OFFICIAL COORDINATION REQUEST FOR
NON-ROUTINE OPERATIONS AND MAINTENANCE

COORDINATION TITLE- North Fish Ladder Exit Trash Rack Position
COORDINATION DATE- May 26, 2021
PROJECT- Ice Harbor Dam
RESPONSE DATE- June 9, 2021

Description of the problem – On a fishway inspection conducted on March 31 by project fishery personnel, approximately 1' of the trash rack at the north fish ladder exit was observed to be protruding above the water. Normally, the trash rack is not visible. The most likely cause of the trash rack being too high in the guide slots is that one exit bulkhead was mistakenly left in the bottom of the slot when the ladder was being returned to service at the end of the winter maintenance outage and the trash rack was installed on top of the bulkhead. Although there is no standard operating procedure or Fish Passage Plan requirement that specifically states that the trash rack must be placed at the bottom of the guide slot during the fish passage season, that has been the standard practice at Ice Harbor as requested by the Project Fishery Biologist. 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. Assuming that fish exhibit the same passage preference at Ice Harbor, having the trash rack on the bottom provides a more direct route for fish to exit the ladder.

Type of outage required
Reduce fishway exit velocity while removing the trash rack and bulkhead and re-install in correct positions. Work will take 3-5 hrs.

Impact on facility operation (FPP deviations)
The mobile crane will be used to pull out the north fish ladder exit trash rack and bulkheads out of the guide slot, and then re-install them with the trash rack at the bottom and the bulkheads on top. The ladder exit will remain open while this is occurring, but the water velocity though the exit will be reduced while the bulkheads and trash rack are removed. Also, the crane activity at the exit will create disturbances for fish that are trying to exit the ladder.

Impact on unit priority
None.

Impact on forebay/tailwater operation
None.

Impact on spill
None.

Dates of impacts/repairs

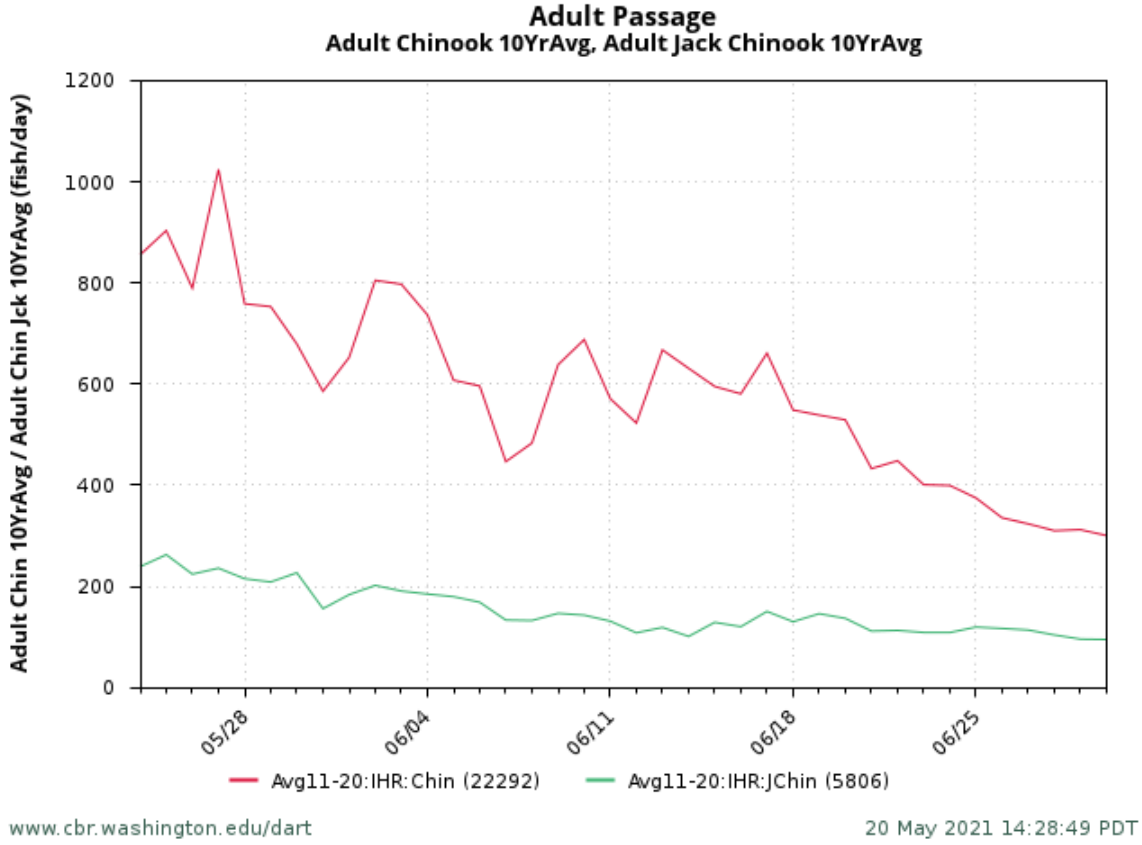
June 9, 2021, 0630 hours to 1130 hours.

Length of time for repairs
Correcting the placement of the trash rack may take less than 2 hours, but 5 hours is being requested in case there are problems with moving around the trash rack and bulkheads.

Analysis of potential impacts to fish

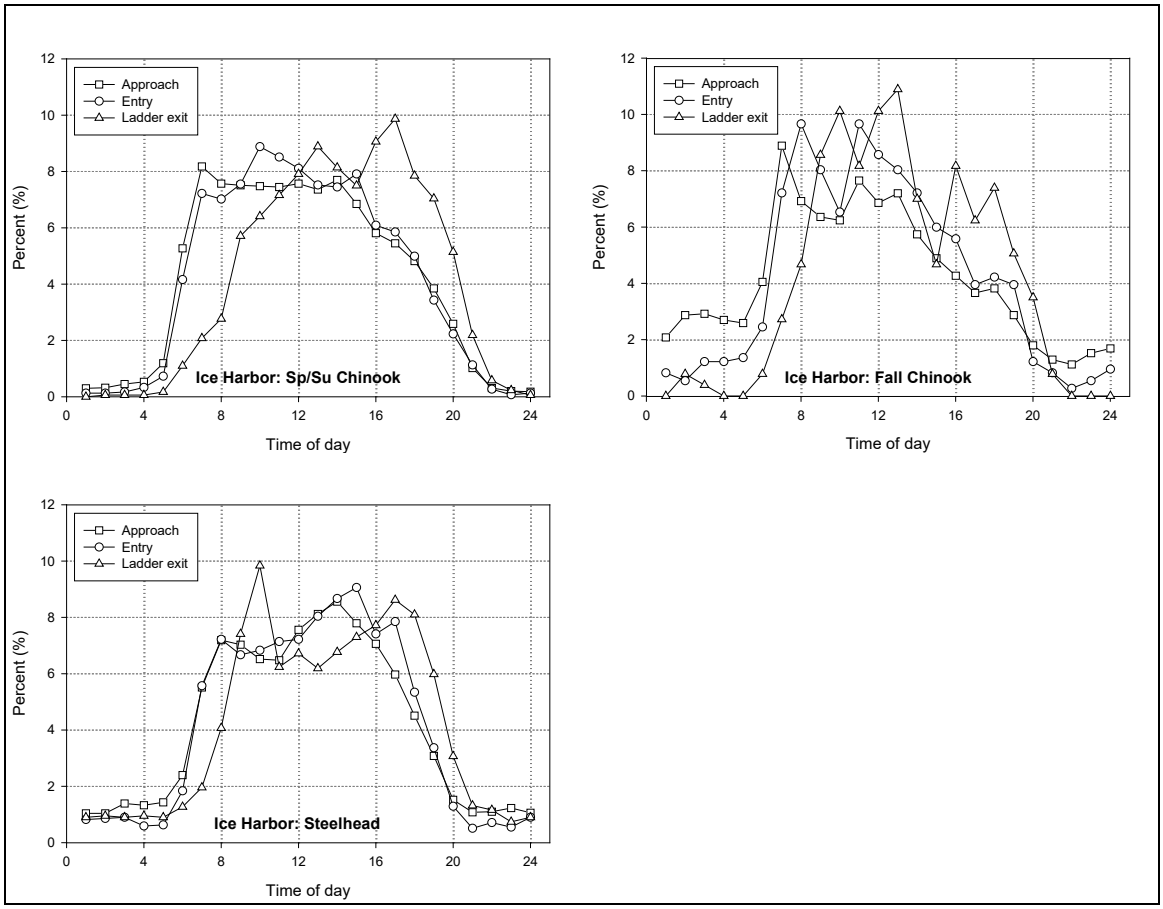
1. 10-year average passage by run during the period of impact for adults and juvenile listed species, as appropriate for the proposed action and time of year;

   The previous 10 years had an average of 638 adult chinook and 147 jack chinook passing the count windows at Ice Harbor on June 9 (see graph below). Very few other fish species, beside shad, are using the fish ladders in early to mid-June. In 2020, only 31.1% of adult chinook and 18.3% of jack chinook that were counted in June were in the north fish ladder.



   The graph below for spring/summer chinook shows that the time of day for peak passage at the ladder exits is in the afternoon and early evening hours. The proposed time to do the work at the north ladder exit is from 0630 hours to 1130

hours. The intent is to start the work early and complete it within a few hours. This would correspond with the time of day when less chinook are expected to be at the ladder exit.



Diel Distribution of Adult Salmonids at Ice Harbor Dam Fishway Entrances and Exits (*Keefer & Caudill 2008*).

The number of juvenile salmonids and juvenile lamprey passing the dam drops off in June, and relatively 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);

   For late May, the current runs of adult chinook and jack chinook have been close to the average number of fish for the previous 10 years (see graph below).

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 spring chinook and jack spring chinook at Ice Harbor that may be exposed to the crane activity at the north ladder exit is estimated to be 0.1% for each run. This is assuming that the crane work will last 5 hours, 31.1% of adult chinook and 18.3% of jack chinook use the north ladder, and the number of fish passing through the exit each hour on a given day is uniform.

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.);

   There will be less concentrated fish attraction flow from the forebay, because the water velocity through the ladder exit will be reduced while the bulkheads and trash rack are pulled out. Adult and jack chinook will most likely be disturbed by the movement of the trash rack and bulkheads and the vibration in the water. Fish will likely not pass through the exit while the work is occurring.

Summary statement - expected impacts on:

Downstream migrants
No significant impact is expected because only a very small percent of smolts and juvenile lamprey passing the dam use the fish ladder.

Upstream migrants (including Bull Trout)
A delay of up to 5 hours at the north fish ladder exit will have a minor impact on the spring chinook runs. There should be no impact on bull trout (10-year average of 0 counted during the first half of June).

Lamprey
There is expected to be no impact on adult lamprey. A 10-year average total of 5 adult lamprey passed the count windows during the first half of June. In June of 2020, there were no lamprey counted in the north fish ladder.

Comments from agencies

Final coordination results

After Action update (After action statement stating what the effect of the action was on listed species. This statement could simply state that the MOC analysis was correct and the action went as expected, or it could explain how the actual action changed the expected effect (e.g., you didn't need to close that AWS valve after all, so there was no impact of the action). List any actual mortality noted as a result of the action)

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

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