



Conference Call Minutes

Aquatic Settlement Work Group

To: Aquatic SWG Parties

Date: October 12, 2017

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

Re: Final Minutes of the September 13, 2017, Aquatic SWG Conference Call

The Aquatic Settlement Work Group (SWG) met by conference call on Wednesday, September 13, 2017, from 10:00 a.m. to 11:45 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 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). *(Note: This item is ongoing.)*
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-6).
3. The Aquatic SWG meeting on October 11, 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. No agreements were discussed during today's conference call.

IV. Review Items

1. No items are currently available for review.

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. No revisions were requested.

The revised draft August 9, 2017, conference call minutes were reviewed. Ferguson 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 August 9 conference call minutes, as revised.

Action items from the Aquatic SWG meeting on August 9 are as follows (note: the following italicized item numbers correspond to agenda items from the August 9 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 may not have unit-specific discharge information and total project flow, but might have unit specific megawatt data and he is working with technicians to gather existing data.

- *Andrew Gingerich and Patrick Verhey will continue trying to locate and distribute a video of hydraulic model study results demonstrating how spill gate flow influences flow patterns in the Wells Dam tailrace, which was shared at a workshop around the time of relicensing (Item VI-1).*

The video was not found.

- *Douglas PUD will discuss with policy staff Aquatic SWG support for Pacific lamprey translocation activities, as described under the Agreements section of these conference call minutes, and will provide confirmation of policy staff support of the agreement to Kristi Geris for distribution to the Aquatic SWG (Item VI-4).*

Andrew Gingerich said he discussed this with Shane Bickford (Douglas PUD policy staff), and there is generally support for a translocation study. The next step is to develop an SOA; however, there are concerns for the approach and for assumptions about a panmictic population passing Wells Dam. Discussions will continue today (see Item 6).

- *Douglas PUD will provide an outline of actions Douglas PUD can undertake in 2017 that support Pacific lamprey translocation efforts in 2017, to Kristi Geris for distribution to the Aquatic SWG (Item VI-4).*

This item is complete.

- *Ralph Lampman (Yakama Nation [YNJ]) will review with Bob Rose Pacific Lamprey discussions, as vetted during the Aquatic SWG conference call on August 9, 2017 (Item VI-4).*

This item is complete.

- *Ralph Lampman will request that Bob Rose provide his approval via email of the Aquatic SWG Agreement regarding Aquatic SWG support for Pacific lamprey translocation, as described under the Agreements section of these conference call minutes (Item VI-4).*

This item is complete.

- *Aquatic SWG technical representatives will discuss with their respective Wells Habitat Conservation Plan (HCP) Coordinating Committee representatives Douglas PUD's intent to present an Aquatic SWG request during the HCP Coordinating Committees meeting on August 22, 2017, for approval of reduced Wells Dam fishway entrance head differentials from the normal operating level of 1.5 feet, to a reduced operating level of 1.0 feet, from 17:00 to 00:59 daily during the remainder of the 2017 Pacific lamprey migration season (September 1 through September 30, 2017; "lamprey operations"), similar to what was approved for the Douglas PUD 2013 Pacific Lamprey Study (Item VI-4).*

John Ferguson said this item is complete and asked if there were any outstanding questions. Hearing none, Ferguson noted the National Marine Fisheries Service (NMFS) does not have a technical representative on the Aquatic SWG, so he discussed this with Scott Carlon, the Wells HCP Coordinating Committee NMFS Representative, who approved it during the August 2017 HCP Coordinating Committees meeting.

- *Douglas PUD will distribute to the Wells HCP Coordinating Committee an Aquatic SWG request to implement reduced Wells Dam fishway entrance head differentials during the remainder of the 2017 Pacific lamprey migration season (September 1 through September 30, 2017; lamprey operations) no later than 10 days prior to the HCP Coordinating Committees meeting on August 22, 2017, when Douglas PUD will request approval of the decision item (Item VI-4).*

This item is complete. An Aquatic SWG-approved SOA was distributed to the Wells HCP Coordinating Committee for consideration and approval on August 17, 2017.

- *Ralph Lampman will confirm dates and release locations for the 2017 Fall Methow Subbasin Adult Pacific Lamprey Release Plan, once those details are confirmed (Item VI-4).*

This item is complete and will be discussed during the next Aquatic SWG meeting.

- *The YN will coordinate with Douglas PUD to solidify plans for translocating fish obtained from Priest Rapids Dam to locations upstream of Wells Dam in 2017 (Item VI-4).*

This item is complete and will be discussed during the next Aquatic SWG meeting.

2. Wells Hatchery Program (Steve Lewis):

Steve Lewis said Douglas PUD and the Washington Department of Fish and Wildlife (WDFW) are working to transition the Wells and Methow fish hatcheries to Douglas PUD operation, and this discussion is an open forum item to talk about the path forward and any issues, specifically with bull trout. Lewis said there are certain bull trout measures in the HCP as well as in relicensing that overlap with state obligations.

Andrew Gingerich said the policy aspects of the transition have been communicated by Shane Bickford, and this decision was not taken lightly by Douglas PUD. He said he appreciates the concern about technical measures tied up in hatchery actions and identified overlap in state and Douglas PUD responsibilities. One example is the Twisp River weir that WDFW uses for broodstock collection for the Wells Hatchery program but has also been used by WDFW for a Bonneville Power Administration program. Gingerich said the transition plan includes many items that will need to occur before Douglas PUD can rear fish in its own facilities. Gingerich said Douglas PUD expects to distribute the draft transition plan to the Aquatic SWG, Wells HCP Coordinating Committee, and Wells HCP Hatchery Committee soon and hopes that representatives can provide input and identify gaps. Gingerich summarized that the transition should not affect Douglas PUD's ability to meet its obligations under the Aquatic SWG or HCP and said Douglas PUD will operate these facilities to meet obligations and minimize impacts to bull trout.

Ferguson asked what the timeline is for the transition plan. Gingerich described Douglas PUD's goal of staffing facilities with no interruption to fish rearing within 90 days (November 30). Lewis asked if there is room for renegotiating between Douglas PUD and WDFW and recrafting current agreements. Gingerich said that is more of a policy question, but his direction is to move forward with assigned tasks assuming Douglas PUD will staff these facilities in 90 days.

Gingerich said, with respect to hiring staff, positions are posted on the Douglas PUD website. He said manager and support positions are posted and asked those present to encourage

Aquatic SWG known qualified applicants to apply. He said hiring for these positions is a major step but not the only step in the transition process.

Lewis said another next step is examining current language in the HCP and relicensing agreements and reviewing areas in which the state is obligated to do certain actions under certain agreements. Ferguson asked if this is a topic for Douglas PUD and the agencies to coordinate or if the Aquatic SWG should discuss it. Lewis said the Twisp River weir, for example, is one piece that will require further discussion and asked if the bull trout study will be completed as originally defined. Gingerich said he expects the bull trout study will indeed be completed, agreed there are many pieces requiring further discussion, and asked for anyone with concerns or questions to please call him, Greg Mackey, or Tom Kahler. He noted Douglas PUD has received a lot of feedback on this topic and offers of support and said Douglas PUD appreciates the help and thanks those people.

3. Wells Hatchery Brood Year 2016 White Sturgeon M&E Update (Andrew Gingerich):

Andrew Gingerich said he has an update on Wells Hatchery brood year 2016 white sturgeon monitoring. He said Douglas PUD is in its third year of white sturgeon monitoring as part of the 3-year M&E Plan, which includes breaking up white sturgeon juvenile indexing into two sampling sessions each year. Douglas PUD's current effort is the sixth sampling session to collect juvenile hatchery fish released starting in 2014. He summarized results so far as follows:

- During the first sampling session of 2017 (July 11 through August 16), 280 sturgeon were caught over the 25-day sampling period.
- 80% of fish caught are brood year (BY) 2013 (4 year olds), released in 2014.
- 13% of fish caught are BY 2014 (3 year olds), released in 2015.
- 6% of fish caught are BY 2015 (2 year olds), released in 2016.
- 0.4% of fish caught are BY 2016 (1 year old), released in 2017.
- 3 Chelan PUD fish were also caught.

Gingerich said he suspects the BY 2013 fish have experienced a founder effect in having little competition for resources compared to later brood years. He also speculated, larger fish are more likely to recruit to the gear being used, so there could be a sampling bias in these results. He said in 2016 the M&E Plan was revised to include a 2-week sampling session where larger gear is used, with the goal of sampling the existing wild population of white sturgeon in the Wells Dam project area. In 2016, six adults were captured, and three have been captured in 2017 so far. Gingerich said the fish caught in 2017 were implanted with 10-year V-16 acoustic tags from Vemco. He said one of the obligations in the management plan

is to examine spawning success. The acoustic tags could inform where white sturgeon are spawning, and then indications of spawning success could be sought in those areas.

Gingerich added one of the three fish sampled in 2017 was more than 6 feet long and was previously captured in 2004 at a size of 73 centimeters (2.4 feet). Douglas PUD estimates this fish to be 20 years old and is now acoustic tagged. He said the monitoring and evaluation schedule includes a 1-year break after 3 years of monitoring, so sampling will occur in 2019. He said Douglas PUD will share a report of this information in approximately 6 months, and data will inform stocking and management of white sturgeon in future years.

He said the last sampling session began on September 5, 2017, and is scheduled to continue for 25 days.

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

Andrew Gingerich said for white sturgeon hatchery rearing in 2017, Douglas PUD had 2,900 larval fish on hand from Lake Roosevelt stock. He said that traditionally the first month and the change to a hatchery rearing environment is difficult on the fish, as they move into the hatchery setting, absorb their yolk sacs and move to exogenous feeding. High losses occurred as expected but have decreased to the current level of approximately two mortalities per day from all tanks. He said there are approximately 1,500 fish currently on station (50 to 55% survival), and Douglas PUD's goal is to release 325 200-gram-or-larger fish in June 2018.

5. 2016-2017 Bull Trout Passage and Take Monitoring at Wells Dam and Twisp River Weir Study Update (Andrew Gingerich):

Andrew Gingerich said Douglas PUD is working on a study where bull trout have been double-tagged (passive integrated transponder [PIT] and radio) and said he will briefly describe the results to date. He said most bull trout passing Wells Dam were detected in May and June, with some in early July. He said most of the passage at the Twisp Weir is done, and in September, downstream detections start to occur. He said bull trout stage in high tributary areas and will spawn into October before moving downriver, with peak downstream passage occurring generally around mid-October. He said the study is nearly finished and said Douglas PUD is working with LGL, Limited, to produce the report.

Steve Lewis asked if the tag life will expire soon for existing tags. Gingerich said Douglas PUD inserted a 3-year radio tag. Gingerich said while the study has a 1-year obligation, Douglas PUD and the Aquatic SWG chose 3-year tags to allow others to monitor these fish for license requirements, and would also allow Douglas PUD to track fish in subsequent years if standards were not met. Lewis asked if Douglas PUD would continue to collect data on these

fish. Gingerich said no because that would be workload in addition to the current plan, and the radio receivers have already been removed from the facility, however PIT tags would be followed indefinitely. Lewis said he is surprised that study equipment was removed before the report determines that bull trout passage meets criteria of the management plan. Gingerich said from the currently available draft results, he thinks Douglas PUD will meet the requirements of the management plan, and if not, they will perform a second year of the study. He said the study plan includes upstream and downstream passage at Wells Dam and at the weir in 2016 and 2017, and passage rates are high.

6. Pacific Lamprey Translocation (Andrew Gingerich/Chas Kyger):

Andrew Gingerich said Ralph Lampman has been instrumental in supporting this translocation action and will help describe the results. Gingerich said YN, Colville Confederated Tribes, Douglas PUD, and Grant PUD translocated 316 lamprey on August 16, 2017, as summarized in Table 1.

Table 1. Translocated lamprey release locations and subsequent detections as of 9/11/17 (n=316)

Release Location on 8/16/17	n	Detection Location		
		Okanogan River	Methow Basin	Chewuch River
Above Wells Dam (Starr Boat Launch)	136	0	14	14
Below Okanogan Confluence	131	0	8	6
Similkameen Release	49	0	0	0

Lampman added that of the fish translocated to the Okanogan River, there were two mortalities and a few shed tags. He also commented that some fish went downstream in the Okanogan River, then up the Methow River. Gingerich agreed and said these data are preliminary. He noted many lamprey were detected in the Chewuch River, but none were detected at the lower Methow River array (which has a low detection efficiency). He said the two Chewuch River arrays seem to have good detection efficiency, as the two fish in the upper Chewuch River were detected at both arrays. Lampman said the lower Methow River array does have low detection efficiency, as releases in the area in the spring have seen low detections.

Gingerich said YN is performing more translocations as follows:

9/5/2017:

- Release at COL 835.3 (n=95) at 11:00 am
- Release at MET 2.2 (n=40) at 1:00 pm

- Release at MET 9.3 (n=20) at 2:00 pm
- Release at CHE 1.8 (n=15) at 3:30 pm
- Release at CHE 1.1 (n=30) at 4:15 pm

9/14/2017:

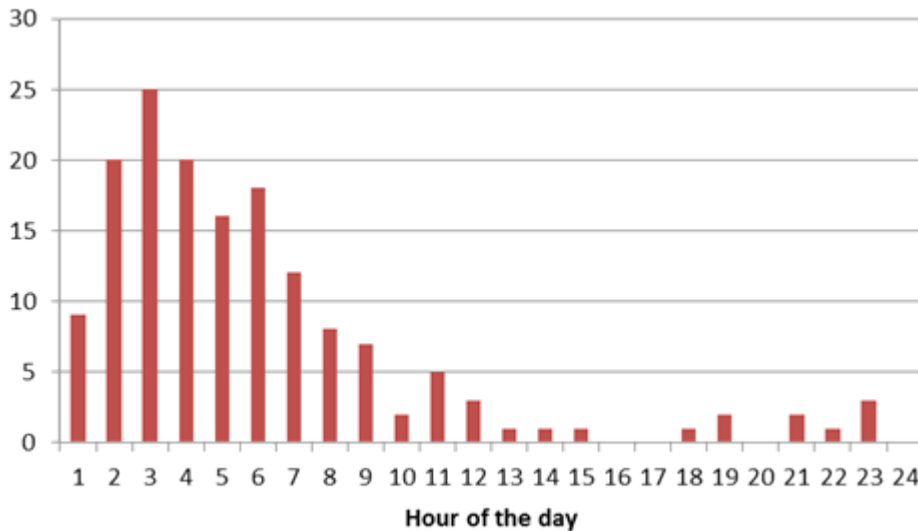
- Release at MET 83.2 (n=60) at 12:00 pm (outreach event at Winthrop)
- Release at MET 66.4 (n=40) at 2:15 pm

Gingerich said the next step for lamprey translocation is for Douglas PUD to write a formal SOA stating how Douglas PUD will support lamprey translocation efforts in future years.

7. Lamprey Operations Update (Andrew Gingerich/Chas Kyger):

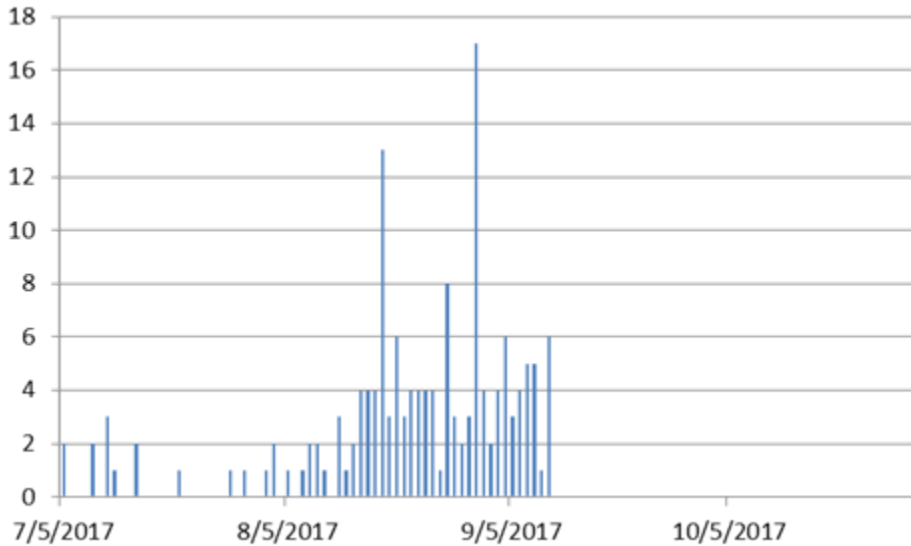
Andrew Gingerich said as of September 11, 2017, 157 Pacific lamprey have been counted at Wells Dam this year, averaging five fish per day. Gingerich shared Figure 1. He said most lamprey are seen in the early morning, though fish enter the facility, travel through the collection facility, and ascend the weir at different times. Ralph Lampman said entrance timing varies and may be related to time of release. Gingerich said if the Aquatic SWG pursues a reduced head differential at Wells Dam in the future that the HCP Coordinating Committee will want an explanation for why a certain time of day is requested and suggested people keep that in mind during discussions of lamprey movement.

Figure 1. Lamprey passage at Wells Dam in 2017 (n=157)



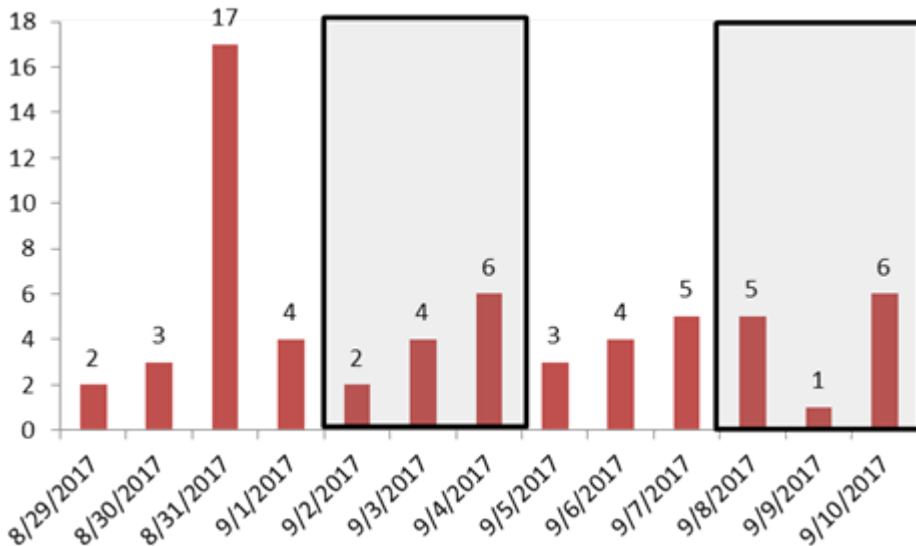
Gingerich said the number of fish passing Wells Dam varies by day, and he expects to see 200 fish pass the dam by the end of the season (Figure 2).

Figure 2. Daily lamprey counts passing Wells Dam in 2017 (n=157)



Gingerich said Figure 3 shows lamprey counts during reduced head differential windows (black squares). Gingerich said he does not think these results warrant modifying current actions.

Figure 3. Lamprey counts at Wells Dam with reduced head differential blocks



John Ferguson summarized the discussion by stating that Gingerich recommends no change in operation based on current lamprey passage results (Figure 3) and asked if any Aquatic

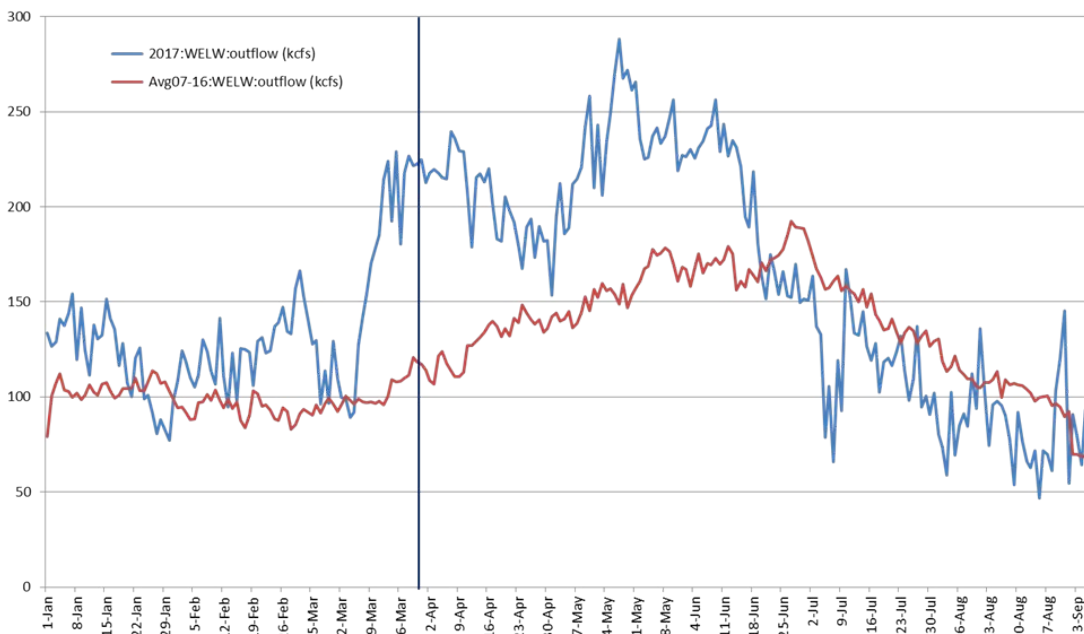
SWG members disagreed. Hearing none, Ferguson concluded that no change is suggested by the Aquatic SWG based on data collected to date.

Lampman suggested adding temperature data to the background of the graph to inform changes in passage. Patrick Verhey said he is curious to see Figure 3 compared to changes in steelhead and Chinook salmon passage. Gingerich said he has not examined those data yet but understands steelhead counts are low in 2017. Lampman suggested comparing lamprey passage at Rocky Reach Dam to see if the patterns in passage correspond. Gingerich agreed these were good suggestions.

8. 2017 Wells Dam Bypass Operations (Andrew Gingerich):

Andrew Gingerich said Douglas PUD currently operates Wells Dam with bypass operations from about April 9 to August 19 each year, though the Wells HCP Coordinating Committee sometimes change the exact dates between April 1 and August 31. He said Douglas PUD’s gas abatement plan facilitates spilling at the dam to encourage fish to go through the bypass bays instead of the turbine route. He shared Figure 4, which shows the daily flow averages for 2017 compared to the 10-year average.

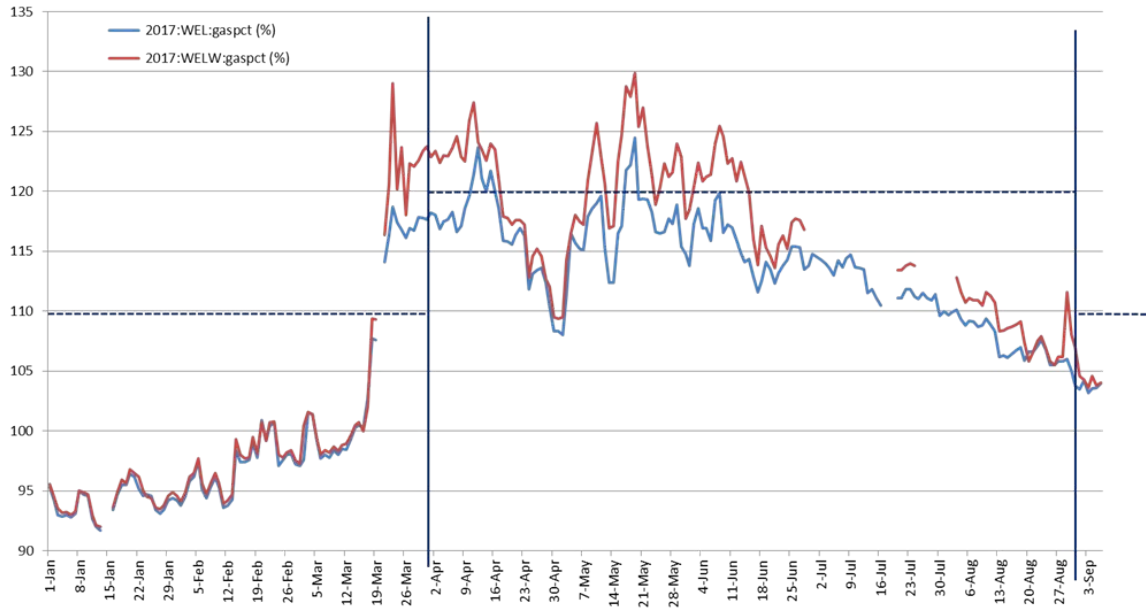
Figure 4. Daily flow averages at Wells Dam in 2017 (blue) compared to 10-year average (red)



He said flow usually peaks in the first week of July but in 2017 there were two early flow peaks in April and in May. He said 2017 was an abnormal year in that snowpack built late in

the spring and federal projects started releasing water early, around March 14. He shared Figure 5, which compares total dissolved gas (TDG) in the Wells forebay and tailrace.

Figure 5. Comparison of daily TDG in the Wells Forebay (blue) and tailrace (red) in 2017; the data represent daily averages



Gingerich said “WEL” is the percent TDG in the forebay and “WELW” is the percent TDG in the tailrace. He said TDG is a product of the flow profile, as witnessed around March 14. He said horizontal dotted lines represent the standard and vertical solid lines identify the 2017 juvenile salmonid bypass season on the graph. He said it is difficult for Wells Dam to comply with TDG measures when high TDG occurs outside of the bypass period. He said TDG adjustments are in place to protect fish, and high flows would mean that fish are leaving tributaries early—something to consider when examining high TDG values outside of the bypass period. He said Douglas PUD continues to discuss TDG results and measures with Ecology and will continue to monitor TDG with the goal of meeting standards. He said Douglas PUD will summarize these results in a report for the Aquatic SWG to review, before the report is filed with the Federal Energy Regulatory Commission by February 28, 2018. Gingerich noted that gaps in the red line in Figure 5 are due to electrical and radio transmission errors associated with sensors, perhaps due to a lightning strike. He said the tailrace sensor was fixed using replacement sensors, probes, and radio equipment, and the unique data gap was addressed by comparing to data for the Rocky Reach Forebay.

John Ferguson noted that in a previous season at Rocky Reach Dam fish migrated through before spill started and Chelan PUD did not meet their passage goal because of the early

migration timing. He suggested that the discussion about early flows and adjusting bypass periods occur in multiple forums, as this appears to be an emerging and ongoing issue. He suggested a retrospective analysis may help to understand the extent of the issue. Breean Zimmerman thanked Gingerich for the summary and for coordinating closely with Ecology.

9. Administrative Update – Bureau of Indian Affairs Representative (John Ferguson):

John Ferguson introduced Keith Hatch, the new Bureau of Indian Affairs Representative. Ferguson said Hatch is now on the email distribution list and welcomed him to the workgroup.

VII. Next Meetings

1. Upcoming meetings (John Ferguson):

The Aquatic SWG meeting on October 11, 2017, will be held by conference call.

Upcoming meetings are as follows: November 8, 2017 (TBD); December 13, 2017 (TBD); and January 10, 2017 (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
Steve Lewis	Aquatic SWG Technical Representative	U.S. Fish and Wildlife Service
Patrick Verhey	Aquatic SWG Technical Representative	Washington Department of Fish and Wildlife
Chad Jackson	Technical Support	Washington Department of Fish and Wildlife
Ralph Lampman	Technical Support	Yakama Nation
Breean Zimmerman	Aquatic SWG Technical Representative	Washington State Department of Ecology
Keith Hatch	Aquatic SWG Technical Representative	U.S. Bureau of Indian Affairs