**OFFICIAL COORDINATION REQUEST FOR**

**NON-ROUTINE OPERATIONS AND MAINTENANCE**

**COORDINATION TITLE- 21BON097 MOC Early STS Removal**

**COORDINATION DATE- 11/3/21 Revised 11/10/21**

**PROJECT- Bonneville Lock & Dam**

**RESPONSE DATE- 11/24/21**

**Description of the problem**

The Fish Passage Plan (FPP) states that the Submersible Traveling Screens (STSs) may be removed starting on December 16 each year. The STS removal process takes three days, and this year December 16 falls on Thursday. Due to low staffing the following week for Christmas, Bonneville Lock and Dam would like to request approval to begin the STS removal process one day early, on December 15, 2021. Unit 11 will be out of service for a planned 4-year overhaul starting December 6. Unit 11’s STSs may be removed without impact to the priority order when it goes out of service. The remaining STSs will be pulled on December 15-17.

**Type of outage required**

Three unit’s STSs will need to be pulled one day earlier than the FPP schedule.

**Impact on facility operation** (FPP deviations) FPP Section 2.3.2.5.a. Operate screens (STS) through December 15 to prevent adult salmonids from falling back through the turbines, which shortens some aspects of the winter maintenance period by two weeks. Operate unscreened units on a last-on, first-off basis. Beginning December 16, all STSs may be removed.

**Impact on unit priority** Starting on December 15, unit priority may be temporarily impacted as units are placed OOS while the corresponding STSs are being removed. To accommodate for this loss of power generation, two to three units from PH1 will be placed into service during removals. Unscreened units will be operating on a last-on, first-off basis.

**Impact on forebay/tailwater operation:** Chum flows and tailwater levels will not be impacted. If unforeseen weather conditions arise, we will re-assess the operation.

**Impact on spill:** If a snow or rain event occurs causing an unaccounted-for amount of flow, we will have an additional four units at PH1 available for use. If this does not accommodate the amount of flow and forced spill is imminent, BON can postpone work until flows better align.

**Dates of impacts/repairs**

Begin the STS removal on December 15, 2021.

**Length of time for repairs**

The screens would be out of service until the normal installation date in February 2022.

**Analysis of potential impacts to fish**

See **Table 1** for daily upstream passage at Bonneville between December 14-16 for the last ten years (2011-2020). Please note that juvenile salmonid data is not available for these dates, as the Smolt Monitoring Facility is in bypass during this time frame and most juvenile salmonids have passed BON by early fall.

**Table 1 Ten Year (2011-2020) Daily Passage for Upstream Migrants Between December 14-16 at Bonneville Lock & Dam.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Year** | **Date** | **Coho** | **All Steelhead** | **Chinook** | **Chum** | **Lamprey** |
|   | 14-Dec | -1 | 14 | 0 | 0 | 0 |
| **2011** | 15-Dec | 0 | 12 | 0 | 0 | 4 |
|  | 16-Dec | 0 | 22 | 0 | 0 | 2 |
|  | 14-Dec | 0 | 23 | 1 | 0 | 0 |
| **2012** | 15-Dec | 0 | 16 | 0 | 0 | 0 |
|  | 16-Dec | 1 | 25 | -1 | 0 | 0 |
|  | 14-Dec | 2 | 6 | 0 | 0 | 0 |
| **2013** | 15-Dec | -3 | 10 | 4 | 0 | 0 |
|  | 16-Dec | 2 | 10 | 1 | 0 | 0 |
|  | 14-Dec | 5 | 12 | 3 | 0 | 0 |
| **2014** | 15-Dec | 5 | 14 | 1 | 0 | 0 |
|  | 16-Dec | 4 | 6 | 3 | 0 | 0 |
|  | 14-Dec | 4 | 71 | 8 | 0 | 0 |
| **2015** | 15-Dec | 6 | 77 | 5 | 0 | 0 |
|  | 16-Dec | 1 | 40 | 3 | 0 | 0 |
|  | 14-Dec | -1 | 13 | 0 | 0 | 0 |
| **2016** | 15-Dec | 0 | 11 | 2 | 0 | 0 |
|  | 16-Dec | 0 | 6 | 0 | 0 | 0 |
|  | 14-Dec | 0 | 15 | 2 | 0 | 0 |
| **2017** | 15-Dec | 3 | 14 | 1 | 0 | 0 |
|  | 16-Dec | 4 | 13 | 1 | 0 | 0 |
|  | 14-Dec | 23 | 0 | 4 | 0 | -1 |
| **2018** | 15-Dec | 11 | 3 | 1 | 0 | -2 |
|  | 16-Dec | 3 | 5 | 2 | 0 | -1 |
|  | 14-Dec | 17 | 0 | 1 | 2 | 0 |
| **2019** | 15-Dec | 18 | 1 | 1 | 1 | 0 |
|  | 16-Dec | 10 | 6 | 7 | 0 | 0 |
|  | 14-Dec | 0 | 5 | 0 | 0 | 0 |
| **2020** | 15-Dec | 0 | 9 | 0 | 0 | 0 |
|  | 16-Dec | 3 | 6 | 0 | 0 | 0 |

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

**Run Predictions (obtained from WDFW)**

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

**Summary statement - expected impacts on:**

 **Downstream migrants** With the STSs being removed, the Downstream Migrant Channel at Powerhouse 2 (DSM2) will be less accessible to downstream migrants. This may cause a delay in downstream passage. However; the Ice and Trash Sluiceway will be open and available for downstream passage.

**Upstream migrants (including Bull Trout)** Powerhouse 1 fishways (including B-Branch entrance) are out of service during this winter maintenance period. Cascades Island entrance and Powerhouse 2 fishway entrances will be available for upstream migrants. As seen in **Table 1**, daily salmonid passage numbers during this work period are low. However, fish that do pass upstream will be at an increased risk of fallback through the turbine units. Since Powerhouse 1 fishways are OOS, upstream migrants may experience a delay in passage times due to fewer entrances being available and an increased risk in fallback. All entrances that are open will have appropriate differential setpoints to provide attraction flow.

**Comments from agencies**

**From:** Tom Lorz <lort@critfc.org>
**Sent:** Wednesday, November 17, 2021 9:53 AM
**To:** McClain, Nathan A CIV USARMY CENWP (USA) <Nathan.A.McClain@usace.army.mil>
**Subject:** [Non-DoD Source] Re: FPOM Official Coordination: 21 BON 097 MOC Early STS Removal - revised

I can live with a one day early removal, just don't make it a habit......

**From:** Trevor Conder - NOAA Federal <trevor.conder@noaa.gov>
**Sent:** Friday, November 19, 2021 10:21 AM
**To:** McClain, Nathan A CIV USARMY CENWP (USA) <Nathan.A.McClain@usace.army.mil>
**Subject:** [Non-DoD Source] Re: FPOM Official Coordination: 21 BON 097 MOC Early STS Removal - revised

Nathan,

NOAA is ok with this MOC.

-Trevor

**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,

Andrew Derugin

Project Biologist – Bonneville Lock & Dam

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Nathan McClain

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