

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

FPOM 7/14/2022 4.2.1. 22BON038 MOC Pre-Rock Removal Hydro Survey -
Cates said this work is done to see if it is necessary to bring the dredge into the spillway, due to high flows there are concerns with rock movement onto the apron. Work is planned for Sept 1. Van Dyke asked if this was the standard operation. Madson said yes, it is similar to what was done last year. Van Dyke asked what was done to limit debris from going up onto the apron. Mackey said there was a PDT working on this, need to pass this to Macdonald for FFDRWG discussion. ACTION: Macdonald will put BON spillway rock removal on the FFDRWG agenda and report back to FPOM.

From: Tom Lorz <lorz@critfc.org>

Sent: Monday, July 25, 2022 12:17 PM

To: Madson, Patricia L CIV USARMY CENWP (USA)

<Patricia.L.Madson@usace.army.mil>

Subject: [URL Verdict: Neutral][Non-DoD Source] Re: 22BON038 MOC Pre-Rock Removal Hydro-Survey

This is not unlike what has previously been done, and if I read it right the survey will only impact the spill on one side of the spill at a time correct? If that is the case I am fine with the work.

thanks

tom

Final coordination results – Concurrence

After Action results -

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

Patricia L. Madson
USACE Portland District
Columbia River Coordinator (acting)

Patricia.L.Madson@Usace.army.mil

Andrew Derugin
Chief of Fisheries
Bonneville Lock & Dam

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