OFFICIAL COORDINATION REQUEST
FOR
NON-ROUTINE OPERATIONS AND MAINTENANCE

Coordination Title: 16 MCN 08 Debris Spill Notification
COORDINATION DATE - May 25, 2016
PROJECT- McNary Lock and Dam

RESPONSE DATE - June 2, 2016

Description of the problem:
The surface debris in the forebay is a large mass of woody material which includes many large logs. The amount has not changed substantially since March as the debris volume slightly dissipates and accumulates repeatedly over time. Before the juvenile fish passage season began, a controlled debris spill per 2016 Fish Passage Plan pages MCN-10 and MCN-28, and Debris Spill Notification was planned for the weeks of March 14 and March 23 (Memorandum of Coordination - MOC 16 MCN 02) but the effort was ineffective. With only one spillbay open and the Log Bronc not yet available, the powerhouse flow overcame all efforts to move the debris to the open spillbay. We are requesting an attempt to remove the debris from June 6 to 8 as routine Spring spill is now in progress, TSWs are in place, and the new Log Bronc is operational. TSW closure is to occur on June 8 at 0001 hours. However, if the debris is not completely spilled by June 8, we would like to keep the TSW open in bay 20 until the afternoon of June 9, which will facilitate debris removal. TSW removal requires a second MOC which is pending.

Type of outage required:
A generic four unit outage has been coordinated with BPA to support the debris spill. The generic outage is required to allow for flexibility in maintaining debris movement.

Impact on facility operation:
If the debris field remains in the forebay, it can settle onto the main unit trash racks, which were recently cleaned the week of May 16. This may result in fish descaling or mortalities, which is not an issue at this time, but could develop when subyearling Chinook begin to out-migrate in substantial numbers.

Length of time for repairs:
The time scheduled for the unit outages is from 1200 to 1700 hours. Although an earlier start time would benefit fish, it would be better to schedule the start time at 1200 hours due to electrical load requirements anticipated by McNary Chief of Operations. Load requirements are usually highest in the morning. A tug with a boom will be used to move the debris from the powerhouse to the open spillway along with “rolling” four units off and on to move the debris from south to north. For example, depending on the location of the debris mass, the process may begin with units 1 to 4 out of service. As the debris moves north, units 2 to 5 would be out of service next. Then units 3 to 6 would be out of service and so on until units 11 to 14 are out of service and debris mass is near the spillway. Spill flow may or may not increase during the unit outages. Spill volume will depend on river conditions that day as regulated by RCC.

Expected impacts on fish passage:
There should be minimal impact on adult passage. The operation will not be occurring near the adult fishway entrances or exits. Spill patterns will conform with Fish Passage Plan tables. The tables below are generated from the Portland District website:

http://www.nwp.usace.army.mil/Missions/Environment/Fish/Counts.aspx

Table 1. Running Sum Adult Fish Counts
McNary 5/17/2016 - 5/23/2016

Date	All Chinook		Adult Chinook		Jack Chinook		All Steelhead		Clipped Steelhead		Unclipped Steelhead	
	daily	sum	daily	sum	daily	sum	daily	sum	daily	sum	daily	sum
5/17/2016	2,567	2,567	2,158	2,158	409	409	0	0	1	1	-1	-1
5/18/2016	2,748	5,315	2,283	4,441	465	874	1	1	0	1	1	0
5/19/2016	2,464	7,779	2,221	6,662	243	1,117	-6	-5	-1	0	-5	-5
5/20/2016	1,177	8,956	1,005	7,667	172	1,289	0	-5	0	0	0	-5
5/21/2016	2,071	11,027	1,813	9,480	258	1,547	1	-4	0	0	1	-4
5/22/2016	2,634	13,661	2,323	11,803	311	1,858	0	-4	0	0	0	-4
5/23/2016	1,789	15,450	1,481	13,284	308	2,166	3	-1	1	1	2	-2
	daily	sum	daily	sum	daily	sum	daily	sum	daily	sum	daily	sum
Date	All Chinook		Adult Chinook		Jack Chinook		All Steelhead		Clipped Steelhead		Unclipped Steelhead	

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Content POC: Fish Field Unit, FFU_Fish_Count_Info@usace.army.mil

Currently, spring Chinook are the predominant species (Table 1 above) being counted and steelhead kelts are being observed at the JFF separator. Counts from June 2015 (Table 2 below), indicate summer steelhead and sockeye runs will have begun by the time of the scheduled 2016 debris spill. Summer Chinook counts will begin June 9, 2016. Chinook will continue to be the predominant species followed by sockeye. A reduction in powerhouse flow during the debris spill could possibly result in more fallback passage through spill than through the powerhouse. From June 6 to 12, 2015, thirteen adult fallbacks were released from the JFF separator, most of which were non-clipped steelhead.

If units 1 and 2 need to be briefly out of service in order to “roll” the debris, the afternoon outage would least affect adult passage in the Oregon ladder. See Table 3 below.

Table 2. Running Sum Adult Fish Counts
McNary 6/2/2015 - 6/12/2015

Date	All Chinook		Adult Chinook		Jack Chinook		All Steelhead		Clipped Steelhead		Unclipped Steelhead		Sockeye	
	daily	sum	daily	sum	daily	sum	daily	sum	daily	sum	daily	sum	daily	sum
6/2/2015	1,925	1,925	1,715	1,715	210	210	19	19	15	15	4	4	16	16
6/3/2015	1,803	3,728	1,521	3,236	282	492	17	36	14	29	3	7	74	90
6/4/2015	1,577	5,305	1,410	4,646	167	659	20	56	19	48	1	8	83	173
6/5/2015	1,638	6,943	1,542	6,188	96	755	18	74	15	63	3	11	74	247
6/6/2015	1,256	8,199	1,184	7,372	72	827	19	93	18	81	1	12	69	316
6/7/2015	1,025	9,224	949	8,321	76	903	16	109	14	95	2	14	105	421
6/8/2015	1,299	10,523	1,215	9,536	84	987	24	133	22	117	2	16	216	637
6/9/2015	1,652	12,175	1,518	11,054	134	1,121	10	143	12	129	-2	14	479	1,116
6/10/2015	1,827	14,002	1,701	12,755	126	1,247	13	156	9	138	4	18	562	1,678
6/11/2015	1,737	15,739	1,559	14,314	178	1,425	26	182	26	164	0	18	758	2,436
6/12/2015	2,054	17,793	1,824	16,138	230	1,655	21	203	19	183	2	20	947	3,383
	daily	sum	daily	sum	daily	sum	daily	sum	daily	sum	daily	sum	daily	sum
Date	All Chinook		Adult Chinook		Jack Chinook		All Steelhead		Clipped Steelhead		Unclipped Steelhead		Sockeye	

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Content POC: Fish Field Unit, FFU_Fish_Count_Info@usace.army.mil

Table 3. Oregon Ladder Counts June 2 to 12, 2015.

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	Sockeye
6/2/2015	965	850	115	6	7	-1	11
6/3/2015	1022	836	186	8	6	2	48
6/4/2015	807	718	89	14	14	0	36
6/5/2015	991	965	26	15	13	2	58
6/6/2015	657	643	14	14	13	1	52
6/7/2015	303	301	2	8	7	1	49
6/8/2015	442	431	11	17	17	0	150
6/9/2015	656	600	56	12	10	2	323
6/10/2015	888	835	53	14	10	4	317
6/11/2015	604	557	47	12	12	0	364
6/12/2015	609	577	32	16	14	2	437
total	**7944**	**7313**	**631**	**136**	**123**	**13**	**1845**

Forty percent of the total river flow will continue to be spilled for juvenile fish passage. Expected impact on juvenile fish passage should be minimized by the seasonal timing of the debris spill, which will occur during the daylight hours when fewer juvenile fish are passing through the McNary Dam. Although, the debris will be released through the TSWs, impacts should be negligible. Past juvenile fish out migrations (yearling Chinook, steelhead, coho, and sockeye) have been 90 percent completed (on average) by June 6. Please see Table 4 below for details. This data, provided by McNary PSMFC smolt monitoring program staff, shows juvenile fish facility (JFF) collection data from the past 10 years. All species, including sockeye, typically reach 90 percent or more of total seasonal passage by June 6 to 8.

Relatively few subyearling Chinook will have passed by June 6 - 8. In 2015 only, 3.7 percent of the subyearling Chinook run had passed McNary Dam by June 8. Please see Table 5 below for additional details. This data, also provided by the McNary PSMFC Smolt Monitoring Program staff, supports the expectation that low numbers of subyearling Chinook will be present at the time of the planned debris spill.

Table 4. McNary 10 Average Year 90 Percent Passage Date at JFF.

Yearling CH		Steelhead		Coho		Sockeye	
Clip	Non	Clip	Non	Clip	Non	Clip	Non
25-May	23-May	23-May	27-May	4-Jun	8-Jun	2-Jun	2-Jun
92.5%	90.5%	92.1%	91.2%	90.7%	92.0%	90.8%	94.7%

Table 5. McNary 10 Year Early June Average Passage Subyearling Chinook at JFF.

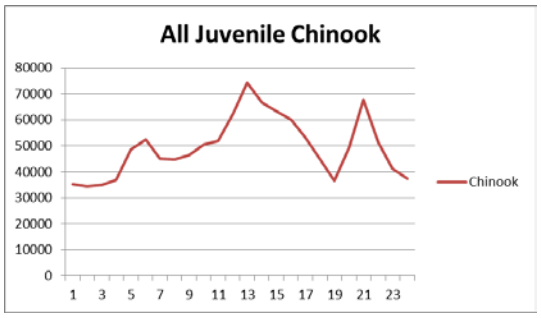
Date	Clipped Subyearling Chinook			Unclipped Subyearling Chinook		
1-Jun		0.3%			1.1%	
15-Jun		6.3%			5.3%	

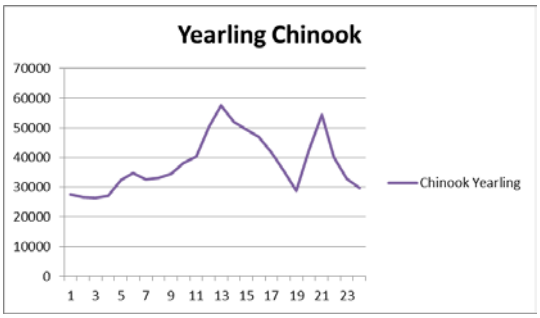
Please see attached diurnal graphs generated from PIT tag data by provided by PSMFC. This data represents powerhouse passage. Data for diurnal surface and spillway passage is not currently available. The first part of the debris spill will occur just as a powerhouse passage peak for each species has occurred. A percentage of smolts that would have pass through the powerhouse may be guided north to the spillway and TSWs. Both of which are considered better passage routes except the TSW for subyearling Chinook, which swim deeper than the other species. Counts at the JFF by species for 2015 during the time frame of the 2016 debris spill are recorded in Table 6 below. The spill should occur after most species have out migrated as stated above and prior to the arrival of most subyearling Chinook.

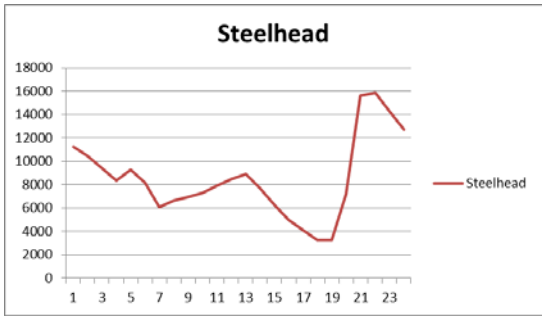
Table 6. McNary JFF Passage June 2 to 12, 2015.

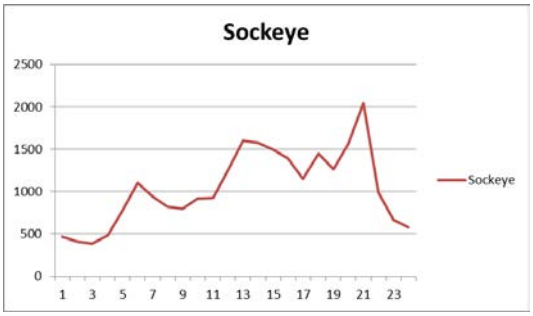
Date	Yearling CH	Sub-Yr CH	Clipped SH	Non-clipped SH	Sockeye	Coho
Jun 2	3,643	3,668	624	615	1,300	1,200
Jun 4	2,814	2,119	859	358	600	800
Jun 6	2,400	6,200	1,250	550	550	600
Jun 8	1,700	7,750	1,400	250	300	1,150
Jun 10	1,874	15,559	1,110	457	150	850
Jun 12	1,011	28,985	103	101	0	100

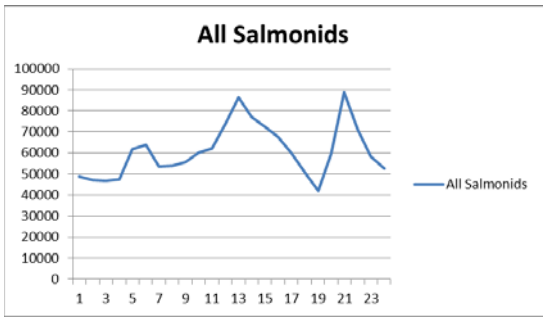
2006 – 2015 Diel Juvenile Fish PIT Tag Detections April 1st - September 30th



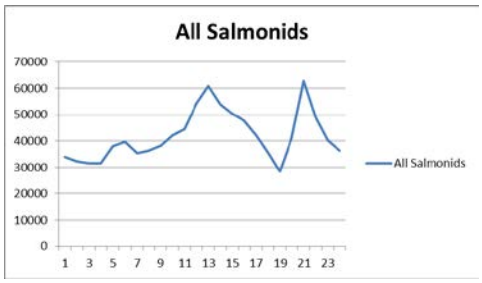


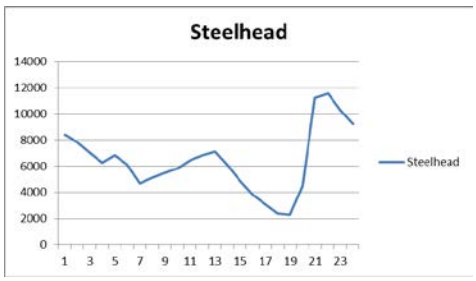


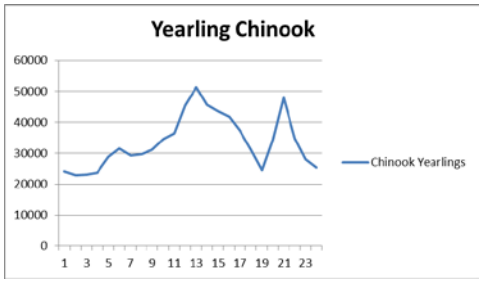


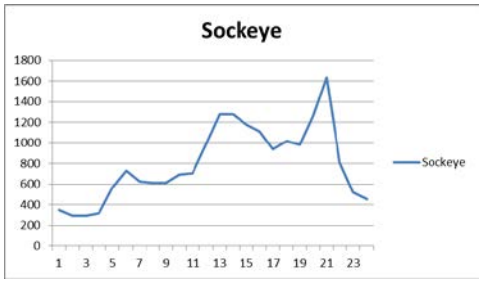


2006 – 2015 Diel Juvenile Fish PIT Tag Detections May 1st – 31st.









Comments from agencies

Comments are requested by the close of business on June 2.

Final results

Please email or call with questions or concerns.

Thank you,

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