

MEMORANDUM FOR THE RECORD 19-IH-01

SUBJECT: Four juvenile Chinook salmon mortalities during unwatering of the Ice Harbor Dam upper south fish ladder, for annual inspection and maintenance.

- A. Species – *Oncorhynchus tshawytscha*.
- B. Origin – Unknown. Most or all were unclipped.
- C. Length – Approximately 5”
- D. Marks and tags – None observed.
- E. Marks and injuries found on carcass – One with torn operculum, two descaled.
- F. Location – Inside the south fish ladder, from picketed leads area down to tailwater level.

- G. Cause and time of death – On January 2, during the unwatering of the upper south fish ladder, one juvenile Chinook was inadvertently caught against the concrete and killed while being dip-netted out. On January 7, three more juvenile Chinook mortalities were observed when looking down into the fish ladder. One fish was in the count station pool and had a torn operculum, which presumably happened when personnel were directing fish down the ladder on January 2. The other two fish were found stranded on the concrete floor of the ladder, in the section between the count station and tailwater level. These two fish had descaling on their sides, from becoming stranded on the concrete sometime after the upper diffuser was shut off.

- H. Future and preventative measures – During the unwatering of the upper fish ladder, the proper water levels were maintained from the upper diffuser for evacuating and removing fish. However, it can be difficult for personnel to direct juvenile fish downstream with dip nets in the long, flat pool at the count station. Also, there was leakage from the ladder exit bulkhead which made it somewhat challenging for personnel to see juvenile fish at the lower turning pool and net them all out. The Fish Facility just purchased a seine, which will be used in future years at the count station pool and lower turning pool as needed to aid in crowding fish for evacuation and removal.

- I. Pictures included – none.

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