

# FISHWAY STATUS REPORT

Date: 12/3/2016  
 Inspection Period: 11/27/2016 thru 12/3/2016

## JOHN DAY DAM



US Army Corps  
 of Engineers  
 Portland District

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

All JD Fishways are inspected twice per day during fish season, Mar. 1 - Nov. 30.  
 Frequent monitoring of the PLC displays in SMF Fisheries Office as necessary.

John Day Dam	Inspections	Criteria	Total Number of Inspections:	12	Temperature:	51 F
	Out of Criteria	Limit			Secchi:	6.0 Ft.
<b>NORTH FISHWAY</b>			Orifice flow only 2 December, evening, in preparation for dewatering on 5 December			
Exit differential	0	≤ 0.5'				
Exit Control weirs	0	High setting	High setting is normal for JDN			
Count station differential	0	≤ 0.3'				
Weir crest depth (DS gauge)	0	1.0' ± 0.1'				
Entrance differential	0	1.0' - 2.0'	AVG	1.5		
<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	1.5		
Entrance weir SE1	0	depth (≥ 8')	AVG	8.3		
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	8.2		
Entrance weir NE2	0	depth (≥ 8')	AVG	8.2		
<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	Bay 2 continues open 1.6 Kcfs for JD North's fish attraction, daylight hours.			
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 has been meeting all FPP criteria since 1/5/16.

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.

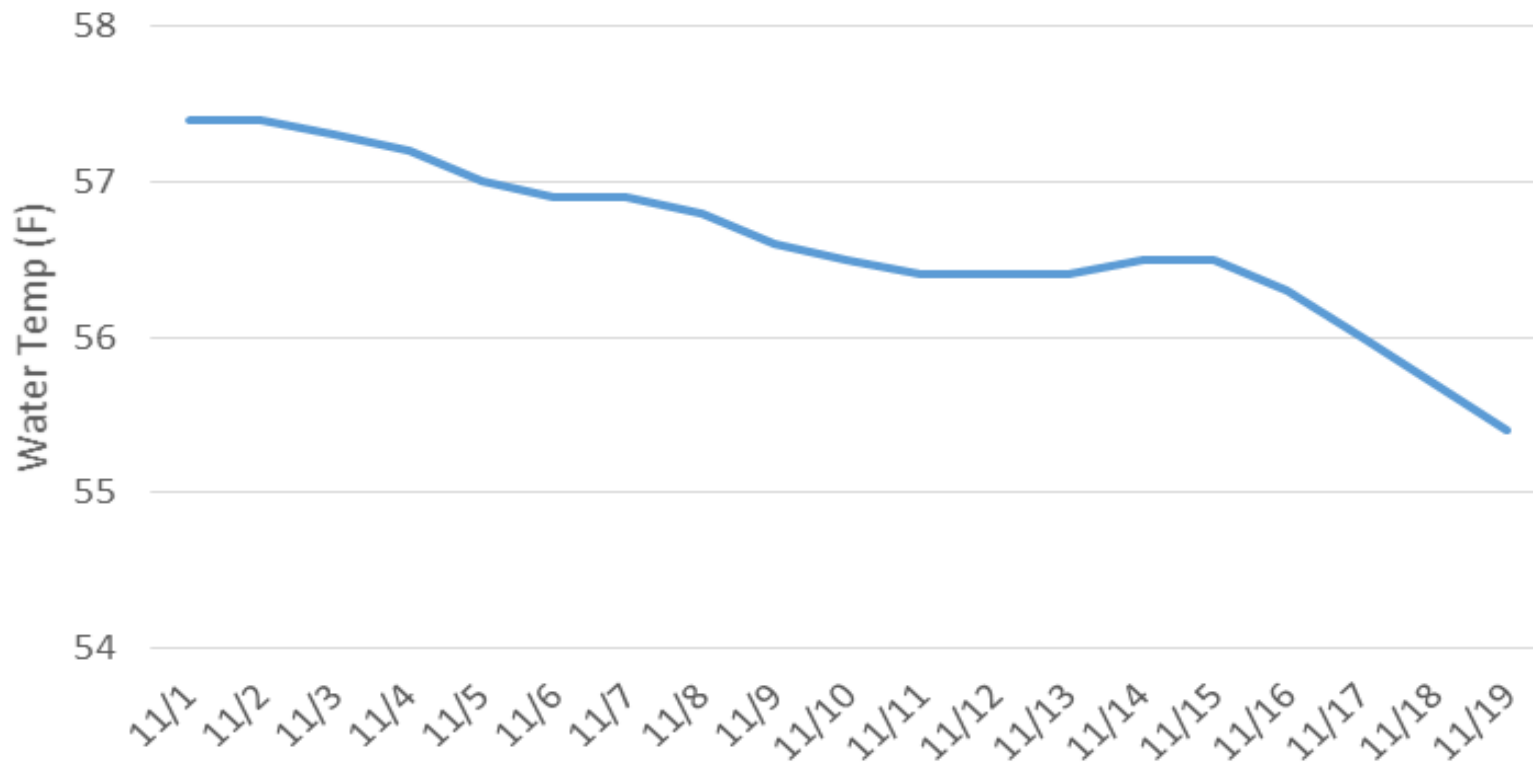
Kevin Moynahan

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>
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<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
Avg/Survey		44		500		20		41		0		0		0		0		5		5		1227
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
Avg/Survey		28		365		23		52		0		0		1		0		5		13		967
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
Avg/Survey		23		240		12		54		0		0		0		0		0		7		669
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
Avg/Survey		23		232		11		59		0		0		0		0		0		9		665

**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>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>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>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>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	52	6.0	
Mon	52	6.0	
Tue	51	6.0	
Wed	51	6.0	
Thur	51	6.0	
Fri	50	6.0	
Sat	50	6.0	
<b>AVG:</b>	<b>51</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	8.1	8.1	1.4	8.0	1.5	4.6	1.5
Sun	8.0	8.0	1.3	8.1	1.4	4.6	1.5
Mon	8.2	8.2	1.6	8.5	1.6	4.6	1.6
Mon	8.0	8.0	1.5	8.5	1.6	4.6	1.5
Tues	8.3	8.3	1.4	9.3	1.4	4.5	1.3
Tues	8.7	8.7	1.5	8.3	1.5	4.5	1.5
Wed	8.0	8.0	1.5	8.1	1.6	4.8	1.5
Wed	8.4	8.4	1.5	8.4	1.5	4.6	1.6
Thur	8.0	8.0	1.3	8.0	1.4	4.5	1.6
Thur	8.0	8.0	1.5	8.3	1.5	4.7	1.7
Fri	8.2	8.2	1.6	8.1	oos	4.5	1.6
Fri					oos		
Sat	8.3	8.3	1.5	8.1	oos	4.6	1.5
Sat					oos		
<b>AVG:</b>	<b>8.2</b>	<b>8.2</b>	<b>1.5</b>	<b>8.3</b>	<b>1.5</b>	<b>4.6</b>	<b>1.5</b>