

The Dalles Dam Fishway Status Report

9/13/2020

Inspection Period: 9/6-9/12

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: 21 | | Temperature: 69.6 °F |
| | | | Comments: fishways functional | | Weekly Average Secchi: 5.3 |

NORTH FISHWAY

| | | | |
|----------------------------|---|--------------|------------------------------------------------------------------------------------|
| Exit differential | 0 | ≤ 0.5' | |
| Count station differential | 0 | ≤ 0.3' | |
| Weir crest depth | 0 | 1.0' ± 0.1' | |
| Entrance differential | 0 | 1.0' - 2.0' | 1.3 |
| Entrance weir N1 | 0 | depth (≥ 8') | 9.4 |
| Entrance weir N2 | 0 | Closed | |
| PUD Intake differential | 6 | ≤ 0.5' | Aquatic weeds clogging PUD intake. Damage to north FB index makes data unreliable. |

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 | 1.3' ± 0.1' | |
| Junction pool weir JP6 | 0 | > 7.0' | Average for week = 10.9 |
| East entrance differential | 0 | 1.0' - 2.0' | Average for week = 1.5 |
| Entrance weir E1 | 0 | No criteria | Average for week = No criteria |
| Entrance weir E2 | 0 | depth (≥ 8') | Average for week = 11.4 |
| Entrance weir E3 | 0 | depth (≥ 8') | Average for week = 11.5 |
| Collection channel velocity | 0 | 1.5 - 4 fps | 2.82 fps, 8/31/2020 Range: 3.31 fps MU 2 to 2.10 fps MU-12 |
| Transportation channel velocity | 0 | 1.5 - 4 fps | 2.28 fps, 8/19/2020 |
| North channel velocity | 0 | 1.5 - 4 fps | 1.93 fps, 9/8/2020 |
| South channel velocity | 0 | 1.5 - 4 fps | 3.32 fps, 8/19/2020 |
| West entrance differential | 0 | 1.0' - 2.0' | Average for week = 1.5 |
| Entrance weir W1 | 0 | depth (≥ 8') | Average for week = 10.5 |
| Entrance weir W2 | 0 | depth (≥ 8') | Average for week = 10.5 |
| Entrance weir W3 | 0 | No criteria | |
| South entrance differential | 0 | 1.0' - 2.0' | Average for week = 1.5 |
| Entrance weir S1 | 0 | depth (≥ 8') | Average for week = 8.5 |
| Entrance weir S2 | 0 | depth (≥ 8') | Average for week = 8.5 |

JUVENILE PASSAGE

| | | | |
|----------------------------|---|----------------|------------------------------------------------------|
| Sluiceway operation | 0 | Units 1, 7, 18 | MU8 OOS |
| Turbine trashrack drawdown | 0 | <1.5', biwkly | 8/31/2020 checked, all in criteria. |
| Spill volume/pattern | 0 | 1 to 8 | Spill closed 9/1/2020. |
| Turbine Unit Priority | 2 | per FPP | All available MUs running; OOC due to forced outages |
| Gatewells | 0 | Weekly | 8/31/2020 fish check, no mortality. No salmon seen. |

OTHER ISSUES:

Unit Outages

- Line 1, MU1,2, FU1&2 limited to 188MVA for T1 replacement; 1/28/2021
- T3 MU5, MU6 FU1 & FU2 limited to 188MVA through 1/28/2020 for FUBB bus temperature testing
- T10 (MU19 & 20) FOOS through 10/28/2021 due to acetylene levels
- MU8 OOS 0630 1/21/2020 - 1700 10/1/2020 for Overhaul
- T7 OOS 0001 6/22/2020 - 1700 10/1/2020 T7 GSU Replacement & Gnd. Switch Repairs
- MU22 FOOS through 1700 11/19/2020 due to excessive vibration.
- MU21 OOS 8/3/2020 - 11/19/2020 for Annual & Headcover Upgrade
- One unit rolling outage 0630 9/8/2020 - 1700 9/22/2020 for SEL Relay Upgrades

Maintenance

PUD intake rake out of service due to power track damage. Exploring repair options. Expecting budget challenge. Raking with mobile crane as needed. Calibration check on 9/8, all in criteria. Damage to north FB staff gage giving potential accuracy problems. Five of 6 east fishway collection channel dewatering pumps removed for repair/rehab. On hold due to budget constraints. Resume in Oct. East fishway automation replacement no progress. PLC box assembly completed. Installation of east entrance planned completion in Sept. Spillway assessment (MRER); No FY20 funding. Spillgate 9 trunnion pin included.

Predators

USDA hazing concluded 7/31. Refer to avian graph tab for bird numbers. Green laser use for piscivorous bird hazing testing on hold. Potential safety concerns being addressed. Cormorants foraging forebay near east ladder exit and entrance. Several herons foraging east fishladder. Increasing masses of invasive aquatic weeds accumulating at count station pickets. Zebra mussel samples collected 8/31.

Research/Construction/Contractors

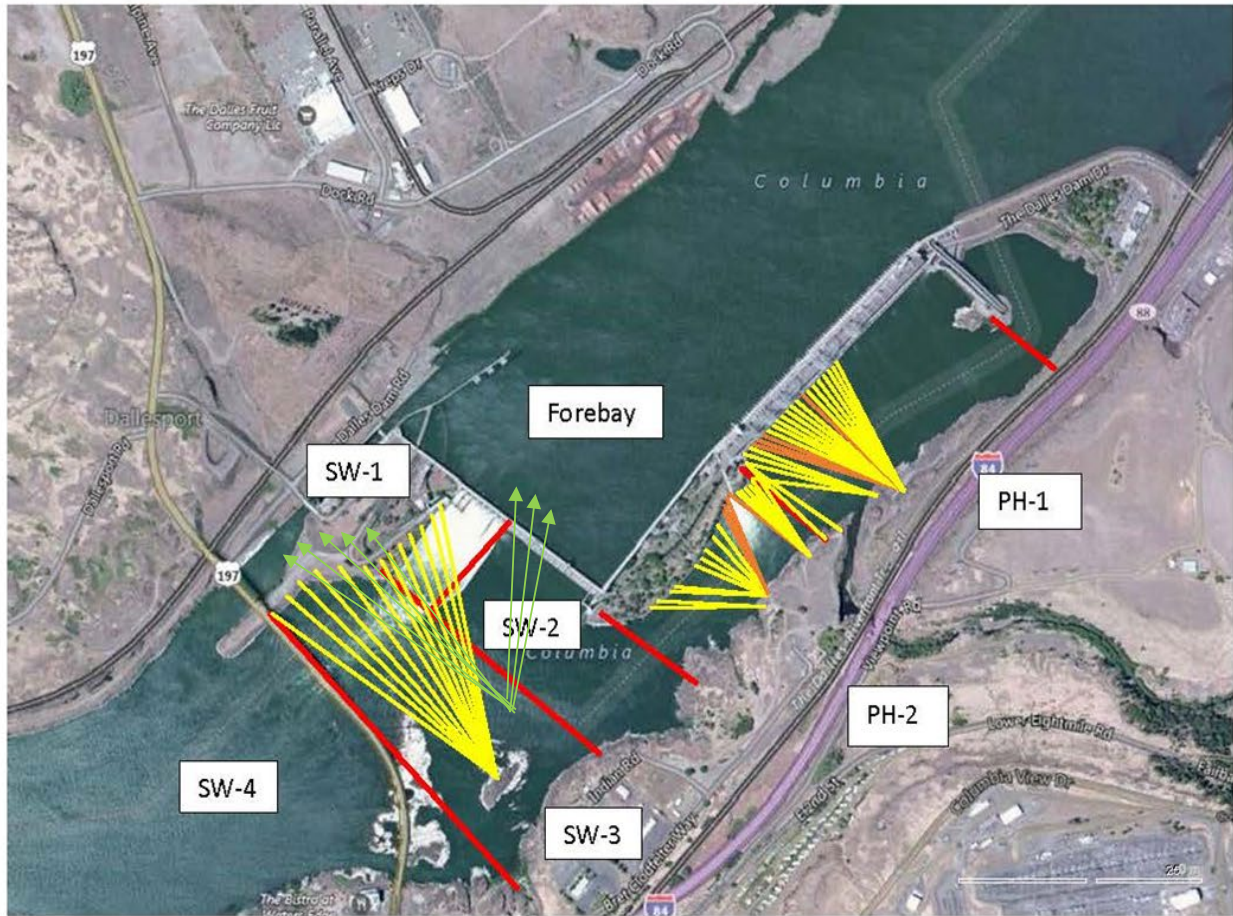
PSMFC concluded juvenile sampling at PUD 7/31
Four Peaks fish counting ongoing through 10/31.
CRITFC lamprey trapping concluded 9/3 . 526 total lamrey captures YTD
PITAGS north and east fishladder data collection at count stations continues.
Pikeminnow dam angling 2 NPM this week-979 NPM YTD. **All invasive bass/walleye by-catch release continues per states gamefish requirements.**
Fish unit breaker replacement installed and in operation. Calculation issue needed for completion.
Fish unit rehab - Phase 1A. Planning operation scenario with AWS backup water supply during construction. Effort underway to finish report this year.

Fishway Operations

North and east fish ladders in full operation.

Approved by: Mike Colesar, Operation Project Manager, The Dalles Dam

Avian Lines and laser deterrent zones

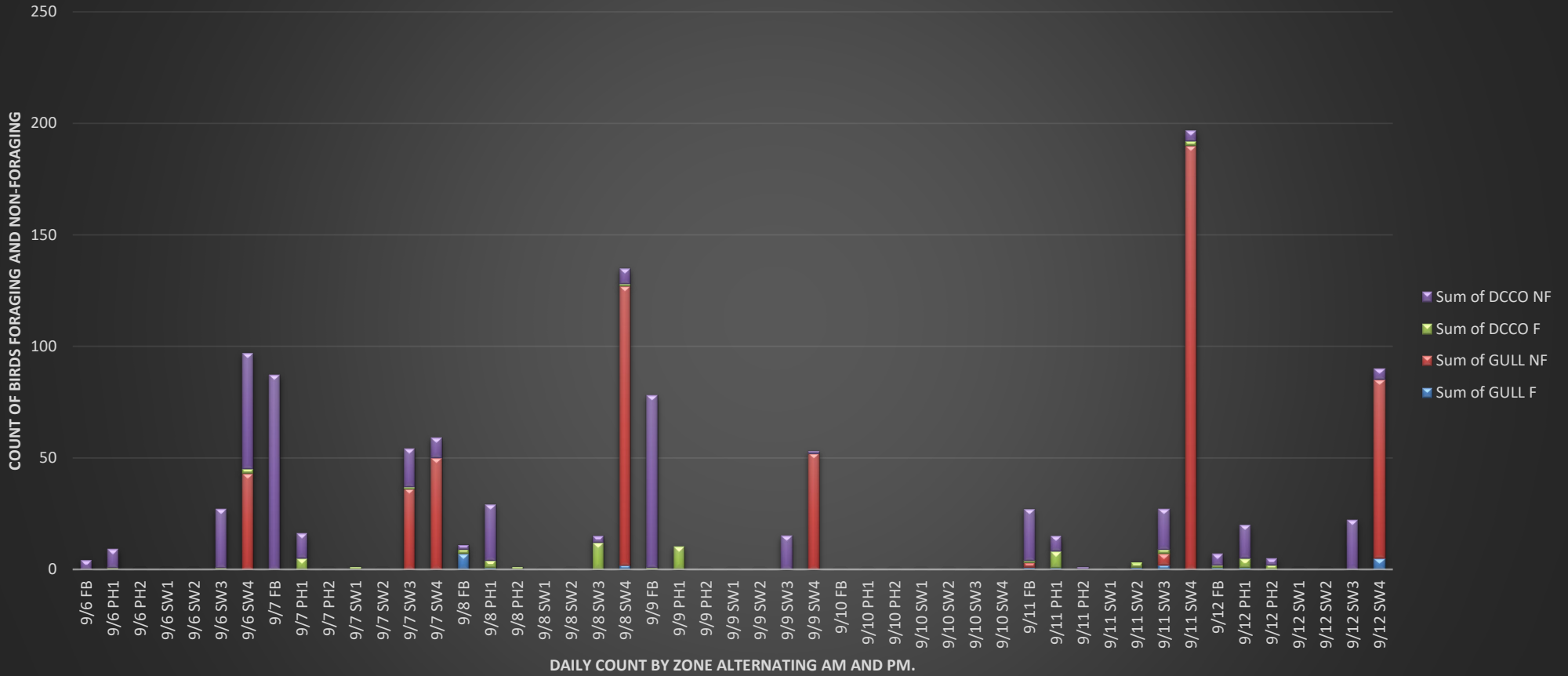


Red lines = avian zones

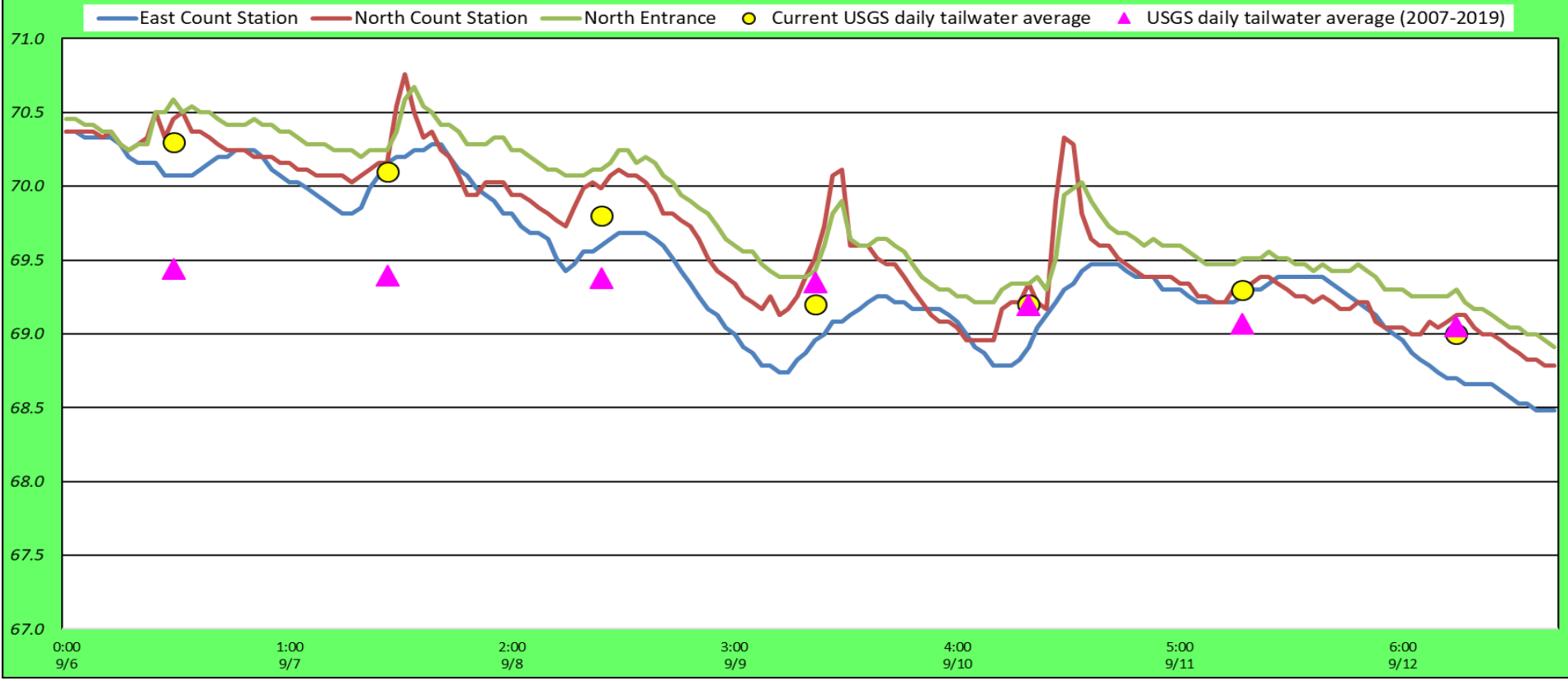
Yellow lines = current wires

Orange lines = down or missing wires

Daily bird counts TDA 9/6 to 9/12



Adult Fish Ladders-River Tempertures



| Secchi: | | °F |
|---------|-------|------|
| 5.0 | Sun | 70.3 |
| 5.0 | Mon | 70.1 |
| 5.0 | Tue | 69.8 |
| 5.0 | Wed | 69.2 |
| 5.0 | Thurs | 69.2 |
| 6.0 | Fri | 69.3 |
| 6.0 | Sat | 69.0 |
| 5.3 | AVG | 69.6 |

USGS September

The Dalles Dam Daily Readings and Averages for

Temperatures, Secchi, Entrances, and Spill

SCADA INSPECTION

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 |
| 9/6 | | | 1.5 | 5.0 | 11.5 | 11.5 | 9.0 | 1.3 | 10.1 | 10.1 | -4.0 | 1.5 | 8.4 | 8.4 |
| | 1.2 | 9.3 | 1.6 | 8.4 | 11.5 | 11.5 | 10.4 | 1.5 | 10.0 | 10.0 | -3.1 | 1.6 | 8.3 | 8.3 |
| | 1.2 | 9.4 | 1.4 | 9.1 | 11.6 | 11.6 | 11.0 | 1.4 | 10.5 | 10.5 | -2.8 | 1.4 | 8.7 | 8.7 |
| 9/7 | | | 1.5 | 9.1 | 11.5 | 11.5 | 10.9 | 1.5 | 10.6 | 10.6 | -2.7 | 1.4 | 8.5 | 8.5 |
| | 1.3 | 9.4 | 1.5 | 9.0 | 11.5 | 11.5 | 10.8 | 1.4 | 10.5 | 10.5 | -2.7 | 1.6 | 8.3 | 8.3 |
| | 1.3 | 9.3 | 1.5 | 9.0 | 11.5 | 11.5 | 10.8 | 1.4 | 10.5 | 10.5 | -2.7 | 1.4 | 8.5 | 8.5 |
| 9/8 | | | 1.4 | 9.1 | 11.6 | 11.6 | 11.0 | 1.5 | 10.6 | 10.6 | -2.7 | 1.5 | 8.6 | 8.6 |
| | 1.2 | 9.4 | 1.4 | 8.0 | 11.4 | 11.4 | 10.6 | 1.4 | 10.4 | 10.4 | -3.2 | 1.4 | 8.6 | 8.6 |
| | 1.3 | 9.4 | 1.6 | 8.0 | 11.5 | 11.4 | 11.2 | 1.5 | 10.6 | 10.6 | -2.6 | 1.5 | 8.5 | 8.5 |
| 9/9 | | | 1.4 | 8.1 | 11.6 | 11.6 | 10.4 | 1.4 | 10.6 | 10.6 | -3.1 | 1.4 | 8.5 | 8.5 |
| | 1.2 | 9.4 | 1.4 | 8.0 | 11.6 | 11.6 | 10.4 | 1.5 | 10.5 | 10.5 | -3.2 | 1.5 | 8.4 | 8.4 |
| | 1.2 | 9.4 | 1.5 | 11.6 | 11.7 | 11.7 | 11.5 | 1.4 | 10.5 | 10.5 | -3.0 | 1.3 | 8.2 | 8.2 |
| 9/10 | | | 1.6 | 11.7 | 11.6 | 11.6 | 11.6 | 1.5 | 10.6 | 10.6 | -2.0 | 1.5 | 8.7 | 8.7 |
| | 1.3 | 9.4 | 1.5 | 10.5 | 11.6 | 11.6 | 11.4 | 1.6 | 10.4 | 10.4 | -2.3 | 1.4 | 8.6 | 8.6 |
| | 1.3 | 9.4 | 1.4 | 10.5 | 11.6 | 11.6 | 11.4 | 1.5 | 10.4 | 10.4 | -2.3 | 1.5 | 8.5 | 8.5 |
| 9/11 | | | 1.5 | 10.5 | 11.4 | 10.5 | 11.0 | 1.5 | 10.4 | 10.4 | -2.5 | 1.5 | 8.5 | 8.6 |
| | 1.3 | 9.4 | 1.4 | 10.5 | 11.4 | 11.4 | 11.0 | 1.4 | 10.4 | 10.4 | -2.5 | 1.5 | 8.5 | 8.5 |
| | 1.3 | 9.3 | 1.5 | 10.5 | 11.5 | 11.5 | 11.7 | 1.6 | 10.6 | 10.6 | -2.0 | 1.4 | 8.8 | 8.5 |
| 9/12 | | | 1.4 | 10.5 | 11.5 | 11.4 | 11.0 | 1.5 | 10.4 | 10.4 | -2.6 | 1.5 | 8.5 | 8.5 |
| | 1.3 | 9.4 | 1.5 | 10.5 | 10.5 | 11.6 | 11.0 | 1.5 | 10.5 | 10.5 | -2.5 | 1.4 | 8.6 | 8.5 |
| | 1.3 | 9.3 | 1.5 | 10.5 | 10.5 | 11.6 | 11.4 | 1.5 | 10.4 | 10.4 | -2.3 | 1.5 | 8.5 | 8.5 |
| AVG: | 1.3 | 9.4 | 1.5 | 9.4 | 11.4 | 11.5 | 10.9 | 1.5 | 10.5 | 10.5 | -2.7 | 1.5 | 8.5 | 8.5 |

Fishways are inspected once daily plus one SCADA inspection.

Damage sustained due to ~rare east wind event





repairs underway

9/13-Blue Heron and Osprey on the east ladder



Exceptionally hazardous air due to regional wildfires