Adult Fish Passage Facilities – 2016-2017 Winter Maintenance Schedule

**U. S. Army Corps of Engineers**

**Walla Walla District**

**MCNARY DAM1 - Washington Shore Fishway**

1. **Thursday, December 1:** Place ladder on orifice flow. Wasco PUD will shut down.
2. **Friday, December 2:** Place exit and conduit stoplogs ; Wasco PUD shuts down bypass flow; project dewaters the WA fish ladder down to the tailwater level from **December 2 to January 27 (could go as late as January 31)** for maintenance. Complete winter maintenance according to the Fish Passage Plan, Section 2.3.2.1. At exit, COE works on Oil Accountability Program by rebuilding six tilting weirs.
3. **December 8 to January 20:** Lamprey passage improvement contractor in ladder.
4. **Early December:** Dive contractor will inspect diffuser gratings.
5. **December 2 to January 27:** WASCO PUD performs annual maintenance on their small hydro project, bypass and auxiliary water supply system.
6. **December 2 to January 27:** PSMFC maintains adult PIT tag system as required. Fisheries will coordinate with PSMFC.
7. **December 2 to January 27:** U. of Idaho maintains half-duplex PIT (lamprey) antennas. Fisheries will coordinate with U. of Idaho.
8. Resume normal operation of the ladder and small hydro/auxiliary water system by **Friday, January 27 (could go as late as Tuesday, January 31).**

MCNARY DAM1 - Oregon Shore Fishway

1. **Saturday, January 28 (could start as late as Wednesday February 1):** Shut down AWS Fish Pumps 1 and 3 then place the ladder on orifice flow after Washington ladder is returned to service.
2. **Monday, January 30:** Use ladder crane to install the exit logs and juvenile passage stop logs. Close tainter valve. Perform physical inspection of ladder to tailwater.
3. **Early February:** install stoplogs to isolate south entrance pool for dewatering.
4. **January 30 to February 24 (could go as late as February 28):** Dive inspection of the remaining ladder diffuser grating.
5. **January 30 to February 24:** Perform routine winter maintenance on AWS Fish Pumps 1 and 3. (Fish pump 2 rebuild should have been completed and tested in November, 2016.)
6. **January 30 to February 24:** Complete winter maintenance according to the Fish Passage Plan, Section 2.3.2.1. At exit, COE works on Oil Accountability Program related to tilting weir rehabilitations. Continue rehabilitation of floating entrances (three more). Install rehabilitated entrance weir at NEFW3.
7. **January 30 to February 24:** Maintain adult PIT tag system as required. Coordinate with PSMFC.
8. **January 30 to February 24:** District engineers will examine auxiliary water discharge roto-valves and sluice gates for future rehabilitation.
9. **January 30 to February 24:** U. of Idaho maintains half-duplex PIT (lamprey) antennas. Fish will coordinate with U. of Idaho.
10. Resume normal ladder flow and pump operation by close of business **Friday,** **February 24 (could go as late as Tuesday, February 28).**

ICE HARBOR DAM1 - North Shore Fishway

1. Shut down the AWS pumps on the morning of **January 1.**
2. Dewater the fish ladder from **January 3 – January 27.**
3. Complete winter maintenance according to the Fish Passage Plan, Section 2.3.2.1.
4. **Inspect the collection channel by video-inspection with the ROV.** 1
5. Perform maintenance on the AWS pumps.
6. Inspect the upper diffuser intake trash rack guide slots with a diver.
7. Install pipes to house and protect temperature probes, as needed.
8. Replace fish counting window cleaning brush.
9. Maintain adult PIT tag system as required. Coordinate with PSMFC.
10. Maintain half-duplex PIT (lamprey) antennas. Coordinate with University of Idaho.
11. Resume normal operation of the AWS pumps on January 27**.**

ICE HARBOR DAM1 - South Shore Fishway

1. Shut down the AWS pumps on the morning of **January 28**.
2. Dewater the fish ladder from **January 30 – February 28** for maintenance.
3. Complete winter maintenance according to the Fish Passage Plan, Section 2.3.2.1.
4. **Inspect the collection channel by video-inspection with the ROV.** 1
5. Perform maintenance on the AWS pumps.
6. Install pipes to house and protect temperature probes, as needed.
7. Replace fish counting/viewing window cleaning brushes.
8. Install additional fasteners to secure the air line near the fish viewing window.
9. Contract installation of trolley/fish release pipes in tail race between each main unit and at south shore AWS pump intake.
10. Convert south shore AWS Pumps #1-4 to EAL grease for test.
11. Maintain adult PIT tag system as required. Coordinate with PSMFC.
12. Maintain half-duplex PIT (lamprey) antennas. Coordinate with University of Idaho.
13. Install Okum in leaking ladder joints.
14. Resume normal operation of the AWS pumps on **February 28**.

LOWER MONUMENTAL DAM1 - North Shore Fishway

1. Shut down the AWS pumps on the morning of **January 1**.
2. Dewater the fish ladder from **January 3 – January 30** for maintenance.
3. Complete winter maintenance according to the Fish Passage Plan, Section 2.3.2.1.
4. Inspect the collection channel by dewatering.
5. Rebuild fish ladder bulkheads.
6. Perform maintenance on the AWS pumps.
7. Replace AWS pump with rebuilt spare.
8. Resume normal operation of the AWS pumps on **February 28**.

LOWER MONUMENTAL DAM1 - South Shore Fishway

1. Dewater the fish ladder from **February 6 – February 29** for maintenance. Rehab SSE 1 and SSE 2.
2. Complete some grout replacement in channel.
3. Replace upper count station guide fence.
4. Complete winter maintenance according to the Fish Passage Plan, Section 2.3.2.1.
5. Inspect the collection channel by dewatering.

**LITTLE GOOSE DAM1**

1. Shut down the AWS pumps on the morning of **January 2, 2017**.
2. Dewater the fish ladder from **January 2 through February 17, 2017**.
3. Close fish entrance weirs after fish ladder dewatered, **January 2, 2017**.
4. Dewater collection channel from **January 5 – February 16, 2017** for inspection andmaintenance.
5. Install adult window cleaning brushes January 17 – February 16, 2017.
6. Complete winter maintenance according to the Fish Passa**g**e Plan, Section 2.3.2.1.
7. Inspect adult fallout fence and repair as needed.
8. Replace the adult fish channel grating.
9. Repair adult fish ladder joint seals.
10. Measure and calibrate fishway control system components including sill depths, weir targets, FSC board and limit switches.
11. Repair NSE slack cable tensioner mechanism.
12. Replace baffle boards at primary dewaterer.
13. Replace seals on permanent floating orifice gate bulkheads.
14. Inspect and repair/replace VBS screen.
15. Resume normal operation of the AWS pumps on **February 17, 2017.**

# LOWER GRANITE DAM1

1. Shut down the AWS pumps on the morning of **January 1, 2017**.
2. Dewater the fish ladder from **January 2, 2016 – February 13, 2017.**
3. Complete winter maintenance according to the Fish Passage Plan, Section 2.3.2.1.
4. Inspect the collection channel by dewatering.
5. Perform maintenance on the AWS pumps.
6. Inspect the adult fallout fence and repair as needed.
7. Routine maintenance of adult trap.
8. Install water supply pipe to adult trap (part of Phase 1).
9. Remove temporary flume support truss over ladder turnpool area (part of Phase 1).
10. Remove temporary reinforcement bulkhead in forebay (part of Phase 1).
11. Improve RF noise shielding of upper fish ladder PIT tag arrays.
12. Install PIT tag antenna behind the adult trap return loop exit gate.
13. Resume normal operation of the AWS pumps no later than **February 28, 2017.**

Table 1. Methods used to inspect adult fishway collection channels during past winter maintenance periods, compared to the upcoming winter period.

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| --- | --- | --- | --- | --- | --- | --- |
|  | **2011-12** | **2012-13** | **2013-2014** | **2014-2015** | **2015-2016** | **2016-2017** |
| **MCN WA Shore** | Camera /  Inspected | Camera/  Inspection | Diver/  Inspection | Camera/  Inspection | Camera/  Inspection | Diver/ Inspection |
| **MCN OR Shore** | Camera/  Inspection | Diver/  Inspection | Camera/ Inspection | Camera/  Inspection | Camera/  Inspection | Diver/ Inspection |
| **IHR North Shore** | Dewatering | ROV | ROV | Dewatering | ROV | ROV |
| **IHR South Shore** | ROV and diver | ROV | ROV | Diver | Dewatering | ROV |
| **LMO North Shore** | Dewatering | Dewatering | Dewatering | Dewatering | Dewatering | Dewatering |
| **LMO South Shore** | Dewatering | Dewatering | Dewatering | Dewatering | Dewatering | Dewatering |
| **LGS** | Dewatering | Dewatering | Dewatering | Dewatering | Dewatering | Dewatering |
| **LWG** | Dewatering | Dewatering | Dewatering | Dewatering | Dewatering | Dewatering |

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