

Memorandum

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

Date: April 23, 2019

From: John Ferguson, HCP Coordinating Committees Chairman

cc: Kristi Geris

Re: Final Minutes of the March 26, 2019 HCP Coordinating Committees Meeting

The Wells, Rocky Reach, and Rock Island Hydroelectric Projects Habitat Conservation Plan (HCP) Coordinating Committees met at the Grant PUD office in Wenatchee, Washington, on Tuesday, March 26, 2019, from 10:00 to 11:30 a.m. Attendees are listed in Attachment A to these meeting minutes.

Action Item Summary

- Lance Keller will review subyearling Chinook salmon sampled at the Rocky Reach Juvenile Sampling Facility (RRJSF) during the summer spill season at Rocky Reach Dam, to determine: 1) whether the index samples collected represent overall passage trends based on passive integrated transponder (PIT)-tag detections in the bypass across the season, notably during high flow years such as that experienced in 2018; and 2) whether any adjustments are needed while also maintaining continuity with historical data in the Columbia River Data Access in Real Time database (DART; Item I-C).
- Lance Keller will notify Jim Craig of what he determined about operating the weir box within the intake of Turbine Unit C1 to facilitate river flow through this area of the Intake Screen System with Turbine Unit C1 out of service during the 2019 bypass season (Item I-C).
- Lance Keller will inquire internally about the reasoning behind taking downstream-migrating Pacific lamprey at the Rocky Reach Juvenile Fish Bypass System (RRJFBS) and releasing these fish at an upstream location (Item I-C).
- Chelan PUD will provide a final timeline for repairing Rocky Reach Dam Turbine Unit C1 and Turbine Unit C3 hub seals to Kristi Geris for distribution to the HCP Coordinating Committees (Item III-E).
- Tom Kahler will distribute recent reports by the Columbia River Inter-Tribal Fish Commission (CRITFC) that summarize findings from their sockeye salmon monitoring efforts (Item IV-A).
- The HCP Coordinating Committees meeting on April 23, 2019, will be held **in-person** at the Grant PUD Wenatchee office in Wenatchee, Washington (Item V-C).

Decision Summary

- Rock Island and Rocky Reach HCP Coordinating Committees representatives present approved the 2019 Rock Island and Rocky Reach HCP Action Plan (Item III-A). *(Note: Jim Craig provided U.S. Fish and Wildlife Service [USFWS] approval of the plan via email on March 18, 2019, and Kirk Truscott provided Colville Confederated Tribes [CCT] approval of the plan via a phone call to Kristi Geris on March 25, 2019.)*
- Rock Island and Rocky Reach HCP Coordinating Committees representatives present approved the 2019 Rock Island and Rocky Reach Fish Spill Plan, as revised (Item III-B). *(Note: Jim Craig provided USFWS approval of the plan via email on March 18, 2019, and Kirk Truscott provided CCT approval of the plan via a phone call to Kristi Geris on March 25, 2019.)*
- Rock Island HCP Coordinating Committee representatives present approved the 2019 Rock Island Bypass Monitoring Plan, as revised (Item III-C). *(Note: Jim Craig provided USFWS approval of the plan via email on March 18, 2019, and Kirk Truscott provided CCT approval of the plan via a phone call to Kristi Geris on March 25, 2019.)*
- Rocky Reach HCP Coordinating Committee representatives present approved the 2019 RRJFBS Operations Plan, as revised (Item III-D). *(Note: Jim Craig provided USFWS approval of the plan via email on March 18, 2019, and Kirk Truscott provided CCT approval of the plan via a phone call to Kristi Geris on March 25, 2019.)*
- Wells HCP Coordinating Committee representatives present approved the 2019 Broodstock Collection Protocols (Item IV-B). *(Note: Kirk Truscott provided CCT approval of the protocols via a phone call to Kristi Geris on March 25, 2019.)*

Agreements

- HCP Coordinating Committees representatives present agreed to add Emi Kondo (National Marine Fisheries Service [NMFS]) to select HCP Hatchery Committees email distribution lists (Item V-B).

Review Items

- CRITFC's annual request to tag sockeye salmon at Wells Dam in 2019 was distributed to the Wells HCP Coordinating Committee for review by Kristi Geris on February 20, 2019 (Item IV-A).
- A draft 2017 Douglas PUD Pikeminnow Removal Annual Report was distributed to the HCP Coordinating Committees by Kristi Geris on January 29, 2019, which is available for a 60-day review with edits and comments due to Tom Kahler by Thursday, March 28, 2019.

Finalized Documents

- The Wells Project Survival Verification Study – Final 2020 Study Plan, which was approved by the Wells HCP Coordinating Committee on January 22, 2019, was distributed to the HCP Coordinating Committee by Kristi Geris on March 28, 2019.
- The Final 2018 Post-Season Bypass Report and Passage-Dates Analysis, which was approved by the Wells HCP Coordinating Committee on February 26, 2019, was distributed to the HCP Coordinating Committee by Kristi Geris on March 28, 2019.
- The Final 2019 Broodstock Collection Protocols were distributed to the HCP Coordinating Committee by Kristi Geris on March 29, 2019 (Item IV-B).
- The final 2018 Rock Island and Rocky Reach HCP Annual Reports were distributed to the HCP Coordinating Committees by Kristi Geris on April 8, 2019 (Item V-A).

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:

- Scott Carlon added under HCP Administration a request to add Emi Kondo to select HCP Hatchery Committees email lists
- Tom Kahler added a Wells Dam bypass operations update

B. Meeting Minutes Approval (John Ferguson)

The HCP Coordinating Committees reviewed the revised draft February 26, 2019 meeting minutes. Kristi Geris said all comments and revisions received from members of the Committees were incorporated into the revised minutes. Geris said a minor edit was received from the Yakama Nation (YN) after the revised minutes were distributed. She said under Chelan PUD's 2018 Rock Island Smolt and Gas Bubble Trauma Evaluation Report topic, Keely Murdoch clarified that her comment about past sampling efforts at Rock Island Dam and observed gas bubble trauma expression was unrelated to efforts conducted by the YN, and she asked to omit this comment and leave the statement as her agreeing with Lance Keller's comments. Geris said she also updated the Review Items and Finalized Documents, as additional items were distributed. She also updated the Decision Summary to include approval of the Wells, Rock Island, and Rocky Reach HCP Annual Reports. HCP Coordinating Committees members present approved the February 26, 2019 meeting minutes, as revised. *(Note: Jim Craig provided USFWS approval of the February 26, 2019 meeting minutes via email on March 19, 2019, and Kirk Truscott provided CCT approval of the minutes via a phone call to Geris on March 25, 2019.)*

C. Last Meeting Action Items (John Ferguson)

Action items from the HCP Coordinating Committees meeting on February 26, 2019, and follow-up discussions, were as follows. (*Note: italicized text corresponds to agenda items from the meeting on February 26, 2019*):

- *Lance Keller will review subyearling Chinook salmon sampled at the RRJSF during the summer spill season at Rocky Reach Dam, to determine: 1) whether the index samples collected represent overall passage trends based on PIT-tag detections in the bypass across the season, notably during high flow years such as that experienced in 2018; and 2) whether any adjustments are needed while also maintaining continuity with historical data in DART (Item I-C).*

This action item will be carried forward.

- *Chelan PUD will provide a final timeline for repairing Rocky Reach Dam Turbine Unit C1 hub seals to Kristi Geris for distribution to the HCP Coordinating Committees (Item I-C).*

This action item will be discussed during today's meeting and will also be carried forward.

- *Tom Kahler will revise the draft 2018 Wells HCP Action Plan, as discussed, and will provide a final plan to Kristi Geris for distribution to the HCP Coordinating Committees (Item III-A).*

Kahler provided the final plan to Geris following the meeting on February 26, 2019, which Geris distributed to the HCP Coordinating Committees that same day.

- *Lance Keller will determine whether the weir box within the intake of Turbine Unit C1 was fixed to facilitate river flow through this area of the Intake Screen System with Turbine Unit C1 out of service during the 2019 bypass season (Item IV-A).*

Keller said this fix was not completed because in order to troubleshoot the issue, the vertical barrier screen needs to be operational, which cannot occur while Turbine Unit C1 is out of commission. He said, however, a flushing valve will provide about 10 cubic feet per second (cfs) through the area to prevent fish from exiting the Turbine Unit C2 weir box and entering the Turbine Unit C1 weir box. Keller recalled this action item was to address a question Jim Craig asked about the 2019 RRJFBS Report, and Keller said he will communicate this response to Craig to close out the action item.

- *Lance Keller will inquire internally about the reasoning behind taking downstream-migrating Pacific Lamprey at the RRJFBS and releasing these fish at an upstream location (Item IV-A).*

This action item will be carried forward.

II. HCP Tributary and Hatchery Committees Update

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

Tracy Hillman updated the HCP Coordinating Committees on the following actions and discussions that occurred during the HCP Hatchery Committees meeting on March 20, 2019 (*note: joint HCP Hatchery Committees/Priest Rapids Coordinating Committee [PRCC] Hatchery Subcommittee*

items are noted by "joint," Wells HCP Hatchery Committee items are noted by "Wells," and Rock Island and Rocky Reach HCP Hatchery Committees items are noted by "Rock Island/Rocky Reach"):

- *Broodstock Collection Protocols (joint)*: The HCP Hatchery Committees and PRCC Hatchery Subcommittee reviewed, edited, and approved the 2019 Broodstock Collection Protocols. The protocols were sent to the Wells HCP Coordinating Committee for review and approval. Once approved, the protocols will be submitted to NMFS.
- *Spring Chinook Salmon Carcass Recovery Bias (joint)*: The Washington Department of Fish and Wildlife (WDFW) provided a presentation titled, "Spring Chinook Carcass Recovery Bias in the Upper Wenatchee Basin." WDFW discussed how carcass bias was assessed, the factors affecting bias, and development of a model that can be used to adjust spawning escapements based on factors affecting bias. In general, bias is affected by stream flows, stream type, channel type, and fish size (age) and sex. Hillman said before, it was assumed that hatchery fish had a higher pre-spawn mortality rate; however, once escapements were adjusted for bias, WDFW found little difference in pre-spawn mortality between hatchery and natural-origin adults.
- *NMFS Consultation (joint)*: The Draft Environmental Assessment for Upper Columbia River Steelhead and Summer/Fall Chinook Salmon Programs is undergoing internal review and will soon be available for public review. Permits for the unlisted Chinook salmon programs are under review by General Council.
- *Bacterial Kidney Disease Testing (Wells)*: Douglas PUD has been sending virology samples (consisting of ovarian fluid, kidney, and spleen samples) to Washington Animal Disease Diagnostic Laboratory (WADDL) for processing and kidney samples to WDFW for traditional bacterial kidney disease ELISA (enzyme-linked immunosorbent assay) testing. Douglas PUD reported that WADDL has recently revised their protocols and can now report Optical Density values for bacterial kidney disease. Douglas PUD will determine if there is a cost difference between laboratories. The intent is to send all samples to WADDL for analysis.
- *Marking of 2018 Brood Chiwawa Spring Chinook Salmon (Rock Island/Rocky Reach)*: The Chiwawa spring Chinook salmon conservation program consists of juveniles from natural-origin spawners and hatchery-origin spawners. The question the Rock Island HCP Hatchery Committee is considering is should all fish within the program be marked the same or should fish within the program be marked differentially based on the origin of their parents? Unfortunately, the Spring Chinook Salmon Management Plan, Biological Opinions, Hatchery and Genetic Management Plans, and Permits are not clear and tend to conflict with each other on how the fish should be marked. The Rock Island HCP Hatchery Committee is working to resolve this issue.
- *Joint Meetings of the HCP Hatchery Committees and PRCC Hatchery Subcommittee*: The HCP Hatchery Committees and PRCC Hatchery Subcommittee are currently reviewing and updating their meeting protocols and distribution lists.

- *Next Meeting:* The next meeting of the HCP Hatchery Committees will be on April 17, 2019.

Hillman updated the HCP Coordinating Committees on the following actions and discussions that occurred during the HCP Tributary Committees meeting on March 14, 2019:

- *Upper Kahler Stream and Floodplain Enhancement Project:* In December 2018, the HCP Tributary Committees received a General Salmon Habitat Program proposal from the YN titled, "Upper Kahler Stream and Floodplain Enhancement Project." The purpose of the project is to reduce the risk of an avulsion near river mile 8.6 on Nason Creek by constructing a large, buried, log jam at the upstream inlet of the developing avulsion channel and filling the avulsion channel with large substrate. The project will also construct three additional buried bank jams and enhance fish habitat at the downstream end of the avulsion channel. The total cost of the project was \$482,500. The sponsor requested \$231,500 from HCP Plan Species Account Funds. In December 2018, the HCP Tributary Committees elected to not fund this project as currently designed but invited the YN to provide a presentation to the HCP Tributary Committees to explain the design of the project. In January 2019, the YN and their consultant provided a presentation describing the design of the proposed project. The HCP Tributary Committees struggled with the proposed filling of the avulsion channel with large sediments and recommended instead adding wood and a few boulders in the avulsion channel. These structures should help trap smaller sediments and fill the channel naturally. The YN provided a written response to the HCP Tributary Committees concerns and identified four alternatives, one of which was the original proposed action. After discussing the alternatives with the YN and their engineer, the Rock Island HCP Tributary Committee agreed to fund the four large wood structures within Nason Creek; however, elected to not fund any actions that would fill the avulsion channel and asked the YN to provide a cost estimate for constructing the four wood structures within Nason Creek. Hillman said once the Rock Island HCP Tributary Committee receives a budget and approves it, the YN can start construction. John Ferguson asked if the proposal is to rely on wood structures to trap sediment in the avulsion channel? Hillman said no, all wood structures will be placed in Nason Creek for bank stabilization, structure, and fish habitat; and the HCP Tributary Committees elected to not fund filling the avulsion channel. Hillman said the river will eventually migrate through the avulsion channel and the intent of this project is to prevent this from happening soon. He said the landowner reached out to the YN for help on this.
- *Stormy Project Area "A" Stream and Floodplain Enhancement Project:* In December 2018, the HCP Tributary Committees received a General Salmon Habitat Program proposal from the YN titled, "Stormy Project Area 'A' Stream and Floodplain Enhancement Project." The purpose of the project is to maintain salmon and steelhead spawning habitat within the middle Entiat River, improve mainstem juvenile rearing and adult holding habitat, and improve off-channel

juvenile rearing habitat. The total cost of the project was \$1,652,218.15. The sponsor requested \$1,140,968.15 from HCP Plan Species Account Funds. In December 2018, the HCP Tributary Committees elected to not fund this project as currently designed but invited the YN to provide a presentation to the HCP Tributary Committees to explain the design of the project. In January 2019, the YN and their consultant provided a presentation on the design of the Stormy Area A Project. Following the presentation and discussions with all members of the HCP Tributary Committees, the HCP Tributary Committees agreed to support the excavation of the perennial side channel on river right and the side channel on river left, including installing apex log jams used to control flows into the side channels. The HCP Tributary Committees asked the YN for a revised budget for the construction of the perennial side channels and apex jams. In February 2019, the YN submitted a revised proposal and cost estimate. The total cost of the project was reduced to \$1,564,211.15 and the YN requested \$823,161.15 from HCP Plan Species Account Funds. The Rocky Reach HCP Tributary Committee approved \$823,161.15 for the project.

- *East Fork Mission Creek Floodplain Restoration Project:* The HCP Tributary Committees received a Small Project proposal from Chelan County Natural Resource Department (CCNRD) titled, "East Fork Mission Creek Floodplain Restoration Project." The purpose of this project is to develop permit-ready designs that will result in improved base flows in the Mission Creek watershed by reconnecting floodplain in a severely incised system and improve habitat for steelhead. CCNRD intends to accomplish this by removing an eroding road prism located within the floodplain, adding in-stream wood, and addressing potential passage barriers. The project is located along a 2.8-mile stretch of East Fork Mission Creek in the upper Mission Creek watershed. The total cost of the design project is \$96,169. The sponsor requested \$74,669 from HCP Plan Species Account Funds. The HCP Tributary Committees were unable to make a funding decision without more information on the status of the road. It is unclear if the road is permanently closed and formally abandoned. The HCP Tributary Committees have asked CCNRD to provide clarification on the closure of the road. Once this is received, the HCP Tributary Committees will make a funding decision.
- *2019 Eightmile Creek Fisheries Assessment Project:* The HCP Tributary Committees received a Small Project proposal from WDFW titled, "2019 Eightmile Creek Fisheries Assessment Project." The purpose of this project is to assess the status of fish within Eightmile Creek, a tributary to the Chewuch River in the Methow River Basin. These data will be used to determine a strategy for removing brook trout and restoring native salmonids to 21 kilometers of stream. Currently, a fish passage barrier near the mouth of Eightmile Creek precludes steelhead (and bull trout) from migrating into the stream. Because the YN are looking to remove the barrier, managers want information on species composition, fish abundance, stream flows, and temperatures within Eightmile Creek. Tissue samples from bull trout and

O. mykiss will also be collected within Eightmile Creek to determine genetic composition. The total cost of the project is \$67,200. The sponsor requested the full amount from HCP Plan Species Account Funds. The HCP Tributary Committees were unable to make a funding decision and asked the sponsor to: 1) include a management plan that clearly identifies decision rules for determining which strategy would be selected for removing brook trout (i.e., what results are needed to determine whether to use electrofishing, piscicides, or other removal techniques); and 2) consider using electrofishing rather than snorkeling to conduct the assessments. Complete census surveys with electrofishing gear can be used to provide data on species richness and abundance and can be used to remove brook trout during the surveys. Hillman said the HCP Tributary Committees sent a letter to WDFW asking WDFW to address these issues, and once resolved, the HCP Tributary Committees can then make a funding decision.

- *Presentation by CCNRD on the Monitor Side Channel Design Project:* CCNRD and their consultants provided an update on the Monitor Side Channel Restoration Design Project, which the Rock Island HCP Tributary Committee funded in 2018. CCNRD described the goals and objectives of the project and identified design challenges and constraints. They also provided results from their hydraulic modeling work and presented conceptual designs that included boulder clusters, bank engineered log jams, weir logs, and willow trenches. Members provided feedback on the proposed conceptual designs. CCNRD and their consultants will continue working on the designs and will provide additional updates to the HCP Tributary Committees in the near future.
- *Wells HCP Tributary Committee Action Plan:* On January 17, 2019, Douglas PUD provided the HCP Tributary Committees with the Draft 2019 Wells HCP Action Plan for a 30-day review. Wells HCP Tributary Committee representatives reviewed the tributary section of the action plan and provided minor edits, which were incorporated into the plan. No other edits or comments were provided.
- *Rock Island and Rocky Reach HCP Tributary Committees Action Plans:* On February 11, 2019, Chelan PUD provided the HCP Tributary Committees with the Draft 2019 Rock Island and Rocky Reach HCP Action Plan for a 30-day review. Rock Island and Rocky Reach HCP Tributary Committees representatives reviewed the tributary section of the action plan and had no comments or edits.
- *Plan Species Account Deposits:* At the end of January 2019, the PUDs deposited funds into each of the Plan Species Accounts. Chelan PUD deposited \$784,331.00 into the Rock Island Plan Species Account and \$371,474.00 into the Rocky Reach Account. Douglas PUD deposited \$284,793.79 into the Wells Account. As of March 2019, the unallocated balances within each account are \$6,910,306.00 in the Rock Island Account, \$3,215,267.00 in the Rocky Reach Account, and \$1,813,698.00 in the Wells Account. Thus, among the three accounts, there is

about \$11,939,271 available. Ferguson asked if the unallocated balance includes the decisions made in March 2019? Hillman said it does not, but accounting for decisions made during the meeting on March 14, 2019, the combined balance would decrease by about \$1,000,000.

- *Review of a Draft Statement of Agreement:* On February 25, 2019, the YN submitted a draft Statement of Agreement (SOA) to the HCP Tributary Committees for review. The purpose of the draft SOA is to provide a basis for decision-making in the HCP Tributary Committees. The YN asked the HCP Tributary Committees to review and, if necessary, edit the draft SOA. The YN would like the HCP Tributary Committees to vote on the SOA during the HCP Tributary Committees meeting on April 11, 2019. There was a lot of discussion on the draft SOA including what precipitated the need for an SOA, why an SOA is necessary, and what will be accomplished by approving the SOA. Most members did not see a need for an SOA, thought the language was too strong, and took away each member's discretionary rights when reviewing and voting on project proposals. The CCT noted they cannot support any SOA that will take away their right to prevent the YN from owning land in the Methow River Basin. It was also pointed out that editing the draft SOA to preserve the discretionary voting rights of signatory parties would result in a very complicated document that would no longer fulfill the intent of the YN preparing the SOA. Most members thought it would be more appropriate to update Section 5 in the HCP Tributary Committees' Policies and Procedures for Funding Projects document. They thought the evaluation criteria currently being reviewed by the HCP Tributary Committees could be inserted into the Policies and Procedures document, and those can be reviewed and updated annually or more frequently if necessary. The HCP Tributary Committees believe this would eliminate the need for an SOA. That said, the YN asked members to review and edit the draft SOA and be prepared to discuss it and vote on it during the HCP Tributary Committees meeting on April 11, 2019. Hillman said no edits or comments have been received on the draft SOA to date. Ferguson asked each HCP Coordinating Committees representative if they had any questions or wanted to provide any additional comments at this time. Keely Murdoch reiterated that the YN will likely request a vote on the draft SOA during the HCP Tributary Committees meeting on April 11, 2019, but the YN are still discussing the SOA and reviewing their options. No other comments were expressed.
- *Next Meeting:* The next meeting of the HCP Tributary Committees will be on April 11, 2019.

III. Chelan PUD

A. DECISION: 2019 Rock Island and Rocky Reach HCP Action Plan (Lance Keller)

Lance Keller said a draft 2019 Rock Island and Rocky Reach HCP Action Plan was distributed to the HCP Coordinating Committees by Kristi Geris on February 12, 2019, and was available for a 30-day review with edits and comments due to Keller by Thursday, March 14, 2019. Keller said the tributary

and hatchery sections have already been approved by the respective HCP Committees, and there are no outstanding edits or comments to be discussed.

Rock Island and Rocky Reach HCP Coordinating Committees representatives present approved the 2019 Rock Island and Rocky Reach HCP Action Plan. *(Note: Jim Craig provided USFWS approval of the plan via email on March 18, 2019, and Kirk Truscott provided CCT approval of the plan via a phone call to Geris on March 25, 2019.)*

B. DECISION: 2019 Rock Island and Rocky Reach Fish Spill Plan (Lance Keller)

Lance Keller said a draft 2019 Rock Island and Rocky Reach Fish Spill Plan was distributed to the HCP Coordinating Committees by Kristi Geris on February 15, 2019, and was available for a 32-day review with edits and comments due to Keller by Monday, March 18, 2019. Keller said questions were received from USFWS on March 6, 2019, which Keller responded to on March 15, 2019. Keller summarized USFWS questions, as follows:

Question 1: How was “shaped spill” derived for Rock Island and Rocky Reach dams?

Keller explained that spill shaping at both Rock Island and Rocky Reach dams was developed and informed from hydroacoustic data.

Question 2: For Rocky Reach Dam, why does the “spill shape %” not add up to 100?

Keller explained that spill shaping is a continuous event where the first hour of spill is a continuation of the last 13 hours of the previous day. He said Jim Craig expected the sum of the block releases to equal 100, which would be true if the values were representing total flow passing the project; however, this is not the case. Keller said it is just a coincidence that summing the block releases at Rock Island Dam equals 98.

Keller said his responses seemed to have adequately addressed Craig’s questions because Craig provided USFWS approval of the plan via email on March 18, 2019.

Rock Island and Rocky Reach HCP Coordinating Committees representatives present approved the 2019 Rock Island and Rocky Reach Fish Spill Plan, as revised. *(Note: Craig provided USFWS approval of the plan via email on March 18, 2019, and Kirk Truscott provided CCT approval of the plan via a phone call to Kristi Geris on March 25, 2019.)*

C. DECISION: 2019 Rock Island Bypass Monitoring Plan (Lance Keller)

Lance Keller said a draft 2019 Rock Island Bypass Monitoring Plan was distributed to the HCP Coordinating Committees by Kristi Geris on February 15, 2019, and was available for a 32-day review with edits and comments due to Keller by Monday, March 18, 2019. Keller said editorial

comments were received from USFWS on March 11, 2019, including wordsmithing to improve the flow of information and the addition of page numbers.

Rock Island HCP Coordinating Committee representatives present approved the 2019 Rock Island Bypass Monitoring Plan, as revised. *(Note: Jim Craig provided USFWS approval of the plan via email on March 18, 2019, and Kirk Truscott provided CCT approval of the plan via a phone call to Kristi Geris on March 25, 2019.)*

D. DECISION: 2019 Rocky Reach Juvenile Fish Bypass System Operations Plan (Lance Keller)

Lance Keller said a draft 2019 RRJFBS Operations Plan was distributed to the HCP Coordinating Committees by Kristi Geris on February 15, 2019 and was available for a 32-day review with edits and comments due to Keller by Monday, March 18, 2019.

Rocky Reach HCP Coordinating Committee representatives present approved the 2019 RRJFBS Operations Plan, as revised. *(Note: Jim Craig provided USFWS approval of the plan via email on March 18, 2019, and Kirk Truscott provided CCT approval of the plan via a phone call to Kristi Geris on March 25, 2019.)*

E. Rocky Reach Dam Turbine Unit C1 Update (Lance Keller)

Lance Keller said the rotor has been removed from Turbine Unit C1 and mechanics are continuing disassembly of the unit to reach the trunnion bushings.

Keller said mechanics have now also detected a trunnion seal leak in Turbine Unit C3. He said on October 31, 2018, Turbine Unit C3 was taken offline for routine overhaul work and mechanics discovered about 5 gallons of water inside the hub, but no recordable oil loss was documented. Keller said considering the issues experienced with Turbine Unit C1, mechanics decided to run and test the unit, which the unit passed, and the unit was returned to service on December 31, 2018. Keller said mechanics continued monitoring the tailrace for the presence of oil, and on February 19, 2019, the unit was taken offline to check the level of oil in the unit. He said this time, mechanics discovered more than 5 gallons of water inside the hub, and crews are still working internally to determine how much oil has been lost. He said last week, the engineered seals designed for Turbine Unit C1 were installed in Turbine Unit C3, the unit was pressurized, and the seals did not work; therefore, Turbine Unit C3 is out-of-service. He said mechanics are now moving through the same evaluation process as was done for Turbine Unit C1, including considering hydraulically locking the blades into place. He said a person working for Alstom on Turbine Unit C9 suggested using a compound that is injected into the hub to improve the seal and allow the blades to operate in a Kaplan configuration. He said Rocky Reach Dam mechanics are currently considering both of these options as well as others. He said two key things to note, include: 1) based on current snowpack and

water forecasts, Chelan PUD is not expecting an impact to total dissolved gas due to the decreased powerhouse capacity; and 2) work on Turbine Unit C3 will not impact the return-to-service date for Turbine Unit C1, which is still August 2019.

Keely Murdoch asked if having both Turbine Unit C1 and Turbine Unit C3 out-of-service will affect attraction flow? Keller said there are no available survival study data to review that specifically address this; however, he discussed this with Steve Hemstrom and Alene Underwood, and they do not anticipate an impact. Keller said additionally, Turbine Unit C1 and Turbine Unit C3 are located in a cul-de-sac which provides six passage routes (three turbine routes, two bypass screen routes, and one route via the surface collector structure). He said Turbine Unit C2 is currently the closest operating turbine passage route to the surface collector structure, and with both Turbine Unit C1 and Turbine Unit C3 offline, it seems once fish reach the cul-de-sac area the odds of fish passing via the collection system is increased with Turbine Unit C3 out-of-service.

Keller said Chelan PUD did ask Dr. John Skalski (Columbia Basin Research) to review juvenile survival data in terms of meeting survival standards with Turbine Unit C1 out-of-service. Keller said with Turbine Unit C1 offline, this means half of the available passage routes via diversion screens are not available. He said Skalski used spring Chinook salmon data from 2010 and 2011 to determine route-specific survival and passage proportions. Keller said Skalski took an estimated reduction in bypass collection efficiency (i.e., reduced 50% use in diversion screens) and applied this to the powerhouse passage route to determine the overall project survival and combined adult and juvenile survival. Keller said all three scenarios involved a 50% reduction in bypass screen efficiency, and then additional reductions of 2.5%, 5%, and 7.5% in the proportion of overall fish bypassed via the surface collector passage route were applied. He said day and night passage proportions and survivals were applied to dam survival and then project survival, and those were then multiplied to calculate the combined adult and juvenile survival. He said Skalski also found under all scenarios the project will continue to meet combined 91% juvenile and adult survival standard on a year-to-year basis. Keller said in summary, Chelan PUD does not believe there will be an impact from Turbine Unit C3 being out-of-service. He said if there is a slight reduction in collection efficiency, the project will still meet the survival standards under all three scenarios Skalski modeled.

Scott Carlon asked about the modified bypass operations to increase flow through the screens. Keller explained that these operations will include: 1) using three additional RRJFBS surface collector pumps to increase attraction flow from 6,000 to 6,660 cfs into the RRJFBS surface collector entrances (3,330 cfs on each side); and 2) increasing Turbine Unit C2 flow from its normal soft-limit set-point of 12,200 cfs (12.2 kcfs) to a soft-limit flow of 15.2 kcfs. Keller recalled these modified operations were initially developed in 2013 to accommodate repairs to the wedge carriers in Turbine Unit C1 and Turbine Unit C2. He said the operations were developed in consultation with Bryan Nordlund (NMFS,

retired) and the Rocky Reach HCP Coordinating Committee to increase velocity through the area without creating concern for impingement.

Keller said a marked fish release was also conducted last week in the RRJFBS and intake screen system deployed in Turbine Unit C2 to verify no impingements under the modified bypass operations. He said there were issues with the Turbine Unit C2 release, and crews plan to retest this release at a later date.

Chad Jackson asked if the Turbine Unit C1 and Turbine Unit C3 repairs will impact planning for the 2021 survival study. Keller said as of now, Chelan PUD does not foresee these repairs impacting the study.

Murdoch asked if this issue with failing trunnion seals might be happening in the other turbine units. Keller said the larger units, Turbine Units C8 to C11, are all designed the same, and the smaller units, Turbine Units C1 to C7, are all designed the same. He said Rocky Reach Dam mechanics are monitoring trunnion bushing wear in the units and Rocky Reach Dam engineers are using the information from Turbine Unit C1 and Turbine Unit C3 to evaluate the other small units. Keller said the Rocky Reach Dam engineers are also looking to refine the data on the trunnion bushings and Chelan PUD is also looking into other seal contractors, as well.

Keller said he will add Turbine Unit C3 to the regular Turbine Unit C1 updates to the HCP Coordinating Committees.

F. Rock Island Dam Powerhouse 1 Maintenance Update (Lance Keller)

Lance Keller said as of last month, Rock Island Dam mechanics completed the disassembly of Turbine Unit B4 and they are now developing a plan to inspect the liner. Keller said this entails accessing the discharge ring and liner to analyze what repairs are needed. He explained that the liner is the interaction point where the tips of the turbine blades meet the rest of the turbine pit. He said the unit is equipped with its original discharge ring and liner, so mechanics are investigating what is needed to uphold the integrity of these components. Keller said the return-to-service date for Turbine Unit B4 is still July 2019.

John Ferguson asked what work is planned after Turbine Unit B4? Keller said the maintenance will continue moving towards the Douglas County side of the river starting with Turbine Unit B3. He recalled Turbine Unit B4 is the closest small unit to the spillway and the first small unit in the operating sequence of Powerhouse 1.

G. Rock Island Adult Fishway Maintenance Update (Lance Keller)

Lance Keller recalled when the attraction water system valves installed in the bottom of the middle fish ladder at Rock Island Dam were inspected, mechanics found water and scouring in the gear

boxes. Keller said the mechanical foreman did not have confidence to operate the ladder for the 2019 season without first repairing the valves; therefore, the valves (still under warranty) were extracted and sent to Texas for repair. Keller said the valves were received and installed and the middle fish ladder was back online on March 15, 2019. He noted that March 15, 2019, is outside the regular maintenance window of December to February, but also noted that as far as fish passage, the middle ladder is used the least compared to the right and left ladders, with the bulk of fish passage occurring through the right ladder. Keller said all fish ladders at Rock Island Dam are now fully operational.

IV. Douglas PUD

A. CRITFC's Annual Request to Tag Sockeye Salmon at Wells Dam in 2019 (Tom Kahler)

Tom Kahler said CRITFC's annual request to tag sockeye salmon at Wells Dam in 2019 was distributed to the Wells HCP Coordinating Committee for review by Kristi Geris on February 20, 2019. Kahler said Kirk Truscott indicated the CCT are not yet ready to vote on this request (via a phone call to Geris on March 25, 2019), and Douglas PUD is okay with postponing the vote. Kahler said a vote will be needed no later than the HCP Coordinating Committees meeting on May 28, 2019.

Kahler said Jim Craig provided USFWS approval of this request via email on March 12, 2019. Kahler said Craig also suggested developing and distributing an annual post-tagging report containing data such as how many fish were tagged and problems encountered, if any, as well as a final summary report of findings when the study concludes. Kahler said the HCP Coordinating Committees made a similar request years ago, and in 2013, Jeff Fryer (CRITFC) provided an in-person presentation to the HCP Coordinating Committees about Fryer's work in general and working with the Okanagan Nation Alliance in British Columbia towards monitoring Canadian Okanagan River sockeye salmon. Kahler said Fryer publishes reports on this work and makes them publicly available. Kahler said he will distribute recent reports by CRITFC, which summarize findings from their sockeye salmon monitoring efforts.

B. DECISION: 2019 Broodstock Collection Protocols (Tom Kahler)

Tom Kahler said the draft 2019 Broodstock Collection Protocols were distributed to the HCP Coordinating Committees by Kristi Geris on March 23, 2019. Kahler recalled the Wells HCP stipulates that the Wells HCP Coordinating Committee will review the protocols, particularly regarding trapping effects on fish passage. Kahler said there were no changes in the proposed trapping under this year's protocols compared to last year's Wells HCP Coordinating Committee-approved protocols and he is unaware of any reasons not to approve the 2019 protocols. He said once approved, the protocols will be submitted to NMFS by April 15, 2019.

John Ferguson noted that Kahler and Keely Murdoch already provided Douglas PUD and the YN approval, respectively, via the HCP Hatchery Committees and PRCC Hatchery Subcommittee approvals on March 22, 2019. Ferguson said Kirk Truscott provided CCT approval of the protocols via a phone call to Geris on March 25, 2019.

Wells HCP Coordinating Committee representatives present approved the 2019 Broodstock Collection Protocols. The Final 2019 Broodstock Collection Protocols were distributed to the HCP Coordinating Committee by Geris on March 29, 2019.

C. Wells Dam Bypass Operations Update (Tom Kahler)

Tom Kahler said Wells Dam mechanical staff are in the process of installing the bypass barriers at Wells Dam. Kahler said all barriers are in place except for one in Bypass Bay 2. He further explained that the turbine intakes and spillway intakes are staggered, and the bypass barrier for one of the intake slots for Bypass Bay 2 is not yet installed, which is located above one of the turbine unit intakes for Turbine Unit 2. Kahler clarified this is not the same as the baffles with the PIT-tag antenna, which are installed all of the time. He said bypass operations begin on April 9, 2019.

V. HCP Administration

A. 2018 HCP Annual Reports (John Ferguson)

John Ferguson said the 2018 Wells HCP Annual Report was approved by the Wells HCP Coordinating Committee on March 22, 2019, after no disapprovals were received prior to the 37-day review period deadline and edits and comments received on the report were addressed and approved by the CCT. The final report was distributed to the HCP Coordinating Committees by Kristi Geris on March 25, 2019.

Ferguson said the 2018 Rock Island and Rocky Reach HCP Annual Reports were approved by the Rock Island and Rocky Reach HCP Coordinating Committees after no disapprovals were received prior to the 30-day review period deadline on March 18, 2019. Geris said the final reports will be distributed in early April 2019. *(Note: the final 2018 Rock Island and Rocky Reach HCP Annual Reports were distributed to the HCP Coordinating Committees by Geris on April 8, 2019.)*

B. HCP Hatchery Committees Email Distribution List – Emi Kondo (Scott Carlon and John Ferguson)

John Ferguson said a request was received from Brett Farman (NMFS HCP Hatchery Committees Representative) to replace Amilee Wilson (NMFS) with Emi Kondo on the final HCP Hatchery Committees agendas and meeting minutes email distribution lists. Keely Murdoch said Wilson formerly worked on permitting for the HCP Hatchery Committees, but now Kondo does this work.

HCP Coordinating Committees representatives present agreed to add Kondo to select HCP Hatchery Committees email distribution lists.

C. Next Meetings (John Ferguson)

The next scheduled HCP Coordinating Committees meeting is on April 23, 2019, to be held **in-person** at the Grant PUD Wenatchee Office in Wenatchee, Washington.

The May 28 and June 25, 2019 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.

VI. List of Attachments

Attachment A List of Attendees

Attachment A
List of Attendees

Name	Organization
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
Chad Jackson [*]	Washington Department of Fish and Wildlife
Patrick Verhey ^{*†}	Washington Department of Fish and Wildlife
Keely Murdoch [*]	Yakama Nation

Notes:

- * Denotes HCP Coordinating Committees member or alternate
- † Joined by phone
- †† Joined by phone for the HCP Tributary and Hatchery Committees Update