

MEMORANDUM FOR THE RECORD 16 LGS 07**SUBJECT: 18" Pipe Leak, Delayed Juvenile Fish Collection**

A leak was discovered at the bottom of flanged coupling adapter, downstream of the 18" Knife Gate Valve on the Secondary Emergency Bypass Pipe. The leak was noted at the end of the shift on Tuesday, March 29, 2016. The mechanical maintenance crew attempted to apply an external patch on Wednesday, March 30, 2016. Unfortunately, the parent metal has corroded so much from the inside of the pipe (where inspection is difficult), that the attempted application of the patch caused the leak to increase from its original size and volume. The attached photographs give a fairly good indication of the current leakage. Since Wednesday afternoon, we have been working with local vendors, as well as the manufacturer of this flanged coupling adapter to identify the specific size and part number.

Upon initial evaluation, we determined that the 18" pipe could be repaired by opening the 30" supply pipe from the primary dewaterer. This 30" pipe provides the water supply to the JFF, so opening the drain valve on the 30" pipe would also dewater the JFF and prevent the collection of fish. In this scenario, fish would continue to the river via the primary bypass. On March 31, 2016, the knife gate valve on the 30" pipe was opened to relieve the water in the 18" pipe and allow for repairs. Initially, this procedure stopped water leaking from the ruptured 18" pipe, but over the weekend, water pressure continued to build and leakage resumed.

Our current path forward is to dewater the 30" pipe to eliminate the possibility of water leaking from the 18" pipe. This will require us to block off the downstream side of the primary dewaterer for up to two hours, close the valves below the primary dewaterer supplying the 30" pipe while using the 18" pipe as an air vent. Once the 30" pipe is dewatered, the flume can be watered up again and primary bypass can resume. While the 30" pipe is dewatered, the repairs to the 18" pipe can be completed without any safety concerns. We expect to receive the replacement parts for the 18" pipe Tuesday, April 5, 2016. The 30" pipe will be dewatered Wednesday, April 6, and repairs to the 18" pipe will occur on Wednesday and Thursday. On Friday, April 8, 2016, the primary dewaterer will, again, be blocked off for up to two hours to permit water-up of the 30" pipe, using the 18" pipe as a vent. Once the 30" pipe is watered up, we will water up the flume and resume primary bypass. We will collect our next regularly scheduled sample on Saturday, April 9, 2016.

- A. Species –
- B. Origin – N/A
- C. Length – N/A
- D. Marks and tags – N/A
- E. Marks and Injuries found on carcass – N/A
- F. Cause and Time of Death – N/A
- G. Future and Preventative Measures – Regular evaluations of pipe thickness and estimates of corrosion, as part of a preventative maintenance program, will help predict potential failures and make plans to repair aging infrastructure.

Sincerely,
Towns Burgess
Little Goose Project Biologist

