

Final Conference Call Minutes



Aquatic Settlement Work Group

To: Aquatic SWG Parties **Date:** December 14, 2016
From: John Ferguson, Chair (Anchor QEA, LLC)
Re: Final Minutes of the November 9, 2016 Aquatic SWG Conference Call

The Aquatic Settlement Work Group (SWG) met by conference call on Wednesday, November 9, 2016, from 10:00 a.m. to 12:15 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 of Pacific lamprey monitoring and evaluation (M&E) acoustic data collected to date as soon as those data are downloaded (Item VI-1).
2. Anchor QEA and Douglas PUD will discuss Aquatic Settlement Agreement (ASA) Annual Report deadlines, including the feasibility of providing a draft report (with the Draft Water Temperature Report and draft ASA resource management plan annual reports appended, including aquatic nuisance species, bull trout, Pacific lamprey, resident fish, water quality, and white sturgeon), for Aquatic SWG review by March 15 (Item VI-3). *(Note: Anchor QEA and Douglas PUD discussed and agreed on an annual report production schedule, which includes providing the annual report, plus the discussed management plan reports, to the Aquatic SWG for a 45-day review on March 21. This schedule also accommodates all necessary internal drafting and review periods, discussion during the Aquatic SWG meeting on April 12, approval during the meeting on May 10, and submittal to the Federal Energy Regulatory Commission [FERC] by May 31, 2017.)*
3. Once ASA Annual Report deadlines are verified, Douglas PUD will: 1) provide a draft letter to FERC to the Aquatic SWG for review, requesting permission from FERC to combine all ASA Annual Reports and deadlines into one submittal; and 2) coordinate obtaining agency support letters, as necessary (Item VI-3).
4. Douglas PUD will provide a Draft White Sturgeon Stocking Statement of Agreement (SOA) to Kristi Geris for distribution to the Aquatic SWG prior to the Aquatic SWG meeting on December 14, 2016 (Item VI-4). *(Note: Andrew Gingerich provided a draft SOA on December 2, 2016, which Geris distributed to the Aquatic SWG Technical Representatives that same day.)*
5. Douglas PUD will arrange for an Aquatic SWG in-person meeting on January 11, 2017, including coordinating a fishway tour at Wells Dam (Item VI-5).

6. Bob Rose will provide the Draft Pacific Lamprey Supplementation Plan to Kristi Geris for distribution to the Aquatic SWG (Item VI-5). *(Note: the draft plan was provided to Geris on November 11, 2016, which Geris distributed to the Aquatic SWG on November 14, 2016.)*
7. Bob Rose will inquire internally and with the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) and the Nez Perce regarding possibly presenting on current Pacific lamprey translocation efforts during the Aquatic SWG in-person meeting on January 11, 2017 (Item VI-5).
8. Douglas PUD will provide a revised bull trout mortality summary to U.S. Fish and Wildlife Service (USFWS), and copy Kristi Geris for distribution to the Aquatic SWG (Item VI-6). *(Note: Andrew Gingerich provided the revised summary to Geris following the meeting on November 9, 2016, which Geris distributed to the Aquatic SWG that same day.)*
9. **The Aquatic SWG meeting on December 14, 2016, will be held by conference call (Item VII-1).**

II. Summary of Decisions

1. There were no decisions approved during today's conference call.

III. Agreements

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

IV. Review Items

1. There are no items that are currently available for review.

V. Documents Finalized

1. There are no documents that have been recently finalized.

VI. Summary of Discussion

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 asked for any additions or other changes to the agenda. Bob Rose added an update on Pacific lamprey regional coordination.

The revised draft October 12, 2016, conference call minutes were reviewed. Kristi Geris said all comments and revisions received from members of the Aquatic SWG were incorporated into the revised minutes, and there are no outstanding edits or questions to discuss. Aquatic SWG members present approved the October 12, 2016, conference call minutes, as revised.

Action items from the last Aquatic SWG conference call on October 12, 2016, are as follows (note: the following italicized item numbers correspond to agenda items from the October 12, 2016, conference call):

- *Douglas PUD will: 1) provide a draft letter to FERC to the Aquatic SWG for review, requesting permission from FERC to combine all ASA Annual Reports and deadlines into one submittal; and 2) determine where and from whom the respective agency support letters should be sent (Item VI-1).*

This will be discussed during today's conference call.

- *Douglas PUD will provide a summary of Pacific lamprey M&E acoustic data collected to date as soon as those data are downloaded (Item VI-1).*

This will be discussed during today's conference call and will be carried forward.

- *The Aquatic SWG White Sturgeon Subgroup will: 1) discuss drafting a White Sturgeon SOA in November 2016; 2) address outstanding action items discussed during the last subgroup meeting on October 4, 2016, including discussing proposed release numbers and fish size at release, with their respective policy representatives; and 3) provide an update on White Sturgeon Subgroup discussions to date during the Aquatic SWG meeting on November 9, 2016 (Item VI-2).*

This will be discussed during today's conference call.

- 2. PRESENTATION: Zebra and Quagga Mussel Shoreline Surveys** (Richard Visser): Richard Visser (Washington Department of Fish and Wildlife [WDFW]) shared a presentation titled, "Adding Shoreline Surveys for Zebra/Quagga Mussel Early Detection Monitoring," (Attachment B), which was distributed to the Aquatic SWG by Kristi Geris following the meeting on November 9, 2016. Visser provided an overview of early detection zebra and quagga mussel monitoring, which is conducted from May to October. Monitoring sites include areas with high potential for introduction of zebra and quagga mussels, such as aquatic recreational areas. Regions with abundant calcium are also monitored because these areas promote shell growth in zebra and quagga mussels. Mussel monitoring typically involves deploying plankton tows and artificial substrate (the latter monitored only during high-frequency boating events), and collecting water quality samples. These monitoring activities are a coordinated effort among tribal, state, and federal agencies, including Douglas, Chelan, and Grant PUDs. Mussel monitoring sites are more prevalent in Eastern Washington due to the availability of staff dedicated to the project in this area. Visser said WDFW is now encouraging agencies to conduct shoreline surveys, which are proven to be effective and cost effective. In 2016, Douglas PUD conducted two shoreline surveys at three sites, which contributed to the monitoring effort and only required an additional 60 minutes to normal survey time.

John Ferguson asked if WDFW is asking Douglas PUD for additional support or thanking them for their contributions. Visser said WDFW definitely thanks Douglas PUD, but is also asking to implement additional shoreline surveys into their current monitoring efforts. Chas Kyger noted that Douglas PUD did conduct an additional survey in early-October 2016 and will gladly

continue conducting additional surveys. He agreed the effort is minimal and simple to accomplish. Visser said WDFW appreciates it.

Ferguson asked if data collected in Washington State indicate zebra and quagga mussel populations are expanding. Visser said zebra and quagga mussels have not been detected in Washington State, but WDFW is working to build a database that includes reports of several aquatic invasive species. Patrick Verhey asked, in general, if zebra and quagga mussels are spreading and if there is an elevated level of concern compared to past years. He also asked what climatic changes encourage spreading of zebra and quagga mussels. Visser said increased calcium into water systems may be one factor that encourages spreading. Ferguson said he thought zebra mussels were sampled on recreational boats coming into Washington from Idaho. Visser said zebra and quagga mussels have been detected nearby Washington State. He said at WDFW check stations, about 14 of 3,000 boats inspected were carrying aquatic invasive species of some sort, including plants. He said the amount coming in is not large, but the potential is still there.

- 3. ASA Report Consolidation Discussion and Update** (Andrew Gingerich): Andrew Gingerich said he spoke with Shane Bickford, who suggested packaging the resource management plan reports together with the ASA Annual Report, including the Water Temperature Report (typically filed April 30) and the Aquatic Nuisance Species Management Plan Report (typically filed April 1). Gingerich said this would entail requesting from FERC and the Washington State Department of Ecology (Ecology) to move the deadlines for two reports, and submitting the entire package on May 31. He said this will require fewer review deadlines for the Aquatic SWG and hopefully streamline the process.

John Ferguson asked if the management plan reports would be appended to the ASA Annual Report. Gingerich said that is correct, and this is consistent with how the reports are filed with FERC, as well. He said the Aquatic SWG will then have a comprehensive package and can choose where to focus their review. Bob Rose noted the difficulty in reviewing every document, and suggested developing a summary document highlighting the controversial issues. Gingerich said most controversial issues will have already been discussed throughout the year, as documented in the meeting minutes, and the annual reports are more a summary of discussions. He said he could provide a narrative highlighting what to find and where. Rose said anything to help speed up the review but still cover ground would be helpful. Steve Lewis also noted that the introduction summaries in reports typically highlight hot topics.

Ferguson asked about the feasibility for Douglas PUD and Anchor QEA to complete all report writing in time to meet a May 31 deadline. Patrick Verhey also recalled one reason behind combining the reports was to reduce redundancy in reviewing different reports. He said it is also important to ensure adequate time for review and discussion within the workgroup before the final reports are due. Gingerich suggested providing a comprehensive draft for review by

March 15. Ferguson said this would allow discussion during the April meeting, approval during the May meeting, and submittal by May 31. Anchor QEA and Douglas PUD will discuss ASA Annual Report deadlines, including the feasibility of providing a draft report (with the Draft Water Temperature Report and draft ASA resource management plan annual reports appended, including aquatic nuisance species, bull trout, Pacific lamprey, resident fish, water quality, and white sturgeon), for Aquatic SWG review by March 15. *(Note: Anchor QEA and Douglas PUD discussed and agreed on an annual report production schedule, which includes providing the annual report, plus the discussed management plan reports, to the Aquatic SWG for a 45-day review on March 21. This schedule also accommodates all necessary internal drafting and review periods, discussion during the Aquatic SWG meeting on April 12, approval during the meeting on May 10, and submittal to FERC by May 31, 2017.)*

Breean Zimmerman asked if Douglas PUD is suggesting including the Total Dissolved Gas Abatement Plan Annual Report and Water Temperature Report in the ASA Annual Report. Gingerich clarified only the Water Temperature Report would be included with the ASA Annual Report, and the Total Dissolved Gas Abatement Plan Annual Report will be submitted separately (by February 28). Zimmerman said she does not foresee any issues with this.

Once ASA Annual Report deadlines are verified, Douglas PUD will: 1) provide a draft letter to FERC to the Aquatic SWG for review, requesting permission from FERC to combine all ASA Annual Reports and deadlines into one submittal; and 2) coordinate obtaining agency support letters, as necessary.

4. White Sturgeon (Andrew Gingerich):

Brood Year 2016 Wells Hatchery Update

Andrew Gingerich said Wells White Sturgeon Fish Health Reports 217 and 218 (Attachments C and D) were distributed to the Aquatic SWG by Kristi Geris on November 8, 2016. Gingerich said fish were negative for White Sturgeon Iridovirus (WSIV). He said, although fish tested negative for WSIV, they must have had a fungus or another ailment. He recalled that fish health in two tanks was not good; however, following transfers, grading, and treatment, fish are responding well. He said there are still more than 8,000 fish available to meet the 5,000 fish required to be released this year. He said WDFW hired a new pathologist, and there are plans to sample more fish.

White Sturgeon SOA Development (Stocking Next 5 Years)

Gingerich recalled the white sturgeon subgroup having good discussions about a month and a half ago, and the action item for the subgroup members was to review these discussions with their respective policy representatives, if necessary, before drafting an SOA. Gingerich said he had a good conversation internally, and Douglas PUD believes these discussions are moving in a good direction. He said he is interested in hearing other feedback.

Jason McLellan said the Colville Confederated Tribes (CCT) are supportive of the numbers from the modeling side, and fish being sourced through a WDFW effort in the Lower Columbia River (Zone 6), as well as other collection efforts in Lake Roosevelt and other Mid-Columbia pools, as needed. Patrick Verhey said he has not yet discussed this with Chad Jackson (WDFW). Verhey said he believes Jackson is also discussing this with Jeff Korth (WDFW North Central Regional Fish Program Manager). Breean Zimmerman said Ecology has no comments.

Bob Rose asked if there is an SOA to consider at this point. Gingerich said there is no SOA yet; however, there is an outline of what might go into an SOA, based on modeling. He recalled the general agreement around targeting an adult population within the Wells Reservoir, based on healthy adult fish upstream of the Bonneville Pool, scaled according to surface area, which equals about 1,100 adults. He said this translates into about 325 fish to be stocked at a weight of 200 grams each. He said assumptions for harvest were discussed, and general support for larval-origin fish was expressed. He said the action was to discuss these points with policy representatives to obtain feedback. Rose said the Yakama Nation (YN) has no comments at this point and looks forward to reviewing an SOA.

Steve Lewis asked if the Aquatic SWG plans to use the Rocky Reach Fish Forum or Priest Rapids Fish Forum white sturgeon SOA templates. McLellan suggested the Aquatic SWG create their own SOA. John Ferguson agreed, noting he saw no reason to use another forum's template. Ferguson also recalled discussing leaving the source topic vague and flexible, with everything adjustable depending on M&E data throughout the next couple years. Gingerich agreed with Ferguson and also agreed with McLellan about the Aquatic SWG creating their own SOA. Gingerich said he reviewed the Grant and Chelan PUD white sturgeon SOAs and believed they were fairly lengthy. Gingerich said he would like to keep the Douglas PUD SOA short, concise, and less complicated. McLellan agreed and suggested only including stipulations of the agreement and leaving out unnecessary background information. Lewis agreed simple is better in this case. Douglas PUD will provide a Draft White Sturgeon Stocking SOA to Kristi Geris for distribution to the Aquatic SWG prior to the Aquatic SWG meeting on December 14, 2016. *(Note: Gingerich provided a draft SOA on December 2, 2016, which Geris distributed to the Aquatic SWG Technical Representatives that same day.)*

5. Pacific Lamprey

2016 Pacific Lamprey Study Update (Chas Kyger): Chas Kyger said no downloads have been obtained from acoustic receivers since late-September 2016; however, there are plans to obtain another download from the Wells Dam tailrace during the next few weeks. Kyger said he spoke with Grant PUD and Blue Leaf, who indicated that since the last update, one acoustically tagged study fish tagged and released at Priest Rapids Dam had been detected in the Wells Dam tailrace. Kyger said four study fish were also detected on receivers 2 miles downstream of Wells Dam; however, these fish were not detected on Wells Dam tailrace receivers. He said passive integrated transponder (PIT)-tag data indicate no detections other than the one fish

detected entering the Entiat River the day of release. He said, to date, only one PIT-tagged lamprey has passed Wells Dam, which was tagged by Chelan PUD in August 2016.

Andrew Gingerich summarized the available data from 2016 by saying, to date, five acoustically tagged study fish had been detected in the Wells Dam tailrace or the area just downstream from the tailrace.

Bob Rose asked if any acoustically tagged study fish have passed Wells Dam, and Kyger said none have passed the dam. Steve Lewis asked about the behavior of the fish in the tailrace (e.g., moving in and out or holding). Kyger said it appeared some fish had been detected outside of the fishway entrances but had fallen back and were last detected on receivers farther downstream. Lewis asked if this could be related to the reduced head differential in the adult fish ladders (lamprey operations), and Kyger said operations were in a normal configuration this year. He recalled that 2 years ago, after the passage efficiency studies, Douglas PUD determined there was not enough evidence to suggest continuing the reduced head differential (from 1.5 feet [high] to 1 foot [moderate]). He said, additionally, the study objectives shifted from evaluating how fish pass the fishway to how (and whether) fish approach the dam. He said Douglas PUD may revisit how lamprey are behaving within and passing the fishways and count stations once sample sizes are adequate for such studies (i.e., when more fish are approaching the dam). John Ferguson noted that change to the head differential will also need to be approved by the Wells Habitat Conservation Plan Coordinating Committee and Kyger agreed. Kyger said, this year, Douglas PUD was focused on approach numbers and behavior and did not incorporate fishway and dam passage variables into the study design. He said the focus was on evaluating the assumption that fish are attempting to pass, which so far, only a small proportion have come close to Wells Dam. He also pointed out that, in past Grant PUD studies, some fish were detected in late spring of the following year, which could be expected this spring.

Ferguson asked about detections at the low-level entrance. Kyger recalled installing a lamprey entrance box at the low-level entrance to provide a low-velocity entrance to the fishway for lamprey and said there have been no PIT-tag detections there so far. He also recalled installing an acoustic receiver in the collection gallery; however, he was skeptical how well the receiver would perform at that location due to noise. He said tag testing indicated good detection efficiency with test tags, but there have not been any detections of study fish there yet.

Pacific Lamprey Regional Coordination Update (Bob Rose):

Part I: Lamprey Passage Studies

Rose said his comments are not intended to be a criticism; however, he believes the current approach to studying lamprey passage at Wells Dam is too incremental and suggested changing to something more comprehensive. He recalled holding a joint Chelan and Douglas PUDs discussion a couple of years ago and suggested doing this again. He said there are critical uncertainties, which fall under adaptive management under Chelan and Douglas PUDs' licenses.

He said this approach cannot continue happening, and the YN is going to start advocating that more actions be implemented.

Gingerich suggested keeping in mind constraints and noted that the best time for fishway maintenance is during the annual winter outage in December and January, which is now. He said, having said that, he does not know how to conduct a study of passage at Wells Dam similar to 2013, while at the same time violating the assumption that some number of fish are actually wanting to migrate upstream past Wells Dam. He said the small sample size of fish wanting to pass the dam will make testing dam passage, or the effectiveness of a fishway modification, difficult, if not impossible. He said he thinks it would be valuable to revisit the translocation concept that Rose and Patrick Verhey have mentioned. Gingerich questioned whether the passage issue is actually an attraction issue. He said there may not be enough fish in the Methow Basin to have measureable counts like those that occurred in the past. He suggested producing data from this year, including the most recent download and Chelan PUD receivers, to report what happened to Douglas PUD's study fish. Ferguson asked about timing for a report. Kyger said Douglas PUD plans to download data in the next couple of weeks. He said, however, Blue Leaf indicated the tags were programmed to go into sleep mode during the winter months, so no downloading of receivers would occur again until spring 2017. Kyger said Douglas PUD can still monitor the immediate tailrace. He also suggested keeping in mind potential springtime movement as observed in the past, and discussing a strategy in the meantime.

Ferguson asked if Rose is suggesting holding another workshop like the one held on June 8, 2016. He asked about the purpose of such a workshop and asked if it is to inform next year's study plans. He asked when it should be held, and if it should follow an in-person meeting. Gingerich suggested holding an in-person meeting at Wells Dam in December 2016 or January 2017. He said Douglas PUD could provide a refresher on modifications and present data to date following the final 2016 download from acoustic receivers, perhaps including Blue Leaf and Chelan PUD data. Lewis said an in-person meeting is a great idea and said he is willing to help with salvage activities to see if lamprey are overwintering in the fishways. Ferguson asked about timing of the ladder outage. Gingerich said, typically, one ladder is offline for a 2-week period in December, then the other ladder is offline for a longer outage, and this schedule rotates each year. He said there is a good chance one ladder will be offline in early-January; however, dates shift year-to-year. He said a more definitive schedule will be available in the next week or so.

Ferguson summarized the next steps, based on these discussions, include obtaining available data and bringing different perspectives to the discussion. He said, in terms of modifying the fish ladder, Douglas PUD needs to evaluate enumeration efficacy at the lamprey passage structure at the count windows. He asked, beyond that, where the lamprey evaluation topic is headed. He suggested pheromone research and translocation have been raised as possible

hypotheses to test and actions to take to increase the number of lamprey wanting to pass the dam. He said part of next year's study could be looking in greater detail at what is going on in the reservoir downstream of Wells Dam. He said this could entail multiple study components and suggested that meeting in-person, in addition to the monthly Aquatic SWG meetings, may be worthwhile. Rose agreed and re-emphasized he believes the effort needs to be more aggressive. He said the early Dual-Frequency Identification Sonar (DIDSON) lamprey passage studies conducted by Douglas PUD suggest accessing the fishways is possibly an issue, as is remaining in the fishway. He said he is glad to hear there may be an opportunity to cut through the fishway noise issue with acoustics. He suggested a hydraulic modeling exercise may be needed to determine what the fishway entrances look like in the eyes of lamprey and determine if the entrances may need to be modified. He encouraged the workgroup to think about every potential hypothesis and suggested maximizing information gained from one tagged fish instead of an approach where one type of tag is used to try to answer a single question. Gingerich said fishway modifications, in general, are definitely on the table, provided they are a data-driven finding. He said Douglas PUD is committed to addressing project effects. He also added that the DIDSON data was not too convincing, based on sample size, and Rose agreed.

Ferguson asked if Chelan PUD should be invited to the in-person meeting in January 2017. Rose suggested keeping this discussion within the Aquatic SWG for now, and if there is impetus to involve Chelan PUD, arrangements can be decided at that time. The Aquatic SWG expressed general agreement to this suggestion. Douglas PUD will arrange for an Aquatic SWG in-person meeting on January 11, 2017, including coordinating a fishway tour at Wells Dam.

Part II: Translocation

Rose said he believes translocation has a scientific benefit. He said surveys indicate a decline in the lamprey population in the Methow Basin, and Wells Dam may be involved with this. He said he believes translocation needs to be considered and advocated for further discussion in January 2017 to determine how to implement this and how to coordinate with downstream dams. Ferguson asked about the YN Pacific Lamprey Supplementation Plan, which included translocation, that was discussed earlier in 2016. He suggested it may be useful for the Aquatic SWG to review and understand what plans the YN and/or the CCT have for upper basin. Rose said the draft plan was submitted to the Bonneville Power Administration several months ago, and he intended to also distribute the plan to the Aquatic SWG. He apologized, explaining this was a complete oversight. He said comments were received on the draft plan and the YN is responding to those comments to submit to the Independent Scientific Review Panel. He said, in general, the YN is focusing primarily on the Yakima Basin for the artificial propagation program. He said the program will be fairly expensive (to release fish and find them again). He said the optimal methodology for finding these fish is still uncertain and added that it takes a few years for fish to grow large enough to net them. He said details about the artificial propagation program are still under discussion. He said he believes the CCT might be able to

bring the program up into the Upper Columbia Basin; however, the YN is not focusing on that right now. He said, regarding the translocation component of the supplementation plan, there is a proposed design outlining where these fish could and should go. He said the bulk of the fish would go to the mainstem in the Methow Basin and 20 to 30% would go to the tributaries. He said the plan proposes translocating about 400 to 500 fish to each subbasin, not including the Okanogan Basin, which the YN will need to coordinate with the CCT about. He said there is also interest in the Entiat and Wenatchee basins. He said all fish will be PIT-tagged, and the extra fish will be used for studies. He suggested reviewing the plan for specific numbers, and said he will provide the Draft Pacific Lamprey Supplementation Plan to Kristi Geris for distribution to the Aquatic SWG. *(Note: the draft plan was provided to Geris on November 11, 2016, which Geris distributed to the Aquatic SWG on November 14, 2016.)*

Gingerich noted Aaron Jackson's (CTUIR) and Ralph Lampman's (YN) translocation M&E efforts and suggested requesting one of them to present or have Rose present their efforts. Rose agreed and said he will inquire internally and with the CTUIR and the Nez Perce regarding possibly presenting on current Pacific lamprey translocation efforts during the Aquatic SWG in-person meeting on January 11, 2017.

6. **2016 Bull Trout Study Update** (Andrew Gingerich): Andrew Gingerich said October 2016 was a busy month. He said Douglas PUD continued downloading fixed station arrays and also conducted mobile tracking by flight, boat, and truck. He said there were downstream detections at Wells Dam and the Twisp Weir; however, those data were not available to present at this time. He said, as of November 1, 2016, no fish have been detected in those locations or in the tailrace, nor have mortality signals been received. He said Douglas PUD will continue tracking fish through the winter months. He noted that tracking the fate of fish and detecting where mortalities occur are important to understanding the life history and what to expect in terms of sample size. He recalled that Douglas PUD tagged 14 fish at Wells Dam in May and June 2016, and 46 at the Twisp Weir in June and July 2016. He said, as of November 1, 2016, mortality codes have been sent by 17 fish (or 28% of study fish), and six tags have been recovered. He said tags have been recovered in the upper reaches of the Twisp River, a region notorious for flow going subsurface during the fall. He said another tag was recovered in the Wells Reservoir between the cities of Pateros and Brewster, and another in the first 5 miles of the Methow River, close to fishing access sites. He cautioned not to speculate about causes of mortality because, without hard evidence, it is difficult to ascertain. He reminded the workgroup that the purpose of this study is to evaluate successful passage at Wells Dam and the Twisp Weir.

Steve Lewis and Judy Neibauer (USFWS) asked for clarification about details included in a bull trout mortality summary Douglas PUD provided to USFWS. Gingerich clarified, that after submitting the summary to USFWS, additional mobile tracking was conducted, which resulted in updated the numbers in the first draft summary. He said Douglas PUD will provide a revised bull

trout mortality summary to USFWS and copy Kristi Geris for distribution to the Aquatic SWG. *(Note: Gingerich provided the revised summary [Attachment E] to Geris following the meeting on November 9, 2016, which Geris distributed to the Aquatic SWG that same day.)*

Neibauer said she was also interested in discussing other details about the summary, including the potential for bull trout entrainment at an irrigation bypass, how temperature affects survivability in study fish, genetics, and possibly incorporating PIT-tagged fish into the study. Gingerich agreed that discussing these details could be beneficial and told Neibauer he could discuss these topics with USFWS offline, outside of the Aquatic SWG meeting. Lewis asked what Douglas PUD thought about increasing the incidental take in the Biological Opinion. Gingerich said he agrees with USFWS that increasing take is not needed at this point, but that could change in the future. He said Douglas PUD has modified how the Twisp Weir is operated to reduce bull trout take and is optimistic those measures will reduce the amount of fish handled there. Lewis agreed and said he appreciates the feedback.

VII. Next Meetings

1. **Upcoming meetings** (John Ferguson): The Aquatic SWG meeting on December 14, 2016, will be held by conference call.

Upcoming meetings are as follows: December 14, 2016 (conference call); January 11, 2017 (in-person); and February 8, 2017 (TBD).

List of Attachments

Attachment A – List of Attendees

Attachment B – Adding Shoreline Surveys for Zebra/Quagga Mussel Early Detection Monitoring Presentation

Attachment C – Wells White Sturgeon Fish Health Report 217

Attachment D – Wells White Sturgeon Fish Health Report 218

Attachment E – Revised Bull Trout Mortality Summary to USFWS

Attachment A List of 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
Dave Robichaud	Observer	LGL Limited
Steve Lewis	Aquatic SWG Technical Representative	U.S. Fish and Wildlife Service
Judy Neibauer†	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
Richard Visser††	Technical Support	Washington Department of Fish and Wildlife
Bob Rose	Aquatic SWG Technical Representative	Yakama Nation
Jason McLellan	Aquatic SWG Technical Representative	Colville Confederated Tribes

Notes:

† Joined for the 2016 Bull Trout Study Update

†† Joined for the Zebra and Quagga Mussel Shoreline Surveys Presentation