



Conference Call Minutes

Aquatic Settlement Work Group

To: Aquatic SWG Parties

Date: November 9, 2017

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

Re: Final Minutes of the October 11, 2017, Aquatic SWG Conference Call

The Aquatic Settlement Work Group (SWG) met by conference call on Wednesday, October 11, 2017, from 10:00 a.m. to 11:15 a.m. Attendees are listed in Attachment A of these conference call minutes.

I. Summary of Action Items

1. Douglas PUD will provide Wells Dam turbine unit flow, Rocky Reach Dam forebay elevation, and Wells Dam tailrace elevation data to Kristi Geris for distribution to the Aquatic SWG (Item VI-1).
2. Douglas PUD will develop a draft Statement of Agreement (SOA) describing how Douglas PUD will support Pacific Lamprey translocation efforts in future years (Item VI-1).
3. Andrew Gingerich will revise the figure showing total daily Pacific Lamprey counts at Wells Dam during reduced head differential treatment periods to include flow, temperature, and Rocky Reach Dam Pacific Lamprey count data; the figure or figures will be included in a technical memorandum (Item VI-2).
4. Sarah Montgomery will distribute the review timeline for Douglas PUD's *Bull Trout Passage and Take Monitoring at Wells Dam and Twisp River Weir* report (Bull Trout Report) to the Aquatic SWG (Item VI-5). (Note: Montgomery distributed the review timeline following the meeting on October 11, 2017.)
5. The Aquatic SWG meeting on November 8, 2017, will be held by **conference call** (Item VII-1).

II. Summary of Decisions

1. No decision items were approved during today's conference call.

III. Agreements

1. Aquatic SWG members present agreed to the following review timeline for Douglas PUD's Bull Trout Report (Item VI-5):

- Friday, October 13, 2017, close-of-business (COB): Douglas PUD provides draft Bull Trout Report to the Aquatic SWG for a 2-week review period. *(Note: Andrew Gingerich provided the draft report to Sarah Montgomery on Wednesday, October 11, 2017, which Montgomery distributed to the Aquatic SWG that same day [see Item IV-1 below]).*
- Friday, October 27, 2017, COB: Aquatic SWG comments due to Douglas PUD.
- Friday, October 27 to Wednesday, November 8, 2017: Douglas PUD addresses comments and provides the revised Bull Trout Report for approval via email.
- Wednesday, November 8, 2017 (Aquatic SWG meeting): If not approved earlier, Douglas PUD will ask the Aquatic SWG to approve the revised report, and will then submit the Final Bull Trout Report to the Federal Energy Regulatory Commission (FERC).

IV. Review Items

1. Sarah Montgomery sent an email to the Aquatic SWG on October 11, 2017, notifying them that the Draft Douglas PUD Bull Trout Report is available for review, with edits and comments due to Andrew Gingerich by Friday, October 27, 2017, COB (Item VI-5).

V. Documents Finalized

1. No documents have been recently finalized.

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.

Ferguson added an agenda item regarding the Priest Rapids Fish Forum (PRFF), Rocky Reach Fish Forum (RRFF), and Aquatic SWG Pacific Lamprey Subgroups Workshop. There were no other changes to the agenda.

The revised draft September 13, 2017 conference call minutes were reviewed. Sarah Montgomery 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, and Washington Department of Fish and Wildlife (WDFW) via email, approved the September 13, 2017 conference call minutes, as revised.

Action items from the Aquatic SWG meeting on September 13, 2017, are as follows (note: the following italicized item numbers correspond to agenda items from the September 13, 2017 meeting):

- *Douglas PUD will provide Wells Dam turbine unit flow data and Rocky Reach Dam forebay and Wells Dam tailrace elevation data for review to Kristi Geris for distribution to the Aquatic SWG (Item VI-1).*

Andrew Gingerich said this item is ongoing. He said he found unit-specific megawatt data, which indicates when units were on between 2005 and 2006, and he might ask for input from the Aquatic SWG on how to analyze these data. Steve Lewis said Chelan PUD requested these data from him, and he suggested they ask Gingerich for the data. Gingerich thanked Lewis for passing the request along and said Douglas PUD will share information with Chelan PUD and consider data requests on a case-by-case basis.

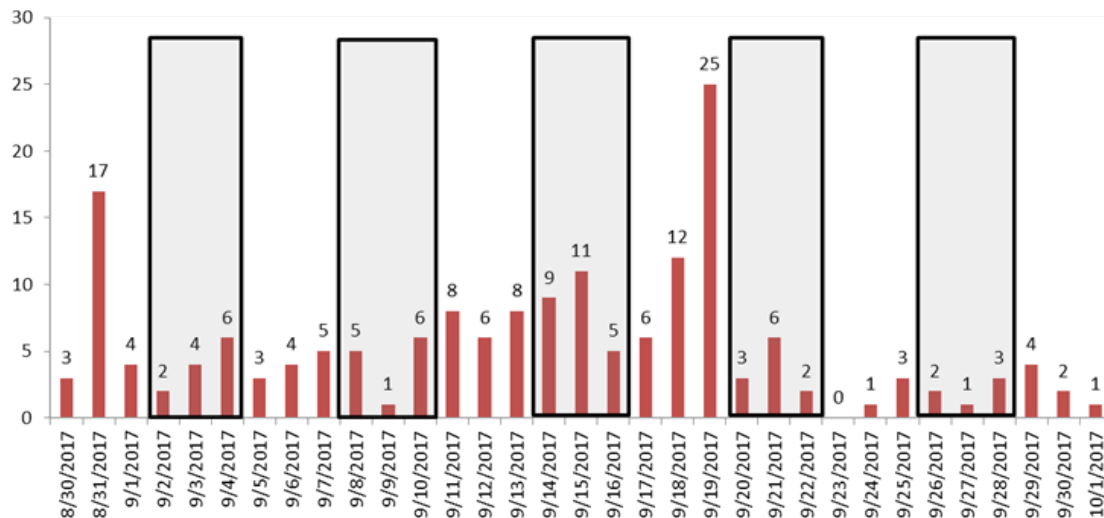
- *Douglas PUD will develop a draft SOA describing how Douglas PUD will support Pacific Lamprey translocation efforts in future years (Item VI-6).*

Andrew Gingerich said this item is ongoing.

2. Pacific Lamprey Head Differential (Andrew Gingerich):

Andrew Gingerich said he provided data related to this update in an email to the Aquatic SWG on October 3, 2017. He said as of October 1, 2017, Douglas PUD has counted 275 Pacific Lamprey passing Wells Dam in 2017. Gingerich said Figure 1 shows total daily Pacific Lamprey window counts that occurred on the day following the start of a reduced head differential treatment.

Figure 1. Pacific Lamprey counts at Wells Dam with reduced head differential blocks



Note: Shaded cells indicate days where Pacific Lamprey were expected to have encountered reduced head differentials at the fishway entrances. Reduced head differential occurred between the hours of 22:00 and 0:400. Total counts were n=66 Pacific Lamprey during the reduced 1.0-foot head differential treatment blocks, and n=88 (control periods preceding treatment blocks) or n=105 (control periods following treatment blocks). Control periods had the normal 1.5-foot head differential at the fishway entrances.

Gingerich said these data will be formalized and included with salmonid counts in a technical memorandum. Gingerich said based on a very preliminary statistical analysis, he has not discovered any differences between treatments. He said there is variability in counts regardless of the height of the head differential (1-foot versus the more conventional 1.5-foot differential). Ferguson said he does not see any trends or patterns different than previously discussed at the September 13, 2017 Aquatic SWG meeting. Lewis agreed and asked when the reduced head differential treatment is scheduled to end. Gingerich said the treatment included five 3-day blocks in September and returned to normal operations on September 29, 2017. He said Douglas PUD is continuing to count Pacific Lamprey, but the run is slowing down.

Ferguson said the Aquatic SWG will review the technical memorandum, and Pacific Lamprey and salmonid count data recorded during September will be discussed during the next Wells HCP Coordinating Committee meeting scheduled for October 24, 2017. Ralph Lampman suggested adding flow, temperature, and Rocky Reach Dam Pacific Lamprey count data to Figure 1. Gingerich said he will add those data and include the resulting figures in the technical memorandum.

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

Andrew Gingerich said rearing is going well for Wells Hatchery brood year 2017 White Sturgeon. He said there are three tanks of fish: C-01 contains larger fish (259.9 fish per pound [fpp]), C-02 contains smaller fish (485.8 fpp), and T7 contains fish in a separate room that are potentially surplus fish (at 388 fpp). He said the program aims to release 325 fish at an average weight of 200 grams or larger in June 2018. He said tanks are being heated by approximately 5 degrees above ambient water temperature (tank temperatures are at 59 to 60 °F) to increase feeding and growth rates. He said the survival rate is 47% so far and there are 1,368 fish remaining. Gingerich asked for questions and comments; there were none.

4. White Sturgeon Monitoring and Evaluation Completion (Andrew Gingerich):

Andrew Gingerich said White Sturgeon monitoring and evaluation (M&E) activities conducted in 2017 included two juvenile index sampling sessions. He summarized results from the first session (July to August 2017) as follows:

- 274 total White Sturgeon were captured

- 10 fish were captured twice within the session
- 3 fish were captured three times within the session
- 263 unique fish were captured

He summarized results from the second session (September to October 2017) as follows:

- 244 total fish were captured
- 24 fish were captured twice within the session
- 2 fish were captured four times within the session
- 225 unique fish were captured during the 25-day session
- 48 fish that were captured in the first session were captured in the second session

He said these results inform mark-recapture estimates which will be provided in the 3-year M&E Report. He said the draft report will likely be distributed in early 2018.

Gingerich said adult M&E is ongoing. He said three adult-sized fish (more than 6 feet long) were captured this year and implanted with 10-year acoustic tags. He said the acoustic tags allow for fish to be tracked to their spawning locations, which helps meet adult reproductive assessment obligations in the White Sturgeon Management Plan. Gingerich asked for questions and comments; there were none.

5. Draft Douglas PUD Bull Trout Report (Andrew Gingerich):

Andrew Gingerich said Douglas PUD is developing a draft Bull Trout Report, which is currently undergoing senior review within Douglas PUD by Shane Bickford. Gingerich said today he will summarize statistics and observations from the Bull Trout Report, and the full draft report will be available for review by the Aquatic SWG soon. Gingerich discussed the *Aquatic SWG October 2017 Updates* document, which Sarah Montgomery distributed to the Aquatic SWG before the meeting on October 11, 2017. Gingerich summarized results of the Bull Trout study and discussed tables in the document (included in this section).

Gingerich said the study aims to assess passage and survival at Wells Dam and at the Twisp River Weir (Weir) with 60 fish. He said 14 fish were tagged at Wells Dam and 46 fish were tagged at the Weir in 2016. Downstream passage was assessed in fall 2016, and upstream passage was assessed in spring and summer 2017.

Gingerich said Table 1 shows passage and survival totals at the Weir. He said passage and survival both met the 90% standard and passage was 92.5% because four tags were recovered upstream and in the immediate vicinity of the Weir. He said these are counted as passage

failures, but not mortalities because the tags were recovered and mortality did not appear to be caused by the Weir (photos are supplied in the report).

He said one fish was recovered near the Weir 4 weeks after its passage event. He said the tag was found in mortality mode close to a fishing access area. He said this fish was removed from the calculations because its last detections were 24 hours after passage, and it had already been detected at the Twisp Pond PIT-tag array and in the lower sections of the Twisp River at night, consistent with other fish. He said further details about this specific fish are included in the report and even if the fish were included in these survival statistics, the 90% standard would still be met.

Table 1. Summation and calculated Survival/Passage statistics at the Twisp River Weir

Totals	Down-stream	Up-stream	Total	Statistic	Goal	Standard Achieved?
Passage	31 of 35	18 of 18	49 of 53	92.5% *	≥ 90%	Yes
Survival	30 of 30	18 of 18	48 of 48	100%	> 95%	Yes

*Four tags were recovered upstream of the Weir after appearing to move downstream toward the Weir: Douglas PUD is suspicious the fish were either moribund or dead prior to arriving in the forebay of the Weir, or were biologically compromised such that predation was easier once they arrived. All four tags were found in an off-channel beaver pond and adjacent to an irrigation diversion.

Gingerich said Table 2 shows passage and survival statistics for Wells Dam and both the passage and survival goals were met. He said these data include two fish that may not have intended to pass Wells Dam and spawn, and it is unknown how many bull trout should be repeat spawners each year. He said literature citations are provided in the report that show some adult bull trout do not spawn every year. He said the fish are included in the statistics as passage failures because they were detected at Wells Dam but did not continue upstream to spawning grounds, but he said it is possible these fish did not intend to spawn.

He said one fish was removed from the statistical analysis that was detected in the Wells Dam forebay, but not detected again. He said this fish could still be in the Wells Dam reservoir. He said this fish was removed from the analysis because it did not have subsequent detections. Steve Lewis said the fish is likely still residing in the reservoir. Gingerich said there are many fish with good detection histories, and based on the timing of their migration, they likely the majority of downstream detections went through turbine units when passing Wells Dam. He said this is consistent with previous reports and data, and is good news for passage success and survival. Lewis said these data show that fish migrating downstream through turbines at Wells Dam successfully re-ascended Wells Dam when they returned to the Twisp River. Gingerich said the turbine units did not have radio antennas during this study, but based on a process of

elimination and operational data (no spill occurred during the bull trout migration period), it can be concluded that the fish used the turbines as their Wells Dam passage route.

Table 2. Summation and calculated Survival/Passage statistics at Wells Dam

Totals	Down-stream	Up-stream	Total	Statistic	Goal	Standard Achieved?
Passage	12 of 12	9 of 11	21 of 23	91.3% *	≥ 90%	Yes
Survival	11 of 11	9 of 9	20 of 20	100%	> 95%	Yes

* Douglas PUD is suspicious the two fish which 'failed to pass' Wells Dam in 2017 could possibly have not intended to make a spawning migration in 2017, however the fish were counted as passage failures.

Gingerich said other abnormalities are discussed in the draft report, which will be distributed soon, and asked for any additional questions.

John Ferguson asked about the mechanics of the mortality mode in the radio tags. Gingerich said there are motion and timing sensors in the tags, and after 48 hours of inactivity, the tag switches from transmitting its code to a different code on the same frequency by adding 100 to the original code. He said, for example, code 6 would have switched to code 106 after 48 hours of non-motion. This mortality mode indicates a dead fish or a fish that has shed its tag.

Lewis asked about the fish that passed the Weir and then was detected near the fishing access location in mortality mode. He asked about operations at the Weir, including trash racks and the operational timeline. Gingerich said the Weir is usually removed in August, and the fish traveled downstream in 2016 after the Weir was removed. He said the trap boxes and debris boom are removed, and pickets are pinned flush with the river bottom. He said he was also curious about this fish, and looked at average travel times from Buttermilk Bridge to the Weir, and to the confluence of the Twisp and Methow rivers. He said he believes this fish was alive when it passed the Weir and the Twisp Ponds site below the Weir based on its travel time (similar to other fish known to be alive), and nighttime detections (consistent with live fish). He said even though patterns indicate this fish was alive when it passed the Weir, there are not subsequent detections past about 26 hours following Twisp River exit until the tag was found in mortality mode, so there is not enough information to say with confidence that it was either alive or dead when it passed the Weir. He said in comparison, a tag from a different fish was recovered in the Wells Dam reservoir weeks after passage, and had subsequent detections past the Weir indicating that it was alive at least 6 days after passage, and likely predated upon. Lewis asked how large the fish was that was found in mortality mode near the fishing access location. Gingerich guessed it was likely more than 450 millimeters long; however, he does not currently have this information available (although, this information can be retrieved from the dataset). He said additional

information about this fish is included in the report, and there are many other stressors and modes of mortality for these fish that cannot be quantified in this study.

Lewis asked if the interaction of tagged fish with catch boxes at the Weir is described in the report. Gingerich said the report presents median times for passage, and the first and last detections at the Weir. He said the amount of time a single fish spent in a trap box is not known; however, qualitative information from staff at the facility is available because whenever the trap doors are open, the Weir is staffed. He estimated that a single fish would spend less than an hour in a trap box, because the traps are checked regularly.

Gingerich asked for an expedited review period to file the report with FERC in early November. He recalled that Douglas PUD asked FERC for a 5-year extension to combine the Weir and Wells Dam study requirements, and said submitting this report will meet both requirements.

Aquatic SWG members present agreed to the following review timeline for Douglas PUD's Bull Trout Report:

- Friday, October 13, 2017, close-of-business (COB): Douglas PUD provides draft Bull Trout Report to the Aquatic SWG for a 2-week review period. *(Note: Andrew Gingerich provided the draft report to Sarah Montgomery on Wednesday, October 11, 2017, which Montgomery distributed to the Aquatic SWG that same day).*
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Montgomery said she will send this review timeline to the Aquatic SWG distribution list.

Gingerich said the draft report is approximately 30 pages and will be distributed soon. *(Note: Montgomery distributed the review timeline following the meeting on October 11, 2017.)*

6. Wells Hatchery Transition (Andrew Gingerich):

Andrew Gingerich said Douglas PUD has been staffing facilities and working on the Transition Plan for the Douglas PUD hatcheries. He said Douglas PUD staff have been meeting with WDFW staff and feedback from WDFW is being incorporated into the transition plan. He said Douglas PUD plans to release the draft Transition Plan soon to the HCP committees and Aquatic SWG for additional input, so that the Transition Plan can be a collaborative document. He said the plan currently includes items such as staffing, water use, permitting for discharge of

facility water, rearing fish, transport permits, and stocking guidelines. He said Douglas PUD and WDFW have been collaborating to develop the comprehensive document, and he thinks the process will be smooth with no interruption to rearing fish or to Douglas PUD obligations such as license requirements and No Net Impact requirements.

Steve Lewis said once the document is distributed, he would like to meet with Douglas PUD staff to discuss permitting and other items. Gingerich said the Bull Trout Biological Opinion associated with the Wells Dam license will also need to be reviewed to see if anything has been overlooked. Lewis said he does not have any heightened concerns about Douglas PUD operating the hatcheries and meeting the terms and conditions of permits associated with bull trout.

John Ferguson asked if the transition is still planned to take place over 90 days. Gingerich said 90 days was stated in the letter; however, he does not have any updates on the transition timeline.

7. Priest Rapids Fish Forum, Rocky Reach Fish Forum, and Aquatic SWG Pacific Lamprey Subgroups Workshop (John Ferguson):

John Ferguson said the PRFF, RRFF, and Aquatic SWG held a Pacific Lamprey Subgroup workshop on October 4, 2017. He said the workgroup asked Tracy Hillman (RRFF Facilitator) to request a list of questions from the Aquatic SWG, which Sarah Montgomery emailed to the Aquatic SWG prior to the meeting on October 11, 2017. Ferguson asked Aquatic SWG representatives if they have questions or any further updates.

Steve Lewis said Aquatic SWG representatives who attended the workshop described study results and study progress for Pacific Lamprey related to Wells Dam, the fishway at Wells Dam, and the Wells Dam reservoir. He said the workgroup discussed translocation and upcoming studies and said collaboration between dams and programs is still lacking.

8. Administrative Update (John Ferguson):

John Ferguson said Sarah Montgomery received administrative access to the Aquatic SWG Extranet site from Julene McGregor to provide support to the Aquatic SWG when Kristi Geris is absent.

VII. Next Meetings

1. Upcoming meetings (John Ferguson):

The Aquatic SWG meeting on November 8, 2017, will be held by conference call.

Other upcoming meetings include: December 13, 2017 (TBD) and January 10, 2018 (TBD).

List of Attachments

Attachment A List of Attendees

Attachment A – Attendees

Name	Role	Organization
John Ferguson	Aquatic SWG Chairman	Anchor QEA, LLC
Sarah Montgomery	Administration/Technical Support	Anchor QEA, LLC
Andrew Gingerich	Aquatic SWG Technical Representative	Douglas PUD
Chas Kyger	Technical Support	Douglas PUD
Steve Lewis	Aquatic SWG Technical Representative	U.S. Fish and Wildlife Service
Breean Zimmerman	Aquatic SWG Technical Representative	Washington State Department of Ecology
Ralph Lampman	Technical Support	Yakama Nation