

MEMORANDUM FOR THE RECORD: 16 MCN 013 MFR Adult Fish Loss – tailwater log slots.

SUBJECT: On July 25, the tailwater logs were installed at unit 1 for unit dewatering and 9 year overhaul. No salmon were seen in the scroll case or draft tube. On July 29, while walking the tail deck during a ladder inspection, the project biologist examined unit 1's tailwater log slots, which remain watered during the unit outage. The water is above the installed logs. There are two slots. At about 1200 hours, adult salmon mortalities were observed in each slot. The general maintenance staff was immediately informed a fish salvage was required. The mechanic staff was immediately informed air lines were needed for each slot. Fortunately, both crew were already on project working overtime on other jobs. By 1600 hours, all known mortalities were removed and the air lines were installed. The north slot appears to have 1 to 2 sturgeon and 1 to 2 Chinook salmon still alive in the slot. The south slot appears to have 1 to 2 Chinook salmon still alive in it. There is presently no way to rescue these fish due to the structure of the slots as there is a large recess on the upstream side of the slot. The air stones will remain in place until the unit returns to service on September 5. On July 30, the biologist noted one Chinook mortality on each slot. On August 1, from 0930 to 1045 hours, additional mortalities were removed.

- A. Species – Adult summer Chinook salmon, 43 total mortalities, 8 from north slot, 35 from south slot. (Seventeen were removed on July 29 and 26 were removed on August 1.)
- B. Origin – hatchery and wild, 15 were adipose clipped and 28 were non-clipped.
- C. Length – 24 to 36 inches.
- D. Marks and tags – none noted.
- E. Marks and Injuries found on carcass – none noted.
- F. Cause and Time of Death – heat stress is most likely as air temperature has been over 100 degrees F all week and possibly a lack of oxygen. On August 1, at 1130 hours, the south slot measured 73 degrees F, the north slot measured 70 degrees F and the Oregon ladder entrance measured 70 degrees F. The air temperature was 79.5 degrees F. Carcass were starting to decompose. Mortality probably occurred within a day or two of log installation except one fish removed on August 1 appeared to have expired with in a day or two.
- G. Future and Preventative Measures –Unit 1 is near the south Oregon ladder powerhouse entrance. Possibly salmon have a false attraction to unit 1. No other recent unit outages resulted in fish mortality or required air stones to be installed. Before tailwater logs are installed in the future at unit 1, suggest examining the slots for fish. Install air stone in the tail water log slots immediately after logs are installed at unit 1. Possibly move unit 1

outages that require tailwater log installation to a different time of year when adult fish passage is minimal.

Sincerely,
Bobby Johnson
Project Fisheries