

MEMORANDUM FOR THE RECORD**SUBJECT: 22BON050 MFR AFF Lamprey, Sockeye, and Smolt Mortalities****Background:**

On the evening of Friday 15 July, Bonneville Project notified Bonneville Fisheries of a broken pulley on the winch system of one of the adjustable weirs in the entrance ladder of the Adult Fish Facility (AFF). The repair could not be addressed until the following working day due to the equipment failure occurring on the weekend. Since the weir was broken and stuck in the closed - “sampling” condition, the facility was left in trap mode with the sampling flume doors set to bypass to the return pool to allow fish to exit the AFF system and return to the Washington shore ladder. The operational measure that should have been taken before this repair could be addressed was to lower the collection pool elevation to not allow access to the false weirs and sampling flumes. This corrective action was taken immediately after the mortalities were discovered and adult sampling was finished for the day on Monday, July 18.

Until the mortalities were discovered, it was unforeseen that fish could fit through the gap between the hydraulic sampling doors that separate the sampling flume from the bypass flumes (Photo 6). However, on the morning of 18 July, Columbia River Inter-Tribal Fish Commission (CRITFC) Biologists notified Bonneville Project Biologists of four fish mortalities that were discovered inside their sampling tank. The four fish mortalities were composed of two adult Pacific Lampreys (Photos 1 and 2), one salmon smolt (Photo 3), and one adult sockeye (Photos 4 and 5). These mortalities were NOT sampled by CRITFC and are a direct result of the pending repair at the facility. The future and preventative measures that USACE will take are to repair the winch and pulley system on adjustable weir and ensure that the collection pool water elevation is well below feasible access to the false weirs of the sampling flumes until the repair is completed.

Two Lamprey Morts- Mort 1 (Photo 1) & Mort 2 (Photo 2)

- A. Species – Pacific Lamprey, *Entosphenus tridentatus*
- B. Origin – NA
- C. Length – Mort 1: approx. 69 cm. Mort 2: 66 cm
- D. Marks and tags – NA
- E. Marks and Injuries found on carcass – Mort 1: NA , Mort 2: hemorrhaging in eyes and oral disc
- F. Cause and Time of Death – Stuck in sample tank with insufficient water, discovered on 18 July
- G. Future and Preventative Measures – Ensure water levels in collection pool are well below access to false weirs of the sampling flumes.



Photo 1: Pacific Lamprey mortality # 1.



Photo 2: Pacific Lamprey mortality # 2.

Smolt Mortality (Photo 3)

- A. Species – *Oncorhynchus* smolt
- B. Origin – NA
- C. Length – approx.. 22 cm
- D. Marks and tags – Clipped adipose, no tag
- E. Marks and Injuries found on carcass – wound near pectoral fin
- F. Cause and Time of Death – – Stuck in sample tank with insufficient water, discovered on 18 July
- G. Future and Preventative Measures – Ensure water levels in collection pool are well below access to false weirs of the sampling flumes.



Photo 3: *Oncorhynchus* smolt mortality.

Sockeye Mortality (Photos 4 & 5)

- A. Species – *Oncorhynchus nerka*
- B. Origin – NA
- C. Length – approximately 46 cm
- D. Marks and tags – Unclipped adipose, no tags.
- E. Marks and Injuries found on carcass – wound near pectoral fin, hemorrhaging in pelvic fins.
- F. Cause and Time of Death – Stuck in sample tank with insufficient water, discovered on 18 July.
- G. Future and Preventative Measures – Ensure water levels in collection pool are well below access to false weirs of the sampling flumes.

PHOTOS CONTINUED ON NEXT PAGE...



Photo 4 : Sockeye mortality.



Photo 5: Sockeye mortality -details of wounds.

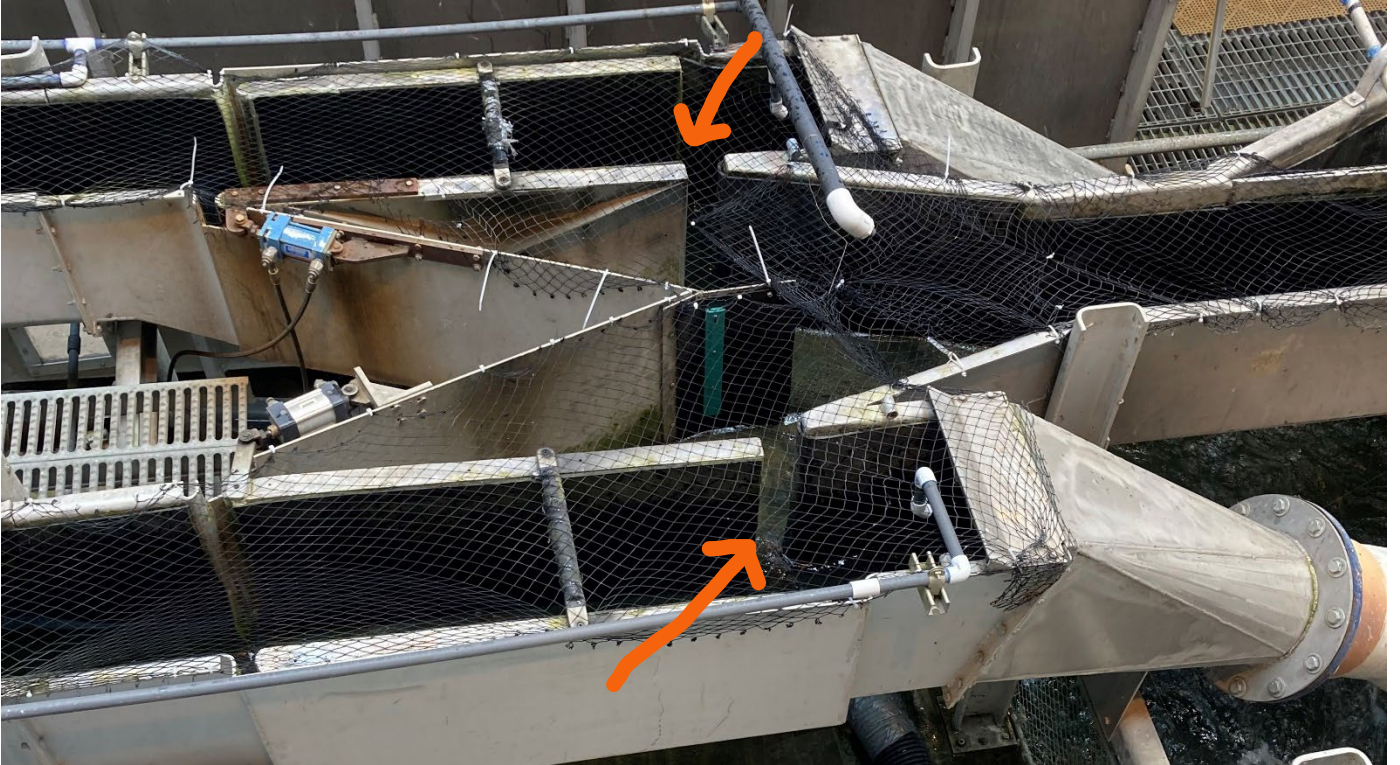


Photo 6: Orange arrows displaying gaps between sampling flume and bypass flume in the AFF.

Sincerely,
Bonneville Project Fisheries