**CENWP-OD-B 14 September 2024**

**MEMORANDUM FOR THE RECORD**

**SUBJECT: 24BON049 MFR Split Flows Criteria and Guidance\_Update2**

**Update to 24BON049-Ending Split Flows 09 September 2024**

Due to the reduction in fish passage numbers in both the Washington Shore and Bradford Island ladders during the last three days (09/11-09/13) to be below the 20,000 salmonid threshold for split flows, Project Biologists requested operations to end split flow operations at 1100 on 14 September 2024.

Fish passage numbers for both the Bradford Island and Washington Shore Ladders for the dates referenced above reported by the Fish Passage Center are presented in the table below for reference. Numbers for Sockeye, Chum, and Pink Salmonids are not reported due to zero counts of any of these species within the date range.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Ladder** | **Dates**  | **All Chinook**  | **All Coho**  | **All Steelhead** | **Totals**  |
| Bradford Island | 09/11/2024 | 1877 | 303 | 301 | **2481** |
| Bradford Island  | 09/12/2024  | 2545 | 503 | 441 | **3489** |
| Bradford Island  | 09/13/2024 | 1183 | 338 | 278 | **1799** |
| Washington Shore  | 09/11/2024 | 14705 | 2847 | 1878 | **19430** |
| Washington Shore | 09/12/2024 | 11301 | 2163 | 1578 | **15042** |
| Washington Shore | 09/13/2024 | 8950 | 1869 | 1258 | **12077** |

**Update to 24BON049-Initiating Split Flows 30 August 2024**

Due to the increase in fish passage numbers through both Washington Shore and Bradford Island fish ladders at Bonneville Dam over the last week, and at the advice and support of NOAA Biologists, Bonneville Project Biologists requested Operations to initiate split flows by running Unit 1 at Powerhouse 1 today at approximately 12:25.

Below is an average of the percentage of total passage between the Washington Shore and Bradford Island ladders between the dates of **08/24/24-08/29/24** for each species based on the Fish Passage Center’s Ladder Split Adult Counts. Fall Chinook passage has been fairly evenly split between both ladders, while a strong preference for passage through the Washington Shore Ladder has been shown for Coho, and a slight preference for the Washington Shore ladder has been shown for Steelhead.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **All Chinook** | **Adult Chinook** | **Jack Chinook** | **All Coho** | **Adult Coho** | **Jack Coho** | **All Steelhead** | **Unclipped Steelhead** | **Clipped Steelhead** |
| **Bradford Island** | 49.7% | 49.5% | 50.0% | 28.1% | 27.5% | 35.2% | 43.9% | 44.9% | 43.6% |
| **Washington Shore** | 50.3% | 50.5% | 50.0% | 71.9% | 72.5% | 64.8% | 56.1% | 55.1% | 56.4% |

Based on the most recent 7-day adult and jack salmonid counts provided by FPC.org, Bonneville Lock & Dam is quickly approaching the triggers for Split Flows coordination as per **FPP Section 2.1.5. Split Flows** (excerpt included near end of document).Please see **Table 1** for the most recent ladder counts at BON queried from the FPC website. Bonneville Fisheries would like to initiate coordination with FPOM to discuss operational options to prepare for when adult and jack salmonid counts meet or exceed the Split Flows criteria.

Currently, Bonneville’s Powerhouse 1 (PH1) only has Unit 1 available for use and Units 2-10 are forced out of service (FOOS) for oil leaks (see MFRs 24BON001,3,4,7, and 9). Due to the FOOS units at PH1, we do not have enough units available to follow FPP criteria of Split Flows which requires running two priority units at PH1 first and then PH2 units.

If/when Bonneville Lock & Dam hits the adult and jack salmonid count of 30,000 fish/day prior to 31 August or 25,000 fish/day after 31 August, Bonneville Project Fisheries would like to initiate coordination with FPOM to discuss options for splitting flow despite B1 capacity limitations.

**Table 1. Most recent 7-day counts for Bonneville Lock & Dam for 2024. Data obtained from FPC.org ladder split report.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Count Date** | **Ladder** | **All Chinook** | **All Coho** | **All Steelhead** | **Sockeye** | **Daily Salmonid Total** | **Ladder Split Percentage ((Ladder/Daily Total)\*100)** |
| **8/20/2024** | BI | 2251 | 241 | 586 | 0 | 19343 | 15.9% |
| WA | 11136 | 2037 | 3091 | 1 | 84.1% |
| **8/21/2024** | BI | 3944 | 345 | 947 | 0 | 16763 | 31.2% |
| WA | 7452 | 1566 | 2508 | 1 | 68.8% |
| **8/22/2024** | BI | 4245 | 437 | 1386 | 1 | 15117 | 40.1% |
| WA | 5532 | 1259 | 2254 | 3 | 59.9% |
| **8/23/2024** | BI | 4933 | 530 | 1633 | 0 | 15162 | 46.8% |
| WA | 4439 | 1296 | 2331 | 0 | 53.2% |
| **8/24/2024** | BI | 3330 | 522 | 1011 | 0 | 10532 | 46.2% |
| WA | 2660 | 1565 | 1444 | 0 | 53.8% |
| **8/25/2024** | BI | 4127 | 996 | 825 | 0 | 15140 | 39.3% |
| WA | 5276 | 2410 | 1506 | 0 | 60.7% |
| **8/26/2024** | BI | 3507 | 696 | 835 | 0 | 12748 | 39.5% |
| WA | 4360 | 2343 | 1007 | 0 | 60.5% |
| **8/27/2024** | BI | 9549 | 1081 | 858 | 1 | 25296 | 45.4% |
| WA | 9749 | 2904 | 1154 | 0 | 54.6% |

**FPP 2.1.5. Split Flows.**

**2.1.5.1.a.**

Before August 31, if adult and jack salmonid counts equal or exceed 30,000

fish/day, Project Fisheries will initiate coordination with FPOM to discuss options for

splitting flow between powerhouses to balance attraction flow and adult passage among

the project’s fishways.

**2.1.5.1.b.**

After August 31, when adult and jack salmonid counts equal or exceed 25,000

fish/day, the Project will operate two or more priority turbines at PH1 in an attempt to

balance adult passage between both powerhouses (assuming no PH1 units are already

operating). While PH2 is still priority, Project Fisheries, at their discretion, may shift

additional unit flow up to half the combined powerhouse flow, to PH1 as necessary to

alleviate adult fishway crowding. This operation will continue until adult and jack

salmonid counts fall below 20,000 fish/day.

**FPP Unit Priority for split flows:**

**Split Flows** (see **section 2.1.5**)

**PH1**: 1, ~~10~~ (or top two available PH1 priority units),

**Then PH2**: 11, 18, ~~12~~, 17, 13, ~~14~~, 15, 16,

**Then PH1:** ~~3, 6, 9, 4, 5, 8, 7, 2~~

Note: Units marked in red strikethrough text implies that the Unit is not available.

 A. Species – Adult and jack salmonids (currently Chinook, coho, steelhead, and sockeye)

B. Origin – N/A

C. Length – N/A

D. Marks and tags – N/A

E. Marks and Injuries found on carcass – N/A

F. Cause and Time of Death – N/A

G. Future and Preventative Measures – N/A

Sincerely,

Bonneville Project Fisheries