



Conference Call Minutes

Aquatic Settlement Work Group

To: Aquatic SWG Parties

Date: June 13, 2018

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

Re: Final Minutes of the May 9, 2018 Aquatic SWG Conference Call

The Aquatic Settlement Work Group (SWG) met by conference call on Wednesday, May 9, 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. Patrick Verhey and Ralph Lampman will provide Washington Department of Fish and Wildlife (WDFW) and Yakama Nation (YN) comments, respectively, on the draft report, *Adult Lamprey Approach and Passage Study, Wells Dam, 2016-17*, to Kristi Geris for distribution to the Aquatic SWG by Friday, May 18, 2018 (Item VI-5). (Note: Verhey provided WDFW comments on May 17, 2018, and Lampman provided YN comments on May 21, 2018.)
2. Douglas PUD will provide the revised draft report, *Adult Lamprey Approach and Passage Study, Wells Dam, 2016-17*, to Kristi Geris for distribution to the Aquatic SWG no later than Friday, June 1, 2018, for decision during the Aquatic SWG conference call on June 13, 2018 (Item VI-5).
3. Douglas PUD will provide a revised draft Pacific Lamprey Translocation Statement of Agreement (SOA) to Kristi Geris for distribution to the Aquatic SWG no later than Friday, June 1, 2018, for decision during the Aquatic SWG conference call on June 13, 2018 (Item VI-7). (Note: Chas Kyger provided a revised draft SOA to Geris on June 5, 2018, which Geris distributed to the Aquatic SWG that same day.)
4. The Aquatic SWG meeting on June 13, 2018, will be held by **conference call** (Item VII-1).

II. Summary of Decisions

1. Aquatic SWG members present approved the *Evaluations of White Sturgeon Supplementation and Management Plan Implementation in the Wells Reservoir, 2014-2017*, as revised (Item VI-2).
2. Aquatic SWG members present approved the *2017 Aquatic Settlement Agreement Annual Report*, including the *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 (Item VI-4).

III. Agreements

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

IV. Review Items

1. A revised draft Pacific Lamprey Translocation SOA was distributed to the Aquatic SWG for review by Kristi Geris on April 5, 2018. Edits from WDFW were distributed on April 5, 2018, and from the YN and U.S. Fish and Wildlife Service (USFWS) on April 11, 2018. A revised draft SOA for approval is expected by June 1, 2018 (see Summary of Action Items; Item VI-7). *(Note: Chas Kyger provided a revised draft SOA to Kristi Geris on June 5, 2018, which Geris distributed to the Aquatic SWG that same day.)*
2. 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. A revised draft report for approval is expected by June 1, 2018 (see Summary of Action Items; Item VI-5).

V. Documents Finalized

1. The final *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 May 9, 2018 (Item VI-2).
2. The final *White Sturgeon Supplementation Plan*, as approved by the Aquatic SWG on April 11, 2018, was distributed to the Aquatic SWG by Kristi Geris on May 9, 2018. The final plan was filed with the Federal Energy Regulatory Commission (FERC) on May 14, 2018, as distributed to the Aquatic SWG by Geris on May 15, 2018.
3. The final *2017 Aquatic Settlement Agreement Annual Report*, including the *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 May 18, 2018 (Item VI-4).

4. The final *2017 Aquatic Settlement Agreement Annual Report* was filed with FERC on May 31, 2018, as distributed to the Aquatic SWG by Kristi Geris on June 4, 2018 (Item VI-4).

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 changes to the agenda. Patrick Verhey requested to discuss the White Sturgeon agenda items first so Chad Jackson could participate in these discussions.

The revised draft April 11, 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 April 11, 2018 conference call minutes, as revised.

Action items from the Aquatic SWG conference call on April 11, 2018, are as follows (note: the following italicized item numbers correspond to agenda items from the April 11, 2018 conference call):

- *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-1).*
This will be discussed during today's conference call.
- *Aquatic SWG members will discuss within their respective agencies what to include in the draft Douglas PUD Pacific Lamprey Translocation Statement of Agreement (SOA) and their position on the SOA regarding evaluations and implementation of in-ladder modifications at Wells Dam to be discussed during the Aquatic SWG meeting on May 9, 2018 (Item VI-3).*
This will be discussed during today's conference call.

2. DECISION: Evaluations of White Sturgeon Supplementation and Management Plan Implementation in the Wells Reservoir, 2014-2017 (Andrew Gingerich):

Andrew Gingerich said 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. Gingerich said considering that several documents were out to the Aquatic SWG for review, Douglas PUD provided an extended review period for this report (42 days) and edits and comments were due to Gingerich by May 1, 2018. Gingerich said comments were received from the Colville Confederated Tribes

(CCT) on May 2, 2018, and Douglas PUD redistributed CCT's comments and a revised draft report for approval on May 8, 2018. Gingerich said the email also summarized comments received.

Aquatic SWG members present approved the *Evaluations of White Sturgeon Supplementation and Management Plan Implementation in the Wells Reservoir, 2014-2017*, as revised.

3. Wells Fish Hatchery Brood Year 2017 White Sturgeon Rearing Update (Andrew Gingerich):

Andrew Gingerich said a Wells Fish Hatchery White Sturgeon update (Attachment B) was distributed to the Aquatic SWG by Kristi Geris prior to the conference call on May 9, 2018.

Gingerich said on May 1, 2018, Douglas PUD passive integrated transponder (PIT)-tagged and scute-marked the 340 fish on station at Wells Fish Hatchery. He said weight and length data were also collected from a random subsample of the 340 White Sturgeon. He said about half of the fish are larger than the 200-gram threshold and half are smaller. He said a few larger fish increased the total average weight, and he noted that the median was 194 grams, but the mean was 203 grams. He said on April 1, 2018, hatchery staff were concerned fish were approaching the target fish size too quickly; therefore, water temperatures and feed rates were reduced. He said after a few weeks, water temperatures and feed rates were increased again. He said there are already large fish on station and noted that 270-gram fish were in the subsample. He recalled the SOA, *Wells Reservoir White Sturgeon Supplementation 2018-2022*, approved by the Aquatic SWG on January 11, 2017, indicated stocking 325 ($\pm 5\%$) fish at 200 grams per fish. He said before releasing the fish, hatchery staff will reduce in-hatchery water temperatures to match the expected river temperatures at release.

Gingerich said one advantage of marking fish now is it provides the opportunity to evaluate PIT-tag retention. He said in past years, there have been instances of recaptured fish which do not have a PIT tag but have a scute mark, which indicates the PIT tag was shed, or no longer functioning. He said at release, hatchery staff will monitor shed rates and PIT-tag fish again, if necessary.

Jason McLellan agreed Douglas PUD's tag retention approach is good. He added that this approach has been consistently implemented throughout the upper Columbia River Basin, and he thinks the Kootenai River White Sturgeon aquaculture program implements this approach, as well. McLellan said these efforts have found about a 2% tag loss rate, on average. He said the same rate is generally observed for inoperable PIT tags upon recapture in the wild. He added that he is unsure of the cause. He asked if Douglas PUD plans to obtain

lengths and weights during tag retention monitoring. Gingerich said Douglas PUD has considered this. McLellan said collecting these metrics are beneficial for growth rate data.

4. DECISION: 2017 Aquatic Settlement Agreement Annual Report and Management Plan Annual Reports (John Ferguson and Andrew Gingerich):

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 were available for a 45-day review with edits and comments due to Andrew Gingerich and Geris by May 4, 2018.

No comments were received on the draft *2017 Aquatic Settlement Agreement Annual Report*.

Comments on 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*, and *2017 White Sturgeon Management Plan Annual Report* were received from the CCT on May 3 and 4, 2018.

Douglas PUD distributed revised draft management plan reports for approval, along with responses to comments received (Attachment C), on May 8, 2018.

Aquatic SWG members present approved the *2017 Aquatic Settlement Agreement Annual Report*, including the *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*.

The final compiled report was distributed to the Aquatic SWG by Geris on May 18, 2018, and was filed with FERC on May 31, 2018, as distributed to the Aquatic SWG by Geris on June 4, 2018.

5. Pacific Lamprey Approach and Passage Study Report (Chas Kyger):

Chas Kyger said 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. Kyger said comments on the draft report were received from the CCT and USFWS on May 3 and 4, 2018,

respectively. Kyger said most comments were editorial in nature and he has not yet addressed comments received. He said there is no hard deadline for this report and suggested postponing a vote until comments have been addressed.

Patrick Verhey said WDFW also plans to submit comments on this draft report. Verhey said WDFW has the same comment as USFWS under Section 2 Objectives where it states:

Even though sample sizes were expected to limit our ability to meet all of them, the complete list of objectives for this study were:

Verhey said Steve Lewis's comment was, if this was expected then the number of study fish should have been increased initially to offset this aspect. Verhey said he seconds this comment and asked if the Aquatic SWG was consulted regarding design changes to the overall number of study fish (i.e., if Douglas PUD knew there was an issue with approach, why not release additional fish?). Kyger recalled that this study was originally designed to address potential structural issues, but then the focus shifted to evaluating approach behavior based on data from previous studies. He said because Douglas PUD and the Aquatic SWG had already completed preparations for this study, the design moved forward in case the previous years were an anomaly. Andrew Gingerich said Douglas PUD can reword the objectives to be clearer. Verhey said this still does not address why more fish were not released. Kyger said this was largely due to availability. He said when the study design shifted focus, the sample size was still addressing the initial objectives. He recalled discussing shifting objectives and methods with the Aquatic SWG (originally discussed during the Aquatic SWG conference call on November 12, 2015). Kyger said the modifications were already complete, Douglas PUD hoped enough fish would interact with the Wells Project to evaluate the modifications; however, this was not the case.

John Ferguson suggested revising this section of the report to include context and why additional fish were not released, so the reader understands there was a shift in the primary focus of the study. Kyger said he can add clarification.

Verhey said additionally, under Section 1 Introduction, second paragraph, it states:

The PLMP [Pacific Lamprey Management Plan] requires that measures be implemented to monitor and address impacts, if any, on Pacific Lamprey resulting from the Wells Project during the term of the new license.

Verhey said he believes it is well-known there are impacts from the Wells Project and recommending removing "if any." Kyger said this language was copied verbatim from the

Pacific Lamprey Management Plan to be consistent; however, he can remove "if any," as requested.

Lewis asked if next steps will be included in this report or a different document. Kyger said Douglas PUD is hesitant to include "big picture" next steps in study reports; rather, a study report includes only conclusions based on the data. Kyger said "big picture" next steps need to be discussed with the Aquatic SWG. He said the purpose of this report is to look at the study results, as opposed to developing an agreement on next steps. He said the next steps will be discussed outside the study report. Ferguson agreed.

Lewis said the Aquatic SWG has discussed limited sample size and suggested framing the need to increase sample size for the next study in this study report. Ferguson said it is not the researcher's place to do this; rather, this is the Aquatic SWG's purpose.

Ralph Lampman said the YN are also working on edits to this report. Lampman said his overarching comment is that this report paints a picture that basically very few fish reached the Wells Dam tailrace; however, the data indicate about 20% of fish reached the tailrace. He said with 24,000 fish counted at Rocky Reach Dam, 20% means about 5,000 fish were potentially approaching Wells Dam. He said given this, there is a huge reduction of fish moving into the fish ladders and past the dam, but this is not a recent phenomenon; this has been happening in the past. He said even in 2004, before the Tripod Fire and drop-off in numbers, this is a consistent pattern at Wells Dam. He said maybe pheromones are affecting this to a large degree; however, to say it is pheromones alone is misleading. He said this is not directly written in the report; however, this is what he interprets from reading the report, that the reason for poor passage at Wells Dam is something beyond the dam. Lampman said throughout the report there are statements which refer to this overall message, and he said he does not agree with this. He said he will include specific comments in the report to what he is referring to. He said he thinks there have been passage problems at the dam in the past that are now being exacerbated by a reduction in pheromones. He said Douglas PUD and the Aquatic SWG are doing their due diligence with translocation; however, passage problems at the dam should also be addressed. He said he does not believe that the drop-off in Pacific Lamprey at any of the other Columbia River reaches is as significant as at Wells Dam, and this should be evaluated directly.

Kyger said the intent was not to comment on whether there are issues at the dam; rather, there are issues with the assumptions. He said Douglas PUD is looking at the ability to evaluate passage at the dam. He said this is the ultimate conclusion Douglas PUD is trying to achieve.

Verhey and Lampman will provide WDFW and YN comments, respectively, on the draft report, *Adult Lamprey Approach and Passage Study, Wells Dam, 2016-17*, to Geris for distribution to the Aquatic SWG by Friday, May 18, 2018. (Note: Verhey provided WDFW comments on May 17, 2018, and Lampman provided YN comments on May 21, 2018.)

Ferguson said there are data-based conclusions and what one then does with the conclusions should go in the discussion section. He recommended keeping these two items separate when submitting comments on the report.

Ferguson asked if approving this document is driven by a schedule. Kyger said there is no deadline and suggested postponing a decision on the report until next month. Gingerich said Douglas PUD wanted to get this draft report out for review to help inform the translocation SOA.

Douglas PUD will provide the revised draft report, *Adult Lamprey Approach and Passage Study, Wells Dam, 2016-17*, to Geris for distribution to the Aquatic SWG no later than Friday, June 1, 2018, for decision during the Aquatic SWG conference call on June 13, 2018.

6. Water Quality and River Forecast Update (Andrew Gingerich):

Andrew Gingerich said a Water Quality and River Forecast update (Attachment D) was distributed to the Aquatic SWG by Kristi Geris prior to the conference call on May 9, 2018.

Gingerich said Figure 1 of Attachment D was produced by the NW River Forecast Center. He said snowpack in a lot of areas is above average, while some areas such as the lower Snake River Plain are below average, resulting in an average snow water equivalent in parts of the basin. He said as for the snowpack in watersheds above Wells Dam, there is plenty of water on the way.

Gingerich said Figure 2 of Attachment D shows river flow in the Okanogan River as of this morning, May 9, 2018. He said very high flows are expected in the Okanogan River, as discussed last month. He said river flow is expected to exceed 33,000 cubic feet per second (33 kcfs) by this weekend. He said currently, river flow is greater than 25 kcfs. He said the average for this time of year is 6 to 7 kcfs.

Gingerich said Figure 3 of Attachment D shows river flow in the Methow River. He said currently, river flow is about 16 kcfs, which is four times greater than the seasonal average of 4 kcfs. He noted the diamonds at the bottom of Figure 3 which represent the historical mean, the red triangles which represent the historical maximum, and the blue and green lines which show observed and forecasted flow, respectively.

Gingerich described the legend in Figure 4 of Attachment D and noted the increasing river flow. He said the blue line represents 246 kcfs, which is the 7-day, 10-year-frequency (7Q10) flow at Wells Dam where state water quality standards are waived, and flood control and human safety are prioritized. He said these flows are expected to be reached over the weekend.

Gingerich said Figure 5 of Attachment D ranks water volume in 1,000-acre feet (KAF) out of Grand Coulee Dam over each water year from 1960 to 2018. He said 2018 ranks 127% of normal. He recalled 2011 and 2012 ranked 131% and 138% of normal, respectively. He also noted that in 2011 and 2012, Wells Dam received 7Q10 flows for more than 4 weeks.

Gingerich reviewed Figure 6 of Attachment D, noting that although only 30% of the basin is physically located in Canada, about 60% of the river flow comes from Canada.

Gingerich reviewed Figure 7 of Attachment D and said not only is snowpack above average, but higher temperatures are also forecasted which leads to flooding conditions.

Kirk Truscott asked about incoming total dissolved gas (TDG) at Wells Dam. Gingerich said Wells Dam is receiving about 115% TDG from Chief Joseph Dam. He added that spill at Chief Joseph Dam is being prioritized over Grand Coulee Dam, because of the flip lips installed at Chief Joseph Dam. He said currently, there is high river flow with low power demand, and federal power system managers will prioritize load generation requirements at Grand Coulee Dam and will spill at Chief Joseph Dam.

Breean Zimmerman asked if the TDG values in Figure 4 of Attachment D are in the tailrace or incoming? Gingerich clarified those are tailrace values. He noted there is a little shape to the spill pattern when river flow is this high. He said currently, Wells Dam is a 9-unit plant (1 unit is down for unit overhaul). He said operators can put about 20 kcfs of river flow through each turbine unit, or approximately 180 kcfs through the powerhouse. He noted that operators cannot put 100% flow out each unit because some level of spinning reserve must be maintained; however, about 90% flow can be put through the powerhouse and then spill the rest. He said Douglas PUD has minimum generation requirements where Project Participants (customer) are forced to take the power from Wells Dam, even if Douglas PUD must pay the Participant to receive the power. Douglas PUD does this to stay within its Clean Water Act Section 401 Water Quality Certification to the fullest extent possible. He said at these volumes, options for managing TDG are limited.

John Ferguson said Tom Kahler (Douglas PUD Wells HCP Coordinating Committee Representative) notified the HCP Coordinating Committees that bypass barriers were removed from Bypass Bay 6 due to high river flow. Ferguson asked if additional barriers have

been removed. Gingerich said he does not have this information readily available but will include this information in subsequent updates.

7. Pacific Lamprey Statement of Agreement (All)

John Ferguson recalled that Douglas PUD provided a revised draft Pacific Lamprey Translocation SOA on April 5, 2018. WDFW provided edits on April 5, 2018, and the YN and USFWS provided edits on April 11, 2018. Ferguson said the Aquatic SWG has discussed lowering the conversion rate and adjusting the fish counts required to trigger re-evaluation, and how to conduct in-ladder modifications at Wells Dam consistent with the *Pacific Lamprey Management Plan*. He said the Aquatic SWG concluded the last meeting with an action item for members to discuss within their respective agencies what to include in the draft Douglas PUD Pacific Lamprey Translocation SOA and their position on the SOA regarding evaluations and implementation of in-ladder modifications at Wells Dam. Ferguson urged Aquatic SWG members to not rehash the same conversations which have already been discussed; rather, move these discussions forward closer to a decision.

Chas Kyger said he and Andrew Gingerich explained to Douglas PUD policy staff the issues discussed during the last Aquatic SWG meeting on April 11, 2018. Kyger said he was unable to obtain support to conduct both translocation and in-ladder modifications concurrently. He recalled that Douglas PUD policy staff and Commissioners finally agreed to support translocation because it was explained that translocation is necessary to move forward in addressing objectives in the *Pacific Lamprey Management Plan*. Kyger said Douglas PUD can support translocation, increasing the translocation number up to 1,000 fish each year, and is willing to reduce the conversion rate and duration of the SOA; however, there can be no in-ladder modifications during the translocation period.

Patrick Verhey said he is interested in hearing comments from Ralph Lampman, Steve Lewis, and Kirk Truscott (CCT). Verhey recalled last month, expressing concern about statistically viable numbers approaching Wells Dam and the lack of data to direct the Aquatic SWG to approve changes to the Wells Dam fishways. Verhey said he hopes the literature review Douglas PUD is preparing will include data about the effectiveness of spacing between diffuser gratings, installation of ramps, rounding corners, and other modifications that have been implemented at other projects. Verhey said he appreciates Douglas PUD's internal coordination between technical staff, Commissioners, and managers, to address Aquatic SWG requests.

Kyger said the juvenile literature review is nearly complete and should be ready for distribution soon. He said the adult literature review is underway, with a target completion date of June 30, 2018 (and to be ready for distribution by July 2018). He said the format will be the same as the juvenile literature review.

Lampman said not moving forward with implementation of passage improvements is a big drawback. He said he does not understand the logic. He said the YN can support 5 years of translocation and identifying trigger points; however, the YN also believes implementation of basic modifications that have been completed at other dams makes sense, even if only 20% of the run is approaching Wells Dam. Lampman said the YN believes this is Douglas PUD's responsibility to implement these modifications right now. Lampman said he discussed this with Bob Rose, who agreed. Lampman said without the implementation of these basic improvements, he does not foresee consensus.

Lewis said in general, USFWS supports the concept of the SOA. He said translocation needs to be part of the equation, which seems to be fairly well agreed upon within the Aquatic SWG. He recalled the Wells Dam site tour (on January 10, 2018), where he observed what he believes to be obvious red flags for Pacific Lamprey passage, specifically in the collection gallery. He said although Douglas PUD policy staff are not currently supportive of installing the "low hanging fruit" concepts, e.g., grating spacing, he suggested rewording the SOA language to include a path forward for the low hanging fruit during years 3, 4, and 5, so that after year 5 arrives, Douglas PUD is ready to implement these quick fixes. Lewis said he does not believe additional information is needed to commit to these fixes.

Verhey said he does not recall hearing any information about the effectiveness of rounded corners, diffuser grating spacing, or ramps; and he asked Lewis to share what he has heard. Verhey added that regarding trigger points, there may be an opportunity to implement fishway modifications before 5 years, depending on run size.

Truscott said the CCT agree with the need for translocation considering the lack of Pacific Lamprey upstream of Wells Dam. He said he also echoes the concerns that have been expressed about items identified to improve fish ladder passage. He said he believes it is prudent to consider this list of items that would be fairly easy to address and possibly develop an implementation schedule. He said the CCT are not supportive of "all or nothing."

Ferguson clarified the difference between "deferring construction" and "deferring planning." He said no one is proposing to do nothing until triggers are met; rather, while waiting to meet triggers, work will continue on what needs to be done in order to be ready to implement in-ladder modifications when triggers are met.

Truscott thanked Ferguson for this clarification, and said he interpreted the SOA as indicating if trigger points are not met, there would never be passage evaluations. Truscott noted the last sentence in the first paragraph, as follows:

The Aquatic SWG agrees to postpone Pacific Lamprey upstream passage evaluations at Wells Dam for 5 years, or until both of the following criteria are satisfied:

Gingerich said the intent is to conduct translocation for a period of time, and check-in at year 5 or when criteria are met. Truscott asked if the triggers are not met does translocation continue indefinitely? Gingerich said that is an Aquatic SWG decision. He said if the triggers are not met after year 5, the approach issue (the issue of few fish arriving in the tailrace and passing the dam) will be re-tested. He said if approach is still an issue at that point but there is a general increase in Pacific Lamprey passage at Wells Dam, the Aquatic SWG may decide to continue translocation. Truscott said if there is poor passage in the Wells Dam fish ladders the triggers may never be achieved, even with sufficient numbers approaching the Wells Project. Gingerich said this is true, which is why there will be an opportunity for periodic re-evaluation.

Breean Zimmerman said the Washington State Department of Ecology (Ecology) defers to the fish agencies for these types of discussions. Zimmerman said she hopes to reach a compromise which satisfies each Aquatic SWG party.

Ferguson summarized that it seems most everyone is agreeing on proceeding with translocation, and the question is what to do between now and the first check-in regarding in-ladder modifications. He said Douglas PUD needs empirical evidence supporting the fact that proposed modifications are beneficial, and he recalled the lamprey entrance box issue (discussed during the Aquatic SWG meeting on April 11, 2018). Ferguson said Pacific Lamprey translocation actions will be starting shortly, so the Aquatic SWG needs to get an SOA in place. He asked if there is a way to proceed with translocation while working on a plan for in-ladder modifications?

Kyger said Douglas PUD can prioritize designs and plan in-ladder modifications the Aquatic SWG feels are necessary. He clarified that Douglas PUD is not questioning whether these proposed modifications may be appropriate at Wells Dam; rather, the issue is translocation was presented as a means to study in-ladder modifications. He said the issue is not that Douglas PUD does not believe that modifications may be necessary; rather, management will not support implementing modifications due to the current inability to conduct effective passage studies to identify problem areas or evaluate any modifications that are made. He recalled that translocation is not consistent with *Pacific Lamprey Management Plan* requirements; therefore, translocation needed to be framed a certain way to obtain approval.

Truscott said he forgot how translocation was presented to management and thanked Kyger for the reminder. Verhey also thanked Kyger for the reminder and said he understands the dilemma. Verhey reviewed Objective 1 of the *Pacific Lamprey Management Plan*, as follows:

Identify and address any adverse Project-related impacts on passage of adult Pacific Lamprey

Verhey said he believes the literature review is a reasonable method to address what Wells Project-related impacts might be. He said the literature review will provide empirical data of fish approaching and passing dams, and these data can be extrapolated and applied to Wells Dam. Verhey expressed concern about prioritizing an SOA over the *Pacific Lamprey Management Plan* because a lot of thought was put into developing the plan, and as such, it seems actions should be governed by this document. He suggested that if trigger points are not met, then the Aquatic SWG needs to continue studying adverse impacts.

Verhey said he discussed with Gingerich specifications for the diffuser gratings and if the gratings are supposed to have 1-inch spacing, then modifying them to be in criteria could be completed outside of actions related to Pacific Lamprey. Gingerich clarified what he and Verhey were discussing was that there is a difference between ladder modifications and ladder maintenance. He said ladder modifications require requesting a license amendment from FERC, while ladder maintenance is necessary to keep the Wells Project operating as specified in the permit for National Marine Fisheries Service salmon passage requirements. Gingerich said if diffuser grating spacing in the collection gallery is larger than specified in the approved engineer as built or specification, Douglas PUD needs to identify this as maintenance. He said rounding edges and installing plating and ramps are different (are ladder modifications).

Lampman said it seems the trigger points are unreasonable to achieve. He said even during the 2005 era these trigger points would have only been achieved in 1 year (2003), and that was during better conditions than now. He said if trigger points are included in the SOA, he recommends using a minimum conversion rate of 18.3%, which has still only been met once in a 5-year period. He said trying to meet an average or median is setting too high of a trigger point and is basically just saying translocate for 5 years.

Lampman said it seems the main issue with implementing improvements is the inability to evaluate them. He said it seems reasonable to implement the improvements in years 3 and 4 and evaluate them in year 5. He said the lamprey entrance box example is unique and has not been implemented at other projects. He said the ramps and solid plating have been implemented and there has been high success in the lower reaches of the upper Columbia

River. He said he views Douglas PUD's reasoning as a tactic to postpone installing the low hanging fruit. He suggested continuing discussions to determine what can be done and implemented. He said the YN are not asking to redesign the whole fish ladder; rather, these are just small changes that will go a long way for Pacific Lamprey. He said he believes it is reasonable to engage in these discussions and designs.

Ferguson said Kyger explained that Douglas PUD can discuss designs now and implement when triggers are met. Ferguson said the purpose of the triggers is to increase sensory cues upstream of Wells Dam to a point when the Aquatic SWG thinks the cues will facilitate upward movement. Ferguson suggested clarifying the text of the SOA to indicate, in the interim, that Douglas PUD and the Aquatic SWG will discuss the literature review, prioritize modifications, and discuss designs for the modifications, to be prepared for implementation when trigger points are met.

Lampman asked why modifications cannot be implemented in year 4? Ferguson said because Douglas PUD managers and Commissioners do not support it. He recalled the hypothesis is that poor conversion is caused by either: 1) pheromone issue; or 2) in-ladder issues (i.e., not pheromone issues). Lampman said this is assuming the issue is one or the other when it could be both. Ferguson said no one is disagreeing both could be issues, but Douglas PUD needs to operate within the *Pacific Lamprey Management Plan*.

Gingerich recalled that operating within the framework of the *Pacific Lamprey Management Plan* is hypothesis testing. He said the Aquatic SWG agreed on a hypothesis (there is a pheromone issue) and now the hypothesis is being tested. He said if the Aquatic SWG decides the hypothesis should be in-ladder issues, this can be tested instead of translocation. He added that from a technical standpoint he does not believe the data indicate there are issues within the fish ladder, which is why it has been difficult convincing the Commissioners in-ladder modifications are necessary.

Lampman said results from passage studies conducted between 2000 to 2005 are the same as the latest studies. He said obviously there are passage issues, which are likely exacerbated by the pheromone issue. He said he still does not understand why translocation and in-ladder modifications cannot be implemented together because these both affect Pacific Lamprey.

Verhey said it may be helpful to identify what the literature and data say about specific modifications. Ferguson said the literature review will not be ready until July 2018, and a decision on translocation is needed before then. He suggested voting on an SOA in June

2018 to be ready to implement translocation in July 2018, if this is what the Aquatic SWG wants to do.

Verhey asked about USFWS fishway prescriptions and Pacific Lamprey. Lewis said to comply with the prescriptions, Douglas PUD must consider improvements for Pacific Lamprey passage at Wells Dam and must consult the Aquatic SWG about in-ladder modifications. Lewis said regarding information about improvements, he believes modifications completed at Rocky Reach, Rock Island, and Priest Rapids dams provide good examples.

Verhey said if Chelan PUD or Grant PUD are already trucking fish up to Kirby Billingsley Hydro Park (in East Wenatchee, Washington), perhaps Douglas PUD could fund sending some of those trucks up to the Wells reservoir, and then Douglas PUD and the Aquatic SWG can concurrently discuss fishway improvements. Verhey said this would accomplish both translocation and in-ladder modifications, but not necessarily rely solely on Douglas PUD to do both.

Lampman said regarding the literature review, a paper¹ was already distributed a few months ago which contained a lot of information on Pacific Lamprey biology and passage improvements. He said this paper is a good place to start.

Kyger suggested parsing out: 1) the need for translocation, based on lack of fish approaching; and 2) in-ladder modifications, where justification may exist at other projects. He said it seems discussions about in-ladder modifications are premature when fish are not approaching the dam. He said Douglas PUD could implement in-ladder modifications, but then cannot evaluate them when there are no fish approaching. He said the proposed translocation SOA is a step-wise approach: 1) get fish to approach by increasing pheromones; and 2) implement in-ladder modifications and test. He said it seems the Aquatic SWG is debating two different things.

Lampman said the YN has a means to translocate fish from Priest Rapids Dam. He said ideally, the YN would like Douglas PUD to take the lead on implementing Pacific Lamprey actions for the Wells Project. Lampman said translocation is beneficial and fairly easy to do. He said the YN cannot implement in-ladder modifications at Wells Dam. He said he believes there is value in the translocation SOA; however, he is also trying to figure out what can be done unique to respective authorities and the roles agencies can play.

¹ Available for download at: <https://www.fws.gov/pacificlamprey/Documents/2017.06.20%20LampreyPsgFINAL.pdf>

Lewis asked what concerns Douglas PUD policy staff have with in-ladder modifications. Kyger said the main concern is not being able to demonstrate large numbers approaching the dam. He said Douglas PUD does not want to complete in-ladder modifications when there may not be fish to test the modifications. Lewis asked if Douglas PUD policy staff considered the one crop of 278 Pacific Lamprey passing Wells Dam (2017 migration) an outlier? Kyger said even with the large run last year, the acoustic data showed less than 1% conversion from Rocky Reach Dam, which highlights the approach issue. Lampman asked if the conversion rate was actually 20%? Kyger clarified the conversion rate was about 17%; however, less than 1% reached the Wells Dam count windows. Lampman said this is a huge drop-off, which shows there are issues at the ladders. Gingerich recalled that the majority of the drop-off was prior to the last 2 miles of the Wells Dam tailrace. He said from an empirical standpoint, this would be more of a concern; however, the majority is dropping off in the Rocky Reach reservoir based on 2 years of data. He said there was a similar drop-off near the Methow River (based on PIT tags), which seems to suggest pheromone issues.

Lampman said even if fish were released directly into the Methow River there would only be 30% detection, so the Methow River is not a good indicator. Lampman said Kyger mentioned two things: 1) cannot adequately evaluate; and 2) not many approaching. Lampman replied: 1) if in-ladder modifications are implemented in year 4, these can be evaluated in year 5; and 2) 20% is still approaching. He said in 2017, this number was 5,000 fish. He said if conditions are improved in-ladder, this will have a huge impact on fish.

Ferguson asked, whether the timing associated with the two positions is actually that far apart? He said between identifying and designing modifications and the literature review, this may be 3 to 4 years down the road anyway, when everything is ready to finalize (versus 5 years). Lampman said this is a good point and suggested including language that indicates progress on design and implement in year 5. Ferguson said biologically speaking, he prefers not to have the translocation effort stall out. He said the Aquatic SWG just needs to find words to agree on.

Lewis asked if Douglas PUD policy staff have seen the gaps in the diffuser gratings. Lewis said based on efforts at other dams, this does not cost much. He suggested asking Douglas PUD policy staff about grating maintenance. Lampman said everyone understands cost, but perhaps Douglas PUD policy staff do not understand the magnitude of what is being proposed.

Ferguson suggested including in the translocation SOA: 1) 500 fish; 2) 18% conversion rate; and 3) re-evaluate in 5 years. He further suggested including text indicating that in the interim: 1) the Aquatic SWG will work with Douglas PUD to survey in-ladder issues and

prioritize a maintenance list; and 2) Douglas PUD will address maintenance issues. Ferguson said perhaps in January 2019 develop a list, and in 2020 complete fixes. He suggested identifying maintenance outside of in-ladder modifications and also work on an in-ladder modifications list. He said this approach is progress on translocation, maintenance, and in-ladder modifications.

Verhey said WDFW supports this approach; however, he is unsure it is the responsibility of the Aquatic SWG that Douglas PUD remains in compliance. Verhey said he is unsure what compliance entails and suggested carefully wording this, if included. Ferguson agreed this is a good point.

Gingerich said Douglas PUD can update the SOA and redistribute. He said Douglas PUD hopes not to get too specific but can include more details if this is needed to reach resolution. Ferguson suggested being sensitive to Lampman's comments by clarifying language about in-ladder modifications.

Ferguson asked the Aquatic SWG for thoughts on a revised SOA with edits incorporated as discussed. Lewis said USFWS will need to think about the revisions, but he believes the concept is close. Verhey said it will be worthwhile to revise the SOA, as discussed. Truscott said the CCT will support whatever is needed to move this SOA forward. Zimmerman said Ecology agrees it will be good to review a revised SOA. Lampman said he believes revisions discussed to date are getting closer to agreement. He added that it seems it will take time to complete these interim steps and suggested simply deleting the trigger points if it makes implementation more certain.

Douglas PUD will provide a revised draft Pacific Lamprey Translocation SOA to Geris for distribution to the Aquatic SWG no later than Friday, June 1, 2018, for decision during the Aquatic SWG conference call on June 13, 2018. *(Note: Kyger provided a revised draft SOA to Geris on June 5, 2018, which Geris distributed to the Aquatic SWG that same day.)*

Ferguson recalled an action item for Lampman, Lewis, and Verhey to discuss within the Priest Rapids Fish Forum and Rocky Reach Fish Forum about regional coordination of Pacific Lamprey translocation efforts by Grant, Chelan, and Douglas PUDs (notably trapping timing, number of fish tagged, and release locations in 2018). Verhey said this was discussed within the Priest Rapids Fish Forum and his recollection was that Grant PUD is willing to transport fish up to Kirby Billingsley Hydro Park, and it is a Priest Rapids Fish Forum decision to release those fish farther upriver; or Douglas PUD can contract with Grant PUD if Douglas PUD wants to move these fish farther upstream. Lewis agreed with this recollection.

VII. Administration

1. Upcoming meetings (John Ferguson):

The Aquatic SWG meeting on June 13, 2018, will be held by conference call.

Other upcoming meetings include: July 11, 2018 (TBD) and August 8, 2018 (TBD).

List of Attachments

Attachment A List of Attendees

Attachment B Wells Fish Hatchery White Sturgeon update

Attachment C Revised Draft 2017 Aquatic Settlement Agreement management plan annual reports
– Douglas PUD responses to comments

Attachment D Water Quality and River Forecast update

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
Patrick Verhey	Aquatic SWG Technical Representative	Washington Department of Fish and Wildlife
Chad Jackson	Technical Support	Washington Department of Fish and Wildlife
Ralph Lampman	Aquatic SWG Technical Representative	Yakama Nation
Jason McLellan	Aquatic SWG Technical Representative	Colville Confederate Tribes
Kirk Truscott	Technical Support	Colville Confederate Tribes