2015 ANNUAL FISHWAY STATUS REPORT

THE DALLES DAM

Date: Jan, 2016
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INTRODUCTION

The Dalles Dam has specific requirements for Columbia River fish passage that are specified in the annual Fish Passage Plan. The Dalles Dam has two fish ladders for upstream adult fish passage, and an ice trash sluiceway and spillway that are used for downstream juvenile fish passage. The following document is a summary of all fish related activities that occurred at The Dalles Dam in 2015. In addition Northern Wasco Co PUD has a turbine that supplies auxiliary water to the north fishway, which has a complete juvenile bypass system. Information on this systems operation can be acquired through Pacific States Marine Fish Commission monitoring report.

FISHWAY OPERATING SCHEDULE

The following information includes fish passage system operation for calendar year 2015. Total length of time for annual fishway outages can be determined by referring to previous years' annual reports. These fishways were closed or dewatered for maintenance when they were not in operation.

East Adult Fishway

Jan 1 – Jan 31	Dewatered for winter maintenance
Feb 1 – Dec 31	In full operation with attraction water
Aug 4	Attraction water off half day for required ROV grating inspection
Dec 2	FU1 off for a dive and FU2 off for maintenance

North Adult Fishway

Jan 1 – Jan 31	In full operation with attraction water
Feb 2 – Feb 26	Dewatered for winter maintenance
Feb 27 – Dec 30	In full operation with attraction water
Aug 4	Attraction water off half day for required ROV grating inspection
Dec 1 – Dec 31	Ladder set to orifice flow for valve repair

Ice/Trash Sluiceway (Juvenile)

Jan 1- Mar 1	End gate closed
Mar 2 – Mar 31	In service with 4 sluice gates open
Apr 1 – Dec 9	In service with 6 sluice gates open
Dec 10 – Dec 15	In service with 4 sluice gates open
Dec 16 – Dec 31	End gate closed

Spillway

Jan 1 – April 10	Closed, all gates on seal
April 10 – Aug 31	Spill 40%, 24/7 for juvenile passage
Sept 1 – Dec 31	Closed, all gates on seal

DEWATERING - FISH SALVAGE

FISHWAY DEWATERING PROCEDURES

Dewatering fishways provides the best opportunity for maintenance and inspection. To dewater the fishladders, exit bulkheads are installed and the ladder is allowed to drain. Entrance bulkheads are installed and dewatering pumps operated to dewater all areas of fishways below tailwater elevation. Fisheries personnel enter these areas to salvage trapped fish when water levels allow entry. Fish are pushed toward tailwater or captured. Captured fish are transported to forebay or tailwater, depending on location, fish species, age class and stress levels. A follow up inspection is made to capture any missed fish. Efforts are made to provide continual water supply during the entire operation to reduce fish stranding and stress. Fishway areas that cannot be dewatered are inspected by ROV underwater camera.

THE DALLES DAM FISH LADDER DEWATERING RESULTS

Key; juvenile=j, carp=cp, catfish=ca, sculpin=sp, shad=sh, small mouth bass=smb, crappie=cr, pikeminnow=pm, whitefish=wf

Date	Event	Chinook	Steelhead	Sockeye	Coho	Lamprey	Shad	Sturgeon	Other	Comments	Morts
2/3/15	N.upper	2j	0	0	0	4	0	0	0	none	0
12/3/15	N. upper	15	2	0	0	20	0	23	0	1*	1 CH

1* North ladder dewatering was cut short due to a large sturgeon in a upper section on the ladder, unable to remove therefore the ladder was immediately re-watered.

Dewatering Fish Salvage Discussion

Efforts are always made to prevent fish mortalities. However, when mortalities occur, procedures are analyzed to determine how to correct for future dewaterings.
The north fishway was dewatered Dec 2 and returned to service immediately due to numerous large sturgeon and concerns for fish mortality. Preparation will be made to better handle large sturgeon in these hard to reach locations for next season north ladder dewatering.

TURBINE DEWATERING PROCEDURES

Turbines are dewatered for routine overall maintenance or occasional forced outages. These usually entrap low numbers of fish, due in part to unit operational guidelines, which include running unit at full load and immediate tail log installation after unit shut down. If a turbine unit fails, dewatering guidelines cannot always be followed, which can result in higher numbers of fish entrapment. Fish removal from these areas has a greater fish stress risk due to handling. Procedures are continually analyzed to determine the best method for preventing fish stress or loss. Fish are removed from scroll case (sc) and draft tubes (dt) by fish bags. If numbers of fish require more than three bags, transport tanks are placed in the draft tube gallery for transport by crane. Fish are released to tailwater as soon as possible.

2015 TURBINE DEWATERING RESULTS

Key: juvenile=j, scroll case=sc, draft tube=dt,shad=sd catfish=ca, sculpin=sp, crappie=cr, small mouth bass=smb

Date	Event	Chinook (ch)	Steelhead (sh)	Sockeye (so)	Coho	Lamprey	Sturgeon	Other	Comments	Mort's
1/20	MU13sc	0	0	0	0	0	0	0	none	0
1/21	MU13dt	0	0	0	0	0	0	0	none	0
2/2	MU8sc	0	0	0	0	0	0	0	none	0
2/3	MU8dt	0	0	0	0	0	0	0	none	0
3/31	MU6sc	0	0	0	0	0	0	0	none	0
3/31	MU6dt	0	0	0	0	0	0	0	none	0
8/4	MU19sc	0	4j	0	0	0	0	2 smb	none	5 st-j 1 soc-j
8/5	MU19dt	0	0	0	0	0	0	1ca	none	0

When a unit is taken out of service for maintenance, the cooling water strainers are sometimes disassembled. Due to the concern of juvenile lamprey entrainment and the threat of zebra/quagga mussels, this area is inspected. Fisheries staff was not always notified when these are disassembled. Therefore it has been put into the preventative maintenance program as a reminder to maintenance staff.

2015 Cooling water strainer results: 7/30/15- MU20; 8/3/14- MU19; 10/28/15- Station service 1; No findings

2013 - 2015 FISHWAY INSPECTION COMPARISON

Two complete fishway inspections were conducted per day during the adult fish passage season (March 1 to November 30). One fishway inspection was conducted per day during the non- passage season. A status monitor was installed in the fisheries office showing real time and 24hour information of the operation of east entrances, east ladder and north ladder. This information is recorded as a third inspection. Equipment calibration, gatewell inspection and drawdown's are also part of the inspection program. Guidelines are provided by the COE Fish Passage Plan. Weekly fishway status reports are provided to fish managers throughout the year. Status information is also provided at monthly Fish Passage Operation and Maintenance meetings. Comparisons are made with prior 2 years to track how equipment has been performing.
Fishway inspection data:

Inspection Criteria Comparison Chart						
	2015		2014		2013	
The Dalles Dam	**Total #**	**%**	Total	%	Total	%
	out of criteria					
Number of inspections	899		917		894	
NORTH FISHWAY						
Exit differential	0	0%	0	0.0%	0	0.0%
Count station differential	0	0%	0	0.0%	1	0.1%
Weir crest depth	26	3%	4	0.4%	5	0.6%
Entrance differential	4	0%	1	0.1%	1	0.1%
Entrance weir N1	1	0%	1	0.1%	0	0.0%
Entrance weir N2	0	0%	0	0.0%	0	0.0%
PUD Intake differential	5	1%	0	0.0%	13	1.5%
EAST FISHWAY						
Exit differential	1	0%	0	0.0%	1	0.1%
Removable weirs 154-157	18	2%	10	1.1%	12	1.3%
Weir 158-159 differential	20	2%	7	0.8%	1	0.1%
Count station differential	6	1%	3	0.3%	1	0.1%
Weir crest depth	3	0%	3	0.3%	5	0.6%
Junction pool weir JP6	1	0%	2	0.2%	11	1.2%
East entrance differential	8	1%	11	1.2%	8	0.9%
Entrance weir E1	0	0%	0	0.0%	0	0.0%
Entrance weir E2	55	6%	3	0.3%	0	0.0%
Entrance weir E3	2	0%	17	1.9%	0	0.0%
Collection channel velocity	0	0%	0	0.0%	0	0.0%
West entrance differential	4	0%	14	1.5%	12	1.3%
Entrance weir W1	4	0%	21	2.3%	1	0.1%
Entrance weir W2	46	5%	21	2.3%	2	0.2%
Entrance weir W3	0	0%	0	0.0%	1	0.1%
South entrance differential	5	1%	35	3.8%	11	1.2%
Entrance weir S1	50	6%	30	3.3%	7	0.8%
Entrance weir S2	9	1%	37	4.0%	9	1.0%
JUVENILE PASSAGE						
Sluicegate operation	8	1%	25	2.7%	27	3.0%
Turbine trashrack drawdown	0	0%	0	0.0%	0	0.0%
Spill volume	1	0%	63	6.9%	50	5.6%
Spill Pattern	0	0%	1	0.1%	0	0.0%
Turbine Unit Priority	45	5%	93	10.1%	58	6.5%

Inspection Discussion

Areas with greater than 1% criteria violation are indicated in yellow. The following are details on these data:

North fish ladder weir crest depth: More than previous years due to diffuser valve malfunctioned twice in July and November. New valve drive purchased for install Jan 2016.
Removable weirs 154-157: Similar to previous years. Weir 156 malfunctioned in March. Usually within 0.2' of criteria.
Differential of 158 and 159: More than previous years due to PLC problems in March and starter issues in December. Plans to upgrade PLC as funding allows.
E2, W2 and S1: More than previous years due to Fish unit 2 overhaul maintenance 12/1/15-2/28/16. One fish unit operation insufficient water volume.

Turbine Priority: Overall improvement but with numerous issues

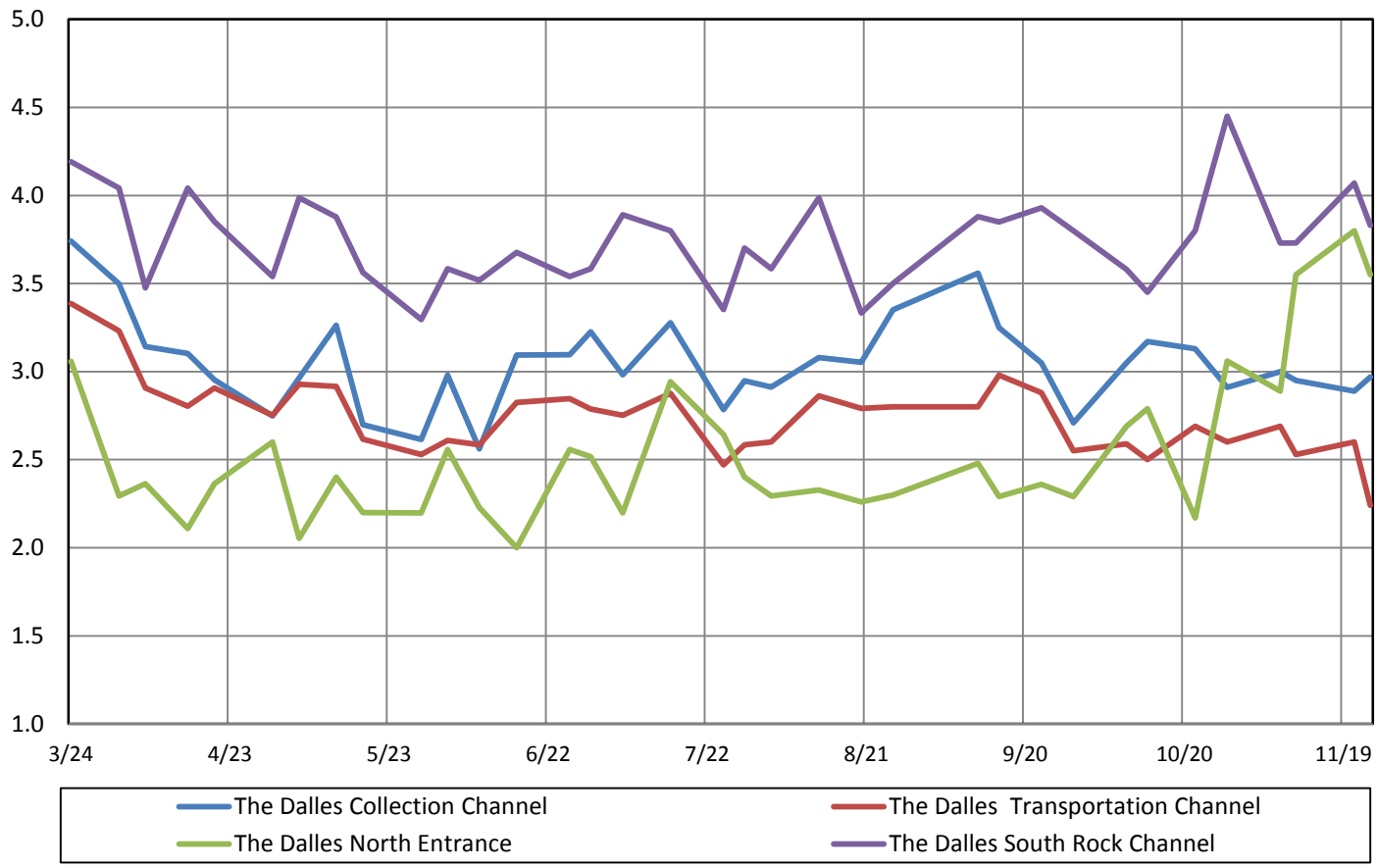
April- MU 6, 16 & 18 out of service (7 times out of criteria)

May - MU 5 & 6 tripped and needed software updates (10 times out of criteria)

August - Line T4 forced out of service (MU 7 & 8) (5 times out of criteria)
November - Line T8 forced out of service (MU 15 &16) plus MU 13 out for annual maintenance (16 times out of criteria)

MAINTENANCE ACCOMPLISHMENTS AND PLANS

1) Plastic composite wheels on weirs; replacing existing stainless wheels. Has proven successful in improving weir performance and reducing guide wear through electrolysis. Half to the weirs were completed last winter. The remainder will be completed this winter.
2) All entrance weirs, used diffusers and count station equipment has been inspected and preventative maintenance as needed.
3) New 158 weir design installed last winter. Weir will be moved downstream on slot to address vibration and automation concerns. Modifications have shown successful.
4) Two of 6 collection channel dewatering pumps were rebuilt. Two others are stuck and cannot be removed. Future plans include rebuilding all remaining pumps in near future as funding allows.
5) East exit power source FCQ7 panel replacement parts purchased. Installation in gallery will occur when it arrives. However connection to power may be delayed due to lack of funding.
6) Diffuser valve preventative maintenance will be minimal due to lack of funding. All diffusers are in positions necessary for ladder operation. Long term plans include include removal of unneeded collection channel diffusers.
7) North fishway rock walls; This is both a fishway concern and a personnel safety concern. Repair alternatives developed through district Product Development Team. Construction expected winter 2018.
8) Avian line grid for west powerhouse attachment anchor failed. Twenty of 26 lines recovered. Efforts to be made for new anchor and attachments.



Water Velocity Discussion

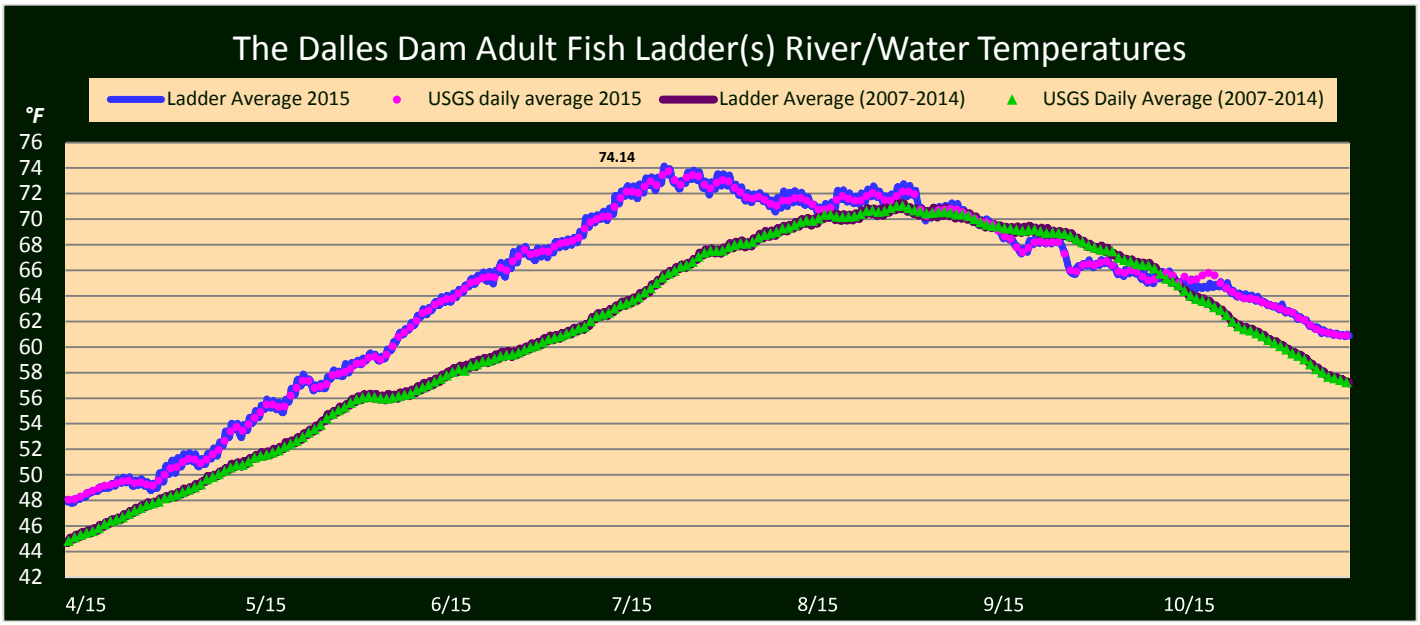
Fishway channel water velocities were measured weekly during Adult Fish Passage Season (Mar1 – Dec 1). Orange peels were timed through all fishway channels that are supplemented by auxiliary water and results were provided in the project weekly fishway status report. Criteria velocities of 1.5 to 4 fps were maintained throughout the fish passage season. Velocities were not always taken at unit 22 due to turbulence preventing float tracking. Velocity is generally slower from junction pool to unit 21, however past University of Idaho analysis did not reveal fish passage delays in this area.

Gatewell/Intake trash rack debris monitoring

Gatewell drawdowns: a measurement of water level between forebay and gatewell used to determine turbine intake trashrack debris loads which are checked weekly. As in previous years, all maintained well within the criteria limit (+ or – 0.5'). No gatewell drawdown measurements have been found out of criteria for past 20+ years. Additionally gatewell debris has not been an issue in 20+ years as well.

WATER QUALITY

Water clarity was read by secchi dish at the count stations. Water clarity data is not included in this report due to its questionable accuracy. This data was collected per regional manager request to maintain historical data base. Temperature monitoring with data loggers in each fishway is provided biweekly in the fishway status reports. The following graph is a compilation of weekly readings collected by data loggers in the east and north fishladders, immediately upstream of the count stations. Data showed a well documented early temperature rise in 2015.



River temperatures >70°F 6/28-8-30

Calibration

Calibration (comparing digital display and staff gauge readings vs tape measure) checks on all water level stillwells and weirs done weekly to assure accuracy. Maintenance is notified when they found off by more than 0.3'. Human error and weather conditions is factored into the results.

2015 Calibration results

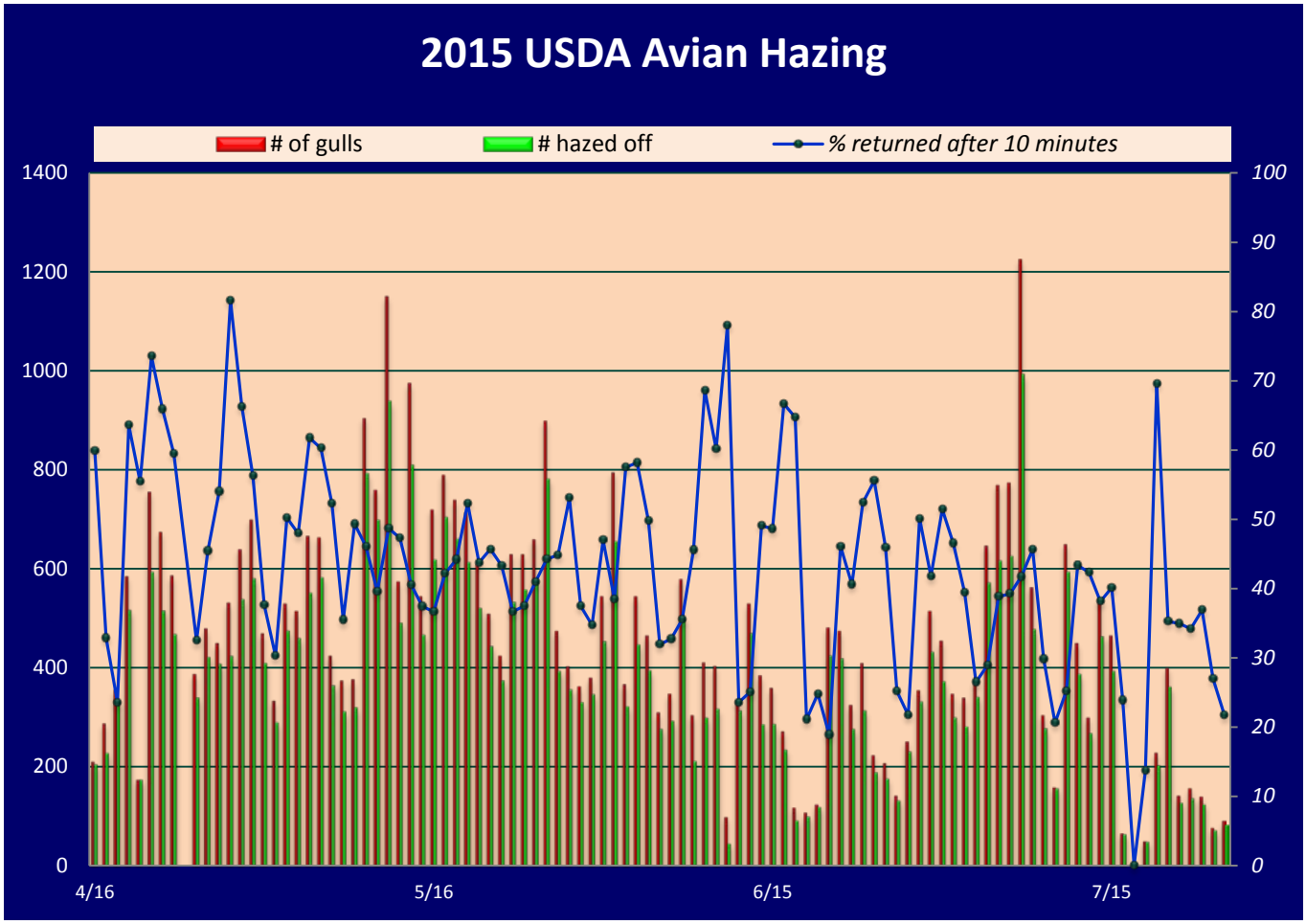
LOCATION		2/10	2/21	3/11	3/17	3/25	3/30	4/10	4/18	4/20	4/30	5/8	5/17	5/27	6/6	6/24	7/10	8/7	8/10	8/27	9/6	9/20	9/29	10/8	10/17	10/29	11/14
East ladder entrance weirs	E1	No Criteria																									
	E2	0.7	0.7	0.6	0.0	-0.1	-0.1	0.2	0.3	0.3	0.3	0.5	-1.1	-0.7	0.1	0.7			0.0	-1.1	-0.1					-0.1	
	E3	1.0	0.9	1.1	-0.1	2.0	-0.1	-0.1							0.2	0.1			0.2	-0.8	0.2					0.2	
	W1	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0.0	0.2	0.0	0.0	0.0	-0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.1	0.0	0.0
	W2	-0.3	-0.3	-0.3	-0.1	-0.2	-0.2	-0.1	0.0	0.3	0.0	0.1	0.1	-0.2	0.1	0.0	0.1	-0.1	0.0	0.0	0.0	0.1	-0.1	0.0	0.1	0.0	-0.1
	W3	Closed																									
	S1	0.0	0.0	0.0	0.0	0	0.0	0.0	-0.6	0.0	0.1	0.1	0.1	0.1	0.1			0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1
	S2	-0.1	-0.1	-0.1	0.0	-0.1	0.0	0.0	-0.6	0.0	0.0	0.0	0.0	0.0	-0.1			0.0	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	0.0	-0.1
East ladder channel-tailwater	E channel	0.5	0.4	0.4	0.0	-0.2	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.5	0.0	0.0	0.1	0.0	0.5	-0.4	-0.4	0.1	-0.1	-0.1	0.0	0.0	0.1
	E tailwater	-0.3	-0.1	0.2	-0.4	-0.3	0.3	-0.6	0.5	0.3	0.6	0.8	0.7	-0.4	0.3	0.1	0.1	0.2	0.3	0.1	0.1	0.4	-0.2	0.1	0.0	-0.1	-0.1
	W channel	0.0	0.1	0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.1	0.0	-0.1	1.3	1.5	0.1	0.0	0.1	0.0	0.0	0.0	0.1	-0.1	0.0	-0.1
	W tailwater	-0.3	-0.4	-0.3	-0.4	-0.2	-0.2	0.0	-0.1	-0.3	-0.3	-0.1	-0.1	-0.1	-0.1	-1.5	-1.7	0.0	0.0	-0.1	-0.1	0.0	-0.1	0.1	0.1	0.1	-0.1
	S channel	0.0	0.1	1.5	0.1	-0.2	-0.1	0.0	-0.2	-0.1	-0.2	-0.1	-0.2	-0.2	-0.2			-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	0.0	-0.2	0.1	0.0
	S tailwater	0.0	0.0	-1.6	0.1	-0.1	0.0	-0.1	0.1	-0.2	0.0	0.0	-0.1	0.0	0.1			-0.3	-0.2	-0.2	-0.2	0.2	0.1	0.1	0.0	0.2	0.1
East ladder exit weirs	159	0.0	0.0	-0.1	-0.1	0.0	-0.1	-0.1	-0.2	0.0	-0.1	0.0	-0.1	-0.1	-0.1	-0.1		-0.1	-0.1	-0.1	-0.1	0.0	-0.1	-0.3	0.2	-0.3	-0.2
	158	-0.1	0.1	-0.4	-0.8	-0.3	0.5	-0.1	0.0	0.0	-0.2	0.1	0.1	0.4	0.6	-0.4		0.0	0.0	0.1	0.0	0.0	0.1	0.3	-0.4	-0.3	-0.2
Forebay	East		-0.3	-0.3				-0.3					-0.2					-0.1			-0.3						-0.3
	North			0.0				0.0					0.1					0.0			0.0						0.0
North Ladder	N1			0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2			0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2
	N Chan			-0.1	-0.1	0.0	-0.1	0.1	0.2	-0.1	0.2	-0.2	0.1	0.1	0.1			0.0	0.0	0.1	-0.3		-0.2	-0.3	-0.5	-0.4	-0.2
	N TW			-0.2	-0.2	-0.1	-0.3	0.1	0.0	-0.1	0.0	0.0	-0.2	0.0	-0.2			-0.2	-0.1	0.0	-0.4		-0.3	-0.3	-0.5	-0.5	-0.5

Calibration discussion

Calibration readings out of criteria are indicated by #.# 2015 resuts are comparable to prior years but still have room for improvement. There were 24 readings out of criteria (OOC) this year as compared to; 2014=22 OOC. 2013=28 OOC, 2012=54 OOC and 2011=103 OOC. Calibrations taken on the east exit weirs began in 2013. East entrance weirs E1 and E2 were disregarded as they were set in manual at >10' above weirs due to the weirs becoming hung up (minimum 8' of water over weirs). Overall, entrance weirs, channel stillwells and tailwater stillwells were similar to prior years.

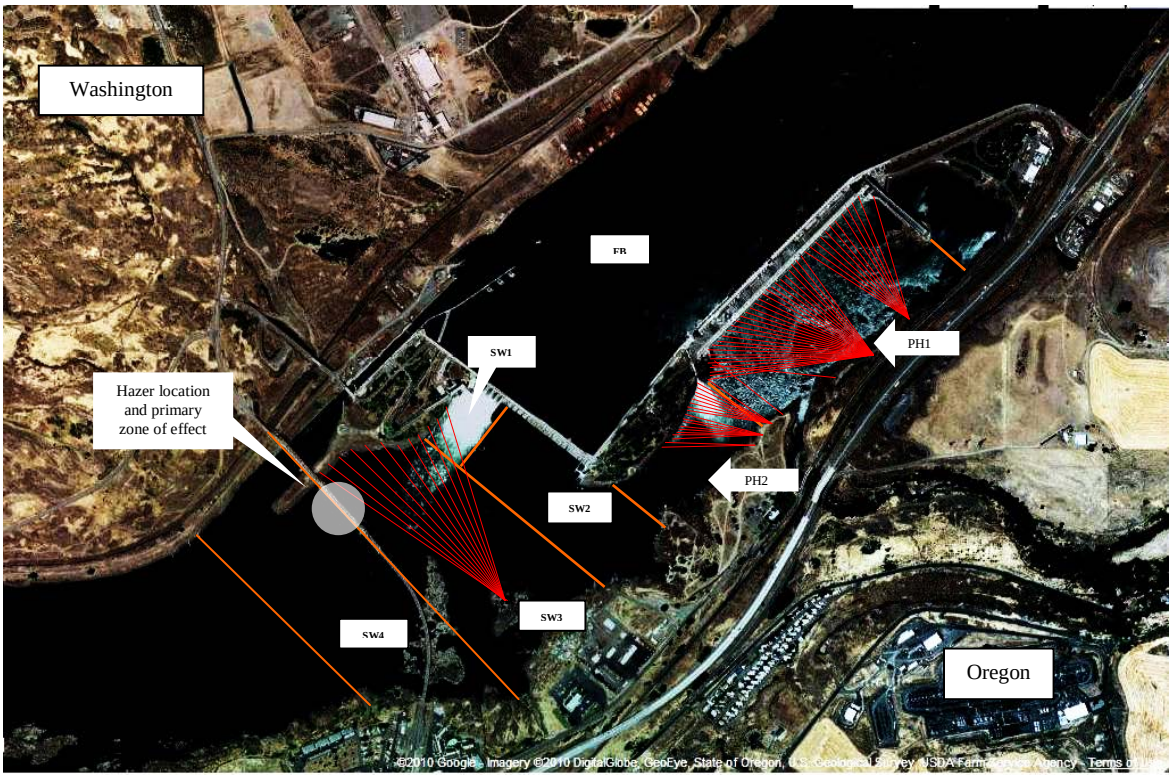
AVIAN PREDATOR ABATEMENT

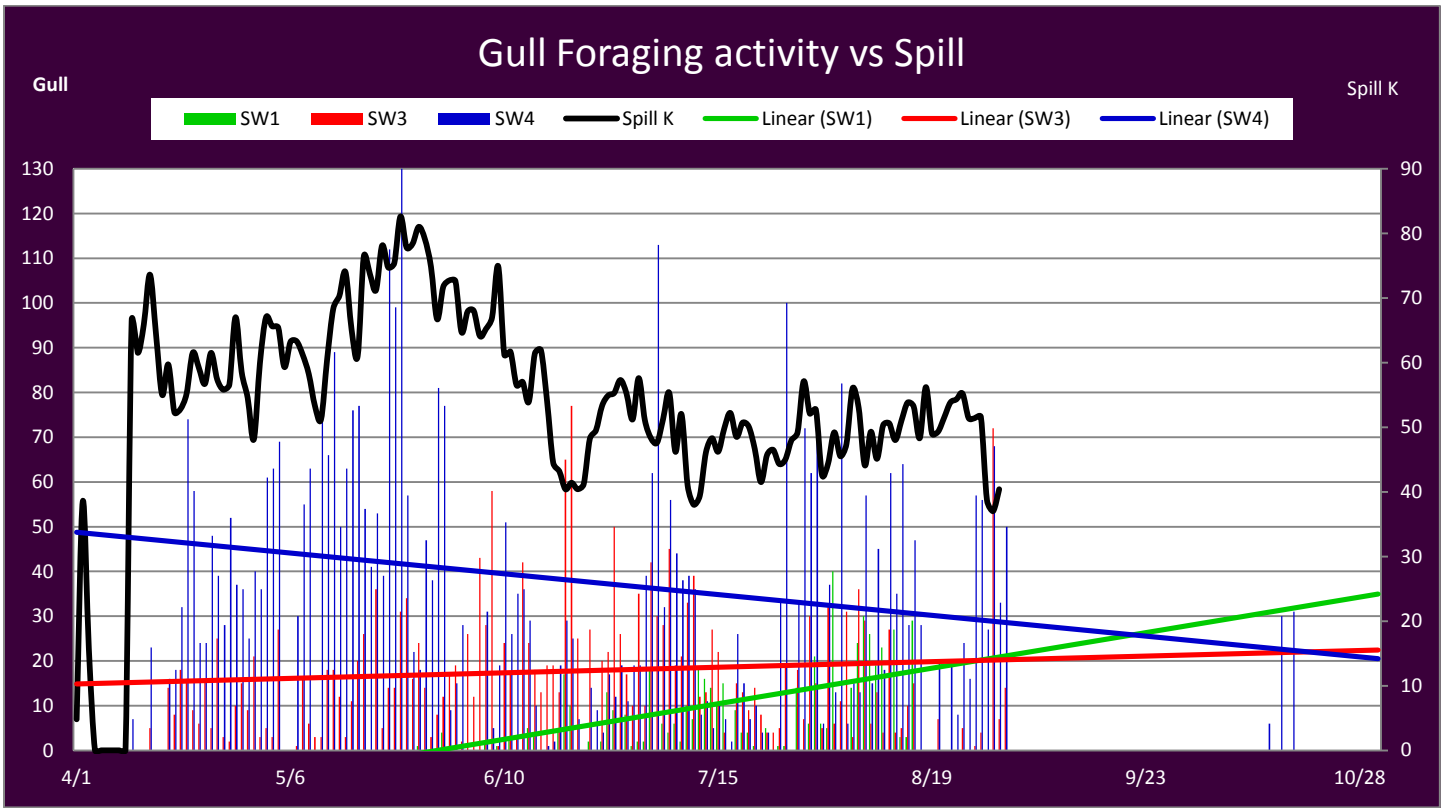
The United States Department of Agriculture (USDA) was contracted to provide avian hazing abatement via pyrotechnics from mid Apr – July 31. Hazing commenced when there were a minumum of 12 birds present. Counts were tallied to see how many birds left after hazing, again for how many stayed in the zone, and a third time after a 10 minute time period to determine the effectiveness of the hazing. Graph shows that gulls were most prevelant in May and that the vast majority returned after 10 minutes. USDA concentrated specifically on zones upstream of the US-197 bridge (SWT3) and dowstream of the bridge (SWT4).



USDA hazing effort: Hazers were present during all daylight hours (~06:00-20:00) located on the peninsula downstream of the Dalles bridge (SW4). There were large spanses of time in which hazers could not fire off hazing pyrotechniques due to barges and heavy wind days. Number of gulls were logged prior to hazing, how many initially left, and the number returning after 10 minutes. The data was compiled in a daily total.

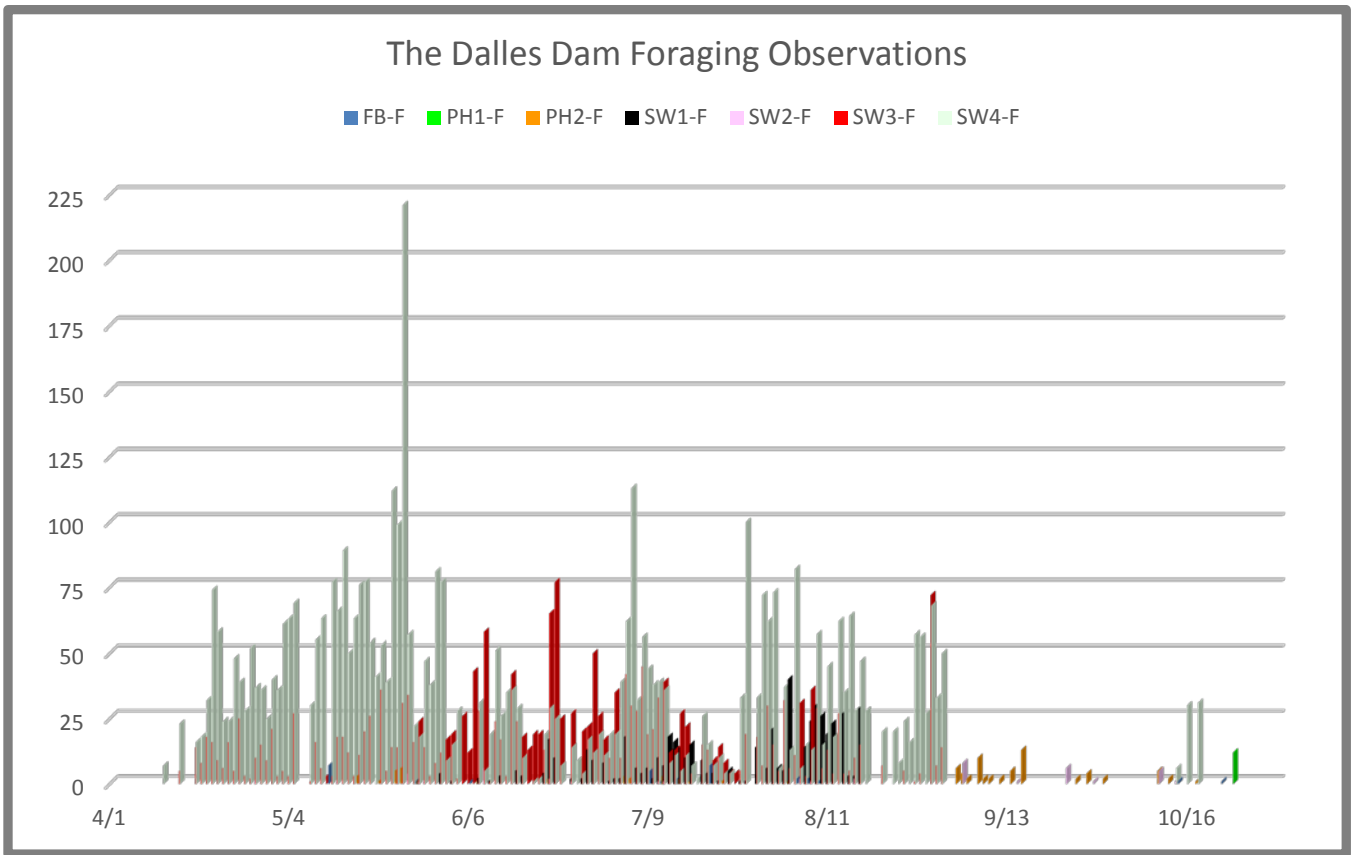
The Dalles Dam Zones for Bird Counts





Due to low flow-low spill, gulls began feeding more prominenlty in zone SW1 which is uncommon with previous years.

Project fisheries staff provided daily avian counts for the entire year The highest bird counts were on the spillway side of the dam downstream of The Dalles US-197 bridge (SWT4). Gulls foraged heavily in this zone. The majority of resting birds were double crested cormorants in the forebay (FB1) often perched on the electrical transmission towers near the Washington shore. Other birds included grebes, pelicans, mergansers, and eagles. Grebes were observed in the summer along with pelicans but the vast majority of grebes and mergansers were in the fall and winter months. Eagles were observed in the winter. There continues to be high numbers of Bald Eagles overwintering in Westrick Park, feeding primarily on out migrating shad. Previous studies have shown no impact from avian lines. Refer to Fisheries Field Unit "Evaluation of Interaction Between Overwintering Bald Eagles and the Avian Line Array at The Dalles Dam 2013" report for further details.



Avian Discussion

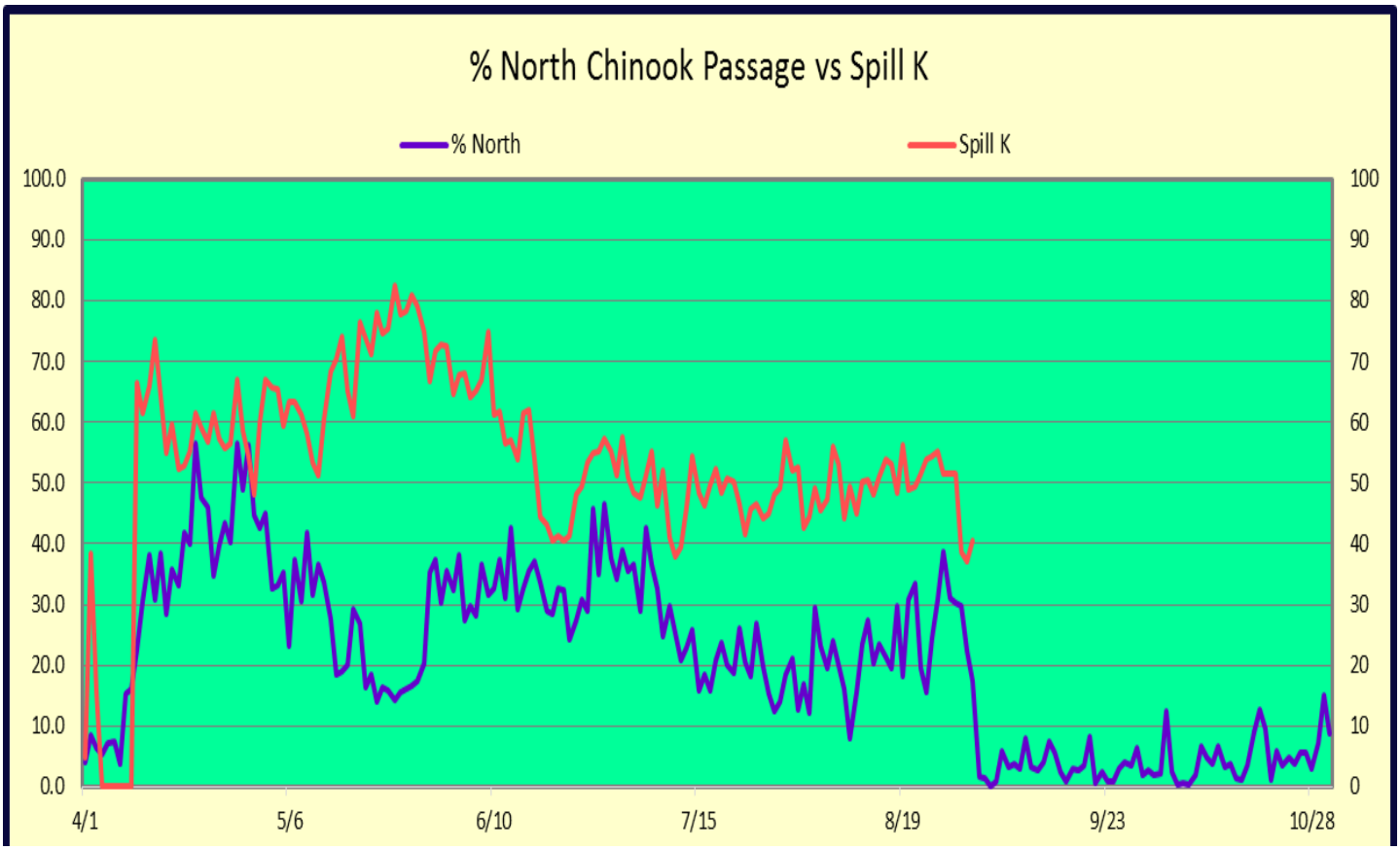
The bird count data was collected from fishway inspections once per day, alternating between morning and afternoon observations.

Most of the gull feeding activity occurred just up stream and down stream of The Dalles Bridge (SWT3 and SWT4). Due to the high cost of gull hazing by boat, shore hazing was selected for 2015. Efforts will be made to add 4-6 weeks boat hazing during peak activity for improved effectiveness in 2016, as budget allows.

The high numbers of cormorant numbers is primarily roosting behavior. Cormorant near dam feeding behavior starts to occur in November and December when the shad juvenile outmigration peaks. The high numbers observed in the forebay are roosting in the power line towers and north side debris boom. There was a substantial gull number increase in May and Cormorant increase in August.

NORTH LADDER PASSAGE VS SPILL

Spill operation has been documented to affect north fishladder passage in the past several years. In previous years spill >110KCFS tended to block salmonids from entering the north ladder. Due to low river flows, there were no occurrances in 2015. It was again clearly demonstrated that with no spill, salmonids are not attracted to the north entrance area either; hence the drop in north passage immediately after spill stops. Spill KCFS are generally very low.



FISHLADDER OVERCROWDING CONCERN

With record numbers of fall chinook passage and very limited use of the north fish ladder during non spill season, there remains a concern from FPOM that too many fish may congregate in the east fishway, potentially resulting in passage delay. Spill has been determeind to attract fish to the north. Language was developed for the 2016 Fish Passage Plan on when to impliment spill attraction for the north fishladder to relieve potential crowding on the east fishladder.

SEA LIONS

There continues to be frequent sea lions sightings at The Dalles Dam. No sightings have been made inside the fishways to date, but several have been in close proximity to entrances. The following is a log of all the sea lion sightings in 2015. Note: California sea lion (SL); for locations see Figure 5.

Date	Time	Species	Activity	Location and notes
1/4/15	12:50	SL	swimming	East entrance - H0
3/16/15	15:10	SL	eating salmon	Near west entrance - C014
3/17/15	9:30	SL	swimming	West entrance - no id seen
3/19/15	9:00	SL	swimming	West entrance - no id seen
3/21/15	1225	SL	swimming	Saw the "O" in CO14
3/22/15	0:00	SL	swimming	West entrance - no id seen
3/25/15	1000	SL	swimming	east entrance - no id seen
3/26/15	1620	SL	swimming	West entrance - C014
3/30/15	830	SL	swimming	West entrance - no id seen
4/1/15	1015	SL	swimming	West entrance - C014
4/6/15	830	SL	swimming	West entrance - no id seen
4/16/15	823	SL	swimming	West entrance - no id seen
4/22/15	8:18	SL	swimming	West entrance - no id seen
4/23/15	9:15	SL	eating salmon	West entrance - no id seen
4/27/15	13:18	SL	swimming	West entrance - no id seen
4/28/15	1500	SL	fishing	west entrance - co14
5/13/15	13:18	SL	swimming	West entrance - no id seen (USDA-Jeff Adams hazed)
10/21/15	1600	SL	eating salmon	In front of powerhouse- no id seen
12/2/15	1430	SL	swimming	West entrance- no id seen
12/18/15	1400	SL	swimming	East entrance- no id seen

FISH COUNTING

Visual fish counting was conducted 4/1/15 to 10/31/15 by Normandeau Environmental Consultants contract. Counts were loaded to the COE website. Video counting was performed during the off season. Refer to Corps of Engineers 'Annual Fish Passage Report' 2015 for fish count and comparison to previous years. A video counting test was conducted by Fish Field Unit for the north count station in attempts to use latest video/computer technology for improved visability and more efficient/accurate fish counting. This can result in substantial cost savings over the present program. Testing is scheduled to continue next passage season.

PIKEMINNOW ABATEMENT

Washington Dept Fish and Wildlife gained access to The Dalles Dam and the Boat Restricted Zone (BRZ) for the purpose of hook and line dam-angling in support of the on-going BPA funded Columbia River Predator Control Program Dam angling occurred from May through October, in conjunction with ODFW and PSMFC. A total of 4,566 northern pikeminnow >230mm were caught at The Dalles Dam.

ZEBRA/QUAGGA MUSSEL MONITORING

Zebra mussel veliger sampling was conducted once in August via plankton tow. Sample sent to Portland State University's Center for Lakes and Reservoirs for analysis. No mussels found to date. Program will continue in 2016.

15 MILE CREEK STEELHEAD RETURNS

ODFW analyzed PIT data and determined extremely low steelhead survival from Bonneville to 15 mile creek. The recently installed PIT antenn

a in The Dalles fishladder revealed high numbers of 15 mile creek steelhead overshooting The Dalles. These fish need to pass back downstream sometime before March. However the ice trash sluiceway, a known preferred route for adult down stream migrants is closed Dec 16 – Feb 28. Investigation is underway to determine if extended sluiceway operation is merited.

RESEARCH

The following are a list of fish related research and contract personnel that were on site during the 2015 passage season.

Confederated Tribes of the Umatilla Indian Reservation – Captured adult Pacific lamprey as part of the on-going project to restore lamprey to various tributaries. CTUIR worked with the Nez Perce and Yakama Nation to help with lamprey collection efforts. CTUIR captured 450 lamprey.

Nez Perce - Captured adult Pacific lamprey as part of the on-going project to restore lamprey to various tributaries. Nez Perce worked with the CTUIR and Yakama Nation to help with lamprey collection efforts.

Normandeau Environmental Consultants – Continued to perform fish counting at the north and east fishways via count stations.

Oregon Dept of Fish and Wildlife –Captured, tagged, and collected biological data from northern pikeminnow as part of an evaluation of the Northern Pikeminnow Management Program.

Oregon Department of Fish and Wildlife and Fish Passage Center – Continued to provide once monthly fishway inspections of adult and juvenile systems.

Pixel Heavy Industries – Requested video counts of the north ladder in order to create a computer generated fish count.
Pacific States Marine Fish Commission – FERC required sampling at the Northern Wasco County PUD intake structure as per the Coorperative Agreement between Pacific States Marine Fisheries Commission and Wasco County PUD.

Pacific States Marine Fisheries Commission PTAGIS Information System – monitored Thin Wall PIT Tag detection system in The Dalles east and north count stations.

University of Idaho – Conducted studies involving the monitoring of movements of adult salmonids outfitted with radio-tags and Pacific lamprey outfitted with half duplex (HDX) PIT tags in 2015. They also installed, downloaded and maintained receivers and antennas.

U.S. Dept of Agriculture – Provided avian hazing of piscivorous birds to reduce avian predation on juvenile salmonids mid April to July 31 via pyrotechnics during juvenile passage season.

U. S. Geological Survey – Total Dissolved Gas (TDG) monitoring.

Yakama Nation - Captured adult Pacific lamprey as part of the on-going project to restore lamprey to various tributaries. Yakama Nation worked with the Nez Perce and CTUIR to help with lamprey collection efforts. Yakama Nation captured 450 lamprey.

Removal of derelict equipment attached at the powerhouse main unit intakes not completed this year and is not scheduled until 2018.

THE END
Approved by; Ron Twiner, Operations Project Manager, The Dalles Dam