

**Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Final FHMP Meeting Summary
January 4, 2018 from 9:30 – 11:00AM**

Attendees:

Travis Nelson	TPU
Michelle Day	NMFS
Paul Sparks	WA Council of TU
Carol Serdar	WA Dept. of Ecology
Jim Pacheco, by phone	WA Dept. of Ecology
Laura Bouchard	LCPUD
John Serl	Tech Rep for WDFW
Sam Gibbons	Tech Rep for WDFW
Peggy Miller	Tech Rep for WDFW
Eric Shoblom	Tech Rep for TPU
Florian Leischner	Tech Rep for TPU
Matt Bleich, by phone	Tech Rep for TPU
Tim Hoffnagle	Tech Rep for TPU
Chris Foster	Tech Rep for TPU
Phil Sandstrom	Tech Rep for TPU
Ann Weckback	Lewis County / Tech Rep for TPU
Amelia Johnson	LCFRB / Tech Rep for TPU
Rudy Salakory, by phone	Cowlitz Indian Tribe / Tech Rep for TPU
Lyn Wiltse	PDSA Consulting / Facilitator

Future FTC Meetings 9:30-3:00 at Cowlitz Salmon Hatchery (unless otherwise specified)

Feb. 6, Feb 9 (Hold in case this is needed as determined at Feb. 6 meeting.), Mar. 6, Apr.3, May 1, June 5, July 10 (2nd Tuesday), Aug. 7, Sept. 11 (2nd Tuesday), Oct. 2, Nov. 6, Dec. 4

Announcements

- John announced that the new WDFW Regional Fish Program Manager is now Bryce Glaser. He has considerable experience in the basin and is looking forward to the challenges of this new role. Tom Wadsworth will continue to be the WDFW representative to the FTC.
- Hydro Operations Update: Florian reported that Riffe Lake is at 722'. They anticipate the elevation to drop over the next week. Inflows in November were high, low in December and daily inflow as of yesterday were at 10,070 cfs. Snowpack is around 90% of average. Downstream of the project flows are 10-12K cfs. On November 27, 2017, FERC sent a notification to TPU with new reservoir elevation requirements. TPU plans to rebuild a boat launch that would be usable at lower elevations this winter. Carol asked how these would affect the newly planned boat launch as the existing boat launches are inaccessible.
 - **Action Item:** Florian: Follow up on the specs of the boat launch and send out update to all.
- Status of Watershed-Level Group Initiative: Travis reported that Keith and LC Commissioners have discussed this concept and the Commissioners have indicated

interest in hosting such a non-regulatory forum for interested parties to come together to discuss issues of common concern. While the concept is still in development, it may be launched later this year. Paul observed that such a forum may intersect with the CRR and how he would like input into that relationship and hoped the group would have a proactive focus. Florian suggested the Nisqually River Council may be a good model for what this may look like. Travis will continue to keep us informed.

- **Hooking Mortality Study:** In response to Paul's request for an update on what is being learned by this study, Phil explained that data relating to this study are posted on Mt. Hood Environmental's website. The data are very preliminary at this point. John gave Paul the website link and contact information for Thomas and Ian I, so he can follow up with them directly.

Gravel Placement

Presenter: Florian Leischner

Florian reminded all that the goal of this 2004 Plan was to augment spawning gravel below the Barrier Dam to enhance salmonid habitat in the lower Cowlitz. The source of the gravel was to be just upstream of the Barrier Dam. The plan was to dredge 500 cubic yards from upstream of the Barrier Dam and to create self-recruiting mounds for downstream. Instead, they used washed and drained gravel from a gravel mine. They started this augmentation in 2006 and stopped in 2013 as they were not getting recruitment. They then doubled up in 2015 and 2016 to make up for the lost years and, with support of the FTC, skipped 2017 placement so a more effective deployment would take place this year. The plan also outlines how to monitor the project at eleven sites (on average one/mile) for ten years.

From 2004 -2014, TPU did sub sampling at each of the sites (between river mile 40 and the Barrier Dam). They would have needed a backhoe to get a statistically significant sample because of apparent surface armoring. Data indicate very little gravel movement in the Cowlitz for those ten years. The movement only occurs at the gravel site and the gravel bar immediately below. Site 3 and 10 had the steepest decline in gravel size. We need to get the gravel away from the bank and into the thalweg. The plan is to utilize the DNR road once it has been rebuilt for the Barrier Dam repairs.

Discussion: Maybe create a gravel bar in a place where there wasn't one before. We may want to consider expansion in consideration of handicap and boat launch access. We want to encourage hatchery salmon spawning, through treatment of the upper 11 miles. Are we making the best use of existing technology to track changes in the gravel flow? What is the point where we are recruiting a sufficient amount of gravel from natural bank erosion? We see this from the banks after river mile 40. Where do we get the most bang for the gravel placement in terms of spawners? How does the considerable amount of traffic on the river affect this? Should we consider banning jet boats at lower water levels? Can we move the existing pile over to the other side of the river where it can recruit more effectively? With the higher flows, perhaps we can get more recruitment from the existing pile (20-30K cfs). So far 28K cfs has been the highest in the last few years. Can they use some of the gravel from some of the side channels which have become inaccessible? Using those spoils as augmentation in the river might work out to be a win-win. Is TPU monitoring the gravel bar the Cowlitz Tribe

built at Otter Creek (site 10)? Carol reminded all that a Water Quality Protection Plan is needed for any of this work as part of the Water Quality 401 Cert for in-water work on the Cowlitz.

TPU is paying DNR to work on the Barrier Dam road access / easement. This was expected to occur 18 months ago. They hope to have an update on this in the next few months, in concert with the design for the Barrier Dam. Matt assured all that he is keeping Ed Meyer (NMFS) in the loop.

Next Steps include coming up with a plan to treat the existing big pile of gravel, refining future placement methods and possibly expanding the number of locations to disperse the 1,000 cubic yards of gravel this year. Florian wants to get at least three additional locations going. He is considering DNR land barrier, private lands / communities, HAG properties, and/or partner lands. TPU is close to filling Kristen's position and that person will be tasked with working on this and bringing specific suggestions back to the FTC in the March timeframe.

CFFF Update

Presenter: Eric Shoblom

Eric reported that TPU has taken the lead in operations from WDFW this year and this will be their first season leading the operations there. He showed us before and after construction photos of the Northshore collector. He reminded all that the purpose of remodeling the fish facility is to be able to effectively handle an increased number of smolts. He showed schematics of the planned remodel. The adult handling area will be covered, and the compressor will be upgraded. There will also be a new three-story office building with a bathroom, shower, lunchroom, and locker room with space for storage.

The adult handling modifications include a hopper area for the adults where they can be lifted and sorted with electro anesthesia gloves (DC current). They will also have the ability to move the fish without handling them. There will no longer be a need to use nets. They will add overflows (in case of emergency) and rotating screens to the troughs. They will make some flume modifications. There will be a Vaki fish counter that can count into each of the six raceways. They will consolidate the sampling table into one horseshoe-shaped table with modular work stations. They will have recovery tanks to help identify tag retention and isolate small groups for mark-recapture. The transport hopper will be a large vault that can be lifted out and transferred onto a truck.

Matt assured everyone that they will be creating an operations manual that will show protective redundancies as they come up to speed on the new equipment / structure.

TPU just received all the bids for the construction contract. They will finalize contractor selection by the end of January. They plan to have the facility operational by the end of 2019. There will be temporary facilities set up (beginning in February) for the fish in the interim, so as not to impede functionality during the fish season.

There will be electrical and plumbing upgrades to the raceway system along with flumes that allow for shifting from one raceway to another. There will also be a new vacuum system and

the capability to shift into a recirculation mode temporarily without running into any water quality issues.

They are adding a spring water supply to the hopper, so they can cool the water (in accordance with NMFS guidelines). This will also speed up the trucking process. Carol asked about who is applying for the Construction Stormwater General Permit. TPU will follow up to ensure that everyone understands this is the responsibility of the General Contractor. Carol expressed concern about the close proximity and discharge of turbid water. TPU is planning for asphalt and drains. Carol suggested they do this sooner rather than later.

There aren't plans for a pollution abatement pond in the case of rearing fish at the facility as only a potentially small number of fish might be reared there briefly during the winter when the fish are in a low metabolic state.

Temporary Sampling facility: The flumes will be modified in the interim to bypass the facility. The new sampling troughs have an increased capacity and can be routed directly into a raceway. The fish would come out to a sampling table on the floor of the raceway and then go into holding troughs if the hopper is full or if the trucks can't keep up.

The plan for tagging the fish that have been sub-sampled has yet to be worked out. There will not be much more capacity for CWT.

They are working with HDR on the Trout Hatchery Master Plan. Carol observed this will likely require permitting. Eric agreed and said they would be proactive in seeking the necessary permits once the Master Plan is finalized. At this point, they are not even sure if they would be constructing raceways or circulars. After they finalize the plan, they will identify construction phases and work on associated permitting. They hope to break ground in 2019.

TPU will continue to provide updates on CFFF remodel and the Trout Hatchery at future FTC meetings.

M&E Work Group Update

Presenter: Phil Sandstrom

Phil reported they are focused on getting an accurate number for winter and summer-run steelhead that will be produced and exit the Trout Hatchery. He commended WDFW for doing a great job of partitioning the fish. They are now working on starting a PIT-tagging study. They will do a second round of tagging next week, allowing them to estimate a mortality rate. They are getting buy-off from NMFS on the release window. Task orders are in place and WDFW is doing a good job of monitoring. Stay tuned for further updates.

CRR Fund Update

Presenter: Florian Leischner

Florian reminded all that this subcommittee met immediately following our January conference call. He was happy to report that NMFS has approved the Plan to Abandon Volitional Upstream Fish Passage. This means that this group can move forward, assuming FERC

approval. They would start with the habitat assessment that was in conjunction with the LCFRB. They will meet for a few minutes immediately after this meeting to discuss moving forward. Peggy suggested that TPU's letter to FERC be specific about which plan is fulfilling which requirement.

Amelia sighed as she reported Washington State is still without a capital budget. At the SRFBD meeting on December 7, they discussed how to proceed with projects statewide. Our project has been approved for funding, but the funding has not been released. There are hopes that a capital budget may be approved in March. There is no clear sense of when the funding might be distributed.

2016 FHMP Process Update

Presenter: Travis Nelson

Travis explained that TPU is working through an internal draft of a species strategy. He reminded everyone that the five elements called for in the license will be included for each of the stocks.

Meta population refers to same species, different locations. Amelia reminded all that Lower Cowlitz populations are distinct from Upper Cowlitz populations. Travis assured everyone that this process will be carefully vetted with everyone in terms of consistency and completeness. There will be swim lane life cycle models for every meta population.

Suggested Changes to Salmon Life Cycle

- Change "Transported above Mayfield Dam" to "Transported above dams"
- If you are going to have a truck going up, show a truck also going down.

The Big Table has ~150 rows that include detailed information about each species in terms of managing it. This will be an appendix to the FHMP. There will initially be a lot of blanks in this data table for each of the stocks. They plan to indicate the ease with which each piece of data could be acquired, using a red, yellow, green, color schematic.

In the body of the document, for each species, there will also be a condensed table that shows the baseline studies needed. There should be no missing data in this condensed table. "Long term" goal will be what is in the Recovery Plan. The 6-year goal refers to the FHMP six-year goal. The FHMP should support progress toward the recovery goals as specified in the Recovery Plan.

Suggested Change to Condensed Table:

- Change "Long Term" to "Recovery" Goal
- Specify ending period for FHMP (6 Year) Goal

Phil explained how they plan to use a two-stage lifecycle model with slope and capacity. They will use the stock recruit curve to calculate population demography and make forward projections. It is a challenge to try to figure out capacity in a system where you are reintroducing fish. Each species chapter will include directed studies that are derived from the Big Table with data from the AHA / ISIT Model.

Keith is currently reviewing a draft version of a species chapter and it will be shared with the FTC as soon as that review is complete, aiming for our February meeting. Travis hopes to get

the draft chapter to all to review before they request of FERC another extension beyond the February deadline.

Peggy asked Travis if they could do a crosswalk to show that what was in the prior version of the FHMP is still included in the current version (e.g., what was in Chapter 3 is now in Chapter 6). Travis agreed that this will be done, and Phil assured her that it is everything from the old version plus... and that all five elements are present for each species. Paul requested that the “glossary” be expanded to include a broader list of terms to facilitate the review of the FHMP by lay people.

Action Item:

- Amelia: Send 6-year interim threat reduction goals outlined in the Recovery Plan to Travis.
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Meeting Summary Approval

We reviewed and approved the December 5, 2017 conference call meeting summary with minor edits.

Topics for the February 6, 2018 FTC Meeting

1. FHMP 2016 Process
 2. Brief updates on
 - a. CFFF
 - b. CRR Fund
 3. Set agenda for March 6, 2018 meeting
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Meeting Evaluation

- Great attendance
- Very informative PPT presentations
- Difficult to hear folks on the phone
- Next time have someone in the room restate the phone person’s comment or question before responding.

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Attendees:

Travis Nelson	TPU
Michelle Day	NMFS
Paul Sparks	WA Council of TU
Tom Wadsworth	WDFW
Laura Bouchard	LCPUD
Bryce Glaser	Tech Rep for WDFW
John Serl	Tech Rep for WDFW
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Future FTC Meetings 9:30-3:00 at Cowlitz Salmon Hatchery (unless otherwise specified)

Mar. 6, Apr.3, May 1, June 5, July 10 (2nd Tuesday), Aug. 7, Sept. 11 (2nd Tuesday), Oct. 2, Nov. 6, Dec. 4

Announcements

- Hydro Operations Update: Eric announced the Cowlitz River is at 14,000 cfs below Mayfield and snowpack is average. He also reported that Riffe Lake elevation is at 719' and inflows to Rife are at 13,600 cfs. Work on the boat launch should be complete by the end of the month. The swim beach should be complete in May (due to delays associated with permits).
- CFFF Remodel: Chris announced that things are proceeding smoothly with the remodel which will allow the fish facility to effectively handle an increased number of smolts. The demolition of the concrete pump back structure is complete. They are nearly finished with the rerouting of piping. Tanks are being delivered and retrofitted for use. Grouting and concrete work is also complete, so they can re-water the facility as needed. There will be additional updates at future FTC meetings.
- CRR Fund Subgroup: In Florian's absence, Peggy reported that this subgroup met since our last meeting and will meet again Feb. 15 from 9:30-12:30 at the Cowlitz Salmon Hatchery. All FTC members are welcome to attend. As there is finally a capital budget, Steve reported we can now go forward on the Upper Cowlitz Cispus Habitat Strategy. Florian is checking on the match issue (signed agreement between LCFRB and TPU).
- WDFW Hatchery Manager Positions: Sam has been promoted to Regional Hatchery Operations Manager and is now in charge of all hatchery operations in the region.

Congratulations Sam! The recruitment announcement for his former position (managing hatchery complex including Cowlitz Hatcheries) came out yesterday. The new person will report to Sam. If they get a strong candidate pool, they will begin conducting interviews in the next few weeks.

- Steelhead and spring Chinook returns: John reported that predicted spring Chinook to the Cowlitz is 5,100 (should be able to make broodstock goals). So far, 71 steelhead have returned and are at the cusp of getting started for winter steelhead for the year.
- Potential New Release Site on the Tilton: Travis will continue discussions with Florian on this. Tom is excited about the option of releasing fish at Cascade Aquaculture Facility as it may not require much development. WDFW is getting pressure from constituents on finding an alternative release location for NORs on the Tilton.
- Adaptive Management TWG: According to Matt, the Decision Document he mentioned at the last meeting may be sent out prior to our March meeting.
- Tilton River State Parks property: Tom will let Travis know who at TPU told Alejandro that TPU would pursue acquiring this land for development as an alternative release location for NORs. Stay tuned.

Trout Hatchery Bird Hazing Presentation

Presenter: Eric Shoblom

Eric presented a very informative PowerPoint outlining the lethally reinforced hazing program that has now begun after receiving approval from the USDA. Prior to 1981, WDFW hatchery personnel conducted lethal and non-lethal hazing at hatchery facilities. In 1981, TPU netted some of the ponds and USDA was contracted to do non-lethal hazing. The current structure was put in place in the late 1990s. In 2016, approximately 70% of the summer-run steelhead were lost (assuming all predation is based on summer-run ponds and acknowledging the high variance observed with the electronic counters). USDA increased hazing to all daylight hours, starting in December of 2016 and in 2017, they constructed additional deterrents, including shoreline nets (proving to be very effective against herons), exclusion fencing (buffleheads coming in through the top of the net and then unable to fly back out) and fishing line. In 2017, it appears that predation was greatly reduced due to hazing measures and releases were near the goal, however, the birds are strongly motivated by hunger and are very adept at getting around the hazing measures.

The long-term solution will be fully netting the ponds. In the short-term, the following alternatives are being considered:

- Lethally reinforced hazing (negative public response)
- Continue current program (may not meet release goals)
- Completely net ponds (strands resources given pending remodel)
- Raise more fish (too late and there are potential logistical and disease issues with increased production)
- New hazing techniques (already doing this)

The Master Plan, which incorporates long-term solutions, will be complete this August and the remodel is slated to begin in 2019. Eric expects to get the revised Master Plan from HDR this week. TPU will review it and send it back to HDR and then share details of the scope and

schedule with the FTC and build in a formal WDFW feedback loop into the process.

The lethally reinforced hazing focuses on removing the birds that challenge the deterrents. Their friends of a feather recognize the risk of death which is reinforced with pyrotechnics. Eric assured everyone that they are using proven USDA methods.

Eric concluded by reviewing the safety protocols which require checking in with the hatchery office and then letting USDA personnel know when leaving the area.

2016 FHMP Process Update

Presenter: Travis Nelson

Travis thanked everyone for weighing in electronically to approve the request for a one-year Extension of Time from FERC. He explained where Tacoma was with the internal review of the draft version of a species chapter. They are close to getting a good template together for the species strategies. He apologized that it wasn't close enough to share at this meeting.

Travis emphasized that they want the FHMP to present a clear and honest description of where we are with respect to each species and how to proceed toward recovery goals. And they want to do it in a way that is easily understood by lay people.

Discussion:

- Tom reported that WDFW has been waiting to receive the species chapters and the roadmap as to how to proceed with the new structure of the plan. They need to review those documents to see if they concur that a large-scale restructure of the document (vs. a simple update) is appropriate. A large-scale restructure will take a large amount of time and resources to complete, and we have yet to truly begin that process. The alternative to restructuring the document would be to update any incorrect/outdated information, change relevant dates, and submit the FHMP to FERC this year.
- Paul would like to see the document more suited for recovery (vs. hatchery programs).
- Steve reminded all that the Recovery Plan is structured where LCFRB relies on partners, including TPU, to work toward agreed-upon goals.

Travis thanked everyone for the honest and direct feedback. He is pushing hard to get the draft species chapter out for review as soon as possible. The function of the FHMP subgroup will effectively become the work of the FTC. He hopes the species strategy chapter can be released to the FTC in the next few months. He explained the roadmap piece would have to be done after that. Bryce expressed concern with this approach as it assumes that the restructure of the document will be supported. WDFW has very limited further resources to commit to an extensive FHMP rewrite at this time, especially considering the efforts that will be required as consultation on the Cowlitz HGMP begins with NMFS this spring. The consultation process will likely take several months and involve the same WDFW staff that will be working on the FHMP, as well as Tacoma Power staff. The results of this HGMP consultation may impact the FHMP, thus impacting any plans for restructuring the FHMP. Bryce thinks it may be prudent to just do a simple update at this time and after the consultation is complete consider more of a restructure the document (if needed) for the next FHMP update cycle.

Travis shared and discussed the latest version of the Big Table that he emailed out recently. This Big Table will be an appendix to the FHMP. It contains detailed information about managing each species. It shows the 5-year average, 6-year goal, and the "Recovery Goals"

(Steve suggested changing this to “Delisting Abundance Goal”). There will be a condensed table with the same number of columns and fewer rows for each species. The data in the table were stored in the ISIT Model in various spreadsheets in different locations.

Eventually, it would be nice to have something online that could be updated and accessed by the public. It would be helpful to include links and timelines for updates.

Travis walked through some preliminary figures related to the FHMP that Tacoma sent to the FTC prior to the meeting. WDFW suggested we may want to wait for in-depth discussions on these figures until further down the road in the process so there is more context, and that a decision about restructuring vs. updating the FHMP will have a bearing on what is discussed. Steve explained some concerns with the attachments viewed through the lens of the Recovery Plan. He suggested clarifying the charts, specifying where the escapement counts occur and articulating PHOS and other HSRG metrics such as PNI and delisting abundance goals on the graphs. What is the harvest rate relative to the overall population abundance in accordance with the specific harvest goals in the Conservation and Sustainable Fisheries Plan (on the LCRFB website)?

Discussion on Figure 1:

- Need to reverse “Transported” and “Documented/Presumed” and clarify these terms.
- Can we also show historic data?
- This is different from Recovery Goals.
- We want to display this so people will understand without getting confused and also clarify what is in these reaches.
- WDFW is in the process of clarifying the terms in the Co-Managers’ SWIFD (State-Wide Integrated Fish Distribution) database. At the end of the day, we need to ensure we are consistent with this.

Suggestions on the Salmon Life Cycle:

- Show the estuary before you get to the ocean.
- Show that recreational fishing occurs in the ocean too.

Meeting Summary Approval

We reviewed and approved the January 3, 2018 conference call meeting summary with edits from WDFW and Eric.

Topics for the March 6, 2018 FTC Meeting

- FHMP Process Update
- CFFF Remodel Update
- Lethally Reinforced Hazing Update
- D/S Adaptive Mgt. TWG
- New Tilton Release Site
- Trout Hatchery Master Plan
 - Scope and Schedule
- CRR Fund Subgroup
- Gravel Placement Update

- Set agenda for April 3, 2018 meeting
-

Meeting Evaluation

- Great attendance
- Good discussions – though painful at times
- Phone volume was still an issue
- Appreciate the coordinated edits for the notes

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Sam Gibbons	Tech Rep for WDFW
Peggy Miller	Tech Rep for WDFW
Eric Shoblom	Tech Rep for TPU
Kim Clark	Tech Rep for TPU
Florian Leischner	Tech Rep for TPU
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Announcements

- Florian introduced Kim Clark to the group as Kristin Williamson's replacement. She will be working on the CRR Fund, LWD, and gravel on the Lower Cowlitz. She will also focus on habitat and flow issues in Cushman and Nisqually basins. Welcome Kim!
- Hydro Operations Update: Florian announced the Cowlitz River dropped from 12K cfs to 5K cfs over a week's span. This has triggered the weekly "fish flushing flows" (starting today) until flows are back above 8K cfs. The reservoir is pretty low (694') for boat launch construction. They hope to keep at least at 700'. While the forecast shows little rain, there is ample snow pack (above 100% of average). Work on the boat launch should be complete by the end of the March and the swim beach should be complete by July 1.
- CFFF Remodel: Eric announced that the remodel is underway despite a 30-day delay needed to true up blueprints. This delay will not impact the overall schedule or how fish are handled. Eric reported being pleased with the contractor's work. Another contractor recently completed balancing testing with flows up to 750 cfs. There are insufficient inflows to allow them to test 1K. There will be additional updates at future FTC meetings.

- Trout Hatchery Master Plan: Eric reported that he is convening TPU personnel from a variety of disciplines to working with HDR on the best approach for the Plan. They are focusing on key issues such as how to best add capacity at the intake and choosing ozone over UV (given the turbidity of the Cowlitz), which will require the installation of a new generator. They are determining how this fits in with the Master Plan, which incorporates long term solutions. The Plan should be complete this August and the remodel is slated to begin in 2019.
- Coal Creek Site: Ann reported that Lewis County is performing a bank stabilization project there and Tacoma is interested in potentially adding a fish release site in the future.
- Barrier Dam Upgrades and the Road through DNR land: The design for these upgrades is scheduled to be complete by end of 2018.
- CRR Fund Subgroup: Florian reported this subgroup met on February 15 and is meeting again at the Cowlitz Salmon Hatchery immediately after this call. They are discussing how best to rank and evaluate hatchery related projects through the CRR process, as well as the LCFRB habitat strategy and assessment development. For the rest of this year they will focus on the LCFRB habitat strategy and materials necessary to implement another grant round.

Action Item:

- Florian: Talk with Travis about drafting a decision document that establishes the anticipated timeframe for the first grant round.
- Potential New Release Site on the Tilton: Eric contacted Cascade Aquaculture Facility a couple of times to see if they would allow us to release adult fish into the Tilton from their property. They responded with a firm “No!” and added that they didn’t want any fish released into the Tilton citing water quality concerns. Steve offered that Cascade Aquaculture has a mitigation agreement as part of the HPA for long-term use of the site and this agreement may include a clause about access to the property. Tom will look into this as WDFW and TPU want to find an alternate release site for NORs in time for the fall return.

In discussing other possible alternatives, Eric mentioned that the State Parks site will have to be a longer-term possibility as the contact person for that property continues to be out on extended leave. Florian explained that though the site is not ideal as it includes public access and would require a lot of work, TPU is prepared to take ownership of this property for fish release and habitat protection.

Other options seem limited as bridge sites are extremely steep on either side of the road and establishing a release site on private property is less than ideal. Bryce underscored the need for an additional release site as this represents a conservation concern for the fish (snagging issues, etc.). While TPU continues to work on the State Parks property as a long-term solution, there is a need to find a short-term solution in the next few months.

Action Items:

- Eric: Coordinate with Sam, Phil and Travis to discuss this issue before the next FTC meeting and explore alternatives.
- Tom: Research Cascade Aquaculture HPA Mitigation issues.
- WDFW Hatchery Manager Position: Sam reported they are still building a candidate pool - no interviews have occurred yet.

- M&E Subgroup: Phil reported that, due to scheduling conflicts, this group didn't meet in February. He is currently coordinating with WDFW to set up a meeting to discuss the Annual Report, protocols, and task orders.
- FHMP Process Update: On February 28, Travis sent out notification of FERC's approval of our request for a one-year extension of time for the FHMP Update. He explained that TPU has completed internal review process for the draft chapter template and will send it to Keith to review with the hope of distributing it prior to April FTC meeting. If the FTC has insufficient time (fewer than three weeks) to review the document ahead of time, TPU will introduce it at the April meeting and schedule more detailed discussions for a later date. Travis invited Rich to describe the interrelatedness between the NMFS HGMP consultation process and the FHMP. Rich explained that the HGMPs need to be consistent with the FHMP, specifying size of broodstock, release sizes, locations, etc. He will look to the FHMP to identify updated "bookends" of size of releases, etc., for each species. He noted that NMFS still needs to do ESA consultations for the Lewis and Cowlitz. Updating the HGMPs is a high priority for TPU and WDFW. Program changes may cause priorities to shift. Rich would like to see the finalized HGMPs (6-year perspective with short, mid, and long-term goals) by the end of 2018 and then start the 30-day public comment period in early 2019 and begin also to work on NEPA at that time.

Action Item:

- Bryce: Coordinate with Tim to include appropriate WDFW and TPU personnel to meet with Rich to work on timeline for HGMP submittal.
- Gravel Placement: Options will be presented at the April meeting.
- 401 Water Quality Certification: Carol requested time at the April meeting to discuss the importance of reviewing the 401 prior to doing any in- or near-water work. She needs sufficient notification of construction dates to she can coordinate the Construction Stormwater General Permits. Travis will review the 401 and follow up with Carol.

Meeting Summary Approval

We reviewed and approved the Feb. 6, 2018 meeting summary with edits from WDFW.

Topics for the April 3, 2018 FTC Meeting

- FHMP Process Update - Review Draft Chapter Template
- CFFF Remodel Update
- 401 Water Quality Cert
- Downstream Adaptive Mgt. TWG
- New Tilton Release Site
- Coal Creek Site
- Barrier Dam Road Upgrades
- Trout Hatchery Master Plan
- Lethally Reinforced Hazing Update
- CRR Fund Subgroup
- Timeline for Reinitiating Consultation for HGMP
- M&E Subgroup
- Gravel Placement Update

- Approve March 6 notes and set agenda for April 3 meeting
- Other?

Conference Call Evaluation

- Ran late - Allow 90 minutes for future conference calls
- Good discussions despite being on the phone and not able to read expressions
- Great attendance though we missed Michelle and Paul
- Appreciate WDFW's combined edits for the notes

**Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Final Meeting Summary
April 3, 2018 from 9:30 – 3:00PM**

Attendees:

Travis Nelson	TPU
Tom Wadsworth	WDFW
Michelle Day (by phone)	NMFS
Carol Serdar	WA Dept. of Ecology
Jim Pacheco (by phone)	Tech Rep for WA Dept. of Ecology
Rich Turner (by phone)	Tech Rep for NMFS
John Serl	Tech Rep for WDFW
Sam Gibbons	Tech Rep for WDFW
Peggy Miller	Tech Rep for WDFW
Eric Shoblom	Tech Rep for TPU
Kim Clark	Tech Rep for TPU
Florian Leischner	Tech Rep for TPU
Chris Foster (by phone)	Tech Rep for TPU
Ann Weckback	Lewis County / Tech Rep for TPU
Laura Bouchard	LCPUD
Steve Manlow	LCFRB / Tech Rep for TPU
Steve West	LCFRB / Tech Rep for TPU
Debbie Carlson	BPA / Tech Rep for TPU
Lyn Wiltse	PDSA Consulting / Facilitator

2018 FTC Meetings 9:30-3:00 at Cowlitz Salmon Hatchery (unless otherwise specified)
May 1, June 5, July 10 (2nd Tuesday), Aug. 7, Sept. 11 (2nd Tuesday), Oct. 2, Nov. 6, Dec. 4

Announcements

- Steve introduced us to Steve West who has recently joined the LCFRB. He has considerable experience in the basin and we are pleased to welcome him to the group.
- Sam announced that the new person to fill his old Hatchery Manager position will start tomorrow. The new manager is Brian Gale. We look forward to meeting Brian!
- Hydro Operations Update: Florian announced that inflow has been below average since mid-February (4,100 cfs). They are running at 5,100 below Mayfield. Once a week they are releasing an extra 1600 cfs for 12 hours to help provide fish transport flows. Riffe Lake elevation is at 693'. While snow pack is currently at 100% of average, the forecast predicts a 50% chance of refill. Work on the boat launch should be completed by Memorial Day. They are also working on access to the swim beach which should be complete by the first week of June.
- CFFF Remodel: Chris explained that the remodel is still moving forward. On May 1, they will move to a temporary sampling facility (which is 95% complete). They did a wet test without fish yesterday to check the plumbing. The Northshore collector was up and running as of April 1. There were some alignment issues. Two of the three gates are

operating. They won't spill anything over 500 cfs. The baseline operations for the Northshore Collector is 500 cfs. They wanted to see if the facility held up during those conditions. Some failure points were identified within the tailrace discharge gates. TPU worked with their contractors to balance at 750 and 1,000 cfs. This year they will be working at 500 cfs while they deal with the structural issues (at flows between 500 and 900 cfs) and the biological implications. The contractor will draft a report and next steps will be determined at that time. There will be additional updates at future FTC meetings.

- Trout Hatchery Master Plan: Eric reported that TPU has received the final scope for the Plan from HDR and they will be conducting some facilitated internal workshops, with a pre-workshop on April 17 and the first workshop on May 17. After the workshops, TPU will meet with WDFW to discuss workshop outcomes and recommendations. The Master Plan should be complete this August and the trout hatchery remodel is slated to begin in 2019.
- 401 Water Quality Cert: At our last meeting Carol requested time on the agenda for this meeting to discuss the importance of reviewing the 401 prior to doing any in- or near-water work. She reiterated that she needs sufficient notification of construction dates so she can coordinate the Construction Stormwater General Permits. Matt explained that TPU is working with Ecology on the Water Quality Monitoring Plan and they have hired a contractor to work with Ecology to update this plan for TDG monitoring for traditional vs. operational spill. He also emphasized that TPU is seeking to take a more proactive stance toward in-water work. Carol explained that the water quality cert is a requirement of the FERC license and the construction part has been most challenging. Water Quality Protection Plans are required for in- or near-water work (based on Water Quality Certification dated 15 January 2002). Often a Construction Stormwater General Permit is also needed, which requires time for processing. Carol expressed confidence in Matt Peter's understanding of these issues.
- New Tilton Release Site: The original plan was to look at the Tilton State Parks site with regard to a possible transfer of that property. Those discussions are continuing. As suggested at our last meeting, Peggy looked into the mitigation agreement that Cascade Aquaculture has as part of their HPA. It specified that they build a spawning channel which they have done. There isn't any language in the agreement that might require cooperation from Cascade Aquaculture to use their property as a fish release site for TPU. Tom explained that WDFW will continue to investigate this site, but we should focus our efforts on finding other potential release sites. Tacoma would like to find an alternative site. To that end, Eric and Jamie Murphy recently did some scouting and identified two additional potential sites, one of which looked like it would be fairly easy to drop a pipe onto. Jamie will be looking into both sites more deeply. Sam sent Eric the location of a third potential site to explore. Sam committed to investigate this site in the next couple of weeks. Tom asked about the process required to get an additional site operational for this year. A shoreline permit might be needed. Carol reminded all that Ecology needs to be in the loop based on in- or near-water work. There will be further updates at our next meeting.
- Barrier Dam Road Upgrades: The design for these upgrades is scheduled to be complete by end of 2018. Construction is not yet scheduled. There are no further updates since the last meeting.
- Watershed-Level Group: Travis announced that Keith met with LC Commissioner Gary Stamper to discuss this idea. There is a shared interest in establishing such a group. This

wouldn't be sponsored by TPU. It would include land owner and governmental entities as well. It was observed that there would be good synergy between this group and the Habitat Group. Ann explained that the County's interest with this group is focused on drainage, CZM, and erosion issues. This group would in no way compete with FTC interests. Travis will continue to provide updates on this.

Trout Hatchery Bird Hazing Program

Presenter: Eric Shoblom

Eric provided a brief update on this program which was implemented the first week of February (coinciding with smolt releases from the hatchery). So far USDA has indicated that as of Oct 1, they dispersed over 3,700 cormorants. Since March they dispersed only seven cormorants. They have stayed below the allowed number of takes of several species. The program appears to have been a success.

Action Item:

- Eric will check data on numbers of birds dispersed in March 2017.
-

Gravel Placement Update

Presenter: Florian Leischner

Florian explained that since the January meeting, they have been looking at the DNR site across the river where the current is stronger. During a visit to the site, they identified a good location – a side channel immediately below the first riffle that is activated at 8,000-9,000 cfs. They would place the gravel below that entrance. They are currently awaiting the completion of road reconstruction that would grant access to the site.

They also looked at a HAG property about four miles downstream as a possible gravel placement location. This would not be ideal as it would require construction of an access road and having to cross a major side channel. They are now beginning to consider private lands between the Barrier Dam and Blue Creek (closer to Barrier Dam would be most effective). The placement options currently being considered involve either pushing or shooting the gravel into the river. At this point, all options are still on the table. Sam suggested that tramways may be an effective method of placing the gravel. He also suggested doing an MOU with Jorgensen. Peggy reminded all that the PPT that Mark La Riviere presented on various options for gravel placement is a great resource and Paul said that Mark would be happy to talk with Kim and others to explain the history/background of this article.

Florian doesn't see the logic in adding gravel to the existing pile that is not moving. Prior to our next meeting he will draft a Decision Document to defer placement for another year until a more appropriate strategy is developed. Further discussion included whether there is a mechanical option to do something with the existing pile in the meantime and the importance of having a timeline (taking into account the amount of time needed for a USACE permit).

Action Item:

- Florian: Draft Decision Document to defer gravel placement for this year for review at our next meeting. Bring also a draft timeline with alternatives.

2016 FHMP Process Update

Presenter: Travis Nelson / Matt Bleich

Matt announced that he is assuming the Project Manager position on the FHMP. He further explained that TPU has taken a step back over the last week or so, to evaluate progress on the FHMP to date and how best to move forward. He displayed a Gantt chart showing a path to getting the initial conceptual phase in front of folks to get an understanding of the initial construct. He suggested that after that initial agreement on the structure, “we can hang ornaments off the tree from there.” Currently, TPU is working through the draft species chapter for coho. Matt thanked everyone for their hard work in getting the front end of the FHMP document put together. TPU is bringing in additional resources in the form of a consulting service to develop some of the graphs and figures for the chapter. Tim Hoffnagel will take the lead on authoring this document which will go through a couple of brief internal reviews before being released to the FTC on May 14. The chapter will start with a broad description of coho in the region and then go into distinct populations from there. Matt is hoping that, in reviewing the draft, folks can analyze and provide feedback on the structure and the flow at the June meeting. The high-level discussion in June would be around how well it tells the story. Discussion of the details of the content would come later. The aim would be to come away from the June meeting with an agreement on how to proceed with the document.

Discussion:

- Integration/alignment with the upcoming HGMP consultation – WDFW wants to see how the species chapter relates to the HGMP.
- Crosswalk with prior FHMP to facilitate FTC review – what transferred over and what didn't. Need to add development of this ‘roadmap’ document to the timeline.
- Timeframe – lack of support for yet another extension
- Need more time to get consensus on philosophy of the document before diving into review of distinct chapters.
- FTC needs the chance to weigh in on the content before getting a completed draft from TPU.
- Some FTC members still believe we should just update the existing FHMP rather than do a complete rewrite – the concern for this is the limited timeline.
- Species strategies: Hard to evaluate the sufficiency of the timeline without the big picture. (Matt is currently putting this together and identifying major milestones.)
- TPU feels like the HGMP document needs to be written simultaneously with the FHMP and is open to discussing how that will occur.
- Monthly meetings may not be sufficient to accommodate this process.

Matt thanked everyone and acknowledged the concerns. Matt explained this is one of TPU's highest priorities and they are willing to meet as often as needed in order to get the job done. He further reiterated that the first step will be, at the June 5 FTC meeting, getting agreement on the structure / how to tell the story. He will be seeking feedback on the organization and concepts. If there is a key concept that is omitted and thought of later, it can be added. He assured everyone that there would be ample time for subsequent reviews of a more technical nature. In the meantime, he is happy to hear other ideas on how to keep people more involved. He plans to go forward in the most collaborative way possible. Michelle agreed that she has

been pleased at the collaboration and opportunity to provide input in the past and she looks forward to working with Matt on this.

Matt committed to keeping this group informed every step of the way. At the next meeting, he will bring a more complete schedule. The sharing of this initial timeline was appreciated.

Action Items:

- Matt: Ensure the draft coho chapter is distributed by May 14 for discussion at the June 6 FTC meeting.
 - Bring a further developed timeline, incorporating discussion items, to next meeting.
-

HGMP Process Update

Presenter: Rich Turner

At our last meeting, Rich explained that the HGMPs need to be consistent with the FHMP, specifying size of broodstock, release sizes, locations, etc. Rich also said he would like to see the finalized HGMPs (6-year perspective with short, mid, and long-term goals) by the end of 2018 and then start the 30-day public comment period in early 2019 and begin also to work on NEPA at that time. Since that meeting, Bryce coordinated with Tim to include appropriate WDFW and TPU personnel to meet with Rich to work on a timeline for the HGMP submittal. TPU is putting together a team to focus on this, led by Tim Hoffnagle. WDFW is also putting together a dedicated team for this. More updates to come.

CRR Fund Subgroup

Presenter: Florian Leischner

Florian reported this subgroup last met on the heels of our March 6 conference call. They discussed how best to rank and evaluate hatchery related projects through the CRR process, as well as the habitat strategy and assessment development. For the rest of this year, they will focus on the habitat strategy and they plan to have an announcement for funding when SRF Board meets in 2019.

After discussion, the FTC agreed there was no need for a Decision Document to account for the delay in spending as FERC has not given their approval to go forward with this.

M&E Subgroup / Downstream Adaptive Management TWG

Presenter: Matt Bleich

M&E Subgroup: The main activity currently is around trying to get more effective counts out of the trout hatchery. As of this morning, fish were beginning to get released out of these ponds. TPU has been working closely with WDFW and contracting staff to get all of the various counters calibrated. They delayed the release by a day to ensure all systems were functioning properly. They will continue to monitor this vigilantly throughout the season.

Downstream Adaptive Management TWG: The collector is now on and the TWG has been discussing what the balancing efforts should look like. They are wrapping up the 2017 report

on collection efforts and beginning data collection for 2018. The 2017 report is being reviewed simultaneously by the TWG and TPU and will be out for FTC review by the end of this month.

Action Item:

- Matt: See that the report is sent out to the FTC as soon as possible.
-

WDFW Ad Hoc Group Participation

Presenters: Tom Wadsworth / Travis Nelson

Travis explained that, after years of discussion by the FTC, and Ad Hoc Group, and joint meetings of the two entities, he would like to see the FTC agree on an approach to give this a try. It is important to TPU, as a public agency, that the Ad Hoc Group has a voice in FTC conversations. The format, frequency, and ground rules for this is up to us to define.

Tom explained that the WDFW Cowlitz Advisory Group (aka the Ad Hoc Group) was formed by WDFW several years ago with the idea that it would help to develop the FHMP. WDFW met with the Ad Hoc Group in early-March to discuss a reset in an effort to bring about increased functionality. Ad Hoc Group members expressed interest in continuing the Group. WDFW and the Ad Hoc Group are in the process of defining a Charter for the Group, whether to have a Chair, and potentially adding additional members to the Group. Tom hopes these issues will be clarified in the next couple of months, after which he feels it would be appropriate to consider how the Ad Hoc Group and/or the public at large might participate with the FTC.

To support this discussion, Lyn sent out, along with the agenda for this meeting a two-page compilation of ideas by which Ad Hoc Group participation on the FTC might best be accomplished. She cut and pasted discussions of this from FTC as well as Ad Hoc Group viewpoints to facilitate this discussion.

Discussion included the following summary of options:

- Have all FTC meetings be open public meetings
- Include an Ad Hoc Group member as WDFW tech rep
- FTC meeting open to all Ad Hoc Group and/or members of the public, with official comment time
- FTC to periodically (quarterly?) open meeting to all

Action Item:

- All: Continue to consider this. Discuss with your organizations and come to the May meeting with an idea about how to proceed.
-

Meeting Summary Approval

We reviewed and approved the March 6, 2018 conference call meeting summary with minor edits.

Topics for the May 1, 2018 FTC Meeting

- FHMP Process Update
- CFFF Remodel Update

- M&E Subgroup
- Downstream Adaptive Mgt. TWG
 - Review of 2017 Report
- FTC and Public / Ad Hoc Group (1.5 hours)
- New Tilton Release Site
- Trout Hatchery Master Plan
- Trout Hatchery Hazing Update
- CRR Fund Subgroup
- HGMP Consultation Update
- Approve April 3 notes, update action items and set agenda for June 5 meeting
 - Review of Draft FHMP Coho Chapter

Meeting Evaluation

- Great attendance
- Good food and frank discussions
- Still love Matt (his shirt anyway)
- Phone audio worked well for those participating by phone
- Appreciate WDFW's combined edits to the notes

**Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Final Meeting Summary
May 1, 2018 from 9:30 – 3:00PM**

Attendees:

Travis Nelson	TPU
Tom Wadsworth	WDFW
Michelle Day (by phone)	NMFS
Carol Serdar	WA Dept. of Ecology
John Serl	Tech Rep for WDFW
Sam Gibbons	Tech Rep for WDFW
Peggy Miller	Tech Rep for WDFW
Brian Gale	Tech Rep for WDFW
Eric Shoblom	Tech Rep for TPU
Florian Leischner	Tech Rep for TPU
Phil Sandstrom	Tech Rep for TPU
Jamie Murphy	Tech Rep for TPU
Ann Weckback (by phone)	Lewis County / Tech Rep for TPU
Laura Bouchard	LCPUD / Tech Rep for TPU
Rudy Salakory (by phone)	Cowlitz Indian Tribe / Tech Rep for TPU
Everard Baker (by phone)	BIA / Tech Rep for TPU
Lyn Wiltse	PDSA Consulting / Facilitator

2018 FTC Meetings 9:30-3:00 at Cowlitz Salmon Hatchery (unless otherwise specified)

June 5, July 10 (2nd Tuesday), Aug. 7, Sept. 11 (2nd Tuesday), Oct. 2, Nov. 6, Dec. 4

Announcements

- Hydro Operations Update: Travis reported that inflows are currently at 8,200 cfs. Outflows are 6,320. Snowpack is currently at 113%.
- CFFF Remodel: Matt reported they have moved to the temporary sampling facility so as not to disrupt construction activities. Things are proceeding smoothly. They are also working on the building adjacent to the adult crowding area. The contractor will submit Phase 2 for the WQPP next week for the spring development.
- Trout Hatchery Master Plan: Eric reported he received input on a host of different options to be considered for the Cowlitz Trout Hatchery remodel from WDFW and TPU fish bios and engineers. Soon the Master Plan will be kicked back to HDR. TPU will conduct the initial internal 3-day workshop on May 17 to discuss such issues as circulars vs. raceways. After additional workshops, TPU will meet again with WDFW to discuss workshop outcomes and recommendations. After the major components of the Plan have been established, HDR will put together high-level cost estimates and begin working on a phase-in schedule, which will be rolled into the Master Plan. There will be periodic check-ins with the FTC all along the way. In January of 2019 they will replace both ozone generators with new state-of-the-art generators complete with redundancy systems. The first priority in the Master Plan is to begin modifying the ponds and water treatment system (possibly prior to the completion of the Master Plan).

- Tilton Release Site: TPU explored private property, State Parks, and DOT properties to find an alternate release site. Jamie explained that access is the biggest issue for the new site. Public ownership is preferable. The State Parks property has some drawbacks. It would require in the installation of a culvert, several hundred yards of road, and the removal of many trees to reach the site. The preferred site is DOT ownership at Bremer Bridge. The river at this point is conducive for fish release, even though the northeast side of the river is used by swimmers. The shoulder on the northwest side of the bridge is concrete, flat, and has a 6-7' drop to the river. Some saplings would need to be removed to reopen the existing approach and a new flume system is needed. Jamie will meet with DOT on May 14 to discuss the feasibility of this site. More to come...

Gravel Placement Update

Presenter: Florian Leischner

Kim Clark is no longer with TPU. Florian will keep us apprised of the process to secure her replacement.

A Decision Document to defer gravel placement for 2018 will not be needed at this time. The Decision Document approved at the Sept. 9, 2017 meeting reads: "Approve the postponement of the annual gravel augmentation until a different site and/or deployment strategy is developed. If this is not done by Dec. 31, 2018, then we will revert back to placement at the current location. The 500 cubic yards of gravel placement required for 2017 will be made up in 2018; therefore, the 2018 augmentation will total 1,000."

A plan will be prepared describing potential sites, gravel placement strategy and how the deferred gravel will be allocated. In the past when we skipped two years we made it up in the two following years.

Florian walked us through PPT Next Steps Part 2: Expansion of locations and the treatment of the big pile. Monitoring results suggest that gravel enhancement would benefit spawning salmon throughout the 11 miles – not just downstream from the barrier dam.

Discussion:

- The original gravel placement on the right bank was mostly a matter of convenience.
- We may not want to abandon the reach immediately below the Barrier Dam as a place to add gravel.
- Consider pushing out the gravel from the current location (geomorphologically, the gravel will likely move if put into the thalweg).
- If moved to the south side where there is more thalweg, the gravel would disperse more quickly and more evenly.
- We don't want to adversely impact TPU facilities (e.g., the ADA fishing site).
- The focus for Spring Chinook spawning habitat is the upper basin therefore spring Chinook should not drive the gravel placement decision.
- Placement of gravel in the stream will likely impact spawning in the immediate area, so it was suggested that gravel be placed in an area with high hatchery fall Chinook spawning (high pHOS).

- Don't wipe out areas where there is already good spawning habitat, especially where natural origin fish are already spawning.
- Spawning gravels have been blocked for 50 years so two years of gravel augmentation will not fix the long term gravel deficit.
- Consider mechanical means of distribution in the draft plan.
- Allow Stakeholders 30 days to review the plan

Next steps: Checking out other locations (private lands, communities, and partner lands). The FTC wants to resolve this sooner than later.

Proposed 2018 Schedule:

- June: Outreach to land owners
- July: Field visits and narrowing of options; cost estimates
- Aug: Present prioritized list to FTC
- Aug-Sept: Land owner negotiations
- Oct: Provide update at FTC meeting; draft designs
- Dec: Approve and finalize designs and Gravel Augmentation Plan

Action Items:

- Florian: Provide Michelle a map that represents the reaches in the 11 miles.
 - Travis: Send out Florian's PPT to all.
-

CRR Fund Subgroup

Presenter: Florian Leischner

Florian reported this subgroup last met immediately after our April 2 meeting. They are working on criteria for hatchery-related projects (out-planting of juveniles, rearing ponds, etc.). They will run the plan by the FTC for approval in August. The hatchery-related projects will go through a similar application process as used by the LCRFB but will be reviewed by the subgroup before FTC approval. They are in the process of identifying evaluation principles. The LCRFB has a SRFBRD grant to complete a Habitat Strategy on the Upper Cowlitz. Another CRR funded project involves spending 250K on data/information collection to assist with the LCRFB Habitat Strategy such as LIDAR and hydroacoustic monitoring. The subgroup will meet again after this meeting to discuss their work plan for the year.

2016 FHMP Process Update

Presenter: Matt Bleich

Matt projected an updated FHMP completion schedule. He reiterated his intent to distribute the draft coho chapter by mid-May for discussion at the June 5 FTC meeting. The focus will be on the structure, organization, and concepts. In response to the request for a crosswalk of the new document with the former FHMP, Matt will develop a list of items as a "crosswalk predecessor" that are not yet included but will be addressed in the new FHMP. He assured everyone that he does not intend to omit any content that was included in the last FHMP. He further explained that TPU is not comfortable adopting the 2011 FHMP with minor revisions. TPU wants the document to "tell the story" and be more understandable to a broader audience. Matt is also working to address the concern of how the FHMP will integrate with the

HGMP. While acknowledging the frustration of waiting so long for something to respond to, he hopes that the draft (coho) chapter and the “crosswalk predecessor” will provide a sufficient basis for initial feedback.

Responding to concerns about the schedule and how starting with steelhead might be a better template chapter to start with, Matt assured all that this is a fluid schedule and that there is room to hold additional workshops as needed.

TPU will be coordinating with WDFW regarding data inputs for another ISIT run in early June, in time for the annual APR (Annual Process Review) meeting which they hope to schedule around the Cowlitz Science Conference (June 21 or 22.) Stay tuned...

Action Items:

- Matt: Send out current draft spreadsheet of the schedule (which is certain to change).
- Matt: Ensure the draft coho chapter is distributed by mid-May for discussion at the June 6 FTC meeting. Communicate any deviation from this schedule ASAP.

M&E Subgroup / Downstream Adaptive Management TWG

Presenters: Matt Bleich / Phil Sandstrom

M&E Subgroup: Phil explained that they are currently working on finalizing task orders and are close to completing an internal copy to send to WDFW. Phil expressed appreciation to Sam and his crew as they near completion of the trout enumeration project. Most of the summer steelhead releases will be done by the end of this week. All fish will be released by May 21. They will focus on getting accurate release counts at the trout hatchery throughout the season. Phil asked for suggestions for topics as they plan to do quarterly presentations to the FTC. Next steps: They will present a list of topics for feedback from the FTC. Matt will integrate the M&E process into the FHMP.

Downstream Adaptive Management TWG: The 2017 fish passage report for CF Northshore Collector is nearly complete. Matt walked us through a PPT highlighting those results. He reminded all that this was the first season of operating and 2017 was a shakedown year due to collector construction and commissioning. Data were collected during that initial season, but 2018 and likely 2019 will serve as baseline years.

Goals include: 95% fish passage survival (FPS) or, if necessary, 75% FPS with “best available technology”. The TWG will determine what “best available technology” means if it comes to that. In the meantime, TPU is fully committed to 95% FPS.

Common problems included poor entrance efficiency, and an unattractive “front door” and temperature issues. A goal is to build a more attractive front door. In 2013 they switched from VIE tags to PIT tags to get away from certain biases associated with visual marks. Matt walked us through the trend data (FCE and FPS) for steelhead, coho, and Chinook. The Chinook showed the most improvements. The highest inflow and discharge correlated positively to Chinook FCE. Predominantly, fish are moving through the new collector versus the older collector (both were operated in 2017): 57% of the steelhead, 81% of the coho, and 97% of the Chinook. Temperatures at the entrance dropped when Unit 1 was not generating.

Directed studies for Chinook include temperature evaluation, etc. Other studies include evaluating efficiencies at the discovery, entrance, retention, and capture zones.

The Adaptive Management Plan includes a continual cycle of: Plan, Do, Evaluate and Respond. The intent is to “turn the dial based on the right information at the right time.”

Next Steps: They will repeat the same baseline and directed studies (for Chinook) as last year and will work through the Adaptive Management Plan implementation and the CFFF remodel.

Action Item:

- Matt: Send the report to the FTC as soon as possible.

Public Participation

Presenters: Travis Nelson / Tom Wadsworth

Travis acknowledged that there are many options for opening FTC meetings to the public. TPU sees this as a matter of *when*, not *if*. Paul offered (in writing prior to the meeting through Travis): to have an FTC meeting open to the public every 3 months, with clear rules of engagement, and Q&A period. TPU wants something in place by end of summer this year.

The WDFW Cowlitz River Advisory Group (CRAG) has expressed an interest in attending FTC meetings. Tom explained WDFW is in the process of planning another CRAG meeting for late May. This meeting will likely establish the future goals and direction for the CRAG.

The SA states harvest is to be supported but not at the expense of recovery. The SA states FTC reps are to be either an aquatic scientist or someone with extensive knowledge of the basin. FTC protocols don't include specific qualifications for technical reps but the SA directives for FTC reps could also be applied to technical reps.

Discussion:

- Consider 2-3 open public meetings
- Have the initial meeting in September timeframe
- Define and enforce clear rules of engagement and use current FTC meeting format
- Open time for comments or Q&A at the end of the meeting? Use 3x5 cards?
- WDFW is considering the option of a CRAG member being a WDFW Technical Rep at FTC meetings.
- Opening the meeting to “public” would allow participation from more than just the CRAG

Action Items:

- Tom: Send out CRAG Charter to all once it is complete.
- Travis: Will follow up with individual FTC reps to discuss this.
- All: Send possible ideas for defining a technical rep and also for rules for engagement

Meeting Summary Approval

We reviewed and approved the April 2, 2018 meeting summary with edits.

Topics for the June 5, 2018 FTC Meeting

- FHMP Process Update (bulk of the meeting)
 - Review of Draft FHMP Coho Chapter

- APR Meeting (June timeframe)
- CFFF Remodel Update
- M&E Subgroup / Downstream Adaptive Mgt. TWG
- Public Participation
- New Tilton Release Site
- Trout Hatchery Master Plan
- CRR Fund Subgroup

Meeting Evaluation

- Great attendance in person and on the phone
- Direct and productive discussions and still got out a bit early!
- Paul's input was effectively shared through Travis
- Appreciate WDFW's and Carol's edits to the notes and Missy organizing the food
- Work at keeping the meeting notes at a higher level

Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Final Meeting Summary
June 5, 2018 from 9:30 – 3:00PM

Attendees:

Travis Nelson	TPU
Tom Wadsworth	WDFW
Michelle Day (by phone)	NMFS
Paul Sparks	WA Chapter of TU
Rich Turner (by phone)	Tech Rep for NMFS
Bryce Glaser	Tech Rep for WDFW
John Serl	Tech Rep for WDFW
Sam Gibbons	Tech Rep for WDFW
Peggy Miller	Tech Rep for WDFW
Brian Gale	Tech Rep for WDFW
Eric Shoblom	Tech Rep for TPU
Florian Leischner	Tech Rep for TPU
Phil Sandstrom	Tech Rep for TPU
Chris Foster (by phone)	Tech Rep for TPU
Melora Shelton	Tech Rep for TPU
Ann Weckback	Lewis County / Tech Rep for TPU
Laura Bouchard	LCPUD
Debbie Carlson	BPA
Lyn Wiltse	PDSA Consulting / Facilitator

2018 FTC Meetings 9:30-3:00 at Cowlitz Salmon Hatchery (unless otherwise specified)

July 24, Aug. 7, Sept. 6 (1st Tuesday), Oct. 2, Nov. 6, Dec. 4

- **Action Item:** Travis to send Doodle Poll for July FTC meeting date (*Done*).

Announcements

- Florian introduced newly-hired Melora Shelton to the group. Welcome Melora!
- Hydro Operations Update: The hydrograph (emailed on June 4), shows the fish transport pulses (when below 8K). Yesterday the reservoir level was at 746'. Inflows are a bit below 5,000 cfs and outflows are at 5,100 cfs.
 - **Action Item:** Travis to send out hydrograph monthly along with FTC Meeting notes.
- Decision document for releasing surplus juvenile spring Chinook in the lower Cowlitz: This is time sensitive and were discussed during the last M&E meeting.
- Tilton Release Site: TPU is producing some drawings for the Bremer Bridge site to give to DOT to review. There will be an update on this at the July meeting.

Meeting Summary Approval: The May 1, 2018 meeting summary was approved with edits and will be posted to the public FTC website.

2016 FHMP Process Update

Presenter: Matt Bleich

Matt displayed the updated schedule, agreeing to build in some iterative concurrency to ensure adequate review time for all. Some chapters may be consolidated at the FTC's discretion. He explained that, based on FTC input, language on recovery (largely borrowed from WDFW) and on consistency with the HGMP was added to the first two chapters of the FHMP. Matt reminded everyone that the FTC is currently operating under the 2011 FHMP while reformatting the contents into the new/updated version. Acknowledging that many FTC members had not had sufficient review time to offer official / consolidated feedback, he asked them to brainstorm ideas in response to the following questions while Lyn charted responses.

1. What topics are most important to include in the FHMP Introduction and Basin Description chapters?
2. How well do these first two FHMP chapters introduce recovery from your perspective?
3. What concepts should be included in a graphic describing fisheries management in and outside of the basin?

Action Items:

- Lyn: Email FTC brainstormed responses to the above questions to Matt. *(Done.)*
 - Matt: Ensure the draft coho chapter is distributed by June 22 for discussion at the July FTC meeting. Communicate any deviation from this schedule ASAP.
-

M&E Group

Presenter: Phil Sandstrom

Decision Document 2018-2: Spring Chinook Overproduction Proposal: Members present agreed on edits and then approved this Decision Document to release surplus juvenile spring Chinook into the lower Cowlitz. Before the meeting ended Travis distributed it for final approval by this Friday (June 12 at the latest).

Public Participation

Presenters: Travis Nelson / Tom Wadsworth

Travis expressed appreciation for the fact that there is common agreement that it is important to open the FTC meetings to the public periodically, with topics of high interest to the public, and ground rules to structure public participation to ensure the meetings are respectful, transparent, and productive. Public meetings will occur in a location to be determined (not necessarily the Cowlitz Salmon Hatchery). As the highest priority for the FTC is the completion of the FHMP Update, the timeframe for initiating the Public Participation process will likely be this fall.

WDFW has committed to reporting back to the Cowlitz River Advisory Group (CRAG) formerly known as the Ad Hoc Group on FTC discussions. The CRAG meetings are open to the public and WDFW / CRAG will invite other groups such as TPU and NOAA to attend their meetings periodically to discuss specific concerns. Bryce emphasized that the CRAG is an advisory group to WDFW, representing the angling community. It is not an advisory group to the FTC.

Action Item:

- Tom: Distribute CRAG Charter to all once it is finalized. *(Done.)*

CRR Fund Subgroup

Presenter: Florian Leischner

Florian reported this subgroup continues to work on how to evaluate proposed hatchery-type projects and is close to finalizing the work plan for the next 12 months. Amelia announced the Upper Cowlitz-Cispus Work Group will meet June 19 at the library in Randle from noon-3pm for the LCFRB Habitat Strategy.

Downstream Adaptive Management TWG

Presenter: Matt Bleich

As they gear up for this evaluation year, they have hired Ian Coulter (Mt. Hood Environmental) along with Noah Adams (USGS) and are putting together goals for the year and will share those along with their work plan with the FTC.

Fish Collection: Chris Foster sends out weekly reports that characterizes FCE. Matt showed a graphic of FCE for the last 5 years, noting the current year is roughly in the middle of the prior 4 years. This “baseline” year, operations have been smoother with more consistent operations and fewer spill events.

Topics for the July 24, 2018 FTC Meeting

- FHMP Process Update (bulk of the meeting)
 - Review of Draft FHMP Coho Chapter
 - Comments on Chapters 1 and 2 (emailed to all on May 23)
 - M&E Subgroup / Downstream Adaptive Mgt. TWG
 - New Tilton Release Site
-

Meeting Evaluation

- Great attendance and productive discussions
- Editing of the draft decision document was collaborative
- Continue to work at keeping the meeting notes at a higher level

Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Final Meeting Summary
July 24, 2018 from 9:30 AM – 3:00PM

Attendees:

Travis Nelson	TPU
Tom Wadsworth	WDFW
Carol Serdar	WA Dept. of Ecology
Paul Sparks	WA Chapter of TU
Rich Turner (by phone)	Tech Rep for NMFS
John Serl	Tech Rep for WDFW
Sam Gibbons	Tech Rep for WDFW
Peggy Miller	Tech Rep for WDFW
Brian Gale	Tech Rep for WDFW
Mara Zimmerman	Tech Rep for WDFW
Eric Shoblom	Tech Rep for TPU
Tim Hoffnagel	Tech Rep for TPU
Phil Sandstrom	Tech Rep for TPU
Florian Leischner (by phone)	Tech Rep for TPU
Chris Foster (by phone)	Tech Rep for TPU
Melora Shelton (by phone)	Tech Rep for TPU
Ann Weckback	Lewis County / Tech Rep for TPU
Steve Manlow	LCFRB / Tech Rep for TPU
Laura Bouchard	LCPUD
Debbie Carlson	BPA
Lyn Wiltse	PDSA Consulting / Facilitator

2018 FTC Meetings 9:30-3:00 at Cowlitz Salmon Hatchery (unless otherwise specified)
Aug. 7, Sept. 6 (1st Thursday), Oct. 2, Nov. 6, Dec. 4

- **Action Item:** Travis to send out updated meeting invitations to all (*Done.*)

Announcements

- **WDFW HSRG Policy:** There was a brief discussion about this at the June Washington Fish and Wildlife Commission meeting where they decided to conduct a year-long review of the WDFW HSRG rule policy. During this review they will temporarily suspend principles 1-3 of the policy. Steve assured everyone that the LCFRB still intends to continue to operate within the HSRG rule set. Following a brief FTC discussion, it was realized that this action by the Commission will not impact the FHMP Update.
- **Cowlitz Falls Fish Facility:** Chris reported temperatures stayed at or below 20⁰ (Celsius). Average returns include:
 - Sub-yearling Chinook: 700 / day;
 - Sub-yearling Coho: 111 / week average;
 - Coho par: 606 / week;
 - Yearling Coho: 50 fish / day

Chris also explained some recent operational changes. On July 23, he received a call from LCPUD announcing that they needed to switch to spill operations to meet their

downstream MIF requirements. Until 3pm that day, LCPUD was currently spilling 520 cfs and TPU was spilling 500 cfs. Then LCPUD changed from spill gate 1 to spill gate 4.

- Downstream Adaptive Management TWG: Matt explained that they are wrapping up Steelhead and Coho for the year with 73% FCE for Steelhead and 80% for Coho. He explained it is too early to evaluate early trends for near-field behaviors. The TWG will meet tomorrow (July 25) to discuss this and also results from the balancing exercise. They are tracking more intensively the Chinook outmigration season – which was trending at a little above 70% until the recent spill event. Last year they wanted to modify the downstream MIF from 1K cfs to 500 cfs. Half of the spill flow bypassed fish so the 70% FCE will decrease until resolution reached with LCPUD which has authorization from FERC to operate from 1K cfs to 500 for 3-week period. TPU has offered to do what they can to assist LCPUD in changing their license to 500 MIF.
-

Meeting Summary Approval

The June 5, 2018 meeting summary was approved with edits and will be posted to the FTC public website.

2016 FHMP Process Update

Presenters: Matt Bleich and Tim Hoffnagle

Matt thanked everyone for their patience with the process of getting these initial chapters out for review. He especially appreciated the WDFW comments on the initial two chapters. He continues to appreciate additional feedback. TPU will address these comments in edits to these chapters as well as the related Coho Species Chapter.

Tim presented highlights of the content of the initial chapters released for review. This included past and current conditions in the Cowlitz Basin above the Toutle River, and shared goals regarding where we want to be (in terms of ESA recovery). He emphasized that the FHMP is not a recovery plan, it is a 6-year step towards recovery and the last piece is how we want to get there. It is helpful to flag inaccuracies to be addressed later. Monitoring and evaluation (M&E) goals and methods that support adaptive management will be a part of the FHMP.

Matt explained the M&E Subgroup is working on a marking strategy to come up with a recommendation of what might be more effective. They will discuss this with hatchery folks and ultimately present the FTC a draft decision document to review.

We discussed an overview of Chapters 1 and 2 based on the 13 general comments submitted by WDFW. The discussion was based around:

- Do Chapters 1 and 2 adequately introduce and discuss recovery from your perspective?

We conducted a brief discussion of initial impressions of the Coho Species Chapter. Tim described the topics included and how he tried to appropriately differentiate discussion at the species level, and the population level, to try to avoid redundancies. The discussion included:

- Anything missing or inaccurate?
- Does the Species Conservation, Recovery Goals, and Challenges section in this chapter represent a well-rounded overview of the Coho Salmon Program?

Next Steps:

Matt thanked everyone again and asked that they continue to work through the Draft Coho Chapter and get comments to TPU within a few days of that meeting (by August 2 if possible to allow TPU time to respond to comments at the August 7 meeting).

The focus of the August 7 meeting will be the Coho Species Chapter. In the meantime, TPU will work on developing the population subchapter but that won't be ready to share. Matt will be developing a revised schedule. TPU is in the process of hiring consultants to address comments received using a specific framework. They intend to define the process for the Chinook Salmon Chapter in early August for discussion at the September FTC meeting.

Action Items:

- All: Send any FHMP-related comments to Travis and copy Matt.
 - All: Be prepared to discuss the pros and cons of integrated Tilton vs. segregated Lower River Coho at the August 7 meeting.
 - Travis: Forward all comments received to the FTC distribution list.
 - Steve: Send Matt descriptive language for the relevant plans (1.4.1 and 1.4.2).
-

Hydro Operations Update

Florian reported that inflows are very low throughout western Washington. Riffe Lake is currently at 739' (10' below full pool for the last month). Flows today are 1,600 cfs compared to a July average of 2,400 cfs (60% of normal). He displayed a hydrograph showing flows dropping from 5K to 2,500 cfs since July 1 to accommodate boat launches and boat traffic.

Peggy reported she is anticipating a letter from LCPUD requesting a temporary reduction in the MIF. She will write her response in a way that would satisfy FERC. She would appreciate any feedback from FTC entities supporting the change. Carol noted that Ecology is waiting for TDG information. She and Peggy will discuss.

Action Items

- Travis: Send out hydrograph monthly along with FTC draft notes.
 - Peggy: Send out letter from Joe First, she will send it out right away and respond saying FTC members present at this meeting were in support of this action. She will also draft a decision document for discussion and review at our August meeting.
 - Rich and Peggy: Check with Michelle about her vote to support LCPUD's request for a temporary reduction in minimum downstream flow.
-

Gravel Augmentation

Presenter: Florian Leischner

Florian reported that TPU is looking for new site for gravel placement. They are also researching how to most effectively deploy additional materials on the other side of the channel from the existing pile. Their third area of focus is how best to mobilize the existing pile into the Cowlitz River. Paul suggested a 5" hydraulic dredge could be a way to expedite the dispersal of gravel within the Cowlitz River. Florian will present another update on this at the August meeting.

CRR Fund Subgroup

Presenter: Florian Leischner

Florian reported this subgroup continues to meet regularly and focusing on updating their charter and 2018-19 work plan. They are working on the hatchery-related project principles to finalize within the next month for non-habitat related projects that are hatchery related so would be evaluated by the CRR. Immediately after the next FTC meeting, they will meet with Sam and Eric to discuss the hatchery-related project principles to make sure the principles they propose are actually feasible.

They are also making sure they have all the correct information for the LCRFB for habitat-related projects. They are also working with the FTC-approved habitat assessment including hydraulic modeling and other assessments of the Upper Cowlitz to help project sponsors come up with projects that make sense as well as how to evaluate proposed hatchery-type projects.

M&E Group

Presenter: Phil Sandstrom

Phil reported that task orders have been agreed to. They are planning for quarterly presentations to the FTC, starting with the topic of trout counting at the August 7 meeting. They are open to requests for topics for additional presentations which they will integrate into their work plan. Phil invited anyone with specific questions to email him directly and he will do his best to see that M&E presentations are made on requested topics in a timely fashion. Eric noted that the Hatchery Operations Group also plans to begin doing quarterly presentations to the FTC.

Meeting Summary Distribution

Ann mentioned that a member of the public requested quicker turnarounds of the FTC Meeting Summaries. These are posted to the public FTC website when they are approved and finalized one month after each FTC meeting.

Topics for the August 7, 2018, FTC Meeting

- Usual Announcements/Updates
 - Review and approval of July Meeting Summary for posting to public
 - FHMP Process Update (bulk of the meeting)
 - Review / Discussion of Draft FHMP Coho Species Chapter
 - Next Steps
 - Public Participation Process
 - CRR Fund Update
 - M&E Subgroup Presentation
 - Downstream Adaptive Mgt. TWG
 - Hatchery Operations Group Presentation (?)
 - Gravel Augmentation
-

Meeting Evaluation

- Great attendance
- Appreciated Rich representing NMFS by phone
- Continue to work at keeping the meeting notes at a higher level

**Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Final Meeting Summary
August 7, 2018 from 9:30 AM – 3:00PM**

Attendees:

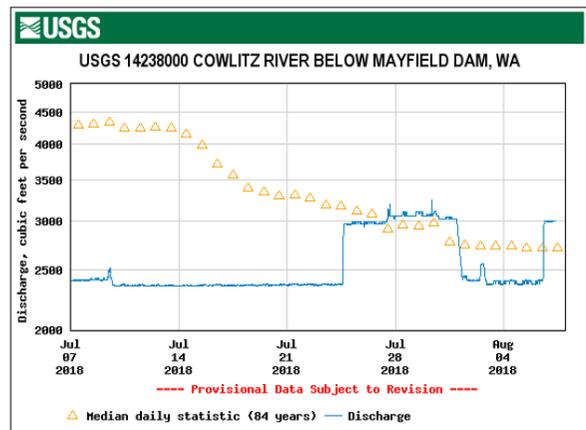
Travis Nelson	TPU
Tom Wadsworth	WDFW
Carol Serdar	WA Dept. of Ecology
Paul Sparks	WA Chapter of TU
Rich Turner (by phone)	Tech Rep for NMFS
Bryce Glaser	Tech Rep for WDFW
John Serl	Tech Rep for WDFW
Sam Gibbons	Tech Rep for WDFW
Peggy Miller	Tech Rep for WDFW
Brian Gale	Tech Rep for WDFW
Matt Bleich	Tech Rep for TPU
Eric Shoblom	Tech Rep for TPU
Florian Leischner	Tech Rep for TPU
Phil Sandstrom	Tech Rep for TPU
Tim Hoffnagle	Tech Rep for TPU
Melora Shelton	Tech Rep for TPU
Ann Weckback	Lewis County / Tech Rep for TPU
Steve Manlow	LCFRB / Tech Rep for TPU
Laura Bouchard	LCPUD
Debbie Carlson	BPA
Lyn Wiltse	PDSA Consulting / Facilitator

2018 FTC Meetings 9:30-3:00 at Cowlitz Salmon Hatchery (unless otherwise specified)
Sept. 6 (1st Thursday), Oct. 2, Nov. 6, Dec. 4

Announcements

- Hydro Operations: Florian reported that Riffe is at 736.5' elevation and lake levels are decreasing at a rate of approximately 1.5' per week and are trying to stay above 730' for Labor Day. Inflows and outflows are slightly below average.

They are documenting the occurrence of a slight ramping violation, which occurred in switching from one unit to the other. Staff were re-trained on this procedure to minimize the likelihood of reoccurrence.



Link to the USGS real-time Cowlitz River hydrograph:

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

- 2018 Cowlitz Falls Temporary Reduction of Minimum Instream Flow (MIF) Decision Document: Peggy explained that the FERC license for Cowlitz Falls Dam allows LCPUD to temporarily modify MIFs if WDFW agrees. Since the July FTC meeting, LCPUD sent Peggy a letter requesting a 3-week reduction of MIF to 500 cfs. WDFW approved this request for a 3-week temporary period of time for 2018 and requested FTC concurrence to reference the FTC in the letter, which was memorialized in a decision document.
- Cowlitz Falls Fish Facility: Matt reported that construction is going well. Carol expressed appreciation for their contractor for being responsible and responsive. There have been no major fish health issues. Protocols are in place in case water gets above 20⁰ (Celsius). Otherwise, things are progressing as expected, with quite a few smolts and a low mortality rate, considering the warm temperatures.

Meeting Summary Approval

The July 24, 2018 meeting summary was approved with edits and will be posted to the FTC public website.

2016 FHMP Process Update

Presenters: Matt Bleich and Tim Hoffnagle

Travis explained that the February 2018 FERC Order stated that additional time may not likely be granted beyond February 15, 2019. FERC recommended it may be necessary to request an amendment of license Article 6 to realign the stipulated 6-year Plan updates with the current schedule or alternatively, propose a longer time frame between filing updated plans with the Commission.

Matt acknowledged there was concern about the current FHMP schedule and how to integrate the HGMPs into the process. It was also acknowledged that there may be a need to revise the approach and explore alternatives given the efficiency and effectiveness of the current plan. Matt outlined how TPU plans to meet the deadline of February 15, 2019. There may be a need to initiate some additional work sessions between FTC meetings.

Matt stated that regardless of whether the FHMP re-write is complete, TPU plans to submit the document to FERC with whatever partial progress has been made on the re-write by February 15, rather than submitting a simple update to the current version of the FHMP. TPU indicated the FTC should expect in the near future another section of the 'Coho chapter' focusing on each of the Cowlitz Coho populations. TPU indicated they have hired a consultant group that has begun work on a 'Chinook chapter' of the FHMP using the Coho chapter currently being reviewed by the FTC as a guide.

Next Steps: Before the next FTC meeting, the M&E and Hatchery Subgroups will identify and elevate potential program changes or other major issues for the FTC to resolve prior to adding these decisions into the FHMP update. For the September FTC meeting, Matt will revise the draft schedule he distributed a few meetings ago.

Action Items:

- Travis: Send out the FERC Order for all to review. (*Done.*)

- Travis: Send out list of AFS Fish Naming Convention being used for the FHMP document. (*Done.*)
 - All: Continue to send any FHMP-related comments to Travis and copy Matt.
 - Travis: Forward all comments received to the FTC distribution list.
 - Steve: Send Matt descriptive language for the relevant plans (1.4.1 and 1.4.2).
-

M&E Subgroup Presentation: Getting Accurate Counts of Trout and Steelhead Smolts Presenter: Phil Sandstrom

Phil presented an overview of the collaborative efforts of WDFW and TPU to address counting issues at the Cowlitz Trout Hatchery during the previous season. In so doing, they looked at coefficient of variants to estimate their error rate. He explained that this year a PIT-tag array was added to provide a second estimation method additional to the conductance counter.

Summary of measures taken:

- Performing inventory at additional points
- Avoiding mixing production of multiple stocks
- Placing as few stocks as possible in the lakes
- Performing calibration trials for the conductance counter and for the PIT array
- Additional hazing measures

Results from these 2018 efforts were positive for conductance counter and the PIT array system, with high survival and a reduced number of birds to disperse. They are well positioned to get good SAR values to keep things on track. Matt thanked Phil, John, and Sam for the good work from their teams, which resulted in such a great success story!

Action Item:

- Phil: Bring a list of topics / recommendations from the M&E Subgroup to the next FTC meeting for discussion.
-

Public Participation Process

Presenter: Travis Nelson

Travis explained that he is looking forward to opening up the November FTC meeting to the public. This would be the start of including members of the public on a periodic basis. He hopes that we can collectively work toward a productive meeting. Matt mentioned that the M&E Subgroup would likely bring forward a decision document of topics to the November meeting.

These public meetings could eventually tie into the APR (Annual Project Review). The ISIT model will be used to validate current program structure for 2018. We need to be prepared to discuss next steps. An agenda will be published prior to the meeting to inform the public and allow for comments.

Action Items:

- Travis: Draft ground rules for public meeting and bring to next meeting for discussion.
 - All: Consider inviting potentially interested parties to attend the November 6 FTC meeting.
-

Gravel Augmentation Update

Presenter: Florian Leischner

Florian recounted the three-pronged approach being explored:

1. How to mobilize the existing gravel pile (becoming a safety hazard) into the Cowlitz River.
2. How to most effectively deploy additional materials on the other side of the channel from the existing pile (DNR / Jorgenson property). Locating gravel closer to the thalweg should improve the rate of recruitment.
3. TPU is looking for a new site for gravel placement downstream of the boat launch. Perhaps a split location?

There are discussions about the pros and cons of putting gravel in front of the fish hatchery. WDFW is monitoring Chinook spawning in the mainstem lower Cowlitz River, while Coho and steelhead spawning surveys are conducted only in lower river tributaries. These data can help inform gravel placement, but gravel will also migrate downriver once moved into an area with flow. Florian will present a more detailed report on this at the September FTC meeting.

CRR Fund Subgroup

Presenter: Florian Leischner

Florian reported this subgroup continues to meet regularly. The subgroup has updated their charter and 2018-19 work plan. They are finalizing hatchery-related project principles to create applications for possible sponsors and hatchery-related projects. They will distribute a decision document on this at the September FTC meeting.

They are in the process of moving the CRR-funded habit modeling forward as well as geomorphic modeling and are using a contractor to help inform the project design.

Action Item:

- Florian: Draft FTC decision document for hatchery-related project principles.
-

Downstream Adaptive Management Technical Working Group

Presenter: Matt Bleich

Matt explained that the last meeting was spent prepping for 2019. 2018 is considered the first baseline year for the Northshore Collector following the shakedown year of 2017. This year they discussed the 2018 spring results to help develop 2019 evaluations. Despite the warm summer, the total flow and number of winter/spring spill events (>7) characterized this year as a wet year. The FCE was just under 73% for steelhead and just under 80% for Coho. With a natural mortality metric using a USGS multiplier, they ended up with 75% FCE for steelhead and 81% for Coho.

2019 will be the second baseline year before planning and implementing the adaptive management strategies. Tacoma is considering conducting directed studies for Chinook to better understand the near-field behavior and locations of rejection. The study may also expand to include steelhead.

Tacoma is also working on a flow balancing study (pump-spill combo component) to better understand the fish health aspects of the screen criteria. Tacoma is considering elevating the

baseline 500 cfs during spills, raising them to 750 cfs for 2-3 days during the year. Tacoma is planning to hire a consultant to make some structural engineering recommendations.

Potential Topics for the September 6, 2018 FTC Meeting

- Usual Announcements/Updates
 - Review and approval of August Meeting Summary for posting to public
 - FHMP Process Update
 - Plan for Public Meeting
 - Review and agree on meeting protocols
 - CRR Fund Update
 - M&E Subgroup Presentation
 - Downstream Adaptive Mgt. TWG
 - Review and Select Topics from Hatchery Operations Group Presentation List
 - Gravel Augmentation Presentation
-

Meeting Evaluation

- Great attendance
- Technical issues with the phone
- Need to be sure to send out presentations to all, including those on the phone so they can effectively follow along.
- Continue to work at keeping the meeting notes at a higher level

**Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Final Meeting Summary
September 6, 2018 from 9:30 AM – 3:00PM**

Attendees:

Travis Nelson	TPU
Tom Wadsworth	WDFW
Carol Serdar	WA Dept. of Ecology
Paul Sparks	WA Council of TU / TU / American Rivers
Michelle Day (by phone)	NMFS
Rich Turner (by phone)	Tech Rep for NMFS
Jim Pacheco (by phone)	Tech Rep for WA Dept. of Ecology
Bryce Glaser	Tech Rep for WDFW
John Serl	Tech Rep for WDFW
Peggy Miller	Tech Rep for WDFW
Brian Gale	Tech Rep for WDFW
Mara Zimmerman	Tech Rep for WDFW
Matt Bleich	Tech Rep for TPU
Eric Shoblom	Tech Rep for TPU
Florian Leischner	Tech Rep for TPU
Phil Sandstrom	Tech Rep for TPU
Tim Hoffnagle	Tech Rep for TPU
Chris Foster	Tech Rep for TPU
Melora Shelton (by phone)	Tech Rep for TPU
Ann Weckback	Lewis County / Tech Rep for TPU
Steve West	LCFRB / Tech Rep for TPU
Laura Bouchard	LCPUD
Lyn Wiltse	PDSA Consulting / Facilitator

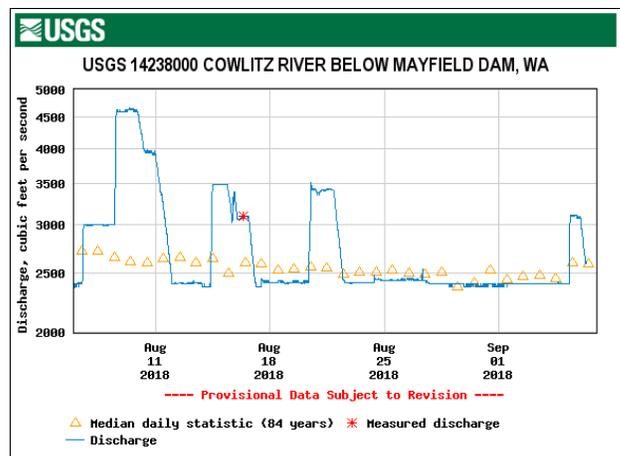
2018 FTC Meetings 9:30-3:00 at Cowlitz Salmon Hatchery (unless otherwise specified)
Oct. 2, Nov. 6, Dec. 4

Announcements

- Hydro Operations: Florian reported that inflows are at 1300 cfs. Riffe Lake is at 727.7' elevation. Outflows are staying around 2,400 cfs.

The graph shows the peak for the summer was at 4,500 cfs.

Link to the USGS real-time Cowlitz River hydrograph:



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

- Cowlitz Falls Fish Facilities Report: Chris reported they shut down and dewatered the facility the morning of August 31. They had a good season despite some challenges with the remodel and transported a little over 200K smolts downstream. They are currently recoating the flume. Many of the perforated screens have been removed. They will be sandblasting and recoating the super structure for next year.
- Trout Hatchery Master Plan: Eric presented an update on the Master Plan for the Trout Hatchery. The design will emphasize flexibility and improving fish health. They plan to increase water rights to 64 cfs. They will be able to run disinfected water throughout the entire hatchery. They will also be moving to deeper troughs, so they can hold fish for longer periods. Raceways will be replaced with self-cleaning circulars. The building will also be remodeled. Next steps include a hydraulic grade of the facility, allowing them to do the rebuild in phases. The entire project should be complete in 2024.
 - **Action Item:** Eric to let Bryce and Tom know when ready to share this with Eric Kinne, and they will coordinate the meeting.
- Hatchery Operations Maintenance Group: Hearing no suggestions for presentation topics from this group since the last meeting, Eric offered a list of potential topics including fish health and disease management, feeding and growth, the hatchery process, hatchery performance, adult numbers, historic data summaries, other studies, and infrastructure. The next few updates will be on the trout hatchery plans.
- Annual CFFF Reports: Debbie Carlson, on August 17, emailed out a list of links to year-end reports while BPA owned the CFFF, dating from 1996. The link is: <https://www.cgfish.org/>. Lyn offered to forward this email to anyone interested.

Meeting Summary Approval

The August 7, 2018 meeting summary was approved with edits and will be posted to the FTC public website.

2016 FHMP Process Update

Presenters: Matt Bleich and Travis Nelson

Travis opened the discussion by responding to a comment received questioning TPU's focus area as upstream of the Toutle River. The NMFS Biological Opinion references the "Action Area" in evaluating direct and indirect effects. This is different from the "Area of Influence" of the project defined in the FERC license as the Toutle River upstream. The Biological Opinion describes the project action area to be Cowlitz Falls to the mouth of the Cowlitz. Travis explained that Tacoma interprets the license as stating the project area of influence for flow, sediment and LWD is above the Toutle. Bryce noted that WDFW is concerned with impacts to populations and these include the NMFS-described population designations extending to the mainstem Cowlitz and tributaries below the Toutle. TPU agreed that the population considerations go below the mouth of the Toutle. TPU acknowledged that there are opportunities to participate in population evaluations below the Toutle. For example, they currently participate in the funding of weirs downstream of the Toutle. They agree this is important and plan to continue such efforts. All agreed that there may be a need for higher-level policy discussions on this topic.

The current schedule allows TPU to meet the FERC deadline of February 15, 2019 while providing a 30-day review period for each document. They have received comments on Chapters 1 and 2 from BPA, LCPUD, LCFRB, WDFW, and TU. Tacoma will be incorporating those comments and suggested edits into the next version of these chapters which they will distribute to the FTC and the CRAG on September 14. Bryce noted the timing is good as the CRAG meets again on September 25.

- The revised version of the Coho Species Chapter will be distributed the week of September 18. TPU appreciates WDFW's recent organizational suggestions.
- The Coho Population Section will be out on September 26. It was acknowledged that being able to review the Coho species chapter would be helpful.
- The Chinook (Fall and Spring) Species Chapter will be out in a revised format with the population section included on September 26.

Action Items:

- All: Continue to send any FHMP-related comments to Travis and copy Matt.
 - Travis: Continue to forward all comments received to the FTC distribution list.
 - Steve: Send Matt descriptive language for the relevant plans (1.4.1 and 1.4.2).
-

Public Participation Process

Presenter: Travis Nelson

Travis announced that the November FTC meeting will be open to the public. This will be the start of including members of the public on a periodic basis and will provide an opportunity for them to see how the FTC operates and get updates on current FTC activities. There will be a public comment period which provides the opportunity for the FTC to listen and gain a first-hand understanding of public concerns and priorities.

These public meetings could eventually tie into the APR (Annual Project Review). The ISIT model will be used to validate current program structure for 2018. We need to be prepared to discuss next steps. Possible locations include the Centralia Library or the Chehalis Veteran's Memorial Museum.

Action Item:

- Travis: Draft ground rules for public meeting and send out prior to our next meeting for discussion.
-

Gravel Augmentation Update

Presenter: Florian Leischner

Florian began by projecting Article 10 with the FERC approved plan objectives. The current location is not effective in distributing the gravel in the 11-mile target reach and may compromise the ADA fishing access and boat launch. To address these and other challenges, they are planning to relocate the majority of the existing gravel pile to an alternate site below Mill Creek, on the right bank, inside the channel. This will be a higher energy location, so it will be picked up at much lower flows. They will also use the site for current (2017-2019) and potentially future gravel placement obligations.

The method to move the gravel is still being determined. In 2019 the FTC will be asked to

approve a new monitoring plan which will include adding the 5th and 6th cross-sections downstream for tracking movement.

Action Item:

- Travis: Distribute a PDF of this gravel presentation to all. *(Done)*
-

CRR Fund Subgroup

Presenter: Florian Leischner

Florian reported this subgroup is working on the Upper Cowlitz Habitat strategy / assessment. The Upper Cowlitz Habitat Strategy Development Workgroup is meeting monthly. They recently met with landowners to discuss this. They made some good connections and got some good feedback.

A lot of the field work for the assessments will occur in the next six weeks. The habitat projects are tied to the next LCFRB SRF Board round. The CRR Subgroup continues to work on the review and application processes for hatchery-related projects, starting with guiding principles. Travis will send this document to all to review and this will be the subject of a Decision Document at the next FTC meeting. Florian expressed appreciation to Eric and Sam for all of their help on this.

Action Items:

- Travis: Send out Principles document for all to review. *(Done)*
 - Florian: Draft FTC decision document for hatchery-related project principles.
-

M&E Subgroup

Presenter: Phil Sandstrom

WDFW just received TPU comments on the Annual Adult Report and is awaiting comments on the Juvenile (LC smolt timing and abundance report) report after which both reports will go to the FTC for a 30-day review. This group is drafting a list of major items for discussion with the FTC. They would like to give additional species-based presentations to the FTC, beginning with Steelhead.

Downstream Adaptive Management Technical Working Group

Presenter: Matt Bleich

Matt explained that their last two meetings have focused on the results from the last study year and how to develop a study report for 2019. They are looking at doing some directed studies for Steelhead. Fish Collection Efficiency (FCE) and Fish Passage Survival (FPS) are key metrics to determine the success of the new collector.

2018 is considered the first baseline year for the Northshore Collector following the shakedown year of 2017. Tacoma is considering conducting directed studies for Chinook to better understand the near-field behavior and locations of rejection.

Next steps: Develop final TPU/LCPUD/BPA Operations Plan. This will be discussed at their October meeting. A Decision Document will be developed that reflects the strategy and it will be presented to the FTC for approval.

Potential Topics for the October 2, 2018 FTC Meeting

- Usual Announcements/Updates
 - Trout Hatchery Master Plan Update
 - Water Quality Plan Update
 - Review and approval of September Meeting Summary for posting to public
 - FHMP Process Update
 - Area of Influence vs. Action Area
 - Plan for Nov. 6 FTC Meeting opened to the Public
 - Review and agree on meeting protocols and meeting agenda
 - CRR Fund Update
 - Decision Document
 - M&E Subgroup Presentation
 - Downstream Adaptive Mgt. TWG
-

Meeting Evaluation

- Great attendance – Nice to have Michelle back with us!
- Great discussions – especially the valuing of diverse ideas
- Continue to work at keeping the meeting notes at a higher level

**Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Final Meeting Summary
October 2, 2018 from 9:30 AM – 3:00PM**

Attendees:

Travis Nelson	TPU
Tom Wadsworth	WDFW
Carol Serdar	WA Dept. of Ecology
Paul Sparks	WA Council of TU / TU / American Rivers
Michelle Day (by phone)	NMFS
John Serl	Tech Rep for WDFW
Peggy Miller	Tech Rep for WDFW
Eric Shoblom	Tech Rep for TPU
Florian Leischner	Tech Rep for TPU
Tim Hoffnagle	Tech Rep for TPU
Chris Foster	Tech Rep for TPU
Melora Shelton	Tech Rep for TPU
Ann Weckback (by phone)	Lewis County / Tech Rep for TPU
Steve West	LCFRB / Tech Rep for TPU
Laura Bouchard	LCPUD
Debbie Carlson	BPA
Lyn Wiltse	PDSA Consulting / Facilitator

2018 FTC Meetings 9:30-3:00 at Cowlitz Salmon Hatchery (unless otherwise specified)
Nov. 6 (Public meeting at the Chehalis Veterans Memorial Museum), Dec. 4

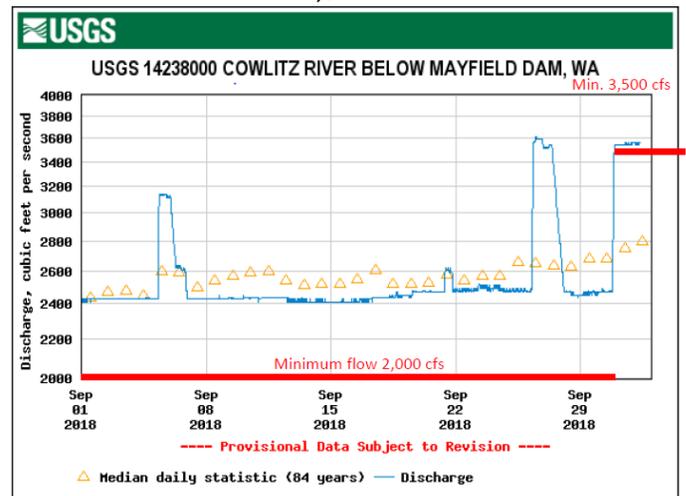
Announcements

- Hydro Operations: Florian reported that inflow is the lowest of the year. Cowlitz is at 400 cfs at Randle, 350 cfs at Cispus and 50 cfs at Tilton. The recent rain didn't affect the inflows. Riffe is at 720' and has been dropping ~1' per week. They stayed above 2,400 cfs the entire summer to support the recreation season. The MIF kicked in Oct. 1, increasing flows from 2,000 - 3,500 cfs.

Link to the USGS real-time Cowlitz River hydrograph:

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

- Cowlitz Falls Fish Facilities Report: Chris reported remodel work is continuing and is on schedule. When the flume recoating work is complete the end of October, they will reattach the perforated piece and then will begin the block operation schedule for the fall



season. The temporary facility is still set up in the parking lot, however it is hoped the fall operations will be located inside the newly-completed Sampling Building. By doing some pre-commissioning of the upgraded equipment there, they can make any necessary changes before the start of the fall season. LCPUD fishing access is now open.

- Trout Hatchery Master Plan: Eric Shoblom explained that HDR has just presented TPU with cost estimates corresponding to the different options from the workshops. On October 16 they expect to see a draft of all the options developed for consideration in the Master Plan. At that time he will coordinate a meeting with Eric Kinne, Sam Gibbons, and Brian Gale to get their feedback. They need to get back to HDR on October 24.
- Water Quality Plan Update: Matt Peter and Matt Bleich will meet with Carol to discuss this on October 3. Carol explained that a consultant for TPU proposed 7Q10 numbers. Mossy Rock Dam is challenging in that it doesn't have a stream gage below it.
- Tom explained the Fall Chinook situation is not looking good – the return this year is expected to be well below what was forecast. After discussing this with NOAA, TPU will use some of the Tilton NORs for broodstock. Even doing this, they are still unlikely to meet broodstock goals. On October 1, TPU started releasing some Chinook NORs at Ike Kinswa State Park at the mouth of the Tilton instead of at Gust Backstrom City Park which is higher up on the Tilton. Rather than waiting until October 8, they will put 50 pairs of fish at this site on October 5 when the fish are in better condition.
- The 2017 Article 6 Annual FHMP Report is out for 30-day review, with comments due to Phil Sandstrom by October 29. There was concern about being able to review this report of 150 pages within such a short timeframe. The task order and the contract for the final internal review document is November 30. Travis followed up with Bryce on this at the break and reported back that WDFW has committed to an accelerated review to address TPU's comments in the draft document. This will result in a revised release of the 2017 Article 6 Annual FHMP Report targeted for the week of October 10. Travis asked the FTC to honor WDFW's efforts by reciprocating an accelerated review to conclude by October 25. This would allow for an on-time filing of this document with FERC (by October 31). TPU will pursue a permanent filing modification date for the future.
- 2018 Article 8 Status Report – Cowlitz Disease Management is out for 30-day review. All are to submit comments to Eric Shoblom by October 26.
- Closed the fishery for Cowlitz Chinook recently. TPU will be doing some flights on the Tilton to check for fish distribution.

Meeting Summary Approval

The September 2018 meeting summary was approved with edits and will be posted to the FTC public website.

2016 FHMP Process Update

Presenter: Travis Nelson

On September 19, Travis sent out Chapters 1 and 2 for a 30-day review. Concurrently, he emailed these two chapters out to the CRAG, without mentioning a 30-day review. He explained that Matt is not really looking for a technical review from the CRAG, so he did not see it necessary to put them on a review timeline. TPU will give drafts to Tom to distribute to the CRAG in the future as they are an advisory group to WDFW. At the November 6 public meeting, TPU will ask public attendees if they are interested in receiving draft work products of

the FHMP. Advertising for the public meetings will include a link to a website where they could enter their comments.

Travis shared the following dates that he just received from Keith:

- Revised Chapters 1 & 2 were delivered to FTC for 30-day review; to FTC/Public 9/20 for 30-day review
- Chinook Chapters delivered to FTC 10/15 for 30-day review; to FTC/Public 11/15 for 30-day review
- Revised Coho Chapter delivered to FTC 10/15 for 30-day review; to FTC/Public 11/15 for 30-day review
- Revised Steelhead Chapter 11/15 for 30-day review and to FTC/Public 12/9 for 30-day review
- Full Document Review 12/1 for 30-day review and to FTC/Public 1/9 for 30-day review
- Schedule for Appendices, Crosswalk and M&E Chapters?

Matt will clarify the timeline for items listed in the last bullet above. The subgroups will continue to share information for FTC comments when they have information to share. There was also a request that TPU let FTC members know when they are unable to make a deadline.

Action Items:

- All: Continue to send any FHMP-related comments to Travis and copy Matt.
- Travis: Continue to forward all comments received to the FTC distribution list.
- Steve: Send Matt descriptive language for the relevant plans (1.4.1 and 1.4.2).

Public Participation Process

Presenter: Travis Nelson

Travis announced that the location for the November FTC meeting will be at the Veterans Memorial Museum in Chehalis. TPU's goal is to advertise this meeting by October 5. This first meeting will serve as a trial from which we can learn and adapt. This meeting will give the public the opportunity to see how the FTC operates and also provides the opportunity for the FTC to listen and gain a first-hand understanding of public concerns and priorities.

It was agreed comments from the public could be made verbally, by signing up to speak and also in written form by writing on cards provided on the tables. The sign-in sheet would also allow people to indicate a desire to be included on a distribution list to receive draft FHMP documents.

There would be an afternoon session near the end of the meeting where members of the public would be invited to offer general comments / observations / suggestions for how the meeting went. The duration of each period would be up to 25 minutes with 3 minutes allotted to each speaker. The process for signing up to provide comments during the second period may involve a sign-up sheet at the back of the room and/or indicating a desire to do so with a card.

After reviewing potential topics and timing for the November meeting, Travis and Lyn agreed to send out a revised draft agenda along with the revised draft expectations by October 5.

Action Items:

- Travis: Revise draft agenda and ground rules for the November FTC meeting and send out to all by October 5.

- All: Send feedback to Travis on both documents by October 9.
 - Travis: Send out link to these documents along with public notice of the meeting by October 12.
 - Travis: Set up a meeting or conference call with presenters and invite others from the FTC to review presentation materials to ensure they are clear and logically presented.
-

CRR Fund Subgroup

Presenter: Florian Leischner

Florian distributed a decision document that included feedback from the draft strategy that was approved and will be provided to the applicants. The Decision Document was reviewed and approved with minor edits.

M&E Subgroup

Presenter: John Serl

John reported this group met since the last FTC meeting and discussed the presentation for the November 6 meeting. They also had some preliminary discussions about FHMP alternatives.

Potential Topics for the November 6, 2018 FTC Meeting

- Usual Announcements/Updates
 - Approval of October Meeting Summary for posting to public
 - FHMP Process Update
 - CRR Fund Update
 - M&E Subgroup Presentation
 - Downstream Adaptive Mgt. TWG
-

Meeting Evaluation

- Liked the location – better size, temperature and acoustics
- Great discussions
- Committed to have a public meeting

**Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Public Meeting at the Chehalis Veterans Memorial Museum
Final Meeting Summary
November 6, 2018 from 9:00 AM – 2:30PM**

FTC Attendees:

Travis Nelson	TPU
Tom Wadsworth	WDFW
Carol Serdar	WA Dept. of Ecology
Paul Sparks	WA Council of TU / TU / American Rivers
Michelle Day	NMFS
John Serl	Tech Rep for WDFW
Peggy Miller	Tech Rep for WDFW
Brian Gale	Tech Rep for WDFW
Bryce Glaser	Tech Rep for WDFW
Sam Gibbons	Tech Rep for WDFW
Mara Zimmerman	Tech Rep for WDFW
Matt Bleich	Tech Rep for TPU
Eric Shoblom	Tech Rep for TPU
Tim Hoffnagle	Tech Rep for TPU
Chris Foster	Tech Rep for TPU
Melora Shelton	Tech Rep for TPU
Steve West	LCFRB / Tech Rep for TPU
Laura Bouchard	LCPUD
Debbie Carlson	BPA
Lyn Wiltse	PDSA Consulting / Facilitator

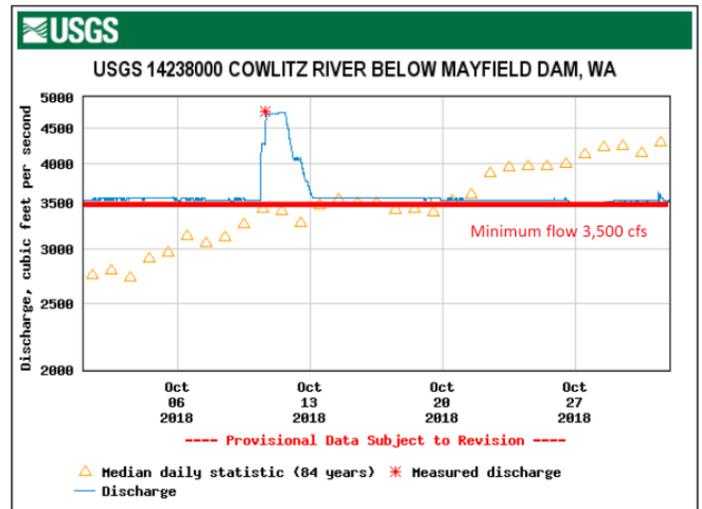
Next FTC Meeting: Dec. 4 from 9:30-3:00 at Cowlitz Salmon Hatchery (tentative)

Note: This meeting agenda was advertised in advance and open to the public. Public comments and questions with responses will be posted to the public FTC website.

<https://www.mytpu.org/tacomapower/about-tacoma-power/dams-power-sources/hydro-power/licensing/cowlitz-licensing/cowlitz-license-documents/cowlitz-fisheries-committee.htm>

Announcements

- Hydro Operations: Melora reported outflows at Mayfield Dam have been consistently at 3,500 cfs, except when they increased to 4,700 cfs Oct. 10-13 in response to a natural gas pipeline explosion in BC. Inflows for October were low (~1600 cfs). Riffe Lake is slowly starting to refill and was at 709' on Nov. 5. There is some snow now above 5,000' with snow levels variable up to 9,000'. The 10-day outlook is pretty dry. Carol asked about the size of



the hole TPU must keep for flood control and Matt responded that Florian would get back to her with that information.

Link to the USGS real-time Cowlitz River hydrograph:

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

- Cowlitz Falls Fish Facilities Report: Chris reported remodel work is continuing and is on schedule. They have completed the new office storage building and are finishing up the HVAC and electrical. The work on the infiltration gallery to is also nearly complete. This will allow them to bring in cooler water in the summer months. They are also wrapping up the flume recoating project and the perforated plate and dewatering screens are being reinstalled. They anticipate completing this work by the end of the year. They have updated the infrastructure in the sampling building and will begin fall operations the week of Nov. 12 and will perform commissioning upgrades at that time. They plan to operate 3 days a week through the first week in December.
- Trout Hatchery Master Plan: Eric explained that TPU has contracted HDR to complete this plan for remodeling the Trout Hatchery. TPU received the draft plan from HDR on Nov. 1 that considers how all the components work together in anticipation of present and future needs as they relate to overall program goals. Once final TPU comments have been incorporated, HDR will present the final draft by the end of the year. At that point, TPU will decide whether to have the entire project designed first and then built, or to hire a design/build firm. They will also send the plan to the FTC for feedback at that point. Paul wants the designs to include congruence with natural conditions. e.g., bankside cover and overhead canopy. Eric explained the new preliminary designs for the rearing lakes call for segmenting those lakes from 5 acres to 1 acre or smaller and to switch the raceways over to circulars. This will create flexibility to experiment with various rearing techniques. There have been no major changes to the plan since the presentation to the FTC a few months ago.
- Gravel Augmentation Update: Melora explained that the design for moving the existing pile of gravel is moving forward. Survey work is complete, including adding cross sections for design and monitoring. They've also begun discussing permits with WDFW and Lewis County. Carol reminded her of the need to coordinate with Ecology on the construction stormwater permit and water quality protection plans. Peggy observed the current Decision Document to delay gravel augmentation expires the end of this year.
- Cowlitz River Restoration (CRR) Fund: Melora reported they got through the initial CRR review and sent it to the LCFRB for initial review by the Technical Advisory Committee (TAC). This should be a fast and iterative review process. They anticipate getting the draft materials to the FTC with a decision document in December for a 30-day review ahead of the January FTC meeting. In addition to developing hatchery applicant guidance / materials, this group is also working on habitat assessments including a geomorphic assessment of the entire upper basin. They are contracting with Anchor to do some hydrologic modeling. Paul expressed appreciation to all who are involved in this technical work group.
- On October 30, Travis sent out the Draft Cowlitz 402 Annual Report (monitoring minimum flows, ramping) with comments due to Melora Shelton by 5pm on Nov. 30.

Meeting Summary Approval

The Oct. 2, 2018 meeting summary was approved with edits and will be posted to the FTC public website.

M&E Subgroup: 10-Year Perspective on Fall Chinook

Presenter: John Serl

John gave a presentation describing the current state of Fall Chinook for adults returning to the Cowlitz River (46% go to fisheries, 10% end up in the hatchery and 44% end up on spawning grounds.) He gave an overview of the total harvest for ocean, Columbia, and Cowlitz Rivers, noting most of the NORs are harvested in the ocean. Total run size is influenced by changes in production levels and ocean conditions. Mass marking of Fall Chinook returns (arriving back at the Barrier Dam) wasn't complete for returning adults until 2012. They are focusing on Fall Chinook recovery in Tilton and Spring Chinook in the upper Cowlitz. The integrated Fall Chinook program was started in 2013. They have made many improvements in this over the past few years. John noted that additional fish are passing through the turbines and not being counted as the juvenile collector at Mayfield is only collecting ~70% of the fish.

Current gaps in understanding:

- NORs: No identifier to tell which population that fish belongs to
- No adequate run size forecasts for Cowlitz River populations
- Poor understanding of spawner escapement and distribution
- Unknown impacts of integrated vs. segregated hatchery programs on natural populations
- Unknown reasons for relatively poor survival of Fall Chinook hatchery programs in the Cowlitz River.

TPU remodeled the Cowlitz Salmon Hatchery a few years ago and the effect on fish from the remodel are not yet understood. They are looking at developing a marking program for NOR smolts at Mayfield Dam along with a strategy for transition to fully integrated hatchery program. They plan to generate specific Cowlitz River Fall Chinook forecast instead of using Lower Columbia forecast. The parasite *C. shasta* is a limiting factor for Fall Chinook juveniles and adult returns. Stray rate data will be included in the HGMP.

Action Item:

- Travis: Attach a PDF authored by the M&E subgroup of this PowerPoint presentation to these meeting notes.

2016 FHMP Process Update

Presenter: Matt Bleich

Matt thanked everyone for their support of this process and explained that while they are currently two weeks behind schedule, they still intend to make the FERC deadline.

Chapters 1 and 2: These were sent to the FTC for review. TPU incorporated comments and then sent them out again to the FTC and the public. Most of the comments they received were from WDFW. He thanked them for their contributions which are improving the document and explained that TPU will engage a consultant to act as a technical editor to incorporate comments and develop a corresponding comment matrix noting the treatment of each

comment and also if additional discussions are required. He anticipates 90% will be incorporated straightaway; 5% will be met with counter suggestions; and 5% will need additional conversations. There is no timeline on this yet. The comment matrix will be posted to the website that Travis set up to facilitate the FHMP review process. FTC members can use this website to submit comments as well as review comments from others. WDFW suggested that it would be good to revisit these two introductory chapters after having reviewed each of the individual species chapters.

Chinook Chapters: Matt acknowledged that while this full Chinook chapter should have been sent out two weeks ago, it was released the afternoon of Nov. 5. He apologized for the delay and committed to bringing a revised schedule to the next FTC meeting. This delay pushed the rest of the FHMP schedule out by two weeks. TPU will use the same process for the review of this chapter as for the introductory chapters: 30-day review for FTC, then back to TPU to address comments, then back out to FTC and out to the public for another 30-day review. TPU thought there were sufficient differences between Fall and Spring Chinook to split them into distinct chapters.

Coho Chapter: The next version of this chapter will have the species and population sections fully detailed and should be out in two weeks, with the same review process as for the other chapters. The review period for the Coho and Chinook chapters will overlap.

FHMP Workshop: This has been discussed for the past couple of months. The email with the Chinook chapters includes dates for the FHMP workshop and asks folks to respond to a poll regarding their availability. The timing of the workshop may impact the timing of the next FTC meeting. The M&E Chapter review is built into the larger schedule that Matt will re-issue shortly. For the workshop, Matt will identify key issues, where there are conflicting views, to work through (vs. an exercise in line edits).

Action Item:

- All: Please respond to the Doodle Poll with your availability and then Matt and Travis will be back to everyone regarding implications for next FTC meeting.
-

Updating ISIT Data

Bryce explained that the In-Season Implementation Tool (ISIT) works from a basic model that has been used widely. ISIT allows for more real-time updates – rolling 5-year averages can be used for updated model runs. It is important to use the most up-to-date data, including stray rates to track progress over time. With updated data sets, WDFW will be able to do model runs to inform the FHMP. The last update was two years ago.

Action Item:

- Tom: Send ISIT Data inputs with description of how these are being used to all once they are finalized.
-

Potential Topics for the December 4, 2018 FTC Meeting

- Usual Announcements/Updates
- Approval of November Meeting Summary for posting to public
- FHMP Process Update (the bulk of the meeting)
- CRR Fund Update – Decision Document

- Gravel Augmentation Update – Decision Document
 - M&E Subgroup Presentation
 - Agree on 2019 FTC Meeting Dates
-

Meeting Evaluation

- Eric's time keeping was superb.
- Problems with microphone / acoustics in the room.
- Needed to be able to get into the building to set up the room earlier.
- It was good for the public to see how we function, including the back-and-forth discussion at the end.
- For future meetings with the public, FTC members should introduce themselves as they begin to speak.
- We ran out of name tags.

Cowlitz Hydroelectric Project
FERC No. 2016
Cowlitz Fisheries Technical Committee
Final Meeting Summary
December 4, 2018 from 9:30 AM – 3:15 PM

Attendees:

Travis Nelson	TPU
Carol Serdar	WA Dept. of Ecology
Paul Sparks	WA Council of TU / TU / American Rivers
Bryce Glaser	WDFW
John Serl	Tech Rep for WDFW
Peggy Miller	Tech Rep for WDFW
Matt Bleich	Tech Rep for TPU
Eric Shoblom	Tech Rep for TPU
Tim Hoffnagle	Tech Rep for TPU
Chris Foster	Tech Rep for TPU
Phil Sandstrom	Tech Rep for TPU
Florian Leischner	Tech Rep for TPU
Melora Shelton	Tech Rep for TPU
Amelia Johnson	LCFRB / Tech Rep for TPU
Ann Weckback (by phone)	Lewis County / Tech Rep for TPU
Laura Wolfe	LCPUD
Lyn Wiltse	PDSA Consulting / Facilitator

Tentative 2019 FTC Meeting Dates: Jan 11, Feb. 5, Mar. 5, Apr. 2, Apr. 30 (instead of May 7), June 4, July 2 (placeholder for FHMP), Aug. 6, Sept. 5 (Thurs.), Oct.1, Nov. 5, Dec. 3 from 9:30-3:00 at Cowlitz Salmon Hatchery unless otherwise specified.

- **Action Item:** All to fill out Doodle Poll for January meeting and check other dates with their schedules.

Announcements

- **Hydro Operations:** The average inflow for November was 4,500 cfs. The reservoir is at 713' having gained 6' since Nov. 26. There is little to no snow. Outflows at Mayfield Dam have been consistently at 3,500 cfs. As of Nov. 21, a calculated MIF went into effect, based on flows during Chinook spawning season (8 inches below river stage height measured during the highest consecutive 5-day average flow when active spawning occurred) which will be 2,900 cfs through the winter. The projection for the near future is to go up to 7K cfs (still below the average of 9K cfs) to meet demand. Link to the USGS real-time Cowlitz River hydrograph:
https://waterdata.usgs.gov/wa/nwis/uv/?site_no=14238000&PARAMeter_cd=00060,00065
- **Cowlitz Falls Fish Facilities Report:** Chris reported they are in the fourth and final week of fall operation. The cooler and drier weather has helped to decrease flows and the amount of debris they are getting. As of this morning, there were no adult coho fallbacks collected for the fourth and final week of collection. They will shut down December 6 and begin running again Mar. 1, 2019. They may run a bit between now and then (likely this month) to commission some of the downstream facilities (pressure

testing pipelines, etc.). This commissioning would be accomplished with auxiliary water (no fish collection) which would be discharged through the outfall pipe. He was pleased to report they are working inside the fish facility for this fall operation. They are still awaiting word on the termination of the permit and the development of the additional spring water. In the 37 hours they operated last week, they got a fall-back count of approximately 400 fish. Only one unmarked male of natural origin was observed. They did shut down in the middle of the night when they encountered a significant number of adult fish. They had to hand load some of these adult fish due to construction activities. The M&E group will address fallback and handling strategies.

- **Action Item:** Chris to send out a fall report, formatted similarly to his weekly operation reports. This can be expected by the end of the month.
- Trout Hatchery Master Plan: Eric explained that TPU's final comments were submitted to HDR who is still finalizing the master plan draft. He explained that they haven't moved into the design phase of the plan yet. The master plan determines to what extent different components should be remodeled and why. When they receive the draft (likely the end of this year), TPU will move into the contracting phase so they can start the design on phase 1. Note: TPU plans to transfer Blue Creek water Rights over to the Cowlitz River, adding to the Cowlitz Trout Hatchery intake). As this is the first large TPU expenditure that is not specifically required by FERC, they are outlining justifications to present to upper management. There may be an opportunity for FTC members to write letters of support.
- Cowlitz River Restoration (CRR) Fund: Melora reported the subcommittee send draft applicant guidance materials to the LCFRB for further review by the Technical Advisory Committee (TAC), no comments were received. The CRR Subcommittee will meet this afternoon to finalize applicant guidance materials and prepare a decision document with a goal of getting the LCFRB to approve those materials to include in an addendum to their grant round release in February. The LCFRB RFP (aka, Policy Manual) is general with appendices to incorporate specific granting programs (e.g., CRR, SRFB). Melora expressed appreciation to LCFRB for the considerable work they have done with the CRR Subcommittee on this. Next steps include providing a PDF CRR-specific applicant guidance materials for FTC review along with the full LCFRB RFP for context, along with a decision document in advance of the January meeting. Note: Only the habitat projects will go through the LCFRB process. Hatchery projects will be handled separately. TPU is in the process of setting up a webpage for all things CRR including the applicant forms and guidance documents for habitat projects. This will also serve as a resource library. The first projects will be contracted the end of 2019 once FERC approves the plan to abandon volitional passage and the CRR Program.
 - **Action Item:** Florian: Contact FERC to inquire about the status of the plan to Abandon Volitional Passage and proceeding with CRR Fund activities.
- M&E Subgroup: Phil reported that this group did not meet in November and is in the process of scheduling at least one more meeting this month (Dec. 5 and 19?) to wrap up end-of-year issues. They have discussed actions to be taken with Fall Chinook and are working collaboratively with the hatchery programs. They plan to bring a document asking the FTC what they see as the major issues in the Cowlitz Basin to prompt further discussions. Phil thanked John for delivering a well-received presentation on Fall Chinook at the public meeting in November. This group will deliver quarterly

presentations to the FTC on various topics. The topic will likely be the juvenile component of Fall Chinook in this spring.

Meeting Summary Approval

The Nov. 6, 2018 public FTC meeting summary was approved with edits and will be posted to the FTC public website. Lyn expressed appreciation for everyone's edits.

2016 FHMP Update

Presenter: Matt Bleich

Matt reminded all that TPU had intended this meeting to be a listening session to ensure a common understanding of the comments on the Chinook Chapters. As they have not yet received written comments on those chapters, he invited general feedback from the group. Most of the comments were from WDFW, with some agreeing and others indicating that they had not yet reviewed the documents. A general summary of the comments follows:

- WDFW has been reviewing and synthesizing their comments. WDFW has more substantive comments on Chinook chapters, but will wait to send these until the next iteration of these chapters is provided after the upcoming workshop.
- Challenges in reviewing the material included the sheer volume, the level of detail (including redundancies between chapters), difficulty in identifying the changes from the prior document and the key decision points in the chapters, and the required near- vs. long-term actions.
- One of the purposes of the rewrite was to improve the readability and understanding from the public perspective. How is this accomplished through the hundreds of pages provided so far? The public might disengage or lose confidence in the process if given too much to review in too little time.
- Members are not confident about being able to review that much material / content with a relative quick turnaround with limited resources.
- Without an overall vision for the document, providing comments is a struggle. A crosswalk document would be extremely helpful.
- Concern that the document is becoming bloated and the numbers are outdated.
 - While Tim acknowledged that he is having to use 2015 ISIT numbers, WDFW was pleased to report that they are close to having an updated ISIT model.

Bryce distributed a handout from WDFW on how to develop a quick reference summary for each chapter. This would help them to focus on topics to discuss at the workshop and at the M&E meetings. This could provide a reference guide will help people review the material in an efficient and effective way. Below, the top half is on the left and bottom half is on the right:

FHMP Program Changes		
Populations <ul style="list-style-type: none"> • Fall Chinook: LC, UC • Spring Chinook: LC, T, UC • Coho: LC, T, UC • Winter Steelhead: LC, T, UC • Summer Steelhead: LC • Cutthroat: LC, T, UC • Resident fish 		
Stock	Current	Proposed /change
Hatchery Program		
Size of Program		
Type of Program		
Marking/tagging		
Size at release		
Release strategy		
Disposition of returning adults		
M&E Activities		
Spawner population abundance estimates		
Weir operations – spawner assessment reduction of peds		
Smolt trap – abundance, timing, etc.		
Crest		
Broodstock collection		
Juvenile collection		
emigration (passage)		
Crediting mechanisms		
Satellite facilities		

Matt thanked everyone for their feedback and acknowledged that the volume of information and the redundancy within the chapters are impeding the review process. TPU also wants to make the salient points clearer in order to facilitate the review. The intent is to create a more formal process once they have a species chapter complete. He noted that WDFW’s handout will be helpful in developing the structure of the workshop. Tim also found the handout helpful and said he shared the frustration expressed by others that some of the ISIT data is dated. He also explained that much of what is in the Chinook chapters is to serve as a straw man for the other chapters. TPU will distinguish the long-term actions from the next six years. Matt added that they will work on highlighting the differences from the current plan.

Paul expressed concern about efforts to create a more robust NOR population, noting the need to prioritize recovery over hatcheries. He wants to see numbers including monitoring information from those populations. Phil explained he is working on filling in the Big Table with the most current information. The M&E chapter will identify the areas to target for improvement and where there is a need to conduct studies to gather additional data. Bryce offered to do an ISIT tool walk-through at a future date.

December 12 FHMP Workshop: Matt discussed his expectations for the initial intensive workshop from 9:30 – 4:00 at the Cowlitz Salmon Hatchery. He expressed appreciation for the handout that WDFW distributed and committed that TPU will populate the top portion (Stock) of the handout, perhaps with some additions in time for the workshop. He also noted that while TPU is not ready to populate the M&E activities yet, many of the decisions made re: stock will drive the content of the M&E.

The idea of the initial one-day workshop is to describe programmatic programs of the Chinook Chapters and come away with deliverables. At the end of the day there should be a clear and consistent idea of the path forward. Toward that end, Lyn will help facilitate a storyboarding process.

TPU will bring relevant data in case that comes up, but the focus of the discussions will be on the Stock portion of WDFW’s handout. The deliverable will be to identify the top priorities and from there, Matt will work to reorganize the document, so those priorities are clearly identified for the next six years. Using the storyboard can help us to all be on the same page about this. This will include defining problems, associated challenges, including the challenges in telling the story, and what the end point is. This will be done through a visual brainstorming activity.

We will leave the workshop with programmatic recommendations along with a list of gaps. The intent is to characterize these things using a format that is logical and easily understood in the draft species chapters. During the workshop, we maintain our focus by post additional issues that come up in a Parking Lot. There will be a general Parking Lot as well as specific ones for the M&E and Process Chapters. We will use the parking lot to ensure these chapters are robust and meet the needs of the document and of the group.

There was a brief discussion about how to apply lessons learned from the Annual Project Review (APR). This included how to do a comprehensive evaluation vs. focusing merely on hatchery production.

Action Items:

- Matt: Work with Lyn to send out Agenda for December 12 FHMP Workshop.
- Matt: Bring stock data to the workshop.
- Those attending the Workshop: Please arrive for a prompt 9:30am start!

Gravel Augmentation

Presenter: Florian Leischner

Florian projected the version of the draft decision document that included Peggy’s suggested edits. He briefly reviewed the plan as described in the document which covers 2017 to the end of 2022 and would allow TPU to move some of the gravel that is not moving now (and is an eye sore and safety hazard) downstream. Feedback included the following:

- While Ecology supports moving the gravel pile into a new location, they are not ready to approve this document as written. They haven’t yet seen anything in writing about the Water Quality Protection Plan for the location at Mill Creek. Also, the math is confusing and doesn’t seem to add up.
- WDFW cited the vagueness of “...a substantial amount of the material in the existing pile...”
- Add a table showing how much gravel would be placed in each year.
- Show that TPU is doing things along the way, including regular updates to the FTC.
- Do we know where the gravel is going now? Is there a need for monitoring? (There have been annual pebble counts throughout the 11 miles of the treatment reach.)
- Include permitting piece and a reference to the plan itself. This would provide better context and clarify the purpose of the decision document.
- Include a map of the location, placement strategy, interim steps / milestones, and contingency plan.
- Include alternate future locations so they don’t get overlooked.

Florian assured everyone that TPU is following the FERC-approved plan. The only change is the placement location which is an interim strategy to implement the plan.

Action Item:

- Florian: Revise the decision document based on the discussions at this meeting and send it out for approval by December 7. In the email cite where FTC members can find the FERC-approved plan or attach it for their convenience.

Debrief of November 6 Public FTC Meeting
Presenter: Travis Nelson

There was consensus that this meeting was a success. Several members of the public commented that they appreciated being invited to the meeting. It was good for the public to see how the FTC functions, including the back-and-forth discussion at the end.

Evaluation of Public FTC Meeting	
Went Well	To Do Differently Next Time
Everyone seemed to leave the meeting smiling	Need better acoustics were challenging
People were engaged the whole time	Feedback from the microphone was annoying – perhaps this could be resolved by having speakers come to a specific place / podium to speak
People were appreciative	Need to make sure there is sufficient content
The two comment periods seemed adequate, though comments at the second period seemed to mirror those from the first period (vs. having to do with FTC meeting topics)	Stick to the allotted time for public comments (shows respect for the meeting ground rules and created a level playing field)
Stayed on task and within the time parameters for the meeting.	Lost some focus at the end of the meeting.
Showed how we usually operate	Increase advertising?
Published agenda a month in advance	

Follow-Up on Public Comments and Questions: Two Documents were produced, one for comments and one for questions. Travis emailed the list of public comments to all prior to this meeting. He projected that list for all to see, along with the list of public questions to give everyone an idea of what we will finalize at the January meeting. It was suggested the comment list be grouped by topic to improve readability and to respond to the comments. Lyn will create a draft for all to consider at the January FTC meeting.

The intent was to post responses to the public questions within 30 days of the meeting. TPU is working with WDFW on questions under their purview and will send out a table showing the responses suggested by both organizations to the FTC for discussion. Responses will be finalized at the January meeting before being posted for the public.

Action Items:

- Lyn: Create an affinity draft of the public comments for FTC review.
- All: Work on draft responses to public comments (to discuss at January meeting).
- Travis: Post on the public website that comments and Q&A from the public meeting will be posted after the January FTC meeting.
- Travis: Send table with draft TPU and WDFW responses to questions to FTC prior to the January meeting.

Potential Topics for the January 2019 FTC Meeting

- Usual Announcements/Updates
- Approval of December Meeting Summary for posting to public
- FHMP Update, including Debrief of the Dec. 12 Workshop (the bulk of the meeting)
- Approval of FTC responses to Public Comments and Questions at Nov. 6 FTC Meeting
- CRR Fund Update

- Gravel Augmentation Update
- M&E Subgroup Report
- Downstream Adaptive Management TWG Report
- Agree on 2019 FTC Meeting Dates (See p. 1 of these notes for the tentative list.)