



## FISH PASSAGE CENTER

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### MEMORANDUM

TO: FPAC

FROM: David Benner, FPC

DATE: July 12, 2018

RE: Upper Columbia Fishway Inspections Trip Report

Fishway inspections were conducted at Rocky Reach, Rock Island, and Wells Dams over May 23<sup>rd</sup> and 24<sup>th</sup>, 2018. During the dates these inspections were performed, the Upper Columbia was at a very high level of discharge that had not been encountered in recent years. As a result of the very high flows and resultant high tailwater elevations, several issues were encountered. The following is an explanation of each inspection.

#### **Rocky Reach (5-23-18, 8:30 AM)**

This inspection was conducted with several Chelan PUD employees (biologists and fishway attendants) and one WDFW employee. At the time of inspection, head differential criteria was barely being met at the most utilized fishway (Left and Right Powerhouse entrances). Project discharge was 296 Kcfs with 155 Kcfs of spill, and the tailwater elevation was very high, at 630.5 ft. Fish pumps were maximized. After discussion with Chelan PUD staff, it was decided to reduce gate depths at the spillway entrance (least used and very turbulent) to provide more water and attraction at the main entrances. This operation was agreed to continue until tailwater elevations declined enough where pumps could keep up with all criteria at the project.

#### **Rock Island (5-23-18, 1:30 PM)**

This inspection was conducted with several Chelan PUD employees (biologists and

fishway attendants) and one WDFW employee. At the time of inspection, the right bank fishway was being operated with forebay gravity water only, all fish pumps were off and no auxiliary water was being added to the right bank fishway. As a result, there was little to no head differentials at all right bank entrances, therefore little to no attraction to this fishway was being provided. The right bank fishway is by far the most heavily used fishway at Rock Island, typically passing 70-80% of all adult fish. The project had been operating in this manner for a period of approximately 10 days. Project discharge was 308 Kcfs with 177 Kcfs of spill, and the tailwater elevation was very high, at an elevation of 582 ft. Fishway attendants clarified that there was concern that turning on the fish pumps with the tailwater elevation at the project could flood out the walkway platform at the SMP collecting structure. With spring chinook being seen at projects just downstream, there was concern over passing them at Rock Island. It was clear that the middle fishway was washed out with enormous levels of spill and fish would not likely find this entrance. This left only the left bank fishway as generally useable for adult salmonids. After discussion with Chelan PUD staff, it was agreed to turn the pumps on early the next morning and run them for a minimum of 8 hours beginning early in the morning (period of peak adult entrances) and monitor the SMP walkway. The fishway attendants did turn the pumps on the next morning with no issues and were able to operate the pumps continuously, meeting all ladder criteria in the right bank fishway.

#### **Wells Dam (5-24-18, 9:00 AM)**

The inspection was conducted with two WDFW employees and one Operator from Douglas PUD. Upon initial inspection of the East Fishway, it was clear head differentials were minimal, if any, as water seemed to be actually flowing into the East entrances from the tailrace. At this time, the control room was recording a 1.1 ft. head differential, while the deck gauges (still well) were at 0.05 ft. and the physical staff gauges were fully submerged due to very high water (320 Kcfs) and readings could not be taken. At this time, auxiliary pumps at the east fishway were at very low RPMs, and inspectors asked the project to turn up the pumps. Operators explained that the fish pump room had recently been flooded and drains for the room were apparently clogged. The project was able to pump the water out and were working on freeing up the drains, however, during the flood, had to take the pump motors out to dry and pumps were stuck at this RPM until the drying process was finished. A meeting was setup between David Benner (FPC) and the lead project operator to resolve this issue. The operator explained that the motors to the pumps would be reinstalled in no more than several days, all drains augured out, and with dropping flows, the East Fishway should be back to normal operating criteria in several days at most. The calibration of the control room gauges was also discussed, as these gauges seem to be out of calibration. Douglas PUD agreed to calibrate these gauges as soon as possible.

All other fishway criteria were met at Wells Dam.