**OFFICIAL COORDINATION REQUEST FOR**

**NON-ROUTINE OPERATIONS AND MAINTENANCE**

**COORDINATION TITLE-** 22BON038 MOC Pre-Rock Removal Hydro-Survey

**COORDINATION DATE-** 7/13/22

**PROJECT-** Bonneville Lock & Dam

**RESPONSE DATE-** 7/27/22

**Description of the problem -** With this season’s spill exceeding the levels known to cause rock migration into the stilling basin, Bonneville Lock & Dam will require spill bay closures to support a pre-rock removal hydro-survey. The specific closure will be as follows: On September 1st, spill bays 1-18 will need to be closed from 0700-1500 (up to 8 hours) to conduct a pre-rock removal hydro-survey. Attraction flows will be maintained in spill bays 1 or 18, with only one closed at a time. The spill bay closures will require a clearance issued on the equipment to complete the work safely.

**Type of outage required-** Spill bays 1-18 on Sept 1st

**Impact on facility operation -** (FPP deviations) The hydro-survey will require a deviation from FPP section 2.2.4.4., which states “From September 1 through April 9, during Day hours, spill will occur from Bays 1 and 18 each open one stop (6”) to provide attraction flow to the Cascades Island and Bradford Island B-Branch entrances, respectively.” (FPP, 2022)

**Impact on unit priority** none.

**Impact on forebay/tailwater operation** none.

**Impact on spill** Spill operations have finished for the season, but attraction flow will be reduced to bays 1 and 18 alternating closure based on location of survey vessel for the duration of the survey. Attraction flows will be restored as soon as survey is completed.

**Dates of impacts/repairs –** September 1st

**Length of time for repairs**- September 1st (0700-1500)

**Analysis of potential impacts to fish**

See **Table 1** for the 10-year average BON adult passage for September 1 compared to the 10-year average total run. Note that the passage numbers from the 10-year average for work period are 24-hour counts. These numbers reflect a higher number than what will be impacted for the 8-hour closure.

**Table 1: Ten Year Average (2012-2021) of BON Adult Passage for September 1 and Total Run Impacts.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Species** | **10-year average for work period** | **Total run 10-year average** | **% of run affected** |
| Fall Chinook | 12,837 | 590,555\* | 2.2% |
| Coho | 1,428 | 102,065 | 1.4% |
| Steelhead | 2,134 | 203,638 | 1% |
| Sockeye | 2 | 304,065 | <1% |
| Chum | NA | 333\*\* | See footnote\*\* |
| Pink | NA | 324\*\* | See footnote\*\* |
| Lamprey | 107 | 35,180 | 0.2% |

\*Fall Chinook run

\*\*No 10-year average for work period for Chum, but 10-year average first fish for Chum is September 8th which is several days after the survey dates so impact is negligible.

\*\*\*No 10-year average for work period for Pink, but based on 10-year average run time, 95% of run has passed by 9/16

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

**Run Predictions (obtained from WDFW)**

|  |  |
| --- | --- |
| Fall Chinook | Slightly below average |
| Coho | Well above average |
| Steelhead | Well below average |

**Summary statement - expected impacts on:**

**Downstream migrants (including Lamprey) --** Scheduling the spill bay outage during September will ensure that both the DSM2 and the Ice and Trash Sluiceway will be operating for juveniles and downstream migrating adults. The number of fish exposed is expected to be minimal, as most downstream migrants have already passed before this outage period. Spill operations will have already ended and very few fish would pass the spillway through attraction flow releases.

According to the historic 10-year average passage indexes for sub-yearling Chinook at Bonneville Dam (2012-2021), 95% of the run has passed by 19 July (DART). With the outage occurring in September, the proportion of the run impacted is 0.03 % of the total 10-year average passage (retrieved from DART, 2022).

**Impacts to upstream migrants (including Bull Trout) by date:**

September 1st all spill bays closed:

All fish ladder entrances will be fully functioning including the two entrances in the spillway tailrace. Fish that approach spillway tailrace may have to search longer for fishway entrances with reduced spill bay attraction water. We expect that most fish will follow routes to the priority powerhouse. These fish may be exposed to an increase in sea lion and avian predation due to delays. Steller Sea Lion abundance for this time is typically less than 20 animals, and no California Sea Lions.

**Impacts to upstream migrants (Lamprey)**

These spill bay outages will occur toward the end of the adult lamprey migration period. All ladder entrances and LPS systems should be operating at the time of the spill bay outages. The loss of attraction flow provided by spill bays 1 and 18 will impact lamprey that would use this flow to find these ladder entrances. However, this impact to lamprey is small, as most adults have already passed Bonneville at this time. Based on the 10-year average between 2012-2021, 95% of the adult lamprey run has passed by 23 August (retrieved from DART, 2022).

**Comments from agencies**

**Final coordination results**

Please email or call with questions or concerns.

Thank you,

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