

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

COORDINATION TITLE - 18 IHR 05 – Inspection of north fish ladder upper diffuser intake

COORDINATION DATE - July 19, 2018

PROJECT - Ice Harbor Dam

RESPONSE DATE – July 27, 2018

Description of the problem

The north fish ladder upper diffuser (valve #10) is currently in automatic control. On July 16, project staff noticed the diffuser valve position was at approximately 90% open. Normally the valve is at about 30-50% open, depending on forebay elevation, to meet the depth over the weir criteria of 1.0-1.3'. The depth over the weirs has been in criteria and is currently in criteria at 1.2-1.3'. However, there may be a partial obstruction of the diffuser intake trash rack with woody debris or man-made debris, which is reducing flow out of diffuser #10, causing the valve to open more to compensate. Project staff would like to inspect the trash rack for debris with a submersible camera. This will require closing diffuser #10 all the way to eliminate flow through the trash rack, to prevent damaging the camera. If any debris is observed, personnel will attempt to remove it with an air line or long pole.

Type of outage required

Close flow from diffuser #10 in north-shore fishway 30 July 2018, 1200 to 1700 hrs.

Impact on facility operation (FPP deviations)

Closing diffuser #10 will reduce flow in approximately two thirds of the upper north-shore fishway, resulting in the depth over the weirs falling below 1'. Flow will still enter the fishway from the ladder exit to provide some flow over the weirs. Shutting off diffuser #10 will have minimal impact on the lower fish ladder, because the normal operation of two auxiliary water supply pumps provides a total of 700 cfs to the lower north fish ladder.

Impact on unit priority

None.

Impact on forebay/tailwater operation

None.

Impact on spill

None.

Dates of impacts/repairs

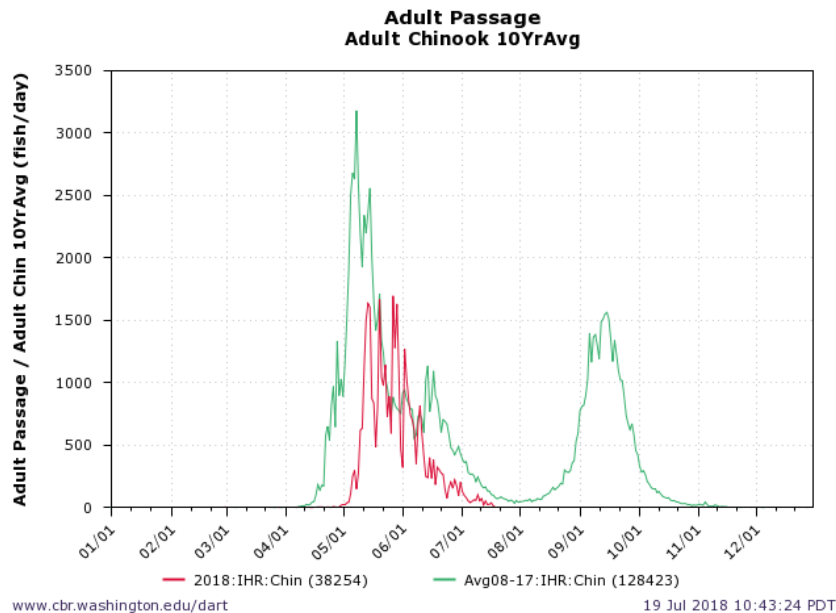
July 30, 2018. If flow through diffuser 10 continues to diminish, the inspection and cleaning may need to occur earlier, before the depth over the weir drops to less than 1'.

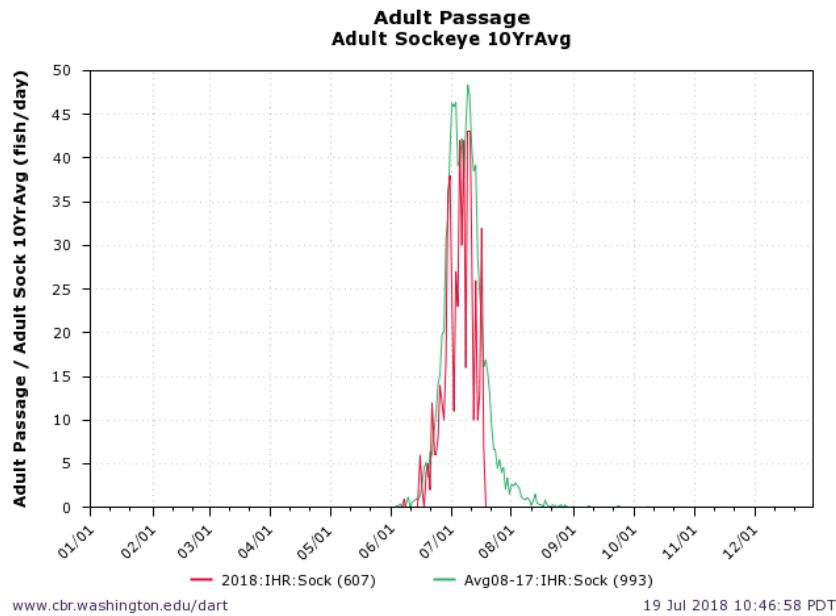
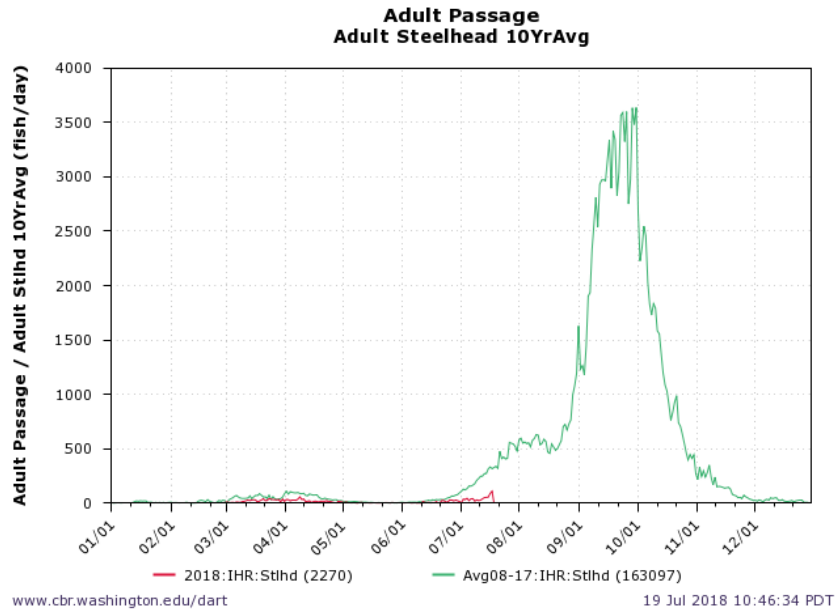
Length of time for repairs

1200 hours to 1700 hours. The inspection and cleaning may take less than an hour, but 5 hours is requested to allow time to remove debris if needed.

Analysis of potential impacts to fish

1. Number of adult Chinook salmon, steelhead and sockeye salmon expected use the north shore ladder on 30 July between 1200 and 1700 hrs is 13, 2, 0, based on the 10-year average.
2. 2018 Chinook salmon, steelhead and sockeye salmon runs are currently 45%, 26% and 69% of the 10-year average.
3. The percentage of the runs to be exposed to the outage will be less than 0.01% for Chinook salmon, steelhead and sockeye salmon, based on 10-yr averages.
4. Adult fish in the fishways at the time of outage may experience slight delay in passage times as they adjust to lower flow conditions. Few adult lamprey are actively migrating during daylight hours so no impacts are expected.





Summary statement - expected impacts on:

Downstream migrants; None

Upstream migrants (including Bull Trout): Minimal

Lamprey: Minimal

Comments from agencies

From: Kiefer, Russell [mailto:russ.kiefer@idfg.idaho.gov]
Sent: Thursday, July 19, 2018 12:28 PM

To: Peery, Christopher A CIV USARMY CENWW (US)
<Christopher.A.Peery@usace.army.mil>
Subject: [Non-DoD Source] RE: 18 IHR 05 MOC North ladder diffuser inspection

Chris,

From the figures provided it appears you may have underestimated adult passage a during this period.
Not a big deal, and maybe you broke out that ladder usage and diel passage timing.

Russ

From: Peery, Christopher A CIV USARMY CENWW (US)
Sent: Thursday, July 19, 2018 1:04 PM
To: 'Kiefer,Russell' <russ.kiefer@idfg.idaho.gov>
Subject: RE: 18 IHR 05 MOC North ladder diffuser inspection

You are correct, looking at the 10 year average for north shore fishway from 1200 to 1700 hrs on 30 July, it is a relatively small number of fish potentially affected.

Chris

From: Dave Statler [mailto:daves@nezperce.org]
Sent: Thursday, July 19, 2018 12:42 PM
To: Peery, Christopher A CIV USARMY CENWW (US)
<Christopher.A.Peery@usace.army.mil>
Subject: [Non-DoD Source] RE: 18 IHR 05 MOC North ladder diffuser inspection

Chris -

Not familiar with the configuration, but is it feasible to inspect for live/dead lamprey in the diffuser area?

Thanks.

Dave Statler

From: Peery, Christopher A CIV USARMY CENWW (US)
Sent: Thursday, July 19, 2018 1:46 PM
To: 'Dave Statler' <daves@nezperce.org>
Subject: RE: 18 IHR 05 MOC North ladder diffuser inspection

Dave,

Theoretically they should be able to be able to see if there are lamprey in where they will be operating the ROV. It just depends on the lighting conditions on how easily lamprey could be seen. They will be looking for large debris that may have been caught in the diffuser or conduit. So hopefully a quick in and out event. I can drop a note to Ken to let us know if he sees any lamprey.

Chris

Final coordination results

After Action update

A quick camera inspection was accomplished. Lots of sticks plugging the intake trash rack. Saw 1 small dead fish stuck in the debris. I did not see any lamprey. Mechanics will figure out a plan to remove the debris. The trash rack is stuck in place, as they haven't been able to lift it with the crane in previous attempts. They may need to use a long pole or airline to dislodge the debris. If that is the route they want to go, I'll coordinate another date to shut the diffuser down. It probably won't be happening real soon.

Diffuser 10 was shut off from 1520 to 1550. The depth over the weir was about 0.5' during that time. The diffuser is back in automatic control and the depth over the weirs is back in criteria...about 1.2'. The diffuser has been open 55% to 90% to meet criteria in recent weeks, depending on the forebay level, instead of the usual 30-45%.

Please email or call with questions or concerns.

Thank you,

Ken Fone
Ice Harbor Dam
Project Fish Biologist
Kenneth.R.Fone@usace.army.mil