

MEMORANDUM FOR THE RECORD (22TDA02 MFR Wasco PUD mortality)

SUBJECT: *fry and lamprey mortality in Northern Wasco County PUD dewatering structure on the north shore of The Dalles Dam.*

Northern Wasco County PUD is building a new sampling facility to ensure safe passage conditions through the dewatering structure by sampling fish one 24 hour period once a week, April through July. To facilitate construction, an early and extended outage of the bypass system was negotiated (October 1, 2021 through March 31, 2022). Consequently, any fish entering the dewatering would not have an exit. Last week we noticed dead subyearling chinook fry and some lamprey in the debris brushed (by hand) from the screen at the downstream end of the structure, (see attached pictures).

It would be difficult and time consuming to get an accurate count of the number of fish impacted but it appears there are hundreds of fry and an unknown number of lamprey. A more accurate count would require dewatering, clearances, turbine and ladder outages, separation of morts from debris and considerable PUD staff at a time when it is desperately needed to reconnect the bypass system. Brushing the screens is pointless because there is no exit for the debris. PUD staff will do what they can to minimize future impacts, see section G below.

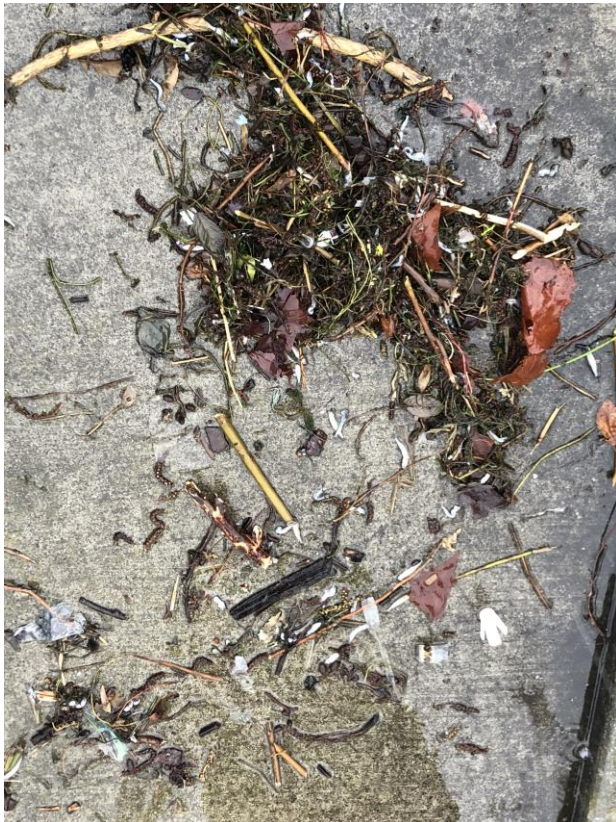
The PUD contract biologist, Rick Martinson, PSMFC, will work with PUD staff to investigate a complete dewatering and better assessment of the situation. A full dewatering may be needed prior to water up to clean the unbrushed sections of the screens at the downstream end of the dewatering structure.

- A. Species – subyearling chinook fry (*Oncorhynchus tshawytscha*) and Pacific lamprey (*Entosphenus tridentatus*).
- B. Origin – Columbia River or tributary
- C. Length – salmon-<60mm, lamprey- about 125mm
- D. Marks and tags – none
- E. Marks and Injuries found on carcass – scrapes, decomposition
- F. Cause and Time of Death – impingement, delay, impacted by debris, unknown when they arrived or when they died, likely ongoing.
- G. Future and Preventative Measures – starting on Tuesday, March 08, 2022, PUD staff will be conducting a back flushing operation in an attempt to flush fish and debris out the sluice gates. This route drains into a plunge pool that is connected to the AWS chamber under the grating at the north fish ladder entrance. This will be done twice a week, planning on Tuesday and Thursday but that may change due to work load.

PUD staff have had to take on much of the construction work associated with this new facility so their time is limited (striving to get bypass reconnected by April 1) but they will do the best they can.



Lamprey morris



Fry mixed with debris

UPDATE:

The PUD conducted a back flushing operation in the dewatering structure on Tuesday, March 8, 2022. The process worked well to evacuate most of the debris present in the structure but overall the amount of debris was far less than suspected. There was an accumulation of stuck sticks in one spot that is the biggest concern (see picture below). The PUD will attempt removal of the sticks next week using a “grappling” hook device to break it loose.

No fry were observed swimming in the clear slack water at the downstream end of the structure. There were some fry impinged in the screen at the furthest downstream point, but other than that no other impinged/dead fry or lamprey were observed.

All of the debris accumulation and mortality was concentrated at the downstream end making the situation appear worse than it was. All of the wall screens were free of debris.

The PUD will continue to monitor the situation until the bypass returns to service.

