



## Weekly Report

### McNary Dam

August 29, 2022

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Report Period: August 19 to August 25, 2022

Report No.: 2022 MCN Weekly Report 0819–0825 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 173.8 kilo cubic feet per second (kcfs). Average spill was 29.1 kcfs. Average river temperature was 71.1°F (Table 1).

### Operations

Due to elevated river temperatures, the “sawtooth pattern” (operate every other unit) unit operation mode begun on July 24 continued through this report period to reduce thermal stress to juvenile salmonids passing through the collection system.

### Collection and Bypass Overview

Collection for condition sampling occurred every other day. Unclipped subyearling Chinook salmon were the dominant salmonid species collected. An estimated 19,503 juvenile salmonids were collected and 19,485 bypassed during this reporting period (Table 2). Figure 1 compares seasonal collection with average daily river flow to date. There were 13 sample mortalities and 5 facility mortalities, for a total of 18 mortalities during this report period (Tables 2, 3, and 4).

### Sampling

There were 388 juvenile salmonids sampled and 375 examined. Fish examined were 374 unclipped subyearling Chinook salmon, and 1 clipped sockeye salmon (Table 5). The average weekly sample rate was 2.0% (Table 6). The weekly descaling rate averaged 2.1% (Table 7).

## Juvenile Research

Pacific States Marine Fisheries Commission collected 10 juvenile lamprey fin clips for the week, for a total of 671 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

One clipped adult Chinook salmon in good condition, 1 clipped adult Chinook salmon in poor condition, 1 unclipped jack Chinook salmon, 4 unclipped prespawn steelhead in good condition, 1 clipped and 1 unclipped sockeye salmon in good condition, and 1 unclipped coho salmon in good condition came across the separator during this week's reporting period. There were no fallback mortalities. The season adult salmonid fallback total is 302. Fallback condition, mortality, and fin clip information is included in Table 8.

## Adult Incidentals at the Separator

One smallmouth bass, 279 shad, and 2 adult lamprey crossed the separator during the week (Table 9).

## Juvenile Lamprey

An estimated 550 juvenile Pacific lamprey were collected and 550 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.

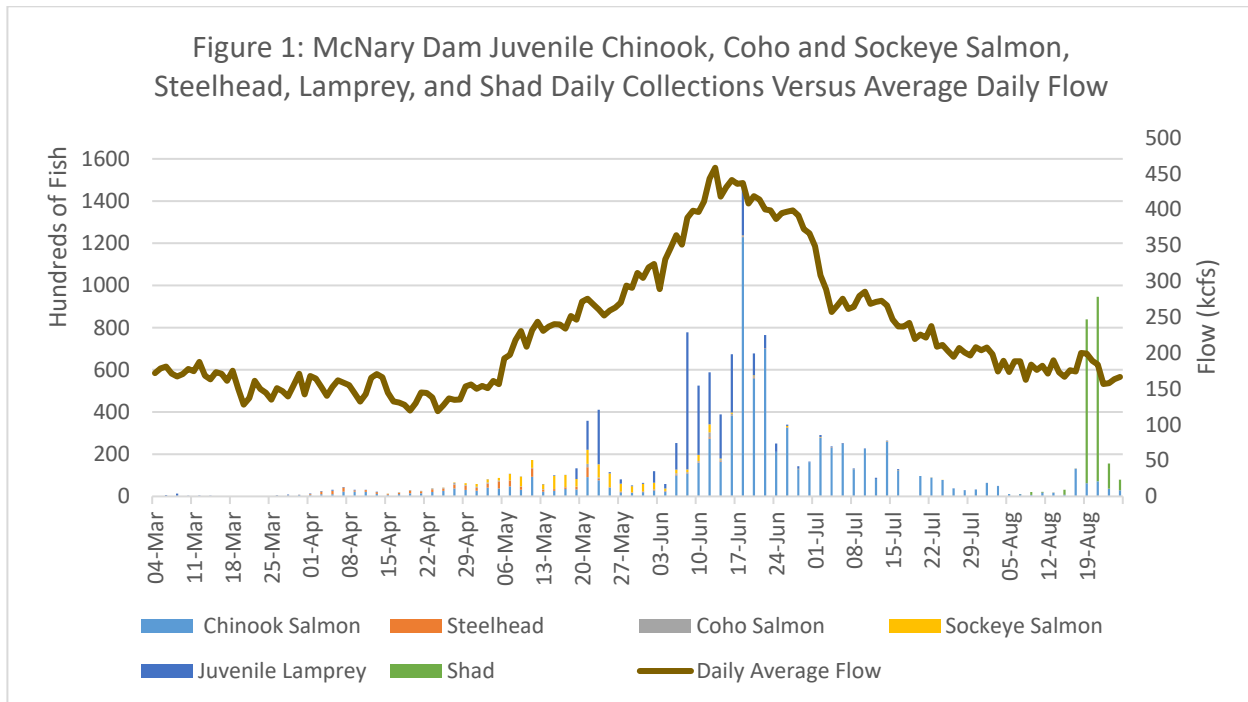
## Gas Bubble Trauma

This week, sampling was reduced to once per week due to high water temperatures and the resultant risk of the possibility of increased mortality. Gas Bubble Trauma (GBT) monitoring was conducted once this week. Collection occurred on August 22, with corresponding data day on August 23. There was 100 unclipped subyearling Chinook salmon examined for the week. No GBT was found in sampled salmonids. There were no GBT mortalities. For the season, 3,516 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
19-Aug	Fri	70.3	199.0	141.3	52.9	26.6%
20-Aug	Sat	71.0	189.1	146.9	37.5	19.8%
21-Aug	Sun	71.0	184.0	147.0	32.3	17.6%
22-Aug	Mon	71.2	156.6	131.6	20.3	13.0%
23-Aug	Tue	71.3	157.9	133.0	20.2	12.8%
24-Aug	Wed	71.4	163.3	138.4	20.2	12.4%
25-Aug	Thu	71.4	166.5	141.8	20.0	12.0%
<b>Weekly Average</b>		<b>71.1</b>	<b>173.8</b>	<b>140.0</b>	<b>29.1</b>	<b>16.4%</b>

**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	0	0	0	19,453	0	0	0	0	0	50	0	<b>19,503</b>
Collected to Date	84,061	12,467	379,925	306,571	12,180	36,620	9,087	4,754	10,509	2,500	78,064	<b>936,738</b>
Bypassed	0	0	0	19,435	0	0	0	0	0	50	0	<b>19,485</b>
Bypassed to Date	84,013	12,458	379,894	306,480	12,178	36,611	9,084	4,754	10,507	2,500	78,050	<b>936,529</b>
Sampled	0	0	0	387	0	0	0	0	0	1	0	<b>388</b>
Examined	0	0	0	374	0	0	0	0	0	1	0	<b>375</b>
Descaled	0	0	0	8	0	0	0	0	0	0	0	<b>8</b>
Weekly Descaled %	0.0%	0.0%	0.0%	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	<b>2.1%</b>
Sample Mortality	0	0	0	13	0	0	0	0	0	0	0	<b>13</b>
Facility Mortality	0	0	0	7	0	0	0	0	0	0	0	<b>5</b>
Total Mortality	0	0	0	18	0	0	0	0	0	0	0	<b>18</b>

**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					
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%		
19-Aug	Fri	0	0.0%	0	0.0%	0	0.0%	6	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%	6	5.0%
20-Aug	Sat																										
21-Aug	Sun	0	0.0%	0	0.0%	0	0.0%	3	2.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	2.1%
22-Aug	Mon																										
23-Aug	Tue	0	0.0%	0	0.0%	0	0.0%	3	4.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	4.3%
24-Aug	Wed																										
25-Aug	Thu	0	0.0%	0	0.0%	0	0.0%	1	1.8%	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	1.8%
<b>Weekly Total</b>		<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>13</b>	<b>3.4%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>13</b>	<b>3.4%</b>
<b>Species Total</b>		<b>0</b>		<b>0.0%</b>		<b>13</b>		<b>3.4%</b>		<b>0</b>		<b>0.0%</b>		<b>0</b>		<b>0.0%</b>		<b>0</b>		<b>0.0%</b>		<b>0</b>		<b>0.0%</b>		<b>13</b>	<b>3.4%</b>
<b>Season to Date</b>		<b>41</b>	<b>1.1%</b>	<b>8</b>	<b>1.3%</b>	<b>19</b>	<b>0.7%</b>	<b>68</b>	<b>1.1%</b>	<b>2</b>	<b>1.1%</b>	<b>4</b>	<b>0.2%</b>	<b>2</b>	<b>0.5%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>13</b>	<b>0.7%</b>	<b>157</b>	<b>0.9%</b>		

**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					
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%		
19-Aug	Fri	0	0.0%	0	0.0%	0	0.0%	9	0.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	9	0.1%
20-Aug	Sat																										
21-Aug	Sun	0	0.0%	0	0.0%	0	0.0%	4	0.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4	0.1%
22-Aug	Mon																										
23-Aug	Tue	0	0.0%	0	0.0%	0	0.0%	3	0.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	0.1%
24-Aug	Wed																										
25-Aug	Thu	0	0.0%	0	0.0%	0	0.0%	2	0.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	0.1%
<b>Weekly Total</b>		<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>18</b>	<b>0.1%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>18</b>	<b>0.1%</b>
<b>Species Total</b>		<b>0</b>		<b>0.0%</b>		<b>18</b>		<b>0.1%</b>		<b>0</b>		<b>0.0%</b>		<b>0</b>		<b>0.0%</b>		<b>0</b>		<b>0.0%</b>		<b>0</b>		<b>18</b>		<b>0.1%</b>	
<b>Season to Date</b>		<b>48</b>	<b>0.1%</b>	<b>9</b>	<b>0.1%</b>	<b>31</b>	<b>0.0%</b>	<b>91</b>	<b>0.0%</b>	<b>2</b>	<b>0.0%</b>	<b>9</b>	<b>0.0%</b>	<b>3</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>2</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>14</b>	<b>0.0%</b>	<b>209</b>	<b>0.0%</b>		

**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	
19-Aug	Fri	0	0	0	115	0	0	0	0	0	0	115
20-Aug	Sat											
21-Aug	Sun	0	0	0	139	0	0	0	0	0	0	139
22-Aug	Mon											
23-Aug	Tue	0	0	0	66	0	0	0	0	1	0	67
24-Aug	Wed											
25-Aug	Thu	0	0	0	54	0	0	0	0	0	0	54
<b>Weekly Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>374</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>375</b>
<b>Species Total</b>		<b>0</b>		<b>374</b>		<b>0</b>		<b>0</b>		<b>1</b>		

**Table 6: Daily Sample Rate**

Date	Day	Rate
19-Aug	Fri	2.0%
20-Aug	Sat	
21-Aug	Sun	2.0%
22-Aug	Mon	
23-Aug	Tue	2.0%
24-Aug	Wed	
25-Aug	Thu	2.0%
<b>Weekly Average</b>		<b>2.0%</b>

**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					
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%		
19-Aug	Fri	0	0.0%	0	0.0%	0	0.0%	1	0.9%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	0.9%
20-Aug	Sat																								
21-Aug	Sun	0	0.0%	0	0.0%	0	0.0%	3	2.2%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	2.2%
22-Aug	Mon																								
23-Aug	Tue	0	0.0%	0	0.0%	0	0.0%	3	4.5%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	4.5%
24-Aug	Wed																								
25-Aug	Thu	0	0.0%	0	0.0%	0	0.0%	1	1.9%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	1.9%
<b>Weekly Total</b>		<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>8</b>	<b>2.1%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>8</b>	<b>2.1%</b>
<b>Season to Date</b>		<b>136</b>	<b>3.7%</b>	<b>26</b>	<b>4.3%</b>	<b>11</b>	<b>0.4%</b>	<b>43</b>	<b>0.7%</b>	<b>221</b>	<b>12.0%</b>	<b>31</b>	<b>8.3%</b>	<b>3</b>	<b>1.6%</b>	<b>11</b>	<b>4.9%</b>	<b>6</b>	<b>15.4%</b>	<b>56</b>	<b>2.8%</b>	<b>544</b>	<b>3.1%</b>		



**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	1			1		4			1	1		1	9
Fair													
Poor	1												1
Dead													
<b>Weekly Total</b>	<b>2</b>			<b>1</b>		<b>4</b>			<b>1</b>	<b>1</b>		<b>1</b>	<b>10</b>
<b>Species Total</b>	<b>2</b>		<b>1</b>		<b>4</b>				<b>2</b>		<b>1</b>		
<b>Season to Date</b>	<b>23</b>	<b>18</b>	<b>5</b>	<b>4</b>	<b>24</b>	<b>48</b>	<b>6</b>	<b>24</b>	<b>3</b>	<b>137</b>		<b>10</b>	<b>302</b>

**Table 9: Adult Incidentals at the Separator**

<b>Species</b>	<b>Weekly Count</b>	<b>Season Total</b>
Carp	0	40
Catfish	0	2
Chiselmouth / peamouth	0	0
Kokanee / Trout	0	2
Bass, Smallmouth	1	11
Bluegill and Pumpkinseed	0	0
Northern Pikeminnow	0	0
Lamprey	2	4
Sturgeon	0	6
Shad (Adult)	279	724
Sucker	0	17
Yellow Perch	0	4
Walleye	0	61
Whitefish	0	5
Other species not listed	0	0
<b>Total</b>	<b>282</b>	<b>876</b>

**Table 10: Daily Juvenile Lamprey**

Date	Day	Macrophthalmia Sampled	Ammocoete Sampled	Total Sampled	Total Collected	Total Bypassed	Total Mortalities
19-Aug	Fri	4	0	4	200	200	0
20-Aug	Sat						
21-Aug	Sun	2	0	2	100	100	0
22-Aug	Mon						
23-Aug	Tue	2	0	2	100	100	0
24-Aug	Wed						
25-Aug	Thu	3	0	3	150	150	0
<b>Weekly Total</b>		<b>11</b>	<b>0</b>	<b>11</b>	<b>550</b>	<b>550</b>	<b>0</b>
<b>Season to Date Total</b>		<b>4,327</b>	<b>7</b>	<b>4,334</b>	<b>297,754</b>	<b>297,619</b>	<b>83</b>

**Table 11: Gas Bubble Trauma Summary**

Date	Yearling Chinook		Subyearling Chinook		Steelhead		Daily Total
	Clip	Unclip	Clip	Unclip	Clip	Unclip	
Collected							
GBT Signs							
Mortality							
<b>23-Aug</b>							
Collected				100			100
GBT Signs				0			0
Mortality				0			0
<b>Weekly Collected</b>				<b>100</b>			
<b>Weekly GBT Signs</b>				<b>0</b>			
<b>Weekly Mortality</b>				<b>0</b>			

**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	
<b>Collection</b>												
<b>Collected to Date (2022)</b>	84,061	12,467	379,925	306,571	12,180	36,620	9,087	4,754	10,509	2,500	78,064	<b>936,738</b>
<b>Average Collection to Date (2018-2022)</b>	195,134	49,737	212,392	257,020	27,751	55,390	13,280	11,791	18,042	4,750	152,844	<b>998,131</b>
<b>Total Mortalities</b>												
<b>Total Mortalities to Date (2022)</b>	48	9	31	91	2	9	3		2		14	<b>209</b>
<b>% Total Mortalities to Date (2022)</b>	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%		0.0%	<b>0.0%</b>
<b>Average Facility Mortality to Date (2018-2022)</b>	26	14	45	64	16	6	2	1	2	8	91	<b>275</b>
<b>% Average Facility Mortality to Date (2018-2022)</b>	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	0.1%	<b>0.0%</b>
<b>Descaling</b>												
<b>Descaling to Date (2022)</b>	136	26	11	43		221	31	3	11	6	56	<b>544</b>
<b>% Descaling to Date (2022)</b>	3.7%	4.3%	0.4%	0.7%		12.0%	8.3%	1.6%	4.9%	15.4%	2.8%	<b>3.1%</b>
<b>Average Descaling to Date (2018-2022)</b>	146	46	24	57		152	27	7	12	7	56	<b>534</b>
<b>% Average Descaling to Date (2018-2022)</b>	4.0%	3.8%	1.2%	1.2%		10.5%	7.5%	3.1%	3.5%	10.1%	2.8%	<b>3.4%</b>