

## **OFFICIAL COORDINATION REQUEST FOR NON-ROUTINE OPERATIONS AND MAINTENANCE**

**COORDINATION TITLE-** 22JDA01 North Fish Ladder 4-Day Outage for Sensor Housing Replacement (NFL-Channel) During the Week of March 7<sup>th</sup>, 2022

**COORDINATION DATE-**

**PROJECT-** John Day Dam

**RESPONSE DATE-** 3 March

### **Description of the problem**

At 6AM on Friday February 11<sup>th</sup>, 2022, John Day Fisheries personnel (JDF) discovered the North Fish Ladder (NFL) was out of criteria (the NFL was in criteria at 4PM the previous day). The PLC showed a differential of 0.0' instead of the FPP required 1-2'. Normally this would indicate an issue with the AWS pumps. However, the same PLC showed all pumps were running at normal levels. An immediate investigation was performed, and JDF discovered the housing for the NFL channel sensor detached from the wall, fell into the ladder, and left the sensor free-floating in the channel (See figure 1). This ultimately led to incorrect sensor readings. The staff gauges were checked, and the NFL was running within the 1-2' differential criteria. The control room was immediately notified, and the pumps were put in manual mode (3-pumps running at 190 RPMs). The channel sensor is necessary to ensure ladder differentials are kept within FPP requirements 24/7 and should be repaired to avoid any complications during the adult fish passage season.

The NFL has already undergone winter maintenance for the season and was returned to service January 21<sup>st</sup>, 2022. The remainder of the winter maintenance season will be needed to complete preventive maintenance and repairs on the South Fish Ladder (SFL). Additionally, the navigation lock outage has depleted any personnel that would otherwise be available for fisheries support (mechanics, electricians, crane operators, etc.). Therefore, JDF is requesting the ability to take the NFL out of service during the week of March 7<sup>th</sup>, 2022, to repair the channel sensor housing.

By waiting until the week of March 7<sup>th</sup> JDF will have all necessary personnel available to quickly repair the sensor housing. The week of March 7<sup>th</sup> also coincides with relatively low fish passage (see figures 1 and 2). The actual sensor housing repair should only take 5-hours. However, the ladder may need to be operated at orifice flow (AWS pumps off) for 3-days to allow most fish to exit the ladder. This helps reduce fish handling which is less stressful for fish and personnel.

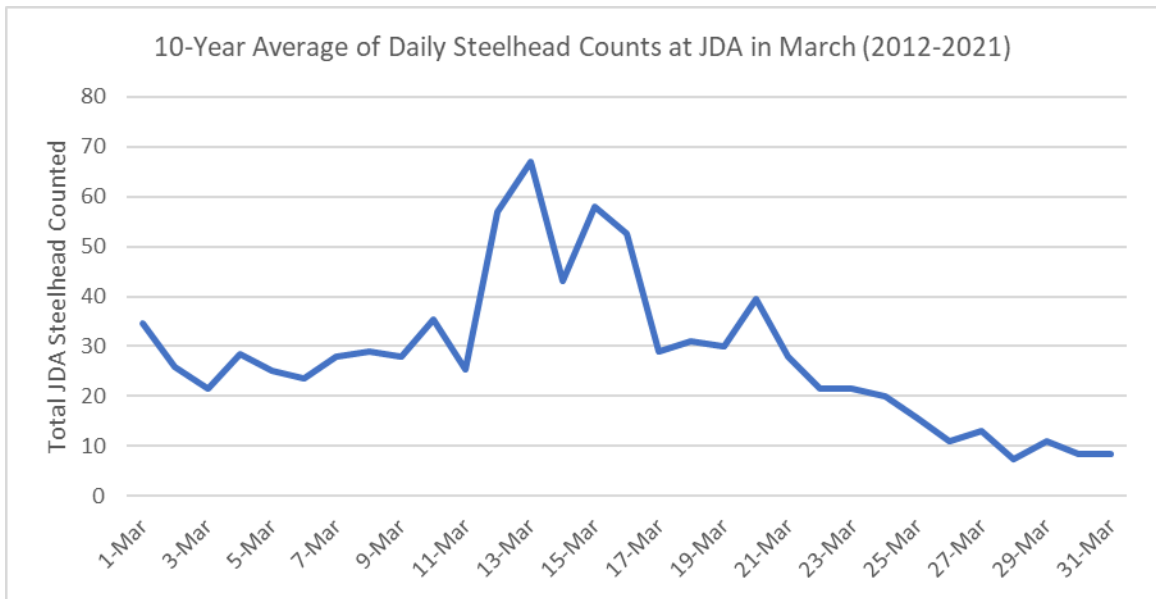


Figure 2: Graph illustrating the average daily steelhead passage at JDA displayed as the 10-year average for the month of March.

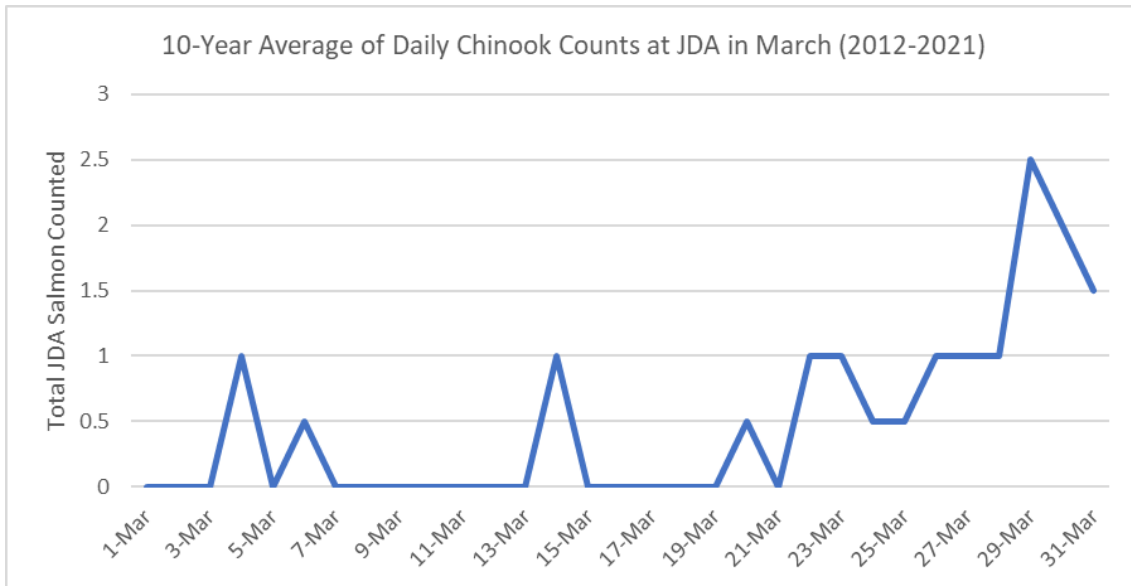


Figure 3: Graph illustrating the average daily Chinook passage at JDA displayed as the 10-year average for the month of March.

### Type of outage required

**Impact on facility operation** This will require the NFL to be OOS for a maximum of 4-days during the week of March 7<sup>th</sup>, 2022. The SFL will be in service and typically passes the majority of salmonids at the JDA project.

**Impact on unit priority** this will NOT impact unit priority

**Impact on forebay/tailwater operation** This will NOT impact forebay/tailwater operations.

**Impact on spill** This will NOT impact spill operations, nor will it occur during spill season

**Dates of impacts/repairs** March 7<sup>th</sup>, 2022 – March 10<sup>th</sup>, 2022

**Length of time for repairs** 5-hours

### Analysis of potential impacts to fish:

The NFL will be OOS for 4-days so this will have some impacts on fish passage. However, the repairs are taking place during minimal fish passage and the majority of salmonids prefer to pass through the SFL, which will remain in service.

**Summary statement - expected impacts on:**

**Downstream migrants** PIT data shows an insignificant number of juveniles pass through the NFL ladders. Additionally, this outage will occur before the actual smolt passage season when there have historically been very few outmigrants.

**Upstream migrants (including Bull Trout)** The ladder will be OOS for 4-days. Any upstream migrants (including Bull Trout) will be able to migrate up the SFL.

**Lamprey** Adult lampreys typically don't show up at JDA until May so there should be no impacts to adults. Fish ladder use by juvenile lamprey is unknown.

### Comments from agencies

**From:** Morrill, Charles (DFW) <Charles.Morrill@dfw.wa.gov>  
**Sent:** Thursday, February 24, 2022 12:45 PM  
**To:** Tom Lorz <lorz@critfc.org>; Mackey, Tammy M CIV USARMY CENWP (USA) <Tammy.M.Mackey@usace.army.mil>  
**Subject:** [URL Verdict: Neutral][Non-DoD Source] RE: FPOM: Official Coordination - 22 JDA 01 MOC NFL OSS Stilling Well Replacement

Tammy et al.

I concur with Tom's assessment. The sooner the better !

Charlie

**From:** Tom Lorz <[lorz@critfc.org](mailto:lorz@critfc.org)>  
**Sent:** Thursday, February 24, 2022 12:43 PM  
**To:** Mackey, Tammy M CIV USARMY CENWP (USA) <[Tammy.M.Mackey@usace.army.mil](mailto:Tammy.M.Mackey@usace.army.mil)>  
**Subject:** Re: FPOM: Official Coordination - 22 JDA 01 MOC NFL OSS Stilling Well Replacement

While I am not excited about taking the ladder out in early March for 3-4 days, we can live with the outage given the need for the work. Adult numbers should be low and we have not started spilling yet. Anything you can do move this operation sooner would be appreciated.

thanks

Tom Lorz

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**From:** Mackey, Tammy M CIV USARMY CENWP (USA) <[Tammy.M.Mackey@usace.army.mil](mailto:Tammy.M.Mackey@usace.army.mil)>  
**Sent:** Thursday, February 24, 2022 12:31 PM  
**Subject:** FPOM: Official Coordination - 22 JDA 01 MOC NFL OSS Stilling Well Replacement

Just a reminder about this outstanding MOC. The comment date is 3 March, but if you can get comments in sooner, it will better allow the project to plan the work. Also, both Fielding and Nathan are leaving Ops and heading to PME so please send comments to me and Eric Grosvenor.

Thank you,  
Tammy

-----Original Message-----

From: McClain, Nathan A CIV USARMY CENWP (USA) <[Nathan.A.McClain@usace.army.mil](mailto:Nathan.A.McClain@usace.army.mil)>

Sent: Thursday, February 17, 2022 4:41 PM

Subject: Official FPOM Coordination: 22 JDA 01 MOC NFL OSS Stilling Well Replacement

FPOM Representatives,

Attached is an MOC detailing the need to take the John Day north fish ladder out of service (OOS) to replace a stilling well pipe used to read tailwater elevation.

Please write or call Scott Fielding with any question or comments as I will be on vacation.

Nathan McClain

Columbia Basin Biologist Coordinator (acting)

US Army Corps - Portland District

C: 541-554-3137

### **After Action update**

The JDA north fish ladder (NFL) was put on orifice flow Saturday March 5<sup>th</sup>, 2022. The following Monday (March 7<sup>th</sup>) the ladder was dewatered to tailwater. A fish salvage was performed, and 3-steelhead were recovered, 2-hatchery (10" and 30") and 1-of unknown origin (8"). The fish were salvaged near the entrance of the NFL and released in the tailrace (less stressful than transporting to forebay). All fish were released in good condition. The following morning (Tuesday March 8<sup>th</sup>) the NFL was dewatered below tailwater. There were no fish in the lower section.

Repairs to the NFL channel sensor housing were performed and completed on March 9<sup>th</sup>, 2022. Repairs were completed late afternoon (approximately 1600) and did not leave time to water-up. The JDA NFL was watered up and returned to service on March 10<sup>th</sup>, 2022 @ approximately 0900.

Fisheries personnel immediately performed a calibration and discovered the sensor was out of criteria. A TR was submitted, and electricians quickly calibrated the sensor ensuring the ladder would be in criteria over the weekend.

The replacement appears to be more durable than the previous version. The old housing lasted several years (at least 7-years) and the new housing is made of schedule 80-PVC, has more anchors, and heftier brackets (see Figure 4).



Figure 4: Left photo is of the old housing (taken 12-08-21) and the right photo shows a zoomed-in aerial photo (unable to access the fish ladder for a straight on shot) of the new housing (taken 03-09-22).

Eric Grosvenor  
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John Day Dam  
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