

The Dalles Dam Fishway Status Report

4/7/2018

Inspection Period: 04/01/2018-04/07/2018

THE DALLES DAM



The Dalles Project-Fisheries
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| The Dalles Dam | Inspections Out of Criteria | Criteria Limit | Total Number of Inspections: | 21 | Temperature: | 45.5 °F |
|---------------------------------|--------------------------------|-------------------|--|---------------------------------------|--------------|---------|
| | | | Comments | Secchi: 3.8 feet | | |
| 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' | 1.4 | | | |
| Entrance weir N1 | 0 | depth (≥ 8') | 9.5 | | | |
| Entrance weir N2 | 0 | Closed | | | | |
| PUD Intake differential | 0 | ≤ 0.5' | 0 | | | |
| EAST FISHWAY | | | | | | |
| Exit differential | 0 | ≤ 0.5' | | | | |
| Removable weirs 154-157 | 2 | Per forebay | Weir 156 drive repaired 4/2/18 Stillwell float intake plugged. | | | |
| Weir 158-159 differential | 0 | 1.0' ± 0.1' | <0.9 | | | |
| Count station differential | 0 | ≤ 0.3' | | | | |
| Weir crest depth | 0 | 1.0' ± 0.1' | | | | |
| Junction pool weir JP6 | 0 | 0.0 | | | | |
| East entrance differential | 0 | 1.0' - 2.0' | 1.5 | | | |
| Entrance weir E1 | 0 | No criteria | | | | |
| Entrance weir E2 | 0 | depth (≥ 8') | 12.2 | | | |
| Entrance weir E3 | 0 | depth (≥ 8') | 12.2 | | | |
| Collection channel velocity | 0 | 1.5 - 4 fps | 2.2 fps | Range: Bay 13, 2.87 to Bay 4, 1.54fps | | |
| Transportation channel velocity | 0 | 1.5 - 4 fps | 2.4 fps | | | |
| North channel velocity | 0 | 1.5 - 4 fps | 2.3 fps | | | |
| South channel velocity | 0 | 1.5 - 4 fps | 2.9 fps | | | |
| West entrance differential | 0 | 1.0' - 2.0' | 1.5 | | | |
| Entrance weir W1 | 0 | depth (≥ 8') | 8.7 | | | |
| Entrance weir W2 | 0 | depth (≥ 8') | 8.7 | | | |
| Entrance weir W3 | 0 | No criteria | | | | |
| South entrance differential | 0 | 1.0' - 2.0' | 1.4 | Loose wire, PLC OOS 4/1/18 am. | | |
| Entrance weir S1 | 0 | depth (≥ 8') | 8.5 | | | |
| Entrance weir S2 | 0 | depth (≥ 8') | 8.7 | | | |
| JUVENILE PASSAGE | | | | | | |
| Sluiceway operation | 0 | Units 1, 21 | 1-1,1-2, 1-3,8-1,8-3, 21-2 and endgate open | | | |
| Turbine trashrack drawdown | 0 | <1.5', wkly | range: 0.1-0.8' | | | |
| Spill volume/pattern | 0 | None | | | | |
| Turbine Unit Priority | 0 | per FPP | MU4 back in service. | | | |
| Turbine 1% Efficiency | 0 | per FPP | | | | |

OTHER ISSUES:

Birds and Sea lions:

gull and cormorant numbers and activity slowly increasing. No sea lions spotted
USDA hazers start Apr16 with 8 hours boat/6 hours shore hazing daily.

Operations

Spillway open involuntary spill.
PUD correcting the automation system which was supposed to open bypass. They plan to test the system in near future.
North and east fishways in full operation.
Sluiceway open with 6 gate operation

Current Outages;

MU5 Forced OOS 1135 3/22/2018 - 1700 4/17/2018 for blade seal inspection .
MU9 OOS 0001 3/5/2018 - 1700 4/12/2018 for Annual
MU10 OOS 0730 3/5/2018 - 1700 5/3/2018 for O/H
MU15 Forced OOS through 1700 6/29/2019 GSU transformer replacement
MU16 Forced OOS through 1700 6/29/2019 for GSU transformer, Exciter, Head Cover Upgrade & Strainer
MU17 OOS 0630 9/11/2017 - 1700 4/12/2018 for O/H
MU18 OOS 0630 1/8/2018 - 1700 4/12/2018 for O/H & Head cover upgrade
MU19 Forced OOS 1708 2/12/2018 - 1700 5/31/2018 for transformer acetylene production
MU20 Forced OOS 1708 2/12/2018 - 1700 5/31/2018 for transformer acetylene production

Maintenance;

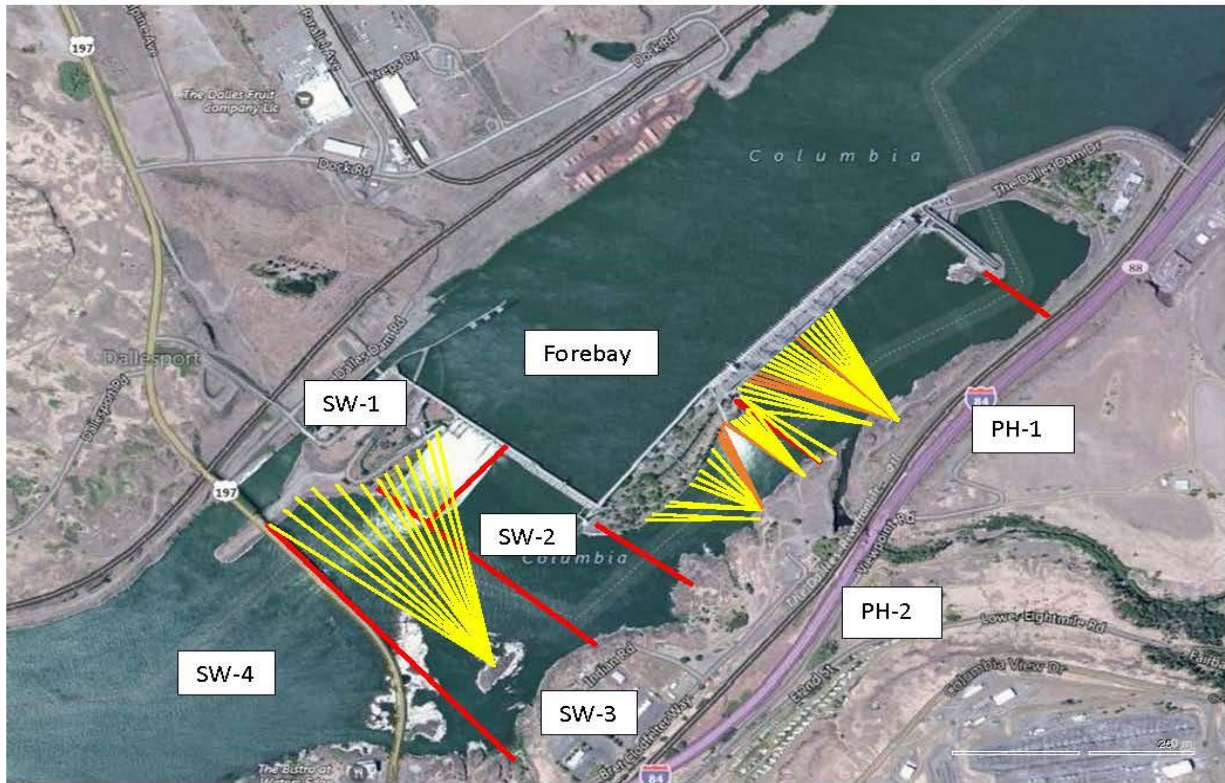
Lost south entrance reading 4/1-TD ops fixed loose wire
ROV inspected main unit intake trash racks (MU5, MU8, MU18) missed MU18 slot 18-1 only due to ROV malfunction. NO DEBRIS OBSERVED
East exit weir 156 malfunction due to plugged stillwell intake. Maintenance corrected 4/2
East exit weir electrical panel FCQ7 installation completed. Demo of old FCQ7 complete, but awaiting removal due to AWS contract.
East exit oil boom anchor installation with John Day boat. Date to be determined.
Collection channel dewatering pumps 3 and 4 removed for rehab.
Long term repair items; 154 -157 rehab/weir wheel replace, diffuser valve overhaul (rehab and decommission).
Fish related /non-fish funded items; Spillway assessment, spillway crane replace and spillgate 9. All awaiting funding.
All spillway items on Critical Infrastructure. Spillgate 9 on large cap list, projected for 2022. Charter in place for comprehensive spillway assessment.
Periodic assessment team evaluated spillway deficiencies and found trunnion pins as highest on priority list.

Research/Construction/Contractors:

AWS construction - Construction progress continues. Commissioning testing date TBD
PSMFC completed first first weekly sampling report for the North Wasco County PUD's dewatering structure on the north shore of The Dalles Dam
Fish Counters - Started April 1
Pikeminnow dam angling - To resume with higher water temps. High walleye by-catches 2017. **Release of non native predators awaiting WDFW decision.**
ODFW resumed monthly fishway inspections. Annual report for 2017 showed no deficiencies.
Lamprey minor mods - Rounded entrance weir caps installed south, west and north entrances. East next winter.
Lamprey counterbalance hoist being negotiated with project and end-user to expedite trapping
Railroad track removal - Tailrace deck rail completed.
Fish unit breaker replace .- Prep work in progress. Installation delayed to next winter outage.
Fish unit rehab - Development plan continues.
Transformer replacement - Install start delayed. Date to be determined.

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam



Red lines = avian zones

Yellow lines = current wires

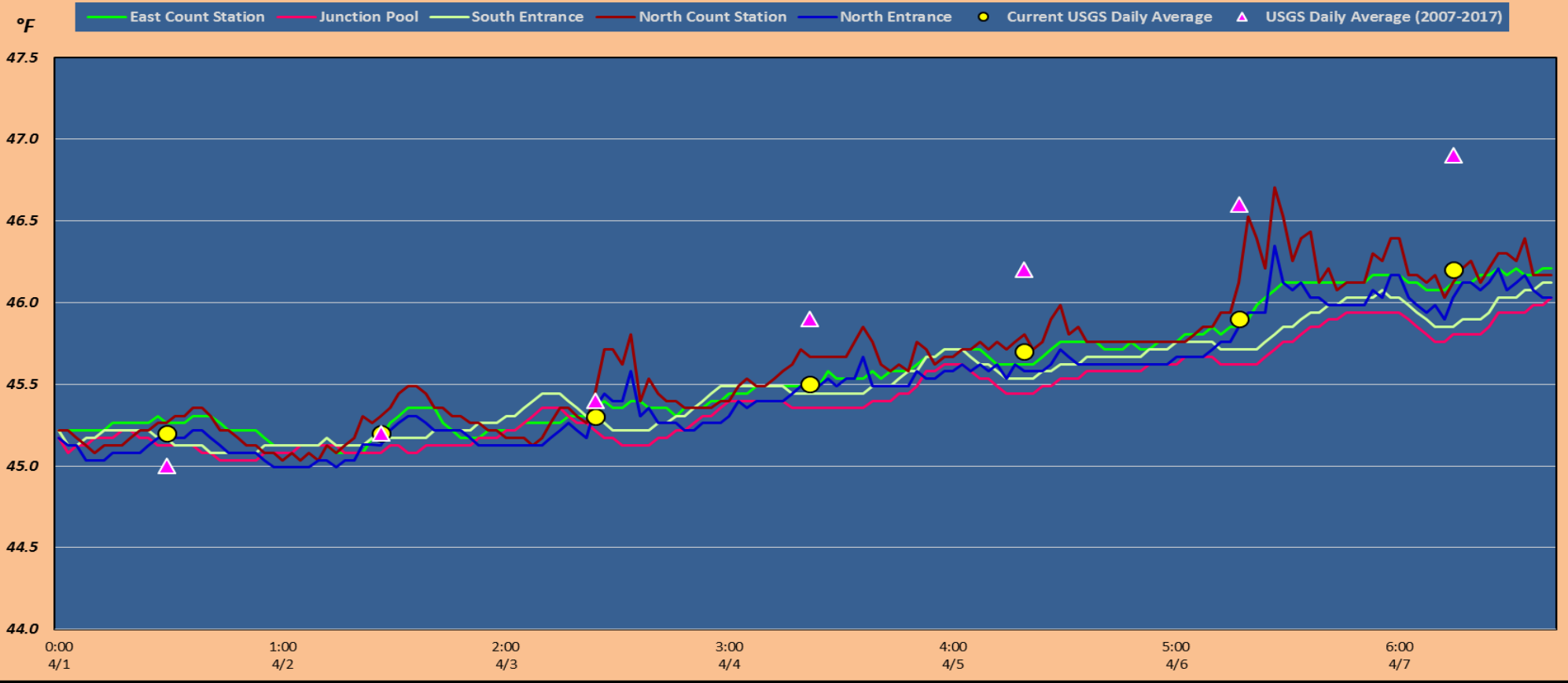
Orange lines = down or missing wires

2018 Piscivorous Bird Counts

| F=foraging, NF=non-foraging | | | | | | | | | | | | | | | | | | |
|-----------------------------|----------|------|------|------|----|-----------|----|--------------|----|-------|----|---------|----|-------|----|---------------------|---|---|
| Date | Observer | AMPM | Zone | Gull | | Cormorant | | Caspian tern | | Grebe | | Pelican | | Other | | Total birds in zone | Notes | |
| | | | | F | NF | F | NF | F | NF | F | NF | F | NF | F | NF | | | |
| 4/1 | CEA | PM | FB | 0 | 0 | 0 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | Overcast, windy 2 osprey @ N. ladder |
| | | | PH1 | 0 | 0 | 1 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | |
| | | | PH2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | SW1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | SW2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| | | | SW3 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | |
| | | | SW4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 4/2 | JED | AM | FB | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | COME Windy, mixed sun clouds |
| | | | PH1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5 | |
| | | | PH2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | SW1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | SW2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | SW3 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | |
| | | | SW4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| 4/3 | CEA | PM | FB | 0 | 0 | 0 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 48 | overcast, calm |
| | | | PH1 | 0 | 0 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | |
| | | | PH2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | SW1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | SW2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | SW3 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | |
| | | | SW4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 4/4 | JED | AM | FB | 0 | 0 | 4 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | Mixed sun, calm |
| | | | PH1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | |
| | | | PH2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | SW1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | SW2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | SW3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | SW4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 4/5 | JWR | PM | FB | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | Overcast, calm |
| | | | PH1 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | |
| | | | PH2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | SW1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | SW2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | SW3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | SW4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 4/6 | JED | AM | FB | 0 | 0 | 0 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 33 | Osprey w/ fish N. ladder COME Fog, calm | |
| | | | PH1 | 0 | 2 | 1 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 | 12 | | |
| | | | PH2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | | SW1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 |
| | | | SW2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 |
| | | | SW3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 |
| | | | SW4 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 2 |
| 4/7 | JED | PM | FB | 0 | 0 | 0 | 58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 59 | osprey w/ nest material Mixed sun, calm | |
| | | | PH1 | 0 | 0 | 2 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | | |
| | | | PH2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | | SW1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | | SW2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | | |
| | | | SW3 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | | |
| | | | SW4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Key: BAEA = Bald Eagle; GBHE = Great Blue Heron; COME = Common Merganser

The Dalles Dam Adult Fish Ladder(s) River/Water Temperatures



| | | USGS: USGS river temp |
|---------|-----|-----------------------|
| Secchi: | | Temperatures |
| 4/1 | 4.5 | Sun 45.2 |
| 4/2 | 3.5 | Mon 45.2 |
| 2/3 | 4.0 | Tue 45.3 |
| 4/4 | 3.5 | Wed 45.5 |
| 4/5 | 3.0 | Thurs 45.7 |
| 4/6 | 4.0 | Fri 45.9 |
| 4/7 | 4.0 | Sat 46.2 |
| | 3.8 | AVG 45.6 |

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

= Out of criteria

| Date: | North Ladder | | | East Ladder | | | | | | | | | | |
|-------------|----------------|------------|--------------|---------------|-------------|-------------|------------|---------------|------------|------------|----------------|--------------|----------|----------|
| | North Entrance | | Differential | East Entrance | | | | West Entrance | | | South Entrance | | | |
| | Differential | N1 Depth | | E1 Depth | E2 Depth | E3 Depth | JP 6 | Differential | W1 Depth | W2 Depth | W3 Depth | Differential | S1 Depth | S2 Depth |
| 4/1 | SCADA | | 1.4 | | 12.4 | 12.5 | 11.2 | 1.5 | 8.3 | 8.3 | | NA | NA | NA |
| | 1.3 | 9.5 | 1.3 | | 12.4 | 12.4 | 11.2 | 1.5 | 8.2 | 8.2 | | 1.1 | 8.6 | 10.8 |
| | 1.2 | 9.4 | 1.3 | | 12.5 | 12.7 | 11.2 | 1.5 | 8.2 | 8.2 | | 1.5 | 8.0 | 8.1 |
| 4/2 | SCADA | | 1.6 | | 11.7 | 11.7 | 12.0 | 1.6 | 8.4 | 8.4 | | 1.6 | 8.3 | 8.2 |
| | 1.3 | 9.5 | 1.5 | | 11.9 | 11.9 | 11.6 | 1.5 | 8.5 | 8.5 | | 1.5 | 8.3 | 8.3 |
| | 1.3 | 9.4 | 1.5 | | 12.0 | 12.0 | 11.5 | 1.5 | 8.5 | 8.5 | | 1.5 | 8.2 | 8.2 |
| 4/3 | SCADA | | 1.4 | | 12.0 | 12.0 | 11.7 | 1.5 | 8.6 | 8.6 | | 1.5 | 8.3 | 8.3 |
| | 1.3 | 9.5 | 1.5 | | 12.0 | 12.0 | 11.7 | 1.5 | 8.6 | 8.6 | | 1.5 | 8.4 | 8.4 |
| | 1.3 | 9.6 | 1.5 | | 12.1 | 12.1 | 12.4 | 1.5 | 8.6 | 8.6 | | 1.5 | 8.4 | 8.4 |
| 4/4 | SCADA | | 1.5 | | 12.1 | 12.1 | 12.2 | 1.6 | 8.5 | 8.5 | | 1.5 | 8.4 | 8.4 |
| | 1.3 | 9.4 | 1.4 | | 11.9 | 11.9 | 12.0 | 1.3 | 8.8 | 8.8 | | 1.2 | 8.2 | 10.7 |
| | 1.3 | 8.5 | 1.5 | | 12.0 | 12.0 | 12.3 | 1.5 | 8.8 | 8.8 | | 1.3 | 9.0 | 9.1 |
| 4/5 | SCADA | | 1.7 | | 12.0 | 12.0 | 13.0 | 1.5 | 9.0 | 9.0 | | 1.3 | 9.0 | 9.0 |
| | 1.4 | 9.4 | 1.6 | | 12.6 | 12.6 | 13.1 | 1.5 | 9.0 | 9.0 | | 1.4 | 8.5 | 8.5 |
| | 1.4 | 9.5 | 1.6 | | 12.2 | 12.3 | 13.1 | 1.6 | 8.8 | 8.8 | | 1.4 | 8.5 | 8.5 |
| 4/6 | SCADA | | 1.5 | 12.5 | 12.5 | 12.7 | 1.7 | 8.9 | 8.9 | 1.5 | 8.5 | 8.5 | | |
| | 1.5 | 9.5 | 1.5 | 12.5 | 12.5 | 13.2 | 1.5 | 8.9 | 8.9 | 1.4 | 8.6 | 8.6 | | |
| | 1.5 | 10.5 | 1.5 | 12.6 | 12.6 | 13.9 | 1.5 | 8.9 | 8.9 | 1.4 | 8.6 | 8.6 | | |
| 4/7 | SCADA | | 1.7 | 12.4 | 12.4 | 14.7 | 1.6 | 8.8 | 8.8 | 1.4 | 8.6 | 8.6 | | |
| | 1.5 | 9.4 | 1.7 | 12.4 | 12.4 | 14.7 | 1.7 | 8.8 | 8.8 | 1.5 | 8.8 | 8.5 | | |
| | 1.4 | 9.3 | 1.7 | 12.4 | 12.4 | 14.8 | 1.6 | 8.7 | 8.7 | 1.4 | 8.5 | 8.5 | | |
| AVG: | 1.4 | 9.5 | 1.5 | 12.2 | 12.2 | 12.6 | 1.5 | 8.7 | 8.7 | 1.4 | 8.5 | 8.7 | | |

Fishways are inspected twice daily plus one SCADA inspection.