FINAL

Conference Call Minutes

Aquatic Settlement Work Group

To: Aquatic SWG Parties

Date: June 13, 2017

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

Re: Final Minutes of the May 10, 2017, Aquatic SWG Conference Call

The Aquatic Settlement Work Group (SWG) met by conference call on Wednesday, May 10, 2017, 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. Douglas PUD will provide a summary report documenting Aquatic Nuisance Species Management Plan (ANSMP) northern pike sampling efforts conducted in the Wells reservoir in 2017, to Kristi Geris for distribution to the Aquatic SWG (Item VI-7). *(Note: Chas Kyger provided this summary to Geris on June 7, 2017, which Geris distributed to the Aquatic SWG that same day.)*
2. Douglas PUD will coordinate with the Colville Confederated Tribes (CCT) regarding ongoing efforts to remove northern pike from Lake Roosevelt and sampling methods that might support monitoring of northern pike range extension in the Wells reservoir and will report those discussions back to the Aquatic SWG (Item VI-7).
3. Douglas PUD and Anchor QEA will compile draft Pacific Lamprey topics for discussion during the next Aquatic SWG in-person meeting on June 12, 2017, and will provide the draft topics to the Aquatic SWG in advance of the meeting for comments (Item VI-8). *(Note: a draft agenda for review was distributed to the Aquatic SWG by Kristi Geris on May 31, 2017.)*
4. **The Aquatic SWG meeting on Monday, June 12, 2017, will be held in-person at 9:00 a.m. at Douglas PUD Headquarters in East Wenatchee, Washington (Item VII-1).**

II. Summary of Decisions

1. Aquatic SWG members present approved the 2016 Aquatic Settlement Agreement (ASA) Annual Report, including aquatic resource management plan annual report appendices: 2016 ANSMP Annual Report, 2016 Bull Trout Management Plan (BTMP) Annual Report, 2016 Pacific Lamprey Management Plan (PLMP) Annual Report, 2016 Resident Fish Management Plan (RFMP) Annual Report, 2016 Water Quality Management Plan (WQMP) Annual Report,

2016 Water Temperature Annual Report (appended to WQMP Annual Report), and 2016 White Sturgeon Management Plan (WSMP) Annual Report (Item VI-3).

III. Agreements

1. Aquatic SWG members present agreed to add Ralph Lampman (Yakama Nation [YN] Pacific Lamprey Technical Support) and Donella Miller (YN White Sturgeon Technical Support) to Aquatic SWG Technical Representatives-only emails (Item VI-2).
2. Aquatic SWG members present agreed to remove the 2016 White Sturgeon Monitoring and Evaluation (M&E) Annual Report ("Evaluations of White Sturgeon Supplementation and Management in the Wells Reservoir, 2016") from the 2016 WSMP Annual Report appendices and will instead append the report to the 2017 WSMP Annual Report for submittal to the Federal Energy Regulatory Commission (FERC) in May 2018 (Item VI-3).
3. Aquatic SWG members present agreed to reschedule the Aquatic SWG meeting on Wednesday, June 14, 2017, to Monday, June 12, 2017, to accommodate higher in-person attendance (Item VII-1).

IV. Review Items

1. There are no documents currently available for review.

V. Documents Finalized

1. Kristi Geris notified the Aquatic SWG on Friday, May 26, 2017, that the Final 2016 ASA Annual Report, including aquatic resource management plan annual report appendices: 2016 ANSMP Annual Report, 2016 BTMP Annual Report, 2016 PLMP Annual Report, 2016 RFMP Annual Report, 2016 WQMP Annual Report, 2016 Water Temperature Annual Report (appended to WQMP Annual Report), and 2016 WSMP Annual Report, were available for download from the Aquatic SWG Extranet site (Item VI-3).

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:

   - Bob Rose added an update on YN Aquatic SWG representation.

- Andrew Gingerich added a notification of removal of bypass barriers from Spillway 6 at Wells Dam, which he will cover under the water quality update.

The revised draft April 12, 2017, Pacific Lamprey Subgroup notes were reviewed. Kristi Geris said all comments and revisions received from members of the Aquatic SWG were incorporated into the revised notes and there are no outstanding edits or questions to discuss. Aquatic SWG members present approved the April 12, 2017, Pacific Lamprey Subgroup notes, as revised.

The revised draft April 13, 2017, meeting minutes were reviewed. 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 13, 2017, meeting minutes, as revised.

The revised draft April 13, 2017, Pacific Lamprey Regional Workshop notes were reviewed. Geris said a second revised draft was distributed to the Aquatic SWG on May 8, 2017. She said Patrick Verhey requested that the Washington Department of Fish and Wildlife (WDFW) be struck from a sentence describing concerns with translocation. Verhey explained in a comment that WDFW does not have concerns with translocation, as discussed during previous meetings. He also noted that the U.S. Fish and Wildlife Service (USFWS) has also indicated having no concerns with translocation during previous meetings. The Aquatic SWG agreed to strike from the record the entire sentence indicating that WDFW and USFWS had concerns with translocation. Geris said all other comments and revisions received from members of the Aquatic SWG were incorporated into the revised notes and there are no additional edits or questions to discuss. Aquatic SWG members present approved the April 13, 2017, Pacific Lamprey Regional Workshop notes, as revised.

There were no action items from the last Aquatic SWG meeting on April 13, 2017.

2. YN Aquatic SWG Representation (Bob Rose):

Bob Rose said he is becoming more involved with Federal Columbia River Power System activities, which is consuming a lot of his time. He said he anticipates Ralph Lampman will slowly and smoothly transition into the YN technical lead on Pacific Lamprey and perhaps other topics. Rose said Lampman is also very busy, so the transition may take a few months. Rose said Donella Miller may also transition into the YN technical lead for White Sturgeon topics. Rose said he would remain the alternate representative for the YN.

John Ferguson asked if there are formal changes in YN representation at this point. Rose said not at this time; however, he wanted to alert the Aquatic SWG of this eventual transition, begin including Lampman and Miller on all emails, and verify both have extranet access.

Ferguson asked Kristi Geris to remind the Aquatic SWG of the process to add people to emails and the extranet. Geris said the process for the Aquatic SWG only requires a request and no formal Aquatic SWG approval is required (versus in the Habitat Conservation Plan [HCP] committees, where HCP Coordinating Committees approval is required for adding non-HCP members to emails and the extranet). Andrew Gingerich agreed and said adding Lampman and Miller is no problem at all.

Aquatic SWG members present agreed to add Lampman and Miller to Aquatic SWG Technical Representatives-only emails. *(Note: Lampman and Miller are already included on the general Aquatic SWG email distribution and have extranet access.)*

3. DECISION: 2016 ASA Annual Reports (Andrew Gingerich):

Andrew Gingerich said various 2016 ASA management plan annual reports and the Anchor QEA-produced 2016 ASA Annual Report have been available for review for at least 45 days. He said Douglas PUD received comments on a few management plan annual reports, and Kristi Geris distributed the updated management plan annual reports on May 8, 2017. Gingerich said comments received were largely editorial in nature and were all addressed. He said the most significant change was to the introduction of the 2016 WSMP Annual Report, where Chelan PUD and Grant PUD White Sturgeon stocking rates were updated, as requested.

Gingerich said substantial comments were received on the 2016 White Sturgeon M&E Annual Report ("Evaluations of White Sturgeon Supplementation and Management in the Wells Reservoir, 2016"). He recalled that this report summarizes White Sturgeon M&E activities from 2015 to 2016, including acoustic tracking methods, index monitoring and fish size, and results, among other things. He said Douglas PUD has not yet finished addressing all comments received on this report, and asked if the Aquatic SWG prefers to: 1) approve the 2016 WSMP Annual Report with the draft M&E report appended with a note explaining comments are not yet complete; or 2) remove the M&E report as an appendix to the 2016 WSMP Annual Report and file the M&E report with the 2017 annual report package.

Jason McLellan asked if the unedited appendix is included and filed with the 2016 annual report package, what would be the process for distributing the final M&E report. Gingerich said Douglas PUD would distribute the revised M&E report once all comments are addressed, request approval during the Aquatic SWG meeting in June 2017, and file the final report with the 2017 annual report package to FERC in May 2018. John Ferguson asked if delaying filing of the M&E report will create any problems with FERC. Gingerich said he does not foresee any issues and added that the requirement is to submit an approved report and there are no time constraints stipulated. McLellan said if the final M&E report will be

appended to the 2017 WSMP Annual Report, he does not feel there is a need to include a draft report in the 2016 annual report package. Gingerich and Ferguson agreed with McLellan, and the Aquatic SWG members present agreed to remove the 2016 White Sturgeon M&E Annual Report ("Evaluations of White Sturgeon Supplementation and Management in the Wells Reservoir, 2016") from the 2016 WSMP Annual Report appendices and will instead complete the editing of the report by addressing the review comments, approve the report at a future Aquatic SWG meeting, and append the report to the 2017 WSMP Annual Report for submittal to FERC in May 2018.

Aquatic SWG members present approved the 2016 ASA Annual Report, including aquatic resource management plan annual report appendices: 2016 ANSMP Annual Report, 2016 BTMP Annual Report, 2016 PLMP Annual Report, 2016 RFMP Annual Report, 2016 WQMP Annual Report, 2016 Water Temperature Annual Report (appended to WQMP Annual Report), and 2016 WSMP Annual Report.

Geris notified the Aquatic SWG on Friday, May 26, 2017, that the Final 2016 ASA Annual Report was available for download from the Aquatic SWG Extranet site.

4. Brood Year 2016 Wells Fish Hatchery White Sturgeon Rearing Update (Andrew Gingerich):

Andrew Gingerich said brood year 2016 White Sturgeon on station at Wells Fish Hatchery (FH) are doing well. He said health samples sent to the USFWS Fish Health Lab at the Dworshak National Fish Hatchery came back negative for White Sturgeon iridovirus (Attachments B and C), as distributed to the Aquatic SWG by Kristi Geris prior to the meeting on May 10, 2017.

Gingerich recalled that all fish remaining on station at Wells FH are larval-origin from Lake Roosevelt. He said there are approximately 6,600 to 6,700 fish currently on station. He said survival rates have been good over the past few months, but fish size is a little smaller than ideal. He said there has been constant communication with the Wells FH staff and explained that a number of issues have contributed to the smaller fish size, including changing water source to accommodate the Wells FH modernization activities as well as a number of power outages, which restricted the reliable use of the water heater in the White Sturgeon room. He said fish size currently ranges from 52 to 126 grams, but the goal remains to release the fish at a size of 200 grams per fish. He said there are still a few more weeks to increase fish size before tagging and releasing on June 1 and 2, 2017.

Gingerich said surplus fish on station at Wells FH will be passive integrated transponder (PIT)-tagged on May 16, 2017, and released in the Rufus Woods reservoir on May 17, 2017,

per the CCT and WDFW recommendations. John Ferguson asked if surplus fish will also receive scute marks. Gingerich said they will on the right side, similar to the Wells FH fish. He said the same scute pattern will be used because the release location can be determined by the PIT tag, so there is no reason to give fish individual scute mark patterns.

5. **Bull Trout Update (Andrew Gingerich)**:
   Andrew Gingerich said Douglas PUD is still tracking fish as part of the 2016-2017 Bull Trout Passage and Take Monitoring at Wells Dam and Twisp River Weir Study. He said all monitoring stations are working well. He said while Douglas PUD was conducting preliminary gill netting to search for early signs of northern pike, a sub-adult Bull Trout was inadvertently captured near the mouth of the Okanagan River. Gingerich said the sub-adult did not survive, USFWS was notified immediately, and Douglas PUD also immediately shut down the preliminary gill netting activities, despite having Bull Trout take coverage of up to three Bull Trout. Gingerich said he exchanged emails with Steve Lewis when this happened, and this update was to notify the Aquatic SWG this occurred.

6. **2017 Wells Project Water Quality and Water Year Update (Andrew Gingerich):**
   Andrew Gingerich said this morning on May 10, 2017, Douglas PUD is removing the bypass barriers from Spillway 6 at Wells Dam, consistent with the 2017 Spill Playbook, Emergency Action Plan, and HCP for the Wells Project. He said the removal of bypass barriers is about safety and high water volumes. He said currently, the average river flow passing Wells Dam is 246,000 cubic feet per second (246 kcfs), which is exactly the 7-day, 10-year-frequency (7Q10) flow for Wells Dam.

   Gingerich shared slides from a Water Supply Briefing by the National Weather Service Northwest River Forecast Center (Attachment D), which were distributed to the Aquatic SWG by Kristi Geris prior to the meeting on May 10, 2017 (along with notification of removing the bypass barriers from Spillway 6). Gingerich noted the Water Supply Summary slide, which shows water supply is well-above normal almost everywhere in the region. He said the Observed Monthly Precipitation slide shows about average conditions for February 2017, but then snow pack continued to build above the Canadian border through April 2017. He said now there is a lot of water and some drainages in the Snake River basin will set records.

   Gingerich encouraged the Aquatic SWG to review the slides in Attachment D and contact him with questions. He said the punchline for the Wells Project is that there is plenty of water and more expected over the next 6 to 8 weeks.

7. ANSMP Northern Pike Sampling (Chas Kyger):

Chas Kyger said during the last two weeks in April 2017, Douglas PUD conducted Northern Pike sampling in the Wells reservoir. He said a total of 24 nets were set overnight at locations in the Okanagan River and in backwater sloughs near Bridgeport, Washington. He said nets were placed in shallow areas where average water temperatures were within Northern Pike spawning temperature ranges. He said no Northern Pike were captured and the majority of species captured included non-native warm water species such as Largemouth and Smallmouth Bass, Yellow Perch, and Yellow Bullhead catfish. He said the catch also included native fishes such as suckers and Northern Pikeminnow. He said during the second week of sampling, one sub-adult Bull Trout was captured near the mouth of the Okanagan River, and sampling was shut down to avoid more encounters with Bull Trout, as Andrew Gingerich reported earlier.

John Ferguson asked if Douglas PUD conducts Northern Pike sampling every year. Kyger said these sampling efforts emerged due to concerns that the northern pike population is expanding its range into Lake Roosevelt. He said he suspects this sampling will continue until data indicate the population is no longer spreading. Bret Nine (CCT) asked how often Douglas PUD plans to sample. Kyger said Douglas PUD sampled in late April 2017, but are open to suggestions for different sampling periods. He added that late April is a good time to sample because adult anadromous fish migrating upstream have not yet reached the sample area. Nine asked how the sampling protocol were established for sampling in 2017. Kyger said Douglas PUD modeled the effort after what has been done in Lake Roosevelt and added that this is the first year Douglas PUD has conducted this type of sampling, in addition, locations were selected based on water temperatures that are likely to be conducive to Northern Pike spawning. Nine said the CCT have been conducting this type of sampling and recommended that Douglas PUD coordinate with them to keep the methods consistent between the two efforts. Kyger agreed this is a good idea and also said that Douglas PUD will provide a summary report documenting ANSMP northern pike sampling efforts conducted in the Wells Reservoir in 2017 to Kristi Geris for distribution to the Aquatic SWG. *(Note: Kyger provided this summary to Geris on June 7, 2017, which Geris distributed to the Aquatic SWG that same day.)*

Douglas PUD will also coordinate with the CCT regarding ongoing efforts to remove northern pike from Lake Roosevelt and sampling methods that might support monitoring of northern pike range extension in the Wells reservoir and will report back to the Aquatic SWG on those discussions.

8. Pacific Lamprey Translocation Statement of Agreement and Discussion (John Ferguson and Andrew Gingerich):

John Ferguson said a lot has been discussed during the last three gatherings of the Aquatic SWG (Pacific Lamprey Subgroup meeting on April 12, 2017, and the Aquatic SWG meeting and Pacific Lamprey Regional Workshop on April 13, 2017), all of which are documented in meeting notes and minutes that are now available for reference. Ferguson said in terms of next steps, he summarized the recent meetings by saying the discussions were left in the context of there being two bookends on the topic. He said on one end, Douglas PUD would complete the 2016 Pacific Lamprey Study and the Aquatic SWG would proceed with discussing translocation, and the other end is Bob Rose's "full court press" approach involving finishing the 2016 Pacific Lamprey Study, proceeding with discussing translocation, as well as conducting multiple studies in the Rocky Reach reservoir, Wells Dam tailrace, and Wells Dam fish ladders. Ferguson said the previous meetings ended with Douglas PUD going back and further discussing these recommendations internally, and perhaps developing a draft Statement of Agreement (SOA) for translocation for the Aquatic SWG to review. Ferguson said these discussions have occurred. He said there is no formal draft SOA to review today; however, Douglas PUD plans to provide an update on internal discussions to date and discuss possible paths forward for Pacific Lamprey studies under the Wells Project FERC license and ASA PLMP.

Andrew Gingerich said Ferguson provided a good characterization of discussions to date. Gingerich recalled indicating that Douglas PUD could potentially be supportive of translocation. He said there are data which suggest very few fish are approaching Wells Dam, which complicates Douglas PUD's ability to address passage issues at Wells Dam for Pacific Lamprey, per Section 4 of the ASA PLMP. He said on one hand, it seems translocation falls outside the ASA PLMP; however, if translocation provides long-term benefits towards addressing objectives in the ASA PLMP, Douglas PUD could advocate support for translocation, recognizing that Douglas PUD cannot conduct passage studies at Wells Dam and feel confident about how to interpret the results. Gingerich said, however, it seems translocation-alone is potentially not a good path forward based on feedback from the Aquatic SWG, to date. He said additionally, the Aquatic SWG would like Douglas PUD to conduct a series of studies; however, study design details are not yet worked out. He said he shared discussions to date with Douglas PUD policy staff, who have now encouraged the technical staff to take a step back and decide whether the Aquatic SWG agrees that a measurable amount of fish want to interact with Wells Dam, and determine how to address this. Further, he asked if there are studies Douglas PUD can conduct at the dam, and what are the specifics of those studies (e.g., hypotheses, controls, treatment groups). Gingerich said before Douglas PUD can move forward with translocation, these study design details need to

be clear so the Aquatic SWG can determine the value of hypothetical studies. He said this may involve researching available data from studies conducted at Lower Granite or other dams. He said from a technical perspective, his concern is with the number of fish approaching Wells Dam. He said these assumptions need to be fleshed out, as well as how to accomplish or meet the management plan objectives.

Rose said he is getting a sense that Douglas PUD is putting out a "smokescreen" to reduce their exposure to risk, which is bothersome considering the Aquatic SWG has been discussing these paths forward for a while now. Rose said he understands where this new direction is coming from; however, he feels like progress has hit the brick wall and Douglas PUD policy staff are now asking the Aquatic SWG to take a step back and take another run at the brick wall. Rose said translocation has been supported by all members of the Aquatic SWG, except for Douglas PUD. Rose said he believes the other Mid-Columbia PUDs (Chelan and Grant PUDs) view translocation as a valuable tool to explore and consider it to be within the boundaries of adaptive management. He added that it seems Douglas PUD wants to take a step back when the other PUDs want to take a step forward.

Rose said the Aquatic SWG has already identified a number of hypotheses, some of which can be broken down into multiple hypotheses. He noted that some components of the hypotheses have already been explored in the past; however, not exhaustively. Rose said fishway entrance efficiency and passage through the fishway are clearly part of the ASA PLMP. Fish turning into the Entiat River and bioenergetic hypotheses are not the direct focus of Douglas PUD's program but are issues that are of regional concern. Other hypotheses included a lack of migration cues and interactions with White Sturgeon. Rose said he feels that Douglas PUD cannot get away from needing to focus on fishway entrance and passage issues.

Rose went on to suggest, for example, that several qualitative studies could be implemented now. He suggested obtaining a large number of Pacific Lamprey from a number of locations, including Priest Rapids Dam, the Rock Island Dam fish trap, or Bonneville, The Dalles, or John Day dams. He suggested installing three-dimensional (3D) telemetry arrays in the Wells Dam tailrace, releasing study fish in the tailrace and in the fishways, and then monitoring fish movement. Rose said Jon Hess (Columbia River Inter-Tribal Fish Commission [CRITFC] Fishery Scientist) recently provided a presentation indicating that CRITFC is now able to analyze more than 4,000 alleles simultaneously in one sample. Rose said this capability is being applied to Pacific Lamprey. He said CRITFC has also successfully identified a juvenile to its parent by comparing adult and juvenile tissue samples and, by determining when that parent entered the basin, were able to identify the age of the juvenile. He suggested that genetic

sampling coupled with translocation could help inform fish movement. He said environmental deoxyribonucleic acid (eDNA) samples may also be useful. He suggested obtaining eDNA samples from the Wells Dam fishways to use as a baseline, creating a gridline downstream several miles, and then obtaining eDNA samples close to the river bottom to identify increased concentration of eDNA of Pacific Lamprey. He said if there is a measurable increase, it can be suggested that spawning is occurring. He said this, in addition to studies of substrates and other factors, could provide a better sense of where attrition in the Rocky Reach reservoir is occurring. He said at the same time, ongoing monitoring of White Sturgeon M&E data can show potential interactions with Pacific Lamprey, as well.

Rose summarized his views by saying in general, there are three areas to focus on: 1) in project; 2) downstream of the project; and 3) translocation.

Patrick Verhey said WDFW is concerned with the low numbers of Pacific Lamprey attempting to pass Wells Dam, which has also put into question the statistical validity of studies conducted at Wells Dam to date. Verhey said using translocated adults for fishway studies makes sense, as does studying entrance efficiency, and he also agrees that working out the details of these studies is important. He said he is also interested in eDNA and noted that it seems like a good approach to help inform what is happening to the adults which do not reach Wells Dam. Lastly, Verhey said WDFW is still interested in and supports translocating Pacific Lamprey upstream of Wells Dam.

Kirk Truscott (CCT) said the CCT are disappointed and are a little concerned with taking a step backwards, because it does not seem there have been many positive steps forward. Truscott said he thought Aquatic SWG members were supportive of translocation, not only to address migration but also towards pheromone efforts. He said it sounds like Douglas PUD is not as enthralled with translocation as before. Truscott said recently, there have not been many, if any, Pacific Lamprey passing Wells Dam, which poses a demographic concern with not proceeding with an adult translocation program. He asked, if there are no Pacific Lamprey upstream of Wells Dam in the future, what would be the impetus for achieving Pacific Lamprey passage at Wells Dam at all.

Gingerich said personally, he agrees with some of the sentiments expressed by Truscott, Rose, and Verhey, notably about the feeling of being up against a brick wall. Gingerich questioned, however, what the options are considering the technical challenges with low numbers of fish approaching the Wells Dam tailrace, as demonstrated by the 2013 and 2016 Pacific Lamprey studies. He said if data are obtained which indicate the low numbers of fish passing Wells Dam can be attributed to lack of pheromones, Douglas PUD may be supportive of translocation in lieu of studies. He said, however, Douglas PUD is concerned

about not being able to conduct a scientific study. He said, instead, Douglas PUD is only hearing that Douglas PUD should be supportive of translocation under adaptive management and at the same time, should conduct more studies. He said Douglas PUD does not feel confident in how to interpret the data and the biggest concern is whether study fish will meet the assumption that they want to move upstream. He asked if there may be a way to conduct a passage study at Wells Dam with very few fish wanting to interact with the dam.

Rose said the Aquatic SWG has not used the term 'in lieu of' at all. He said Douglas PUD has an obligation to pass fish, whether it is 10 fish or 100,000 fish. He said studies have been conducted in the Wells Dam fishways that began with a few fish, ended with less and less fish, and then with no fish on the other end. He agreed this information is difficult to interpret; however, the only conclusion is that fish are not doing well in the fishway. He said it is more difficult to interpret the data at the entrance, and there has been enough concern raised that further evaluating the entrance is viable. He said the other piece of important information is the constant reminder that the behavior or disposition of Pacific Lamprey is unknown. He said the Aquatic SWG has reviewed the data indicating that Pacific Lamprey migrate quickly past Rock Island Dam and from one point in the Rocky Reach reservoir upstream to another point in the reservoir. He said Douglas PUD is concluding that Pacific Lamprey do not have a disposition to move upstream, but the YN interpretation of these same data is that Pacific Lamprey do have the disposition to move upstream.

Verhey agreed with Rose about focusing on entrance efficiency. Ferguson suggested three bins of topics: 1) tailrace, entrance, and fish ladder studies focusing on what is central in Section 4 of the ASA PLMP; 2) what is happening in the Rocky Reach reservoir and addressing whether this behavior is related to Wells Dam; and 3) translocation as an ultimate solution to the study design problems and/or stock status issues. Ferguson said he does not interpret that Douglas PUD is against translocation; rather, he understands that Douglas PUD wants certainty about the study designs, and at the technical level Douglas PUD has questions regarding whether the details of the studies have been clearly outlined with respect to how to conduct the studies and use the resulting data. Ferguson said the Aquatic SWG has discussed the need for this; however, no details have been laid out. He suggested a potential path forward is to start evaluating each bin, bringing in results of studies from other dams and experts as needed, and designing studies to the Aquatic SWG's satisfaction that address these hypotheses. He said this can be done with all three bins simultaneously to figure out how they all come together to reach agreement on study designs for 2018.

Gingerich agreed with Ferguson's suggested path forward. Gingerich also agreed Wells Dam fish ladder passage efficiency does not look great, just like Rocky Reach reservoir fish passage does not look great. He said he interprets this as meaning the river is not performing any better than the fish ladder. He disagreed fish want to pass Wells Dam, noting it is almost like looking at different data sets. He said fish move well through the Rocky Reach reservoir for some amount of time, but then stop somewhere within the reservoir and do not show up at Wells Dam, which is concerning. Rose agreed, and suggested addressing this. He said it seems the Rocky Reach reservoir can be evaluated using sonic tags, and it seems efficient to have the materials available to conduct a 3D study at the Wells Dam fishway entrance. He said these two pieces need to move forward. He also noted that the translocation piece is fundamental to one hypothesis. He said he understands issues with the "full court press" approach; however, he also does not believe his employers will be happy with this slow progress and an approach focused on studying one thing at a time. Rose advocated that translocation, evaluating the Rocky Reach reservoir, 3D study, and fishway exit information forms a baseline.

Rose asked what Douglas PUD ideally wants to do in 2017 and beyond? Gingerich said Douglas PUD has a lot of concerns with interpreting results from passage studies; although, conducting passage studies is what Douglas PUD would like to do. He said ideally, Douglas PUD wants to conduct a passage study, obtain meaningful results, and make modifications to achieve exceptional passage efficiency. He said, however, spending money on studies just for the sake of conducting studies, where Douglas PUD does not feel confident in the results is concerning. He said Douglas PUD does not feel this is a good direction. He said a limitation with translocation is it may take 10 years before a response is observed. He said having said that, translocation seems like a good place to be at some point, if it has a way to inform fish passage at Wells Dam. He said personally, based on available technical information, translocation seems to be a reasonable path forward; however, conducting translocation simultaneously with dam passage studies without much confidence does not seem to make sense.

Verhey said the Columbia River Data Access in Real Time (DART) database shows Pacific Lamprey passage at Wells Dam over the past 10 years has largely been in the single digits; in the early-2000s counts were higher including in 2003 when 1,410 Pacific Lamprey passed Wells Dam. He said based on these data, he believes since Pacific Lamprey passed Wells Dam at one time, they must be motivated to pass. He suggested that low numbers will likely remain low until pheromones are introduced upriver to encourage Pacific Lamprey to migrate upstream. Therefore, he said he believes both passage studies and translocation are needed. He encouraged the Aquatic SWG to keep the process moving forward and

suggested convening a working subgroup for Pacific Lamprey to review study designs and clearly communicate concerns.

Gingerich said he disagrees with Verhey's assumption, that fish are motivated to pass Wells Dam based on historical Fish Passage Center data. Gingerich clarified that at some point fish were motivated to pass; however, they are not currently. He said if conditions were the same in 2016 and 2017 as when 1,400 Pacific Lamprey passed Wells Dam, there would have been more Pacific Lamprey reaching the tailrace, and clearly there were not that many counted in the Rocky Reach reservoir. He said Douglas PUD is not confident fish motivation in early-2000 and 2003 is the same as today.

Ralph Lampman said it seems all Parties are in agreement for the translocation piece. Lampman said he would be interested in evaluating movement upstream of Wells Dam, which may point to why Pacific Lamprey are not approaching the dam and would also increase the Pacific Lamprey population upstream of Wells Dam. He said pheromone is part of the motivation for adults; however, Pacific Lamprey still have upstream migration motivation. He said Pacific Lamprey have been released in extirpated streams and most move upstream. He said perhaps through the entire Rocky Reach reservoir is too far and suggested releasing study fish closer to Wells Dam in order to observe the natural instincts of Pacific Lamprey.

Ferguson suggested adding the Wells reservoir to the second bin of study topics (what is happening in the Rocky Reach reservoir). He also clarified that all Parties are not onboard with translocation. He said Douglas PUD would like more discussion on study designs, which is why he proposed evaluating and fleshing out the details of the three bins of topics.

Douglas PUD and Anchor QEA will compile draft Pacific Lamprey topics for discussion during the next Aquatic SWG in-person meeting on June 12, 2017, and will provide the draft topics to the Aquatic SWG in advance of the meeting for comments. *(Note: a draft agenda for review was distributed to the Aquatic SWG by Kristi Geris on May 31, 2017.)*

VII. Next Meetings

1. **Upcoming meetings (John Ferguson):**
   Aquatic SWG members present agreed to reschedule the Aquatic SWG meeting on Wednesday, June 14, 2017, to Monday, June 12, 2017, to accommodate higher in-person attendance.

   The Aquatic SWG meeting on Monday, June 12, 2017, will be held in-person at 9:00 a.m. at Douglas PUD Headquarters in East Wenatchee, Washington.

Upcoming meetings are as follows: July 12, 2017 (TBD); August 9, 2017 (TBD); and September 13, 2017 (TBD).

List of Attachments

Attachment A List of Attendees
Attachment B USFWS Fish Health Lab Results – 17-173
Attachment C USFWS Fish Health Lab Results – 17-174
Attachment D Water Supply Briefing, National Weather Service Northwest River Forecast Center

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
RD Nelle	Technical Support	U.S. Fish and Wildlife Service
Breean Zimmerman	Aquatic SWG Technical Representative	Washington State Department of Ecology
Patrick Verhey	Aquatic SWG Technical Representative	Washington Department of Fish and Wildlife
Jason McLellan	Aquatic SWG Technical Representative	Colville Confederated Tribes
Kirk Truscott	Technical Support	Colville Confederated Tribes
Bret Nine	Technical Support	Colville Confederated Tribes
Bob Rose	Aquatic SWG Technical Representative	Yakama Nation
Ralph Lampman	Technical Support	Yakama Nation