

OFFICIAL COORDINATION REQUEST FOR NON-ROUTINE OPERATIONS AND MAINTENANCE

COORDINATION TITLE- 21 IHR 07 - Upstream floating guide wall maintenance

COORDINATION DATE- June 14, 2021

PROJECT- Ice Harbor Dam

RESPONSE DATE- June 25, 2021

Description of the problem

The navigation lock upstream floating guide wall is connected to the stationary guide wall with keyway bolts. During recent work to replace anchor cables, some of these keyway bolts were found to be cracked or broken and need to be replaced. A dive contractor will be hired to replace the 10 keyway bolts and backing plates. Since dive work will occur in proximity of the north fishway intake for diffuser #10, the intake will need to be closed but the fishway exit will remain open. The expected window for the diver work is September 6-17, 2021. Actual diver work is expected to require 3 to 7 days.

Type of outage required

For the safety of the divers, there will be a safe clearance (lockout–tagout) on diffuser #10, all spill gates, and navigation lock tainter valve #4.

Impact on facility operation (FPP deviations)

With diffuser #10 shut, the depth over the stationary weirs will fall from the criteria of 1 to 1.3 ft to an estimated 0.5 ft depth.

Impact on unit priority

None.

Impact on forebay/tailwater operation

None.

Impact on spill

This work will occur after completion of summer spill operations and before the fall overshoot spill. Spill gates will be closed and inoperable while divers are in the water.

Dates of impacts/repairs

The work window for the contractor will be between September 6 and September 17, 2021. Dive and project support will not be available prior to September 6. The work cannot be conducted later in the year (i.e. during winter maintenance outage) because of increased risk with fall storms causing further damage to keyway bolts and mounting points and increased safety risk to divers and support staff. The dive work should take less than one week to complete and may only take three days.

Length of time for repairs

Diffuser #10 will be closed for three to seven days to support the dive work.

Analysis of potential impacts to fish

1. 10-year average passage by run during the period of impact for adults and

juvenile listed species, as appropriate for the proposed action and time of year;

The previous 10 years had a daily average of 161 adult steelhead passing the north fishway count windows during September 6-17 and ranged from 97 to 212 per day. The 10-year average number of adult Chinook salmon counted in the north fishway ranged from 112 to 220 fish, with a mean of 164 fish. In 2020, 9.2% of steelhead, 10.2% of adult Chinook salmon, 12.3% of jack chinook, and 1.9% of coho that were counted from September 6 to September 17 were in the north fish ladder.

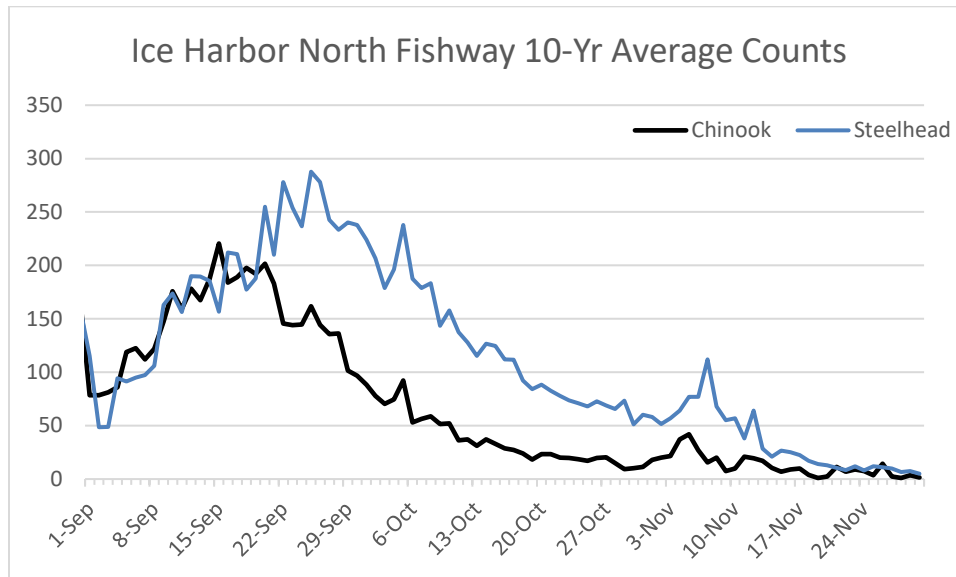


Figure 1. Ten year average counts for adult Chinook salmon and steelhead in the north shore fishway, Ice Harbor Dam.

The number of juvenile salmonids passing the dam is very low in September, and very few juvenile fish would be expected to be using the north fish ladder for their downstream passage.

2. Statement about the current year's run (e.g., higher or lower than 10-year average);

Washington Department of Fish and Wildlife projects that the steelhead and fall chinook runs will be below the 10-year average. The coho run is predicted to be above the 10-year average.

3. Estimated exposure to impact by species and age class (i.e., number or percentage of run exposed to an impact by the action);

The percentage of the adult runs at Ice Harbor that will be exposed to 3-7 days of reduced flow in the north fish ladder is estimated to be 0.25% to 0.4% for Chinook salmon and 0.25% to 1.2% for steelhead.

4. Type of impact by species and age class (increased delay, exposure to predation, exposure to a route of higher injury/mortality rate, exposure to higher TDG, etc.);

Having diffuser #10 off should not affect meeting the north shore fish entrance criteria, since the north shore auxiliary water supply pumps will be operating normally. Depth over weirs will be below criteria of 1 to 1.3 ft but velocities through submerged orifices will be normal as head differential between weirs (1 ft) will be maintained. PIT tag detections at Lower Granite and John Day Dams have shown that 90% or more of adult salmonids utilize the submerged orifices rather than the overflow weirs when ascending the fish ladders.

Summary statement - expected impacts on:

Downstream migrants

None.

Upstream migrants (including Bull Trout)

There may be a delay for the small percentage of adult fish that prefer to swim over the stationary weirs. Since there will be less attraction water flowing over the weirs with diffuser #10 closed, it is assumed that these fish will be attracted to and utilize the submerged orifices instead. Most fish pass the dam using the south fish ladder, which will be operating normally. There were no bull trout observed passing the count windows during September in the last 5 years.

Lamprey

There is expected to be minimal impact on juvenile and adult lamprey. There are very few juvenile lamprey migrating in September. Adult lamprey may benefit from having diffuser #10 off, because the decreased flow and velocity over the stationary weirs might allow lamprey to attach and climb over the weirs more easily.

Comments from agencies

From: Tom Lorz <lorz@critfc.org>

Sent: Tuesday, June 15, 2021 9:10 AM

To: Peery, Christopher A CIV USARMY CENWW (USA)

<Christopher.A.Peery@usace.army.mil>; Josie Thompson <josie.thompson@noaa.gov>; Trevor Conder -NOAA Federal <trevor.conder@noaa.gov>

Subject: [Non-DoD Source] Re: 21 IHR 07 MOC Floating Guidewall Maintenance

This is not a good time since you just might get the peak of passage for chinook and maybe even steelhead. How many days are we talking the MOC was unclear? How long is the dive time all day 4 hours? Can it be moved later in the day? Can they move this to end of September? Early Sept is just not a good time.....

Lets talk about this at the next FPOM. What flex do we have?

thanks

Tom Lorz

From: Peery, Christopher A CIV USARMY CENWW (USA)

Sent: Tuesday, June 15, 2021 9:15 AM

To: Tom Lorz <lorz@critfc.org>; Josie Thompson <josie.thompson@noaa.gov>; Trevor Conder - NOAA Federal <trevor.conder@noaa.gov>
Subject: RE: 21 IHR 07 MOC Floating Guidewall Maintenance

Tom,

The have scheduled the work for 7 days. If things go smoothly they think it could be done in three days working all day. The concern for working later in the month is increased chance for bad weather, but I will ask about their flexibility.

Chris

From: Tom Lorz <lorz@critfc.org>
Sent: Tuesday, June 15, 2021 9:18 AM
To: Peery, Christopher A CIV USARMY CENWW (USA) <Christopher.A.Peery@usace.army.mil>
Subject: [Non-DoD Source] Re: 21 IHR 07 MOC Floating Guidewall Maintenance

thanks, September is usually still a safe bet though. Thanks for looking into.

From: Peery, Christopher A CIV USARMY CENWW (USA)
Sent: Tuesday, June 15, 2021 10:41 AM
To: Tom Lorz <lorz@critfc.org>; Josie Thompson <josie.thompson@noaa.gov>; Trevor Conder - NOAA Federal <trevor.conder@noaa.gov>
Cc: St John, Scott J CIV USARMY CENWW (USA) <Scott.J.StJohn@usace.army.mil>
Subject: RE: 21 IHR 07 MOC Floating Guidewall Maintenance

Tom,

I spoke with the project manager. They have some flexibility to move the dive work later in the month of September and they are open to what you think might work best. Looking at the 10-year averages for the north shore fishway, mid-September is peak for Chinook (fewer steelhead), late September is peak steelhead (fewer Chinook). Since this is the north fishway, impact on passage at the dam is minimized since 90% use the south shore fishway at this time of year. Let me know what you think would work best.

Chris

From: Tom Lorz <lorz@critfc.org>
Sent: Tuesday, June 15, 2021 10:43 AM
To: Peery, Christopher A CIV USARMY CENWW (USA) <Christopher.A.Peery@usace.army.mil>
Subject: [Non-DoD Source] Re: 21 IHR 07 MOC Floating Guidewall Maintenance

ok sounds good. Yah since this is the north shore my hair was not fully on fire.....Will do some thinking and let you know.

Tom

Final coordination results - Approved

After Action update

The contractor was on-site Sep. 13-16 to repair the keyway. Diving took place during the day time on Sep. 13-15, diffuser #10 shut off on those days for the safety of the divers. With diffuser #10 closed, there was still 0.7-0.8' of water over the stationary weirs in the north fish ladder. Diffuser #10 was closed within a few hours after dawn each day and re-opened in the late afternoon. Looking at the fish numbers for those days, I don't see a noticeable change in passage. The adult chinook numbers were less for the north fish ladder on Sep. 14-16, but they were also less for the south ladder.

Please email or call with questions or concerns. Thank you,

Ken Fone Fishery
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