

# **Chelan River Fishery Forum**

## **Chelan River Habitat Channel Ramping Rate Investigation**

### **Proposal**

September 3, 2013

## **FINAL**

### **Background**

Flow reduction, or ramping rate, for the Chelan River was established by the Natural Sciences Working Group (NSWG) during relicensing negotiations in the Chelan River Biological Implementation and Evaluation Plan (CRBEIP) at a rate not to exceed two inches per hour. The NSWG anticipated future studies would be conducted to determine whether the initial ramping rate would continue to be required or additional information could be collected to establish an alternate ramping rate that would provide equal protection for preventing stranding of juvenile fish. The ramping rate contained in the CRBEIP was incorporated as a requirement into the current operating license for the Lake Chelan Hydroelectric Project (Project) by the Federal Energy Regulatory Commission (FERC).

During pump station shut-downs at the end of steelhead and Chinook salmon spawning seasons, the shut down procedures, shutting down one pump per hour until all five pumps are off, violates the ramping rate of no more than two inches per hour. Data collected during pump station shut-downs show that water levels in the Chelan River Habitat channel drop between 4 to 6 inches after each pump is shut down, which is a violation of the ramping rate. Most operational violations of license requirements require a report to FERC that include an explanation of the violation and corrective actions to be taken to avoid future violations. As a corrective action, Chelan PUD proposes to conduct a Ramping Rate Study to investigate whether juvenile fish are stranded during pump station shut down and, if not, whether a new ramping rate can be instituted for future pump station shut-down operations at the end of the steelhead spawning season (May 15) each year. The pump station shut down operation after the Chinook spawning season is not a concern because no small fish have been identified during snorkel surveys as being present in the Habitat Channel at the end of the Chinook spawning season (November 30).

### **Proposal**

1. Conduct the Ramping Rate Investigation in May 2014 when Chinook salmon fry are identified in the Habitat Channel, likely mid-May
  - a. This time frame will have the greatest abundance of Chinook salmon fry in the Habitat Channel and provide the greatest potential for fish stranding
2. Maintain Low Level Outlet (LLO) flow of 80 cfs during investigation.
3. Begin the investigation at the normal 5 pump operation, providing a total flow of approximately 340-350 cfs in the Habitat Channel
4. Drop one pump per hour from 5 pumps to 2 pumps
  - a. Flow in the Habitat Channel will be located primarily in the thalweg of the channel after 3 pump reduction, so reducing further will not create additional stranding potential
5. Have Chelan PUD seasonal crews search the full length of both sides of the Habitat Channel thoroughly, turn over rocks, push back willows, etc. immediately after each pump is shut down
6. Record water elevation drop between each pump shutdown
7. Record any Chinook fry or other fish species stranded during investigation as to Habitat Channel location, stranding area substrate size and slope, and time of stranding
8. If stranded fish are observed, attempt to salvage and return to the river as many fish as possible.
9. Provide investigation summary to the CRFF for further discussion of ramping rates to be implemented during future pump station operations