



# Conference Call Minutes

## Aquatic Settlement Work Group

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**To:** Aquatic SWG Parties

**Date:** March 13, 2017

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

**Re:** Final Minutes of the February 8, 2017, Aquatic SWG Conference Call

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The Aquatic Settlement Work Group (SWG) met by conference call on Wednesday, February 8, 2017, from 10:00 to 11:30 a.m. Attendees are listed in Attachment A of these conference call minutes.

### I. Summary of Action Items

1. Douglas PUD will provide historical Pacific lamprey conversion rates from the count window at Rocky Reach Dam to Wells Dam, as well as Wells Project operation and flow data, to Kristi Geris for distribution to the Aquatic SWG (Item VI-5). *(Note: Andrew Gingerich provided these data to Geris on March 7, 2017, which Geris distributed to the Aquatic SWG on March 8, 2017.)*
2. Douglas PUD will provide a brief document (2 to 3 pages) outlining merits of all reasonable alternatives for studies of Pacific lamprey in 2017, in the context of a broader plan for meeting Pacific Lamprey Management Plan requirements, to Kristi Geris for distribution to the Aquatic SWG for discussion at the Aquatic SWG meeting on March 8, 2017 (Item VI-5). *(Note: Chas Kyger provided this document to Kristi Geris on February 28, 2017, which Geris distributed to the Aquatic SWG that same day.)*
3. Douglas PUD, in coordination with Dave Robichaud (LGL Limited), will provide a summary document (5 to 10 pages) highlighting results and findings to date from the 2016 Pacific Lamprey Study, including fish movement, spatial distribution, size metrics versus distance traveled, and detection efficiency for receivers and different detection zones, for discussion at the Aquatic SWG meeting on March 8, 2017 (Item VI-5). *(Note: Chas Kyger provided this document to Kristi Geris on February 28, 2017, which Geris distributed to the Aquatic SWG that same day.)*
4. U.S. Fish and Wildlife Service (USFWS) will provide a proposal for planting Pacific lamprey within the Wells Dam fishway, as a means to test a pheromone hypothesis, for further discussion at a future Aquatic SWG meeting (Item VI-5). *(Note: Steve Lewis provided a draft proposal to Kristi Geris on March 2, 2017, which Geris distributed to the Aquatic SWG that same day.)*

5. **The Aquatic SWG meeting on March 8, 2017, will be held by conference call (Item VII-1).**

## II. Summary of Decisions

1. Aquatic SWG members present approved the 2016 Total Dissolved Gas Abatement Plan Annual Report (Item VI-2).
2. Aquatic SWG members present approved the 2017 Total Dissolved Gas Abatement Plan and Juvenile Fish Bypass Operating Plan, as revised (Item VI-3).

## III. Agreements

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

## IV. Review Items

1. Kristi Geris sent an email to the Aquatic SWG on February 21, 2017, notifying them that the Draft 2016 Aquatic Nuisance Species Management Plan Annual Report is available for a 30-day review period, with comments due to Chas Kyger by Wednesday, March 22, 2017.
2. Kristi Geris sent an email to the Aquatic SWG on February 21, 2017, notifying them that the Draft 2016 Water Temperature Annual Report is available for a 30-day review period, with comments due to Andrew Gingerich by Wednesday, March 22, 2017.
3. Kristi Geris sent an email to the Aquatic SWG on February 21, 2017, notifying them that the Draft 2017 Aquatic Settlement Agreement Action Plan is available for review. Douglas PUD will request approval of the plan during the Aquatic SWG meeting on April 12, 2017.
4. Kristi Geris sent an email to the Aquatic SWG on March 1, 2017, notifying them that the draft report, *Evaluations of White Sturgeon Supplementation and Management in the Wells Reservoir, 2016*, is available for a 60-day review with edits and comments due to Andrew Gingerich by Monday, May 1, 2017.

## V. Documents Finalized

1. The Final 2016 Wells Total Dissolved Gas Abatement Plan Annual Report was filed with the Federal Energy Regulatory Commission (FERC) on February 23, 2017, and was distributed to the Aquatic SWG by Kristi Geris that same day (Item VI-2).
2. The Final 2017 Total Dissolved Gas Abatement Plan and Juvenile Fish Bypass Operating Plan was filed with FERC on February 27, 2017, and was distributed to the Aquatic SWG by Kristi Geris that same day (Item VI-3).

## 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 reviewed the agenda. Ferguson asked for any additions or other changes to the agenda. No additions or changes were requested.

The revised draft January 11, 2017, meeting 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 January 11, 2017, meeting minutes, as revised.

Action items from the last Aquatic SWG meeting on January 11, 2017, are as follows (note: the following italicized item numbers correspond to agenda items from the January 11, 2017, meeting):

- *John Ferguson will contact Tracy Hillman (Rocky Reach Fish Forum [RRFF] Facilitator) to notify Hillman the Aquatic SWG began discussing how to improve coordination between the Aquatic SWG and the RRFF with regard to Pacific lamprey behavior and survival in the Rocky Reach Reservoir (Item VI-4).*

Ferguson notified Hillman, as discussed, on January 16, 2017.

- *Douglas PUD, in coordination with Dave Robichaud, will synthesize Douglas PUD and Grant PUD 2016 Pacific Lamprey Study data collected to date (to demonstrate the behavior of each tagged individual) for discussion during the Aquatic SWG meeting on February 8, 2017 (Item VI-4).*

Chas Kyger provided these data to Kristi Geris on January 13, 2017, which Geris distributed to the Aquatic SWG that same day.

- *The Aquatic SWG will further discuss Pacific lamprey passage hypotheses and study plans for 2017 during the Aquatic SWG meeting on February 8, 2017 (Item VI-4). This will be discussed during today's conference call.*
- *Aquatic SWG members will contact Andrew Gingerich if there is interest in touring the west fish ladder at Wells Dam while the ladder is dewatered. The ladder will be dewatered for 2 to 3 weeks starting on January 19, 2017 (Item VI-4).*

Bob Rose, Ryan Fortier (Washington Department of Fish and Wildlife [WDFW] District Biologist, Twisp), Gingerich, and Chas Kyger toured the entire dewatered west fishway on January 23, 2016.

**2. DECISION: Draft 2016 Total Dissolved Gas Abatement Plan Annual Report (Andrew Gingerich):**

Andrew Gingerich said Kristi Geris sent an email to the Aquatic SWG on January 5, 2017, notifying them the Draft 2016 Total Dissolved Gas Abatement Plan Annual Report was available for a 30-day review period, with edits and comments due to Gingerich by Monday, February 6, 2017. Gingerich said no comments were received on the draft report. He reminded the Aquatic SWG that the final approved report needs to be filed with FERC by the end of February.

Aquatic SWG members present approved the 2016 Total Dissolved Gas Abatement Plan Annual Report.

The Final 2016 Wells Total Dissolved Gas Abatement Plan Annual Report was filed with FERC on February 23, 2017, and was distributed to the Aquatic SWG by Geris that same day.

**3. DECISION: Revised 2017 Total Dissolved Gas Abatement Plan and Juvenile Fish Bypass Operating Plan (Andrew Gingerich):**

Andrew Gingerich said Kristi Geris sent an email to the Aquatic SWG on January 5, 2017, notifying them the Draft 2017 Total Dissolved Gas Abatement Plan and Juvenile Fish Bypass Operating Plan was available for a 30-day review period, with edits and comments due to Gingerich by Monday, February 6, 2017. Gingerich said a letter was received from the Washington State Department of Ecology approving the draft plan, which provides a fish passage total dissolved gas (TDG) adjustment for the 2017 bypass season (i.e., allows for higher TDG values associated with increased spill or bypass volumes and increases juvenile survival through the project). Gingerich said comments were received from Jim Craig (USFWS Habitat Conservation Plan Coordinating Committees Representative), and Douglas PUD responses to comments and a Revised 2017 Total Dissolved Gas Abatement Plan and Juvenile Fish Bypass Operating Plan were distributed to the Aquatic SWG by Geris on February 7, 2017. Gingerich said the comments were fairly editorial in nature. He noted that the one major change was the addition of a figure, per USFWS's recommendation. Gingerich said the figure is an artistic depiction of Wells Dam with specific emphasis on the juvenile bypass system. He said this figure has never been included in the plan before, but it supplements the document nicely. He said no other comments were received, and noted that this final approved report also needs to be filed with FERC by the end of February.

Aquatic SWG members present approved the 2017 Total Dissolved Gas Abatement Plan and Juvenile Fish Bypass Operating Plan, as revised.

The Final 2017 Total Dissolved Gas Abatement Plan and Juvenile Fish Bypass Operating Plan was filed with FERC on February 27, 2017, and was distributed to the Aquatic SWG by Geris that same day.

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

Andrew Gingerich said not much has changed since he provided the last Wells Hatchery white sturgeon rearing update in December 2016. He recalled an update was not provided during the Aquatic SWG meeting on January 11, 2017, because time was limited due to the meeting's focus on the 2017 Pacific Lamprey Passage Workshop. Gingerich said survival has been good. He said there are still mortalities; however, numbers have decreased to about one per tank every other day or so. He said, on January 10, 2017, the remaining direct gamete-origin fish obtained from Marion Drain (about 2,300 fish) were transferred to Chelan Falls Fish Hatchery. He said all remaining fish at Wells Hatchery (about 7,000) are larval-origin fish obtained from Lake Roosevelt. He recalled the ongoing modernization activities at Wells Hatchery, which restricted water use. He said the fish are now on heated water. He said water temperature was formerly at about 52 to 54 degrees Fahrenheit, and hatchery staff are now hoping to increase the water temperature to 58 degrees Fahrenheit. He said, overall, fish are doing well, which means there will likely be surplus fish. He said Douglas PUD is currently coordinating with co-managers to determine, if and where these fish can be used; otherwise, surplus fish will be culled. He said he expects 5,000 fish will be available in 2017 for the last year of Phase I stocking of 5,000 fish in the Wells Reservoir. He said, after 2017, stocking rates will be adjusted to approximately 325 fish each year, as described in the White Sturgeon Stocking Statement of Agreement (SOA), Wells Reservoir White Sturgeon Supplementation 2018-2022, approved by the Aquatic SWG on January 11, 2017.

John Ferguson suggested Douglas PUD continue providing updates regarding potential surplus fish, and Gingerich agreed. Gingerich recalled surplus brood year 2015 fish were transferred to a program in Canada; however, this year, this program already has enough fish or has decided they do not wish to plant any surplus from Wells Fish Hatchery. He said managers also do not have the USFWS Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) permit in place.

**5. Pacific Lamprey (Andrew Gingerich and Chas Kyger):**

John Ferguson said there was a good discussion of technical topics during the 2017 Pacific Lamprey Passage Workshop, held on January 11, 2017. He said this included a review of 2016 Pacific Lamprey Study data to date, and a discussion about coordination issues between fish forums. He said a list of potential hypotheses was developed, and the following three

hypotheses were determined to be the most important at this time (in no particular order): 1) lack of juvenile and adult pheromones; 2) poor hydraulic conditions at fishway entrances; and 3) mortality, fate, and mainstem spawning in the Rocky Reach Reservoir.

Wells Dam Fishway Tour Recap, January 23, 2017:

Andrew Gingerich said Bob Rose and Ryan Fortier joined Douglas PUD for a tour of the dewatered west fishway on January 23, 2017. Gingerich apologized for not being able to provide this tour during the Aquatic SWG meeting on January 11, 2017, as initially planned. He said touring the dewatered fishway is beneficial to see how the fishway is designed. He said the small group discussed Pacific lamprey passage and recent studies while touring the fishway. He said the tour included the collection gallery and Weirs 1 to 72. He said, as usual, Douglas PUD will offer a tour of the dewatered fishway again during the 2017/2018 winter maintenance period.

Historical "Conversion Rates" and Wells Project Operations/Flow:

Gingerich said he will provide historical Pacific lamprey conversion rates from the count window at Rocky Reach Dam to Wells Dam, as well as Wells Project operation and flow data, to Kristi Geris for distribution to the Aquatic SWG. Gingerich said these data are coupled with dates when changes were made to the fishways, including details about the baffle added between the collection gallery and Weir 1. He said, in terms of Douglas PUD effectively evaluating passage within the fish ladders and based on past and current studies, Douglas PUD is faced with a challenge in identifying problem areas, because it seems there is an issue with getting fish to convert through the Rocky Reach Reservoir. With regard to prioritizing the three hypotheses, he suggested poor hydraulic conditions at fishway entrances should be a lower priority because fish are not reaching the fishway entrances. He said he agrees all hypotheses are worthy of consideration; however, he suggested prioritizing how to get fish to interact with Wells Dam, so Project effects can then be tested. *(Note: Gingerich provided historical Pacific lamprey conversion rates to Geris on March 7, 2017, which Geris distributed to the Aquatic SWG on March 8, 2017.)*

2016 Pacific Lamprey Study Fish Travel Profile Recap:

Chas Kyger said Pacific lamprey detection plots were distributed to the Aquatic SWG by Geris on January 13, 2017. *(Note: Dave Robichaud created these plots, which show the daily detections of each of the Douglas and Grant PUD acoustic tagged Pacific lamprey on each of the receivers deployed from Rocky Reach to Wells Dam.)*

Kyger said, based on these data, there seems to be attrition through the Rocky Reach Reservoir. He added that the individual plots show most movement is rather rapid upstream

until movement stops, suggesting there is something stopping them. He said Douglas PUD will provide additional data on size metrics versus distance traveled, which he noted, do not seem to correlate. He said Douglas PUD will also provide information on detection efficiency on all receivers, including an assessment of detection zones. He said although sample size is relatively low, so far, detection efficiency appears high based on fish passing subsequent gateway locations.

Kyger said Douglas PUD plans to obtain another data download from the receivers in spring 2017. He said Chelan PUD will likely do the same once their tags wake up (the tags were programmed to go into sleep mode during the winter months); however, he is not certain exactly when Chelan PUD will download data from their receivers. Kyger said, once additional data are obtained, Douglas PUD will provide the Aquatic SWG with another data update.

#### Pacific Lamprey Studies Path Forward:

Rose asked if Douglas PUD is planning on a 2017 Pacific Lamprey Study. Kyger said, at this point, the best plan of action may be for a 2018 Pacific Lamprey Study. He said the 2016 Pacific Lamprey Study is the second year evaluating acoustically tagged fish, and the results are the same as the previous year's. He said he is uncertain of the value in repeating such a study in 2017; however, this is open for discussion. Rose suggested that Douglas PUD provide a brief document (2 to 3 pages) outlining the merits of all reasonable alternatives for studies of Pacific lamprey in 2017, in the context of a broader plan for meeting Pacific Lamprey Management Plan requirements. He said the document could then be discussed at the Aquatic SWG meeting on March 8, 2017. Rose suggested this document also include explanations for preferred alternatives. He said he is not sure he agrees with Douglas PUD, and it will be beneficial to have Douglas PUD's thoughts clearly outlined to continue discussions about a path forward next month. Kyger said he believes Douglas PUD and the Aquatic SWG have already started down the correct path, by identifying hypotheses with the plan to prioritize what the next action will be. *(Note: Kyger provided this document, as discussed, to Geris on February 28, 2017, which Geris distributed to the Aquatic SWG that same day.)*

Ferguson suggested the 2017 study include the following elements: 1) finishing the analyses from the 2016 Pacific Lamprey Study; 2) implementing pheromone and translocation actions; and 3) not losing sight there are additional data to collect with fish already in the water. Kyger asked, with regard to finishing the analyses from the 2016 Pacific Lamprey Study, whether Douglas PUD should wait to include potential overwinter and spring movement, or run analyses now to get something finalized sooner. He recalled, that in previous studies, additional fish data became available in spring; however, he noted he does not foresee there

being enough data to significantly change the results to date. Rose suggested conducting analyses now, so results of the analyses can be used to inform how best to conduct studies during the current season. Kyger suggested providing an extensive update now, in lieu of a more comprehensive report later, and asked how in-depth the data should be at this stage. Ferguson suggested providing a summary document to a level that demonstrates available information and patterns in data. He said this would include the Pacific lamprey detection plots and a summary of different behaviors, timing, and spatial distribution of where tags were last detected. He suggested a 5- to 10-page summary, including text and figures, with enough information to discuss next month how to proceed in 2017. Rose agreed with these suggestions, and also suggested including a paragraph about what additional information will become available from the 2016 Pacific Lamprey Study, and when it can be expected. Kyger said he will also include in this summary those data he mentioned on size metrics and detection efficiency.

Douglas PUD, in coordination with Robichaud, will provide a summary document (5 to 10 pages) highlighting results and findings to date from the 2016 Pacific Lamprey Study, including fish movement, spatial distribution, size metrics versus distance traveled, and detection efficiency for receivers and different detection zones, for discussion at the Aquatic SWG meeting on March 8, 2017. *(Note: Kyger provided this document to Geris on February 28, 2017, which Geris distributed to the Aquatic SWG that same day.)*

Rose said, when considering alternatives for paths forward, he hopes these do not become an "either/or" conversation. He said the level of passage issues at Wells Dam is significant enough that the best defense is a good offense. He suggested approaching this effort with a full-court press, and not sequentially. He said he believes trap and haul is not an option, but a requirement. He said he believes there is more improvement that can be done and more information to be generated. He said he does not want to wait to see what is happening in the reservoir before addressing issues at the concrete. He said he is not convinced fish have an easy time migrating through the fish ladder and first collection gallery. He recalled discussing possibly collecting a number of fish, and holding and acclimating them before release. He asked if there is a hypothesis that once these fish calm down, maybe they will want to migrate upstream. He said this is not hard to do and is of value. He asked about the behavior of fish within so many kilometers of the dam, and suggested using telemetry to provide three-dimensional (3D) data, which would be of great value.

Ferguson said he is not clear on the acclimation topic, and asked Rose to elaborate. Ferguson also asked about the feasibility of collecting 3D behavioral data in the tailrace, given the hydraulics in this area. Rose said, in the U.S. Army Corp of Engineers environment, it is

suggested 3D behavioral data can be collected in certain areas of the tailrace. He said, within the PUD environment, it seems the conversation is that it cannot be done. Rose said he is not sure he agrees this cannot be done and suggested conducting a full analysis to provide a full explanation. Jason McLellan said he has experience obtaining 3D telemetry data, using Vemco equipment, for white sturgeon in the Upper Columbia River. He said the data were collected in calm and fast-velocity river conditions. He said colleagues have also collected these data in the tailrace; therefore, it can be done. He suggested using current VR2W (Vemco) receivers and developing a grid, where the detection distances are great enough between receivers so individual signals can be detected on individual receivers. He said this can be tested inexpensively in the tailrace. Gingerich said he would defer to Vemco; however, he believes this effort would require obtaining more receivers than Douglas PUD already has and installing the receivers so they do not move since having receivers fixed is critical to determining 3D space.

Gingerich said, taking a step back, he respectfully disagrees with Rose on the full-court press approach, from a technical perspective. Gingerich said, when considering studying how fish behave in the Wells Dam tailrace versus the Rocky Reach Reservoir, this is nearly like a flip of a coin. He said sample size is so low that fish performance in the tailrace is no better or worse than in the Rocky Reach Reservoir. He said fish can be released in the Wells Dam tailrace, or anywhere within the fishway, but the vulnerability is in interpretation of the data. He said, if it is known that fish exist in the Rocky Reach Reservoir and are not approaching Wells Dam, what can be interpreted if 50 fish are released below the Wells Dam count window and 40 turn around and move downstream. He asked if this just confirms what is already known. He said Douglas PUD suggests these studies be conducted in a stepwise fashion, so when Project effects are tested, there is confidence in data interpretation. He said, as it stands now, he cannot envision a study where fish are released in the Wells Dam fish ladder and there is confidence in interpretation. He said he understands the desire for a full-court press approach; however, currently, Douglas PUD cannot conduct a study which makes the assumption that the majority of fish released in the tailrace of Wells Dam or in the fish ladder want to move upstream. He said he is confident in the data, which indicate attrition in the Rocky Reach Reservoir, and there are no data suggesting the Wells Dam tailrace is any more challenging than the Rocky Reach Reservoir; therefore, there are no data to support Rose's suggestion at this time. Gingerich suggested moving forward with Douglas PUD's action item to provide a summary document for discussion. He said, if the feedback from the Aquatic SWG is to release fish into the Wells Dam fish ladder, Douglas PUD will not stand in the way, but will caution the Aquatic SWG and state for the record to be very careful how these data are interpreted. Rose said he appreciates Douglas PUD's perspectives and understands there are certain risks associated with a full-court press approach.

Rose said, regarding the acclimation topic, he is uncertain how fish are handled from collection to release; however, it seems this could be a fairly confusing environment for a fish. He suggested constructing a small device to hold fish as test fish, lowering this device into the water, and letting fish become more acclimated before opening a gate to let the fish voluntarily leave. He questioned if this might change the disposition of fish to migrate upstream, and suggested this is worth testing. He said he believes there are a number of these types of small-scale tests, which could be completed in subsequent years to help interpret the larger behavioral studies. Ferguson noted that it seems there may not be enough fish migrating upstream to enter and pass through the fish ladder to act as control. He said the control fish would also need to be released in the fish ladder, but just not acclimated first. Rose said this is correct, and added that releases do not necessarily need to be confined to just the fish ladder. He said this study may also be employed some distance in the tailrace downstream of Wells Dam. Gingerich said Rose's point about acclimating fish is a good idea; however, Gingerich noted that the 2016 Pacific Lamprey Study may have already addressed this point. He said, for example, a certain location within the Rocky Reach Reservoir can be selected and serve as a "virtual release," and fish reaching this location can be considered the acclimated and therefore "study" fish. He said, even considering this, there was still attrition in the Rocky Reach Reservoir after each receiver gate. He said performing this exercise within the fish ladder would likely yield the same attrition observation and therefore it may be difficult to interpret the results. Kyger also noted that without a control (i.e., unhandled, run-of-the-river fish), and he is unsure how to draw conclusions. He also added that this seems to be a separate hypothesis from what has been discussed so far.

Ferguson said he believes Rose is ultimately suggesting conducting studies to rule out what seems to be known. Rose said he did not intend to make this a full-blown debate at this time. He said he also does not want to dilute his main point, that there are additional smaller efforts that can be accomplished simultaneously while also studying the Rocky Reach Reservoir. Ferguson summarized that it is better to take action to address uncertainties than to assume uncertainties are unresolvable. He said it seems Douglas PUD is open to exploring options, and there are a lot of good discussions moving this forward.

Steve Lewis asked about any thoughts or ideas stemming from the tour of the Wells Dam fish ladder and the review of fish ladder modifications. Rose recalled standing in the collection gallery looking at the construction that occurred in 2006 for salmonid passage, and briefly discussing how this construction created turbulence, potentially making it difficult for Pacific lamprey to navigate through the area. He said there was a discussion about the value in trying to flush this out, and a few ideas were discussed, maybe not for 2017, but for future studies. Rose said there was discussion about the different components of these

Pacific lamprey studies and recognizing how difficult this whole subject is. Kyger said there is a whole range of potential problem areas, as described in the Pacific Lamprey Management Plan. He said, currently, it is difficult to evaluate these things because of the lack of fish that reach and want to ascend the ladder; however, ultimately, addressing passage at the concrete is the goal. He said this is what Douglas PUD's FERC license and Pacific Lamprey Management Plan focus on. Ferguson summarized that Douglas PUD's primary objective is to get to a point where adult Pacific lamprey interact with Wells Dam, so that potential problem areas described in the Pacific Lamprey Management Plan can be assessed and resolved if needed, and that Douglas PUD has indicated flexibility in how this point is reached.

Lewis asked if any Pacific lamprey were recovered during the Wells Dam winter maintenance fish salvage (evidence of overwintering fish). Gingerich said no Pacific lamprey were recovered in either fish ladder during dewatering, which has been consistent during the last few years. Lewis suggested considering luring fish into the fishway using pheromones. Rose suggested using the Pacific lamprey structures installed at Rock Island Dam during the Wanapum Dam incident, as scent attractant to encourage Pacific lamprey to enter the fishways. Lewis said he was thinking of even planting a trap containing fish within the fish ladder, and Rose suggested Lewis draft something up for discussion. USFWS will provide a proposal for planting Pacific lamprey within the Wells Dam fishway as a means to test a pheromone hypothesis, for further discussion at a future Aquatic SWG meeting. *(Note: Lewis provided a draft proposal to Geris on March 2, 2017, which Geris distributed to the Aquatic SWG that same day.)*

## VII. Next Meetings

### 1. Upcoming meetings (John Ferguson):

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

Upcoming meetings are as follows: March 8, 2017 (conference call); April 12, 2017 (TBD); and May 10, 2017 (TBD).

## List of Attachments

Attachment A List of Attendees

**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	Technical Support	Douglas PUD
Dave Robichaud	Observer	LGL Limited
Steve Lewis	Aquatic SWG Technical Representative	U.S. Fish and Wildlife Service
Breean Zimmerman	Aquatic SWG Technical Representative	Washington State Department of Ecology
Bob Rose	Aquatic SWG Technical Representative	Yakama Nation
Jason McLellan	Aquatic SWG Technical Representative	Colville Confederated Tribes