OFFICIAL COORDINATION REQUEST FOR
NON-ROUTINE OPERATIONS AND MAINTENANCE

COORDINATION TITLE- Installation of swallow nests deterrent at south fish ladder
COORDINATION DATE- August 26, 2021. Update September 15, 2021
PROJECT- Ice Harbor Dam
RESPONSE DATE- September 10, 2021

Description of the problem – This year there was an abundance of cliff swallows that nested on the outside of the walls of the south fish ladders. They were so plentiful that the bird droppings were a problem on the Visitor Center sidewalk, parking lot, vehicles, and on people walking through the area. The droppings created a health hazard for people exposed to it. Also, the area became an eyesore for workers and visitors and the droppings were difficult to clean.

Now that the swallows are done nesting, project maintenance staff plan to knock down the mud nests, then install a nesting deterrent along both sides of the outside of the top section of the south fish ladder, from the dam to the first 180-degree turn. The deterrent will consist of PVC pipe that is cut lengthwise in half, then attached onto the wall just under the eaves of the fish ladder where the swallows nest. The pipe will be installed with brackets and ¼" x 1-1/2" Hilti bolts. The work will be done from an aerial lift. The installation is estimated to take 6 weeks, beginning in October. Accomplishing the work in October, rather than in the winter, is preferred because of manpower availability and weather conditions.

Type of outage required

Impact on facility operation (FPP deviations)
The work will take place during the adult fish passage season, when any proposed non-routine maintenance and construction activities adjacent to the fish ladder must be coordinated first with FPOM. The work will involve drilling ¼" holes for the anchor bolts which will produce a minor level of noise and vibration, followed by tapping the Hilti-bolt in the hole with a hammer. All efforts will be made to restrict the drilling and anchoring the Hilti bolts to hours before 0800 and after 1300. The bracket will be secured with nuts using power and hand tools. Concrete debris from the drilling will be captured so it does not fall in the fish ladder.

Impact on unit priority
None.

Impact on forebay/tailwater operation
None.

Impact on spill

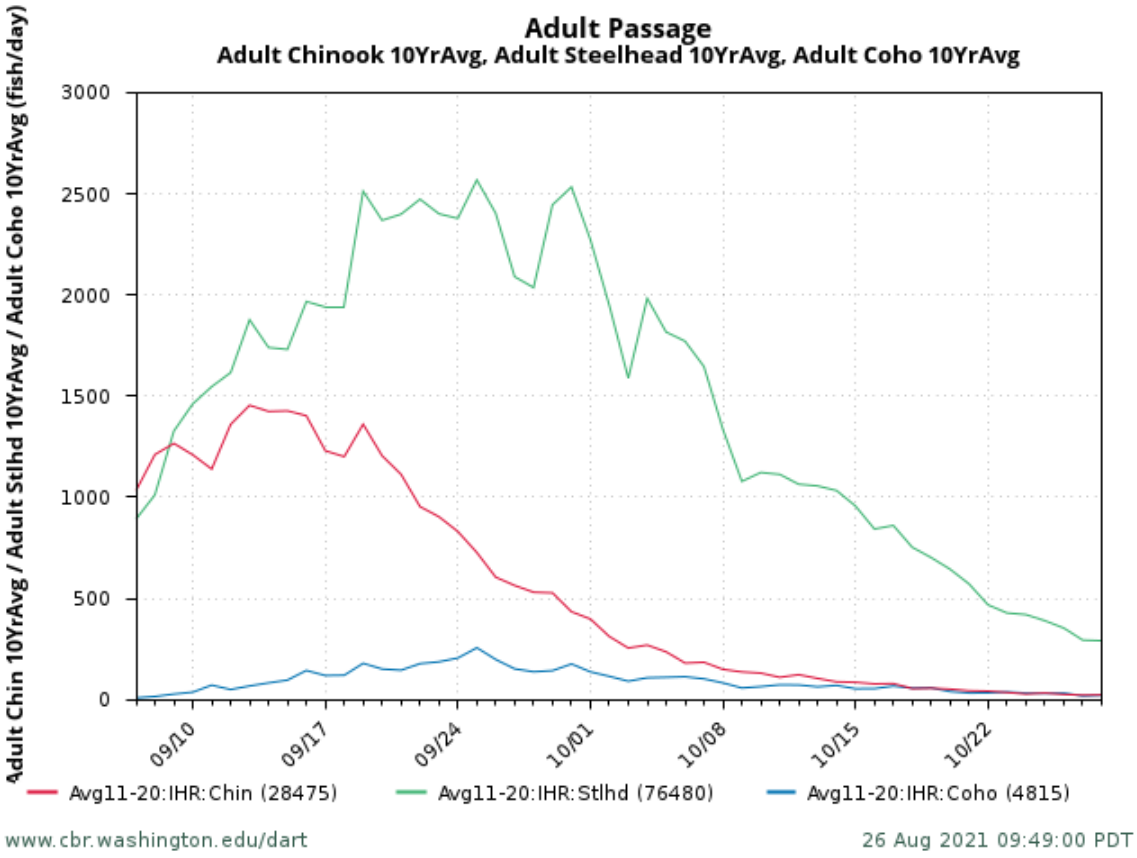
None.

Dates of impacts/repairs
The work will be start in October.

Length of time for repairs
Approximately 6 weeks.

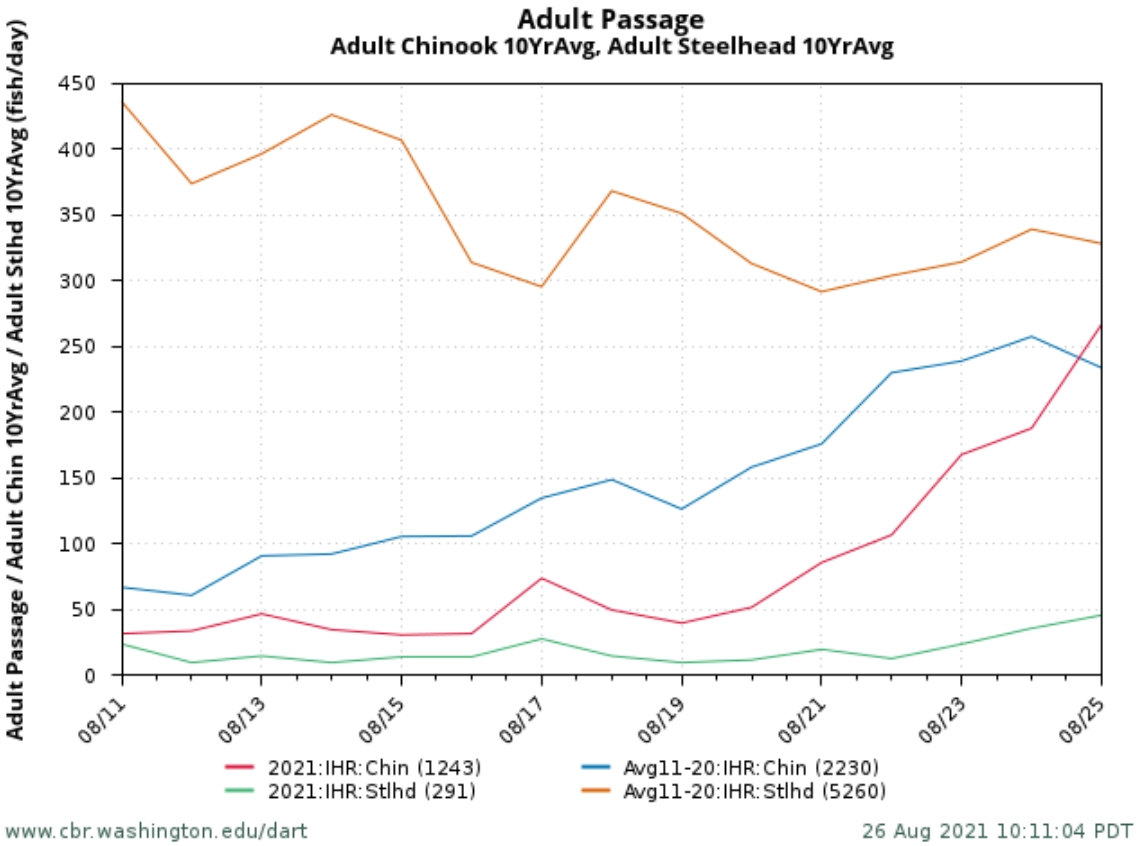
Analysis of potential impacts to fish

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 graph above shows that adult steelhead, fall chinook, and coho passage is typically peaking in September and early October at Ice Harbor. Average adult lamprey passage ranges from 1 to 4 lamprey passing per day for most of September.

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



The graph above shows that the daily adult fall chinook passage for the past two weeks has been below the 10-year average at Ice Harbor until August 25. Adult steelhead passage has been well below average. Total adult lamprey counted so far this season has been below the 10-year average. The adult coho run has just started. WDFW forecasts that the coho run will be above 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 continuous 24-day period of September 13 to October 6 is arbitrarily chosen for these calculations. (Having the days continuous allows for easier data retrieval and calculation. However, the actual work week is four 10-hour days. Six weeks of working 4 days per week is equal to 24 days of work.) The 10-year average number of fish of each run counted passing through both fish ladder during this period is adjusted for the percent of fish using the south ladder in 2020 (2018 for lamprey, when more were counted) for that period. This is divided by the average total number of fish passing both ladders for the whole season. The estimated results are that 42.7% of adult steelhead, 43.4% of adult fall chinook,

63.3% of adult coho, and 5.9% of adult lamprey will potentially be exposed to the action.

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.);

   Drilling ¼" holes into the concrete wall will produce a minor level of noise and vibration that will likely be masked by fishway flow. All efforts will be made to restrict the drilling and anchoring the Hilti bolts to hours before 0800 and after 1300. The proposed work should have minimal to no impact on fish passage.

Summary statement - expected impacts on:

Downstream migrants - None

Upstream migrants (including Bull Trout) - Minimal impact to upstream migrants.

Lamprey – Minimal to no impact as most lamprey move at night**.**

Comments from agencies

From: Tom Lorz <lort@critfc.org>
Sent: Friday, August 27, 2021 7:35 AM
To: Peery, Christopher A CIV USARMY CENWW (USA) <Christopher.A.Peery@usace.army.mil>; Trevor Conder -NOAA Federal <trevor.conder@noaa.gov>
Subject: [Non-DoD Source] Re: 21 IHR 13 Installation of swallow nest deterrent at south fishway

Thans for the heads up. The Drilling should not be that big of a deal. Not sure I would call a Hilti concrete drill "tapping" in the concrete anchors. If possible, try to the "tapping" either first thing before fish enter the ladder or more towards the end of the day, ie drill and wait until later would be preferred. However, a 1/4 bolt should not be too bad could do a couple and see how bad it is. Hoping the tapping will be done towards the end of September well after the peak is through. Thanks. See what Trevor thinks, if he thinks I have been too close to epoxy we can talk more.

Tom Lorz
CRITFC

From: Peery, Christopher A CIV USARMY CENWW (USA)
Sent: Friday, August 27, 2021 7:49 AM
To: Tom Lorz <lort@critfc.org>; Trevor Conder -NOAA Federal

<trevor.conder@noaa.gov>
Subject: RE: 21 IHR 13 Installation of swallow nest deterrent at south fishway

Thanks Tom. I think even the tapping would have minimal affect with ¼" bolts but point noted. I will pass this on to the project.

Chris

From: Josie Thompson - NOAA Federal <josie.thompson@noaa.gov>
Sent: Friday, August 27, 2021 9:50 AM
To: Peery, Christopher A CIV USARMY CENWW (USA) <Christopher.A.Peery@usace.army.mil>; Fone, Kenneth R CIV CENWW CENWD (USA) <Kenneth.R.Fone@usace.army.mil>
Cc: Trevor Conder - NOAA Federal <trevor.conder@noaa.gov>
Subject: [Non-DoD Source] Re: 21 IHR 13 Installation of swallow nest deterrent at south fishway

Hello Chris,

This level of vibration on a primary fish ladder is not ideal for migrating adult steelhead and Chinook, especially during September, although October is still a big month for steelhead passage and the run is incredibly low this year, not to mention the warm temperature stress that these fish have already been enduring. I understand that the work could take up to 6 weeks and that the project may lose staff who can do the work, but I am wondering if all or almost all of the work can be shifted to October or the second half of October through November, when the daily passage becomes lower for both species? Also, it would be good to know how many hours per day they would be working on the installation, or the frequency and duration for each hole to be drilled (how much noise and vibration are we talking about? will it be immediately followed by the hammering? and how much of a break would there be between each bolt?).

Even if they can delay the start date to something in early to mid-October, which would be my preference, I would like to know if the work could at least be limited to later afternoon hours, to avoid times when most adults are entering the ladders and making their way up.

Thank you,
Josie

Josie Thompson
she/her/hers (Why this is important.)

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From: Peery, Christopher A CIV USARMY CENWW (USA)
Sent: Friday, August 27, 2021 10:59 AM
To: Josie Thompson - NOAA Federal <josie.thompson@noaa.gov>; Fone, Kenneth R CIV CENWW CENWD (USA) <Kenneth.R.Fone@usace.army.mil>
Cc: Trevor Conder - NOAA Federal <trevor.conder@noaa.gov>; St John, Scott J CIV USARMY CENWW (USA) <Scott.J.StJohn@usace.army.mil>; Vorheis, Brian P CIV USARMY CENWW (USA) <Brian.P.Vorheis@usace.army.mil>; Tom Lorz <lort@critfc.org>
Subject: RE: [Non-DoD Source] Re: 21 IHR 13 Installation of swallow nest deterrent at south fishway

Thanks for your comments Josie,

This is not the ideal timing for this work but it would be difficult to move it later because of the extensive amount of maintenance scheduled for the is fall and winter. If you recall, we already coordinated early termination of the JFF so the project could address the critical repairs needed this year.

Drilling each hole takes about 1 minute and there are likely a couple of bolts per bracket being installed. Then the bolts are anchored in place with a couple of whacks with a hammer then the bracket and pipe are bolted in place. So there would be several minutes of drilling and hammering with a gap of 15-20 minutes or more between as the pipe is mounted and the lift is positioned to the next work spot. Crews work 4 days per week, 10 hrs per day.

Drilling a quarter inch hole will produce a minor amount of vibration that I suspect would be almost unnoticeable against the background noise and vibration of the fishway. Tom Lorz's main concern was the hammering to anchor the bolts and he suggested doing that part of the work either early or later in the day to avoid the morning passage hours.

Ken and project staff will need to address if work can be pushed later I the year or later in the day as you suggested.

Chris

From: Tom Lorz <lort@critfc.org>
Sent: Wednesday, September 15, 2021 3:57 PM
To: Peery, Christopher A CIV USARMY CENWW (USA) <Christopher.A.Peery@usace.army.mil>
Subject: [Non-DoD Source] Re: 21 IHR 13 Installation of swallow nest deterrent at south fishway - Update

Thanks

From: VANDYKE Erick S * ODFW <Erick.S.VANDYKE@odfw.oregon.gov>
Sent: Thursday, September 16, 2021 8:46 AM
To: Peery, Christopher A CIV USARMY CENWW (USA) <Christopher.A.Peery@usace.army.mil>
Subject: [Non-DoD Source] RE: 21 IHR 13 Installation of swallow nest deterrent at south fishway - Update

Moring Chris,
Thanks for the information and plan for Ice Harbor planned work. I don't have any recommended changes but do have a few questions? How does a the modified PVC pipe deter swallows from nesting? How much O&M is being used to complete this work? Is the noise generated from the work the primary reason for fish passage operation and maintenance is coordinating the work, or is this more an avian topic that is emerging as the primary focus of species management discussions? Any thoughts you might have to share would be appreciated.

Erick Van Dyke
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Fish Passage/Mitigation Technical Analyst
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From: Peery, Christopher A CIV USARMY CENWW (USA)
Sent: Thursday, September 16, 2021 9:18 AM
To: VANDYKE Erick S * ODFW <Erick.S.VANDYKE@odfw.oregon.gov>
Cc: St John, Scott J CIV USARMY CENWW (USA) <Scott.J.StJohn@usace.army.mil>
Subject: RE: 21 IHR 13 Installation of swallow nest deterrent at south fishway - Update

Eric,

The PVC is actually half a pipe and it will prevent the birds from being able to perch and build nests under the eaves of the fishway. I do not know how much is being used to complete the work. Yes, noise and vibration from the drilling and hammering to anchor the bolts was the concern for fish passage.

Let me know if you have any other questions.

Chris

From: VANDYKE Erick S * ODFW <Erick.S.VANDYKE@odfw.oregon.gov>
Sent: Thursday, September 16, 2021 10:12 AM
To: Peery, Christopher A CIV USARMY CENWW (USA) <Christopher.A.Peery@usace.army.mil>
Cc: St John, Scott J CIV USARMY CENWW (USA) <Scott.J.StJohn@usace.army.mil>
Subject: [Non-DoD Source] RE: 21 IHR 13 Installation of swallow nest deterrent at south fishway - Update

Thanks for the note. So the mechanism for deterrence is not being able to cling to a surface long enough to start a nest. I am unsure why a swallow would not be able to cling to a wall on either side of the pvc pipe. So, does this solution remove that scenario? Almost seems that they may be able to increase surface area using the new angles provided on each side of the pvc pipe… potentially doubling the use? Given the O&M constraints, it seems important to understand more about how much is being spent to complete this work. If you could find and share more information on that it would be appreciated.
Erick

From: Peery, Christopher A CIV USARMY CENWW (USA)
Sent: Thursday, September 16, 2021 11:06 AM
To: VANDYKE Erick S * ODFW <Erick.S.VANDYKE@odfw.oregon.gov>
Cc: St John, Scott J CIV USARMY CENWW (USA) <Scott.J.StJohn@usace.army.mil>
Subject: RE: 21 IHR 13 Installation of swallow nest deterrent at south fishway - Update

Erick,

I believe the pipe is installed with the curved side facing down. And according to the project, the nest material does not adhere to the plastic. And a reminder, this is part of the regular maintenance of the project and not fish O&M funding. It just happens that the nests are on the fishway this time. The project does not share their budgets with me and I am not going to ask for them. Let me know if you have any more questions pertaining to the potential effects on fish passage.

Thanks,
Chris

Final coordination results – Consensus reached

After Action update – Ice Harbor staff installed sections of PVC using the methods described in the MOC. Sections of PVC were installed on the North side of the upper South fish ladder. Worked occurred from approximately the mid-October through mid-November with drilling occurring before 0800 and after 1300 hours. The Project plans to monitor the installed bird deterrent to evaluate effectiveness over the upcoming season.

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

Ken Fone
Fishery Biologist
Ice Harbor Dam
kenneth.r.fone@usace.army.mil