

MEMORANDUM FOR THE RECORD

SUBJECT: 14BON37 MFR – Sockeye Salmon and Pacific Lamprey mortalities at Bonneville's Cascades Island picket leads.

On 17 July 2014, a U of I researcher alerted Bonneville Project Fisheries that there were Pacific Lamprey mortalities in the Cascades Island exit section. Upon inspection, four lamprey mortalities were found floating in the Cascades Island exit section (picture 1), all severely decomposed; roughly two dozen lamprey mortalities of varying decomposition were found on the picket leads, the majority on the lower (downstream) leads (picture 2); and one decomposed sockeye salmon was recovered from the upstream picket leads (picture 3).

Project Biologists believe that the lamprey mortalities have occurred throughout the season and collect on the lower picket leads, which have not been recently checked by project personnel. Additionally, these lower set of leads were recently modified to reduce the spacing between the pickets from ~1" down to ¾" to exclude lamprey from the upper Cascades Island section. During a recent dewatering it was discovered that gaps remain on the bottom and some sides of the new leads, still allowing lamprey to egress above the leads, but the reduced spacing likely makes it more efficient at collecting mortalities. Also, after the middle section of new picket leads was placed, an overhead gap allowed several adult salmonids to jump over that lead and into the upper exit section of Cascades Island; the ladder exit was opened, the gap was screened, and an emergency dewatering of the Cascades Island exit section occurred on 01 July. The sockeye mortality is likely a holdover from that incident.

Available information is provided below:

- A. Species – Pacific Lamprey (*Entosphenus tridentatus*) and sockeye salmon (*Oncorhynchus nerka*)
- B. Origin – Unknown
- C. Length – PL : unknown, SOC: 31 cm.
- D. Marks and tags – PL: unknown, SOC: no tags.
- E. Marks and Injuries found on carcass – Unknown.
- F. Cause and Time of Death – Lamprey mortalities likely occurred over an extended period of time, collecting on the lower picket leads. Sockeye mortality was probably due to an overhead picket lead gap discovered on 26 June.
- G. Future and Preventative Measures – During winter maintenance, the lower picket leads will be further modified to completely exclude lamprey from the upper Cascades Island exit section. The overhead picket lead gap has been screened.

Picture 1:



Picture 2:



Picture 3:



Sincerely,
Bonneville Fisheries