

The Dalles Dam Fishway Status Report

7/18/2015

Inspection Period: 7/12/2015 - 7/18/2015

THE DALLES DAM



US Army Corps
of Engineers
Portland District

The Dalles Project-Fisheries
P.O. Box 564
The Dalles, OR 97058-9998
Phone: 541-506-3800

Fishways are inspected twice daily plus one SCADA inspection

| The Dalles Dam | Inspections Out of Criteria | Criteria Limit | Total Number of Inspections: 21 | | Temperature: 73.0 F | |
|---------------------------------|--------------------------------|-------------------|--|---|--|--|
| | | | Comments | | Secchi: 5.0 feet | |
| NORTH FISHWAY | | | | | | |
| Exit differential | 0 | ≤ 0.5' | | | | |
| Count station differential | 3 | ≤ 0.3' | OOC at 1.2' | | | |
| Weir crest depth | 0 | 1.0' ± 0.1' | | | | |
| Entrance differential | 0 | 1.0' - 2.0' | Average | 1.4 | | |
| Entrance weir N1 | 0 | depth (≥ 8') | Average | 9.3 | | |
| Entrance weir N2 | 0 | Closed | Bulkhead installed. | | | |
| PUD Intake differential | 0 | ≤ 0.5' | | | | |
| EAST FISHWAY | | | | | | |
| Exit differential | 0 | ≤ 0.5' | | | | |
| Removable weirs 154-157 | 0 | Per forebay | Auto adjusts 1' increments. | | | |
| Weir 158-159 differential | 0 | 1.0' ± 0.1' | | | | |
| Count station differential | 0 | ≤ 0.3' | Picket leads raked as needed. | | | |
| Weir crest depth | 0 | 1.0' ± 0.1' | Currently at 1.3' for shad passage | | | |
| Junction pool weir JP6 | 0 | depth (≥ 7') | Average | 9.9 | Weir pulled to achieve criteria with low tailwater | |
| East entrance differential | 0 | 1.0' - 2.0' | Average | 1.5 | | |
| Entrance weir E1 | 0 | No criteria | Average | No criteria; manually adjusted as needed. | | |
| Entrance weir E2 | 0 | depth (≥ 8') | Average | 11.2 | | |
| Entrance weir E3 | 0 | depth (≥ 8') | Average | 11.2 | | |
| Collection channel velocity | 0 | 1.5 - 4 fps | Average | 3.3 | | |
| Transportation channel velocity | 0 | 1.5 - 4 fps | Average | 2.9 | | |
| North channel velocity | 0 | 1.5 - 4 fps | Average | 2.9 | | |
| South channel velocity | 0 | 1.5 - 4 fps | Average | 3.8 | | |
| West entrance differential | 0 | 1.0' - 2.0' | Average | 1.5 | | |
| Entrance weir W1 | 0 | depth (≥ 8') | Average | 9.5 | | |
| Entrance weir W2 | 0 | depth (≥ 8') | Average | 9.5 | | |
| Entrance weir W3 | 0 | No criteria | Average | No criteria; manually adjusted as needed. | | |
| South entrance differential | 0 | 1.0' - 2.0' | Average | 1.4 | | |
| Entrance weir S1 | 0 | depth (≥ 8') | Average | 8.2 | | |
| Entrance weir S2 | 0 | depth (≥ 8') | Average | 8.2 | | |
| JUVENILE PASSAGE | | | | | | |
| Sluiceway operation | 1 | Units 1, 8, 18 | Sluiceways 1-1,2,3, 8-1,2, and 18-2 open | | MU 18 OOS for several hours on 7/16/15 | |
| Turbine trashrack drawdown | 0 | <1.5', wkly | Range: 0 - 0.7' | | | |
| Spill volume | 0 | 40%±1% | Average | 40.0 | | |
| Spill Pattern | 0 | per FPP | | | | |
| Turbine Unit Priority. | 0 | per FPP | | | | |
| Turbine 1% Efficiency | 0 | per FPP | | | | |

OTHER ISSUES:**Birds/Sea lions:**

Bird observation data collected once daily. Refer to Avian Zone Map. No sea lions observations this week.
Gull predation upstream and downstream of bridge and within avian lines. Periodically using boat hazing crew from John Day. see avian zone map.

Operations:

All fishways are in full operation as specified in the Fish Passage Plan. All automation systems are working successfully.
Gatewell drawdown completed on 7/18. All values were within criteria.

Misc Info:

Rangers reported abnormal amount of dead fish on Celilo Park shore (31 salmon/4 sturgeon) and additional 5 salmon and 1 sturgeon near Maryhill.
Biologist follow up trip fish 6 chinook, 1 sockeye and 1 sturgeon. All very decomposed. Possible warm water stress. ODFW notified.

Current Outages:

T8 (MU15 & MU16) de-rated to 85MW ops through 9/14/2017.

Maintenance:

Preparing workload list for upcoming winter maintenance period; entrance weir wheel replace, entrance weir guide repair, exit sensor upgrades.
Three collection channel dewatering pumps on deck for rehab, repair delayed due to lack of funding. Two of 6 collection channel pumps remain stuck.
FCQ7 electrical panel for east exit upgrade funding in place and awaiting contracting approval. Installation next outage season pending funding.
Future repair plans; Upgrade east exit weirs 154-157, removal/permanent closure of collection channel diffusers, repair north failed diffusers,
Fish related /non-fish funded items; spillway evaluation, spillway crane rehab, spillgate 9 trunnion pin replace, fish unit breaker and transformer replace.
All spillway items on Critical Infrastructure list and Unfunded Requirement list. Spill gate 9 repair planning underway through small projects team.

Studies:

North fishladder rehab study for rock wall 60% DDR review. Construction dates to be determined. Alternatives to be presented to FPOM.
Fish count video at north count station recording / testing underway.
East fishladder backup system construction start this winter. No plan changes.
Crane rail replacement on tailrace and intake decks winter of 2016-2017. No plan changes.
Transformer replacement planning underway. Plans include elimination of TA transformers with fish unit tie through T1 with another tie for backup.

Research/Contractors:

USDA gull hazer's are on their last month of contract. Daily shore hazing with periodic hazing from boat.
Columbia River Northern Pikeminnow Management Program dam angling 7/12; NPM \geq 230mm 281, YTD NPM \geq 230mm 3,621.
ODFW collecting biological data from harvested pikeminnow.
Normandeau fish counters at east and north count stations 16 hr/day.
PSMFC Wasco County PUD weekly sampling 7/14; 2 subyearling Chinook.
CRITFC and member tribes (Yakama Nation, Confederated Tribes of the Umatilla Indian Reservation, Nez Perce) trapping adult pacific lamprey.
CTUIR lamprey collections YTD; 155, additional 295 needed to meet tribal collection allocations for 2015.
USGS total dissolved gas monitoring continues.

Approved by: Ron Twiner
Operation Project Manager The Dalles Dam

Columbia River DART

2015 Adult Passage Daily Ladder Counts at The Dalles

with Spill Percent and Outflow

7/12/2015 - 7/18/2015

| Date | Chinook | | | | Jack Chinook | | | | Steelhead | | | | Wild Steelhead | | | | Sockeye | | | | Coho | | | | Jack Coho | | | | Lamprey | | | | Outflow (kcs) | | | | |
|------|-------------|------|--------------|------|--------------|------|--------------|-----|-------------|------|--------------|-----|----------------|------|--------------|-----|-------------|-------|--------------|------|-------------|---|--------------|---|-------------|---|--------------|---|---------|---|-----|---|---------------|-----|------|-----|------|
| | Left Ladder | | Right Ladder | | Left Ladder | | Right Ladder | | Left Ladder | | Right Ladder | | Left Ladder | | Right Ladder | | Left Ladder | | Right Ladder | | Left Ladder | | Right Ladder | | Left Ladder | | Right Ladder | | | | | | | | | | |
| | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | | | | | |
| 7/12 | 77 | 1073 | 23 | 320 | 73.7 | 137 | 26.3 | 49 | 76.6 | 249 | 23.4 | 76 | 76.4 | 175 | 23.6 | 54 | 61.9 | 1560 | 38.1 | 961 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | 75 | 90 | 25 | 30 | 39.4 |
| 7/13 | 74.3 | 835 | 25.7 | 289 | 87.4 | 139 | 12.6 | 20 | 76.5 | 276 | 23.5 | 85 | 76.2 | 173 | 23.8 | 54 | 69.2 | 3684 | 30.8 | 1643 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | 52 | 66 | 48 | 61 | 46.1 |
| 7/14 | 71.5 | 566 | 28.5 | 226 | 69.7 | 85 | 30.3 | 37 | 70.6 | 175 | 29.4 | 73 | 65 | 102 | 35 | 55 | 69.8 | 2672 | 30.2 | 1154 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | 56.4 | 102 | 43.6 | 79 | 44.7 |
| 7/15 | 82.2 | 1523 | 17.8 | 329 | 88 | 227 | 12 | 31 | 82 | 310 | 18 | 68 | 81.3 | 218 | 18.7 | 50 | 78.5 | 2455 | 21.5 | 672 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | 49.6 | 66 | 50.4 | 67 | 49.7 |
| 7/16 | 79.8 | 2203 | 20.2 | 559 | 74 | 245 | 26 | 86 | 64.9 | 315 | 35.1 | 170 | 66.5 | 226 | 33.5 | 114 | 73.9 | 2258 | 26.1 | 796 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | 30.3 | 61 | 69.7 | 140 | 46.2 |
| 7/17 | 82 | 2244 | 18 | 494 | 89.5 | 376 | 10.5 | 44 | 73.6 | 572 | 26.4 | 205 | 74.3 | 384 | 25.7 | 133 | 69.8 | 1760 | 30.2 | 763 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | 43.8 | 89 | 56.2 | 114 | 49.8 |
| 7/18 | 76.7 | 1446 | 23.3 | 439 | 86.3 | 226 | 13.7 | 36 | 75.8 | 648 | 24.2 | 207 | 77 | 416 | 23 | 124 | 70.5 | 1854 | 29.5 | 775 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | 73.6 | 106 | 26.4 | 38 | 52.5 |
| YTD | Left Ladder | | Right Ladder | | Left Ladder | | Right Ladder | | Left Ladder | | Right Ladder | | Left Ladder | | Right Ladder | | Left Ladder | | Right Ladder | | Left Ladder | | Right Ladder | | Left Ladder | | Right Ladder | | | | | | | | | | |
| | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | Pct | # | | | | | |
| | 78.8 | 9890 | 21.2 | 2656 | 82.6 | 1435 | 17.4 | 303 | 74.2 | 2545 | 25.8 | 884 | 74.4 | 1694 | 25.6 | 584 | 70.6 | ##### | 29.4 | 6764 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | 52.3 | 580 | 47.7 | 529 | |
| Date | Chinook | | | | Jack Chinook | | | | Steelhead | | | | Wild Steelhead | | | | Sockeye | | | | Coho | | | | Jack Coho | | | | Lamprey | | | | Outflow | | | | |

Notes:

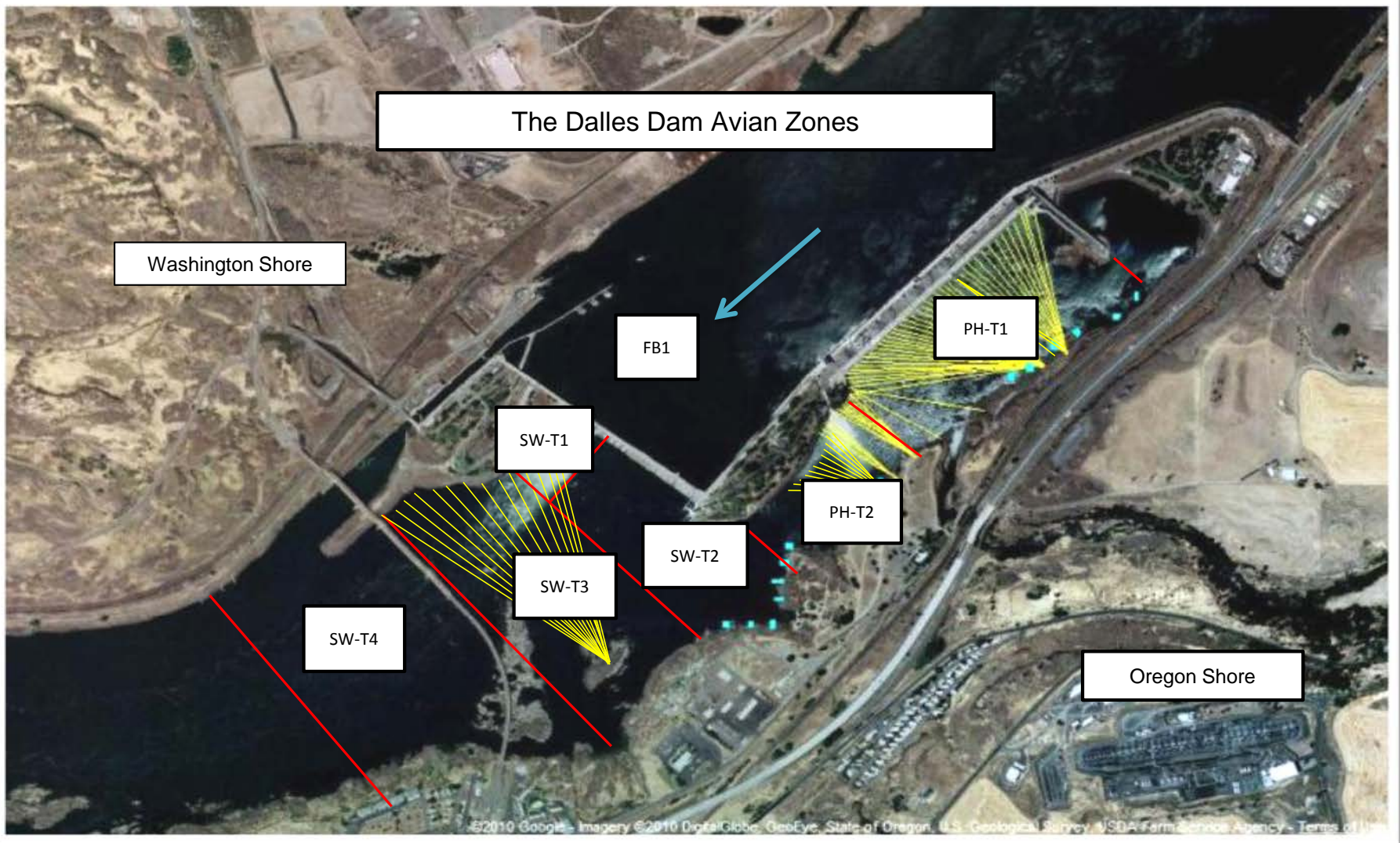
1. Last possible Data Date included is 07/18/2015.
2. Data Courtesy of U.S. Army Corps of Engineers.
3. USACE Data Disclaimer: These data are furnished with the understanding that the U.S. Army Corps of Engineers makes no warranties concerning the accuracy, reliability, or suitability of this data for any particular purpose.

DART Data Citation

Columbia River DART, Columbia Basin Research, University of Washington. (2015). Adult Passage Daily Ladder Counts. Available from http://www.cbr.washington.edu/dart/query/adult_ladder_sum

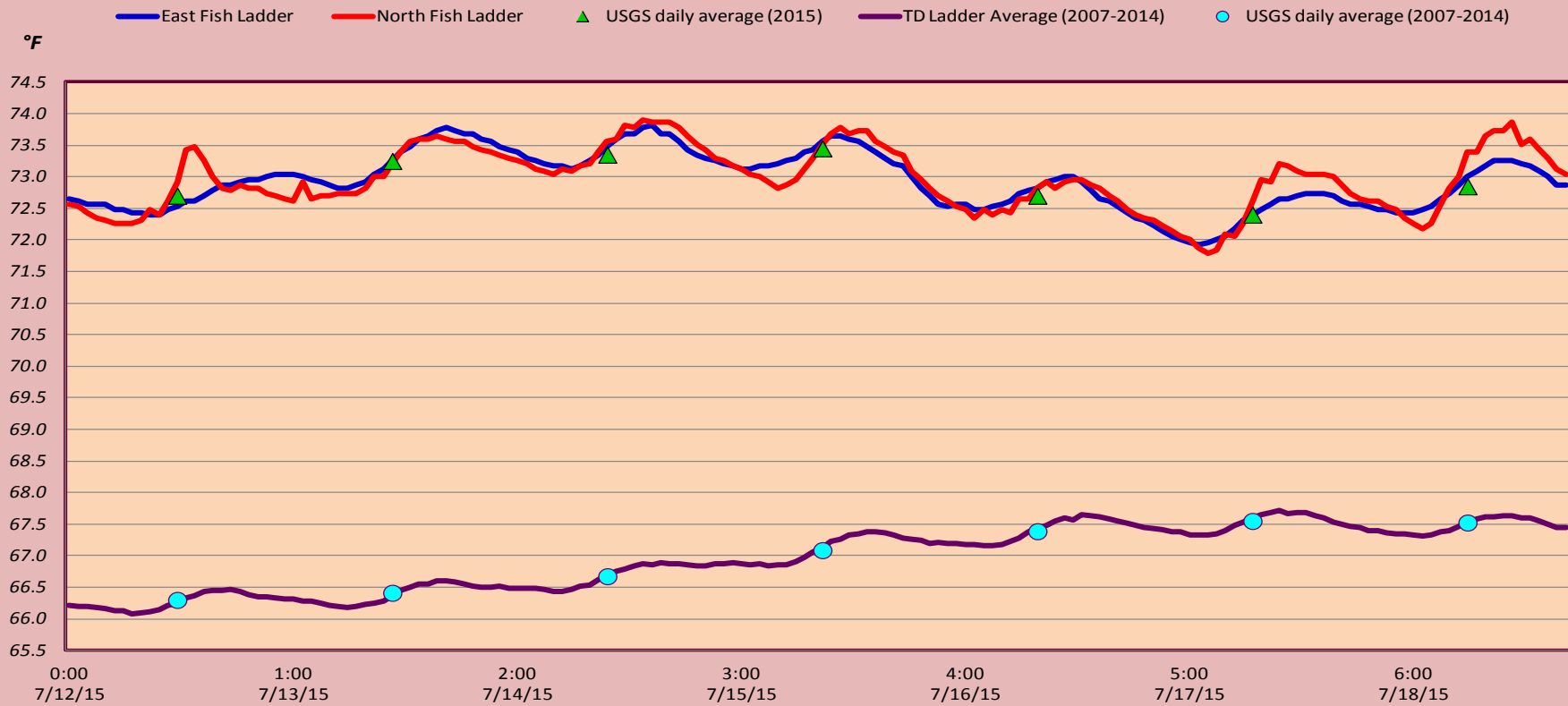
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19 Jul 2015 09:52:22 PDT. Columbia River DART (Data Access in Real Time) www.cbr.washington.edu/dart.

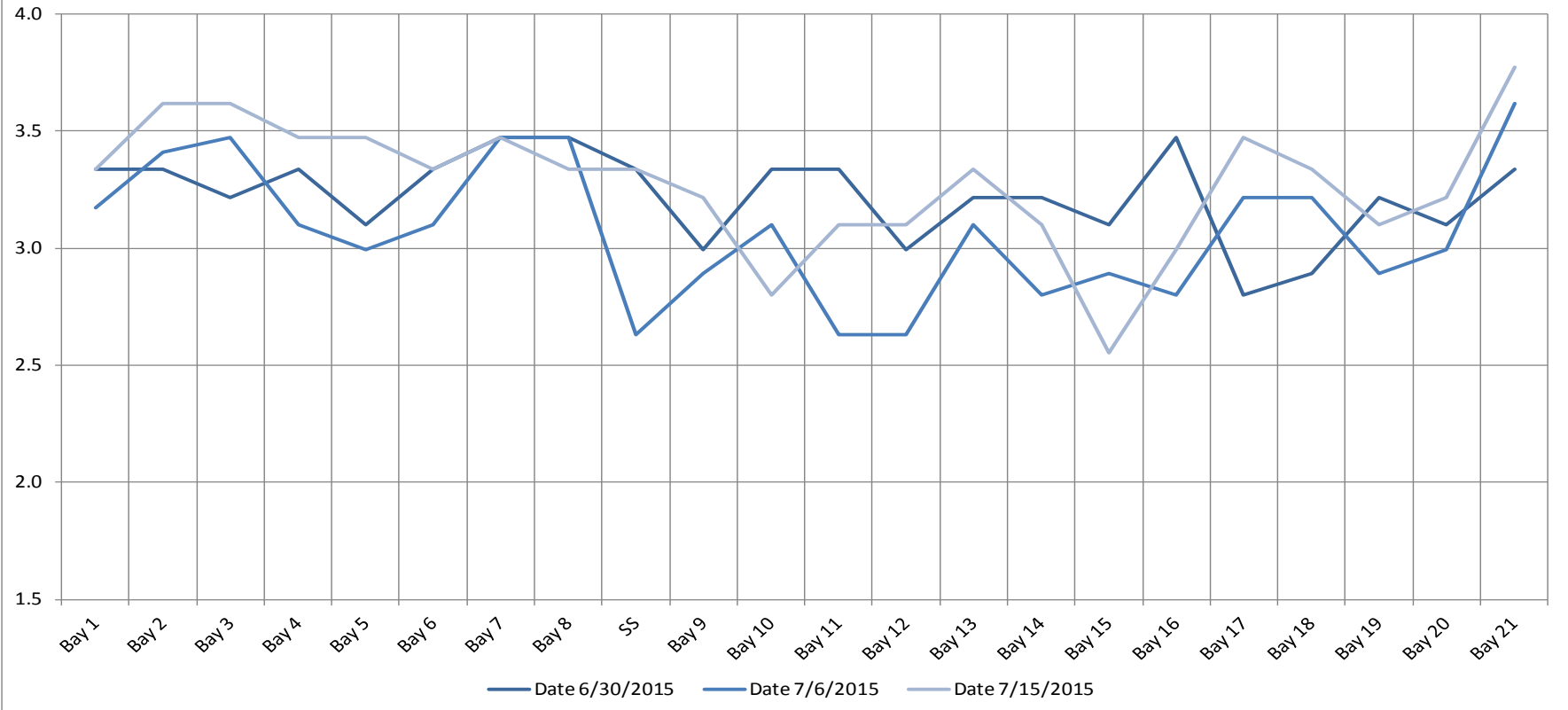


Avian lines in yellow, zones in red, river flow in blue.

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



The Dalles Dam Collection Channel Velocites (In criteria 1.5 - 4.0 fps)



| | | |
|---------------------|---|----------------|
| USGS: | http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201507.lcol.html | |
| Temperatures | | Secchi: |
| 72.7 | Sun | 5.0 |
| 73.3 | Mon | 5.0 |
| 73.4 | Tue | 5.0 |
| 73.5 | Wed | 5.0 |
| 72.7 | Thurs | 5.0 |
| 72.4 | Fri | 5.0 |
| 72.9 | Sat | 5.0 |
| AVG: 73.0 | AVG | 5.0 |

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

= Out of criteria

| North Ladder | | | East Ladder | | | | | | | | | | | | |
|---------------------|--------------|----------|--------------------|-------------|----------|----------|------|---------------|----------|----------|----------------|--------------|----------|---------|----------|
| North Entrance | | | East Entrance | | | | | West Entrance | | | South Entrance | | | % Spill | |
| Date: | Differential | N1 Depth | Differential | E1 Depth | E2 Depth | E3 Depth | JP 6 | Differential | W1 Depth | W2 Depth | W3 Depth | Differential | S1 Depth | | S2 Depth |
| 7/12 | | | 1.6 | 7.9 | 10.5 | 10.5 | | 1.4 | 9.2 | 9.2 | closed | 1.5 | 8.2 | 8.2 | 40.0 |
| | 1.4 | 9.2 | 1.6 | 7.9 | 10.5 | 10.5 | 7.0 | 1.5 | 9.1 | 9.1 | | 1.5 | 8.2 | 8.2 | |
| | 1.4 | 9.2 | 1.6 | 9.0 | 10.7 | 10.7 | 9.7 | 1.5 | 9.2 | 9.2 | | 1.5 | 8.1 | 8.1 | |
| 7/13 | | | 1.7 | 9.0 | 11.3 | 11.3 | | 1.5 | 10.0 | 10.0 | | 1.4 | 8.3 | 8.3 | 40.0 |
| | 1.4 | 9.3 | 1.6 | 9.0 | 11.4 | 11.4 | 10.4 | 1.6 | 9.0 | 9.0 | | 1.5 | 8.2 | 8.2 | |
| | 1.4 | 9.4 | 1.5 | 9.1 | 11.2 | 11.2 | 10.2 | 1.5 | 9.6 | 9.5 | | 1.4 | 8.3 | 8.3 | |
| 7/14 | | | 1.5 | 9.0 | 11.3 | 11.3 | | 1.6 | 9.4 | 9.4 | | 1.5 | 8.2 | 8.2 | 40.2 |
| | 1.4 | 9.2 | 1.6 | 9.1 | 11.2 | 11.2 | 10.2 | 1.5 | 9.5 | 9.5 | | 1.5 | 8.1 | 8.1 | |
| | 1.5 | 9.3 | 1.4 | 9.1 | 12.3 | 12.3 | 11.3 | 1.6 | 9.6 | 9.6 | | 1.4 | 8.3 | 8.3 | |
| 7/15 | | | 1.5 | 9.1 | 11.1 | 11.1 | | 1.6 | 9.5 | 9.5 | | 1.4 | 8.2 | 8.2 | 39.9 |
| | 1.4 | 9.2 | 1.6 | 8.9 | 10.9 | 10.9 | 9.9 | 1.5 | 9.5 | 9.5 | | 1.4 | 8.2 | 8.2 | |
| | 1.5 | 9.3 | 1.5 | 9.0 | 11.5 | 11.5 | 10.5 | 1.6 | 9.6 | 9.5 | | 1.4 | 8.1 | 8.2 | |
| 7/16 | | | 1.5 | 9.1 | 11.1 | 11.1 | | 1.6 | 9.4 | 9.4 | | 1.4 | 8.3 | 8.3 | 39.9 |
| | 1.4 | 9.2 | 1.7 | 8.4 | 10.8 | 10.8 | 9.8 | 1.5 | 9.4 | 9.4 | | 1.4 | 8.3 | 8.3 | |
| | 1.5 | 9.3 | 1.6 | 8.4 | 10.6 | 10.6 | 9.6 | 1.4 | 9.5 | 9.7 | | 1.5 | 8.1 | 8.1 | |
| 7/17 | | | 1.6 | 8.5 | 11.0 | 11.0 | | 1.6 | 9.4 | 9.4 | 1.5 | 8.1 | 8.1 | 39.9 | |
| | 1.4 | 9.2 | 1.5 | 9.6 | 11.0 | 11.0 | 10.0 | 1.5 | 9.7 | 9.5 | 1.5 | 8.2 | 8.1 | | |
| | 1.4 | 9.3 | 1.5 | 9.4 | 11.3 | 11.3 | 10.3 | 1.5 | 9.4 | 9.5 | 1.4 | 8.2 | 8.3 | | |
| 7/18 | | | 1.4 | 9.4 | 11.9 | 11.9 | | 1.7 | 9.5 | 9.5 | 1.4 | 8.3 | 8.3 | 39.9 | |
| | 1.4 | 9.3 | 1.4 | 9.3 | 11.8 | 11.8 | 8.3 | 1.6 | 9.4 | 9.4 | 1.5 | 8.1 | 8.1 | | |
| | 1.5 | 9.3 | 1.4 | 8.5 | 12.3 | 12.3 | 11.3 | 1.6 | 10.0 | 10.0 | 1.4 | 8.2 | 8.3 | | |
| AVG: | 1.4 | 9.3 | 1.5 | No criteria | 11.2 | 11.2 | 9.9 | 1.5 | 9.5 | 9.5 | closed | 1.4 | 8.2 | 8.2 | 40.0 |

Fishways are inspected twice daily plus one SCADA inspection.



Nez Perce Tribe collecting adult lamprey for outplanting to the Snake River Basin.