# Fish Passage Plan (FPP) Change Request Form

**Change Form # & Title**: 17BON001 – Lamprey Operations Start Date

**Date Submitted**: 6/6/2016

**Project**: BON

**Requester Name, Agency**: Ida Royer, BON Fisheries

**Final Action:**

**FPP Section**: BON section 2.4.2.12.c. – Adult Facilities Operating Criteria – Fish Passage Season (Mar 1-Nov 30) – PH2

**Justification for Change**: Lamprey migration at BON has occurred prior to June 1 in recent years, potentially due to elevated water temperatures. These conditions are likely to continue into the future, making a biological trigger more practical than a set date for initiating lamprey operations. Fish detected at the count window, high up in the ladder, likely underestimate the number of fish benefiting from lamprey operations at the fishway entrances, based upon a dam-wide passage efficiency of 31-48% (n=10 years, Keefer et al., 2012). Historical cumulative lamprey window counts from 2011 - present are presented below:

| Date | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 |
| --- | --- | --- | --- | --- | --- | --- |
| 21-Apr | 1 |  | 1 | -1 |  | 1 |
| 22-Apr | 2 |  | 1 | -1 |  | 1 |
| 23-Apr | 3 |  | 1 | -1 |  | 1 |
| 24-Apr | 5 |  | 1 | -1 |  | 1 |
| 25-Apr | 6 |  | 1 | -1 | 1 | 1 |
| 26-Apr | 6 |  | 2 | -1 | 5 | 1 |
| 27-Apr | 7 |  | 2 | -1 | 16 | 1 |
| 28-Apr | 7 |  | 2 | -1 | 16 | 1 |
| 29-Apr | 9 |  | 2 | -1 | 18 | 1 |
| 30-Apr | 9 |  | 2 | -1 | 20 | 1 |
| 1-May | 13 | 1 | 2 | -1 | 26 | 1 |
| 2-May | 15 | 1 | 2 | -1 | 32 | 1 |
| 3-May | 22 | 1 | 2 | -1 | 36 | 1 |
| 4-May | 34 | 1 | 2 | -1 | 37 | 1 |
| 5-May | 34 | 1 | 2 | -1 | 37 | 1 |
| 6-May | 33 | 1 | 2 | -1 | 39 | 1 |
| 7-May | 121 | 1 | 3 | -1 | 41 | 1 |
| 8-May | 204 | 1 | 3 | -1 | 43 | 1 |
| 9-May | 253 | 2 | 3 | 1 | 43 | 1 |
| 10-May | 487 | 6 | 3 | 9 | 44 | 1 |
| 11-May | 547 | 15 | 3 | 107 | 44 | 1 |
| 12-May | 603 | 17 | 3 | 186 | 46 | 1 |
| 13-May | 706 | 23 | 7 | 248 | 46 | 1 |
| 14-May | 761 | 27 | 9 | 268 | 54 | 5 |
| 15-May | 831 | 29 | 13 | 340 | 56 | 7 |
| 16-May | 900 | 30 | 41 | 394 | 110 | 13 |
| 17-May | 924 | 30 | 66 | 427 | 129 | 30 |
| 18-May | 1029 | 32 | 120 | 478 | 160 | 41 |
| 19-May | 1242 | 42 | 172 | 573 | 230 | 109 |
| 20-May | 1445 | 43 | 359 | 657 | 380 | 125 |
| 21-May | 1550 | 59 | 668 | 735 | 519 | 133 |
| 22-May | 1603 | 74 | 832 | 770 | 660 | 144 |
| 23-May | 1664 | 90 | 1020 | 813 | 796 | 180 |
| 24-May | 1748 | 98 | 1157 | 871 | 911 | 198 |
| 25-May | 1810 | 133 | 1417 | 951 | 1004 | 217 |
| 26-May | 2431 | 180 | 1715 | 1038 | 1050 | 231 |
| 27-May | 2636 | 206 | 1954 | 1090 | 1063 | 243 |
| 28-May | 2869 | 271 | 2134 | 1114 | 1078 | 255 |
| 29-May | 3063 | 490 | 2366 | 1142 | 1103 | 259 |
| 30-May | 3218 | 670 | 2493 | 1202 | 1132 | 266 |
| 31-May | 3438 | 936 | 2601 | 1293 | 1161 | 282 |
| 1-Jun | 3688 | 1062 | 2775 | 1418 | 1202 | 293 |
| 2-Jun | 3988 | 1194 | 2878 | 1553 | 1414 | 299 |
| 3-Jun | 4207 | 1400 | 3024 | 1669 | 1658 | 311 |
| 4-Jun | 4442 | 1539 | 3330 | 1842 | 1771 | 325 |
| 5-Jun | 4677 | 1798 | 3543 | 2008 | 1921 | 331 |

Reference: Keefer ML, Clabough TC, Jepson MA, Johnson EL, Boggs CT, Caudill CC. 2012. Adult Pacific Lamprey Passage: Data Synthesis and Fishway Improvement Prioritization Tools. [University of Idaho Technical Report to USACE, 2012-8](http://www.webpages.uidaho.edu/uiferl/pdf%20reports/2012-08%20Keefer%20et%20al%20DRAFT%20UI%20Lamprey%20data%20synthesis.pdf).

**Proposed Change**:

**2.4.2.12.c. Lamprey Operations:** Starting June 1, or whenever cumulative lamprey counts at BON equal 25 lamprey, and continuing through August 31, during night spill hours (**Table BON-5**), reduce fish unit output to operate all north (NUE, NDE) and south (SUE, SDE) entrances at 0.5’ of entrance head. To ensure proper function of fish units, B2 fish unit output can be further reduced or placed on standby to float debris as necessary from 2200-0400 hours.

**Comments**:

**Record of Final Action**: