

**MEMORANDUM FOR THE RECORD****SUBJECT: 23JDA38 Broken Orifice Shaft in Gatewell 12B and Vertical Barrier Screen Repair.**

On Thursday 2 November 2023, at approximately 0800, JDA fisheries personnel found numerous juvenile shad morts in gatewell 12B. Operations was contacted, and an orifice inspection was performed. The inspection revealed the orifice wasn't opening, but the shaft was functioning properly. Main unit-12 was taken offline until repairs could be made.

There was a similar issue with the 12-B orifice in July (see 23JDA29). The intention was to leave the orifice open until winter maintenance. However, the 'trouble orifice light' came on, which required JDA Fisheries to cycle the orifice (performed on Tuesday 31 October 2023). It's likely the trouble light indicated the orifice pin had already sheared off the shaft.

Once the temporary repair is completed, the gatewell will remain in local/open mode until winter maintenance. Winter maintenance will allow JDA crews to inspect the orifice from both sides and detect any issues that may be shearing the pin off the orifice.

Additionally, fasteners holding the top panel of the vertical barrier screen in place were found to be missing during the repair of the orifice. Maintenance crews are working on the repair today (7 Nov) and plan to have the unit returned to service by the end of the day.

- A. Species – 5000+ Shad salvaged (no other observed morts or stranded fish species)
- B. Origin – NA
- C. Length – ~10cm
- D. Marks and tags – NA
- E. Marks and Injuries found on carcass – Some descaling and fungus.
- F. Cause and Time of Death – No egress route
- G. Future and Preventative Measures – The orifice will be fixed, and the orifice will be kept in local mode until winter maintenance. Once the bypass system is dewatered crews will be able to get a better look at the orifice from both sides to make sure there aren't any obstructions causing the repeated damages.

Sincerely,

JDA Project Fish