

## Memorandum

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To: Wells, Rocky Reach, and Rock Island HCP  
Coordinating Committees

Date: September 27, 2017

From: John Ferguson, HCP Coordinating Committees Chairman

cc: Kristi Geris

**Re: Final Minutes of the August 22, 2017, HCP Coordinating Committees Meeting**

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The Wells, Rocky Reach, and Rock Island Hydroelectric Projects Habitat Conservation Plan (HCP) Coordinating Committees met in-person at the Grant PUD Office in Wenatchee, Washington, on Tuesday August 22, 2017, from 10:00 a.m. to 12:15 p.m. Attendees are listed in Attachment A to these meeting minutes.

### Action Item Summary

- Bob Rose will coordinate internally to develop and provide a Yakama Nation (YN) HCP Representation Designation document for distribution to the HCP Coordinating Committees (Item I-C). *(Note: Rose provided a designation letter [Attachment B] to Kristi Geris following the HCP Coordinating Committees meeting on August 22, 2017, which Geris distributed to the HCP Coordinating Committees on August 23, 2017.)*
- Kristi Geris will coordinate with Tracy Hillman (HCP Hatchery Committees Chairman) and Sarah Montgomery (HCP Hatchery Committees Support Staff) to obtain meeting and WebEx information for Jeff Jorgensen's (National Oceanic and Atmospheric Administration [NOAA] Northwest Fisheries Science Center) presentation to the HCP Hatchery Committees on September 20, 2017, on a life-cycle model for Wenatchee River spring Chinook salmon, which Geris will distribute to the HCP Coordinating Committees (Item I-C). *(Note: Montgomery provided the HCP Hatchery Committees September 20, 2017, agenda with this information to the HCP Coordinating Committees on September 19, 2017.)*
- Chelan PUD will provide a Rocky Reach Dam large unit repair update during an HCP Coordinating Committees meeting in late-summer 2017 (Item I-C).
- John Ferguson will provide the paper, "The evolutionary basis of premature migration in Pacific salmon highlights the utility of genomics for informing conservation," by Daniel Prince et al., to Kristi Geris and Tracy Hillman for distribution to the HCP Coordinating and Hatchery Committees (Item II-A). *(Note: Ferguson provided the paper [Attachment C] to Geris and Hillman following the HCP Coordinating Committees meeting on August 22, 2017, which Hillman distributed to the HCP Hatchery Committees that same day, and Geris distributed to the HCP Coordinating Committees on August 23, 2017.)*
- Tom Kahler will discuss internally the feasibility to implement a temporary 1.0-foot fishway-entrance head differential from 22:00 to 04:00 daily during September 2017 to improve Pacific

Lamprey passage at Wells Dam ("lamprey operations"), in 1- or 2-day blocks (Item IV-A).  
(Note: Kahler confirmed Wells Dam can accommodate the 2-day block design for head differentials at the fishway entrances, as distributed to the HCP Coordinating Committees by Kristi Geris on August 25, 2017.)

- Anchor QEA will coordinate with Douglas PUD and the Aquatic Settlement Work Group (Aquatic SWG) regarding the Wells HCP Coordinating Committee discussion and HCP Decision about the Aquatic SWG Lamprey Operations Statement of Agreement (SOA; Item IV-A). (Note: the Aquatic SWG convened a conference call on August 28, 2017, to discuss the HCP Decision about the Aquatic SWG Lamprey Operations SOA.)
- Chelan PUD will provide a Rock Island Dam Powerhouse 1 Turbine Units B1 to B4 Rehabilitation Fact Sheet to Kristi Geris for distribution to the HCP Coordinating Committees (Item V-A). (Note: Lance Keller provided the rehabilitation work submittal [Attachment H] to Geris on August 23, 2017, which Geris distributed to the HCP Coordinating Committees that same day.)
- Anchor QEA will contact Mackenzie Gavery (Postdoctoral Research Associate, University of Washington/NOAA Northwest Fisheries Science Center) regarding possibly presenting her epigenetics research during the HCP Coordinating Committees meeting on October 24, 2017 (Item VI-B). (Note: Gavery confirmed she can present her research in-person during the HCP Coordinating Committees meeting on October 24, 2017.)
- The HCP Coordinating Committees meeting on September 26, 2017, will be held by **conference call** (Item VI-B).

## Decision Summary

- Wells HCP Coordinating Committee representatives present approved the Aquatic SWG Lamprey Operations SOA, contingent upon: 1) Aquatic SWG review of 2013 radio-telemetry data regarding changes in fishway approach and ladder passage behavior of Pacific Lamprey when the fishway entrances are operated at a head differential of 1.0 foot; 2) change in hours of operation to 22:00 to 04:00; 3) consideration of 1- or 2-day block operations (the Wells HCP Coordinating Committee prefers 2-day blocks); 4) Aquatic SWG in-season management of operations based on analysis of daily fish counts, including discontinuing operations if negative impacts from the operation are observed; and 5) a post-season report being provided to the Wells HCP Coordinating Committee, which reviews results of the operation based on fish counts (Item IV-A).
- Wells HCP Coordinating Committee representatives approved via email the Wells HCP Coordinating Committee SOA, "To implement temporary fishway 'lamprey operations' in alternating 3-day blocks with normal operations during the 2017 Pacific Lamprey migration at Wells Dam," as follows: Douglas PUD approved on August 30, 2017, and the National Marine

Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS), Washington Department of Fish and Wildlife (WDFW), the YN, and the Colville Confederated Tribes (CCT) approved on August 31, 2017 (Item IV-A).

## Agreements

- There were no HCP Agreements discussed during today's meeting.

## Review Items

- There are no items that are currently out for review.

## Finalized Documents

- There are no documents that have been recently finalized.

## I. Welcome

### A. Review Agenda (John Ferguson)

John Ferguson welcomed the HCP Coordinating Committees and reviewed the agenda. Ferguson asked for any additions or changes to the agenda. The following revisions were requested:

- Tom Kahler explained that Douglas PUD did not develop the Aquatic SWG Lamprey Operations SOA and was not a party advocating the operations; rather, Douglas PUD approved requesting Wells HCP Coordinating Committee concurrence with the proposed modified operations at Wells Dam. Kahler said, therefore, he does not believe Douglas PUD should lead this HCP Decision Item. Patrick Verhey said WDFW will take the lead on this discussion.
- Ferguson added notification of a recent paper by Prince et al., which may be of interest to the HCP Hatchery and Coordinating Committees.

### B. Meeting Minutes Approval (John Ferguson)

The HCP Coordinating Committees reviewed the revised draft June 27, 2017, meeting minutes. Kristi Geris said all comments and revisions received from members of the Committees were incorporated into the revised minutes and there were no outstanding edits or questions to discuss. HCP Coordinating Committees members present approved the June 27, 2017, meeting minutes, as revised. The YN abstained, because a YN representative was not present during the June 27, 2017, meeting.

### C. Last Meeting Action Items (John Ferguson)

Action items from the HCP Coordinating Committees meeting on June 27, 2017, and follow-up discussions, were as follows. (*Note: italicized text corresponds to agenda items from the meeting on June 27, 2017*):

- *Tom Kahler will provide fish passage count data for winter months at Wells Dam for review regarding timing of winter maintenance at Wells Dam to Kristi Geris for distribution to the Coordinating Committees (Item I-B).*

Kahler recalled the initial impetus for this action item was regarding potentially starting the annual winter maintenance at Wells Dam in mid-November before the Thanksgiving holiday, rather than late-November or early December (in the interest of accommodating time off associated with the holiday season and avoiding freezing temperatures). He said this year, maintenance crews determined it is not feasible to start the necessary work before Thanksgiving; therefore, Kahler suggested removing this action item for now and revisiting it later, if needed. (*Note: Kahler later clarified that the current schedule is to begin winter maintenance starting the week of November 27, 2017, and it seems the first time this topic may resurface is in 2019, when the Thanksgiving holiday falls on the last week in November.*)

- *Chelan PUD will provide the Final 2016 Rocky Reach Juvenile Fish Bypass System Report to Kristi Geris for distribution to the Coordinating Committees (Item I-B).*

Lance Keller provided the final report to Geris on June 28, 2017, which Geris distributed to the HCP Coordinating Committees that same day.

- *Anchor QEA will contact Mackenzie Gavery regarding possibly presenting her epigenetics research to the HCP Coordinating Committees during a future meeting (Item I-B).*

Anchor QEA contacted Gavery, who indicated she is available to provide her presentation during the HCP Coordinating Committees meetings on September 26, October 24, or November 28, 2017. This will be further discussed during today's meeting.

- *Bob Rose will coordinate internally to develop and provide a YN HCP Representation Designation document for distribution to the HCP Coordinating Committees (Item I-B).*

Rose said a designation letter was provided to the Priest Rapids Coordinating Committee and he will contact Paul Ward (YN) to obtain a letter for the HCP Coordinating Committees. This action item will be carried forward. (*Note: Rose provided a designation letter [Attachment B] to Kristi Geris following the HCP Coordinating Committees meeting on August 22, 2017, which Geris distributed to the HCP Coordinating Committees on August 23, 2017.*)

- *Kristi Geris will coordinate with Tracy Hillman and Sarah Montgomery to obtain meeting and WebEx information for Jeff Jorgensen's presentation to the HCP Hatchery Committees on August 16, 2017, on a life-cycle model for Wenatchee River spring Chinook salmon, which Geris will distribute to the HCP Coordinating Committees (Item II-A).*

This presentation has been postponed until the HCP Hatchery Committees meeting on September 20, 2017. This action item will be carried forward.

- *Chelan PUD will provide a Rocky Reach Dam large unit repair update during an HCP Coordinating Committees meeting in late-summer 2017 (Item III-B).*

This action item will be carried forward.

- *Chelan PUD will provide a Rock Island Dam Powerhouse 1 maintenance update during the HCP Coordinating Committees conference call on July 25, 2017 (Item III-C).*

This will be discussed during today's meeting.

- *Kristi Geris will add Chad Jackson, potentially the new WDFW HCP Coordinating Committees Representative, and Mike Tonseth, likely a new WDFW HCP Coordinating Committees Alternate, to the HCP Coordinating Committees email distribution lists and request access to the HCP Coordinating Committees extranet site from Julene McGregor (Douglas PUD Information Systems Staff; Item VI-A).*

Geris added Jackson and Tonseth to the email lists and requested access to the extranet site following the meeting on June 27, 2017.

- *The HCP Coordinating Committees meeting on July 25, 2017, will be held by conference call (Item VII B).*

Due to lack of agenda items, the HCP Coordinating Committees meeting on July 25, 2017, was canceled.

## II. HCP Tributary and Hatchery Committees Update

### A. HCP Tributary and Hatchery Committees Update (Tracy Hillman)

Tracy Hillman reported that the HCP Tributary Committees did not meet in August 2017; however, he updated the HCP Coordinating Committees on select actions and discussions that occurred during the HCP Tributary Committees meeting on July 13, 2017, as follows:

- *Beaver Fever: Restoring Ecosystem Function Project:* The Rock Island HCP Tributary Committee received a budget amendment request from Trout Unlimited requesting to use \$10,000 under Construction and Permitting to purchase a hydraulic post driver to install beaver-dam analogs. The request was denied because equipment purchased by a project sponsor with Plan Species Account funds becomes the property of the Committee. The HCP Tributary Committees prefer not to get involved in equipment storage, maintenance, and liability. Hillman said one exception is when the Wells HCP Tributary Committee purchased and stored

piezometers, which are easy to store and have little to no risk for injury. He said the HCP Tributary Committees reviewed four budget amendment requests during the meeting on July 13, 2017, and this was the only request that was denied.

- *Clear Creek Fish Passage and Instream Flow Enhancement Project:* Hillman said this budget amendment request was approved in August 2017. The Rocky Reach HCP Tributary Committee received a scope change and budget amendment request from Trout Unlimited to add activities to the deliverables and for an additional \$77,174.40 to complete the project. Hillman said the sponsor is helping facilitate water supply system upgrades to the Thousand Trails Leavenworth campground resort, which currently draws water from Clear Creek to supply irrigation and potable water to the resort. He said the work involves drilling a domestic well, which requires a lot of permitting. He said the sponsor has already invested about the same amount of money that is being requested. He noted that budget amendment requests typically involve moving money from one line item to another, and do not usually involve requesting more money; however, the request was approved because the upgrades will provide a lot of benefit, notably to two Endangered Species Act (ESA)-listed salmonids. He said this project was originally a Small Projects Program Proposal; it is now a General Salmon Habitat Program Proposal, with a total Rocky Reach HCP Tributary Committee contribution of \$146,674.40. Jim Craig asked about the flow through Clear Creek in this area, and Hillman said he did not know the base flow, but the project would increase base flows by about 0.5 cubic feet per second. Hillman said the sponsor also received funding from the Upper Columbia Salmon Recovery Board to remove the existing water diversion structure.
- *Poison Canyon Restoration Project:* Hillman recalled this Small Projects Program Proposal, which was submitted to the Rock Island HCP Tributary Committee in June 2017 from the Chelan County Natural Resources Department (CCNRD). The purpose of the project was to aggrade incised reaches within Poison Canyon by installing wood jams to improve instream flows and water quality. Poison Canyon is a tributary in the Mission Creek watershed. The original proposal was declined because the project was overly engineered and too expensive. CCNRD resubmitted the application, which addressed the Committees' concerns and reduced costs by almost half. The total cost of the project is \$37,918, the sponsor requested \$21,600 from HCP Tributary Funds, and the Rock Island HCP Tributary Committee approved the request.
- *Cottonwood Bridge Removal Project:* The Rocky Reach HCP Tributary Committee received a Small Projects Program application from Chelan-Douglas Land Trust to remove an illegally built bridge. The funding would be used to remove the steel and creosoted railroad ties that make up the Cottonwood Bridge; however, would not include removing the abutments. The total cost of the project is \$95,000, the sponsor requested \$21,000 from HCP Tributary Funds, and the Rocky Reach HCP Tributary Committee approved the request. Removal of the bridge

is the beginning of a restoration effort for floodplain enhancement on the Cottonwood property located adjacent to the Entiat River.

- *M2 WDFW Flow Connection Project*: Hillman noted that "M2" represents the middle reach of the Methow River. He said the purpose of this project is to remove a small levee, which blocks off floodplain habitat, located at river mile 46.8 on the Methow River. The total cost of the project is \$78,828, the sponsor requested \$11,824 from HCP Tributary Funds, and the Wells HCP Tributary Committee approved the request. Hillman said most of the affected land is owned by WDFW. In order for the adjacent landowner to support the project, the sponsor will install a fence between the WDFW property and the adjacent landowner.
- *M2 Mid-Sugar Acquisition Project*: The purpose of this project is to acquire 17.3 acres of riparian and floodplain habitat including about 1,300 feet of stream bank and 550 feet of side channel near river mile 42.2 on the Methow River. The total cost of the project is \$291,268, the sponsor requested \$43,690 from HCP Tributary Funds, and the Wells HCP Tributary Committee approved the request.
- *Piscine Passage Design for Brush and Minnow Creeks Project*: Cascade Columbia Fisheries Enhancement Group (CCFEG) requested funding to produce designs and submit permits for projects that will restore fish passage and connectivity within Minnow and Brush creeks, tributaries to the Chiwawa River. The total cost of the project is \$162,500, the sponsor requested \$52,500 from HCP Tributary Funds, and the HCP Tributary Committees elected not to fund this project, because: 1) Chinook salmon are only present in the lower 200 meters of Brush Creek; and 2) the Brush Creek culvert is about 1 mile upstream of the confluence with the Chiwawa River. Therefore, there is low biological benefit associated with the project. Additionally, beavers use the culverts for building beaver dams. Hillman noted that the USFWS will fund part of Minnow Creek design.
- *Methow Basin Barrier and Diversion Assessment Project*: CCFEG would like to complete a comprehensive and standardized assessment of all fish barriers in the Methow River basin, and prioritize barrier sites for restoration. The total cost of the project is \$206,650, the sponsor requested \$40,000 from HCP Tributary Funds, and the Wells HCP Tributary Committee approved the request. John Ferguson said he thought something like this would have already been completed in the Methow River basin. Hillman said there have been some piecemeal efforts; however, a comprehensive assessment has not yet been completed.

- *2017 General Salmon Habitat Program Project Summary:* Hillman projected the following summary table of 2017 General Salmon Habitat Program Projects:

Project Name	Sponsor <sup>1</sup>	Total Cost	Request from HCP-TC	HCP-TC Contribution <sup>2</sup>
M2 WDFW Flow Connection	MSRF	\$78,828	\$11,824	W: \$11,824
M2 Mid-Sugar Acquisition	MSRF	\$291,268	\$43,690	W: \$43,690
Piscine Passage Design for Brush and Minnow Creeks	CCFEG	\$162,500	\$52,500	\$0
Methow Basin Barrier and Diversion Assessment	CCFEG	\$206,650	\$40,000	W: \$40,000
<b>Total:</b>		<b>\$739,246</b>	<b>\$148,014</b>	<b>\$95,514</b>

<sup>1</sup> CCFEG = Cascade Columbia Fisheries Enhancement Group; MSRF = Methow Salmon Recovery Foundation.

<sup>2</sup> RI = Rock Island Plan Species Account; RR = Rocky Reach Plan Species Account; W = Wells Plan Species Account.

- *HCP Tributary Committees Logo:* The HCP Tributary Committees approved the following logo:



- *Next Steps:* The next meeting of the HCP Tributary Committees will be on September 14, 2017.

Hillman updated the HCP Coordinating Committees on the following actions and discussions that occurred during the HCP Hatchery Committees meeting on August 16, 2017:

- *Draft Chelan PUD Coho Salmon Mitigation SOA:* Chelan PUD submitted the Draft Chelan PUD Coho Salmon Mitigation SOA to the HCP Hatchery Committees for review. Recall, the HCP Coordinating Committees previously approved a 7 percent Coho salmon hatchery compensation rate. The SOA is available for a 30-day review, with comments due to Chelan PUD on September 14, 2017. Chelan PUD will request approval of this SOA during the HCP Hatchery Committees meeting on September 20, 2017.
- *Draft 2018 Chelan PUD Hatchery Monitoring and Evaluation (M&E) Implementation Plan:* The Rock Island and Rocky Reach HCP Hatchery Committees reviewed and approved the 2018 Chelan PUD Hatchery M&E Implementation Plan.
- *USFWS Bull Trout Consultation Update:* USFWS is working on the Methow steelhead consultation and plans to write a coverage memorandum similar to the one completed for spring Chinook salmon. USFWS is also working on finalizing the Biological Opinion for the Wenatchee subbasin programs.

- *NMFS Consultation Update:* NMFS is working on finalizing the proposed action for the unlisted programs in the upper Columbia River. Recall, Douglas and Chelan PUDs were discussing with their respective attorneys whether Section 4(d) was a workable alternative for ESA coverage rather than a Section 10 incidental take permit. The PUDs have now identified their preferred ESA pathway; Douglas PUD will use Section 10 coverage and Chelan PUD will use Section 4(d) coverage. Hillman said Ringold Hatchery, which is operated under the U.S. Army Corps of Engineers (USACE), is part of the consultation package. NMFS is initiating consultation with USACE, and Mike Tonseth added that coordination calls have now been arranged between WDFW, NMFS, USFWS, and USACE.
- *Wenatchee Spring Chinook Salmon Update:* WDFW reported that about 1,300 spring Chinook salmon have passed Tumwater Dam. WDFW surplused 302 male Chinook salmon, which were mostly jacks. The Chiwawa spring Chinook salmon program met its production obligation target; however, the natural-origin target was not met because: 1) there were few adult natural-origin fish and they were difficult to acquire; 2) the Chiwawa weir was not operational as early in the season as intended because of high flows; and 3) mechanical issues took the Chiwawa weir out of operation for 1 week at a critical point during the trapping effort. The program is four females short of its natural-origin target. Tonseth said four adult returns from the conservation program were used to make up the difference.
- *Chelan Falls Trap:* Chelan PUD reported that the Chelan Falls summer Chinook salmon program is 19 females short of its broodstock collection target. The trap is shutdown this week for habitat restoration work in the Chelan River. Trapping will continue next week and stop at the end of the month. Tonseth said, as of this morning, a decision was made to forego operating the trap for another week, and the program will acquire 19 females from the Entiat National Fish Hatchery.
- *Genetic Monitoring Update:* The HCP Hatchery Committees decided to ask the WDFW Genetics Laboratory to provide a short paper identifying appropriate objectives, questions, and analyses for evaluating the effects of hatchery programs on fish genetics.
- *Spring Chinook Salmon in the Methow Basin: Status of Adult Management and Translocation to the Chewuch River:* Hillman recalled the HCP Hatchery Committees' plan to translocate spring Chinook salmon from the Methow program to the Chewuch River to evaluate the efficacy of adult translocation as a surrogate to early-term imprinting in order to address homing fidelity issues in Methow spring Chinook salmon. WDFW reported that this year, the Methow spring Chinook salmon program may not meet the natural-origin target of 122 fish, which means the Chewuch translocation study will not occur this year.
- *M&E Plan for PUD Hatchery Programs 2017 Update:* The HCP Hatchery Committees have been updating their Hatchery M&E Plan. They are currently working on the genetics objectives, Non-target Taxa of Concern section, and Adaptive Management section. Over the next several

months, the HCP Hatchery Committees will identify important changes in each hatchery program. Hillman said in many cases there are data dating back to the 1970s; however, there have been changes throughout the years. He said, for example, for a given period of time there may have been no changes in operations (status quo), but during other periods, there may have been major changes in operations (e.g., change in release numbers). These changes will represent important interruptions in the data time series, and the HCP Hatchery Committees want to analyze these changes separately.

- *Next Steps:* The next meeting of the HCP Hatchery Committees will be on September 20, 2017, when Jeff Jorgensen will present on a life-cycle model for Wenatchee River spring Chinook salmon. Recall, Kristi Geris will provide the WebEx information to the HCP Coordinating Committees, for those interested in calling into the presentation.

## **B. Prince et al. Paper (John Ferguson)**

John Ferguson notified the HCP Coordinating Committees that a paper was recently published, which could potentially have huge implications for spring Chinook salmon management in the basin. He said the HCP Hatchery Committees may also be interested in the paper. He said he will provide the paper, "The evolutionary basis of premature migration in Pacific salmon highlights the utility of genomics for informing conservation," by Daniel Prince et al., to Kristi Geris and Tracy Hillman for distribution to the HCP Coordinating and Hatchery Committees. *(Note: Ferguson provided the paper [Attachment C] to Geris and Hillman following the HCP Coordinating Committees meeting on August 22, 2017, which Hillman distributed to the HCP Hatchery Committees that same day, and Geris distributed to the HCP Coordinating Committees on August 23, 2017.)*

## **III. Douglas PUD**

### **A. Wells Dam Bypass Operations Update (Tom Kahler)**

Tom Kahler said, per the Douglas PUD 2017 Bypass Operating Plan, bypass operations at Wells Dam were terminated on August 19, 2017, at 24:00.

## **IV. WDFW**

### **A. DECISION: Aquatic SWG Lamprey Operations SOA (Patrick Verhey)**

John Ferguson said the Aquatic SWG has been discussing Pacific Lamprey passage at Wells Dam since January 2017 and during the last Aquatic SWG meeting on August 9, 2017, the Aquatic SWG agreed to request Wells HCP Coordinating Committee concurrence, "to implement a temporary 1.0-foot fishway-entrance head differential for Pacific Lamprey from 17:00 to 00:59 daily during the 2017 Pacific Lamprey migration at Wells Dam," as described in the Lamprey Operations SOA

(approved August 16, 2017; Attachment D), which was distributed to the HCP Coordinating Committees by Kristi Geris on August 17, 2017.

Ferguson said the SOA, as written, is the same request approved by the Wells HCP Coordinating Committee in past years. He said, however, there was also some discussion about shifting the lamprey operations window. He said based on past radio-telemetry data, Ralph Lampman (YN) recommended 21:00 to 05:59 as the best timing for Pacific Lamprey passage with the least overlap with steelhead, and Chinook, coho, and sockeye salmon passage. Ferguson said Bob Rose suggested 22:00 to 03:59 as a possible operations window, based on existing Columbia and Snake rivers projects Pacific Lamprey passage data.

Patrick Verhey said results from past lamprey operations, as described in Attachment D, were inconclusive due to low sample sizes. He said this year, Pacific Lamprey passage numbers are much higher, which could provide more substantive results. He said considering this, USFWS initiated the discussion of implementing lamprey operations at Wells Dam in 2017, and WDFW drafted the SOA. Verhey said, Lampman and Rose then suggested different lamprey operations windows; however, considering the limited review time, the Aquatic SWG decided to submit the same request as approved in past years to increase the likelihood of Wells HCP Coordinating Committee approval this year. Verhey said perhaps after further analysis, implementing alternate time windows can be considered for future years.

Rose said he believes it is important to note that at all Columbia and Snake rivers dams, Pacific Lamprey passage times are the same. He said movement begins around sunset, is strong through about midnight, and then stops at 04:00. He said he understands Verhey's comment about conducting further analyses; however, he is uncertain about what a sufficient analysis would entail (i.e., to what degree of data are needed to present to the Wells HCP Coordinating Committee to approve moving the time window?). He said no one wants to slow progress, which is why the Aquatic SWG presented the same SOA as approved in past years, so as to at least have an agreement in place for 2017. Verhey agreed.

Tom Kahler said he is curious why everyone is convinced the lamprey operations described in the SOA will benefit Pacific Lamprey. He recalled, when Douglas PUD conducted Dual-Frequency Identification Sonar (DIDSON) and radio-telemetry studies at Wells Dam, these data indicated that fish swam more easily at the 1-foot versus 1.5-foot head differential; however, the DIDSON study could not provide information regarding Pacific Lamprey approach to the fishway entrances, which would require radio-telemetry or acoustic-telemetry studies to determine. Radio-telemetry studies indicate many fewer fish attempting to pass at the 1-foot head differential than at the 1.5-foot differential. He said if an operational change will be implemented at Wells Dam, he wants to be sure the Aquatic SWG and Wells HCP Coordinating Committee are sure the change is benefiting passage,

not impeding it. He said currently, about 60 to 70 Pacific Lamprey have been counted passing Wells Dam this year. He said it seems these fish are passing the dam with no issues, and there is no evidence passage is being impeded.

Kirk Truscott said he has the same comments as Kahler. Truscott said he recalls the DIDSON study years had so few fish, the data were not significant. He said, however, the RT studies had a larger sample size, which indicated a roughly 16 percent improvement in passage once fish were in the fish ladder at a 1-foot head differential; however, there was about a 200 percent decrease in approaches under the 1.0-foot head differential. He said, therefore, while the lamprey operations may improve passage in the lower fish ladder, the overall numbers passing the dam do not improve as a whole.

Ferguson asked about the sample sizes. Truscott said he recalls about 35 fish approached at the 1.5-foot head differential and about 12 fish approached at the 1-foot head differential.

Rose said there are no substantive data, which is why he proposes installing more antennas at the fishway entrances at Wells Dam. He added that much larger projects have higher passage numbers, and he finds it hard to believe Pacific Lamprey have a hard time locating the entrances at Wells Dam. He said by the time Pacific Lamprey reach Wells Dam they are already tired, and he believes if there is a lower velocity passage route, fish will find it.

Ferguson asked for thoughts or concerns about lamprey operations effecting Plan species. Truscott said statistically, there was no significant difference in passage; however, steelhead and coho salmon overlap the most with the adult Pacific Lamprey migration. He said there was a consistent delay in steelhead passage; however, not significant. Ferguson asked how delay was measured. Kahler said delay was measured using passive integrated transponder (PIT) tag data only, because DIDSON was not capable of measuring delay. He said PIT-tag detections for steelhead migrating from Rocky Reach Dam to Wells Dam indicated travel time was a little slower.

Truscott said his biggest concern is not impacts to Plan species; rather, he wants to make sure a change in fish ladder passage will not hinder approach conditions for Pacific Lamprey. He suggested approving the Lamprey Operations SOA, contingent that the Aquatic SWG has reviewed and understands these radio-telemetry data. He asked if these data on differences in fishway approach were discussed within the Aquatic SWG, and Verhey said not to his recollection. Kahler expressed surprise at this, considering the Douglas PUD representatives on the Aquatic SWG stated they have attempted to discuss the differences in approach on multiple occasions, without generating any apparent interest from the rest of the SWG.

Ferguson asked about the reasoning behind a 17:00 start time, and Truscott noted this is a peak passage time for Chinook salmon. Kahler said, specifically, 16:00 to 17:00 is the second highest passage hour for Chinook salmon, based on Wells Dam window count data from 1998 to 2016.

Kahler distributed hard copies of Wells Dam count-window data for Pacific Lamprey, steelhead, and Chinook salmon (Attachment E), which Geris distributed electronically to the HCP Coordinating Committees on August 23, 2017. Kahler said for most salmonids, Wells Dam count window passage times from Pool 19 (lower fish ladder) to Pool 68 (near the fish ladder exit) is about 2 hours, plus about 28 minutes for gallery time. He said most salmonids travel back and forth between fishways before choosing a fishway to ascend, making it difficult to say when fish actually entered and exited the fish ladders. He said, however, in general it takes salmonids no more than 3 hours to travel from the fish ladder entrance to the count window.

Kahler said for Pacific Lamprey, based on the radio-telemetry studies, the maximum travel time was 38 hours, the minimum was 4 hours, and average was 5.5 hours. Truscott said if 17:00 is close to the peak passage time for Chinook salmon and it takes about 3 hours to travel through the Wells Dam fish ladders, those fish would be arriving to the entrances at about 14:00, which may be the reasoning behind a 17:00 start time for lamprey operations.

Truscott asked about lag time between changes in head differentials. Kahler said the fish pumps at Wells Dam are operated using a programmable logic controller, so changes happen automatically and the difference between head differentials is rapid (he guessed about 10 minutes).

Ferguson asked what the current average river flow is past Wells Dam during September, and Kahler said about 85,000 cubic feet per second.

Mike Tonseth asked about night lighting through the fish ladders. Kahler said the lights are always on in the fish ladders; however, there are no lights in the collection galleries. Tonseth noted that Pacific Lamprey are more darkness-oriented than Chinook salmon. Kahler said he wondered whether the ladder lighting could be set on a cycle, and he said this has never been implemented.

Verhey asked the Wells HCP Coordinating Committee about considering a shift in the time period to later in the evening, so the end time would capture the end of the Pacific Lamprey passage period but not affect steelhead passage. Truscott suggested 22:00 for the start time and 04:00 for the end time to accommodate Chinook salmon and steelhead passage.

Keely Murdoch suggested implementing lamprey operations on alternate dates (i.e., block operations). She said this way, Pacific Lamprey passage can be monitored and evaluated with and without the modified head differential. Rose agreed and suggested implementing 1- or 2-day blocks and asked if this is feasible. Ferguson asked how these blocks would be evaluated. Rose suggested keeping it simple, such as a passage count difference. Jim Craig said there does not seem to be much of difference between implementing 1- versus 2-day blocks. Scott Carlon questioned whether 1 day is enough. Murdoch said the advantage of a 1-day block is it results in the most replicates. Verhey suggested 2-day blocks may result in more expression, in case fish are waiting for higher flow. Kahler

said he will discuss internally the feasibility to implement a temporary 1.0-foot fishway-entrance head differential from 22:00 to 04:00 daily during September 2017 to improve Pacific Lamprey passage at Wells Dam (lamprey operations), in 1- or 2-day blocks. *(Note: Kahler confirmed Wells Dam can accommodate the 2-day block design for head differentials at the fishway entrances, as distributed to the HCP Coordinating Committees by Geris on August 25, 2017.)*

Wells HCP Coordinating Committee representatives present approved the Aquatic SWG Lamprey Operations SOA (Attachment D), contingent upon: 1) Aquatic SWG review of 2013 radio-telemetry data regarding changes in fishway approach and ladder passage behavior of Pacific Lamprey when the fishway entrances are operated at a head differential of 1.0 foot; 2) change in hours of operation to 22:00 to 04:00; 3) consideration of 1- or 2-day block operations (the Wells HCP Coordinating Committee prefers 2-day blocks); 4) Aquatic SWG in-season management of operations based on analysis of daily fish counts, including discontinuing operations if negative impacts from the operation are observed; and 5) a post-season report being provided to the Wells HCP Coordinating Committee, which reviews results of the operation based on fish counts.

Anchor QEA will coordinate with Douglas PUD and the Aquatic SWG regarding the Wells HCP Coordinating Committee discussion and HCP Decision about the Aquatic SWG Lamprey Operations SOA (Attachment D).

*Note—*

*The Aquatic SWG convened a conference call on August 28, 2017, to discuss the HCP Decision about the Aquatic SWG Lamprey Operations SOA (Attachment D). After discussing the contingencies of approval, the Aquatic SWG agreed to all contingencies; however, modified implementing the lamprey operations in 2-day blocks to 3-day blocks. The Aquatic SWG Lamprey Operations SOA was updated to incorporate the Wells HCP Coordinating Committees' contingencies, including the 3-day blocks, and was approved by the Aquatic SWG on August 28, 2017 (Attachment F). Douglas PUD also drafted a Wells HCP Coordinating Committee SOA to formalize approval of the new Aquatic SWG SOA, which was distributed to the Wells HCP Coordinating Committee for email approval by Geris on August 30, 2017. Wells HCP Coordinating Committee representatives approved via email the Wells HCP Coordinating Committee SOA, "To implement temporary fishway 'lamprey operations' in alternating 3-day blocks with normal operations during the 2017 Pacific Lamprey migration at Wells Dam," (Attachment G) as follows: Douglas PUD approved on August 30, 2017, and NMFS, USFWS, WDFW, the YN, and the CCT approved on August 31, 2017.*

## **V. Chelan PUD**

### **A. Rock Island Powerhouse 1 Maintenance Update (Lance Keller)**

Lance Keller recalled staff noticed cracks in the turbine blades of Units B1 to B4 of Powerhouse 1, which is the original powerhouse at Rock Island Dam. He said the cracked areas were fixed and the blades were determined to be crack-free; however, during follow-up inspections, staff discovered that additional cracks had formed. Keller said pieces of the blades were sent out for metallurgic analysis and results indicated the blades were at the end of their lifespan. He said Chelan PUD then conducted an in-depth analysis and decided on a rehabilitation option, which was vetted with the Rock Island HCP Coordinating Committee before Chelan PUD provided the recommendation to the Federal Energy Regulatory Commission. Keller said Chelan PUD requested and received bids for the rehabilitation work in December 2016, and a company named Andritz Hydro (based in Austria, with a location in the United States) provided a bid for completing all needed work before the 10-year check-in scheduled for Rock Island Dam in 2020.

Keller said Andritz Hydro recently conducted a finite metal analysis and identified parts which have a high probability of failing in less than 50 years, including: 1) rotor poles; 2) generator shaft; and 3) wicket gate body and stems. Keller said Units B1, B3, and B4, each have 20 bodies and stems per unit. He said previously, in Unit B2, mechanics had identified that 14 of 20 wicket gate stems were failing, which were repaired at the time of discovery. Keller said Chelan PUD had to request a contract amendment from the Board of Commissioners. He said these repairs are within the scope of the contract; however, they will cost more.

Kirk Truscott asked if these additional repairs have any ramifications to the schedule. Keller said because the failing parts were caught early enough, the repairs should not impact the schedule. He added, if failing parts are discovered in one unit, those parts are ordered for all units so waiting on these same parts will not be an issue in the future.

Mike Tonseth asked if Powerhouse 1 Units B1 to B4 are all offline now. Keller said yes, all units were taken offline immediately for safety. Tonseth asked if the resulting change in flow affected adult fish passage. Keller said yes, a change in adult fish passage has been observed, as passage through the left fish ladder had decreased (located closest to Powerhouse 1 Units B1 to B4) and an increase has been observed through the right and center fish ladders.

Patrick Verhey asked if replacing the turbine blades includes replacing the runners. Keller said yes, the turbine blades and runners are being rehabilitated to be as fish friendly as possible. He said the number of blades will be decreased as well. Truscott asked if the units will remain in a fixed position. Keller said yes, the rehabilitated will be a fixed blade configuration. He added that the fact sheet previously distributed to the HCP Coordinating Committees summarizes the changes quite well. He

said he will provide the Rock Island Dam Powerhouse 1 Turbine Units B1 to B4 Rehabilitation Fact Sheet to Kristi Geris for distribution to the HCP Coordinating Committees. *(Note: Keller provided the rehabilitation work submittal [Attachment H] to Geris on August 23, 2017, which Geris distributed to the HCP Coordinating Committees that same day.)*

## **B. Rocky Reach and Rock Island Summer Spill (Lance Keller)**

Lance Keller reviewed summer spill updates, as follows:

### Rock Island Dam

Keller recalled, on May 26, 2017, summer spill was initiated at Rock Island Dam, shifting from a daily average spill target of 10 percent (spring spill) to 20 percent of the daily average river flow at Rock Island Dam. Keller said given the water year, Rock Island Dam was already spilling well above 10 percent at that time.

Keller said a Rock Island Dam end of summer spill notification was distributed to the HCP Coordinating Committees by John Ferguson on August 18, 2017. Keller recalled the criteria to shutdown summer spill includes: 1) Data Access in Real Time (DART) must have estimated that 95 percent of the juvenile subyearling Chinook salmon run has passed the project; and 2) daily subyearling Chinook salmon index counts at the juvenile bypass system must be 0.3 percent or less of the cumulative subyearling index total for any 3 out of 5 consecutive-day period. Keller said, as of August 18, 2017, the total cumulative subyearling Chinook salmon index count was more than 62,000 smolts, with an estimated passage of 99.4 percent of the total run having passed Rock Island Dam. He said in the previous week, counts had been below 0.3 percent of the total index. He said based on these data, Chelan PUD ended summer spill at Rock Island Dam on August 18, 2017, at 00:00, per the Rock Island Fish Spill Plan.

### Rocky Reach Dam

Keller said on May 26, 2017, summer spill was initiated at Rocky Reach Dam, shifting to a daily average spill target of 9 percent of the daily average river flow at Rocky Reach Dam.

Keller said on July 30, 2017, about 1,200 juvenile subyearling Chinook salmon passed Rocky Reach Dam, and since that time, daily fish counts lingered in the 100s, and recently dwindled below 100. He said yesterday, on August 21, 2017, the daily subyearling Chinook salmon index count was 0.15 percent of the total index, which was the first time this season the index count was below 0.3 percent. He said currently, DART is estimating more than 99 percent of the juvenile subyearling Chinook salmon run has passed the project. He said Chelan PUD suspects criteria will be met to end summer spill within the next couple of days. *(Note: a Rocky Reach Dam end of summer spill notification was distributed to the HCP Coordinating Committees by Kristi Geris on August 25, 2017.)*

## VI. HCP Administration

### A. WDFW HCP Coordinating Committees Representation Designation Update (John Ferguson)

John Ferguson said a WDFW HCP Coordinating Committees representation designation letter (Attachment I) was distributed to the HCP Coordinating Committees by Kristi Geris on August 14, 2017. Ferguson said Chad Jackson is the new technical representative, Patrick Verhey is the new alternate, and Mike Tonseth is support staff.

### B. Next Meetings

The next scheduled HCP Coordinating Committees meeting is on September 26, 2017, to be held by conference call.

John Ferguson recalled Anchor QEA's action item to contact Mackenzie Gavery regarding possibly presenting her epigenetics research during a future HCP Coordinating Committees meeting. HCP Coordinating Committees representatives present requested that Gavery present her research during the HCP Coordinating Committees meeting on October 24, 2017. Ferguson said Anchor QEA will contact Gavery with this request. (*Note: Gavery confirmed she can present her research in-person during the HCP Coordinating Committees meeting on October 24, 2017.*)

The October 24, 2017, meeting will be held in-person at the Grant PUD Wenatchee Office in Wenatchee, Washington.

The November 28, and December 26, 2017, meetings will be held by conference call or in-person at the Grant PUD Wenatchee Office in Wenatchee, Washington, as is yet to be determined.

## VII. List of Attachments

Attachment A List of Attendees

Attachment B YN HCP Representation Designation Letter

Attachment C *The evolutionary basis of premature migration in Pacific salmon highlights the utility of genomics for informing conservation*, Prince et al.

Attachment D Aquatic SWG Lamprey Operations SOA (approved August 16, 2017)

Attachment E Wells Dam Count Window Data for Pacific Lamprey, Steelhead, and Chinook Salmon

Attachment F Aquatic SWG Lamprey Operations SOA (approved August 28, 2017)

Attachment G Wells HCP Coordinating Committees Lamprey Operations SOA

Attachment H Rock Island Dam Powerhouse 1 Turbine Units B1 to B4 Rehabilitation Work Submittal

Attachment I WDFW HCP Coordinating Committees Representation Designation Letter

**Attachment A**  
**List of Attendees**

<b>Name</b>	<b>Organization</b>
John Ferguson	Anchor QEA, LLC
Kristi Geris	Anchor QEA, LLC
Tracy Hillman	BioAnalysts
Lance Keller*	Chelan PUD
Tom Kahler*	Douglas PUD
Scott Carlon*	National Marine Fisheries Service
Jim Craig*	U.S. Fish and Wildlife Service
Patrick Verhey*	Washington Department of Fish and Wildlife
Mike Tonseth	Washington Department of Fish and Wildlife
Bob Rose*†	Yakama Nation
Keely Murdoch*	Yakama Nation
Kirk Truscott*	Colville Confederated Tribes

Notes:

\* Denotes HCP Coordinating Committees member or alternate

† Joined by phone