

MEMORANDUM FOR THE RECORD: 25 LGS 01 JBS Channel Adult Mortality**SUBJECT: Solitary Steelhead Mortality**Background

One unclipped Steelhead mortality was observed on the dewatered floor of the Juvenile Bypass System (JBS) channel approximately 3 feet in front of the emergency exit release hatch on January 30, 2025. Juvenile Fish Facility personnel spotted the fish upon executing winter maintenance activities at the primary dewaterer. Maintenance personnel also performed winter maintenance activity in the same area on January 13, 2025, at which time no fish were present on the JBS channel floor. The JBS channel was completely checked and clear of all aquatic species the afternoon of December 18, 2024 and again on December 18, 2024. The mortality incident likely occurred shortly after the January 13, 2025 maintenance activities. The area has no historical record of similar occurrence for at least 10 years.

The JBS was dewatered and thoroughly decommissioned on December 18, 2024, and fish salvage activities ensued as reported. All fish were hand-crowded out of the orifice galley tunnel towards a safety pool located between the decline plate downstream of the makeup water supply grate and the emergency release pipe exit. During the final stage of the crowding process a failure of the makeup water grate cover was discovered. As fish were moved into the safety pool area, they were observed moving over the exposed makeup water chamber and around the damaged grating cover. The makeup water valve was exercised the day prior to alleviate turbidity issues otherwise associated with visual enumeration of fish exiting through the emergency fish bypass pipe exit. The makeup water valve was then opened to coordinate flush water flow as the fish were released through the emergency release pipe exit. In recognition of the compromised makeup water grate cover diversion potential, the makeup water flush continued for approximately 2 hours after the fish release to encourage as much fish departure from the makeup water chamber as possible. The expired fish was trapped within the makeup water chamber beneath the JBS concrete floor. Declining oxygen levels within the chamber likely prompted the fish to attempt escape by means of jumping out of the makeup water opening back onto the JBS channel floor. No further fish species observed within the makeup water opening to the chamber below.

- A. Species – Steelhead *Oncorhynchus mykiss*
- B. Origin – Wild
- C. Length – 28 inches

- D. Marks and tags – None.
- E. Marks and Injuries found on carcass – None.
- F. Cause and Time of Death – Hypoxia. Estimated time of death shortly after January 13, 2025, based upon degree of fungal presence and tissue decomposition.
- G. Future and Preventative Measures – Investigation discovered the underside of the damaged makeup water grate cover was completely plugged by river vegetation, corbicula shells, and small woody debris as a likely contributing factor to the cover failure. Either an annual or semi-annual periodic maintenance schedule will be proposed to project maintenance personnel following each annual JBS dewatering / decommissioning activity to clear the makeup water grate cover for maximum functionality.

JBS channel to emergency bypass release pipe; fish mortality location



JBS makeup water valve damaged grate cover



JBS makeup water valve grate underside



Sincerely,
Deborah L. Snyder
Supervisory Fish Biologist
Little Goose Lock and Dam
(509) 404-3263