



Weekly Report

McNary Dam

July 25, 2022

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Report Period: July 15 to July 21, 2022

Report No.: 2022 MCN Weekly Report 0715–0721 by EAS

Re: USACE Walla Walla District Biological Services: Juvenile Fish Bypass System at McNary Dam

For the 2022 season, sampling began 1 month earlier than in 2021.

During the fish collection and bypass season, the 24-hour fish collection day is based upon a 0700 to 0700 schedule. The ending date is used to identify each 24-hour period.

Fish sample processing continued with an every-other-day schedule this week. This every-other-day schedule is expected to continue throughout the remainder of the 2022 season.

River Conditions

River conditions are recorded daily for 24 hours from 0700 to 0700 hours. Average river flow was 232.7 kilo cubic feet per second (kcfs). Average spill was 131.3 kcfs. Average river temperature was 65.7°F (Table 1).

Operations

A malfunction with the rectangular brush limit switch in the juvenile collection channel made the July 18 sample impossible.

Collection and Bypass Overview

Collection for condition sampling occurred every other day. Unclipped subyearling Chinook salmon were the dominant salmonid species collected. An estimated 22,201 juvenile salmonids were collected and 22,096 bypassed during this reporting period (Table 2). Figure 1 compares seasonal collection with average daily river flow to date. There were 3 sample mortalities and 2 facility mortalities, for a total of 5 mortalities during this report period (Tables 2, 3, and 4).

Sampling

There were 219 juvenile salmonids sampled and 216 examined. Fish examined were 27 clipped and 188 unclipped subyearling Chinook salmon, and 1 unclipped sockeye salmon (Table 5). The average weekly sample rate was 1.0% (Table 6). The weekly descaling rate averaged 0.5% (Table 7).

Juvenile Research

Pacific States Marine Fisheries Commission collected 5 juvenile lamprey fin clips for the week, for a total of 628 fin clips for the season, for the Columbia River Inter-Tribal Fish Commission. All juvenile lamprey sampled for fin clips were released unharmed.

Facility Fallbacks

Two clipped adult Chinook salmon in good condition, 1 unclipped pre-spawn steelhead in poor condition, 19 unclipped sockeye salmon in good condition, 1 unclipped sockeye salmon in fair condition, and 1 unclipped sockeye salmon in poor condition and 2 unclipped sockeye salmon in dead condition fell back and crossed the separator during this reporting period. There was 2 fallback mortalities. The season adult salmonid fallback total is 232. Fallback condition, mortality, and fin clip information is included in Table 8.

Adult Incidentals at the Separator

Two smallmouth bass, 37 shad, and 1 sucker crossed the separator during the week (Table 9).

Juvenile Lamprey

An estimated 500 juvenile Pacific lamprey were collected and 500 were bypassed this week; all were macropthalmia. There were no mortalities during this reporting period (Table 10).

Siberian Prawn

No Siberian prawn were sampled at McNary Dam this season.

Gas Bubble Trauma

Gas Bubble Trauma (GBT) monitoring was conducted twice this week. Collection occurred on July 15 and July 19, with corresponding data days on July 16 and July 20, respectively. There was 1 clipped yearling Chinook salmon, 32 clipped and 166 unclipped subyearling Chinook salmon, and 1 unclipped steelhead examined for the week. No GBT was found in sampled salmonids. For the season, 2,820 salmonids have been examined (Table 11).

Season Summary

Season year-to-date collection is summarized in Table 12.

Figure 1: McNary Dam Juvenile Chinook, Coho, and Sockeye Salmon, Steelhead, Lamprey, and Shad Daily Collections Versus Average Daily Flow

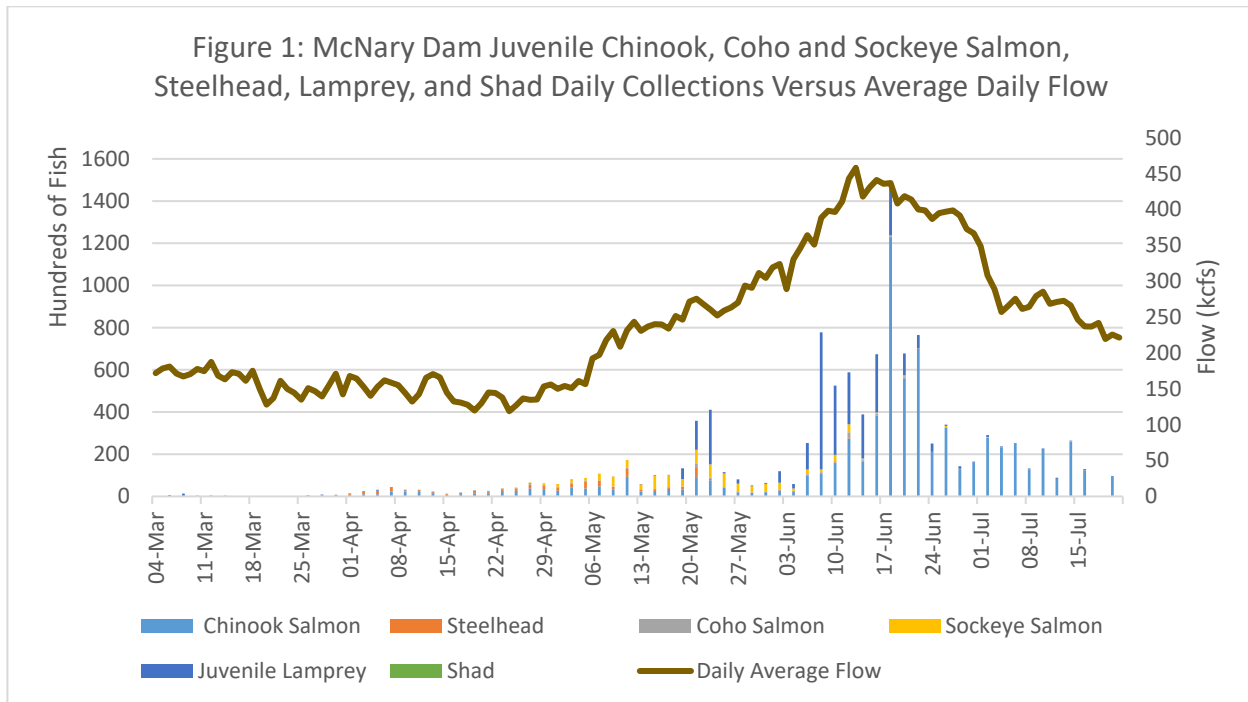


Table 1: Average Daily and Weekly River Flows and Temperatures

Date	Day	River Temperature (°F)	Average River Flow (kcfs)	Average Powerhouse Flow (kcfs)	Average Spill (kcfs)	Percent Spill
15-Jul	Fri	64.6	246.6	113.3	128.7	52.2%
16-Jul	Sat	65.4	237.1	97.2	135.2	57.0%
17-Jul	Sun	65.4	236.8	96.6	135.5	57.2%
18-Jul	Mon	65.6	241.9	98.8	138.4	57.2%
19-Jul	Tue	65.8	219.4	89.7	125.7	57.3%
20-Jul	Wed	66.5	225.6	91.7	129.3	57.3%
21-Jul	Thu	66.5	221.4	90.4	126.3	57.0%
Weekly Average		65.7	232.7	96.8	131.3	56.4%

Table 2: Weekly Collection Summary

	Yearling Chinook		Subyearling Chinook			Steelhead		Coho		Sockeye		Total
	Clip	Unclip	Clip	Unclip	Fry	Clip	Unclip	Clip	Unclip	Clip	Unclip	
Collected	1	0	2,732	19,267	0	0	1	0	0	0	100	22,101
Collected to Date	84,061	12,467	377,985	230,999	12,180	36,620	9,087	4,754	10,499	2,440	77,950	859,042
Bypassed	1	0	2,732	19,262	0	0	1	0	0	0	100	22,096
Bypassed to Date	84,013	12,458	377,960	230,975	12,178	36,611	9,084	4,754	10,497	2,440	77,936	858,906
Sampled	0	0	27	191	0	0	0	0	0	0	1	219
Examined	0	0	27	188	0	0	0	0	0	0	1	216
Descaled	0	0	0	0	0	0	0	0	0	0	1	1
Weekly Descaled %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.5%
Sample Mortality	0	0	0	3	0	0	0	0	0	0	0	3
Facility Mortality	0	0	0	3	0	0	0	0	0	0	0	2
Total Mortality	0	0	0	5	0	0	0	0	0	0	0	5

Table 3: Daily Numbers and Percentages of Sample Mortalities

Date	Day	Yearling Chinook				Subyearling Chinook						Steelhead				Coho				Sockeye				Daily Total			
		Clip		Unclip		Clip		Unclip		Fry		Clip		Unclip		Clip		Unclip		Clip		Unclip					
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%			#	%
15-Jul	Fri																										
16-Jul	Sat	0	0.0%	0	0.0%	0	0.0%	1	1.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	0.8%
17-Jul	Sun																										
18-Jul	Mon	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
19-Jul	Tue																										
20-Jul	Wed	0	0.0%	0	0.0%	0	0.0%	2	2.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	2.1%
21-Jul	Thu																										
Weekly Total		0	0.0%	0	0.0%	0	0.0%	3	1.6%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	1.4%
Species Total		0		0.0%		3		1.4%			0		0.0%		0		0.0%		0		0.0%		0		0.0%		
Season to Date		41	1.1%	8	1.3%	13	0.5%	14	0.7%	2	1.1%	4	0.2%	2	0.5%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	13	0.7%	97	0.7%

Table 4: Daily Numbers and Percentages of Total Mortalities

Date	Day	Yearling Chinook				Subyearling Chinook						Steelhead				Coho				Sockeye				Daily Total			
		Clip		Unclip		Clip		Unclip		Fry		Clip		Unclip		Clip		Unclip		Clip		Unclip					
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%		
15-Jul	Fri																										
16-Jul	Sat	0	0.0%	0	0.0%	0	0.0%	2	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	0.0%
17-Jul	Sun																										
18-Jul	Mon	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
19-Jul	Tue																										
20-Jul	Wed	0	0.0%	0	0.0%	0	0.0%	3	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	0.0%
21-Jul	Thu																										
Weekly Total		0	0.0%	0	0.0%	0	0.0%	5	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	5	0.0%
Species Total		0		0.0%		5		0.0%		0		0.0%		0		0.0%		0		0.0%		0		0.0%			
Season to Date		48	0.1%	9	0.1%	25	0.0%	24	0.0%	2	0.0%	9	0.0%	3	0.0%	0	0.0%	2	0.0%	0	0.0%	14	0.0%	136	0.0%		

Table 5: Daily Fish Examined

Date	Day	Yearling Chinook		Subyearling Chinook		Steelhead		Coho		Sockeye		Total
		Clip	Unclip	Clip	Unclip	Clip	Unclip	Clip	Unclip	Clip	Unclip	
15-Jul	Fri											
16-Jul	Sat	0	0	18	103	0	0	0	0	0	1	122
17-Jul	Sun											
18-Jul	Mon	0	0	0	0	0	0	0	0	0	0	0
19-Jul	Tue											
20-Jul	Wed	0	0	9	85	0	0	0	0	0	0	94
21-Jul	Thu											
Weekly Total		0	0	27	188	0	0	0	0	0	1	216
Species Total		0		215		0		0		1		

Table 6: Daily Sample Rate

Date	Day	Rate
15-Jul	Fri	
16-Jul	Sat	1.0%
17-Jul	Sun	
18-Jul	Mon	1.0%
19-Jul	Tue	
20-Jul	Wed	1.0%
21-Jul	Thu	
Weekly Average		1.0%

Table 7: Numbers and Percentages of Daily Fish Descaled

Date	Day	Yearling Chinook				Subyearling Chinook				Steelhead				Coho				Sockeye				Daily Total		
		Clip		Unclip		Clip		Unclip		Clip		Unclip		Clip		Unclip		Clip		Unclip				
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	
15-Jul	Fri																							
16-Jul	Sat	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	100%	1	0.8%	
17-Jul	Sun																							
18-Jul	Mon	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
19-Jul	Tue																							
20-Jul	Wed	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
21-Jul	Thu																							
Weekly Total		0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	100%	1	0.5%	
Season to Date		136	3.7%	26	4.3%	9	0.4%	7	0.3%	221	12.0%	31	8.3%	3	1.6%	11	4.9%	6	16.2%	55	2.8%	505	3.7%	

Table 8: Condition of Adult Fallbacks

Condition	Chinook		Chinook		Steelhead		Steelhead		Sockeye		Coho		Condition Total
	Adult		Jack		Pre-spawn		Kelt		Clip	Unclip	Clip	Unclip	
	Clip	Unclip	Clip	Unclip	Clip	Unclip	Clip	Unclip					
Good	2									19			21
Fair										1			1
Poor						1				1			2
Dead										2			2
Weekly Total	2					1				23			26
Species Total	2				1				23				26
Season to Date	18	13	3	2	19	41	6	24	2	104			232

Table 9: Adult Incidentals at the Separator

Species	Weekly Count	Season Total
Carp	0	40
Catfish	0	1
Chiselmouth / peamouth	0	0
Kokanee / Trout	0	2
Bass, Smallmouth	2	9
Bluegill and Pumpkinseed	0	0
Northern Pikeminnow	0	0
Lamprey	0	0
Sturgeon	0	5
Shad (Adult)	37	132
Sucker	1	17
Yellow Perch	0	4
Walleye	0	61
Whitefish	0	5
Other species not listed	0	0
Total	40	276

Table 10: Daily Juvenile Lamprey

Date	Day	Macrophthalmia Sampled	Ammocoete Sampled	Total Sampled	Total Collected	Total Bypassed	Total Mortalities
15-Jul	Fri						
16-Jul	Sat	5	0	5	500	500	0
17-Jul	Sun						
18-Jul	Mon	0	0	0	0	0	0
19-Jul	Tue						
20-Jul	Wed	0	0	0	0	0	0
21-Jul	Thu						
Weekly Total		5	0	5	500	500	0
Season to Date Total		4,282	7	4,289	296,652	296,569	83

Table 11: Gas Bubble Trauma Summary

Date	Yearling Chinook		Subyearling Chinook		Steelhead		Daily Total
	Clip	Unclip	Clip	Unclip	Clip	Unclip	
16-Jul							
Collected			38	62			100
GBT Signs			0	0			0
Mortality			0	0			0
20-Jul							
Collected			30	69	1		100
GBT Signs			0	0	0		0
Mortality			0	0	0		0
Weekly Collected			68	131	1		200
Weekly GBT Signs			0	0	0		0
Weekly Mortality			0	0	0		0

Table 12: Season Summary Year-to-Date

	Yearling Chinook		Subyearling Chinook			Steelhead		Coho		Sockeye		Total
	Clip	Unclip	Clip	Unclip	Fry	Clip	Unclip	Clip	Unclip	Clip	Unclip	
Collection												
Collected to Date (2022)	84,061	12,467	377,985	230,999	12,180	36,620	9,087	4,754	10,499	2,440	77,950	859,042
Average Collection to Date (2018-2022)	195,134	49,737	211,231	221,669	27,751	55,386	13,279	11,791	18,035	4,738	152,806	961,557
Total Mortalities												
Total Mortalities to Date (2022)	48	9	25	24	2	9	3		2		14	136
% Total Mortalities to Date (2022)	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%		0.0%	0.0%
Average Facility Mortality to Date (2018-2022)	26	14	32	33	16	6	2	1	2	8	80	220
% Average Facility Mortality to Date (2018-2022)	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.0%
Descaling												
Descaling to Date (2022)	136	26	9	7		221	31	3	11	6	55	505
% Descaling to Date (2022)	3.7%	4.3%	0.4%	0.3%		12.0%	8.3%	1.6%	4.9%	16.2%	2.8%	3.7%
Average Descaling to Date (2018-2022)	146	46	19	25		151	27	7	12	7	56	496
% Average Descaling to Date (2018-2022)	4.0%	3.8%	1.0%	1.0%		10.4%	7.5%	3.1%	3.5%	10.1%	2.8%	3.6%