

**North Umpqua Hydroelectric Project
(FERC No. P-1927)****Resource Coordination Committee (RCC)
August 18, 2021 Meeting Summary****FINAL 11/19/21**RCC Members or Alternates Present

Steve Albertelli (PacifiCorp)
Rich Grost (PacifiCorp)
Amy Golladay (USDI-BLM)
Mike Korn (USDI-BLM)
Frank Weaver (USFWS)
Logan Negherbon (NOAA Fisheries)
Jason Brandt (ODFW)
Chris Stine (ODEQ)
Craig Kohanek (OWRD)

Other Attendees

Beth Bendickson (PacifiCorp)
Scott Schevenius (PacifiCorp)
Jeffrey Brown (PacifiCorp)
Pete Sukraw (PacifiCorp)
Tere O'Rourke (NOAA Fisheries)
Kregg Smith (ODFW)
Audrey Squires (National Forest Foundation)

RCC Members Absent

Pam Sighting (USDA-FS)

INTRODUCTIONS, AGENDA, OLD BUSINESSIntroductions/Member Updates/Organization News

NOAA: The previously vacant Oregon Coastal Branch Chief position was filled by Tere O'Rourke in March 2020. The agency is underfunded and it might be quite some time before any other replacements are made.

USFWS: There has been no staff turnover, but there has been lots of movement on critical habitat for the northern spotted owl. At the end of the last administration, there was a proposed reduction for the program but the new administration has since postponed the new regulation, rescinded it, and reissued a new proposal that is more aligned with the 2012 proposal. It involves several million acres proposed in Oregon. Scott Center has not retired yet.

BLM: There isn't a lot of organizational news. They have steady staffing. The Archie Creek Environmental Assessment has been completed, and they are moving forward with the emergency salvage and rehabilitation effort. Lots of folks are involved. So far this year, the wildfires are to the south and on USDA-FS land, so they can now focus more on office needs.

ODEQ: In the 401 removal fill program, Jeff Brittain has taken the position of program coordinator. They are actively recruiting for his now-vacant, prior project manager position. It's a common scenario that people swap positions. This program is slightly understaffed.

ODFW: There may be some changes happening in the future to the Water Program; otherwise, it is pretty steady now. Their office was supposed to open September 1, 2021, but that may not happen now.

PacifiCorp: Josh Boyd is taking a position with Idaho Power.

PUBLIC OUTREACH

None planned at this time.

Steve suggested cancelling the October public project tour again this year due to COVID-19 restrictions. There was no objection.

FACILITY AND PROJECT UPDATES

Archie Creek Fire Rehabilitation Update

Steve reported we're in "mop up" mode. The line restoration work has been completed on federal lands. Most of the hazard trees have been put down. There is still some slash to be cleaned up and some trees are inaccessible for heavy equipment. Mike said on the BLM side, not much work is going on. He appreciated Josh Hooley, Pacific Power's Area Forester, working with him on solutions for the residential area at Susan Creek. He said it was a night-and-day difference. Regarding the Rock Creek restoration project, Mike was interested in the opportunity to track stream/fish recovery. This was a Jeff McEnroe project. Steve added that Mike's help was invaluable during post-fire rehab.

Fish Protection and Passage Facilities

Rich reported fish facilities are routinely operating. There have been historically low flows and high temperatures this year leading to significant algal growth. The algae are being found on canal trash racks and tailrace barriers necessitating heavy cleaning operations. The Slide Creek tailrace barrier is routinely cleaned.

Maintenance on the Soda Springs fish screen is scheduled for August 23, 2021 through September 29, 2021. Counts of downstream-migrating fish (fry and parr) are diminishing. Three to four weeks of the maintenance outage will coincide with the powerhouse outage so all flows will go through spillways and not through the turbine. (Post-meeting note: fish screen maintenance was postponed due to parts delays.)

Toketee Dam Rehabilitation

The timeline is the same. Negotiation is ongoing with FERC on the seismic loads.

Projects Requiring NTPs or Other Coordination

Steve reported that the USDA-FS is on IFPL 4 so only critical projects can proceed at this time with a waiver. Standard project operation is allowed to go on but other activities, including use of combustible engines and spark-emitting machinery, are not allowed. The USDA-FS has approved the Soda Springs fish passage maintenance project to proceed without a waiver.

Project	Status
<i>DOGAMI Permit Application</i>	Awaiting review and Signature
<i>Slide Creek Diversion Power Supply</i>	Pending
<i>Two new residences at Slide Creek Village</i>	Pending
<i>Utility pole replacements (LM2 and CW2)</i>	Pending
<i>Residential fencing and gates</i>	Pending
<i>CW1 Public Safety Signage</i>	Pending
<i>Fish Creek pumped storage Geotech borings</i>	Pending
<i>LM1 spillway electrical</i>	Pending

Rich added that the only planned and permitted in-water work is building the Lemolo 2 forebay crane pad and removing sediment at the Clearwater 2 Diversion.

Permitting /License Coordination

Currently there is a lot of coordination going on for the pumped storage project.

MONITORING PROGRAM & TECHNICAL WORK GROUP UPDATES

Rich gave the following updates:

SA 4.1 Soda Springs Fish Passage O&M

Other than the planned maintenance, there is nothing new to report.

SA 5 & 6 Flows and Ramping Monitoring

Nothing new to report.

PacifiCorp continues to comply with the minimum flow and ramping requirements. Rich is working on the WY2019 annual report for the F&R monitoring plan but is still waiting on the final published data from USGS. It's their normal lag time. He's hoping to get it out by end of the year.

SA 8.3 Soda Springs Bypass Reach Habitat Maintenance (update, schedule)

The spawning habitat structures are in great condition and retaining virtually all of the gravel placed last year. There is also additional gravel remaining upstream to seed the sites during future high flow events. There is no maintenance planned or warranted at this time.

SA 19.2 Long-term Monitoring and Predator Control (update, schedule)

Rich reminded folks that the TWG emailed out the final 2020 Long Term Monitoring/Predator Control Report on July 13, 2021. There were substantial edits and improvements to the report format. The report documented a record-high 950 adult Chinook salmon passed through the Soda Springs Dam. There were also record high numbers of the juvenile Chinook coming downstream and adult Coho going upstream.

In 2021, Chinook Salmon were still passing into June, but movement has slowed down due to high water temperatures. We won't know the final counts until September or October spawning periods. So far, things are looking positive for spring Chinook Salmon. Summer steelhead numbers are low and suffering throughout the whole northwest. Based on the ODFW surveys, there have been low numbers at the Winchester Dam and also in the holding pools in Steamboat Creek.

Jason reported the ODFW Umpqua District Fish personnel have been doing increased video monitoring and spawning surveys. Fish that otherwise would have stopped or gone up Steamboat Creek may be continuing up the North Umpqua River looking for cooler water. The North Umpqua River was recently completely shut down for angling due to the record low numbers of summer steelhead and poor instream habitat conditions. Water temperatures at the Winchester Dam were in low 80s during this summer's historic heatwave. Regarding summer steelhead, he doesn't know the exact numbers but said the Winchester Dam counts were extremely low. Because of that, ODFW Umpqua District Fish personnel have been doing 100% video counts back into May. The holding pool counts for summer steelhead at Steamboat and Canton Creeks are so far at historically low levels to the point of being eye-opening and alarming. All of the steelhead observed to this point were in the Big Bend and lower Big Bend pools in Steamboat Creek. Usual counts for this time of year are quite a bit larger, and counts appear to be around 25% of the previous low count. Obviously something is very, very bad for summer steelhead. This played a major part in ODFW's decision to shut down the North Umpqua River to angling. Most feedback on the closure was positive, but a few people were upset.

Rich added that they've made a couple of predator removal efforts. So far, about 21 brown trout have been relocated from the Soda Springs Reservoir to Lemolo Lake. Predator removal remains a challenge due to COVID-19 restrictions precluding use of the electrofishing boat. The budget remains on track.

Water Quality Certification Monitoring

Monitoring in the Soda Springs wild and scenic corridor continues according to plan. Rich submitted the annual report for 2020 to Chris on June 10, 2021. Chris said he is working on a response to the report. He wanted to collaborate with the basin coordinator in Medford to discuss the report. There is good data capture. He would like to evaluate the year-to-year trends in light of the previous discussion of low water, low returns, and warmer water temperatures. It was quite a period going back to 2004. The data back to 2007 was on the USGS website. Chris said their assessment team routinely accesses the USGS data so not only is it available on that site, but their assessment folks offload the data and make it publicly available on a website they maintain as well.

Rich talked about prolific algae in the Lemolo 1 Forebay (plastic-lined) resulting from the unusually dry, sunny weather this year. The flushing regime is still succeeding in keeping the pH within criteria, but the issue is that algae drifting out of the forebay tends to plug the trashrack and requires

extra labor to clean it for powerhouse operation. He said many different flushing regimes were tried, and it was determined that the best one was having a high forebay in the heat of day when algae are most active. It reduces light and creates the largest amount of cooler water. A slow drawdown is done at night when there is less algae floating. The forebay is then filled with colder water from Lemolo Reservoir early in the morning, and the regime is repeated. A pilot study of manually removing algae from the forebay was done during the June maintenance shutdown, and it was very labor intensive. Algae are starting to naturally decline (some from operations and some from weather). Chris wanted some clarification in terms of the growth cycle of algae when doing manual cleaning (pilot study). He asked if pH measurement and spot checks were still being done. He asked about stress growth cycle and temperature and was Rich comfortable with the decline. Rich said he had been doing some spot checking between noon and 5 PM, but that the recent wildfire smoke has cooled the afternoon air during most recent days. Chris asked about the end of the growth cycle and was all the existing algae at some point going to de-anchor itself and exit the system? He wanted to know what was observed. Rich said quite a bit exits when they dewater but the majority stays in the forebay and has been building up for years. Sediment, including pumice and crushed rock, enters the canal from roadwork and, snow removal. Chris will continue collaborating with Rich to explore management options that continue to improve and maintain forebay water quality and address plant and debris concerns.

OPERATIONS AND MAINTENANCE UPDATES

Powerhouse/Canal Outages (updates, plans)

Jeff reported that the Slide Creek outage was scheduled for next week, but a lack of available parts necessitated a cancellation. A Lemolo 1 transformer outage is coming up so lines from Toketee to Lemolo 1 will be out for a week. Work is continuing on the Toketee isolation valve.

Rich added that planned outage work at Slide Creek, Toketee, and Lemolo doesn't necessitate dewatering the waterways or fish salvages.

Reservoir Management (Lemolo, Toketee, Soda Springs)

Rich gave the following updates:

Lemolo Reservoir: The fall drawdown plan has gone to ODFW and USDA-FS for review. The plan and figures were emailed to ODFW and USDA-FS last Monday and we have a conference call set up for August 23, 2021 to discuss the preferred flow regime. This year the naturally low inflows mean that there is no way to achieve the usual target flow of 725 CFS flow at the Copeland gage. Instead, a target flow of 640 CFS at Copeland Creek seems attainable and sustainable throughout the Chinook spawning period. Should we have a dry fall, it may be necessary to draw Lemolo Lake below 4,123.5 ft MSL during late-October and November to sustain the 640 cfs target. We will plan to check in with ODFW and USDA-FS in early October when we have a clearer picture of the weather, to decide whether to draw the lake below 4,123.5 ft MSL. Jason said he would speak with their fish folks about timing and priorities.

Rich also explained that, because of the record low flows this summer, PacifiCorp has been managing the upper levels of Lemolo Lake on a slow drawdown which adds 10-12 CFS to the wild and scenic reach. The upper 3.5 feet (4,145 to 4,148.5) are managed during summer by PacifiCorp, and this year we have chosen to manage it by slowly trickling it out to improve flow in the mainstem

North Umpqua. The plan is to keeping doing this up to Labor Day when the fall drawdown begins. It's a drop in the bucket but it's what we can provide at our own discretion.

Toketee Reservoir: nothing new at this time.

Soda Springs: nothing new at this time.

SA 19.1 TRIBUTARY ENHANCEMENT PROGRAM

Jason reported that the hydropower crew is coming off a busy couple of months completing spawning ground surveys, monitoring water quality, and conducting instream restoration work in the Rock Creek basin. It was mentioned at the last RCC meeting that he would get final coho salmon spawning ground survey numbers from 2020/21. The numbers were promising considering potential fire-related habitat impacts. In East Fork Rock Creek, they observed 31 live fish on redds and 46 total redds with a peak of 15; in Harrington Creek they observed 17 fish on redds and 10 total redds with a peak of 4; and in mainstem Rock Creek they documented 66 live fish and 59 total redds. Jason believed he mentioned it at the last meeting, but coho numbers in Harrington and East Fork Rock Creek were comparable to previous years though distribution in East Fork Rock did not extend as high as they have seen in the past most likely due to lower winter flows. Winter steelhead spawning in Rock Creek remained low through the rest of May and early-June, with a peak mainstem Rock Creek redd count of 14 and lower East Fork Rock Creek peak count of 6 redds for the season. Lamprey surveys continued through June with a couple of redds observed in mainstem Rock Creek. Staff are getting ready to complete snorkel holding pool counts for adult spring Chinook and summer steelhead the next couple of months. Jason said it will be interesting to see what is observed in those surveys, particularly for summer steelhead, in light of the incredibly low numbers reported from Winchester Dam counts and Steamboat snorkel holding pool counts.

Against all odds, hydropower staff have been able to get water quality monitoring stations working again in Harrington Creek and North Fork East Fork Rock Creek with some slight recording glitches. They are still waiting to replace a couple other stations that were damaged/destroyed. As expected, water temperatures have been quite warm in Rock Creek the past couple of months and there has been significant concern about the well-being of fish in the system. Large numbers of chinook and possibly some steelhead have been observed stacked up at Rock Creek tributary mouths looking for colder water. Hopefully this stretch of cooler air temperatures will help the fish make it through the rest of the summer.

Though they didn't have any major post-fire instream restoration projects planned for this year, the crew finished up an intense in-water work period completing instream restoration activities. This year's restoration work consisted primarily of working with timber companies in the Rock Creek subbasin to get riparian hazard trees placed instream to provide benefits to fish and wildlife. As can be imagined, there was an abundance of hazard trees following last year's fire. After getting necessary access permits and contractor contracts in place, the crew was out on site working with the contractors to place 75 trees with rootwads attached in mainstem Rock Creek and East Fork Rock Creek and 250 trees were pushed over with crowns instream on mainstem Rock Creek and East Fork Rock Creek. They are hoping to hand cut an additional 150 hazard trees on other tributaries once fire restrictions are eased. The crew took some time to get ready for next year's restoration as well, marking property lines in East Pass Creek subbasin for phase 2 of instream restoration activities slated for 2022 and 2023.

Rich added an observation. He went into the Rock Creek burned area with Sam Moyers. On one hand he was disappointed that so many riparian trees had to be dropped (10% shade) as part of hazard tree removal efforts but the reality is that by placing them instream they will at least contribute to fish habitat which he is glad to see. He was encouraged by the work Sam and Kirk Haskett have been doing and appreciates all the work going on in the Rock Creek basin. Jason said he had the same concern and it's hard to see the restoration trees burned. The hazard trees are coming down but at least we'll get some instream habitat benefit with them.

SA 19.3 FEDERAL MITIGATION FUND

Audrey Squires provided a funding update and reviewed the FY22 Approved Mitigation Fund Projects list that she distributed earlier this week. Overall, \$1,060,030 of project funding was requested, and all projects were approved.

Strategic Planning

The draft plan is complete. Fire impacts are affecting the receipt of feedback. The plan is broader than SA 19.3. They also created a document that can be used to make sure the funds are being properly allocated and make sure projects are following the SA19.3 parameters. She will also use it to inform how next year's projects tie into the strategy. She said she is going out on maternity leave from November through May.

Rich thanked Audrey for sending out the project list and providing the update. If he has any questions or comments, he will check in with Pam.

OTHER RCC AGENCY PROJECTS AND/OR COORDINATION

None at this time.

PUMPED STORAGE CONSULTATION

Steve presented the project update. Per a conversation with FERC, a response on the preliminary permit application is expected in about four months. The project scope has been reduced and will now be for a near-term license amendment application for Fish Creek "pump-only." There will be no forebay expansion. The project will only use existing impoundments. New construction will be limited to a 48-inch conduit and pump connecting Toketee and Fish Creek penstocks.

Comments

Jason asked about the conduit river crossing. Steve said it would be full span over the river. It's being located above the 500-year flood stage (30-feet over the river). Jason asked if the conduit would be buried. Steve said yes, the conduit will primarily be buried within existing roads, but will daylight at the river crossing and the penstock connections.

Kregg asked about the diameters of Fish Creek and Toketee penstocks, which are 6-7 feet and 11-12 feet in diameter, respectively. Jason inquired about the 6 feet of pumped storage in Fish Creek forebay during high flow operations when there is another 5 feet of storage for normal operations. Steve said we don't typically use all 11 feet of active storage during current operations. Jeff's understanding is that they would need to leave a 6-foot buffer for the pumped storage operations.

Steve added that regarding using Fish Creek for firefighting purposes, it wouldn't be necessary to obtain a waiver for diversions from Fish Creek during the summer if the pumped storage development were built. There would be a new way to fill the forebay through pumping the flows from Toketee. Toketee Reservoir is blind to whether the water goes through the Toketee plant in the existing operations or whether it goes uphill to Fish Creek in the pumped storage scenario. PacifiCorp will only use the existing water right at Toketee and no more.

Jason asked, in general, does PacifiCorp use the 1,530 cfs? Steve said it's rare (approximately 5 percent of the year). Jeff added that it would only be during a typical high season in the winter. Jason asked if that would change with pumped storage? Would you be taking more water than usual? Steve said that is being looked at. Also, the differential. There are still a lot of pieces missing. The concept is that any time we pump up, we would have a corresponding reduction of flows at Toketee powerhouse (i.e., if we pump 190 cfs to Fish Creek forebay, flows through the Toketee turbines would go down by 190 cfs).

Logan said he was trying to understand how the pumping and generating cycles would impact downstream flows and ramping. Steve said the proposed pumped storage project will comply with all of the current license and settlement agreement requirements. Downstream of Slide Creek Dam, minimum flows and ramping will remain unchanged from the current project condition.

Chris questioned whether three-stage consultation would have been required for the larger pumped storage development including forebay expansions. Steve said that a three-stage consultation process would have been required and included a notice of intent, data collection for the pre-application document, public scoping, study planning, and study reporting, resulting in a five-year application process. The reduced scope of the Fish Creek pump-only project was selected to be as benign as possible with minimal permitting requirements to allow PacifiCorp to obtain a proof of concept as soon as possible. Pumped storage is critical for balancing an increasing variable generating fleet based on renewable resources. We are moving fast but we tried to make it simple for a reduced scope process. Chris stated that Fish Creek is the most under-utilized facility on the project. Steve agreed.

Regarding the environmental studies of FERC License Exhibit E, we are being proactive in the studies we're doing. There are a lot of potential impacts, especially water quality, that are theoretical until the project is actually built and monitored. It may determine how the project runs. "We are throwing the kitchen sink at this" to analyze all the potential impacts in advance and propose PM&Es as needed.

Comments

Geology & Soils

Chris asked about the geological boring for conduit bridge over the river. Suspending across the river is probably not trivial. Steve agreed, and said we are collecting the necessary geophysical and geotechnical data to do things right.

Jason was curious about the Fish Creek forebay spillway. With additional operations at the forebay, is there going to be a need for expanded capacity to accommodate emergency use? Steve said no, we're not increasing the operating size of the spillway. There is no anticipation that it would be used for anything more than an emergency spillway. There is no more water going to the forebay than

there would already been during normal, high-flow operations with diversions from Fish Creek. The forebay spillway may need to be expanded if the forebay were expanded but not with the current proposal.

Chris asked if there was the potential for a bypass valve. In the event the turbine and generation were offline, could water be routed down the penstock to the pump in an emergency situation? Steve replied water will not go downhill through the pump with the current proposal. That would make the pump a pump-turbine, and that is not proposed at this time. Emergency shut-off will occur just as it would in the current project condition for Fish Creek turbine.

Water Resources/Fisheries Resources

Steve said that flows diverted from Toketee Reservoir will be discharged to the same receiving water body (North Umpqua River at the Slide Creek impoundment) whether they go through Toketee turbines in the current project condition or are routed through the proposed pumped storage facilities and discharged through Fish Creek turbine. Currently we are doing water quality monitoring at the Toketee intake (trashrack), Fish Creek forebay when water is in there, and Slide Creek impoundment at Toketee and Fish Creek tailraces. We will continue to monitor through the license amendment decision so we'll have data for before-after comparisons. We've contracted with Four Peaks Environmental to develop a water quality model, with temperature being the parameter. The model is being developed now, and we hope to have more information in the next couple of weeks. Chris said many impacts may be able to be modeled to get a better picture of potential impacts.

Kregg asked about the pressurization of uphill pumping and how quickly would it dissipate within the forebay and ultimately in receiving waters down below. Has anyone considered that effect? The extreme pressurization may affect total dissolved gas and result in gas bubble trauma in fish. Rich said we will definitely be monitoring for TDG, although there aren't a lot of data logging sondes available due to supply chain shortages. We are looking at new technology providers. Chris also asked if and when a draft monitoring proposal gets created, it would be greatly appreciated if it could be shared.

Kregg mentioned bubble gas disease. Will you be able to do pre- (any fish exposed now) and post-project monitoring? Steve replied it would be post-project monitoring. Rich said that PacifiCorp performed gas bubble disease monitoring in Lemolo 2 full-flow reach back in 2004 before the reroute pipe was built and air entrainment was alleviated by a turbine rebuild. There was no evidence of bubble gas disease. We are interested to know what the saturation is after we pump water to forebay. If it turns out that the gas is exceeding the criteria, we may need to be do additional fish condition surveys.

Rich said one of the benefits of working with the Fish Creek forebay is there is no fish immigration down the canal to the Fish Creek forebay because of the fish screens at the intake. Steve reminded the group that we are only required to analyze the differential of the proposal from the existing project.

Kregg said he wasn't familiar with the Toketee fish screen/trashrack design and asked about the screen size. Steve said it was designed to screen out fish more than five inches in length with one-half inch bar spacing and 0.8 fps approach velocity. Native rainbow trout and non-native brown and brook trout are the target species in the reservoir. Rich said the trash rack is outfitted with a 50-foot-long Atlas Polar automated cleaning system.

Craig added that in looking at changing the point of diversion for Fish Creek, it would seem like it would be a continuation of the existing water right. Steve said that the Fish Creek water right doesn't need to change but only the Toketee water right place of use. The Toketee water right point of diversion or volume wouldn't change.

Frank asked a general question. Between pumped storage and construction, will you evaluate the noise of operation? Steve said it will be addressed briefly in Exhibit E. The conduit site is already subject to extensive noise as a result of operation of the Toketee and Fish Creek powerplants. In the short term, there will be minor additive impacts from construction, but in the long term there will not be any additional noise impacts above the baseline (i.e., current) condition.

Logan asked about Fisheries Resources and re-regulation effects within Slide Creek impoundment. He also asked about shoreline impacts at Fish Creek forebay as a result of the ramping. Steve said the Fish Creek forebay has a clay liner. The shoreline at Slide Creek is a rocky V-shape reach and ramping, which wouldn't be significantly different from the current condition, are unlikely to affect the impoundment. The effects of mixing in the reach include: 1) Toketee bypass 80 cfs minimum; 2) water coming through Toketee powerhouse; and 3) water coming from the Fish Creek powerhouse. The model will look at water volumes, temperatures, and residence time. It will also be continually updated with pre-project monitoring data to help validate the initial model results and improve the model going forward. These are all potential impacts that will be acknowledged and analyzed in the amendment application.

Final Comments/Thoughts

Jason appreciated these initial talks and discussion. It will help define what we need or might need as far as additional studies. Steve said if anyone has any questions or wants to suggest a study, that they should feel free to do it in these meetings, by email, etc. Craig asked if the PowerPoint presentation could be shared. Steve said he would distribute it but reminded everyone that it's still conceptual and subject to change.

PUBLIC COMMENTS: *None at this time.*

NEXT RCC Meeting: October 20, 2021

The meeting adjourned 1:04 PM.