

**MEMORANDUM FOR THE RECORD****SUBJECT: 22TDA15 Main unit 20 dewatering sturgeon mortalities**

Main unit 20 has been out of service for several years due to a transformer issue. Maintenance work was planned for the top plate, which required it to be dewatered. It could not be spun to flush fish before dewatering. No fish were found in the scroll case. Two Lamprey, 30 catfish and 280 sturgeon were removed alive from the draft tube. Twenty-five dead sturgeon were also removed from the draft tube drain grate.

Dewatering procedures were followed; access was timely and water level sensors were confirmed accurate. Thus, stranding was determined not to be the cause of death. All mortalities were likely caused by impingement on the drain grate during the draining process.

- A. Species – Sturgeon.
- B. Origin – Columbia River, The Dalles Dam tailrace.
- C. Length – Range 14”-41”.
- D. Marks and tags – All PIT scanned, 2 PIT tagged.
- E. Marks and Injuries found on carcass – Most had numerous bruises and bloodshot, indicative of grating impingement.
- F. Cause and Time of Death – Impingement sometime between 11/1 and 11/3, 2022
- G. Future and Preventative Measures – Evaluate if the maintenance need can be postponed or changed if left open to the river for an extended period without spinning the unit before dewatering.



Fig 1. Sturgeon mortalities that were removed from the draft tube.

Sincerely,  
The Dalles Project Fisheries

Comments from agencies (From the November FPOM):

Randall, USACE - There were 300 fish in the draft tube, there was water because it was clogged with mud and took 4 hours to clear. Something that Cordie was afraid of, an undersealed means of shutting the unit down, so it had lots of time to hold fish. Will do main unit 19 next and will be same conditions, insisting on spinning the unit beforehand.

Mackey - Is spinning included in FPP?

Day, USACE – Yes, it is included, but the unit could not spin, it was an unscheduled outage. They are doing a step saving procedure, Cordie is in notation to make sure it does get spun.

Conder, NOAA – Why would a clogged drain cause a fish kill?

Day, USACE, NOAA – Fish were not stuck against the drain, however there were injuries on fish. Some fish may have died from impingement on the drain. Fish save mode is 20 to 30 feet of water so there may be impingement at 7 to 8 feet.

Day, USACE - At some point on Wednesday it was way down, some fish had marks from impingement.

Lorz, CRITFC – Will there be an AAR, are there ways to prevent this in the future?

Mackey, USACE – This may not be a worth while expense at TDA.

Day, USACE - 9 times out of 10 there is 3 fish in there and they are fine.

Bettin, BPA - Could use a fish scanner and could us a go no go on draining.

Mackey, USACE – If it below 7 feet in the afternoon, finish it.

Conder, – Is there a way to limit the flow?

Mackey, NOAA – No its either opened or closed.

Van Dyke, ODFW – How is BON different than TDA?

Mackey, USACE – TDA is bigger units.