


# FISHWAY STATUS REPORT

**Date:** 12/10/2016  
**Inspection Period:** 12/4/2016 thru 12/10/2016



**US Army Corps  
of Engineers**  
Portland District

**JOHN DAY DAM**

JD/WC Project-Fisheries  
P.O. Box 823  
Rufus, Oregon 97050  
Phone: 541-506-7860

All JD Fishways are inspected once per day during fish season, Dec. 1 - Feb. 29.  
Frequent monitoring of the PLC displays in SMF Fisheries Office as necessary.

John Day Dam	Inspections	Criteria	Total Number of Inspections:	7	Temperature:	49 F
	Out of Criteria	Limit				
<b>NORTH FISHWAY</b>	00S		Dewatered to tailwater 12/5, and below tailwater (entrance) on 12/7 with no mortalities!			
Exit differential	00S	≤ 0.5'				
Exit Control weirs	00S	High setting	High setting is normal for JDN			
Count station differential	00S	≤ 0.3'				
Weir crest depth (DS gauge)	00S	1.0' ± 0.1'				
Entrance differential	00S	1.0' - 2.0'	AVG	#DIV/0!		
<b>SOUTH FISHWAY</b>			In service with two AWS turbines; FOGs # 18 & 19 continue closed			
Exit differential	0	≤ 0.5'				
Exit Control weirs	0	Mid setting	Mid setting is normal for JDS			
Count station differential	0	≤ 0.3'				
Weir crest depth (US gauge)	0	1.0' ± 0.1'				
South entrance differential	0	1.0' - 2.0'	AVG	1.4		
Entrance weir SE1	0	depth (≥ 8')	AVG	8.2		
Collection channel velocity	0	1.5 - 4 fps	AVG	3.64		
N. Entrance PH(Bay 19)differential	0	1.0' - 2.0'	AVG	1.5		
Entrance weir NE1	0	depth (≥ 8')	AVG	8.6		
Entrance weir NE2	0	depth (≥ 8')	AVG	8.7		
<b>JUVENILE PASSAGE</b>			In service with STSs installed since 4/1			
Forebay/bypass conduit differential	0	4.0' - 5.0'	AVG	4.6		
Submersible traveling screens	0	visual inspect	MU 3 OOS because it has failed STS which can't be removed due to failed STS			
Turbine trashrack drawdown	0	<1.5', wkly	light debris loads			
Vert barrier screen drawdown	0	<1.5', wkly				
Spill volume	0	N/A				
Spill pattern	0	per FPP				
Turbine Unit Priority	0	per FPP				
Turbine 1% Efficiency	0	per FPP				

## SMOLT MONITORING FACILITY

### Operation:

SMF was successfully dewatered on 28 November. 32 chinook, 28 steelhead, 53 lamprey, 1 sturgeon, 4 shad adults along with a few other resident, misc. species were found at PDS and were drained through the Fish Drain Pipe into the river in excellent condition.

### Maintenance:

JBS expansion joint immediately downstream of Tainter Gate was found with its one side, 1/2 metal cover peeled of the wall and dangerously sticking into flow by 2 feet during SMF dewatering on 11/28. JD Structural removed the plate and JBS returned quickly to service the same day. Appears to be a recent failure. The joint will be repaired during winter outage in February/March 2017 and possibly redesigned the following winter, 2018 to increase its long term durability. SMF winterization by JD Fisheries underway.

SMF SCADA update/mods' investigation by JD Electrical underway. The SCADA "As Builts" by JD Electrical starting soon.

### Research:

None

**Fallbacks:** AVG: MAX: 0 MIN: 0

### Birds :

see the Avian Numbers tab. A wide array of aquatic birds feeding on the abundant juvenile shad.

15 Navlock (# 43 & 58 broke the week of 10/17) 6 Spillway, 6 Tower-to-Tower, 1 PH lines are missing out of 125 grid's total.

PDT will reinstall up to 15 critical, missing lines before May 2017; JD Fisheries believes that this will be sufficient for the Avian Grid to remain effective.

All missing lines will be reinstalled in Phase 2, in the fall of 2017.

### Operations:

**MU 3 OOS due to failed STS since 11/10. Since JD STS crane is failed/unavailable as well, the STS can't be removed and MU3 will remain in the forced OOS status until the crane is fixed (see JD STS crane info below.)**

SMF in bypass at Switch Gate for the full flow PIT tag detections since 15 September.

JD North Fishway OOS since 12/2. Upper dewatered on 12/5: Ladder was flushed 4 X after a number of mid and large sturgeon were observed in its control section. It worked well as most of the fish were moved by flow into the lower fishway/tailwater with only a handful requiring physical pushing by the fisheries staff, in the final section. Only one adult steelhead was bagged and released into the river in excellent condition along with a few adult shad.

Lower ladder/entrance was dewatered on 12/7: 7 a. steelhead, 7 a. lamprey, 1 sturgeon 4-5' and 41 a. shad were bagged and released into the river in excellent condition. Additional 15 lamprey were salvaged from the entrance area on 12/12 and released into forebay in excellent condition.

JD South Fishway in service with two out of three AWS turbines; FOGs 18 & 19 continue closed due to insufficient AWS.

MU Gatewell Drawdowns: weekly or more frequently as necessary.

### Maintenance:

JD North Fishway AWS pumps experience frequent but harmless SKF alarms. This is an assessment by Mr. Hicks, JD Mechanical Supervisor: "My belief is this type of system is failing on a regular basis due to the design of the SKF, when filling the reservoir air is being introduced to the system because the grease is pushed into the bottom of the reservoir. This causes an air pocket that will not automatically bleed out of the system, causing the alarm. Our normal fix is to purge the grease through the system. A permanent fix would be to be able to add grease to the storage reservoir from the top instead of the bottom." The issue is pending until resolved.

JD South Fishway AWS turbine 1 OOS long term due to failed pump's lower bearing. A possible, temporary "Band-Aid" repair by JD Mechanical this winter but need additional \$ 50K in special funding/ UFR.

**JD STS crane continues in the failed status since late October. Its temporary/ emergency repair contract for \$ 200 K was awarded on 11/9 with a target completion of 12/21 through 12/28. The crane is old/wore out and its electronic controls are in a bad need of major overhaul at estimated cost of \$ 1.5 million.**

Calibration: All gauges/ sensors are within the criteria of 0.3' .

### Research:

Adult PIT antennas PDT continues on the contract award for this winter's installation at both JD Fishways.

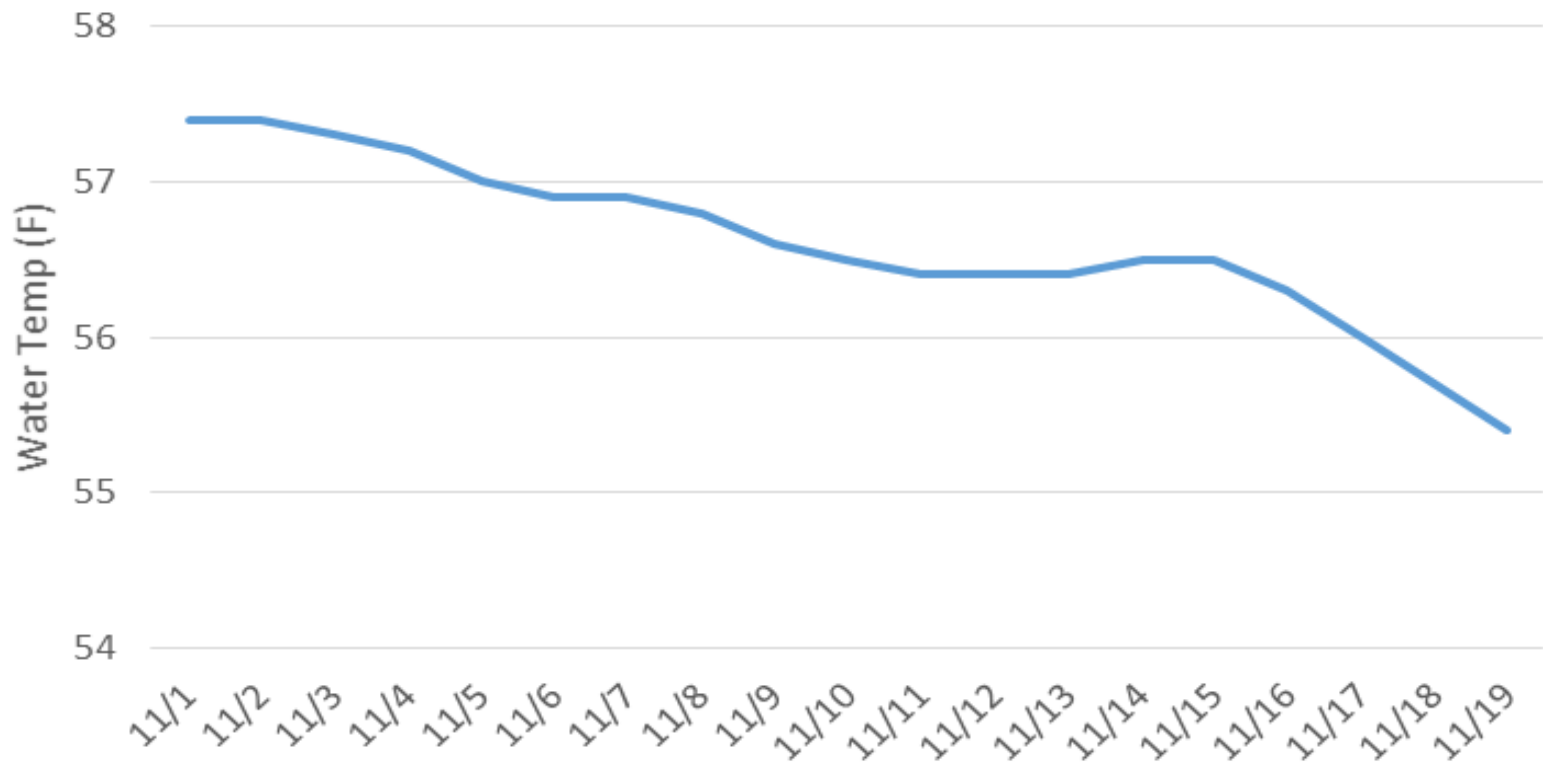
**Kevin Moynahan**  
**OPM John Day/Willow Creek Project**

MOYNAHAN, KEVIN, PATRICK, 1393959157

E-Signed by MOYNAHAN, KEVIN, PATRICK, 1393959157  
VERIFY authenticity with ApproveIt



Average Daily Tailwater Temperatures (F) JDA



## JDA Collection Channel Velocity

<b>Date</b>	<i>17-Nov-16</i>
<b>By:</b>	<i>MDL</i>

<b>Bay(s)</b>	<b>Time</b>	<b>Sec.</b>	<b>Velocity (f/s)</b>
<i>0-2</i>	<i>0:55</i>	<i>55</i>	<i>3.27</i>
<i>2 - 4</i>	<i>1:41</i>	<i>101</i>	<i>3.91</i>
<i>4 - 6</i>	<i>2:30</i>	<i>150</i>	<i>3.67</i>
<i>6 - 8</i>	<i>3:19</i>	<i>199</i>	<i>3.67</i>
<i>8 - 10</i>	<i>4:09</i>	<i>249</i>	<i>3.60</i>
<i>10 - 12</i>	<i>4:54</i>	<i>294</i>	<i>4.00</i>
<i>12 - 14</i>	<i>5:45</i>	<i>345</i>	<i>3.53</i>
<i>14 - 16</i>	<i>6:36</i>	<i>396</i>	<i>3.53</i>
<i>16 - 18</i>	<i>7:26</i>	<i>446</i>	<i>3.60</i>
			<b>3.64</b>

<b>TW</b>	<b>160.6</b>
-----------	--------------

<b>#1 RPM</b>	<b>OOS</b>
<b>#2 RPM</b>	<b>60</b>
<b>#3 RPM</b>	<b>60</b>

**JDA Bird Counts: 11/20/16 to 11/26/16**

F(1): Forage AM survey F(2): Forage PM Survey NF(1): Non-Forage AM Survey NF(2): Non-Forage PM Survey

Date	Zone	Gulls				Cormorant				Caspian tern				White Pelican				Grebe				Total
		F(1)	F(2)	NF(1)	NF(2)	F(1)	F(2)	NF(1)	NF(2)	F(1)	F(2)	NF(1)	NF(2)	F(1)	F(2)	NF(1)	NF(2)	F(1)	F(2)	NF(1)	NF(2)	
20-Nov	PHFB	0	0	145	685	0	0	3	0	0	0	0	0	0	0	0	0	0	0	9	0	842
20-Nov	SWFB	0	0	170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	173
20-Nov	PH1	19	69	0	0	20	19	0	0	0	0	0	0	0	0	0	0	7	0	0	0	134
20-Nov	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-Nov	PH3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-Nov	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-Nov	SW2	0	0	0	0	0	0	39	39	0	0	0	0	0	0	0	0	0	0	0	0	78
20-Nov	SW3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Avg/Survey</b>		<b>44</b>	<b>500</b>	<b>20</b>	<b>41</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>5</b>			<b>1227</b>					
21-Nov	PHFB	0	0	51	252	0	0	15	0	0	0	0	0	0	0	0	0	0	0	12	12	342
21-Nov	SWFB	0	0	257	169	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	427
21-Nov	PH1	34	17	0	0	27	16	0	0	0	0	0	0	1	0	0	0	5	4	0	0	104
21-Nov	PH2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
21-Nov	PH3	0	0	0	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	32
21-Nov	SW1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
21-Nov	SW2	0	0	0	0	0	0	17	39	0	0	0	0	0	0	0	0	0	0	0	0	56
21-Nov	SW3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Avg/Survey</b>		<b>28</b>	<b>365</b>	<b>23</b>	<b>52</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>5</b>	<b>13</b>			<b>967</b>								
22-Nov	PHFB	0	0	19	49	0	0	15	27	0	0	0	0	0	0	0	0	0	0	5	8	123
22-Nov	SWFB	0	0	221	191	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	412
22-Nov	PH1	17	8	0	0	13	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49
22-Nov	PH2	4	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
22-Nov	PH3	0	0	0	0	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	26
22-Nov	SW1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
22-Nov	SW2	0	0	0	0	0	0	21	17	0	0	0	0	0	0	0	0	0	0	0	0	38
22-Nov	SW3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
<b>Avg/Survey</b>		<b>23</b>	<b>240</b>	<b>12</b>	<b>54</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>			<b>669</b>					
23-Nov	PHFB	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	9	8	23
23-Nov	SWFB	0	0	244	219	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	463
23-Nov	PH1	18	18	0	0	11	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54
23-Nov	PH2	5	4	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
23-Nov	PH3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23-Nov	SW1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
23-Nov	SW2	0	0	0	0	0	0	42	54	0	0	0	0	0	0	0	0	0	0	0	0	96
23-Nov	SW3	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	14
<b>Avg/Survey</b>		<b>23</b>	<b>232</b>	<b>11</b>	<b>59</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>			<b>665</b>					

**JDA Bird Counts: 11/20/16 to 11/26/16**

F(1): Forage AM survey F(2): Forage PM Survey NF(1): Non-Forage AM Survey NF(2): Non-Forage PM Survey

Date	Zone	Gulls				Cormorant				Caspian tern				White Pelican				Grebe				Total
		F(1)	F(2)	NF(1)	NF(2)	F(1)	F(2)	NF(1)	NF(2)	F(1)	F(2)	NF(1)	NF(2)	F(1)	F(2)	NF(1)	NF(2)	F(1)	F(2)	NF(1)	NF(2)	
24-Nov	PHFB	0	0	20	20	0	0	17	0	0	0	0	0	0	0	0	0	0	0	11	9	77
24-Nov	SWFB	0	0	261	238	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	499
24-Nov	PH1	25	15	0	0	11	8	0	0	0	0	0	0	0	0	0	0	9	8	0	0	76
24-Nov	PH2	3	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
24-Nov	PH3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24-Nov	SW1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
24-Nov	SW2	0	0	0	0	0	0	12	61	0	0	0	0	0	0	0	0	0	0	0	0	73
24-Nov	SW3	0	0	0	0	0	0	44	15	0	0	0	0	0	0	0	0	0	0	0	0	59
<b>Avg/Survey</b>		<b>24</b>		<b>270</b>		<b>10</b>		<b>75</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>9</b>		<b>10</b>		<b>792</b>
25-Nov	PHFB	0	0	0	16	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	38
25-Nov	SWFB	0	0	198	216	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	414
25-Nov	PH1	37	24	0	0	24	13	0	0	0	0	0	0	0	0	0	0	0	11	0	0	109
25-Nov	PH2	3	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
25-Nov	PH3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25-Nov	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25-Nov	SW2	0	0	0	0	0	0	59	53	0	0	0	0	0	0	0	0	0	0	0	0	112
25-Nov	SW3	0	0	0	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	18
<b>Avg/Survey</b>		<b>34</b>		<b>215</b>		<b>20</b>		<b>76</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>6</b>		<b>0</b>		<b>699</b>
26-Nov	PHFB	0	0	15	24	0	0	18	0	0	0	0	0	0	0	0	0	0	0	9	0	66
26-Nov	SWFB	0	0	218	251	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	469
26-Nov	PH1	11	17	0	0	18	12	0	0	0	0	0	0	0	0	0	0	8	0	0	0	66
26-Nov	PH2	4	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
26-Nov	PH3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26-Nov	SW1	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
26-Nov	SW2	0	0	0	0	0	0	48	34	0	0	0	0	0	0	0	0	0	0	0	0	82
26-Nov	SW3	0	0	0	0	0	0	15	12	0	0	0	0	0	0	0	0	0	0	0	0	27
<b>Avg/Survey</b>		<b>17</b>		<b>254</b>		<b>16</b>		<b>66</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>4</b>		<b>5</b>		<b>721</b>
<b>Totals</b>		<b>Gulls</b>				<b>Cormorant</b>				<b>Caspian tern</b>				<b>White Pelican</b>				<b>Grebe</b>				<b>Total</b>
		<b>F</b>		<b>NF</b>		<b>F</b>		<b>NF</b>		<b>F</b>		<b>NF</b>		<b>F</b>		<b>NF</b>		<b>F</b>		<b>NF</b>		
<b>Weekly Total</b>		<b>381</b>		<b>4149</b>		<b>220</b>		<b>841</b>		<b>0</b>		<b>0</b>		<b>1</b>		<b>0</b>		<b>55</b>		<b>93</b>		<b>5740</b>
<b>Avg/Survey</b>		<b>27</b>		<b>296</b>		<b>16</b>		<b>60</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>4</b>		<b>7</b>		<b>410</b>

John Day Dam  
Avian Zones





## John Day Weekly Averages

	Temp:	Secchi:	Fallbacks
Sun	49	6.0	
Mon	49	6.0	
Tue	49	6.0	
Wed	48	6.0	
Thur	48	6.0	
Fri	48	6.0	
Sat		6.0	
<b>AVG:</b>	<b>49</b>	<b>6.0</b>	<b>AVG</b>
			<b>0</b>
			<b>MAX</b>
			<b>0</b>
			<b>MIN</b>

	NE1	NE2	S.Ent	SE1	N.Ent	JBS Diff	Bay19
Sun	8.6	8.7	1.5	8.1	oos	4.5	1.3
Sun							
Mon	8.8	8.7	1.5	8.2	oos	4.6	1.5
Mon							
Tues	9.4	9.8	1.4	8.3	oos	4.7	1.3
Tues							
Wed	8.3	8.3	1.4	8.0	oos	4.5	1.7
Wed							
Thur	8.0	8.0	1.4	8.2	oos	4.6	1.8
Thur							
Fri	8.8	8.8	1.4	8.4	oos	4.5	1.3
Fri							
Sat	8.3	8.3	1.5	8.1	oos	4.6	1.5
Sat					oos		
<b>AVG:</b>	<b>8.6</b>	<b>8.7</b>	<b>1.4</b>	<b>8.2</b>	<b>#DIV/0!</b>	<b>4.6</b>	<b>1.5</b>