



# Conference Call Minutes

## Aquatic Settlement Work Group

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**To:** Aquatic SWG Parties

**Date:** June 9, 2021

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

**Re:** Final Minutes of the May 12, 2021, Aquatic SWG Conference Call

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The Aquatic Settlement Work Group (SWG) met by conference call on Wednesday, May 12, 2021, from 10:00 a.m. to 1:15 p.m. Attendees are listed in Attachment A of these conference call minutes.

### I. Summary of Action Items

1. Anchor QEA, LLC will coordinate with U.S. Fish and Wildlife Service (USFWS) regarding Aquatic SWG approval of the *Statement of Agreement Regarding the Suspension of the Year 10 Bull Trout Passage and Survival Radio Telemetry Study at Wells Dam and the Twisp Weir* (Bull Trout Statement of Agreement [SOA]), as revised, and will obtain a vote via email from USFWS after the draft minutes from today's conference call are available for review (Item VI-4). (Note: Steve Lewis provided USFWS approval of the SOA via email on June 2, 2021, which Kristi Geris distributed to the Aquatic SWG that same day.)
2. Aquatic SWG members will consider goals, objectives, and the technical merits of implementing a Bull Trout passive integrated transponder (PIT)-tag study, for discussion during the Aquatic SWG conference call on June 9, 2021 (Item VI-4).
3. Aquatic SWG members will review the current White Sturgeon SOA, *Wells Reservoir White Sturgeon Supplementation 2018-2022*<sup>1</sup>, and Section 4.3.1 of the *White Sturgeon Management Plan*, in preparation to continue discussing Wells Fish Hatchery White Sturgeon stocking considerations during the Aquatic SWG conference call on June 9, 2021 (Item VI-6).
4. The Yakama Nation (YN) will further review the different methodologies for collecting bile acid samples and present a recommended protocol for discussion during the Aquatic SWG conference call on June 9, 2021 (Item VI-7).
5. Douglas PUD will develop a summary of potential options to study adult Pacific Lamprey via PIT-tag detection for implementation in 2021, for discussion during the Aquatic SWG conference call on June 9, 2021 (Item VI-8).

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<sup>1</sup> As approved by the Aquatic SWG on January 11, 2017, and distributed on January 12, 2017.

6. Douglas PUD will develop a draft adult Pacific Lamprey study plan for implementation in 2022 that considers potential methodologies, release locations, and sample size requirements, for discussion in fall 2021 (Item VI-8).
7. Aquatic SWG members will identify potential dates during the Aquatic SWG conference call on June 9, 2021, to convene coordination calls with the regional fish forums regarding Pacific Lamprey translocation during 2021 (Item VI-9). *(Note: a coordination call was scheduled for July 7, 2021, from 9:00 a.m. to 12:00 p.m.)*
8. The Aquatic SWG meeting on June 9, 2021, will be held by conference call (Item VII-1).

## II. Summary of Decisions

1. Aquatic SWG members present approved the 2020 Aquatic Settlement Agreement (ASA) Annual Report and appended 2020 White Sturgeon Management Plan Annual Report, 2020 Bull Trout Management Plan and Incidental Take Annual Report, 2020 Water Quality Management Plan Annual Report (and appended 2020 Water Temperature Annual Report), 2020 Pacific Lamprey Management Plan Annual Report, 2020 Aquatic Nuisance Species Management Plan Annual Report, and 2020 Resident Fish Management Plan Annual Report (Item VI-3). *(Note: the Colville Confederated Tribes [CCT] approved the 2020 ASA Annual Report and appended resources management plan annual reports via email on May 11, 2021.)*
2. Aquatic SWG members present approved the Bull Trout SOA, as revised (Item VI-4). *(Note: the CCT and USFWS approved this SOA via email on May 11, 2021, and June 2, 2021, respectively.)*

## III. Agreements

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

## IV. Review Items

1. A draft 2022 Pacific Lamprey PIT-tag Study Outline was distributed to the Aquatic SWG by Kristi Geris on March 10, 2021.

## V. Documents Finalized

1. The final 2020 ASA Annual Report and appended resource management plan annual reports were distributed to the Aquatic SWG by Kristi Geris on May 19, 2021 (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 listed in Attachment A). Ferguson asked for any additions or changes to the agenda. No additions or changes were requested.

The revised draft April 12, 2021, conference call minutes were reviewed. Kristi Geris said edits and comments received from members of the Aquatic SWG were incorporated into the revised minutes. Aquatic SWG members present approved the April 12, 2021, conference call minutes, as revised.

Action items from the Aquatic SWG conference call on April 12, 2021, are as follows (Note: the following italicized item numbers correspond to agenda items from the April 12, 2021, meeting):

- *Aquatic SWG members will review the current White Sturgeon SOA, Wells Reservoir White Sturgeon Supplementation 2018-2022, and Section 4.3.1 of the White Sturgeon Management Plan, in preparation to continue discussing Wells Fish Hatchery White Sturgeon stocking considerations during the Aquatic SWG meeting on May 12, 2021 (Item VI-1).*  
This will be discussed during today's conference call.
- *Washington State Department of Ecology (Ecology) will verify internally that the proposed language in the revised draft Bull Trout SOA, as discussed during today's conference call, is consistent with the 401 Water Quality Certification for the Wells Project (Item VI-3).*  
Breean Zimmerman said she did not find any conflicts with the proposed Bull Trout SOA and the 401 Water Quality Certification. The certification stipulates that as information becomes available, Douglas PUD will consult the Aquatic SWG and can adjust the implementation schedule, as agreed upon.
- *Douglas PUD will request feedback from the Federal Energy Regulatory Commission (FERC) about the proposed language in the revised draft Bull Trout SOA, as discussed during today's conference call, and then will distribute a second revised SOA for Aquatic SWG review (Item VI-3).*

Following discussions with FERC and internal reviews, Andrew Gingerich provided a final draft SOA for approval, which Kristi Geris distributed to the Aquatic SWG on May 4, 2021.

- *The YN will distribute additional information about the collection methods for bile acids sampling, as proposed in the summary document, ASWG Project Proposal: Environmental DNA & Lamprey Bile Acids Monitoring to Assess the Impacts of Adult Translocation in the Upper Columbia Basin above Wells Dam (eDNA & Bile Acids Monitoring Proposal) (Item VI-6).*

Ralph Lampman provided environmental DNA (eDNA) method documentation from Cindy Baker (New Zealand) and bile acids method documentation from Nick Johnson (U.S. Geological Survey [USGS]), which Kristi Geris distributed to the Aquatic SWG on May 4, 2021. Lampman also provided bile acids method documentation from Baker, which Geris distributed to the Aquatic SWG on May 12, 2021 (a corrected file was distributed later that same day).

- *Douglas PUD will research the latest generation of Dual Frequency Identification Sonar (DIDSON) technology, known as Adaptive Resolution Imaging Sonar (ARIS), as a possible study method for the upcoming adult Pacific Lamprey study in 2022 (Item VI-7).*  
This will be discussed during today's conference call.
- *Douglas PUD will begin discussing with Grant PUD about renewing an agreement to continue collecting Pacific Lamprey from Priest Rapids Dam for translocation above Wells Dam and for study fish in 2022 and beyond (Item VI-7).*  
This will be discussed during today's conference call.
- *Douglas PUD will develop a draft adult Pacific Lamprey study plan for implementation in 2022 for Aquatic SWG review that considers potential methodologies, release locations, and sample size requirements, discussed to date (Item VI-7).*  
This will be discussed during today's conference call.
- *Anchor QEA, LLC, will coordinate with Tracy Hillman (Rocky Reach Fish Forum [RRFF] and Priest Rapids Fish Forum [PRFF] Chairman) about annual Pacific Lamprey translocation coordination among the Aquatic SWG, Douglas PUD, Chelan PUD, Grant PUD, and the Joint Fisheries Parties (JFP), throughout each Pacific Lamprey passage season and as translocation efforts progress (Item VI-8).*  
John Ferguson contacted Hillman and provided a plan forward to Kristi Geris on April 14, 2021, which Geris distributed to the Aquatic SWG that same day. This will be further discussed during today's conference call.
- *Aquatic SWG members will provide edits and comments on the draft 2020 ASA Annual Report and appended management plan annual reports to Kristi Geris by April 26, 2021 (Item VI-10).*

This will be discussed during today's conference call.

**2. COVID-19 Updates (John Ferguson):**

John Ferguson asked if Aquatic SWG members had any new updates to share regarding impacts of coronavirus disease 2019 (COVID-19) on Aquatic SWG-related monitoring and evaluation (M&E) activities.

Steve Lewis said USFWS will be teleworking for the foreseeable future. Further, the USFWS Central Washington Field Office in Wenatchee, Washington, is undergoing renovation, likely until May 2022.

The Aquatic SWG had no other new COVID-19 updates to announce.

**3. DECISION: 2020 ASA Annual Report (John Ferguson and Andrew Gingerich):**

John Ferguson said the draft 2020 ASA Annual Report and appended resource management plan annual reports were posted to the extranet site for a 45-day review on March 12, 2021, and notification was sent to the Aquatic SWG by Kristi Geris that same day. The review period ended on April 26, 2021. Clean versions of the revised draft annual reports were posted to the extranet site on May 5, 2021. Redline versions of the revised draft annual reports were posted to the extranet site on May 6, 2021. Again, notifications were sent to the Aquatic SWG by Geris those same days. Douglas PUD accepted minor editorial comments or for more substantial comments coordinated with each commentor, as needed, to verify their changes were acceptable. Jason McLellan provided CCT approval of the 2020 ASA Annual Report and appended resources management plan annual reports via email on May 11, 2021.

2020 ASA Annual Report

Ferguson said the CCT provided comments on April 8, 2021, Douglas PUD responded on April 22, 2021, Anchor QEA responded on April 27, 2021, and the CCT approved all edits that same day.

Steve Lewis asked, what were the nature of McLellan's comments? Andrew Gingerich said there were several, including comments on White Sturgeon, Pacific Lamprey, aquatic nuisance species, and resident fish, but all were mostly clarifications. Gingerich briefly reviewed these edits, comments, and responses as shown in the redline version of the revised draft report that was distributed on May 6, 2021.

Ralph Lampman asked if all meeting minutes are attached in Appendix A of the 2020 ASA Annual Report, and Gingerich said this is correct. Lampman suggested in future reports, to include the Pacific Lamprey translocation PIT-tag detection summary table under the Pacific Lamprey section of the ASA annual report to provide the information in one place, instead of it being spread out in appendices covering the individual meeting minutes. Chas Kyger said totals from releases for 2020 are included in the 2020 Pacific Lamprey

Management Plan Annual Report, but Douglas PUD can accommodate this request in future ASA annual reports. Ferguson said Anchor QEA will also make note of this for future reporting.

Aquatic SWG members present approved the 2020 ASA Annual Report, as revised. *(Note: the CCT approved this report via email on May 11, 2021.)*

#### 2020 Bull Trout Management Plan and Incidental Take Annual Report

Ferguson said the CCT provided comments on April 8, 2021, Douglas PUD responded on April 23, 2021, and the CCT approved all edits that same day.

Gingerich said, again, McLellan's comments were mostly editorial in nature and he briefly reviewed these edits, comments, and responses as shown in the redline version of the revised draft report that was distributed on May 6, 2021.

Lewis agreed with the CCT comments and Douglas PUD responses.

Aquatic SWG members present approved the 2020 Bull Trout Management Plan and Incidental Take Annual Report, as revised. *(Note: the CCT approved this report via email on May 11, 2021.)*

#### 2020 Resident Fish Management Plan Annual Report

Ferguson said the CCT provided comments on April 8, 2021. Kyger said he emailed responses to McLellan, which he accepted.

Lampman asked how many Northern Crayfish versus native Crayfish were collected. Kyger said this is covered under the *Aquatic Nuisance Species Management Plan*, but no native Crayfish were encountered in 2020. However, Douglas PUD has encountered native Crayfish on occasion in the past. Lampman also brought up a question from McLellan about clarifying cultural and economically important species, and he asked how this comment was addressed. Kyger said this comment was about vague statements included in the original management plan that were included in the annual report for context. However, the report focuses more on 2020 activities and Douglas PUD is not comfortable with editing management plan language. No change was made, and Douglas PUD can further discuss this language within the Aquatic SWG, as needed. McLellan was understanding of this and supported this plan forward.

Aquatic SWG members present approved the 2020 Resident Fish Management Plan Annual Report, as revised. *(Note: the CCT approved this report via email on May 11, 2021.)*

#### 2020 White Sturgeon Management Plan Annual Report

Ferguson said the CCT provided comments on April 8, 2021, Douglas PUD responded on April 26, 2021, and the CCT approved all edits that same day.

Gingerich said, again, McLellan's comments were mostly clarifications and he briefly reviewed these edits, comments, and responses as shown in the redline version of the revised draft report that was distributed on May 6, 2021.

Aquatic SWG members present approved the 2020 White Sturgeon Management Plan Annual Report, as revised. *(Note: the CCT approved this report via email on May 11, 2021.)*

#### 2020 Water Quality Management Plan Annual Report

Ferguson said no comments were received from Washington State Department of Ecology. The CCT provided indication of no comments on April 8, 2021. Gingerich noted that approval of this report includes the appended 2020 Water Temperature Annual Report.

Aquatic SWG members present approved the 2020 Water Quality Management Plan Annual Report (and appended 2020 Water Temperature Annual Report). *(Note: the CCT approved this report via email on May 11, 2021.)*

#### 2020 Aquatic Nuisance Species Management Plan Annual Report

Ferguson said the CCT provided comments on April 8, 2021, Jesse Schultz (Washington Department of Fish and Wildlife [WDFW]) provided comments on April 26, 2021, and Patrick Verhey approved Schultz's comments on April 27, 2021. Kyger noted that Schultz's comments were requests to share data with him.

Aquatic SWG members present approved the 2020 Aquatic Nuisance Species Management Plan Annual Report, as revised. *(Note: the CCT approved this report via email on May 11, 2021.)*

#### 2020 Pacific Lamprey Management Plan Annual Report

Ferguson said the CCT provided comments on April 26, 2021, Monica Blanchard (WDFW) provided comments on April 27, 2021, Verhey approved Blanchard's comments on April 27, 2021, and Verhey also provided comments that same day.

Kyger briefly reviewed edits, comments, and responses as shown in the redline versions of the revised draft reports that were distributed on May 6, 2021. These included adding additional information and addressing several errors in tables.

Aquatic SWG members present approved the 2020 Pacific Lamprey Management Plan Annual Report, as revised. *(Note: the CCT approved this report via email on May 11, 2021.)*

The final 2020 ASA Annual Report and appended resource management plan annual reports were distributed to the Aquatic SWG by Geris on May 19, 2021.

#### **4. Bull Trout SOA (Andrew Gingerich):**

A draft Bull Trout SOA was distributed to the Aquatic SWG by Kristi Geris on March 10, 2021, and a revised draft Bull Trout SOA was distributed on April 6, 2021. John Ferguson said the CCT approved the Bull Trout SOA, as revised, via email on May 11, 2021.

Andrew Gingerich said, in the revised draft Bull Trout SOA he accepted the redlines that were discussed during the last meeting and removed "in lieu of" language from the Background section. He recalled the reason he did not request approval of the SOA last month was because the revised language needed to be first reviewed by Douglas PUD senior management. This was done and no questions or comments were received. Douglas PUD also had an action item to discuss the proposed SOA with FERC. He had good conversations via phone and email with FERC about this SOA. Douglas PUD had concerns about how FERC might respond. Originally, FERC suggested a biological assessment might be needed along with an informal consultation. He was able to confirm with FERC that this will not be needed because this SOA means not handling Endangered Species Act-listed fish, so a biological assessment would find there is no effect. FERC encouraged Douglas PUD to submit the SOA and consultation record showing unanimous consent within the Aquatic SWG, including USFWS, and request an expedited review. Gingerich indicated that it would be nice to receive a License Order from FERC; however, he was unsure if FERC would issue one. Lastly, he recalled that USFWS was drafting a letter to file with this Bull Trout SOA. Gingerich indicated this may not be a necessary step at this time, but it might be needed if FERC had additional questions. He discussed this with Steve Lewis, and both agreed to hold onto the letter for now and not issue it unless FERC requests it.

Lewis said Gingerich provided a good summation. He added that when USFWS issued the Biological Opinion for the relicensing of the Wells Project, this included an assessment related to monitoring or measuring Bull Trout. On occasion, if something changes, FERC requires the applicant to reconsult. As Gingerich explained, this is not the case with the Bull Trout SOA. Regardless, USFWS will have their letter on hand in case it is needed to strengthen the administrative record.

Ralph Lampman recalled RD Nelle (USFWS) mentioning there might be a 10-year cycle with Bull Trout abundance and simply delaying a radio telemetry study to 2030 might result in the same situation (i.e., another low point in numbers passing the dam), so it may be worth having an interim check-in to see if it is feasible to conduct a radio telemetry study before 2030. Lampman asked if there has been more discussion on this topic. Lewis said this was



addressed under No. 3 of the Statement portion of the draft Bull Trout SOA where it references the first paragraph of Section 4.2.1 and third paragraph of Section 4.2.2 of the *Bull Trout Management Plan*. These sections indicate that if counts at Wells Dam increase, this would trigger another assessment for a possible study before the next 10-year interval in 2030. Lewis recalled that Nelle also asked if numbers are trending upward at the local population level, could this trigger reassessment for a study, and Lewis questioned whether this point is also encompassed under Sections 4.2.1 and 4.2.2. Gingerich said these sections mention a doubling of counts, which he thinks addresses both Lampman's and Lewis's questions. If there is a stronger population, this presents an opportunity for the Aquatic SWG to discuss whether it is a good time to study. Ferguson asked about the process of reviewing counts to know there has been a doubling of counts. Although, he noted that everyone already seems to be doing this and he is not sure a formal process is needed. Lewis said his question is, if the run at large does not exactly double, but there is an obvious upward trend, does the language in the SOA support conducting a radio telemetry study based on this? Oftentimes, licensees defer to the literal language of an agreement versus the intent or spirit of conducting a study. Ferguson said he understands Lewis's concern; however, from his perspective, historically, Douglas PUD has been open to opportunities as they present themselves. Lewis agreed and suggested maybe just documenting this discussion in the meeting minutes to provide clarification about the possibility of conducting an interim study. Gingerich said Douglas PUD also reports numbers in the Bull Trout annual reports and he can do this more regularly within meetings if it is helpful. He thinks there is sufficient language in the *Bull Trout Management Plan* and now in this draft Bull Trout SOA to cover the concern of increasing population numbers. Lewis said he is not requesting that all Aquatic SWG members constantly look at the numbers, and he noted that USFWS typically does this. He suggested during peak migration season having a discussion of the numbers.

Lewis said he needs to leave for another meeting. Ferguson suggested continuing this discussion and following up with Lewis for approval via email, if needed.

Lampman said he thinks the current SOA, as written, reads like the next study will occur in 2030, with no room for flexibility. Geris projected Sections 4.2.1 and 4.2.2 of the *Bull Trout Management Plan*. Gingerich explained that the intent is to conduct a study every 10 years, as described in the first paragraph of Section 4.2.1. Item No. 3 in the Statement section of the draft Bull Trout SOA is saying, as requested in the first paragraph of Section 4.2.1, to allow for implementation of the second paragraph in that section. He thinks in this context, the language addresses Lampman's concern. Lampman thanked Gingerich for this explanation and summarized that No. 1 in the SOA speaks to suspending the study, No. 2 is the contingency, and No. 3 is speaking to the next study. Gingerich said this is correct. The way

the *Bull Trout Management Plan* is written, even if Douglas PUD conducts a study in 2021, the second paragraph of Section 4.2.1 is a clause saying there is still the opportunity for the Aquatic SWG to discuss conducting an additional study if counts increase or project operations change.

Patrick Verhey said WDFW understands the link between Section 4.2.1 of the *Bull Trout Management Plan* and the draft Bull Trout SOA. However, it would also be helpful to note clarification in these meeting minutes about which 5-year average is being referenced in Section 4.2.1 to better understand how many fish would equal a doubling of counts. Gingerich said this is a good question. The *Bull Trout Management Plan* does not specify this, but he guesses it is referring to whatever the 5-year average was at the time the *Bull Trout Management Plan* was reviewed and approved, which was in 2008. The 10-year averages at Wells Dam, regardless of which years are included, has consistently been approximately 67 fish. The 5-year average will be a little more variable. There have been fewer fish than this in the past few years, so he guesses that a doubling of the 10-year average will be approximately 120 fish. Verhey said this is helpful.

Lampman asked, if the goal is to understand population size, would this be better based on counts in the tributaries and not the mainstem? Ferguson noted that the language in the second paragraph of Section 4.2.1 is specific to counts at Wells Dam. Gingerich said furthermore, it is really difficult to understand population status based on numbers of fish counted in the tributaries. Redd count data are not consistent. However, ladder count methods are consistent year-to-year, are reliable, and provide a clean dataset for estimating trends in the abundance of adfluvial Bull Trout above Wells Dam over the last 20 years.

Ferguson summarized that moving forward, each year, Aquatic SWG members will review annual counts and the current 5-year average compared to the 5-year average ending in 2008 and will discuss the possibility of conducting the next Bull Trout radio telemetry study based on these data. Gingerich said Douglas PUD appreciates the discussion.

Aquatic SWG members present approved the Bull Trout SOA, as revised. *(Note: the CCT approved the Bull Trout SOA, as revised, via email on May 11, 2021.)*

Anchor QEA will coordinate with USFWS regarding Aquatic SWG approval of this Bull Trout SOA and will obtain a vote via email from USFWS after the draft minutes from today's conference call are available for review. *(Note: Lewis provided USFWS approval of the SOA via email on June 2, 2021, which Geris distributed to the Aquatic SWG that same day.)*

Gingerich noted that the Aquatic SWG still needs to discuss the possibility of a Bull Trout PIT-tag study; however, this is something to discuss when USFWS and the CCT are present.

He recalled Jason McLellan's comments that the study objectives first need to be well-defined before drafting a study plan. Considering this, there is not enough time to conduct a PIT-tag study this year because fish are already arriving at the trap. He suggested discussing this further next month. Ferguson agreed there are a lot of questions to address before implementing a study. Aquatic SWG members will consider the goals, objectives, and technical merits of implementing a Bull Trout PIT-tag study, for discussion during the Aquatic SWG conference call on June 9, 2021.

**5. Wells Fish Hatchery White Sturgeon Rearing Update (Andrew Gingerich):**

Andrew Gingerich projected a Wells Fish Hatchery White Sturgeon Rearing Update (Attachment B). He said brood year (BY) 2020 fish on station are doing well and are on target for release at the end of May 2021. This year, the White Sturgeon Outreach Program, per the *White Sturgeon Management Plan*, will be returning. Last year, the program was postponed due to COVID-19. Douglas PUD will meet the Bridgeport High School Advanced Placement Biology Class at the release site. Typically, students tour Wells Fish Hatchery earlier in the year and see the smaller, younger fish, and then also see the fish at release. This year, Douglas PUD did not host the hatchery tour due to COVID-19 concerns but hope to continue this next year. Attachment B show fish size and growth since January 2021. The tables show mean weight in grams and in pounds per fish. The figures show change in average fish weight (blue line) and percent monthly weight change (orange line). In summary, all BY2020 fish will be above the 200-gram size threshold, and Douglas PUD expects to meet the 325-fish stocking obligation. One or 2 days before release, hatchery staff will rehandle the fish to collect lengths and weights at release and verify PIT-tag retention.

John Ferguson asked about the release date. Gingerich said historically, the release date has consistently been on May 28, plus or minus a few days. The release site will be at Marina Park near Bridgeport, Washington.

**6. Wells Fish Hatchery White Sturgeon Stocking Considerations (Andrew Gingerich):**

John Ferguson said this discussion is regarding the White Sturgeon SOA, *Wells Reservoir White Sturgeon Supplementation 2018-2022*<sup>1</sup>. Release of BY2021 fish in May 2022 will mark the end of this SOA. The question now is, what does the Aquatic SWG want to do regarding the collection of BY2022 fish for rearing and release in 2023? The Aquatic SWG has approximately 1 year from now to come to agreement on this. The CCT need to be a part of these discussions and it was on the agenda for today; however, Jason McLellan was unable to join the call and did not provide comments on this via email. Ferguson asked if there is anything to discuss today, or should this topic be carried forward when all Aquatic SWG members are present?

Andrew Gingerich said Ferguson provided a good summary. Gingerich said one thing to add is that Douglas PUD will be returning to indexing this year as part of the M&E program, and he recalled there was no indexing scheduled for last year. He is optimistic more data will be collected to help inform future stocking. At this time, Douglas PUD does not have a proposal for a new stocking number. He recalled McLellan mentioning that the CCT have an updated model for this discussion. The original model included metrics such as exploitation rates, future harvest considerations, and first year survival. All of these data come from M&E activities. Hopefully this fall, based on the results of the indexing conducted, the Aquatic SWG will have additional insights into the survival of stocked White Sturgeon—particularly for plantings conducted earlier in the program—and the data can be used in the CCT's model.

Ferguson recalled in 2016, the Aquatic SWG formed a technical subgroup that developed this model and reported back to the Aquatic SWG. This approach worked well, and he suggested doing this again. He also suggested carrying this topic forward to next month and asked if there are any questions from Aquatic SWG members present.

Laura Heironimus thanked Ferguson and Gingerich for this summary, and said she is interested in participating on this technical subgroup if one convenes.

Aquatic SWG members will review the current White Sturgeon SOA, *Wells Reservoir White Sturgeon Supplementation 2018-2022*<sup>1</sup>, and Section 4.3.1 of the *White Sturgeon Management Plan*, in preparation to continue discussing Wells Fish Hatchery White Sturgeon stocking considerations during the Aquatic SWG conference call on June 9, 2021.

#### **7. Upper Columbia Proposal eDNA and Bile Acids Sampling (Ralph Lampman):**

The YN had an action item to distribute additional information about the collection methods for bile acids sampling. Ralph Lampman provided additional information, which Kristi Geris distributed to the Aquatic SWG on May 4 and May 12, 2021. Lampman said the attachment sent today from Cindy Baker was the wrong file but he just now resent the correct one, which Geris forwarded to the Aquatic SWG during today's conference call. Lampman said he will further review the different methodologies for collecting bile acid samples and present a recommended protocol for discussion during the Aquatic SWG conference call on June 9, 2021. John Ferguson asked, if this discussion is carried forward another month, will there be any timing issues in terms of preparations, ordering supplies, or migration timing? Lampman said the current proposal is to collect samples in the September and October time frame.

Lampman recalled last month, Douglas PUD concluded that the eDNA & Bile Acids Monitoring Proposal by the YN (distributed to the Aquatic SWG by Lampman on March 10, 2021) was out of scope because it included collecting samples downstream of the Wells Project. He asked, if the proposal is modified to only include collecting samples at and upstream of Wells Dam, could this fit within the scope of the ASA and *Pacific Lamprey Management Plan*? Chas Kyger said, regarding directly funding the eDNA & Bile Acids Monitoring Proposal, the issue is both geographic and that the proposal is outside of the objectives in the *Pacific Lamprey Management Plan*. In terms of implementation of the proposal, Douglas PUD is interested in coordinating on this once there is a clearer understanding of the methods. Further, Douglas PUD might already have some of the equipment needed for sampling.

Lampman said using PIT-tag detections is a way to better understand motivation to pass Wells Dam. He asked if the eDNA & Bile Acids Monitoring Proposal could be viewed as an extension of this (i.e., trying to understand motivation and how this affects behavior). Kyger said he understands the connection Lampman is trying to make, but the translocation effort is already outside of the management plan objectives, which are specific to at-dam studies. The eDNA and bile acids sampling is interesting research, but there is already other infrastructure in place (i.e., PIT-tag detections and collection in screw traps) to directly measure this.

Patrick Verhey asked for a refresher on the importance of bile acids versus eDNA, and he asked, what do bile acids do that eDNA cannot? Lampman said bile acids are larval-specific and adult- (or sexually mature) specific. Bile acids are also sex-specific (i.e., there are male bile acids that attract females), although the exact threshold to attract adults is still unknown. Bile acids are likely site-specific, are an important attractant, and are the best way to directly measure concentrations in the water to look at potential effects of translocation and motivation at the dam. In contrast, eDNA measures something entirely different. The eDNA is what the animal is shedding, including larvae and adults, and is not life stage specific. If eDNA concentrations are high, bile acids are likely to be high as well, so there is some correlation between the two methods. Another difference is that bile acids sampling and processing is more expensive. There are only a couple of agencies that can analyze bile acids or that do this regularly (University of Michigan and Baker in New Zealand), and their methods are slightly different. A lot of agencies are already using eDNA and there are quite a few vendors available for processing eDNA samples. If researchers can show a correlation between eDNA and bile acids, agencies might be able to use eDNA to better understand motivation. Baker's preliminary results showed some correlation between the two types of samples, but it was not strong. The goal is to understand what threshold of bile acids equates

to a number in eDNA results, and vice versa, and how this relates to adult Pacific Lamprey. The eDNA results from 2018 were enlightening. There were no detections of eDNA at Wells Dam, but there were positive detections at the other three downstream dams. Seeing how this correlates with bile acids would be interesting.

#### **8. Pacific Lamprey Study Plan Development (Chas Kyger):**

Chas Kyger said there is no formal study plan yet, but he has updates on Douglas PUD's action items.

Kyger said regarding DIDSON technology, which has been updated and is now ARIS, as a possible study method for the upcoming adult Pacific Lamprey study, he spoke with Anchor QEA who has experience with this technology. Topics discussed included capabilities of ARIS, deployment, and limitations. He recalled the original thought was to use ARIS technology at the entrance of the fishways where PIT arrays are not effective. However, the ARIS cameras do not perform well in turbulent areas with air entrainment and are difficult to mount in locations with high water velocities. Therefore, it might be difficult to deploy this technology in the areas of interest at the ladder entrance. Douglas PUD needs to further consider these details, including whether this fits within the objectives of a study plan. Douglas PUD is also not sure if there is value in deploying this technology while Pacific Lamprey counts are low and might instead consider implementing this technology when counts are higher.

Kyger said, regarding source of fish and translocation, he spoke with Mike Clement (Grant PUD) who indicated that Grant PUD intends to continue trapping for the next several years at Priest Rapids Dam. Clement also indicated that Douglas PUD can continue using fish collected at Priest Rapids Dam for source fish, and that the two PUDs just need to enter into a new agreement.

Kyger recalled that this year is the final year under the current Pacific Lamprey translocation SOA<sup>2</sup>, and the plan is to renew this SOA to further bolster fish numbers upstream of Wells Dam. After the ongoing field season activities, Douglas PUD can distribute a formal draft study plan that clearly defines the objectives for study next year.

Patrick Verhey asked if ARIS is more sensitive to air bubbles and turbulence compared to DIDSON, and he recalled that DIDSON produced good images. Kyger said he is not sure how ARIS compares to DIDSON. His concern is more about where to deploy the ARIS cameras. Ideally, this would be outside of the fishway entrance to detect fish attempting to enter the

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<sup>2</sup> Aquatic SWG SOA To translocate adult Pacific Lamprey from Priest Rapids Dam to areas within or upstream of the Wells Project and postpone passage evaluations, approved June 13, 2018.

fishway but that did not enter. Previously, the DIDSON cameras were deployed inside of the collection gallery where it is more protected and were aimed downward to sample the entrance. Douglas PUD might be open to installing ARIS cameras inside the collection gallery again; however, he is not sure fish numbers are high enough for this to result in the effort obtaining much data. He noted that ARIS cameras can pan and scan at different angles and might have a wider viewing range compared to the old DIDSON technology. Again, it would be ideal to deploy the cameras outside of the fishway entrance and aim the cameras into the tailrace to see if fish are staged outside the entrance and cannot get in. Douglas PUD is still trying to figure out if it is possible to safely mount equipment in this area with the different flows and tailrace elevations.

Andrew Gingerich said he is a bit speculative of the DIDSON technology as a whole because of its limitations. The field of view is approximately 15 feet. The orifice into the collection gallery is quite tall. Depending on the tailrace elevation and river flow, the cameras might need to cover an area that is over 30 feet tall. Also, given that the last DIDSON study only captured seven fish in the field of view, he is speculative about how useful this technology will be in this location. He understands the interest, but he is not sure DIDSON is the right method.

Ralph Lampman asked how the ARIS technology works. Kyger said ARIS is essentially a sonar camera that records sonar images of fish in fine resolution, and then this footage can be reviewed to determine fish counts and behavior. ARIS images can be recorded in total darkness regardless of turbidity; however, air bubbles and turbulence can cause interference. ARIS can be a valuable tool, but it is limited in its range of view. In the right location and situation, ARIS cameras can probably collect good information on Pacific Lamprey behavior and how fish interact with the fishways. This technology might be better suited for application in a smaller area to take advantage of its full capabilities. Lampman asked about the field of view for DIDSON. Kyger said he is unsure, but he guessed that ARIS is better because it is a second or third generation improvement of the original DIDSON technology. Laura Heironimus asked if the ARIS is basically an upgraded DIDSON. Kyger said yes, the ARIS is the latest and greatest DIDSON technology.

Lampman said it seems that if there is consensus on PIT-tag numbers and release locations, it would be feasible to conduct a PIT-tag study this year. Setting up cameras might be more appropriate for next year, but is there any reason not to conduct a PIT-tag study this year? John Ferguson said there is no study plan yet. Kyger said releasing a few PIT-tagged fish downstream this year would be different than the study planned for 2022. Douglas PUD is open to discussing potential downstream locations this year but considering that

translocation releases to date have fallen short of the target (an average of 500 fish translocated each year), he proposed for 2021 to conduct the final year of translocation under the current SOA<sup>2</sup> with a goal of translocating as many fish possible upstream of Wells Dam in preparation for a study next year.

Ferguson asked, if there is a desire to conduct a PIT-tag study in 2021, is this even feasible given Douglas PUD's workload? Kyger said yes if it is just a small pilot effort, because approximately 90% of the work will already be done via the translocation program. However, if the desire is to have several different release locations, this adds time and workload. Douglas PUD is also short one biologist, so crews will be shorthanded this season. Gingerich also cautioned it is possible that tailrace releases will descend and recalled the objective is to add as much pheromone as possible upstream under this current SOA<sup>2</sup>. Ferguson asked if there is any idea yet regarding run size this year. Lampman said not yet and that he asked Columbia River Inter-Tribal Fish Commission for the latest forecast model, but only preliminary models are available.

Lampman said he agrees with the points made by Douglas PUD about falling short of targets to date and the ultimate goal of increasing pheromones upstream. It could potentially be informative to have in-ladder releases this year, just to see what happens. The YN can also provide additional fish from the Lower Columbia River to release upstream to offset fish released downstream. Kyger agreed this could be an option. Also, if there is a good run this year and Douglas PUD meets the upstream release goals, this might provide an opportunity to do some in-ladder or downstream releases. Ferguson said if this happens, it should be done under a structured approach. He understands this is opportunistic but suggested reaching unanimous agreement on release locations. He recalled Douglas PUD's summary of past Pacific Lamprey studies<sup>3</sup>, which showed issues at the fishway entrances, but in-ladder passage was better. Kyger agreed and clarified that this is true for fish released above Pool 40 that effectively bypassed the lower fish ladder. The draft 2022 Pacific Lamprey PIT-tag Study Outline (distributed to the Aquatic SWG by Geris on March 10, 2021), proposes releasing fish so they are exposed to the lower ladder, where radio telemetry study results showed passage might be problematic.

Lampman said, if fish are released way downstream of Wells Dam, a larger number of fish will be needed for a pilot PIT tag study. However, if fish are only released within the ladder, chances of detection are higher, and a smaller number of fish will be needed. He is interested

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<sup>3</sup> During the Aquatic SWG conference call on February 10, 2021, Kyger shared a presentation titled *Summary of Douglas PUD Adult Lamprey Passage Studies 2007–2020*, which was distributed to the Aquatic SWG by Geris following the Aquatic SWG conference call on February 10, 2021.



in looking at fish released in the lower ladder compared to fish released upstream of Pool 40. He guessed the Pacific Lamprey run will be similar to last year and doubts there will be surplus fish. If this pilot is only 20 to 40 fish, this is something the YN can offset with adults from the Lower Columbia River. Kyger said Douglas PUD can be supportive of this, so long as there is an understanding that some fish released downstream and within the fish ladder might not make it into the tributaries. There needs to be an agreement by the Aquatic SWG on this because this takes fish away from the original goal of the current SOA<sup>2</sup>, which is to translocate fish upstream of Wells Dam.

Verhey said he is hearing a suggestion to conduct a pilot study this year to help inform a more robust study in 2022. However, there are concerns about what this pilot study can inform depending on whether these downstream releases will actively migrate upstream. He is unsure a pilot study can provide enough information for Douglas PUD to alter the fishways, but a pilot study might be useful to inform a larger-scale study in 2022. Ferguson asked if Verhey is supportive of proceeding with a pilot study in 2021, and Verhey said he is.

Heironimus said she is supportive of Verhey's comments and thinks it might also be good to discuss this topic during the JFP coordination meeting.

RD Nelle said he is not sure a pilot study is needed, and his concern is not having enough pheromones upstream, which is why the Aquatic SWG agreed to translocation. Conducting a pilot study in 2021 does not meet the intention of the current SOA.<sup>2</sup> He suggested continuing putting every fish possible upstream, including fish the YN can provide, and conducting a solid study next year.

Verhey agreed with Nelle about attraction above Wells Dam. If the pilot study in 2021 is only a small number of fish, it might be worth doing. However, he is also concerned about having pheromones upstream of Wells Dam.

Ferguson asked about the process for obtaining fish from the Lower Columbia River to translocate above Wells Dam. Lampman said the YN has been translocating fish to the Methow River Basin and mainstem Upper Columbia River each year since 2015, except last year due to COVID-19. Last week, the YN released 238 adults—half to the mainstem Columbia River at Brewster, Washington, below the Okanogan River confluence and half to the Lower Methow River (of which, John Crandall [Methow Salmon Recovery Foundation] helped transport approximately 32 fish to Carlton, Washington, just downstream of the Twisp River). Total translocation numbers to date are included in the Pacific Lamprey Translocation

Summary Table,<sup>4</sup> minus the latest numbers from last week. Each year, the YN allocates a certain number of fish to translocate upstream of Wells Dam and this is dependent on what is collected and other allocation requirements. For the YN, the Yakima River Basin is the highest priority. The YN also started an artificial propagation program to make fish available for release. Therefore, he is certain the YN can supply fish to translocate upstream of Wells Dam, but the exact number will depend on fish availability. He noted that the reason the YN decided to release fish in the mainstem this year is because it seems that a lot of fish released at Starr Boat Launch are attracted to the Methow River Basin and the reach between the Methow confluence and Chief Joseph Dam may be underutilized. He also noted that, although low in numbers, some fish are starting to get detected in the mainstem and tributaries in the Okanogan River Basin. The YN had not yet released fish in the mainstem Columbia River upstream of the Methow River, so it was decided to do this in 2021. Ferguson asked where the fish came from that were translocated last week. Lampman said these fish were originally from the Lower Columbia River and have been held at the YN fish hatchery.

Kyger said that Douglas PUD will develop a summary of potential options to study adult Pacific Lamprey via PIT-tag detection for implementation in 2021, for discussion during the Aquatic SWG conference call on June 9, 2021. The caveat is that a pilot study in 2021 will depend on how many fish are available and what is worthwhile to do. Heironimus added that the consideration is not just about how many fish are being taken away from translocation, but also how many are needed to make a pilot study worthwhile. Kyger agreed.

Ferguson said additionally, as Kyger mentioned earlier, Douglas PUD will develop a draft adult Pacific Lamprey study plan for implementation in 2022 that considers potential methodologies, release locations, and sample size requirements, for discussion during fall 2021.

## **9. Aquatic SWG Pacific Lamprey Translocation Coordination with the JFP (John Ferguson):**

John Ferguson recalled that Anchor QEA had an action item to coordinate with Tracy Hillman about annual Pacific Lamprey translocation coordination among the Aquatic SWG, Douglas PUD, Chelan PUD, Grant PUD, and the JFP, throughout each Pacific Lamprey passage season and as translocation efforts progress. Ferguson contacted Hillman and provided a plan forward (Attachment C) to Kristi Geris on April 14, 2021, which Geris distributed to the Aquatic SWG that same day. Ferguson reviewed Attachment C and asked Aquatic SWG

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<sup>4</sup> The summary table *Adult Pacific Lamprey Translocation in the Upper Columbia Basin 2011-Present* was last distributed to the Aquatic SWG by Lampman on February 10, 2021.

members if this seems like the appropriate process. He also asked if this has been discussed within the RRF or PRFF.

Ralph Lampman said this was discussed and both forums agreed that reaching consensus on activities is not needed because this coordination involves multiple forums and if one party disagrees there is no process in place to address this. Rather, the purpose for these coordination meetings is to inform each other. So, Nos. 2c and 3c in Attachment C are not needed.

Patrick Verhey agreed with Lampman's comments, and he said the intent of these coordination meetings is to provide an opportunity for discussion where everyone communicates their needs and interests with Pacific Lamprey translocation. However, there should be no votes or approvals due to the lack of a method for dispute resolution across forums.

Ferguson summarized that the Aquatic SWG, RRF, and PRFF agree with Nos. 1, 2a–b, and 3a–b. in Attachment C, and this is not a decision forum because processes are not in place to reach agreement. He asked if these discussions were captured in the RRF and PRFF meeting minutes, or does he need to contact Hillman? Lampman said he thinks Hillman was going to reach out to Anchor QEA.

Ferguson recalled Laura Heironimus's comment about discussing the potential for a Douglas PUD adult Pacific Lamprey PIT-tag pilot study being implemented in 2021, and he asked if this affects these coordination meetings? He thinks this might be an Aquatic SWG-specific item with no need to coordinate with the other forums. Lampman said he thinks it would be good to discuss this with the forums, because in a sense this is about where to release fish. Verhey agreed and said whether it be fish above Wells Dam or fish available for the pilot study, both would impact the Entiat and Wenatchee River basins.

Andrew Gingerich said he understands the concern about not reaching agreement considering that representatives are parties to individual forums. Douglas PUD is supportive of participating in these coordination meetings as part of regional coordination. It is important to talk about run size. Douglas PUD is interested in having as many fish above Wells Dam as possible. Douglas PUD has this SOA<sup>2</sup> and the target of 500 fish per year being translocated on average has not been reached due to low run sizes. If it is valuable to have this discussion with the other forums, then Douglas PUD can support this. He thinks discussing the potential Pacific Lamprey PIT-tag pilot study with the other forums is fine, but he agrees more with RD Nelle about not studying in 2021. It would be unfortunate for Douglas PUD and the Aquatic SWG to put time and effort into a 2021 study only to have it

not happen due to low run size. His preference is to focus on the current SOA<sup>2</sup>, which is to get as many fish upstream of Wells Dam as possible. Chas Kyger agreed with Gingerich's comments.

Ferguson summarized that the Aquatic SWG, RRF, and PRFF agree with Nos. 1, 2a–b, and 3a–b in Attachment C, the Aquatic SWG will discuss the potential Douglas PUD adult Pacific Lamprey PIT-tag pilot study for implementation in 2021 with the other forums, and Hillman will coordinate with Anchor QEA, as needed. Ferguson suggested that Aquatic SWG members will identify potential dates during the Aquatic SWG conference call on June 9, 2021, to convene two coordination calls with the regional fish forums regarding Pacific Lamprey translocation during 2021. *(Note: a coordination call was scheduled for July 7, 2021, from 9:00 a.m. to 12:00 p.m.)*

#### **10. Pacific Lamprey Information Exchange Webinar (Ralph Lampman):**

Ralph Lampman said the fifth Pacific Lamprey Information Exchange Webinar<sup>5</sup> took place on May 11, 2021. This webinar focused on Sea Lamprey, mainly in the Great Lakes and some along the east coast. There were four presenters. Nick Johnson provided an overview of the Sea Lamprey problem in the Great Lakes and what is being done to reduce numbers. He shared the latest control tools that USGS is working on, including lampricides to kill larvae, among other measures. He talked about the importance of implementing all control tools together to have a more effective impact. USGS may discontinue using lampricides in the future because these indiscriminately kill all lamprey, including native Sea Lamprey, and there are a few other social and environmental reasons. John Hume (Michigan State University) mainly discussed an alarm chemical used to help repel Sea Lamprey. The chemical does not necessarily repel Sea Lamprey. Rather, it slowed their migration because if a fish smells the alarm cue it becomes more cautious about predators and migrates slower, and the study showed that combining the positive effects of pheromones and alarm cues produced better results. Scott Miehl (USGS) talked about using lighting and electricity to modify the behavior of juvenile lamprey. Research settings included both small and large raceways (to simulate a more realistic stream situation) with lights installed on one side. He expected juvenile lamprey to be attracted to the darker areas; however, more fish went towards the lighted side of the raceways but also migrated more slowly. He also conducted studies within a stream to see which side of the stream the fish chose, and tested the use of electricity, which was limited because it basically just stunned the fish. Light is a less expensive alternative and implementation is easier than electricity. These methods were also combined with alarm cues, and Miehl discussed additional benefits that resulted from combining various

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<sup>5</sup> Pacific Lamprey Conservation Initiative's Lamprey Technical Workgroup 4th Annual Lamprey Information Exchange Monthly Webinar Series, which will convene on the second Tuesday of each month from January to June 2021.

methods. The last talk was by Joseph Zydlewski (USGS) who is a professor at the University of Maine. He talked about removing passage structures and monitoring the beneficial effects to Sea Lamprey, and summarized past studies by students. He talked about one dam—where the collector lift is collecting thousands of Sea Lamprey—which is partly related to two downstream dam removals. He discussed what this dam is doing in terms of collecting Sea Lamprey and passing the fish upstream.

Lampman said the fourth Pacific Lamprey Information Exchange Webinar<sup>5</sup> took place on April 13, 2021, which occurred after the rescheduled Aquatic SWG conference call on April 12, 2021. This webinar focused on larval lamprey. Ben Clemens (Oregon Department of Fish and Wildlife) provided an overview on how to collect larval lamprey, including thoughts on protocols and methods. Julie Harris (USFWS) provided an overview on protocols developed to determine their presence or absence, above or below dam, for any reach of interest. Stewart Reid (Western Fishes) spoke on methods for opportunistic sampling focused on lower reaches of tributaries where there tends to be finer sediment and lower gradients. Lampman said he provided a presentation on YN long-term index sampling, which is somewhat similar to other Tribes; however, the YN also conducts monitoring to look at trends in numbers and biomass. The last talk was by Daniel Bingham (Cramer Fish Sciences) about an eDNA study, where the YN provided adults and larvae that were placed in a cage in the upper Yakima River above anadromous fish habitat. The eDNA was monitored at a distance of 1 meter to over 1,600 meters downstream of the cage and results were then related to larval lamprey and adult lamprey. These data are being used to look at the Deschutes River. John Ferguson asked about the number of fish held in the cage. Lampman said there were 29 adults in one cage and on a different day there were approximately 500 medium-sized (approximately 70-millimeter average) larvae in a cage. Comparing the collective weights from both, the adults were heavier. There was a larger detection of eDNA from the adults; although, some larvae were still detected 1,600 meters downstream, but the eDNA signals were lower compared to adults. Larvae were also buried in fine sediment for one of the testing days; the eDNA detection levels were a lot lower for larvae buried in fine sediment compared to those that were free swimming.

## **VII. Administration**

### **1. Upcoming Meetings (John Ferguson):**

The Aquatic SWG meeting on June 9, 2021, will be held by conference call.

Other upcoming meetings include July 14 and August 11, 2021 (location to be determined).

## **List of Attachments**

Attachment A List of Attendees

Attachment B Wells Fish Hatchery White Sturgeon Rearing Update

Attachment C Aquatic SWG Pacific Lamprey Translocation Coordination with the JFP

**Attachment A – Attendees**

<b>Name</b>	<b>Role</b>	<b>Organization</b>
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	Aquatic SWG Technical Alternate	Douglas PUD
Steve Lewis*	Aquatic SWG Technical Representative	U.S. Fish and Wildlife Service
RD Nelle	Aquatic SWG 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
Laura Heironimus	Aquatic SWG Technical Alternate	Washington Department of Fish and Wildlife
Ralph Lampman	Aquatic SWG Technical Representative	Yakama Nation

Notes:

\* Left conference call at approximately 11:00 a.m. (was not present for the Aquatic SWG approval of the Bull Trout SOA under Item VI-4 and remaining agenda items).