopgap until we have a better storing tool) and used for meeting presentations. More than 70 different metrics were collected over a 5-year period. This year they are filling in all the 2020 data. The next step will be the 2022 science meeting where everyone from the group makes presentations on various data aspects. For 2022 Phil hopes to streamline the process and standardize how various data elements are defined (brood vs, release year, etc.) to ensure better consistency. Bryce agreed and noted managing data across projects and multiple organizations is a huge challenge. He acknowledged they are starting to make headway and collect good information to help inform APR decisions regarding hatchery programs.

Satellite Rearing Program

Presenter: Matt Bleich

At the last meeting we discussed the workplan that Matt drafted based on prior FTC discussions. Feedback he received was that the workplan was reasonable, but the timeline didn't seem realistic. Concurrent to that, Tacoma committed to begin work on one satellite rearing project. Phil will manage this, and the work is to begin immediately, as Tacoma is feeling time pressure to move on the initial installation.

Feedback on DD 2021-07: Explore strategies that fit Option 2 and 5:

- Decision and Justification:
 - Intent is to garner support from the FTC to pursue one of these options.
 - Note there is a plan to move forward with construction of one of these options. Will evaluate the potential and narrow it down to one project within those two options.
 - In this section or the Background section, mention there is a parallel effort / secondary process going on as well – provide the big picture.
- Proposed Decision or Consideration:
 - Second paragraph in the section: FTC can support pursuing Options 2 and 5 with the intent to advance one of them.

- Background:
 - “... request to slow down the pace of progress.” The request was not to slow down the pace of the progress. WDFW thought there were additional steps (complete the modeling effort as part feasibility assessment itself) that should be included in the process.
 - R2 report was never finalized. Add the word “draft” in the DD. Matt agreed and noted he didn’t see a need for a final report. He sees the draft as sufficient.
 - If the process is changing (moving toward analyzing one rearing pond and evaluating the need for satellite rearing ponds), we need to work on defining the follow-up steps.
 - Matt will work on this, and how to convey it to this group and to the public as well.
 - Why do we need a DD? We don’t have a finalized report from R2. We are not diverging from an agreed-upon plan because we don’t have one.
 - The thought was to show the FTC is on the same page with Tacoma’s direction and initial course of action.
 - Last paragraph in the section: Make sure it is clear the FTC is not slowing things down – make sure focus is on exploring Options 2 and 5.

Action Item: Phil will revise the DD based on this feedback send it out for review.

Lewis County PUD Dam Operations

Presenter: Russell Page

Russell Page, CF Generation Superintendent, explained the outage on Unit 1 should be complete the end of September. LCPUD did spill during the line outage from August 16-18. The outage did not require the entire week as previously anticipated, reducing the need to spill additional days. They have another outage scheduled for all units September 27, 28 in order to have BPA replace the revenue meters onsite with something more current. In addition, they will be testing the automatic voltage regulators (AVR) on each unit. They have requested a 500 cfs reduction in minimum flow from September 27 through October 11 from WDFW for these activities to avoid spill. The timeline Russell provided indicated that testing would be complete before October 11 so Peggy will follow up with him to understand the need for a reduction until October 11. There are no scheduled drawdowns (will depend on inflows, flooding) so a reduction in minimum flow would not be needed to refill the reservoir. Peggy noted that during the block work on the CF Northshore collector, the PUD will have to spill as water will not be going through the collector. Russell agreed. Peggy and Carol will discuss and then follow up with Russell. Carol noted she would like to see the LCPUD document activities related to spill in writing. Chris sent specific dates to Russell re the block study.

WDFW Minimum Flow Letter: Peggy informed the FTC that WDFW was responding to LCPUD’s request to modify their minimum instream flow requirement from September 27th through October 11th, with the possibility of extending the time depending on the river conditions. The CF license states the minimum instream flow condition may be temporarily modified upon the agreement of WDFW and LCPUD for short period of time. She outlined WDFW’s conditions for support and asked for FTC input. Laura provided that additional time beyond the timeframe Russell provided is to refill the reservoir. Peggy thanked everyone and noted she will follow up with Russell to understand the requested timeframe for the reduction.

Note: Peggy followed up with Russell. The AVR testing requires the units be operated at various openings up to 100%. Time may be needed to refill the reservoir so that there's enough water in the reservoir to test the second unit. WDFW modified some of the conditions to reflect the potential need to refill the reservoir.

FHMP Transition Plans

Presenter: Matt Bleich

Matt reported they continue to meet frequently and make good progress. They currently have a draft of all transition plans except for Coho. John and Phil are doing editorial review of the plans to ensure consistency. The Coho plan is nearly complete and the next meeting on this will be September 15. The next step will be going through the bio programming exercise to bring all the transition plans for the Cowlitz programs together to see if what we are recommending is doable. This probably won't be a massive undertaking because there are no recommendations of sweeping changes.

There are two other steps including engagement with the public to occur before the process is complete. There will also be engagement with FERC. The FHMP was submitted on October 2, 2020 and Tacoma hasn't received an order from FERC yet. Matt will inform FERC we are doing all the plans in this first year, vs. doing some in the first year and some in the second year as was described in the plan.

Gravel Augmentation

Presenter: Travis Nelson

Travis reported things are moving along well with plans to place gravel. The contractor is ahead of schedule but doesn't think they can use the crane to place rock onto Barrier Island due to concerns for worker safety and water quality. They suggested instead hiring a big conveyor truck to shoot the rock out onto the island. However, that truck won't become available until September 30, which would cause a delay. Tacoma has opted instead to set the contents of the bags on the spillway below the framing for the ogee and then flow passing over Barrier Dam will slowly return the gravel downstream. That would happen within the fish window (before September 30). They would use the crane to place the super sacks below the ogee and workers would safely open the bags (up to 1,5K cubic yards) onto the barrier spillway. Carol reminded all of the need for a long-term gravel augmentation plan and cautioned against putting in more than 500 cubic yards of gravel until we see how it will disperse. The WQPP that was approved didn't show where monitoring would occur. In addition, minimum of 500 cubic years is not specific enough for the WQPP. Carol said since Tacoma is now putting the gravel on the spillway, they will need a new WQPP for a new activity in a new placement location. Travis will follow up with Carol on this.

Jorgensen Property: The long-term gravel augmentation plan is on hold. The DD the FTC approved says to catch up with the 3-year deficit (2019-2022) and then come up with the long-term plan. The DD has dates to complete sections of the plan and these dates are not being met. Tacoma was to finalize the gravel augmentation plan by August 16. Peggy asked for something more than the crosswalk to show the progress Tacoma has made to date. Peggy's much-appreciated comments have been incorporated into the crosswalk document.

Action Items:

- Travis will work with Melora to develop a new timeline for completing the long-term plan.

- Melora will send the draft plan update document to Peggy and Carol.
-

CRR Fund / HAP Subcommittee

Presenter: Travis Nelson / Melora Shelton

Travis has been working with LCFRB to finalize the technical details on the Tacoma/LCFRB agreement to have habitat projects integrated into the LCFRB's 2022 grant round. This will require updates to the CRR Implementation Strategy document. Melora noted that Tacoma has drafted an interim update to that document which has been a fundamental source of program information. The update has been reviewed by the LCFRB. The 2021 interim update to the CRR Implementation Strategy will replace the 2017 CRR Implementation Strategy and address the integration of the CRR habitat proposals into the LCFRB salmon recovery grant round. It emphasizes that all funding decisions will be made by the FTC and includes necessary revisions as described to update the Strategy for use in that round.

Melora said they are also working through what they need to do programmatically to incorporate the hatchery projects into the program moving forward. They will put together a subcommittee to focus on the HAP components of this. Tacoma would like folks to think about who they want to put forward from their organizations to serve on the subcommittee.

Steve M thanked Melora and Travis for all their work on this and explained they are in the final stages of working out agreement details and then polishing up the LCFRB program guide for consistency. LCFRB is also doing some outreach for potential partners and looking at what an outreach strategy might be. Steve assured all that leveraging resources will be a priority. He affirmed that CRR money could be used as a match for SRF Board projects. We can expect a presentation on any technically sound projects that may be appropriate for consideration by the FTC at the October meeting.

Action Items:

- Travis/Melora: By September 10 distribute both clean and track-change versions of the 2021 Interim Update along with the decision document (in time for the LCFRB 2022 grant round in early November).
 - All: Send edits/comments back by the end of the day September 21.
 - Travis/Melora: Revise the document accordingly and send it back out by September 28 for review so both the Interim Strategy and DD can be finalized at the October FTC meeting, in time for the LCFRB to incorporate it into their 2022 grant round materials ahead of their November board meeting.
 - All: Consider who from your organization is best qualified to serve on the new HAP CRR Subcommittee being formed.
-

Topics for October 5 FTC Meeting

- Updates incl. Hydro Ops, Water Quality
- LC PUD Dam Ops
- Fish Facilities incl. Barrier Dam Project overview
- Satellite Rearing DD
- Downstream Adaptive Mgt. TWG
- FHMP Transition Plan
- Satellite Rearing Program
- APR Process DD?
- CRR Program (1 hour)

- M&E Subgroup
 - Gravel Augmentation
 - Preview November 2 FTC Meeting topics
-

Meeting Evaluation

- Once again, appreciate Tacoma's visuals with all the photos. Very helpful!
 - Missed some key participants.
 - Acknowledgement that we are all in this together.
 - Much appreciation for Melora's presentation and Eric's presentations.
 - Phil's quote: Alone we can do so little. Together we can do so much – Helen Keller
 - Loved the High School Musical song Travis played at the end of the meeting.
-

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
Final Conference Call Summary
October 5, 2021, 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
Eric Shoblom	TPU
Phil Sandstrom	TPU
Chris Foster	TPU
Steve Manlow	LCFRB
Steve West	LCFRB
Laura Wolfe	LCPUD
Russell Page	LCPUD
Debbie Carlson	BPA
Rudy Salakory	Cowlitz Indian Tribe
Kate Day	USFS
Lyn Wiltse	PDSA Consulting / Facilitator

Remaining 2021 FTC Meeting Dates: November 2 and December 7

Note: The December meeting will be open to the public and a call-in number will be provided.

Approval of Last Meeting Summary

The approval of the September FTC meeting summary was deferred until the November meeting due to the complexity of suggested edits.

Updates

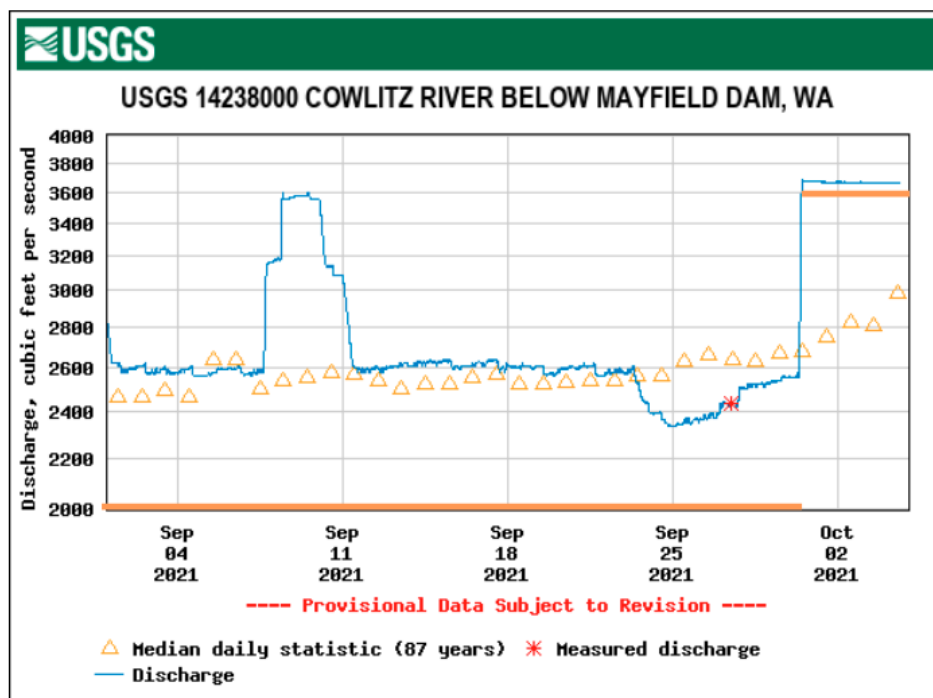
Hydro Operations

Melora reviewed the PPT sent out before the meeting:

- Inflows: Though typical in June, inflows dropped below the historical average in July, August, and were nearly back to normal in September. Inflows are currently running a bit below the average daily average.
- Storage: Power Management kept Riffe lake at 721' (low relative to the historical average, but more normal with the new maximum reservoir elevation of 749'). The last 10 days the reservoir has been drafting at a consistent rate. Mayfield storage is also typical and was at 421' this morning (October 5).

- Outflows: On October 1 the minimum flow changed from 2K cfs to 3.5K cfs. The minimum flow can reset if there are 5 days consecutively above 5K cfs (has not happened). There have been no exceedances. Ramping is being carefully managed to the limit of 1" per hour. This will change to 2" per hour on November 1.
- Outflow - Mayfield Gage: While the reading from this gage was affected by coffer dam backwater, it reverted to previous rating on September 29. The USGS continues to monitor the gage. The coffer dam was completely removed on September 30. Unit 41 is currently running at full gate with discharge as expected at 3.6K cfs. Discharge was consistent at ~2500 cfs during the construction/ deconstruction period.
- 10-Day Forecast: Welcome to fall! We are anticipating a cooler than typical 10-day forecast with perhaps as much as 3" precipitation. Freezing levels will be at between 4-7.5K ft. Inflows are expected to continue at 2K cfs.

Outflow



Minimum flow 7/1-9/30: 2,000 cfs (can reset after 8/16). No exceedances since last meeting.

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:

Kosmos: Carol visited the site on October 4 and reported that 10 cubic yards of metal debris was loaded into a dump truck and removed from the site for proper disposal. She explained bentonite clay will be mixed and used in the removal and capping of the contaminated ledge, noting this needs to be done outside of a rain window. The removed contaminated soil will also be disposed of properly. Sampling needs to occur, as per the WQPP, of any water with a rainbow or dull sheen. Bryce thanked Carol for providing continued updates on this site. Carol also noted that additional signage would be helpful to notify fishermen that the site is contaminated.

LCPUD Dam Operations: Russell reported that WDFW wrote a letter approving the 500 cfs variance from September 27 to October 11. The outage on Sept 27-28 went well and they are back to normal with Unit 1 up and running. They were able to complete the necessary testing and flows are run-of-the-river at this point. They plan to replace the 3D camera on Unit 2 between mid-November and early December. They don't anticipate any issues with flow at that time. Peggy thanked Russell for his excellent communication regarding the outage.

Fish Facilities

Gust Backstrom: Eric was pleased to report the site repair was completed and being used as intended.

Barrier Dam: All in-water work was completed per the schedule on September 29, including the removal of the coffer dam and placement of gravel. Shimmick has some additional upland construction on the dry land of the left bank to access the ladder entrance gate. This work is adjacent to waters of the state and are also covered under the WQPP. The right bank (hatchery side) will be a laydown area with job trailers for next year's construction season. Water is following the ogee and the turbulence is extended out now further than previously. There was no noticeable impact to fish collection efforts during the in-water work. That's great news! Josua noted the laydown area that will include job trailers will probably be fenced off and asked if that would restrict any access to the bank. Eric responded that his goal is to maintain that access. That would allow WDFW to move the fishing barrier from 400 ft. up to 100 ft. Carol noted there are no restrictions unless there is a need to monitor turbidity in the case of in-or-near water work on the left bank. In that case, the monitoring needs to be 300 ft. downstream of that action. Carol requested an update for the work to be done on the right bank; will there be concrete in the preparations for the next phase on the right bank; Carol will provide Eric a copy of the CSWGP map showing the permit boundary.

- **Action Items:**

- Carol: Send Eric the Stormwater Protection Permit so he can see the permitted work zone.
- Matt Peter: Contact Carol to answer her questions re this site.
- Eric: Let Bryce, hatchery folks, and Josua know by October 8 if WDFW can move the boundary up to the 100' marker, as long as there are no safety concerns or water quality impacts. Copy Carol on this.
- Tacoma: Provide Ecology with the fish kill report as a requirement of the Administrative Order dated January 15, 2002 (second FTC meeting request).

Adult returns / brood / juvenile collection update:

- Spring Chinook: Broodstock collection goals have been met. Great year for NORs!
- Summer Steelhead: All brood targets have been met!
- Fall Chinook: Still struggling a bit – collecting everything that returns to the separator. They are running a little short on males. Bryce noted WDFW likes to get 50% of the run in before they make management decisions.
- Coho: Hatchery Coho are on track to surpass the 10-year average! NORs are looking fantastic. Eric noted they have gotten 1,566 that aren't reflected in the graph, bringing the total to over 7K to date. The peak of the run is the end of October.
- Mayfield Trap: Has been collecting 400-1500/day, including over 6K fall Chinook on October 4. Kudos to the staff for working long hours to keep up!

- Cowlitz Falls Fish Facility: Chris reported they completed the collection season the morning of September 30, after operating continuously since March 15 with no significant outages (including COVID-related). On September 25, an actuator for the Upstream Capture Zone weir went rogue. This is independent from the total inflow at the entrance. They had to operate with limited automated control of the capture zone weir for final week of operation. After the shutdown on September 30, they closed bulkhead gate and got mechanic in to investigate the capture zone weir– why it was wedged. He was able to repair the weir and got all equipment put back in place. Chris anticipated that today (October 5) they will be able to start up for fall block collection (will run three days a week).

Downstream Adaptive Management Technical Work Group: Phil announced at their last meeting they reviewed a number of recommendations which will be presented at the November FTC meeting. They also discussed the accuracy and bias of calculations used in the evaluation of FCE and FPS for the CFFF. This would involve reworking the analysis of existing data to improve its accuracy and reduce potential for bias, as requested by WDFW, and is expected to occur in 2022. At the last meeting Matt presented results of the engineering review of the Mayfield suspension bridge redesign. The suspension bridge bows and causes fish to hang up. The improved design will be more stable and will represent a major improvement of downstream passage at Mayfield. The preferred alternative includes construction of new pipe along dam face and south bank, terminating in powerhouse tailrace. Moving the pipe to the other side will also allow room for fish marking at Mayfield to occur. Phil reminded all this will be a multi-year process and the design for the fish transfer pipe is still at the conceptual level.

M&E Subgroup Phil reported this group meets the third Thursday of every month. At the last meeting discussion topics included:

- Sampling decisions / direction.
- Spring Chinook life history efforts - will be a topic for Downstream Adaptive Management TWG and M&E subgroup crossover analytics meeting on Nov. 17.
- SAR analysis with Coho and fall Chinook.
- Spring Chinook efforts (with Thomas and Josua bring the required data together).
- Carcass survey effort to improve estimates of Fall Chinook on the lower river. (Sample scales from every fish? Sample early fish for genetics to see if there is an identifiable difference between spring and fall Chinook in the lower River.
- Monitoring plan for the FHMP – and next steps.

APR Decision Document

Presenter: Eric Shoblom

Eric reviewed with all the Decision Document (DD) he sent out for review on September 28. He explained this is essentially memorializing the previous FTC decision made on keeping the size of the hatchery programs the same for 2021. They may look different next year. The DD contains the table that was presented at the annual APR meeting.

There was consensus agreement to approve the DD with minor edits. Bryce reminded all that this was an exception from the normal DD approval process which calls for introduction of the DD at one meeting and approval at the subsequent meeting.

Satellite Rearing Program

October 05, 2021 FTC Meeting

4 of 8

Presenter: Phil Sandstrom

Phil walked us through the DD which he revised based on feedback at the September FTC meeting. The document outlines Tacoma's approach of pursuing Options 2 and 5 with the intent to advance one of them. He received additional comments from WDFW at the end of last week when he was on PTO. Just before today's meeting, he sent the DD out in track changes mode as well as a clean version. Bryce expressed appreciation for Phil's quick turnaround of the document, noting WDFW is not trying to slow down the process or keep Tacoma from moving forward to do what they see as meeting their requirements from the SA for the satellite rearing ponds. They want to be sure there is a benefit (imprinting, distribution, etc.) from any actions taken. To that end, doing a population assessment may help guide future actions. Phil sees that occurring in a separate DD and also in the FHMP Transition Plan documents. He noted the table shows overall potential benefit for adults – in terms of what the facility could handle at any given time. There will be further discussion of program particulars at the January FTC meeting, to benefit adult abundances and juvenile production in the upper basin. WDFW wanted to see a process to do a benefit assessment and with an off ramp in case things do not go as expected. After incorporating FTC feedback, and when there is a consensus agreement to move forward with a particular option, then the option will be sent out for public feedback as well. Phil will keep an Excel comment matrix to track feedback and ensure nothing falls through the cracks.

After much discussion, there was a consensus agreement to approve the DD with edits made at today's meeting.

FHMP Transition Plans

Presenter: Phil Sandstrom and Bryce Glaser

Phil reported they continue to meet frequently and make good progress. There are WDFW edits to the spring Chinook plan that are yet to be completed. The next step will be to go back through all the plans to ensure consistent formatting across all the species chapters. At the last meeting, discussion included how to move to increased program size for integrated winter Steelhead programs; when to look at culling (i.e., grading and surplus) to increase SARs, etc. Tacoma is evaluating this and will share its recommendation with the team on October 8 for discussion at the next workshop on October 15. They are also wrapping up Coho, after which they will get those chapters to the FTC for review. WDFW will get their remaining comments on fall Chinook and Coho to Tacoma in the near future. It is not clear how many more transition planning workshops will be needed. They will be close to final review of the draft chapters and getting public feedback. Phil appreciates folks reserving time to review these from late October through the end of November. Tacoma needs to prepare to make some of the changes in the plans to move the program forward. There will be scoping meeting October 7 on the bio-programming piece.

Gravel Augmentation

Presenter: Travis Nelson

After much discussion of next steps, alternative analyses and evaluation of 10-12 sites below the Barrier Dam, Travis was happy to report that Tacoma successfully executed the short-term gravel augmentation project at Barrier Island. He thanked everyone for helping put together the agreement for that allowed Tacoma to start getting caught up on their gravel placement obligations. Travis showed photos of Barrier Island and the supply of

material that included what had been used in the super sacks for coffer dam construction for the Barrier Dam repair. He noted the material was very clean, with little dust. A truck with a conveyor mechanism pepper shot the 1,193 cubic yards of gravel across to the island. Travis showed a video of the mechanism in action. One of the benefits of this type of placement is they didn't have to get into the channel. They stayed within the mixing zone of 300 ft. There was good teamwork in planning and execution of the project. Teams worked over the weekend and into the night, allowing the placement to conclude on September 29.

Typical winter operations of flows from 6.5K – 11K cfs would likely help to disperse the pile. Thanks to all for the great effort on this start of getting caught up. Carol will follow up with discussion on removal of gravel at the boat ramp. Tacoma will provide an annual written account of these activities. Peggy thanked Tacoma for sending out the long-term gravel plan to which she is adding comments.

- Action Item: Travis will continue to work with Melora to develop a new timeline.

CRR Fund / HAP Subcommittee

Presenter: Travis Nelson / Melora Shelton

Melora reported Tacoma and the Cowlitz Tribe are working diligently together on the 2019 grant agreement and addressing some unforeseen process issues. They are currently waiting for all parties to come together to comment on the most recent draft. She and Travis thanked Eli and Rudy being great tour guides on their recent site visit to Cispus Yellow Jacket site where they viewed the work already complete, in process, and what is anticipated for Phase 3. Thanks to Eli and Rudy for that!

LCFRB 2022 Round: They are finalizing application materials, manuals, and scoring materials, ahead of the 2022 grant round. For 2022, the LCFRB has adopted the same screening and scoring framework that the FTC approved in 2019.

Future CRR grant rounds will be very similar to before, with the LCFRB running the grant round. The LCFRB will bring a list of scored/recommended projects to the FTC to make funding decisions. Peggy noted LCFRB's role of updating materials isn't clear in the interim strategy. Travis replied LCFRB plans to do a more in-depth manual review for the following year. This update is to cover the upcoming 2022 grant round, establish the mechanics, including the FTC review of potential projects, during which they can change the initial ranking of projects as they feel appropriate.

Update on HAP: Tacoma is revisiting the HAP information from the 2017 implementation strategy and the 2019 HAP Guiding Principles. They are working to develop proposed updates from the foundational document to bring to the HAP subcommittee to review and make recommendations on guiding principles, etc., to present to the FTC. They will develop application material, scoring criteria, implementation strategy, etc. At the last FTC meeting, folks were asked to identify who from their organizations has the hatchery and production experience / expertise to serve on this new subcommittee.

Melora thanked WDFW for their thoughtful and coordinated comments on the Interim Strategy Update and DD presented at the last FTC meeting. On September 9 Travis emailed out (in track-change and clean versions) for further review at this FTC meeting. These include a number of clarifications and other edits in response to WDFW's review. Copies in track changes of both documents included WDFW comments and responses to those comments are available upon request.

Peggy asked about indirect costs, noting it would be ideal to make these available for HAB and HAP in the same grant round year. Melora acknowledged if/how to handle indirect costs has been a concern and noted they were not able to address this in the current grant round. Phil has seen indirect costs range from 17-60% and wondered if it might be prudent for the grant program to establish some level of cap. Steve M reported feeling like indirects should be eligible costs. Otherwise, it would be a large constraint for sponsors who might want to apply. Rudy agreed and noted it is possible to use these dollars to help leverage funds from outside sources. WDFW has a flat rate for indirects, and Rudy suggested a not-to-exceed amount (e.g., 10%) would be appropriate. Peggy reiterated wanting to see the same requirements for HAP and HAB at the same time for the sake of consistency.

Steve M noted the RCO doesn't have a set indirect rate. They rely on a rate sheet where sponsors define the rate and provide supporting rationale/data. After additional research/discussion on this topic, Travis and Melora agreed to put together a recommendation on how to proceed re indirect costs. This would be reflected in the Interim Strategy Update, inserted into the DD and sent out to for further discussion/approval at the November FTC meeting.

Action Items:

- Steve M: Research how LCFRB handles indirect and suggest a path forward for FTC approval at the November meeting. (*Done.*)
- Travis/Melora: By October 19 distribute versions of the 2021 Interim Update along with the DD (in time for the LCFRB 2022 grant round in early November).
- All: Review indirect cost recommendation and send comments to Travis/Melora by end of day October 26.
- All: Consider who from your organization is best qualified to serve on the new HAP CRR Subcommittee being formed.

CRR Fund 2021 Grant Round / Habitat Grant Round Overview

Presenter: Steve West

Steve W walked us through a PowerPoint of the Cispus Floodplain Reconnection Project sponsored by the Cowlitz Indian Tribe. This is a design only proposal. He explained how elements of the proposed project address all of the LCFRB's Upper Cowlitz and Cispus Habitat Strategies (mostly reflecting of what EDT calls for). Steve showed a map with the elements of the design proposal, one of which is the relocation of the 2800 road. Existing culverts in the road function only for flood relief – not as fish habitat. He reviewed the timeline for salmon recovery projects from the LCFRB website and explained that scoring by TAC members is done in three different bins: benefits to fish; certainty of success, and cost. Scoring from all 14 members gets condensed into a single point. The Cispus Floodplain Reconnection project scored just 11 points below the funding range. Geographically, this is a good fit. All basins upstream of the Barrier Dam. Secondary focus is on the mainstem Cowlitz – Barrier Dam down to the Toutle confluence. This project targets three (spring Chinook, Steelhead, and Coho) of the top four species.

Project Review Timeline:

- October 8: Tacoma sends out draft DD along with supporting project information and links to RCO materials.
- October 22: Comments on DD are due back to LCFRB.
- October 26: Tacoma sends out revised draft DD.

- November 2 FTC meeting: FTC makes final funding determination.

Indirect Costs: Steve W noted these are called out in this proposal at about 28% with the amount listed as \$5,370 (which is less than 28% of the project cost). The Cowlitz Tribe doesn't apply indirect costs to construction costs. Indirect would apply to personnel, etc. On its merit minus the indirect, folks were asked to review this.

Action Items:

- All: Comments on DD are due back to LCFRB October 22.
- Tacoma: Send out revised draft DD October 26.

Topics for November 2 FTC Meeting

- Extra time for review of notes
- Updates incl. Hydro Ops, Water Quality
- LCPUD Dam Ops
- Fish Facilities incl. Barrier Dam Project overview
- Satellite Rearing DD
- Downstream Adaptive Mgt. TWG
- FHMP Transition Plan
- Satellite Rearing Program
- CRR Program
- M&E Subgroup
- Gravel Augmentation
- Preview December 7 Public FTC Meeting topics

Meeting Evaluation

- Several of us experienced technical problems with MS Teams
- Photos are always appreciated
- Great presentations today
- Special thanks to Steve West for his presentation
- Always appreciate Eric's PPT for his update.
- Fun music by a real DJ!
- Great collaborative discussions.
- Great cooperation and we always come back to being effective. This is so important, now more than ever to celebrate our likenesses as well as our differences.
- Josua's Quote: "Grace releases and affirms. It doesn't smother. Grace values the dignity of individuals. It doesn't destroy. Grace supports and encourages. It isn't jealous or suspicious." – Charles Swindoll

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
Draft Conference Call Summary
November 2, 2021, from 9:30 – 3:30

FTC Representative Attendees:

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

Additional Attendees:

Josua Holowatz	WDFW
John Serl	WDFW
Peggy Miller	WDFW
Sam Gibbons	WDFW
Brian Gale	WDFW
Matt Bleich	TPU
Eric Shoblom	TPU
Phil Sandstrom	TPU
Steve Manlow	LCFRB
Steve West	LCFRB
Laura Wolfe	LCPUD
Russell Page	LCPUD
Ann Weckback	Lewis County
JD Jones	USFS
Lyn Wiltse	PDSA Consulting / Facilitator

Remaining 2021 FTC Meeting Date: The December 7 meeting will be open to the public and a call-in number will be provided.

2022 FTC Meeting Dates: Jan. 4, 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 Summaries

The September and October FTC meeting Summaries were reviewed and approved with edits and appreciation to WDFW for their careful review and attention to detail.

Updates

Hydro Operations

Melora reviewed the PPT sent out on November 1:

- Inflows: After a typical September, inflows for October were 123% of the historical average. There was lots of rain the last week in October. Inflows were 7,777cfs on 10/31. Inflows are currently running a bit below the 7,279 cfs November historical average.
- Storage: The elevation at Riffe Lake is at 720 ft, down ~2 ft since the September update. Historical average is 737 ft, 2017-2020 average is 719.9 ft. Mayfield has

been in its normal operating pattern. Snowpack is 3.2" at Paradise and nothing at White Pass.

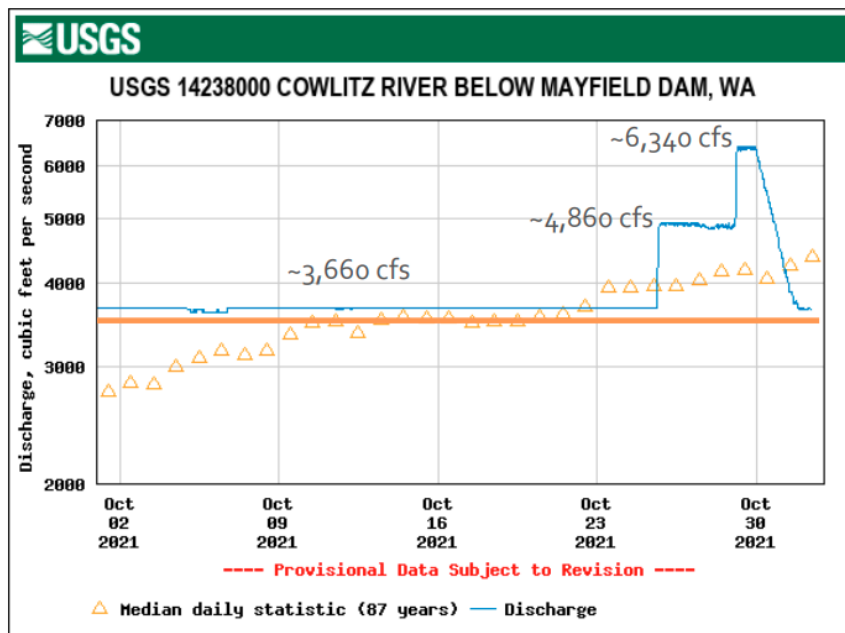
- Outflows: The 3,500 cfs minimum flow will continue until November 21, unless it resets after 5 consecutive days above 5,000 cfs. Ramping limits were 1" per hour through October 31 and is now at 2" per hour, around the clock. There have been no ramp or flow exceedances, and no unit trips or other unplanned flow changes.
- 10-Day Forecast: Forecast is typical for this time of year. The 10-day forecast is for 3-5" with a variable freezing levels (4-9K'). Inflows are likely to be at or above 5,000 cfs, peaking on November 5. Outflows may increase to 4,800 cfs later in the week.

Melora shared the following links in the Chat:

- Northwest River Forecast Center: <https://www.nwrfc.noaa.gov/rfc/>
- Mossyrock Reservoir Station Summary: <https://www.nwrfc.noaa.gov/river/station/flowplot/flowplot.cgi?id=MSRW1>
- Mayfield Reservoir Station Summary: <https://www.nwrfc.noaa.gov/river/station/flowplot/flowplot.cgi?id=MYDW1>

Bryce and Josua raised a concern about Tacoma operating just below the 5K cfs threshold while creating a period to attract fish into side channel areas. They asked if there was enough water to provide 5K cfs to protect redds and connect side channel habitat (License Article 13 (d)). This would provide more margin habitat as well. Melora will follow up and get back to them.

Outflow



Minimum flow 10/1-11/21: 3,500 cfs (5 consecutive days > 5,000 cfs reset).
No exceedances since last meeting.

Link to the USGS real-time Cowlitz River hydrograph:

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

Action Items:

- Melora: Define which years are used to calculate the historical average.

- Melora: Check with Power Management re the feasibility of operating at 5K cfs to protect redds while balancing other needs and let WDFW know their response.

Water Quality/Monitoring

Kosmos: Carol reported Tacoma removed the 10 cubic yards of metal debris from the “debris gulley” to a landfill in Oregon. They also removed the solidified petroleum product sediment along the ledge and capped it with bentonite clay and quarry spalls. There are more big clumps of the petroleum sediment on the left bank of Rainey Creek. On November 1 Tacoma Power did some monitoring there and they have a remedial investigation (part of Ecology’s Toxics Cleanup Program Agreed Order). The boundary of the area of interest will be expanded to include all 2019 and 2020 activities. Also included in the cleanup plan will be other activities such as the 1993 removal of the underground storage tank.

Fish Facilities

Barrier Dam: Eric reported Shimmick Construction completed all upland work on October 29. The fishing boundary has been moved to the 100’ mark. A survey crew will do as-built drawings on the left bank by the end of the year. There will be continuous construction site monitoring through the winter and spring seasons. Construction activity for the 2022 season will likely begin in May. The in-water work will begin July 15, 2022. Carol questioned if the tree removal was within the CSWGP boundary.

- **Action Items:**
 - Carol: Check with Matt Peter on whether downstream monitoring was done in conjunction with the removal of the cottonwood tree, and who will be doing the continuous construction site monitoring, etc.
 - Eric: Let Carol know if you would like her to address water quality requirements with Tacoma crews.

Adult Returns /Brood Collection:

- Spring Chinook and Summer Steelhead: All Broodstock goals have been met!
- Fall Chinook: Broodstock goals will be met. Total run size is estimated to exceed 3K.
- Coho: Brood and transport numbers are being met. They have collected 44K HOR coho and 9K NOR coho to date. Peak returns are expected to go through the end of November. The Upper Cowlitz transport cap was increased to 40K. The previous cap was 26K. Crews are transporting 80 fish/week until they reach the Tilton cap of 12K HORs. Bryce reminded all we frontloaded the HOR transport when river and fish conditions were most favorable. To date, we have not released NORs at Gust Backstrom, only Bremer Bridge. It may be time to do so given the strong returns.
- Mayfield Trap: Has been collecting 100-150/day (mostly Chinook smolts).

Cowlitz Falls Fish Facility - Fall Operations Summary:

Eric reported the facility is closed until March 15, 2022. The preliminary data suggest Chinook FCE was ~55%. October 29 was the largest collection day during block collection . October smolt captures included 93 steelhead smolts, 872 coho, and 35 cutthroat during the ascending flow event. John noted the segregated /integrated Coho return time separation seems to be a bit broader this year than in the past.

- **Action Item:** All - Let Eric know if you’d like to be added to the distribution list for Jamie Murphy’s weekly report showing where every species is transported.

Satellite Rearing Program

Matt reported since approving the DD at the last FTC meeting, Tacoma has begun developing an internal strategy to start to assess sites that are worthy of additional

investigation. They are also working in a more global assessment of the benefits of satellite rearing compared to potential hatchery options and aim to share this analysis at the December FTC meeting. Bryce clarified that WDFW is seeking more of a benefits analysis from a biological perspective. A cost/benefit analysis would follow if there were more than one option.

M&E Subgroup

Phil reported topics at the last meeting included:

- Coho and fall Chinook harvest rates for SAR analysis – Will use the similar approach as used for spring analysis.
- Cascade Aquaculture –WDFW habitat folks will examine the permitting issue.
- Coho broodstock CWT sampling – Change to 1 in 3 sampling rates on CWT positive adult coho and jacks.
- Steelhead enumeration project – On November 3 crews will PIT tag steelhead.
- Tilton River Transport Plan – Over 10,500 HOR coho adults have been transported to Gust Backstrom Park along with 4K jacks. John will send out the prior protocol WDFW used to split up fish coming through the separator. Tacoma will come up with 5- and 10-year curves re run timing for NOR coho.
- Presentations on genetic sampling/run timing and using Tableau Dashboarding to share data widely.
- M&E Monitoring Plan for the FHMP – Will discuss at November meeting.

Phil asked if the current process of sending Lyn links to the M&E Subgroup agendas in advance was helpful. Bryce responded affirmatively, saying a week in advance really helps with planning. Josua thanked Phil for being so inclusive in the group.

Gravel Augmentation

Travis reported Tacoma has requested gravel quantities be calculated by their Engineering Group, as well as the subsequent monitoring done with Matt Peter. As reported last month, the amount was ~1100 cubic yards. Photos and a video provided by John showed the gravel pile is distributing well downstream, in the shape of a comet tail. As this gravel is transported downstream, it is felt that this should not create problems for anglers fishing on the hatchery side of the river, but time will tell. An alternate augmentation site is still being considered.

- **Action Item:** John - Send video clip from October 21 flight to Carol. Investigate creating still photos from the video that can be shared at the December FTC meeting.

Downstream Adaptive Management Technical Work Group

Presenter: Matt Bleich

Matt reported this group last met the week of October 25. Discussions included the strategy for moving forward – the annual schedule associated with processing the preliminary annual results and developing a set of recommendations to bring to the FTC for decisions. Tacoma is also partnering with LCPUD to draft 2022 draft recommendations to present to the FTC, likely at the January meeting. He briefly reviewed the five areas of recommendations:

1. Evaluate increasing inflow within the collector during spring freshets for salmon and coho.
2. Evaluate the effect of steelhead retention efficiency (modify floor geometry of capture zone in CFNSC) using new experimental settings. (Will try to think like a steelhead.)

3. Design and implement block study design with pumpback discharge system to evaluate Chinook entrance efficiency using acoustic telemetry data. Tacoma will coordinate with LCPUD and their maintenance activities on this. A decision is required by January 31, 2022.
 4. Develop methodology to evaluate FCE and FPS for 2022 and beyond including retrospective efficiency calculations/capture evaluations.
 5. Continue the extended collection seasons (March – October) conducted in 2020 and 2021. Tacoma will do this in coordination with LCPUD maintenance activities.
- **Action Item** – Matt: send out written summary of recommendations and DD at least two weeks in advance of January 2022 FTC meeting.

LCPUD Dam Operations

Presenter: Russell Page

Russell reported that the PUD had just over 15,500 cfs pass through the Cowlitz project on October 29. They spilled ~5,000 cfs. At that time, they had the TDG monitor in. They will remove it for the year in anticipation of the flood season as it would be damaged in high flows. The monitor was in place to monitor water quality for the collector operation that is now off line for the season. The maximum flow at Randle over the week of October 25 was 13,936 cfs on October 29 at 9:45 am. The PUD will be doing a series of drawdowns over the next 5-6 years as per the schedule below. They will get permits in place and then seek a contractor for the work. Once all of the permits are in place and contractors chosen a new schedule will be developed and sent out with firm dates.

CF Reservoir Drawdown Draft Project List

Budget Fiscal Year (FY)	Project	Reason for Drawdown Activity	Anticipated Drawdown Timeline
FY '22	Debris Site Reinforcement / Habitat Enhancement	Contract Work - Civil Site Work	Q3 2022, 3 - 4 Weeks
FY '22	Debris Barrier Rehabilitation	Contract Work - Mandatory Bid Walk	Q3 2022, 2-3 Days
FY '23	Debris Barrier Rehabilitation	Contract Work - Remove Sediment from Moorage Area	Q1 2023, ~ 1 - 1.5 Month
FY '23	Debris Barrier Rehabilitation	Contract Work - Repaint Debris Barrier Exterior	Immediately after Labor Day - Early November 2023
FY '23	Man-Made Island Canal	Design Consultant - Dryout & Survey Area to be Excavated	Q1 2023, ~ 1-2 Weeks
FY '25	Man-Made Island Canal	Contract Work - Civil Site Work	Mid-September - Mid-October 2025
FY '24	Trash Removal System	Contract Work - Civil Site Work	TBD
FY '25	Trash Removal System	Contract Work - Civil Site Work	TBD
FY '25	Sluice Gate Replacement	Contract Work - Replacing Sluice Gates w/Radial Tainter Gate	TBD
FY '26	Sluice Gate Replacement	Contract Work - Replacing Sluice Gates w/Radial Tainter Gate	TBD

FHMP Transition Plans

Presenter: Matt Bleich

Matt thanked everyone who has been a part of the many FHMP workshops and reported the transition plans are substantively complete. Still to do: By Thanksgiving, Phil and John hope to align all the plans and edit them for consistency. They will send these to the FTC for review when complete. Eric, Sam, and Brian are planning to complete a bio programming exercise in January to ensure all recommendations fit within the facilities and any decisions that need to be made in this regard will be brought to the FTC and also the public. At this point, the plan is to begin interacting with the public in late January, using an iterative

process very similar to previous APR process. They are also working hard on the bio programming effort – aiming for January

Phil noted steelhead broodstock collection and changes to the marking program are time sensitive issues. If alignment is achieved, it would be best to make this change this year. For now, this will stay as a standing item on FTC agendas. Bryce noted it would make sense to showcase all the transition plan progress at the December FTC meeting while highlighting the public engagement process.

CRR Fund / HAP Subcommittee

Presenters: Melora Shelton / Steve Manlow

CRR 2021 Implementation Strategy Interim Update, and corresponding revised DD: Melora provided an overview of the need for the 2021 interim update to the CRR Implementation Strategy and the review process for the document and Decision Document to date. After the last meeting, Travis and Melora discussed way to allow and evaluate indirect funding with the LCFRB. All agreed to use or adapt the RCO approach to determine indirect rates and calculate costs. Rather than putting limits on indirect funding, they will evaluate these costs as part of the overall funding for the project. The Implementation Strategy Interim Update was edited accordingly. Melora highlighted the changes made to include allowance for indirect costs. There was consensus approval of the 2021 Interim Strategy DD.

CRR 2021 Funding Determination Decision Document:

Steve Manlow reminded all of the LCFRB presentation at the last FTC meeting. The Cowlitz Indian Tribe's Cispus Floodplain Project proposal which was evaluated through LCFRB's 2021 grand round. Steve noted the project ranked quite well despite a competitive grant round with tight scoring. It is a design-only project that targets spring Chinook, steelhead, coho. This could ultimately lead to an on-the-ground project and that was identified in the Upper Cowlitz Cispus Habitat Strategy. \$194,200 is the cost of the project, which was the full proposal less indirect costs which were not eligible for funding during that grant round. There was consensus approval of the CRR 2021 Funding Determination DD.

HAP Update: Tacoma continues to work with the content in the 2017 implementation Strategy that addressed HAP. It is also working internally on guiding principles to discuss with stakeholders. Tacoma's goal is to end the year with a draft of revised materials ready to share with technical reps (hatchery experts) from stakeholder organizations in January within the soon-to-be-formed HAP Subcommittee. This is the group will bring revised principles to the FTC and also consider implementation for the next grant round.

Action Items:

- Melora and Steve M: Send Approved DDs to Lyn and Travis for electronic distribution to mark 7-day approval by absents FTC voting members.
 - All: At the December FTC meeting announce which hatchery experts from your organization will become members of the HAP Subcommittee.
-

Travis thanked everyone for another productive meeting. As Henry Ford said, "Whether you believe you can or can't, you're right." He congratulated everyone for the many great accomplishments made by working together, including work on the FHMP, CRR, and putting gravel in the river!

Topics for December 7 FTC Public Meeting

- Extra time for review of notes
 - Updates incl. Hydro Ops, Water Quality
 - LCPUD Dam Ops
 - Fish Facilities incl. Barrier Dam Project overview
 - Satellite Rearing DD
 - Downstream Adaptive Mgt. TWG
 - FHMP Transition Plan Update
 - Satellite Rearing Program
 - CRR Program
 - M&E Subgroup
 - Gravel Augmentation – with video
 - Preview December 7 Public FTC Meeting topics
-

Meeting Evaluation

- Great participation
 - Appreciations all around
 - Humor
 - Tech worked great.
 - Got through a lot in little time.
 - Have funded our second CRR project.
 - Loved the video
 - Josua's Quote: "I truly believe in positive synergy, that your positive mindset gives you a more hopeful outlook, and belief that you can do something great means you will do something great." – Russell Wilson
-

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
Final Conference Call Summary
December 7, 2021 from 9:30 – 3:30

FTC Representative Attendees:

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

Additional Attendees:

James Archibald	NMFS
Josua Holowatz	WDFW
John Serl	WDFW
Peggy Miller	WDFW
Sam Gibbons	WDFW
Brian Gale	WDFW
Larona Newhouse	WDFW
Todd Hillson	WDFW
Matt Bleich	TPU
Eric Shoblom	TPU
Chris Foster	TPU
Phil Sandstrom	TPU
Tim Hoffnagle	TPU
Steve West	LCFRB
Laura Wolfe	LCPUD
Russell Page	LCPUD
Ann Weckback	Lewis County
Kate Day	USFS
Lyn Wiltse	PDSA Consulting / Facilitator

Attending Members of the Public:

Larry Pryor, Jack Tipping, Buddy Rose, Randy LeDuc, and Dan Davison

2022 FTC Meeting Dates: Jan. 4, 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 November FTC meeting Summary was reviewed and approved with edits and will be posted for public review.

Announcements

- Laura Wolfe has been promoted to Wildlife and Recreation Manager for LCPUD. Congratulations Laura!
- Steve West noted that on December 6 the LCFRB is soliciting proposals for salmon recovery monitoring and habitat assessments, designs, acquisition, and restoration projects under the Salmon Recovery Funding Board grant program (including CRR

Fund hatchery-related proposals) Pre-proposal meetings will occur from December 7-February 4. And complete applications are due February 24, 2022. [LCFRB Salmon Recovery Grant | lcfrb-1 \(gen.wa.us\)](#)

Updates

Fish Facilities: Eric provided the following on what has turned out to be a great year!

- Coho: Approximate total to date = 54K (38K HORs, 16K NORs)
- Spring Chinook: Total = 3.2K (2.7K HORs, 545 NORs)
 - This is below the 5-year average, but number of NORs is climbing.
- Fall Chinook: Total = just over 3.2K total with 682 NORs returned to the Tilton (Bremer Bridge Release Site).
- Sea Run Cutthroat Trout: Total to the Cowlitz separator = 870 HORs and 280 NORs
 - Another strong NOR return with 280 sent to the upper basin.
 - 10-year average? Too soon to calculate. Also, these numbers are just for the ones that are coming back to the separator (not a total number that would include Blue Creek/Cowlitz Trout Hatchery returns).

Adult Returns /Brood Collection: All brood targets for spring Chinook, summer steelhead, fall Chinook, and cutthroat have been met. Brood and transport goals for coho are on target and broodstock collection for winter steelhead is just starting and will extend into May. There has been good coho and sea run cutthroat survival.

Cowlitz Juvenile Production (Hatcheries): This year's spring Chinook release includes some Kalama stock due to prior low returns (fish on hand is currently at 54% of goal). Survival for all species (spring Chinook, Coho, steelhead, and sea run cutthroat) is above 90% and all fish were raised to 5 fish/lb. this year.

Mayfield Downstream Juvenile Collector: Eric reported that in mid-November crews noticed some unexpected mortality in the separator (up to 23% on one day). Tacoma sent some of these mortalities to WDFW Fish Health for evaluation. The finding was heavy parasite loading – especially nematodes. Tacoma then increased the frequency of the secondary separator flushing (forced flush) and found the overall abundance of the fish continued to decline. On November 24, Tacoma notified personnel at WDFW and NOAA and put the system on bypass. Subsequent spot checks showed a resulting reduction in mortality.

John noted it is possible to use the 24-hour catch numbers to estimate the other six days passage. Chris pointed out that while there was a mix of coho and fall Chinook in the separator, the mortalities were limited to fall Chinook. Peggy pulled up the SA Article 2 language around notification requirements for such events: "...Tacoma shall immediately report to the FTC or agencies any results indicating a significant reduction in passage effectiveness or survival and consult with the FTC or agencies on any further improvements that may be required to maintain consistently high levels of passage effectiveness and survival in accordance with the above performance standards." Bryce noted some ambiguity in this language and the proper protocols should be discussed. He emphasized it would be helpful to have an action plan in place for the future. For example, start with an email to all and then describe who to include in follow-up communications. Carol agreed saying an email to Ecology would have been appreciated and requested that Water Quality be added to the annual report. The 401 Cert calls for immediate actions. She also asked if fish handling is covered through hatchery Water Quality stormwater permits. Matt responded that this action was covered under Tacoma's Bi-Op with specific reporting requirements.

Bryce expressed appreciation for Tacoma's intent to look out for the fish and noted their informal outreach to WDFW to discuss options did not constitute consultation. WDFW was not formally notified of implementation of the bypass action. Any changes to mortality rate should be reported to the FTC. He also noted there was, in this instance, much reliance on old information. Does it still apply? Matt agreed and committed to following up on this.

Action Item: Matt – Follow up on reporting requirements related to this bypass incident.

Barrier Dam: Eric discussed the completed construction work and ongoing schedule for the Barrier Dam work. The fishing boundary was readjusted to the 100' mark. Construction for the 2022 season will likely start in May and in-water work will start mid-July with a 400' closure. (Josua noted the 400-ft closure below the Barrier dam is the standard rule closure distance.) Eric showed before- and after-photos of the work on the coffer dam done to repair erosion. Matt noted the design for this is a dam safety measure. An ogee spillway is a type of spillway that is intended to minimize turbulence and cavitation. This cavitation may have been the cause of the damage that required this repair (over the course of 50 years). A concrete slope (roughly in the shape of an ogee spillway) was poured to close the 6' gap that was creating a lot of space during certain water elevations. There is another fish ladder entrance on the south side of the Barrier Dam, however this backwater would go the wrong direction, so fish never had a chance to successfully utilize the tunnel through the dam. It may be possible to correct this situation once the Barrier Dam repairs are completed.

Gravel Augmentation: Tacoma's FERC license requires them to place 500 cubic yards of spawning gravel into the Cowlitz River each year below the Barrier Dam. The contractor used filled gravel sacks with spawning gravel for the Barrier Dam project and some of that gravel was used for gravel augmentation. Tacoma used a truck with a conveyor belt to project 1,193 cubic yards of gravel immediately below the Barrier Dam. Travis is working with Melora to create a timeline with major milestones for preparation of the Gravel Augmentation Long-Term Plan in Q1 of 2022. Peggy is looking forward to seeing this.

Gust Backstrom Release Site: Eric showed before-and-after photos of this site which was repaired (with much appreciation to WDFW) in late August, and in time for coho season.

Cowlitz Falls Fish Facility – 2021 Operations and Collection Summary:

Chris reported the CFFF, which operated from March 15-September 30, transports parr back upstream, giving them the opportunity to recuperate, redistribute back into the upper basin, and grow for a second season. The spillway flume operated from March 31-August 31. There were no outrages this year. The extra fall block collection using the Cowlitz Falls Northshore Collector occurred Tuesday - Friday mornings in October.

In November there was an opportunistic spill event that increased the flow through the Tailrace discharge gates. This made it possible to test an increase in flow up to 750 cfs.

Adaptive Management Plan: Tacoma made changes at the capture zone for steelhead and in the forebay (diffuser pipes) for the Chinook collection. Total smolt collection (all species) totaled 182,709 fish, ranking 8th highest since 1996. Chris was also pleased to report this was the best year so far in terms of the number of cutthroat collected coming out of the system. The Annual Report should be out in Q1 of 2022.

Larry asked about stopping collection at the end of September and if Tacoma was calculating SARs for NORs. Chris explained the timing of collector operation depended on dam maintenance and operations of their partner LCPUD. They collected during ascending flow of a flood event in November. Once the flood arrived, the lake was drawn down and
December 07, 2021 FTC Meeting

the facility was not capable of collecting. Phil offered to follow up on SARs with Larry. Matt noted they are seeing an increase in NOR adult abundances.

Satellite Rearing Program

Phil reminded all that the DD approved at the October FTC meeting outlined Tacoma's approach of pursuing Options 2 and 5 with the intent to advance one of them. There will be further discussion of program particulars at the January FTC meeting, with the goal of benefiting adult abundances and juvenile production in the upper basin. Tacoma is also working on a more global assessment of the benefits of satellite rearing compared to potential hatchery options. Currently, Tacoma engineers are reviewing an initial list of components related to potential locations to provide an idea of construction costs. The evaluation of the biological benefits of each action will be weighed alongside the potential cost benefit or infrastructure analysis. After incorporating FTC feedback, and when there is a consensus agreement to move forward with a particular option, then the option will be sent out for public feedback as well. Eric is also working with WDFW to review some hatchery improvements that might be considered.

M&E Subgroup

Phil reported the topics discussed at the last meeting included:

- Monitoring priorities for FHMP monitoring Plan – Will look at definitions from the Coordination and Assessment document with data exchange standards. They also started developing a table to define different elements of monitoring activities. Phil expressed appreciation that WDFW staff has started populating the table for the subgroup. They plan to present an update on this including baseline studies, etc. to the FTC in February.
- Big Table data entry and development – They need as many data streams as possible and are looking to put the data into formats that can be shared between WDFW, Tacoma and also more broadly. These data could be used to get a productive outcome, serving APR data needs.
- Performing a similar analysis on coho and fall Chinook as what was done for spring Chinook.
- For the steelhead enumeration project, the first round of PIT-tagging occurred for summer run steelhead.
- Tilton River transport update – They are close to the cap for HOR coho. They did end up transporting NOR coho up to the Gust Backstrom release site once the angling activity had dropped off. John distributed the plan that was used in the past to say how to meter out the fish as they go up to the Tilton. Scott Gibson did a good job on Tacoma side of the house putting together return data to the separator over the last ten years. This will be helpful in determining the plan for 2022.

In response to a question from Jack Tipping, Phil explained the survival for the first three or four years in the lakes has been relatively high. Primarily summer run steelhead with a smaller group of winter run steelhead go into Lake 4. Summer run steelhead are placed in each of the lakes even though they're planted at different times. Survival has been above 90%, with higher survival in the netted pond. Phil was pleased to report the conductance counter and the PIT tag estimate have been in high agreement. The benefits of PIT-tagging were also discussed.

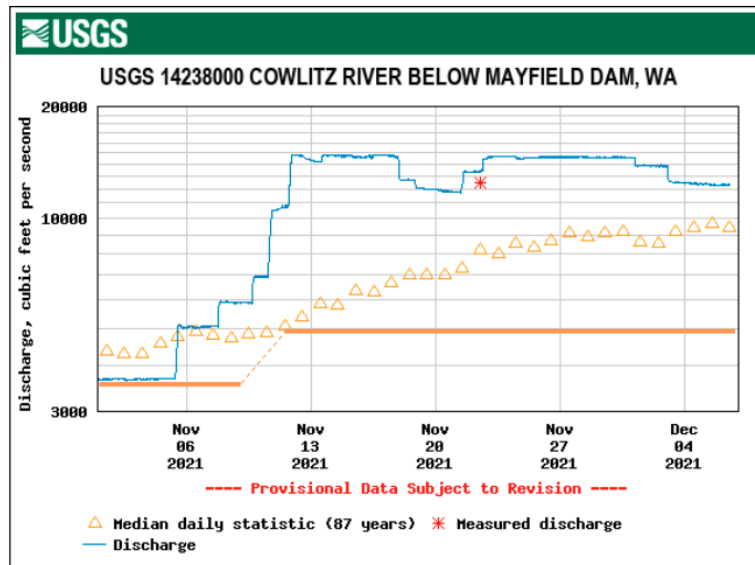
Action Item: Phil – Send Spring Chinook Analysis presentation to Jack Tipping.

Hydro Operations

Travis reviewed the PPT sent out on December 6:

- Inflows: After October inflows of 123% of the historical average, November inflows, at 14,223 cfs, were nearly double the historical average. Inflows are currently at 9,764 cfs, typical for December.
- Storage: At 725' elevation, Riffe Lake is a few feet higher than at our November meeting and has been holding steady for the last 10 days. Mayfield has been operating in its typical operating band, dropping at times down to 420.5 ft.
- November storms reduced snowpack that is now slowly starting to rebuild. Paradise currently has 2.1" and White pass has 0.8".
- Outflows: These are currently at 12,300 cfs. There have been no ramp or flow exceedances since the last meeting.
- 10-Day Forecast: Forecast is typical for this time of year. The 10-day forecast is ~5" of precipitation in Packwood with freezing levels 4,000-6,000 ft for the next two days and then 1,000-3,000 ft. with a variable freezing levels (4-9K'). Inflows will likely be above 10,000 cfs, and outflows are expected to be 10,500-11,500 cfs .

Peggy thanked Tacoma for raising flows at Mayfield to 5K cfs when they didn't have to – going above the minimum flows.



Minimum flow 11/1 - 11/9, 3,500 cfs. Starting 11/10, reset each day to 5,000 cfs on 11/12.

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

Kosmos: Carol reported Tacoma and Ecology have been working together very well. She was pleased to announce Ecology is granting Tacoma approval for their TDG Monitoring Plan (due to new 749' elevation operating plan). She will send the approval letter out today. There was great rejoicing! She screen shared a July 2021 Google Earth map of Kosmos showing the temporary cap that was installed two years ago. Kosmos has two actions with Ecology, toxic cleanup and water quality. There is the Toxics Cleanup Program (TCP) that defines certain protocols for cleanup actions. And since there was a water quality concern, this action is being run through the Water Quality Certification requirements for water quality sampling. She showed a map of the area of concern. Currently, she and Matt Peter are

evaluating which parameters / contaminants of concern no longer need to be monitored. Tacoma is still working on determining the extent of the contamination, but people, including fishermen, should stay away from this area of concern. Matt expressed much appreciation for the hard work and teamwork with Ecology on this project. Tacoma had a lot of clean-up to do, including things that hadn't been done very effectively in the past. He celebrated. Carol agreed, noting that in the past, Tacoma hadn't been getting consistent messaging from Ecology. That changed with Carol at the table!

In response to a question by Jack about the source of the pollution at the site, Carol explained the site had been a railroad and a railroad roundhouse. Many sins in the past, such as using motor oil as a dust suppressant ended up under water. When the water level is up, it holds everything underground in place. The lower water level (per the new operating regime of 749') loosens up the rocks and cobbles and old pipes create preferential pathways for, in this case, releasing a Bunker C-type of oil. Carol is pleased Tacoma has been able to use their own accredited lab to analyze the water samples which can be an expensive process. This area is closed to angling, though fishermen have been pulling down the signs and also go around the barriers and the gates. Carol noted that every time she's been at the site, there have been one and up to three people there fishing.

Downstream Adaptive Management Technical Work Group

Presenter: Matt Bleich

Matt reported this group has been discussing the recommendations for improvements to the Mayfield downstream collector and will present an alternatives analysis on this at the January FTC meeting.

Cowlitz Falls Collector: The group discussed five recommendations and next steps which will also be discussed at the annual meeting with LCPUD as partners on the dam to coordinate operations. By December 31, LCPUD will send list of their operation and maintenance schedule to Tacoma who will see if they can implement the recommendations. Tacoma will then come back with a recommendations for the FTC. Matt is hoping to be able to have it in a DD in the near future. Stay tuned. Tacoma should know by January 30, if it will be feasible to conduct acoustic telemetry studies in 2022 re spring Chinook use of the entrance to the collector.

They conducted block operations through the month of October. For the last few years, they operated through end of September. Collection is continuing later into the fall, and we are still seeing Spring Chinook. There is a need to coordinate with LCPUD on this, as they hope to conduct block ops during that time if that would not interfere with LCPUD operations. The DD for this will be reviewed at the January FTC mtg or via email after and a vote is likely to occur prior to the February meeting.

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

LCPUD Dam Operations

Presenter: Russell Page

Russell reported that during the recent large flood event, they had 55K cfs coming through the dam. They drew down the reservoir using the sluice gates (and were thankful they closed afterward). The flood brought a lot of muddy debris down, which, if not addressed could block their units. Dealing with this has consumed 100% of their efforts since then.

The last time they performed a cross section of the reservoir was last summer. Russell estimated they will do a more in-depth survey of the reservoir in front of their dam up to the first turn. They need to clear large piles of debris under their boat barrier, etc. They will do a standard cross section this summer (June-July).

FHMP Transition Plans

Presenter: Matt Bleich

The FHMP submitted to FERC in October of 2020 noted our intention to complete three transition plans in the first year and the fourth the following year. Matt explained that over the course of the many transition plan workshops, everyone came to realize that it was going to be more effective to do all four at the same time. At this point the steelhead, coho, spring Chinook and fall Chinook Transition Plans are essentially complete. Tacoma notified FERC of this change in plan (pun intended) resulting in completion on all plans well ahead of schedule. Matt acknowledged the important work Phil and John did in going back over all the plans to ensure alignment and consistency.

The FTC comment period on the plans ends on December 29. After comments are addressed, there will be a special meeting with the public to review the plans that will subsequently be sent out for public review. A bio-programming analysis led by Eric and Brian will be completed prior to that public meeting. This analysis will ensure all recommendations fit within the facilities and any decisions that need to be made in this regard will be brought to the FTC and also the public. The original schedule showed the public meeting in January. Due to the bio-programming analysis, the public meeting will now likely be in February or March. Matt thanked everyone who has participated in the workshops, and he looks forward to implementing the significant positive changes in the plans.

CRR Fund / Habitat and Production (HAP)

Presenter: Travis Nelson

Travis reminded all that Tacoma is very pleased to have reentered into the agreement with the Lower Columbia Fish Recovery Board (LCFRB) to administer the CRR fund on the habitat and production-related projects. The FTC last month approved funding for the Cispus Floodplain Reconnection Project sponsored by the Cowlitz Indian Tribe (a design-only proposal). Travis and Melora recently visited the site of the Yellow Jacket Creek project that was the first CRR funded project approved in 2019. It's great to see good things happening on the ground and we're off to a great start for 2022. Tacoma is continuing to work through the guiding principles for the HAP projects that will be coming up. To this end, they are asking FTC members to provide folks from their organizations with hatchery expertise to serve on the subcommittee that is soon to be formed.

So far Habitat project applicants are pretty much the "usual suspects," though Tacoma is planning to reach out to some of the community groups to provide better visibility for the program. Steve reminded folks that their grant round just opened on December 6. He also reported the hyperlinks are not currently active on the LCFRB website. Steve also announced they will be providing free consultation on proposals for any sponsors that want to come in from December 7 - February 1. Preliminary applications are due March 1. So far, the LCFRB has had three interested sponsors come in for pre-proposal discussions. This is

very encouraging. Steve also noted some of the sponsors are very short-staffed. He said the LCFRB is happy to help work through the application process.

Travis thanked Steve and notes this is a great opportunity for the utility and for the LCFRB to collaborate to make some restoration efforts happen in the basin. Stay tuned – good things are coming!

Action Item: All - Email to Travis and Melora which hatchery experts from your organization will become members of the HAP Subcommittee.

Topics for January 4, 2022 FTC Meeting

- Debrief of December 7 Public Meeting
 - Review of Protocols and 2022 FTC Work Plan
 - Updates incl. Hydro Ops, Water Quality
 - LCPUD Dam Ops
 - Fish Facilities incl. Barrier Dam Project overview
 - Satellite Rearing DD (?)
 - Downstream Adaptive Mgt. TWG
 - Alternatives analysis for improvements to Mayfield Collector
 - FHMP Transition Plan Update
 - Satellite Rearing Program
 - CRR Program
 - M&E Subgroup
 - Marking Strategies
 - Gravel Augmentation Timeline
 - Preview February 1 FTC Meeting topics
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Public Comment Session (*FTC responses appear in italics.*)

Larry: Are the effects of climate change (how it can impact upper river and hatchery management) being addressed through adaptive management?

Josua: Currently the NOAA stoplight chart with ocean conditions data is used for tributary forecasting in the Columbia Basin and coast wide. It is also discussed in North of Falcon. This document will be an attachment to the WDFW tributary forecast. Climate Change does get included. John: WDFW worked with USGS on a paper that incorporated University of Washington climate change projections for the upper Cowlitz basin. These projections anticipated less winter snow and more winter rain on the Cowlitz in future decades. Having large reservoirs may mitigate this effect somewhat in the lower Cowlitz River.

Larry: On November 20, I stopped by the trout and salmon hatcheries and noticed formalin being pumped into the intakes. Turbidity was high that day. Any losses associated with high water?

Sam: Formalin is often used as a preventive measure when getting ready to move the steelhead out to the lakes. It is required to get parasites off the fish. The hatchery crews did an 8-hour low-dose treatment every other day for 10 days – aimed at the free-swimming parasite. There was little to no associated fish loss. Treating the lakes is really difficult. It is much more effective to treat the raceways. The treatment is not necessarily connected to high water. Chris noted when he worked at the Leavenworth National Fish Hatchery, they raised 1.2 million Chinook. They found formalin to be an effective treatment to treat the tomites stage of development of the Ichthyophthirius (“Ich”) parasite.

Eric: By the way, the new ozone system did great even in turbid events.

Larry: As a fisherman, I am concerned with adult returns. Wish we had adult return goals.

Bryce: Correct. Typically, the FHMP and APR process is focused on juvenile production. We are talking about ways to quantify targets for upstream escapement needs. Habitat / management decisions based on SAR analyses. Not formally changing management to directly address adult run goals, are looking to this affecting management decisions in the future.

Jack: Was changed from adult goals to juvenile production because outside fisheries affected adult returns. That was beyond the scope of Tacoma. Most fair way to get to a goal may be on CWT overall survival numbers.

Larry: Supplying broodstock: Any distinction? Timing? Big fish to big fish? Just numbers of fish?

Phil: When looking at integrated, NOR, etc., they aren't doing any big fish/small fish

selection. Eric: We don't select for physical attributes other than jack vs. adult. We look at timing to represent run timing sufficiently.

Larry: Need to discuss anti-predatory practices to help with return goals. Don't release when pike minnow are spawning. Release during outbound tides, etc. Fish move under turbid events. Keep that in mind when doing releases.

Eric: Happy to discuss this further with Larry. The current strategy is volitional for all species for as long as possible.

Jack: Mayfield and fall Chinook: Morts were reported to be fall Chinook. How can we know that with 55% Collection Efficiency at Cowlitz Falls? Jack has repeatedly asked for genetic analysis of morts. He believes the morts are spring Chinook rather than fall Chinook.

Matt: Happy to discuss this further with Jack.

Phil: Most fish coming through are zeros.

Jack: Thinks they are spring Chinook zeros that resided up in Riffe and have passed through to Mayfield. The nematodes, and other parasites are having their way with them.

Matt: A prior evaluation says spring Chinook are unlikely to make it from Riffe to Mayfield.

John: The USGS did a tagged study. Spring Chinook juveniles that passed Cowlitz Falls in July and August were still in upper end of Riffe Lake until their batteries died, several months later. The FHMP transition plan calls for coded wire tagging Chinook juveniles collected at Mayfield Dam. The aim would be to start tagging in April 2022. This should sort out the issue clearly when these fish return starting 2025/26. Genetically, the difference between spring Chinook and fall Chinook may not provide a clear result.

Jack: If they arrive in May and hang out in barrier dam pool until early September, they are counted as fall Chinook.

Matt: Spring and fall Chinook broodstock can overlap sometimes. Carcass tagging may provide more information. We hope to get all the marking strategies sorted out by this spring.

Dan: I'm still upset Tacoma Power doesn't offer decent forecasting of dam openings – it's ridiculous.

Travis: Happy to follow up with Dan on this.

Dan: Our smolts are being eaten by the cormorants and other birds. In mid-May, the 300+ Cormorants that had been hanging out at the Lexington Bridge suddenly left. It would be interesting to know why. Normally, there are 100s of hatchery fish at that location. They may have been coming up from Idaho.

Randy: It would be good to have a joint study with NOAA, Tacoma, and WDFW on the bird predation problem. Pikeminnows are also predators of concern. I've caught several of these over the years. It doesn't matter how many fish you produce if they don't make it to the ocean. There has been a serious loss in summer run steelhead.

Bryce: There is good awareness in the resource agency community about the issue of predation. Avian predation issue has been elevated – especially at the Astoria Bridge. These are under federal management. Coordination and cooperation with Federal agencies is ongoing. Bryce will follow up.

Randy: Pikeminnow are being caught on the Columbia and being turned in for the money. Could the FTC Partner with BPA on this? Link to 2021 Northern Pikeminnow Sport-Reward Program: <https://www.pikeminnow.org/>

Bryce: Reminded all that pikeminnow are a native species. The BPA program on the Columbia is designed to reduce the abundance of larger pikeminnow that eat smolt. This can be prioritized through the M&E Team.

Larry: There are other places with community groups reporting on predation (e.g., seals) – lots of community involvement – people reporting what they see. Consider this when timing your releases.

Bryce: Oregon has rolled out a public reporting tool. WDFW uses a similar tool for wolf sightings, etc. They have hired some new folks for pinniped predation issue. There isn't a tool for avian reporting. DFW knows something about the timing and movement of the cormorants. Much of this is driven by food source and nesting periods. Bryce will follow up with more information on this.

Larry: Why aren't all FTC meetings open to the public? Would combat the perception that they are secret meetings.

Travis: These mtgs are not required to be public. On a journey here - doing them quarterly now. The public does have access to the FTC meeting notes.

Larry: There are five voting members of FTC, with no representation from sports fisherman community. There are certainly more than five people who regularly attend the FTC meetings. Why not anglers also? They feel excluded.

Travis: Attendance and participation in the FTC meetings is dictated by the terms of the Settlement Agreement. In addition to opening FTC meetings up to the public on a quarterly basis, Tacoma is committed to continue outreach to the fishing community in other venues as well.

Meeting Evaluation

- Everyone was respectful of each other's time
- Good exchange with the presenters
- Good turnout
- Appreciate the input from the public
- Let's try a hybrid meeting – with some of us attending in person
- Good presentations
- Time was used well
- Got out on time
- We have funded our second CRR project.
- Josua's Quote: "Never doubt that a small group of small, committed citizens can change the world. Indeed, it's the only thing that ever has." – Margaret Mead

- “Set scales back 10 lbs. for the holidays.” – Buddy Rose
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Closing Remarks

Travis thanked everyone for attending the meeting today and for demonstrating respectful interactions and listening to each other with an intent to understand. He acknowledged this has been a very strange and stressful year. All of us are suffering different types and levels of loss. He thanked everyone for all they have done despite this and wished everyone and their families a wonderful holiday season!

Parking Lot

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