



Conference Call Minutes

Aquatic Settlement Work Group

To: Aquatic SWG Parties

Date: July 10, 2019

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

Re: Final Minutes of the June 12, 2019 Aquatic SWG Conference Call

The Aquatic Settlement Work Group (SWG) met by conference call on Wednesday, June 12, 2019, 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. Breean Zimmerman will determine the definition, history, and Washington Department of Ecology's (Ecology's) interpretation of the "reasonable and feasible measures" clause in the Wells Project Clean Water Act (CWA) 401 Certification (Item VI-1).
2. Steve Lewis will discuss internally with U.S. Fish and Wildlife Service (USFWS) the appropriate fish size threshold for identifying Bull Trout passing Wells Dam fish ladder count windows as subadults (Item VI-1).
3. Laura Heironimus will provide a recently developed best management practices plan for a condition of genome duplication, or autopolyploidy, to Kristi Geris for distribution to the Aquatic SWG (Item VI-3). *(Note: Heironimus provided the plan, A Management Plan for Spontaneous Autopolyploidy in Cultured White Sturgeon [Acipenser transmontanus] in the Lower Columbia and Snake River Impoundments, to Geris following the conference call on June 12, 2019, which Geris distributed to the Aquatic SWG that same day.)*
4. Douglas PUD will consult with Jason McLellan and the Colville Confederated Tribes (CCT), Andrea Schreier (University of California, Davis [UC Davis]), Joel Van Eenennaam (UC Davis), and Paul Anders (Cramer Fish Sciences/University of Idaho) regarding sampling White Sturgeon in the Wells Reservoir for the presence of autopolyploidy (Item VI-3).
5. Kristi Geris will add to the Aquatic SWG July 10, 2019 conference call agenda a discussion about Pacific Northwest National Laboratory's (PNNL's) newly developed Eel and Lamprey Acoustic Tag (ELAT) and its potential use in future Douglas PUD Pacific Lamprey studies (Item VI-6). *(Note: Geris added this item to the agenda, as discussed.)*
6. The Aquatic SWG meeting on July 10, 2019, will be held by **conference call** (Item VII-3).

II. Summary of Decisions

1. Aquatic SWG members present approved the *White Sturgeon Supplementation and Management Plan Implementation in the Wells Reservoir, 2018*, as revised (Item VI-2). (Note: the CCT approved the report, as revised, via email on June 10, 2019.)

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. The final *White Sturgeon Supplementation and Management Plan Implementation in the Wells Reservoir, 2018*, was distributed to the Aquatic SWG by Kristi Geris on June 13, 2019 (Item VI-2).

VI. Summary of Discussions

1. Welcome, Review Agenda, Meeting Minutes Approval, and Review of Action Items (John Ferguson):

John Ferguson welcomed the Aquatic SWG members (attendees are listed in Attachment A) and reviewed the agenda. Ferguson asked for any additions or changes to the agenda. The following revisions were requested:

- Ralph Lampman added to the 2019 Pacific Lamprey Passage agenda item: translocation coordination; a literature review; notification of regional management units (RMUs); selections of high priority projects; and an update on the Yakama Nation's (YN's) juvenile Pacific Lamprey acoustic tagging efforts.
- Steve Lewis added a discussion about sampling White Sturgeon in the Wells Reservoir for the presence of autopolyploidy.
- Ferguson added a note about adjusting the review and comment period for the Aquatic Settlement Agreement Annual Report and appended aquatic resource management plan annual reports.

The revised draft May 8, 2019 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, which are ready for approval. Aquatic SWG members present approved the May 8, 2019 conference call minutes, as revised.

Action items from the Aquatic SWG conference call on May 8, 2019, are as follows (note: the following italicized item numbers correspond to agenda items from the May 8, 2019 conference call):

- *The YN, USFWS, and Ecology will review edits made to the 2018 Pacific Lamprey Management Plan Annual Report and will provide additional comments or a vote via email to Douglas PUD and Kristi Geris by close-of-business on May 8, 2019 (Item VI-2).*

The YN, USFWS, and Ecology approved the annual report, as revised, via email following the Aquatic SWG conference call on May 8, 2019.

- *Washington Department of Fish and Wildlife (WDFW) and Ecology will review edits made to the 2018 White Sturgeon Management Plan Annual Report and will provide additional comments or a vote via email to Douglas PUD and Kristi Geris by close-of-business on May 8, 2019. USFWS approved the report contingent on incorporating additional WDFW edits (Item VI-2).*

WDFW and Ecology approved the annual report, as revised and with no additional comments, via email following the Aquatic SWG conference call on May 8, 2019.

- *Breean Zimmerman will determine the definition, history, and Ecology's interpretation of the "reasonable and feasible measures" clause in the Wells Project CWA 401 Certification (Item VI-2).*

This action item will be carried forward.

- *Steve Lewis will discuss internally with USFWS the appropriate fish size threshold for identifying Bull Trout passing Wells Dam fish ladder count windows as subadults (Item VI-2).*

This action item will be carried forward.

- *Douglas PUD will coordinate with USFWS to further discuss the definition of "non-lethal take" concerning Bull Trout in the Wells Project (Item VI-2).*

Andrew Gingerich said he provided an overview of this discussion to Douglas PUD policy staff (Shane Bickford), and Bickford seemed open to further discussion of this topic if USFWS believes this is necessary. Steve Lewis asked if Bickford provided any feedback or concerns about the discussion. Gingerich said he explained to Bickford that in past reports, ladder counts have been included in the body of the report and not in the incidental take table. Gingerich said he also explained the position Lewis had that fish counts at the ladder are considered take. Gingerich said he researched the definition of harm and harass as defined in the USFWS Endangered Species Act fact sheet and there the language did not seem to indicate that ladder counts would qualify as take. Gingerich said Bickford was in general agreement, but again, is open to additional discussion with USFWS if necessary. Gingerich said, however, if USFWS is okay with how the data are reported there may not be a need for further discussion. Lewis asked if Douglas PUD is choosing not to include ladder counts in the take table, and Gingerich said that is correct.

Lewis reiterated that USFWS is different from the National Marine Fisheries Service who only tracks lethal take. He said if Douglas PUD exceeds the non-lethal take numbers, this does not result in re-initiation of consultation with USFWS. He said tracking non-lethal take is for data collection purposes only. Lewis said because the data are included in the report there may not be an issue. He said he would consult internally with Jeff Krupka (USFWS) about whether further discussion is needed on this topic.

2. DECISION: Douglas PUD 2018 Evaluations of White Sturgeon Supplementation Report (Andrew Gingerich):

A draft Douglas PUD 2018 Evaluations of White Sturgeon Supplementation report titled, *White Sturgeon Supplementation and Management Plan Implementation in the Wells Reservoir, 2018*, was distributed to the Aquatic SWG by Kristi Geris on April 16, 2019, for a 45-day review. Andrew Gingerich said comments were received from the CCT on May 6, 2019, and distributed on May 7, 2019. He said Jason McLellan had good comments and his suggested edits were accepted. Gingerich said he also had a conversation with Laura Heironimus on the phone, who had similar comments that McLellan noted. Gingerich said, for example, both commented on passive integrated transponder (PIT)-tag retention rates. Gingerich said McLellan responded via email approving the revisions and noted that after further review, the PIT-tag retention rates were on par with other studies. Gingerich said Heironimus also commented on tagging location and noted in her work, the tag location was closer to the head and under the head plate. Gingerich said the tagging location for the Douglas PUD efforts was in the meat of the fish, and Heironimus's concerns were that: 1) tag retention may not be as high as has been achievable elsewhere; 2) if harvested, having tags in the meat of the fish is not ideal; and 3) as a fish grows, the tag can move deeper into the tissue resulting in the tag not being detected despite the fish carrying one. Gingerich said he and Heironimus agreed to follow-up on this conversation to improve tag location in the fish.

Gingerich said a revised draft report for approval was distributed to the Aquatic SWG by Geris on June 6, 2019. Gingerich said one revision that did not make it into this version is the addition of a reference related to catching juvenile fish or subadults on adult gear. He said he discussed this with McLellan, who agreed this is a phenomenon observed in other programs, and McLellan provided a reference to include in the report. *(Note: McLellan provided the reference on June 11, 2019, to "Howell, M. and J. McLellan. 2018. White Sturgeon Enhancement Project. 2017 Annual Report for Project 2008-116-00. Report prepared for Bonneville Power Administration, Portland.")*

Gingerich said the revised draft report is in tracked changes to clearly point out what was updated. He said if approved, Douglas PUD will accept the revisions, remove the comments, add the reference, and distribute as final.

Aquatic SWG members present approved the *White Sturgeon Supplementation and Management Plan Implementation in the Wells Reservoir, 2018*, as revised. (Note: the CCT approved the report, as revised, via email on June 10, 2019.)

3. Sampling White Sturgeon in the Wells Reservoir for the Presence of Autopolyploidy (Steve Lewis):

Steve Lewis said testing for autopolyploidy is being discussed within the Chelan PUD and Grant PUD fish forums, and he asked if Douglas PUD has plans to conduct similar testing in the Wells Reservoir.

Andrew Gingerich explained, in recent years, there has been an increase in attention to and awareness of autopolyploidy in White Sturgeon in the Columbia River Basin; therefore, Chelan PUD and Grant PUD started collecting tissue samples to determine how many copies of genes are present in the fish (e.g., 8 copies of each chromosome [8N], or irregular fish, or 12N fish, etc.). Gingerich said as he understands that some fish sired from direct gamete-origin fish have irregular copies of genes. He said as these fish get close to stocking size, tissues samples are collected and if the fish has irregular numbers of copies, fish managers need to decide whether to stock these fish. Gingerich said regarding Lewis's question, the biggest difference between Douglas PUD's White Sturgeon program compared to the lower river programs is direct gamete-origin fish were only used in the first year of the Douglas PUD program and then the program switched to wild larvae-origin fish only. He said autopolyploidy is more likely to occur in an artificial spawning or direct gamete programs. He said cases of autopolyploidy in wild-origin White Sturgeon is low. He added having said that, Douglas PUD has not tested fish for autopolyploidy, so he cannot comment for sure about the presence of this condition in White Sturgeon being reared at Wells Fish Hatchery.

John Ferguson asked if autopolyploidy is a biological concern, for example, does it result in a reduction in fitness? Gingerich said initially, these fish seem quite viable, for example, in future generations a 12N fish can be crossed with an 8N fish. He said, however, in subsequent generations more irregular fish might occur, such as a 9N fish, and those fish will likely have less fitness; therefore, there could be issues in future generations if there is an increase in 12N fish in the population.

Lewis asked if Douglas PUD should test a small proportion of fish just in case, and he asked what views Laura Heironimus has on this topic. Heironimus said it is her understanding that 12N fish do occur in the wild; however, it is extremely rare. Heironimus agreed with Gingerich that there is a low chance of autopolyploidy in Wells Fish Hatchery White Sturgeon because Douglas PUD's program is wild larvae-origin fish only. Heironimus said Paul Anders recently

reported only four known cases of wild fish testing as 12N fish. She said a pilot study might be interesting; however, data to date indicate 12N fish in the wild is unlikely.

Lewis suggested consulting with Jason McLellan on his thoughts about this topic, as well. Gingerich agreed this is a good idea. Heironimus also suggested contacting Anders and Andrea Schreier and Joel Van Eenennaam at UC Davis. Gingerich asked if this testing is a blood test in-hatchery, and Heironimus said it is. Heironimus added that there is a recently developed best management practices plan that outlines several different testing techniques and also discusses hatchery practices that lead to autoploidy. She said she will provide this plan to Kristi Geris for distribution to the Aquatic SWG. *(Note: Heironimus provided the plan, A Management Plan for Spontaneous Autopolyploidy in Cultured White Sturgeon (Acipenser transmontanus) in the Lower Columbia & Snake River Impoundments, to Geris following the conference call on June 12, 2019, which Geris distributed to the Aquatic SWG that same day.)*

Douglas PUD will consult with McLellan and the CCT, Schreier, Van Eenennaam, and Anders regarding sampling White Sturgeon in the Wells Reservoir for the presence of autoploidy.

4. Well Fish Hatchery White Sturgeon Rearing Update (Andrew Gingerich):

Andrew Gingerich said an email summarizing the release of Wells Fish Hatchery brood year (BY) 2018 White Sturgeon into the Wells Reservoir was distributed to the Aquatic SWG by Kristi Geris on May 31, 2019.

Gingerich said on May 30, 2019, Douglas PUD released 99 White Sturgeon into the Wells Reservoir. He said on May 29, 2019, fish were measured and checked for PIT-tag retention. He said one small fish did not retain its tag (1% shed rate), which was retagged and released the following day with the larger group. He said 90% of the fish exceeded the 200-gram threshold. He said on May 1, 2019, about 14 fish were below the threshold and by the end of May 2019, only 11 fish did not reach the 200-gram threshold. He also noted that 75% of the fish exceeded 300 grams, 50% of the fish exceeded 382 grams, and 25% of the fish were at least 455 grams, or 1 pound, per fish. He said BY2018 fish had by far the largest median fish size at 382 grams. He said 75% of the fish exceeded 14 inches (fork length) at release, and 15% of the fish were 15 inches or larger. He said he is optimistic these large fish sizes will reach the target survival that was discussed when developing this Statement of Agreement

(SOA).¹ He also recognized that the 99-fish release is short of the 325 ($\pm 5\%$) fish stocking target, which will be compensated by releasing a higher number of fish from BY2019 in 2020.

Gingerich said Wells Fish Hatchery staff are now preparing the White Sturgeon facility for BY2019 fish, which are expected to be on site by about July 4, 2019. Gingerich said he exchanged emails with Jason McLellan who indicated the CCT will likely start larval collection by June 24, 2019. Gingerich said this date will depend on water temperature and river flow. He said he understood that 14°C is when the peak of spawning occurs.

Gingerich said lastly, in previous years as part of Douglas PUD's ongoing White Sturgeon Outreach Program, Douglas PUD has released fish with the Bridgeport High School's Advanced Placement Biology Class. Gingerich said this did not occur this year because graduation was scheduled earlier than previous years; however, Douglas PUD plans to continue this program in 2020. Gingerich said he wanted to notify the Aquatic SWG of this because the outreach program is a requirement in the *Aquatic Settlement Agreement*. He asked that Aquatic SWG members contact him with any questions or suggestions.

5. Water Forecast and Runoff Update (Andrew Gingerich):

Andrew Gingerich reviewed the Northwest River Forecast Center Water Supply Period Rankings table for Grand Coulee Dam,² which ranks the water supply at Grand Coulee Dam for the last 59 years. He said this forecast is for the April to September period and noted that 2019 is currently at 82% of average and ranked 54 of 59. He said because it is now June and the snowpack is mature and mostly gone, this is probably a good estimate for the year. He said 2019 is a fairly low water year.

Gingerich reviewed the Columbia and Snake rivers drainage basins on another Northwest River Forecast Center website.³ He said the tributaries and basins that affect the Wells Project are already fairly low. He said the Columbia River at Chief Joseph Dam and Wells Dam are at 81% and 84% of average, respectively. He said he does not expect to see much water out of the Methow, Okanogan, and Kettle rivers. He said altogether, this will be a low water year in terms of total overall runoff in the portion of the basin that affects the Wells Project.

Gingerich noted that the Snake River has more water, which helps the overall basin; however, the low snowpack will bring these values down a little. He said one positive note is that the low flow year will increase total dissolved gas compliance.

¹ *Wells Reservoir White Sturgeon Supplementation 2018-2022*, approved by the Aquatic SWG on January 11, 2017

² https://www.nwrfc.noaa.gov/water_supply/ws_ranking.cgi?id=GCDW1

³ <https://www.nwrfc.noaa.gov/rfc/>

6. 2019 Pacific Lamprey Passage (Ralph Lampman):

Translocation

Ralph Lampman said during the last Priest Rapids Fish Forum meeting the forum discussed 2019 translocation efforts from Priest Rapids Dam, and it seemed Grant PUD was still needing confirmation about whether Douglas PUD plans to collect fish during the first weeks of trapping so Grant PUD can schedule staff. Lampman asked if Douglas PUD has an update on this. Chas Kyger said he exchanged emails with Mike Clement (Grant PUD) and there should not be any issues. Kyger said everything is in a holding pattern until trapping starts. He said Douglas PUD has a 4-year agreement in place with Grant PUD, so everything is ready to go when fish arrive. Lampman said he believes a schedule is needed. He said Grant PUD has an obligation to transport fish to Kirby Billingsley Hydro Park for 3 or 4 weeks, and the other weeks Douglas PUD staff pick-up fish from Priest Rapids Dam. Lampman suggested coordinating these weeks now and that he believes the first part of the run is the preferred period for Douglas PUD to pick-up fish. Kyger asked if Lampman had a suggestion on exact dates. Lampman said he believes Grant PUD will start trapping when there are 50 or more fish passing the ladder. He said last year, he believes this occurred in early August; however, this year, in the lower Columbia River the run is a couple of weeks late. Andrew Gingerich said Douglas PUD is amenable to picking up fish the first 3 weeks of August, understanding this may shift depending on when fish arrive. Lampman said he understands Grant PUD's preference is to coordinate consecutive weeks, for example, Grant PUD does not want to take week 1 and then weeks 5 and 6. Kyger said these are the discussions he has already had with Clement. Lampman said good, he just wanted to be sure this has been communicated with Clement.

Literature Review

Lampman said five reports on Pacific Lamprey passage and a summary literature review were distributed to the Aquatic SWG by Kristi Geris on May 8, 2019. Lampman said lastly, he distributed an updated summary literature review to the Aquatic SWG prior to the conference call on June 12, 2019 (added a summary from an article that was shared but not included in the summary document yet). He said these documents are to address the comments about the lack of literature on Pacific Lamprey passage measures implemented at other projects and the effectiveness of the modifications. He said in the literature review he summarized documentation of modifications, including diffuser grating and plating, rounding corners, and ramps for orifices. He said he included specific page numbers where these modifications were discussed. He noted that the *U.S. Army Corps of Engineers Pacific Lamprey Passage Improvements Implementation Plan: 2008 – 2018* (included in the literature review) was close to final and he suspects what is included in the literature review will be the same as what is reported in the final document. He said a few documents discuss general

guidelines and recommendations, while others discuss what has been implemented at various dams in the lower Columbia River and Snake River region. He said the Keefer et al. papers describe experiments conducted in laboratory settings, as well as tagging and how often adults return to a dam. Lampman recalled the Aquatic SWG discussing at length the lack of fish returning and approaching Wells Dam, and these papers indicate this is not necessarily a unique phenomenon. He said this is also documented at Bonneville and McNary dams. He said a technical white paper written by adult passage experts and various agencies highlighted key recommendations about diffuser grating and other improvements. He said in the last couple of pages of the white paper, Grant PUD put together a case study that summarizes modifications installed at Priest Rapids Dam and the results of those modifications. Lampman said he believes there is a good amount of literature and resources that show the importance of implementing these modifications for adult Pacific Lamprey passage and he wanted to make these available to everyone.

John Ferguson said the literature review provides a nice summary. He asked if it would be easy to add references in addition to the citations. He also asked if all the cited documents have been distributed to the Aquatic SWG. Lampman said yes, all documents have been distributed and he can add a reference section to the literature review and redistribute.

Lampman asked if these documents provide the evidence Douglas PUD needs to implement improvements at Wells Dam. Gingerich said more technical information is helpful. He said he believes some of this information is also included in the literature review Douglas PUD developed. Kyger agreed and said Douglas PUD has not yet distributed their literature reviews because there were already multiple reports out for review. He said now with those reports approved and finalized, Douglas PUD will soon distribute their juvenile and adult Pacific Lamprey literature reviews. He said these reviews are in a chart summary format, and an online library with links to all the cited documents is available on the Aquatic SWG Extranet Site. He said these libraries were completed in late 2017 to early 2018, and there seems to be newer literature that is now available. He said, however, these are living document libraries that can be added to at any time. He said these reviews will likely be distributed for Aquatic SWG review next week and suggested revisiting the reviews and libraries each year to make sure the libraries contain the most up-to-date information.

Gingerich asked if Chelan PUD is conducting a pilot study this year at Tumwater Dam using Damon Goodman's (USFWS) tubing approach. Lampman said he is unsure whether the pilot study will occur this year; however, Chelan PUD has begun discussing a study. He said the YN installed 4-inch flexible tubing at Prosser Dam and are testing different flow rates within the tubing and motion detection using video. He said he will have an update on this shortly.

Lampman said given the new literature on juvenile Pacific Lamprey monitoring, it would be good to start discussing what is needed to conduct a study in the Wells Project. He noted the recent development of PNNL's ELATs and said these tags are being used in the Yakima River. Ferguson suggested adding this discussion to next month's agenda. Geris will add to the Aquatic SWG July 10, 2019 conference call agenda a discussion about PNNL's newly developed ELAT and its potential use in future Douglas PUD Pacific Lamprey studies. *(Note: Geris added this item to the agenda, as discussed.)*

RMUs Selection of High Priority Projects

Lampman notified the Aquatic SWG that the various RMUs across the Pacific Northwest are currently undergoing a prioritization process to identify high priority projects concerning Pacific Lamprey within the region. Lampman said the Upper Columbia RMU convened about one month ago and the Mid-Columbia RMU convened yesterday, June 11, 2019. He said the deadline for proposals for high priority projects is July 31, 2019.

YN Juvenile Pacific Lamprey Acoustic Tagging

Lampman said the YN completed their juvenile Pacific Lamprey acoustic tagging efforts for 2019. He said one week ago, the last batch of tagged individuals were released at a time when more than 3,500 juveniles began showing up at the Chandler Diversion in the Lower Yakima River. He said that temperature in the lower Yakima River has already reached 22°C, and combined with turbid river conditions, a surge of juvenile Pacific Lamprey are exiting the river. He said there was an early run in February 2019, a small run in the middle of the migration, and a big surge in early June 2019. Ferguson asked if this represents a typical outmigration. Lampman said yes, some years have one peak, and some have multiple peaks. He said this is likely a reflection of turbidity, high river flow, and river temperature.

VII. Administration

1. Aquatic Settlement Agreement Annual Report – Review and Comment Period (John Ferguson):

John Ferguson thanked the Aquatic SWG for all the coordination and work reviewing the Aquatic Settlement Agreement Annual Report and appended aquatic resource management plan annual reports. Ferguson said he, Andrew Gingerich, and Kristi Geris spoke afterwards and decided to build in another week into the review schedule to offer more time to address and review comments and edits before formal approval.

2. YN Aquatic SWG Alternate Representative – Brandon Rogers (John Ferguson):

John Ferguson said Bob Rose has retired and Brandon Rogers is Rose's replacement as the YN Aquatic SWG Alternate Representative to Ralph Lampman.

3. Upcoming Meetings (John Ferguson):

The Aquatic SWG meeting on July 10, 2019, will be held by conference call.

John Ferguson said Kristi Geris will be out-of-country June 15 to July 5, 2019, and Larissa Rohrbach (HCP Hatchery Committees support staff) will be managing emails while Geris is away. Ferguson said Geris will have Rohrbach's contact information in her out-of-office message as a reminder to distribute emails to Rohrbach during this time.

Other upcoming meetings include August 14 and September 11, 2019 (TBD).

List of Attachments

Attachment A List of Attendees

Attachment A – Attendees

Name	Role	Organization
John Ferguson	Aquatic SWG Chairman	Anchor QEA, LLC
Kristi Geris	Administration/Technical Support	Anchor QEA, LLC
Andrew Gingerich	Aquatic SWG Technical Representative	Douglas PUD
Chas Kyger	Technical Support	Douglas PUD
Dave Robichaud	Technical Support	LGL Limited
Steve Lewis	Aquatic SWG Technical Representative	U.S. Fish and Wildlife Service
Laura Heironimus	Aquatic SWG Technical Alternate	Washington Department of Fish and Wildlife
Ralph Lampman	Aquatic SWG Technical Representative	Yakama Nation