Final Conference Call Minutes

Aquatic Settlement Work Group

To: Aquatic SWG Parties **Date**: October 10, 2013

From: Michael Schiewe, Chair (Anchor QEA, LLC)

Re: Final Minutes of the September 11, 2013 Aquatic SWG Conference Call

The Aquatic Settlement Work Group (SWG) met by conference call on Wednesday, September 11, 2013, from 10:00 a.m. to 11:30 a.m. Attendees are listed in Attachment A of these meeting minutes.

I. Summary of Action Items

1. Douglas PUD will finalize the revised draft Bull Trout Stranding and Take Study Plan, and will provide a final version of the plan to Kristi Geris for distribution to the Aquatic SWG (Item VI-2).
2. Douglas PUD will incorporate Section 2.6 – Regional Coordination of the Pacific Lamprey Management Plan (PLMP) into the draft Lamprey Entrance Efficiency and Operations Study Plan, per U.S. Fish and Wildlife's (USFWS's) request. Upon USFWS's approval of the revisions, Kristi Geris will distribute the final version of the plan to the Aquatic SWG (Item VI-3). *(Note: Steve Lewis provided USFWS's approval of the revised plan via email on September 11, 2013, and the final plan was distributed to the Aquatic SWG by Geris on September 12, 2013.)*
3. Douglas PUD will provide a revised draft Water Quality Attainment Plan (WQAP) to Kristi Geris for distribution to the Aquatic SWG. Aquatic SWG members will submit edits and comments on the revised draft WQAP to Andrew Gingerich no later than Tuesday, October 1, 2013 (Item VI-4).
4. Aquatic SWG members will submit edits and comments on the draft Spill Prevention Control and Countermeasures (SPCC) Plan to Andrew Gingerich no later than Tuesday, October 1, 2013 (Item VI-5).
5. Jason McLellan will present his Mid-Columbia Regional Sturgeon Workshop materials at the Aquatic SWG in-person meeting on October 9, 2013 (Item VI-6).
6. Douglas PUD will provide a demonstration of the Aquatic SWG Extranet site at the Aquatic SWG in-person meeting on October 9, 2013 (Item VI-8).

7. **The Aquatic SWG meeting on October 9, 2013, will be held in person at 9:00 am at Douglas PUD Headquarters in East Wenatchee, Washington. If time permits, there will also be a Wells Dam site visit following the meeting (Item VII-1).**

II. Summary of Decisions

1. There were no Statements of Agreement (SOAs) approved at today's meeting.

III. Agreements

1. The Aquatic SWG members present approved the draft Bull Trout Stranding and Take Study Plan, as revised (Item VI-2).
2. The Aquatic SWG members present conditionally approved the draft Lamprey Entrance Efficiency and Operations Study Plan, pending USFWS's email approval of the revised draft plan (Item VI-3). *(Note: Steve Lewis provided USFWS's approval of the revised plan via email on September 11, 2013, as distributed to the Aquatic SWG by Kristi Geris that same day.)*
3. The Aquatic SWG members present agreed to continue discussions on the Conflict of Interest Policy at the Aquatic SWG in-person meeting on October 9, 2013 (Item VI-9).
4. The Aquatic SWG members present agreed to hold the Aquatic SWG meeting on October 9, 2013, at an earlier than usual start time of 9:00 am. The meeting will be held in person at Douglas PUD Headquarters in East Wenatchee, Washington. If time permits, Aquatic SWG members also agreed to a Wells Dam site visit following the meeting (Item VII-1).

IV. Review Items

1. Kristi Geris sent an email to the Aquatic SWG on August 26, 2013, notifying them that the draft SPCC Plan is available for review, with comments due to Andrew Gingerich no later than Tuesday, October 1, 2013.
2. Kristi Geris sent an email to the Aquatic SWG on August 27, 2013, notifying them that the draft Conflict of Interest Policy is available for review. The draft policy will be on the agenda for approval at the Aquatic SWG meeting on October 9, 2013.
3. Kristi Geris sent an email to the Aquatic SWG on August 27, 2013, notifying them that the draft WQAP is available for review, with comments due to Andrew Gingerich no later than Tuesday, October 1, 2013.

V. Reports Finalized

1. The final Lamprey Entrance Efficiency and Operations Study Plan was approved by the Aquatic SWG on September 11, 2013, and was distributed to the Aquatic SWG by Kristi Geris on September 12, 2013.

VI. Summary of Discussions

1. **Welcome, Agenda Review, and Meeting Minutes Review** (Mike Schiewe): Mike Schiewe welcomed the Aquatic SWG members (attendees are listed in Attachment A) and opened the meeting. Schiewe reviewed the agenda and asked for additions or other changes to the agenda. No additions or changes were requested.

   The revised draft August 14, 2013 meeting minutes were reviewed. Kristi Geris said that she distributed a second revised draft of the August 14, 2013 meeting minutes to the Aquatic SWG on September 6, 2013. She said that the second revised draft included edits, which were based on comments from Washington State Department of Ecology (Ecology), to clarify the discussion on the 2013 Adult Lamprey Passage and Enumeration Study Update. She said that because of the many different subsets of data in the study (i.e., by release group, release date, lamprey passed versus lamprey detected, etc.), there was confusion in interpreting the numbers that were presented during the August 14, 2013 conference call. The edits in the second revised draft differentiate between the different subsets of data. Geris said that, in an attempt to avoid this same confusion in future updates, Chas Kyger offered to distribute a table summarizing the different subsets of data prior to providing updates on the study.

   Geris said there was also one outstanding comment remaining to be discussed regarding edits and approval of the Aquatic SWG July 10, 2013 meeting minutes. Andrew Gingerich explained that he would like to avoid setting the precedent of revising the meeting minutes after they have already been approved by the Aquatic SWG. Schiewe added that if a person is unable to attend a meeting, then they should aim to submit edits and comments to the draft minutes prior to the meeting so that they can be discussed prior to approval. Geris will remove the revisions that were added to the Aquatic SWG July 10, 2013 meeting minutes post-approval and redistribute the finalized minutes to the Aquatic SWG.

   The Aquatic SWG members present approved the August 14, 2013 meeting minutes, as revised.

2. **DECISION: Bull Trout Stranding and Take Study Plan** (Andrew Gingerich): Andrew Gingerich said that Kristi Geris sent an email to the Aquatic SWG on July 29, 2013, notifying them that the draft Bull Trout Stranding and Take Study Plan is available for 30-day review, with comments due to Gingerich no later than Wednesday, August 28, 2013. He said that comments were received from USFWS, and a revised plan that included tracked edits based on comments received was distributed to the Aquatic SWG by Geris on September 9, 2013. Steve Lewis said that the revisions adequately addressed USFWS comments. The Aquatic SWG members present approved the draft Bull Trout Stranding and Take Study Plan, as revised. Douglas PUD will finalize the

revised draft plan, and will provide a final version to Geris for distribution to the Aquatic SWG.

3. **DECISION: Lamprey Entrance Efficiency and Operations Study Plan** (Andrew Gingerich): Andrew Gingerich said that Kristi Geris sent an email to the Aquatic SWG on August 9, 2013, notifying them that the draft Lamprey Entrance Efficiency and Operations Study Plan is available for 30-day review, with comments due to Gingerich or Chas Kyger no later than Monday, September 9, 2013. He said that comments were received from USFWS and Ecology. Kyger said that USFWS requested an explicit link between the draft Lamprey Entrance Efficiency and Operations Study Plan and the USFWS Fishway prescriptions to better demonstrate that components of both documents were included in the combined plan. Therefore, language was taken directly from the USFWS Fishway prescriptions, and pasted in italics into the section on the regulatory framework (Section 1.1) of the Lamprey Entrance Efficiency and Operations Study Plan. Kyger said that the other key revision was the inclusion of a conceptual flowchart describing the Lamprey Entrance Efficiency and Operations Study Plan implementation process. He said that the flowchart was not specific in date and time, but was rather a general guide describing what processes would take place when addressing entrance efficiency.

   Steve Lewis said that he had one additional suggestion to insert language from the PLMP that addresses regional coordination. He said that this insertion would carry forward the spirit of making the best use of study fish. Kyger agreed that this revision would be good, and noted that Douglas PUD is always willing to coordinate study fish and equipment to further investigate lamprey. He said that he will incorporate Section 2.6 – Regional Coordination of the PLMP into the draft Lamprey Entrance Efficiency and Operations Study Plan, and will then provide the revised draft to Lewis for approval. The Aquatic SWG members present conditionally approved the draft Lamprey Entrance Efficiency and Operations Study Plan, pending USFWS's email approval of the revised draft plan. Upon USFWS's approval of the revisions, Geris will distribute the final version of the plan to the Aquatic SWG. *(Note: Steve Lewis provided USFWS's approval of the revised plan via email on September 11, 2013, as distributed to the Aquatic SWG by Geris that same day; and the final plan was distributed to the Aquatic SWG by Geris on September 12, 2013.)*

4. **Reminder: Water Quality Attainment Plan – Out for Review** (Andrew Gingerich): Andrew Gingerich said that Kristi Geris sent an email to the Aquatic SWG on August 27, 2013, notifying them that the draft WQAP is available for review, with comments due to Gingerich no later than Tuesday, October 1, 2013. He said that the WQAP is a 10-year compliance plan and that Douglas PUD and Ecology have been in close coordination in developing the plan. He said that comments from Ecology are currently being incorporated into the draft plan, and that Douglas PUD will provide a revised draft to Geris for distribution to the Aquatic SWG. Gingerich said that Douglas PUD will be

requesting approval of the draft plan at the Aquatic SWG in-person meeting on October 9, 2013.

5. **Reminder: Spill Prevention Control and Countermeasures Plan – Out for Review** (Andrew Gingerich): Andrew Gingerich said that Kristi Geris sent an email to the Aquatic SWG on August 26, 2013, notifying them that the draft SPCC Plan is available for review, with comments due to Gingerich no later than Tuesday, October 1, 2013. He said that the purpose of the plan is to address oil spill prevention and potential impacts on water quality. He also said that a SPCC plan is not required under the Aquatic Settlement Agreement (ASA); however, the plan is a requirement under the Wells Dam 401 Water Quality Certification received from Ecology. He said that the document must be evaluated at least every 5 years, and that Douglas PUD's license states that other agencies should also be consulted. He said that the plan needs to be filed with the Federal Energy Regulatory Commission (FERC) by October 31, 2013, and that Douglas PUD plans to request approval of the draft plan at the Aquatic SWG in-person meeting on October 9, 2013.

6. **Mid-Columbia Regional Sturgeon Workshop Follow-up Discussion** (Andrew Gingerich): Andrew Gingerich summarized that the Mid-Columbia Regional Sturgeon Workshop that was held on September 10, 2013, in the Douglas PUD Auditorium was a productive session. He said that valuable information came from both the open forum discussions and the presentations that were provided by Jason McLellan and Jim Powell of Freshwater Fisheries Society of British Columbia (FFSBC). Gingerich said that he was encouraged by the amount of information that was shared, and he feels that this information will help inform management decisions—not only for releasing fish, but also for the development of a monitoring and evaluation (M&E) program for Douglas PUD. He added that he hopes that yesterday's discussions can also inform future Aquatic SWG decisions.

   Pat Irle agreed that the workshop was very informative, noting the four technical experts that were in attendance, including McLellan and Powell of FFSBC, Paul Anders of the University of Idaho, and Larry Hildebrand of Golder Associates. She said that all four scientists shared recent findings indicating that, with less effort, larval collection results in greater genetic diversity than adult gamete collection (i.e., direct gamete removal from adult brood). She said that Aquatic SWG members would benefit from the materials presented at the workshop and suggested that McLellan provide a quick overview of his presentation.

   McLellan summarized his presentation. He said that the idea of larval collection arose based on aquaculture concerns regarding genetics and broodstock handling. He said that the lake sturgeon community began conducting larval collection studies to address the high levels of relatedness that are present in conventional broodstock collections.

The general thought was that capturing early life stages would be infeasible, or that capturing adequate numbers would be unattainable. McLellan said that, to test this, he and Matt Howell (also of the Colville Confederated Tribes [CCT]) collected samples in Lake Roosevelt and in the Wanapum Pool. McLellan said that, although sampling difficulties were experienced in the Wanapum Pool, they were able to demonstrate high in-hatchery survival among the larvae collected. He said that the genetic benefits of larval collection were then discussed. He added that the CCT has been working with Andrea Drauch-Schreier and Bernie May from the Genomic Variation Laboratory at the University of California Davis (UC Davis), and that based on samples collected from larvae and adult broodstock captured for the CCT's studies, they found that in the best year of adult broodstock collection, the allelic diversity was only 73% of what can be obtained in a single year of larval collection. They also found that only 200 larvae are needed to obtain more than 90% allelic diversity, which is greater diversity than what can be obtained with conventional broodstock collection. McLellan added that Mid-Columbia programs have not come close to that level of diversity. He said that Drauch-Schreier and May also investigated how many parents are represented in these larvae; and for brood year (BY) 2010, based on 89 larvae, results indicated that approximately 78 parents contributed to the 3,700 larvae collected that year. McLellan noted that this particular group had 3 to 4 times greater diversity than what could be achieved with adult collection. He said that based on those results, Drauch-Schreier and May ran additional analyses to determine spawning groups, which indicated 17 spawning groups among the 78 spawners. McLellan concluded that larval collection is feasible, and can provide many benefits, including reducing the pressures associated with broodstock collection on small populations.

McLellan agreed with Irle that providing the full presentation would benefit all Aquatic SWG members as well as anyone who will be contributing to discussions or voting on release options and stocking allocation. Therefore, he offered to present his Mid-Columbia Regional Sturgeon Workshop materials at the Aquatic SWG in-person meeting on October 9, 2013.

Irle noted a recent publication by Drauch-Schreier et al. (2013) that was discussed at the workshop (i.e., "Variable patterns of population structure revealed across the range of the ancient octoploid white sturgeon, *Acipenser transmontanus*"). Irle recalled that the paper discusses relatedness in Mid-Columbia sturgeon, which indicated that there is a high degree of genetic relatedness in the area. Based on these findings, broodstock and/or larvae could be obtained from any location in the Mid-Columbia without much genetic variation. McLellan said that the paper, which was recently accepted for publication in *Transactions of the American Fisheries Society*, is a summary of Drauch-Schreier's dissertation work covering a range of genetic stock structure issues. He said that using 13 microsatellites and statistical tests, Drauch-Schreier evaluated basins both individually and in groups, and analyzed differences both out-of-basin and within-basin.

He said that her findings concluded that, within the Columbia-Snake River System, there is little to no genetic differentiation among sturgeon in individual pools. As such, there is no reason to manage them as individual populations. McLellan said, however, that estuary sturgeon below Bonneville Dam and Upper Snake and Kootenay sturgeon were found to be different. As for mainstem sturgeon between Bonneville Dam and the trans-boundary reach, there was no evidence that suggest they are different stocks. McLellan said this means that it is scientifically defensible to use sturgeon originating from any of these pools for supplementation.

Gingerich said that the White Sturgeon Management Plan outlines four plantings over the next 4 years, and he added that based on Drauch-Schreier's work, he is encouraged with the 2,500 larvae that Douglas PUD has on station in terms of genetic diversity and representation of rare alleles. Steve Lewis asked if there was general agreement to lean more towards larval or brood collection. Irle replied that, based on the recent findings, Washington Department of Fish and Wildlife (WDFW) clearly stated their support of larval collection, despite formerly being skeptical. *(Note: Patrick Verhey later clarified that WDFW was never skeptical of larval collection as a method for white sturgeon hatchery supplementation; rather, WDFW's concern was with the logistics of switching from broodstock to larval collection and who would, or could, perform the collections throughout the Columbia River.)* She added that Oregon Department of Fish and Wildlife (ODFW) was on the phone and they also indicated support for larval collection.

7. **2013 Adult Lamprey Passage and Enumeration Study Update** (Chas Kyger): Chas Kyger said that a 2013 Adult Pacific Lamprey Passage and Enumeration Study Update (Attachment B) was distributed to the Aquatic SWG by Kristi Geris just prior to the meeting. He said that the update includes antennae detection data by release group as of August 28, 2013. He said that mobile tracking by boat is also underway, and that those data are also included in Attachment B. He noted that additional mobile tracking efforts have been conducted since August 28, 2013; however, those data are not included in Attachment B. Kyger noted one passive integrated transponder (PIT)-tag detection in particular that was detected in the Rocky Reach fish ladders, and appeared to be moving upstream. Andrew Gingerich said that this particular lamprey was released in the Wells Dam tailrace, which means the lamprey traveled downstream, past the Rocky Reach fish ladders via spill, turbine, or the Rocky Reach Juvenile Bypass System (RRJBS). Gingerich said that the lamprey likely did not travel via the RRJBS because there is high detection probability throughout that system and it was not detected—so it likely traveled via either spill or turbine and then traveled back upstream through the Rocky Reach Fishway.

   Kyger said that mobile tracking efforts have been conducted once each week, and that the focus has been on the Wells Dam tailrace and the mouth of the Chelan River. He said that lamprey have been detected as far downstream as Beebe Bridge, and that

many lamprey have been detected within 4 to 5 miles downstream of their respective release locations, and are just holding in those locations for now.

Pat Irle asked where the lamprey were collected, and Kyger replied that all except nine lamprey were collected at Bonneville Dam. He said that the remaining nine were collected from Priest Rapids, none of which have been detected.

Kyger said that, per Douglas PUD's action item from the Aquatic SWG meeting on August 14, 2013, he verified the detection range of the radio-telemetry (RT) antennae that are being used in the 2013 Adult Lamprey Passage and Enumeration Study. He said that based on tag testing of the antennae located at the gallery pier nose, outside of the collection gallery, the range is approximately 8 meters, or 25 to 30 feet. Kyger added that this location can be difficult to test due to the turbulent water.

Lewis asked Douglas PUD what their thoughts were regarding the undetected Priest Rapids lamprey. Kyger said that there has only been one download (Attachment B) since the Priest Rapids lamprey were released, which was only 6 days following their release date. He said this could mean that they just have not yet shown up. Kyger added that a lot of "noise" has been experienced during the mobile tracking efforts conducted since August 28, 2013, and that there have been difficulties detecting fish in general; therefore, the Priest Rapids fish could have been present but overlooked. Gingerich also said that lamprey are known to overwinter in freshwater before they spawn, which may be the case with the Priest Rapids or Bonneville lamprey. He added that, in this case, double-tagging the lamprey was a great idea because once the radio tags expire, detections can continue, even after the study is complete, via the PIT tags.

Lewis asked how long the study fish were held prior to release, and Kyger replied that the Bonneville lamprey were held 2 to 3 weeks prior to delivery to Wells, and the Priest Rapids lamprey were captured and delivered the same day. He said that once the lamprey were on site, they were tagged, held for recovery, and released. Lewis asked if some measurement of girth was recorded, and Kyger replied that measurements were taken of each fish.

Gingerich said that not enough data have been collected to report on the effects of the fishway modifications that were installed to improve enumeration. He said that video at the count window shows that fish are free swimming through that location, as opposed to attaching and moving across the collection plate. Lewis asked if this observed behavior is a result of the modifications, and Gingerich replied that it is unclear. He added that it could simply be preferred behavior. Irle asked if flows were lower through the count window than in previous years, and Gingerich replied that flow through the count window is unmodified, and therefore essentially consistent all of the time. He explained that the collection gallery and fish ladders are separate areas, and that the

auxiliary water system that controls head differential in the collection gallery can be operated exclusively from the rest of the fish ladders. He added that a trial experimenting with different head differentials was conducted about a year ago, and those data were distributed to the Aquatic SWG. Irle asked which detection zone name listed in Attachment B represented the collection gallery, and Kyger clarified that "Entrance Inside" is the collection gallery where lamprey would encounter different differential treatments. He added that whether the lamprey were detected "Inside" or "Outside" would identify if the fish were in regular or modified differential flow. Lewis asked if lamprey have been detected in the auxiliary water system, and Kyger replied that one was detected in the system, but was later detected in the fish ladder. Lewis asked if Douglas PUD planned to develop a scientific publication on this study, and Gingerich replied that they did, if time permits.

8. **Aquatic SWG Extranet Site Update** (Andrew Gingerich): Andrew Gingerich said that he and Douglas PUD's Information Systems (IS) Department and Kristi Geris have been working closely in developing the Aquatic SWG Extranet website. He explained that there are two websites currently under development. He said that the Extranet site is exclusively for the Aquatic SWG to share and download documents. The other site is a public site where the public can view and download final documents. Gingerich said that Douglas PUD will provide a demonstration of the Aquatic SWG Extranet site at the Aquatic SWG in-person meeting on October 9, 2013.

9. **Conflict of Interest Policy** (Andrew Gingerich): Andrew Gingerich said that the draft Conflict of Interest Policy distributed before the meeting was essentially the same as that adopted by the HCP Hatchery Committees. Mike Schiewe said that the HCP Hatchery Committees' Conflict of Interest Policy was modeled after several others, including the HCP Tributary Committees' policy. He said that, in the interest of not excluding key people from technical discussions, the HCP Hatchery and Tributary Committees' policies give the non-conflicted parties the option to include a conflicted party in the discussion of a project under review; however, a conflicted party cannot participate in the decision-making. Pat Irle requested that the discussion of the Conflict of Interest Policy be deferred to the Aquatic SWG meeting on October 9, 2013, so all parties could participate together. The Aquatic SWG members present agreed to continue discussions on the Conflict of Interest Policy at the Aquatic SWG in-person meeting on October 9, 2013.

10. **Lamprey Proposal for Upper Columbia** (Mike Schiewe): Mike Schiewe said that this agenda item was requested by Bob Rose; however, as Rose was unable to attend the meeting, Schiewe asked if anyone had comments to discuss regarding this agenda item. RD Nelle said that Rose is continuing to develop and refine the proposal, and that he anticipates that Rose will have more to discuss on this topic at the Aquatic SWG in-person meeting on October 9, 2013.

VII. Next Meetings

1. **Upcoming meetings** (Mike Schiewe and Andrew Gingerich): Andrew Gingerich suggested holding the Aquatic SWG in-person meeting on October 9, 2013, at Douglas PUD Headquarters in East Wenatchee, Washington, to be followed, time permitting, by a site visit at Wells Dam in the afternoon. He said that the site visit would provide an opportunity for a tour of the sturgeon facility and collection gallery, which he said would help Aquatic SWG members gain an understanding of activities and studies currently underway at Wells Dam. Gingerich also suggested an earlier start time of 9:00 am, to help manage enough time for the site visit. The Aquatic SWG members present agreed to hold the Aquatic SWG meeting on October 9, 2013, at an earlier than usual start time of 9:00 am. The meeting will be held in person at Douglas PUD Headquarters in East Wenatchee, Washington; and if time permits, Aquatic SWG members also agreed to a Wells Dam site visit following the meeting.

   Upcoming meetings are as follows: ***October 9, 2013 (in person); November 13, 2013 (conference call); December 11, 2013 (conference call).***

List of Attachments

Attachment A – List of Attendees

Attachment B – 2013 Adult Pacific Lamprey Passage and Enumeration Study Update (9/11/13)

Attachment A
List of Attendees

Name	Role	Organization
Mike Schiewe	SWG Chair	Anchor QEA, LLC
Kristi Geris	Administration/Technical Support	Anchor QEA, LLC
Andrew Gingerich	SWG Technical Representative	Douglas PUD
Chas Kyger	Technical Support	Douglas PUD
Steve Lewis	SWG Technical Representative	U.S. Fish and Wildlife Service
RD Nelle	Technical Support	U.S. Fish and Wildlife Service
Pat Irle	SWG Technical Representative	Washington State Department of Ecology
Jason McLellan	SWG Technical Representative	Colville Confederated Tribes