



Conference Call Minutes

Aquatic Settlement Work Group

To: Aquatic SWG Parties

Date: April 11, 2018

From: John Ferguson, Chair (Anchor QEA, LLC)

Re: Final Minutes of the March 14, 2018 Aquatic SWG Conference Call

The Aquatic Settlement Work Group (SWG) met by conference call on Wednesday, March 14, 2018, from 10:00 a.m. to 12:30 p.m. Attendees are listed in Attachment A of these conference call minutes.

I. Summary of Action Items

1. Steve Lewis will contact Tim Culbertson (Secretary-Manager for Columbia Basin Hydropower) regarding how water managers coordinate and manage forced spill and total dissolved gas (TDG) at Mid-Columbia hydroelectric projects, outside of the former Mid-Columbia Hourly Coordination Agreement (Item VI-1).
2. Ralph Lampman (Yakama Nation [YN]) will compile data from the YN Pacific Lamprey Master Plan, including Confederated Tribes of the Umatilla Indian Reservation (CTUIR) and YN translocation and subsequent adult return data with literature references, for Douglas PUD to present to policy staff as technical justification for modifying timing and criteria outlined in the current draft Douglas PUD Pacific Lamprey Translocation Statement of Agreement (SOA; Item VI-3).
3. Douglas PUD will develop a revised draft Pacific Lamprey Translocation SOA, which includes edits discussed by the Aquatic SWG, for distribution to the Aquatic SWG for review (Item VI-3). *(Note: Chas Kyger provided a revised SOA to Kristi Geris on April 5, 2018, which Geris distributed to the Aquatic SWG that same day.)*
4. Ralph Lampman, Steve Lewis, and Patrick Verhey will discuss within the Priest Rapids Fish Forum, Rocky Reach Fish Forum, and Aquatic SWG coordination of regional Pacific Lamprey translocation efforts by Grant, Chelan, and Douglas PUDs (notably trapping timing, number of fish tagged, and release locations in 2018; Item VI-3).
5. Chas Kyger will provide the design drawings and 3D model for the Pacific Lamprey low-level entrance box and design drawings for the Wells Dam fishway entrance gate slots to Kristi Geris for distribution to the Aquatic SWG (Item VI-3). *(Note: Kyger provided the*

drawings following the conference call on March 14, 2018, which Geris distributed to the Aquatic SWG that same day.)

6. The Aquatic SWG meeting on April 11, 2018, will be held by **conference call** (Item VII-2).

II. Summary of Decisions

1. Aquatic SWG members present approved the *2018 Aquatic Settlement Agreement and Workgroup Action Plan*, as revised (*note: Bob Rose provided the YN's approval of the action plan via email prior to the conference call on March 14, 2018; Item VI-2*).

III. Agreements

1. There were no agreements discussed during today's conference call.

IV. Review Items

1. The draft *White Sturgeon Supplementation Plan* was distributed to the Aquatic SWG by Kristi Geris on February 21, 2018. This document is available for a 37-day review with edits and comments due to Andrew Gingerich by close-of-business on March 28, 2018 (Item VI-4). (*Note: edits were received from the Colville Confederated Tribes [CCT] and the Washington Department of Fish and Wildlife [WDFW] on March 27 and April 4, 2018, respectively; a revised draft White Sturgeon Supplementation Plan was distributed on April 4, 2018.*)
2. The draft report, *Evaluations of White Sturgeon Supplementation and Management Plan Implementation in the Wells Reservoir, 2014-2017*, was distributed to the Aquatic SWG by Kristi Geris on March 20, 2018. This document is available for a 42-day review with edits and comments due to Andrew Gingerich by May 1, 2018 (Item VI-4).
3. The draft *2017 Aquatic Settlement Agreement Annual Report*, including the draft *2017 Aquatic Nuisance Species Management Plan Annual Report*, *2017 Bull Trout Management Plan Annual Report*, *2017 Pacific Lamprey Management Plan Annual Report*, *2017 Resident Fish Management Plan Annual Report*, *2017 Water Quality Management Plan Annual Report*, *2017 Water Temperature Annual Report* (appended to *2017 Water Quality Management Plan Annual Report*), and *2017 White Sturgeon Management Plan Annual Report*, were distributed to the Aquatic SWG by Kristi Geris on March 20, 2018. These documents are available for a 45-day review with edits and comments due to Andrew Gingerich and Kristi Geris by May 4, 2018 (Item VI-5).
4. A revised draft Pacific Lamprey Translocation SOA was distributed to the Aquatic SWG for review by Kristi Geris on April 5, 2018 (Item VI-3). (*Note: edits were received from WDFW on April 5, 2018.*)

5. The draft report, *Adult Lamprey Approach and Passage Study, Wells Dam, 2016-17*, was distributed to the Aquatic SWG by Kristi Geris on April 9, 2018. This document is available for a 30-day review with edits and comments due to Chas Kyger by May 9, 2018 (Item VI-3).

V. Documents Finalized

1. The *2018 Aquatic Settlement Agreement and Workgroup Action Plan* was distributed to the Aquatic SWG by Kristi Geris on March 20, 2018 (Item VI-2).

VI. Summary of Discussions

1. Welcome, Review Agenda, Meeting Minutes Approval, and Review of Action Items (John Ferguson):

John Ferguson welcomed the Aquatic SWG members (attendees are listed in Attachment A) and reviewed the agenda. Ferguson asked for any additions or other changes to the agenda. The following revisions were requested:

- Ferguson added an administration update regarding Aquatic Settlement Agreement technical representation and voting.
- Steve Lewis added a brief discussion on Bull Trout.
- Ralph Lampman added a discussion on the Pacific Lamprey presentations by Nick Ackerman (Portland General Electric).

The revised draft February 14, 2018 conference call minutes were reviewed. Kristi Geris said all comments and revisions received from members of the Aquatic SWG were incorporated into the revised minutes, and there are no outstanding edits or questions to discuss. Aquatic SWG members present approved the February 14, 2018 conference call minutes, as revised.

Action items from the Aquatic SWG conference call on February 14, 2018, are as follows (note: the following italicized item numbers correspond to agenda items from the February 14, 2018 conference call):

- *Douglas PUD will develop a draft SOA describing how Douglas PUD will support Pacific Lamprey translocation efforts in future years (tentatively expected following finalization of the technical memorandum, Temporary Fishway "Lamprey Operations": 2017 Pacific Lamprey Migration at Wells Dam, and an acoustic telemetry Pacific Lamprey approach report being drafted by Douglas PUD in coordination with LGL Limited; Item VI-1).*
A draft Pacific Lamprey translocation SOA was distributed to the Aquatic SWG by Kristi Geris on March 13, 2018. This will be further discussed during today's conference call.
- *Douglas PUD will incorporate Wells Dam 2017 Pacific Lamprey run data into the 2017 Pacific Lamprey Management Plan Annual Report (Item VI-2).*

- Andrew Gingerich said these data have been incorporated into the draft annual report.
- *Steve Lewis will contact Tim Culbertson (Secretary-Manager for Columbia Basin Hydropower) regarding how water managers coordinate and manage forced spill and TDG at Mid-Columbia hydroelectric projects, outside of the former Mid-Columbia Hourly Coordination Agreement (Item VI-4).*

Lewis said he has not yet reached Culbertson. This action item will be carried forward.

- *Douglas PUD will discuss how forced spill and TDG are coordinated and managed at Wells Dam, outside of the former Mid-Columbia Hourly Coordination Agreement, during a future Aquatic SWG meeting (Item VI-4).*

Andrew Gingerich said he provided an overview of these discussions to Shane Bickford (Douglas PUD Natural Resources Supervisor), who indicated he would gladly participate in these discussions during a future Aquatic SWG meeting, at the request of the Aquatic SWG.

- *Ralph Lampman will provide a summary of questions from the Wells Dam fishway tour on January 10, 2018, for discussion during the Aquatic SWG conference call on March 14, 2018 (Item VI-8).*

Lampman provided these questions to Kristi Geris on February 14, 2018, which Geris distributed to the Aquatic SWG that same day. This will be further discussed during today's conference call.

2. DECISION: 2018 Aquatic Settlement Agreement and Workgroup Action Plan (All):

Andrew Gingerich said the draft *2018 Aquatic Settlement Agreement and Workgroup Action Plan* was distributed to the Aquatic SWG by Kristi Geris on December 18, 2017. Gingerich said Steve Lewis provided helpful comments and Douglas PUD attempted to address these comments by adding more specificity to the action plan, as requested. A revised *2018 Aquatic Settlement Agreement and Workgroup Action Plan* was distributed to the Aquatic SWG by Geris on March 2, 2018. Gingerich reminded the Aquatic SWG that this action plan is not binding; rather, it is a tool to help plan a path forward and can be updated as needed. Gingerich said Douglas PUD would like to request approval of this action plan or address any outstanding questions on this plan at this time. Lewis said the edits adequately addressed his comments, and this has been a good discussion. He said the more specificity the better, and he appreciates the effort.

Aquatic SWG members present approved the *2018 Aquatic Settlement Agreement and Workgroup Action Plan*, as revised (note: Bob Rose provided the YN's approval of the action plan via email prior to the conference call on March 14, 2018).

Note: the 2018 Aquatic Settlement Agreement and Workgroup Action Plan was distributed to the Aquatic SWG by Kristi Geris on March 20, 2018.

3. Pacific Lamprey (Andrew Gingerich and Chas Kyger):

John Ferguson said there has been a lot of progress on the topic of Pacific Lamprey over the past several months, which will be further discussed under the following agenda items.

Translocation Statement of Agreement

A draft Pacific Lamprey Translocation SOA (Attachment B) was distributed to the Aquatic SWG by Kristi Geris on March 13, 2018. Andrew Gingerich said this draft is intended to be the first iteration of this SOA for Aquatic SWG review and discussion. He said this SOA demonstrates Douglas PUD is supportive of translocation. He recalled discussion about whether Douglas PUD is obligated to conduct translocation under the *Pacific Lamprey Management Plan*; however, with this SOA that topic is no longer relevant. He said Chas Kyger developed the draft SOA and will discuss it further. Ferguson said he appreciates the effort put into defining values within the draft SOA for discussion.

Kyger recalled that the Aquatic SWG has been discussing a general concept for this SOA. He said he tried taking a logical and technical path forward in drafting this SOA, i.e., identifying trigger points and clearly defining goals, which provide some level of fish passage while waiting for large enough Pacific Lamprey numbers to conduct studies at Wells Dam.

Gingerich acknowledged this draft SOA was only distributed 1 day ago and said Douglas PUD is not seeking approval today, but would like to address questions, if any, at this time.

Ralph Lampman said this draft SOA is a great start and includes the specificity that was needed. He said regarding trigger points for study at Wells Dam, he believes 500 Pacific Lamprey counted at Wells Dam is reasonable; however, a conversion rate of 35% is questionable. He said, for example, considering passage counts in 2017, a conversion rate of 35% means about 5,000 adults needed to pass Wells Dam to meet this criterion. He said he does not want the trigger points to be unachievable; rather, trigger points should be foreseeable. He suggested, for example, taking advantage of high passage numbers and good years rather than relying on conversion rates.

Ferguson asked if Lampman is suggesting the trigger points are too high and too rigid?

Lampman said only the conversion rate seems too high; and added, it seems it will be difficult to meet both the count number and conversion rate. He suggested meeting one or the other because trying to meet both seems almost impossible.

Kyger asked if there is another conversion rate Lampman believes is more reasonable. Kyger said he is unsure about conversion rates downriver, and 35% is based on the best available information from Wells Dam counts over a decade ago. He said this rate is not set in stone. Lampman said conversion rates downriver are really good and would not serve as a good

example for Wells Dam. He said he would be supportive of a conversion rate as low as 5%, for meeting both criteria or meeting one or the other.

Gingerich said there is a lot of uncertainty. He said there is no Pacific Lamprey passage standard on the Columbia River given these fish are panmictic and not necessarily returning to a natal stream and it is unknown how many fish should be moving upstream of Wells Dam. He said historically, there have been conversion rates of 35% at Wells Dam, which is why this conversion rate was chosen for the draft SOA. He questioned how to justify a different conversion rate and how to identify an expectation for the future.

Lampman suggested not using a conversion rate in this SOA. He said it is unreasonable to expect conversions rates to be what they once were. He said the most important question is how many adults are returning to Wells Dam and is it enough to conduct a study.

Gingerich said there is vulnerability in the study itself. He said in 2017, about 250 Pacific Lamprey passed Wells Dam. He said this equals a 1% conversion rate between Rocky Reach Dam and Wells Dam. He said if these numbers double and increase to 500 fish, this means 20,000 fish would have to pass Rocky Reach Dam at a 2% conversion rate. He said the conversion rate may not be 35%, but the purpose behind including this is to put into context that a reasonable conversion rate and high enough counts are needed to conduct a valid study. Kyger agreed and added that when there is only a small number of fish approaching Wells Dam, this affects conducting a study and meeting assumptions. He said this is the angle and added that this is not just about overall passage standards; rather, it is more about practicality of conducting a study.

Ferguson summarized that given Lampman's concerns, if the conversion value is set too high there is risk of delaying future studies, and Douglas PUD's concern that if the value is too low there is risk of not being able to conduct a valid approach study (where fish are motivated to pass Wells Dam). Ferguson suggested considering a number that has flexibility attached, so the value is not so unequivocal.

Lampman suggested conducting translocation for x-amount of years, and in the meantime, install the "lowest hanging fruit" modifications that have been discussed within the Aquatic SWG.

Gingerich said this is good feedback. He said Douglas PUD thought 7 years was a good amount of time to conduct translocation efforts, and Aaron Jackson (CTUIR) suggested 10 years. Gingerich suggested, for example, conducting translocation for 7 years (given Pacific Lamprey life history), and then at that point conduct a check-in. He said if the criteria have not been met, adaptively manage from that point forward; for example, evaluate if

anything has changed in terms of approach to Wells Dam. He said if fish are still not approaching, this is a red flag. He said, however, Douglas PUD is optimistic translocation will improve Pacific Lamprey approach behavior. Gingerich asked if Douglas PUD can commit to working on these "low hanging fruit" items as discussed within the Aquatic SWG (e.g., diffuser grating and plating) while translocation efforts take place for 7 years, would the YN be more supportive of this SOA and these jump-off points? Gingerich added that if fish do not approach Wells Dam, it will not matter how much plating or grating changes are completed. He said this is why Douglas PUD is heading down the translocation path.

Lampman said he agrees with Gingerich's general statement. Lampman said, although it took the YN 10 years of translocation before observing adult returns, there was a 30-fold increase just after 4 years. He said in 2017, there was a huge increase everywhere. He said he believes 'number of years' is still a discussion point but agrees about setting aside some years to tackle "low hanging fruit." He said the best goal is to implement improvements and then conduct a study to assess what else can be done.

Ferguson said he interpreted the draft SOA as allowing near-term, within fishway modifications that the Aquatic SWG has been talking about. He asked Douglas PUD if this is what was intended. Kyger said when the SOA was drafted, he did not want to complicate it with too many details. He said the goal of this SOA was to basically indicate Douglas PUD is not comfortable with conducting active tag studies when the assumptions have not been met; however, Douglas PUD intends to continue working on any actions which do not involve conducting active tag studies. He said Douglas PUD is seeking recommendations from the Aquatic SWG on how to move this SOA forward. He said the information Lampman shared is a great starting point for this.

Lampman suggested focusing on translocation and improvements for x-amount of years, and then immediately conduct a study. He said postponing studies over and over is not ideal. Gingerich said this is a possibility; that the jump-off points can be deleted if the Aquatic SWG chooses to do so.

Lampman said larvae (ammocoetes) are observed almost immediately following translocation (by the second year). He said juveniles (macrophthalmia) begin appearing in about 3 to 4 years and appearing for 7 to 8 years is typical. He explained that it seems one group appears early. He said at 7 to 8 years is also when adults begin returning in large numbers. He suggested for this SOA, 5 years is a better number for conducting translocation efforts. He also said if there are two criteria in the SOA (counts and conversion), he proposes changing 'and' to 'or.'

Gingerich said Douglas PUD may be open to modifying the conversion rate; however, they may also be hesitant to change 'and' to 'or' because 500 fish might not mean a lot of conversion approaching if 20,000 fish are counted at Rocky Reach Dam. He said this is a conversion of 2%, which comes back to the question of conducting a valid study with too few fish approaching Wells Dam.

Lampman said he understands and suggested a minimum conversion rate of 18% or 5-year period. Ferguson clarified that Lampman is suggesting translocation and in-ladder modifications for 5 years, or at which time 500 fish and a 18% conversion is met. Gingerich asked, why 18%? Lampman said 18% was the minimum from 2000 to 2005.

Steve Lewis suggested including more specificity in the second paragraph of the Statement in the draft SOA. He said the paragraph indicates what Douglas PUD may do, but not what Douglas PUD will do.

Ferguson asked about next steps. He asked if Douglas PUD wants to update the timing metrics and add specificity in the draft SOA or have Aquatic SWG members submit edits on the draft SOA currently available for review. Gingerich said if Lampman can easily pull together data supporting an 18% conversion rate for Gingerich to share with policy staff, this may expedite getting a revised draft out for Aquatic SWG review. Gingerich added that changing 7 years to 5 years may be difficult. Lampman said he will compile data from the YN Pacific Lamprey Master Plan, including CTUIR and YN translocation and subsequent adult return data with literature references, for Douglas PUD to present to policy staff as technical justification for modifying timing and criteria outlined in the current draft Douglas PUD Pacific Lamprey Translocation SOA.

Lewis said he may have edits to the background language, as well. Douglas PUD will develop a revised draft Pacific Lamprey Translocation SOA, which includes edits discussed by the Aquatic SWG, for distribution to the Aquatic SWG for review. Lampman said he concurs with Lewis about adding more specificity on what modifications will occur.

Lampman said he would like to further discuss the plan for translocation, such as the details on release locations. Kyger said Douglas PUD preferred not to include these details in this SOA. He assured Lampman Douglas PUD has no reservations about where fish are released as long as the release is in the Wells reservoir. Kyger said Douglas PUD is open to discussing these details when the time comes.

Grant PUD Coordination

Kyger said he spoke with Mike Clement (Grant PUD), mostly about lining up trapping at Priest Rapids Dam and translocation. Kyger said Grant PUD is supportive of this. Kyger said

one thing to note is Grant PUD is also trapping for translocation and Clement was clear Grant PUD would have priority to obtain fish first. Kyger said Grant PUD has a similar translocation SOA as Douglas PUD. Kyger said once Grant PUD is finished trapping for the Grant PUD program, Douglas PUD can begin trapping for the Douglas PUD program. Kyger said Douglas PUD and Grant PUD are working to finalize an agreement, but Douglas PUD wants to first understand what will be included in the final Douglas PUD translocation SOA. Kyger said Clement also invited Douglas PUD to Priest Rapids Dam to view the modifications Lampman has discussed.

Ferguson asked if any modifications are visible when the fishways are watered-up? Kyger said he is unsure and suggested scheduling a visit during the next dewatered event.

RD Nelle (U.S. Fish and Wildlife Service [USFWS]) asked if Douglas PUD plans to contact Chelan PUD? Kyger said he has spoken with Steve Hemstrom (Chelan PUD) and understands Chelan PUD also has translocation plans; however, Kyger is unsure about the details. Kyger said Douglas PUD may also need to coordinate trapping with Chelan PUD at Priest Rapids Dam.

Nelle said he was referring to the modifications implemented at Rocky Reach Dam. Kyger said he has not yet discussed with Chelan PUD about the modifications specifically. He said he understands the modifications are similar to what has been implemented at Priest Rapids Dam. He said, however, every fishway is designed differently, so there can be insights from both projects.

Lampman said the Grant PUD translocation SOA specifies trapping will occur over 15 days in the middle of the Pacific Lamprey run. Lampman said considering this timing, he proposes trapping at both the early part of the run and after the middle, rather than only after. He said if the goal is to obtain as many fish as possible, the focus should be closer to the peak of the migration. He said if trapping only occurs after the middle of the migration, this may result in trapping less fish. He suggested trapping 10 days prior to the peak and 5 days at the tail end.

Gingerich said this is a good point. He said furthermore, so long as Grant PUD gets 15 days of trapping in the middle of the run, he does not believe there is anything which prevents Grant PUD fish from being a part of translocation upstream of Wells Dam; and provided regional agencies are supportive of this and Grant PUD meets their trapping and/or mitigation objectives. Ferguson asked if Gingerich is suggesting that if Grant PUD traps more than a target number of fish in the 15 days, those fish may be used for translocation upstream of Wells Dam? Gingerich said yes and added that he is unsure if the Grant PUD SOA stipulates a target number of fish for trapping, or just 15 days. Ferguson asked how the PUDs and fish forums reach agreement about the disposition of these fish? Lampman said he

believes Grant PUD is open to suggestions, so long as the fish are released upstream of Rock Island Dam. He said this decision is up to the Priest Rapids Fish Forum and there are many opportunities for adjustments. He said he is confident about the ability to translocate at least 500 adults upstream of Wells Dam, whether it be from the middle or outside of Grant PUD's 15 days of trapping. Lampman asked if 500 adults is the maximum number Douglas PUD is willing to translocate upstream of Wells Dam and asked, for example, why not 750 adults? Gingerich said Douglas PUD is receptive to translocating more fish provided that the Aquatic SWG is also receptive to less due to run size. He said Douglas PUD is targeting for x-amount; however, there is no control over the run.

Ferguson said it seems it is more likely for Douglas PUD to reach a target number of adults if the PUDs are receptive to releasing fish upstream of Wells Dam. Lampman, Lewis, and Patrick Verhey will discuss within the Priest Rapids Fish Forum, Rocky Reach Fish Forum, and Aquatic SWG coordination of regional Pacific Lamprey translocation efforts by Grant, Chelan, and Douglas PUDs (notably trapping timing, number of fish tagged, and release locations in 2018).

Lampman asked up to how many fish is Douglas PUD willing to translocate upstream of Wells Dam? He said he believes more than 500 adults can be translocated; however, currently, the SOA only suggests 500 adults or the amount which can be trapped in 15 days. Kyger replied that Douglas PUD did not want to set the goal too high. He said from a logistics standpoint, he was unsure how many fish could be trapped in 15 days. He said Douglas PUD is open to trap more than 500 adults; however, he believes 500 adults seems like a reasonable number. He added that this is what the YN have been doing in the Methow River Basin. Gingerich said 500 adults seems rational based on other programs and counts prior to 2005. He said Douglas PUD can go higher but he cautioned the Aquatic SWG to also consider that translocating more than 500 may mean removing more than 50% of the run to translocate directly to the Methow River Basin and skipping reaches in between. He said there is also risk associated with skipping reaches. He said he believes 500 adults is rational and also gives the run the opportunity to decide where to spawn.

Ferguson said Douglas PUD will work on revised SOA language based on today's discussions. Lampman suggested indicating 500 adults or how many can be trapped in 15 days up to 1,000 adults. Gingerich said Douglas PUD will work on the language. *(Note: Kyger provided a revised SOA to Geris on April 5, 2018, which Geris distributed to the Aquatic SWG that same day.)*

Yakama Nation Wells Dam Tour Questions

Lampman's questions from the Wells Dam fishway tour on January 10, 2018, were distributed to the Aquatic SWG by Geris on February 14, 2018. Kyger said Douglas PUD attempted to

address Lampman's questions as best as possible (Attachment C), as distributed to the Aquatic SWG by Geris on March 6, 2018. Kyger said Wells Dam fishway drawings referenced in Douglas PUD's responses were distributed to the Aquatic SWG by Geris on March 13, 2018. Kyger said he forgot to provide the design drawings and 3D model for the Pacific Lamprey low-level entrance box and design drawings for the Wells Dam fishway entrance gate slots, but will provide those to Geris for distribution to the Aquatic SWG. (*Note: Kyger provided the drawings following the meeting on March 14, 2018, which Geris distributed to the Aquatic SWG that same day.*)

Lampman asked which drawing shows the fishway entrance? Gingerich said the file titled, *25-355 Collection Gallery Plan View* (Attachment D; distributed March 13, 2018) shows the fishway entrance. Lampman asked about the bulkhead slots in the Wells Dam fishway entrance and referenced the presentation by Nick Ackerman titled, *Salmon and Pacific Lamprey: Challenges with Satisfying Different Passage Preferences* (Attachment E), which was distributed to the Aquatic SWG by Lampman prior to the Aquatic SWG conference call on March 14, 2018. Lampman noted page 17 of Attachment E, which shows modifications to the bulkhead slots at River Mill Dam. He said if the slots are not completely flush (even just a 1/2-centimeter gap), this will disorient migrating Pacific Lamprey. Ferguson asked if adaptors were installed in the slots and how? Lampman suggested contacting Ackerman with these questions, as each dam is a little different. Gingerich said these bulkhead slots at Wells Dam have a small lip, as shown in Section A-A in Attachment D.

Ferguson suggested that the Aquatic SWG review the drawings and be prepared to ask questions during the Aquatic SWG conference call on April 11, 2018. Kyger acknowledged that these design drawings can be difficult to decipher and asked that Aquatic SWG members contact him with questions. Ferguson suggested coordinating these information requests before the next meeting, so at the next meeting the Aquatic SWG can identify specific in-ladder modifications for further discussion.

Ferguson asked Lampman if he had further comments on Douglas PUD responses to Lampman's questions from the Wells Dam tour. Lampman said he would still like to address the gaps between the bollards in the Pacific Lamprey low-level entrance box but will wait for the drawings to be distributed.

Lampman said he is interested where Pacific Lamprey have been located in the Wells Dam fishways during past dewatering events and he suggested documenting where these fish have been observed. Kyger said he let the mechanic crew know there is interest in this and asked to be notified when Pacific Lamprey are found in the fishways. Lampman suggested inviting the mechanic crew to a future meeting to discuss these locations, and Ferguson

suggested letting Gingerich and Kyger bring this information to the Aquatic SWG. Gingerich said he appreciates Lampman's point. He said one known place where Pacific Lamprey have been located is the scroll case. He said White Sturgeon have been found here as well; although, rarely. He said this location is above the exit to the turbines, which is referred to as the draft tubes. He said when a turbine unit is dewatered for maintenance, there is a period of time before the draft tube can be bulkheaded off and, in theory, fish can swim into the draft tube. He said the scroll case and area around the turbine blades is very large. He said water drains out of the scroll case to a depth of 6 to 12 inches, but water is always leaking into the dewatered scroll case and draft tube, and fish are always in oxygenated water. He said the Aquatic SWG can tour a dewatered turbine unit (scroll case) in the future. He said when fish have been recovered from this area, the fish have been in great condition.

Lampman cautioned that Pacific Lamprey can access the tiniest cracks and it may not always be easy to see them; therefore, he suggested conducting thorough searches during dewatering events.

Final Wells Dam Approach Report

Kyger said Douglas PUD just received the draft report from LGL Limited on March 13, 2018. Kyger said Douglas PUD plans to review the report, address a few comments, and hopefully have the report out by next week for an Aquatic SWG 30-day review.

Ferguson clarified that this is the Douglas PUD 2016 Pacific Lamprey Study Report? Kyger said yes, and the report also includes Grant PUD tag data through the summer of 2017 (the Grant PUD tags went to sleep and were re-awakened in 2017).

Lampman asked if there was a lot of fish movement in the spring? Kyger said not a lot of movement, but interestingly, large numbers of Grant PUD fish that were presumed dead moved upstream in the spring. Kyger said most of these fish did not reach the Wells Dam tailrace, and there was a sudden downstream movement in June 2017 where the fish passed Rocky Reach Dam. Kyger said there is no good explanation for this and it was not expected. Gingerich said Douglas PUD also conducted mobile tracking in late summer 2017 and these fish were not detected. He said it was interesting that several fish appeared and moved downstream at the exact same time. He said, however, these results do not change the story about how Pacific Lamprey behave when approaching Wells Dam but does suggest that the fish overwintered within the Rocky Reach reservoir successfully.

Note: the draft report, Adult Lamprey Approach and Passage Study, Wells Dam, 2016-17, was distributed to the Aquatic SWG by Geris on April 9, 2018. This document is available for a 30-day review with edits and comments due to Kyger by May 9, 2018.

Pacific Lamprey Presentations by Nick Ackerman (Portland General Electric)

Lampman asked if the presentations by Ackerman titled, *Salmon and Pacific Lamprey: Challenges with Satisfying Different Passage Preferences* (Attachment E; distributed March 14, 2018) and *Integrating Pacific Lamprey Specific Solutions in Redesign of a Tributary Fish Ladder* (Attachment F; also distributed to the Aquatic SWG by Lampman prior to the Aquatic SWG conference call on March 14, 2018) provide adequate justification to install plating at Wells Dam? Gingerich said not every part is self-explanatory and suggested that Lampman review the presentations during the Aquatic SWG conference call on April 11, 2018.

Ferguson recalled Douglas PUD's plans to tour Grant PUD's modifications. He said at that time, Douglas PUD will discuss with Clement results from the modifications to bring this information back to the Aquatic SWG. Ferguson said today, the Aquatic SWG further discussed specific actions to implement in the Wells Dam fishways, and next month discussions will continue about what has been tried and what is known about how well these actions have worked. He said at that time, the Aquatic SWG will assess if adequate information is known about the proposed modifications or if further justification is needed. Kyger agreed with this piece-by-piece approach and added that Douglas PUD is also looking at other projects and evaluations of similar modifications. He said then Douglas PUD and the Aquatic SWG can propose what modifications to implement and why they are justified.

Lampman said he believes there is already justification. He said the modifications have been implemented at other dams and passage improvements were observed. Ferguson explained that Gingerich and Kyger need to be able to convey this justification to the Douglas PUD Commissioners. Ferguson said part of the Aquatic SWG's role is to help Gingerich and Kyger summarize these justifications for their decision makers. Kyger said this is correct. He said the Aquatic SWG needs to identify an issue then point to the justification for a modification. He said there needs to be specificity, rather than "in theory." He said there will also be engineering challenges to address. Lampman agreed with Ferguson's and Kyger's comments.

4. White Sturgeon (Andrew Gingerich):

Wells Hatchery Brood Year 2017 White Sturgeon Rearing Update

Andrew Gingerich said all is well at Wells Fish Hatchery. He said there have been no fish mortalities in the last 30 days. He said fish are growing and staff are still targeting April 1, 2018, for surplusing approximately 800 fish to the (CCT) Fish and Wildlife Trout Hatchery. Gingerich said Douglas PUD is still coordinating with the Washington State University School of Veterinary Medicine for fish health testing in 2019 and beyond, because after 2018, the USFWS Fish Health Lab at Dworshak National Fish Hatchery will no longer do histology.

Gingerich said briefly, there are just under 1,200 fish on-station at Wells Fish Hatchery. He said survival is just over 40% for brood year 2017. He said as of March 5, 2018, the mean weight of the largest fish is just under 125 grams each, another group is about 115 grams each, and another group is between 60 to 75 grams each. He said the last group of about 70 fish are not taking to the feed. He said the average fish size in this group is under 19 grams per fish. He said these fish are still growing, but slowly.

Gingerich said overall, things are going well. He said staff are still tracking fish growth on-station very closely. He said water temperatures will be modified to make program (release 325 fish at 200 grams a piece). He said there have been no major issues.

Draft Three-Year White Sturgeon Monitoring and Evaluation Report

Gingerich said Dave Robichaud (LGL Limited) is helping draft this report. Gingerich said Robichaud produced the first draft a couple months ago and Douglas PUD provided comments. Gingerich said Douglas PUD asked Robichaud to prioritize the Douglas PUD 2016 Pacific Lamprey Study Report, which was just provided to Chas Kyger for review. Gingerich said Douglas PUD asked that Robichaud incorporate Douglas PUD comments into the draft 3-year white sturgeon monitoring and evaluation report by the end of March 2018; therefore, a draft should be ready for Aquatic SWG review by April 1, 2018.

The draft report, *Evaluations of White Sturgeon Supplementation and Management Plan Implementation in the Wells Reservoir, 2014-2017*, was distributed to the Aquatic SWG by Kristi Geris on March 20, 2018. This document is available for a 42-day review with edits and comments due to Gingerich by May 1, 2018.

White Sturgeon Supplementation Plan (Broodstock and Breeding)

Gingerich said the draft *White Sturgeon Supplementation Plan* was distributed to the Aquatic SWG by Kristi Geris on February 21, 2018. This document is available for review with edits and comments due to Gingerich by close-of-business on March 28, 2018.

5. Draft 2017 Aquatic Settlement Agreement Annual Report and Management Plan Annual Reports (Andrew Gingerich)

Andrew Gingerich said the draft *2017 Aquatic Settlement Agreement Annual Report*, including the six aquatic resource management plan annual reports, will be distributed for review on March 20, 2018. Gingerich said Douglas PUD and Anchor QEA have been busy working on these reports, which are due to FERC on May 31, 2018. He said the reports will be available for a 45-day review, with edits and comments due on May 4, 2018. Douglas PUD will request approval of the reports during the Aquatic SWG meeting on May 9, 2018.

The draft *2017 Aquatic Settlement Agreement Annual Report*, *2017 Aquatic Nuisance Species Management Plan Annual Report*, *2017 Bull Trout Management Plan Annual Report*, *2017 Pacific Lamprey Management Plan Annual Report*, *2017 Resident Fish Management Plan Annual Report*, *2017 Water Quality Management Plan Annual Report*, *2017 Water Temperature Annual Report* (appended to *2017 Water Quality Management Plan Annual Report*), and *2017 White Sturgeon Management Plan Annual Report*, were distributed to the Aquatic SWG by Kristi Geris on March 20, 2018. These documents are available for a 45-day review with edits and comments due to Gingerich and Geris by May 4, 2018.

6. 2018 Water and Total Dissolved Gas Update (Andrew Gingerich):

Andrew Gingerich said considering the extensive Pacific Lamprey discussion on today's agenda, he did not develop figures for this update. He said briefly, since last month, on average the TDG in the Wells Dam tailrace was 100.9% (standard is 110%). He said there was one hourly-value above 110% at 111.2% associated with 182,000 cubic feet per second (182 kcfs) river flow past Wells Dam. He said even with 40 kcfs spill, this resulted in an exceedance. He said Douglas PUD implemented mandatory generation to program participants. He said this led to an average spill of 5 kcfs, which is misleading because these spill events were short and intense and are not a good representation of showing spill metrics.

Gingerich said Wells Dam is receiving less river flow from Grand Coulee Dam than last month. He recalled that the Grand Coulee reservoir was drafted early and aggressively to meet 1,255 feet above mean sea level (MSL). He said Wells Dam has been receiving 120 kcfs on average over the last 2 weeks, which is less than the 160-plus kcfs Wells Dam was receiving this time last month. He said the maximum hourly average river flow in the last 2 weeks was 182 kcfs, which is still fairly high for this time of year. He said the water forecast is 116% of average freshet, which means plenty of water is still to come. He said the 120-day forecast for the Okanogan and Methow river basins is 127% and 133% of average freshet, respectively. He said there should be a lot of side flow expected over the next 4 months.

7. Bull Trout (Steve Lewis):

Steve Lewis said he has a quick question for Douglas PUD regarding Bull Trout; however, he needs to leave today's conference call early and will contact Douglas PUD outside of the meeting. Andrew Gingerich said Douglas PUD will add the discussion as an agenda item at a future meeting, if necessary.

VII. Administration

1. Aquatic Settlement Agreement Technical Representation and Voting (John Ferguson):

John Ferguson said with Bob Rose's reduced participation in the Aquatic SWG, Ralph Lampman's increased participation has been beneficial. Ferguson said, however, the YN has not yet submitted a formal representation letter designating Lampman as the YN Technical Representative. Ferguson said upon further review of the Aquatic Settlement Agreement, the language stipulates that only the designated technical member can vote on Decision Items. Ferguson said he has inadvertently and incorrectly allowed Lampman to submit votes for the YN. Ferguson said the YN are working internally to get Lampman designated as the technical representative. Ferguson said currently, per the Aquatic Settlement Agreement, Rose needs to coordinate before a Decision Item to either submit the YN's vote to Ferguson or request a 5-day delay to vote. Ferguson said he wanted to notify the Aquatic SWG these discussions have been ongoing, and he suggested reviewing the Aquatic Settlement Agreement as a refresher on the processes of this work group.

(Note: a YN Aquatic SWG Representation Designation memorandum, which designates Lampman as the YN Technical Representative and Rose as the YN Alternate was distributed to the Aquatic SWG by Kristi Geris on March 22, 2018).

2. Upcoming meetings (John Ferguson):

The Aquatic SWG meeting on April 11, 2018, will be held by conference call.

Other upcoming meetings include: May 9, 2018 (TBD) and June 13, 2018 (TBD).

List of Attachments

- Attachment A List of Attendees
- Attachment B Draft Pacific Lamprey Translocation SOA
- Attachment C Douglas PUD's Responses to Ralph Lampman's Questions from the Wells Dam Fishway Tour on January 10, 2018
- Attachment D 25-355 Collection Gallery Plan View
- Attachment E Salmon and Pacific Lamprey: Challenges with Satisfying Different Passage Preferences (Nick Ackerman, Portland General Electric)
- Attachment F Integrating Pacific Lamprey Specific Solutions in Redesign of a Tributary Fish Ladder (Nick Ackerman, Portland General Electric)

Attachment A – Attendees

Name	Role	Organization
John Ferguson	Aquatic SWG Chairman	Anchor QEA, LLC
Kristi Geris	Administration/Technical Support	Anchor QEA, LLC
Andrew Gingerich	Aquatic SWG Technical Representative	Douglas PUD
Chas Kyger	Technical Support	Douglas PUD
Breean Zimmerman	Aquatic SWG Technical Representative	Washington State Department of Ecology
Steve Lewis	Aquatic SWG Technical Representative	U.S. Fish and Wildlife Service
RD Nelle	Technical Support	U.S. Fish and Wildlife Service
Ralph Lampman	Technical Support*	Yakama Nation
Jason McLellan	Aquatic SWG Technical Representative	Colville Confederate Tribes

Notes:

- * Ralph Lampman participated as technical support; however, following the meeting, the Aquatic SWG received a YN Aquatic SWG Representation Designation memorandum which designates Lampman as the YN Technical Representative and Rose as the YN Alternate.