

**MEMORANDUM FOR THE RECORD - 17 IHR 10**

**SUBJECT:** 1 Adult and 2 juvenile fish mortalities due to plugged orifices on June 26, 2017.

- A. Species – *Oncorhynchus tshawytscha*, 1 clipped adult Chinook salmon, 1 clipped yearling Chinook salmon, and 1 unclipped subyearling Chinook salmon.
- B. Origin – Unknown.
- C. Length – The adult Chinook measured approximately 28” fork length, the juveniles were not measured.
- D. Marks and tags – No other marks or tags.
- E. Marks and injuries found on carcass – The adult chinook had linear indentations on one side of its body (see photo below), probably from being pressed against sticks that were plugging a gateway orifice.
- F. Location – Fish collection for sampling was occurring at the time. The dead adult fish came into the separator. The dead juvenile fish were found in the sample tank when preparing to transfer the fish into the lab.
- G. Cause and time of death – On June 26, at 0830 hours, fish facility personnel went to the juvenile fish channel to cycle and backflush orifices. Three orifices were found to be totally obstructed with debris and two other orifices were partially plugged. As the plugged orifices were being cleared of debris, large amounts (about three 32-gallon buckets, see photo below) of woody debris came into the separator. The adult chinook came into the separator about an hour after orifices were backflushed. The 3 fish probably died from being impinged on debris stuck across orifices. The fish were descaled and were showing early signs of bloating, so they were probably dead for at least a day.
- H. Future and preventative measures – The project biologist’s requested frequency of orifice cycling and backflushing has been four times a day (every 6 hours) this spring. This is being increased to six times a day (every 4 hours). There will be a logbook for personnel to record each time they backflush orifices, to better track when it is being done.
- I. Pictures included – see below.

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