

MEMORANDUM FOR THE RECORD – 19 LMN 05 MFR Secondary Bypass due to Raceway Capacity

SUBJECT: Large numbers of steelhead passing the project during the first week of collection for transportation led to several incidences of fish being bypassed either via secondary bypass or releasing raceways back to the river due to constraints of raceway and barge hold capacities. On Wednesday, April 24, an estimated 67,087 smolts from raceways 3 and 37,834 smolts from raceway 4 were released back into the river after a flurry of large steelhead entered the facility in the early morning hours and quickly surpassed the holding capacity of both B side (large fish) raceways. This occurred within 2 hours (one on each raceway) and these hourly numbers of fish entering the system were much higher than anything seen in past years. Biologist made decision to release the raceways 3 and 4 back into the river at 0630 hours on the 24th, and collection for transport resumed at 0800 hours into these raceways. Although the raceways, according to our estimation, were past their capacity for holding fish, no stress or mortality was witnessed before the fish were released. Oxygen levels appeared to be sufficient as the fish were not piping and holding in the raceway in an abnormal fashion.

When the barge arrived several hours later than normal in the early morning hours of April 25, there was insufficient room in the barge holds to transport all of the fish collected. An estimated 65,072 smolts from raceways 1 and 2 collected for transport on the A side (small fish) from 1500 April 23 to approximately 0100 April 25 were returned to the river and recorded as bypassed.

PIT-tagged fish that were released from the raceways back to the river on April 24 and 25 would be incorrectly designated as transported in Ptagis because their last detection location would have been to the raceway.

On Saturday April 27th, the B side of the facility was switched to secondary bypass for one hour from 0500-0600 due to a stuck raceway loading valve and inability to switch raceways to avoid going over the holding capacity. The valve was unstuck and normal operation resumed at 0600 hours. Using hourly sample counts, it is estimated that approximately 1,200 fish were bypassed during the morning of April 27th.

- A. Species – Chinook salmon *Oncorhynchus tshawytscha*, Steelhead *Oncorhynchus mykiss* and coho salmon *Oncorhynchus kisutch*.
- B. Origin – Hatchery and Wild

- C. Length – N/A
- D. Marks and tags –N/A
- E. Marks and Injuries found on carcasses –N/A
- F. Cause and Time of Death – N/A
- G. Future and Preventative Measures – N/A

Sincerely,
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