

The Dalles Dam Fishway Status Report

12/4/21

Inspection Period: 11/28 - 12/4/2021

THE DALLES DAM



US Army Corps
of Engineers
Portland District

The Dalles Project-Fisheries
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| | | | | | | |
|-----------------------|----------------------------|---------------------------|--|--|--------------------------------|--|
| The Dalles Dam | Inspections OOC | Criteria Limit | Total Number of Inspections: 10 | | Temperature: 49.6 °F | |
| | | | Comments: East ladder dewatered 12/2/2021 | | Weekly Ave. Secchi: 5.1 | |

NORTH FISHWAY

| | | | |
|----------------------------|---|--------------|---|
| Exit differential | 0 | ≤ 0.5' | |
| Count station differential | 0 | ≤ 0.3' | |
| Weir crest depth | 0 | 1.0' ± 0.1' | |
| Entrance weir N1 | 0 | depth (≥ 8') | Weekly average 9.5 |
| Entrance Differential | 0 | 1.0' - 2.0' | Weekly average 1.2 |
| Entrance weir N2 | 0 | Closed | |
| PUD Intake differential | 0 | ≤ 0.5' | Significant aquatic weeds accumulating. Rake turned over to PUD operations. |

EAST FISHWAY

| | | | |
|---------------------------------|---|--------------|------------------------------------|
| Exit differential | 0 | ≤ 0.5' | |
| Removable weirs 154-157 | 0 | Per forebay | |
| Weir 158-159 differential | 0 | 1.1' ± 0.1' | |
| Count station differential | 0 | ≤ 0.3' | |
| 153 Weir crest depth | 0 | 1.0' ± 0.1' | |
| Junction pool weir JP6 | 0 | > 7.0' | |
| East entrance differential | 0 | 1.0' - 2.0' | |
| Entrance weir E1 | 0 | No criteria | |
| Entrance weir E2 | 0 | depth (≥ 8') | |
| Entrance weir E3 | 0 | depth (≥ 8') | |
| Collection channel velocity | 0 | 1.5 - 4 fps | east 1.66fps, west 1.46fps 11/4/21 |
| Transportation channel velocity | 0 | 1.5 - 4 fps | east 2.46fps, west 4.66fps 11/4/21 |
| North channel velocity | 0 | 1.5 - 4 fps | 2.62 fps 11/15/21 |
| South channel velocity | 0 | 1.5 - 4 fps | 4.39 fps 11/22/21 |
| West entrance differential | 0 | 1.0' - 2.0' | Old SCADA Week ave. 1.4 |
| Entrance weir W1 | 0 | depth (≥ 8') | Week ave. 9.8 |
| Entrance weir W2 | 0 | depth (≥ 8') | Week ave. 9.8 |
| Entrance weir W3 | 0 | No criteria | Closed |
| South entrance differential | 0 | 1.0' - 2.0' | Week ave. 1.5 |
| Entrance weir S1 | 0 | depth (≥ 8') | Week ave. 8.5 |
| Entrance weir S2 | 0 | depth (≥ 8') | Week ave. 8.5 |

JUVENILE PASSAGE

| | | | |
|----------------------------|---|---------------|--|
| Sluiceway operation | 0 | Units 1,8, 18 | Gates over MU1/1-2-3, moved to MU4, MU8/1-3, MU18-2 open |
| Turbine trashrack drawdown | 0 | <1.5', biwkly | 10/20/21, all gatewells in criteria. |
| Spill volume/pattern | 0 | 1 to 8 | Spill closed 9/1/21 |
| Turbine Unit Priority | 0 | per FPP | Mus 1-3 OOS due to crane rail replacement work. |
| Gatewells | 0 | Weekly | No mortality 11/17/2021. |

OTHER ISSUES:

Current Unit Outages

- SS01 OOS 0001 11/17/2021 – 1700 11/24/2021 for Annual
- MU3 OOS 0630 9/20/2021 – 1700 11/24/2021 for Crane Rail Replacement
- MU2 OOS 0630 9/20/2021 – 1700 11/24/2021 for Crane Rail Replacement
- MU1 OOS 0630 9/20/2021 – 1700 11/24/2021 for Crane Rail Replacement
- T10 (MU19 & 20) FOOS through 10/27/2022 due to acetylene levels
- MU12 OOS 0001 4/12/2021 – 1700 10/27/2022 for Annual & Cooler Upgrades
- MU19 OOS 0630 6/27/2021 – 1700 10/27/2022 for Top Plate Cover Upgrade

Navlock outage Feb 13-Mar19

Maintenance

Permanent oil boom removed from east exit for repairs. Attachment bracket redesign.

Fishway automation replacement work in progress. Approximately half complete.

Calibrations: All openings in criteria. One east and south entrance gates E-3 and S-2 out of calibration but stable and unable to adjust.

New mechanical velocity meter setup and used in east channels. Velocities slightly out of criteria at three locations.

Spillway assessment (MRER); Spillgates 1- 9 rehab date estimate 2034. Includes replacement of spillbay 9 trunnion pin repair

East fishladder dewatered for winter maintenance; 12 steelhead, 1 coho, 2 chinook, 6 sturgeon and hundreds of shad moved to tailwater.

33 lamprey morts found days following dewatering. MFR provided to FPOM.

Predators

Cormorants foraging entrances, PH1 and in SW2 & 3, Mergansers also a regular as expected during fall migration.

Western, california and ringbill gulls foraging at nav lock and in PH2,

Research/Construction/Contractors

[TD-USGS °F](#) For water temps

AWS intake trashrack/trash rake- No funding FY22.

Fish Accords Lamprey Passage plan for The Dalles ongoing at 30% DDR junction pool. Will discuss east ladder dewatering lamprey morts.

PITAGS north and east fishladder data collection at count stations continues.

Fish unit rehab - Phase 1A on hold. Date to be determined. Planning operation with AWS backup water supply during construction.

Northern Pikeminnow Management Program season concluded w/1384 native pikeminnow removed YTD

PUD removing debris from location where a new juvenile sampling facility will be constructed prior to upcoming fish season 2021/2022

Crane rail replacement underway on intake deck units 1-4. Sluiceways unit 1 moved to unit 4 open.

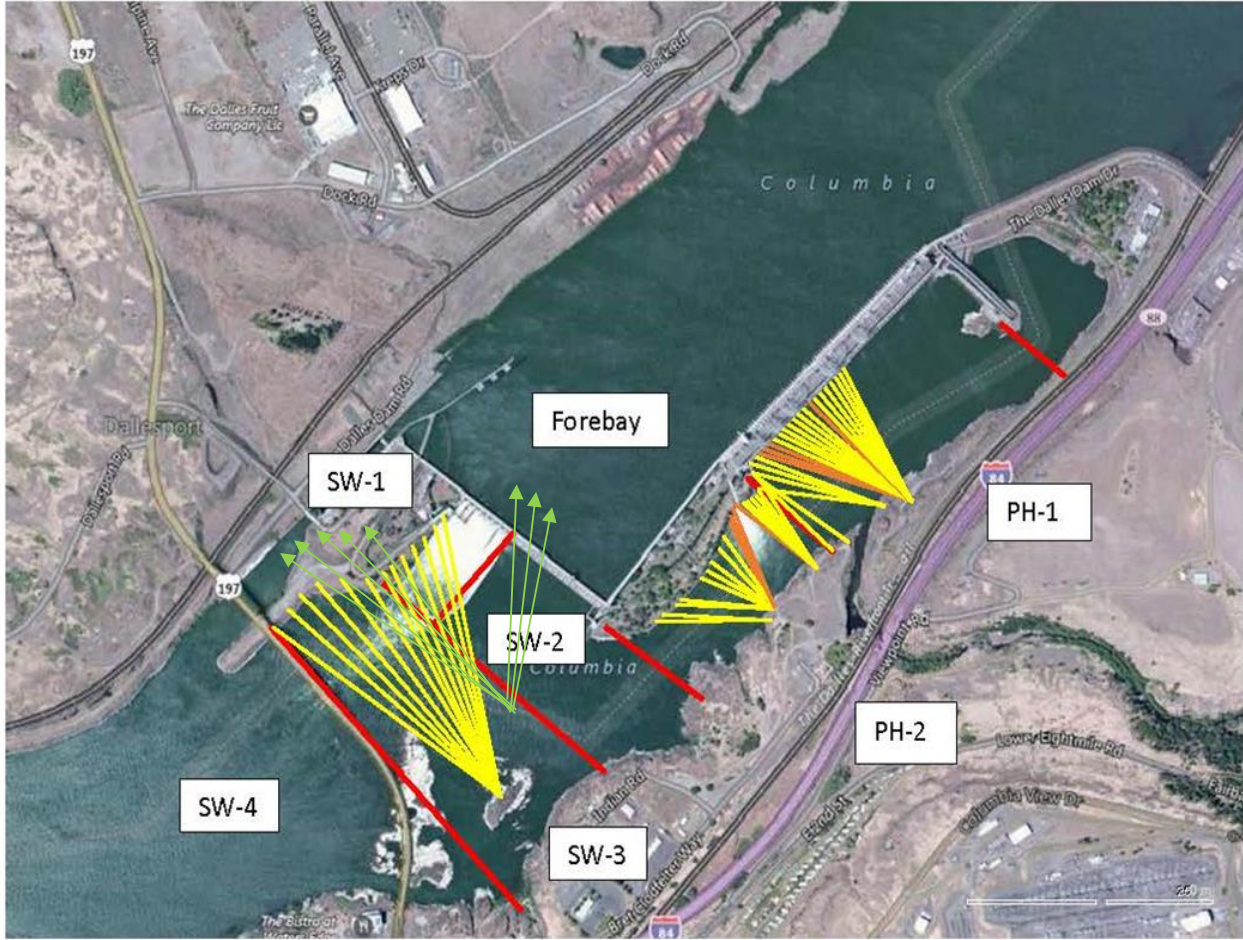
Fishway Operations

Ice Trash sluiceway opened 24/7. MU4/1-2-3, MU 8/1-2, MU18/2 Sluice openings move to unit 4 due to concrete-crane rail removal

East and north fish ladders in full operation per Fish Passage Plan.

Approved by: Ron Twiner, Operation Project Manager, The Dalles Dam

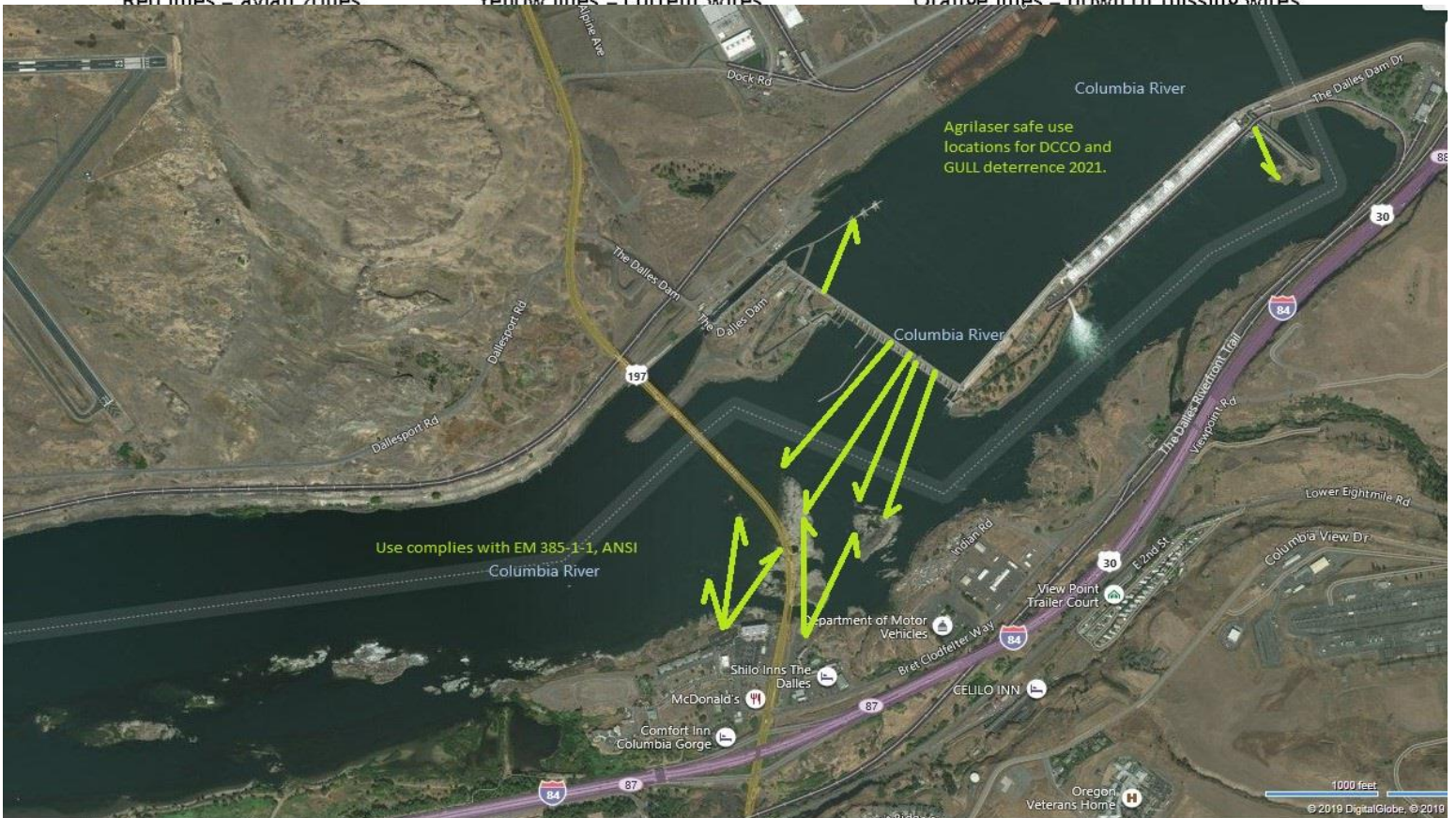
New Avian Lines and laser deterrent zones



Red lines = avian zones

Yellow lines = current wires

Orange lines = down or missing wires



Use complies with EM 385-1-1, ANSI

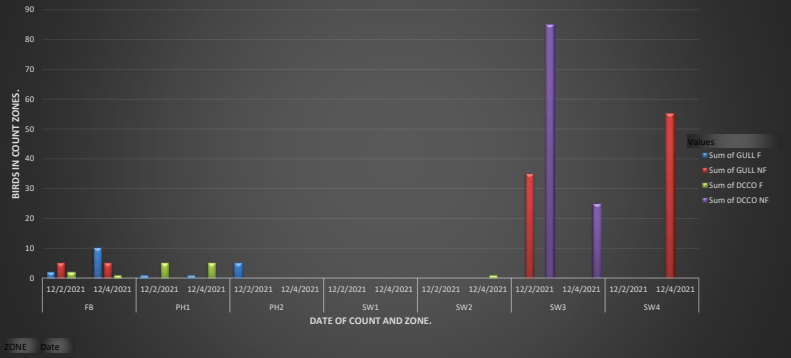
Agrilaser safe use locations for DCCO and GULL deterrence 2021.

2021 Piscivorous Bird Counts

F=foraging, NF=non-foraging

| Date | Observer | Time | ZONE | GULL F | GULL NF | DCCO F | DCCO NF | TERN F | TERN NF | Grebe F | Grebe NF | AWPE F | AWPE NF | OtherF | OtherNF | Total | comments |
|------|----------|------|------|--------|---------|--------|---------|--------|---------|---------|----------|--------|---------|--------|---------|-------|----------|
| 12/2 | | | FB | 2 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | |
| | | | | | | | | | | | | | | 0 | 80 | 86 | |
| | | | | | | | | | | | | | | 0 | 0 | 5 | |
| | | | | | | | | | | | | | | 0 | 0 | 0 | |
| | | | | | | | | | | | | | | 0 | 0 | 0 | |
| | | | | | | | | | | | | | | 0 | 0 | 120 | |
| | | | | | | | | | | | | | | 0 | 0 | 0 | |
| | | | | | | | | | | | | | | 2 | 0 | 18 | |
| | | | | | | | | | | | | | | 0 | 30 | 36 | |
| | | | | | | | | | | | | | | 0 | 0 | 0 | |
| | | | | | | | | | | | | | | 0 | 0 | 0 | |
| | | | | | | | | | | | | | | 0 | 0 | 1 | |
| | | | | | | | | | | | | | | 0 | 0 | 25 | |
| | | | | | | | | | | | | | | 0 | 0 | 55 | |

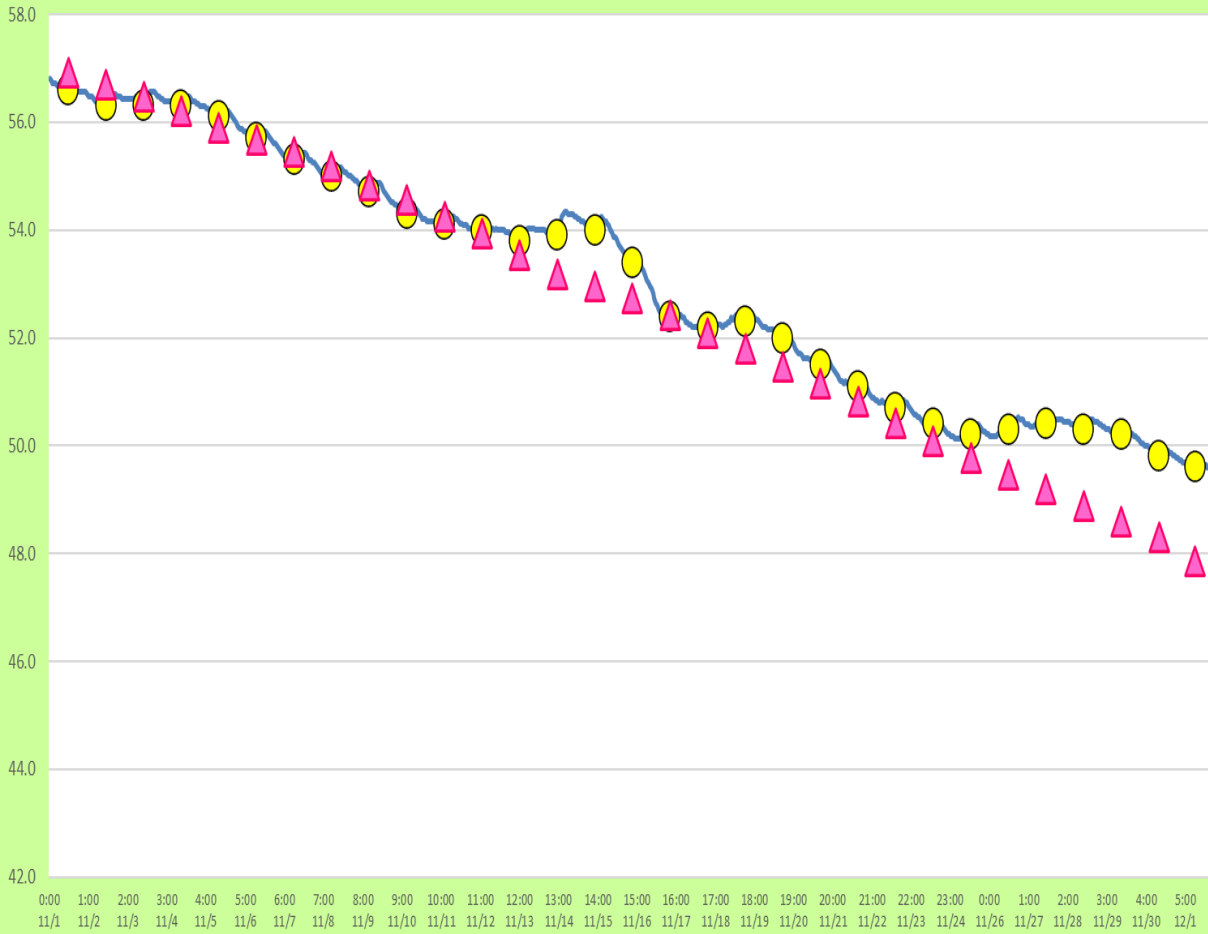
The Dalles Dam Avian Predators, 12/2 and 12/4/2021



| Row L | FB | PH1 | PH2 | SW1 | SW2 | SW3 | SW4 | Grand Total |
|--------------------|-----------|------------|-----------|------------|-----|-----|-----|-------------|
| Sum of GULL F | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Sum of GULL NF | 5 | 0 | 0 | 0 | 0 | 35 | 55 | 95 |
| Sum of DCCO F | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Sum of DCCO NF | 0 | 0 | 0 | 0 | 0 | 85 | 0 | 85 |
| Grand Total | 19 | 100 | 14 | 110 | | | | 110 |

East Fish Ladder-River Temperatures

— East Count Station ● Current USGS Daily Average ▲ USGS Daily Average (2007-2020)



| Secchi: | | USGS°F |
|---------|--------|--------|
| 5.0 | Sun | 50.3 |
| 5.0 | Mon | 50.2 |
| 5.0 | Tue | 49.8 |
| 5.0 | Wed | 49.6 |
| 5.0 | Thurs | 49.5 |
| 5.0 | Fri | 49.4 |
| 6.0 | Sat | 49.1 |
| 5.1 | median | 49.6 |

The Dalles Dam Daily Readings and Averages for
Temperatures, Secchi, Entrances, and Spill

E1 and W3 no criteria

out of criteria

| Date: | North Ladder | | East Ladder | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|--------------|------------|---|----------|----------|----------|------|---------------|-----|-----|------|----------------|-----|-----|------------|------------|------------|-------------|------------|------------|------------|------------|-------------|------------|------------|------------|
| | Differential | N1 Depth | East Entrance | | | | | West Entrance | | | | South Entrance | | | | | | | | | | | | | | |
| | | | Differential | E1 Depth | E2 Depth | E3 Depth | JP 6 | Differential | W1 | W2 | W3 | Differential | S1 | S2 | | | | | | | | | | | | |
| 11/28 | 1.0 | 9.6 | 1.0 | 1.6 | 6.0 | 10.8 | 8.9 | 1.4 | 9.8 | 9.8 | -0.9 | 1.5 | 8.1 | 8.1 | | | | | | | | | | | | |
| | 1.0 | 9.8 | 1.0 | 1.6 | 6.0 | 10.8 | 9.0 | 1.5 | 9.9 | 9.9 | -0.9 | 1.5 | 8.2 | 8.1 | | | | | | | | | | | | |
| 11/29 | 1.2 | 9.4 | 1.0 | 1.6 | 6.3 | 10.9 | 9.3 | 1.4 | 9.7 | 9.7 | -0.9 | 1.5 | 8.4 | 8.4 | | | | | | | | | | | | |
| | 1.2 | 9.4 | 1.0 | 1.6 | 6.1 | 10.8 | 9.1 | 1.5 | 9.7 | 9.7 | -0.9 | 1.5 | 8.2 | 8.2 | | | | | | | | | | | | |
| 11/30 | 1.4 | 9.3 | 1.0 | 1.4 | 7.0 | 11.8 | 10.0 | 1.5 | 9.6 | 9.7 | -0.7 | 1.5 | 9.0 | 9.0 | | | | | | | | | | | | |
| | 1.3 | 9.4 | 1.0 | | | | | 0.9 | 9.8 | 9.9 | -1.0 | 1.4 | 8.9 | 8.9 | | | | | | | | | | | | |
| 12/1 | 1.2 | 9.2 | Fish Turbines off at 00:00 12/1 EL dewatered 12/2 | | | | | | | | | | | | | | | | | | | | | | | |
| 12/2 | 1.2 | 9.6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 12/3 | 1.3 | 9.4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 12/4 | 1.5 | 9.5 | | | | | | | | | | | | | | | | | | | | | | | | |
| AVG: | 1.2 | 9.5 | | | | | | | | | | | | | 1.0 | 1.5 | 6.3 | 11.0 | 9.3 | 1.4 | 9.8 | 9.8 | -0.9 | 1.5 | 8.5 | 8.5 |

Fishways are inspected twice daily. Overnight trend monitored via Old SCADA operating at west entrance.



Lamprey mortality in east fishladder dewater. MFR provided to FPOM.