

The Dalles Dam Fishway Status Report

1/14/2018

Inspection Period: 01/07/2017-01/13/2018

THE DALLES DAM



The Dalles Project-Fisheries
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| The Dalles Dam | Inspections Out of Criteria | Criteria Limit | Total Number of Inspections: | 5 | Temperature: | 39.9 °F |
|---|--------------------------------|-------------------|------------------------------------|------------------|--------------|--------------------------------|
| | | | Comments | Secchi: 5.0 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' | 1.3 | | | |
| Entrance weir N1 | 0 | depth (≥ 8') | 9.5 | | | |
| Entrance weir N2 | 0 | Closed | | | | |
| PUD Intake differential | 0 | ≤ 0.5' | | | | |
| EAST FISHWAY Out of service Dec1 | | | | | | |
| Exit differential | 0 | ≤ 0.5' | | | | |
| Removable weirs 154-157 | 0 | Per forebay | Gearbox rehab start on 155 and 156 | | | |
| Weir 158-159 differential | 0 | 1.0' ± 0.1' | Gearbox rehab start on 158 | | | |
| 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' | | | | |
| 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 | | | | |
| Transportation channel velocity | 0 | 1.5 - 4 fps | | | | |
| North channel velocity | 0 | 1.5 - 4 fps | | | | |
| South channel velocity | 0 | 1.5 - 4 fps | | | | |
| West entrance differential | 0 | 1.0' - 2.0' | | | | |
| Entrance weir W1 | 0 | depth (≥ 8') | Weir removed for caps and rehab | | | |
| Entrance weir W2 | 0 | depth (≥ 8') | Weir removed for caps and rehab | | | |
| Entrance weir W3 | 0 | No criteria | Weir removed for caps and rehab | | | |
| South entrance differential | 0 | 1.0' - 2.0' | | | | |
| Entrance weir S1 | 0 | depth (≥ 8') | | | | |
| Entrance weir S2 | 0 | depth (≥ 8') | | | | |
| JUVENILE PASSAGE | | | | | | |
| Sluiceway operation | 0 | Units 1, 8, 18 | | | | |
| Turbine trashrack drawdown | 0 | <1.5', wkly | range: 0.1-0.8' | | | |
| Spill volume/pattern | 0 | | | | | Spillway closed midnight Aug31 |
| Turbine Unit Priority | 0 | per FPP | MU 13-16 oos 13 RTS 12/20 | | | |
| Turbine 1% Efficiency | 0 | per FPP | | | | |

OTHER ISSUES:

Birds and Sea lions:

No sea lion sightings this week. Numerous eagles on project, primarily at westrick park. ~70 cormorant rest in SW3.
Gull numbers <20 near dam. Approx 500 seen near The Dalles Marina

Operations

North fishway in full operation. Tailwater sensor failed, but PUD repaired within 1 day. Entrance flow appeared to remain in criteria.
Sluiceway endgate closed Dec18. Sluiceways open at unit 1 and 18 to equalize with forebay.

Current Outages;

T8 (MU15 & MU16) out for transformer failure. Transformer replacement 6/28/18.
MU17 and MU18 out for overhaul. Return 4/26/18.
MU21 and 22 out for annual. Return 1/18/18.
Fish unit 1 and 2 out 12/1/17 for annual fishway outage. East fishladder dewatered 12/1/17.

Maintenance;

East exit weir electrical panel FCQ7 partially installed. Final design drawings near complete. Installation to continue in Feb.
West entrance weirs removed and lamprey weir caps installed. South lamprey weir caps underway.
East exit oil boom installation by AWS contract end of Feb. Scope reviewed.
Fish lock upper and lower bulkhead replacement delayed due to budget.
East exit 155, 156, 158 weir gearboxes removed and in rehab.
Work starting on a collection diffuser valve rehab for scoping purposes on remaining valves
Collection channel removal of stuck dewater pump end Jan.
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.

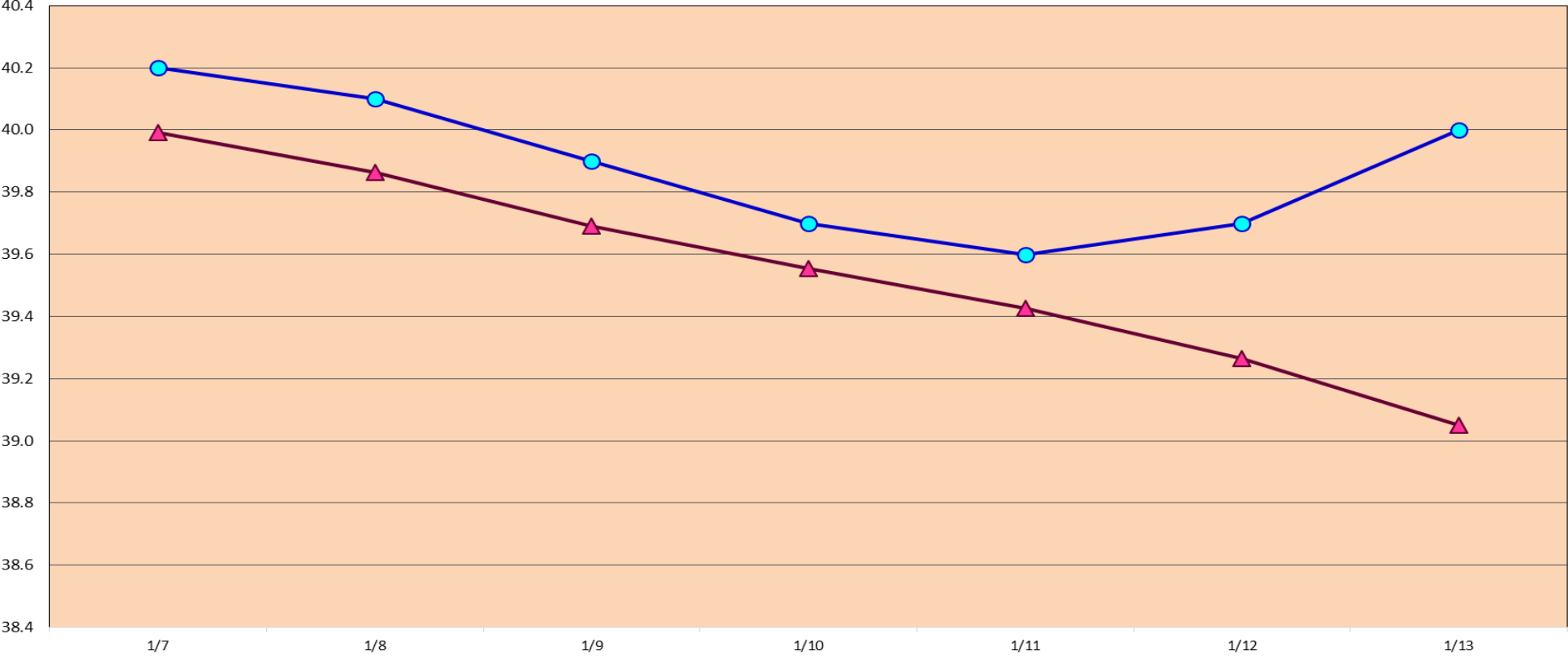
Research/Construction/Contractors:

Fish Counters - Normandau video review counting through the winter.
Pikeminnow dam angling - Done for season with a total catch at 1776. Highest invasive walleye by-catches do date being released. Concern brought to FPOM.
AWS construction - Construction progress continues. Commissioning testing Mar 31.
Lamprey minor mods - Rounded entrance weir caps on sight. Working on attaching to west weirs. South and north to follow.
Railroad track removal - Tailrace deck rail removal approx half completed.
Fish unit breaker replace - Work in progress. Completion Feb18, 2018. Two weeks commission testing required.
Fish unit rehab - Phase 1A report Jan 2018. Award 2020. Completion 2022.
Transformer replacement - Install start May 2018.

Approved by: Ron Twiner
Operation Project Manager The Dalles Dam

The Dalles Dam River Temperatures

Current USGS daily tailwater average USGS daily tailwater average (2007-2017)



USGS: USGS LCR temperature report

| Secchi: | | Temperatures |
|---------|-----|--------------|
| 1/7 | 5.0 | Sun 40.2 |
| 1/8 | 5.0 | Mon 40.1 |
| 1/9 | 5.0 | Tue 39.9 |
| 1/10 | 5.0 | Wed 39.7 |
| 1/11 | 5.0 | Thurs 39.6 |
| 1/12 | 5.0 | Fri 39.7 |
| 1/13 | 5.0 | Sat 40.0 |
| | 5.0 | AVG 39.9 |

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

= Out of criteria

| Date: | North Ladder | | East Ladder | | | | | | | | | | | |
|-------------|---|------------|---|----------|----------|----------|---------------|--------------|----------|----------------|----------|--------------|----------|----------|
| | North Entrance | | East Entrance | | | | West Entrance | | | South Entrance | | | | |
| | Differential | N1 Depth | Differential | E1 Depth | E2 Depth | E3 Depth | JP 6 | Differential | W1 Depth | W2 Depth | W3 Depth | Differential | S1 Depth | S2 Depth |
| 1/7 | 1.3 | 9.3 | <i>East Ladder dewatered for winter</i> | | | | | | | | | | | |
| 1/8 | 1.3 | 9.7 | | | | | | | | | | | | |
| 1/9 | 1.3 | 9.4 | | | | | | | | | | | | |
| 1/10 | 1.3 | 9.5 | | | | | | | | | | | | |
| 1/11 | 1.3 | 9.5 | | | | | | | | | | | | |
| 1/12 | The Dalles Operations monitored north fishway | | | | | | | | | | | | | |
| 1/13 | | | | | | | | | | | | | | |
| AVG: | 1.3 | 9.5 | | | | | | | | | | | | |

Fishways are inspected twice daily plus one SCADA inspection.



Bulkheads installed. Ready to finish boring hole at bottom of dam.



Installing pipe section into AWS chamber.



West entranc weir caps installed