



# Pacific States Marine Fisheries Commission

## Bonneville Smolt Monitoring Weekly Report, #24-16

Report Period: 6/15 – 6/21, 2024

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### SECTION 1. River Flow and Sampling Results

#### WEEK 16

	Min	Max	Mean		
			Current	Last Week	2023
A. River Flow	174.8	211.8	185.8	235.8	172.3
B. Powerhouse 1	0.0	1.9	0.3	1.1	0.0
C. Powerhouse 2	35.3	85.1	65.4	73.0	53.1
D. Spill (kcf)	100.0	154.8	112.7	154.3	111.9
% of River Flow	52.0	75.7	60.5	65.7	64.7
E. Water Temp *	61.6	62.9	62.0	60.9	63.9
F. % Saturation *					

\* In sampling facility.

% SAMPLE COMPOSITION	This Week	Last Week
YEARLING CHINOOK	1.8%	3.4%
SUBYEARLING CHINOOK	93.4%	83.3%
CHINOOK FRY	0.1%	0.8%
UNCLIPPED STEELHEAD	0.2%	1.3%
CLIPPED STEELHEAD	0.5%	1.6%
COHO	2.7%	5.3%
COHO FRY	0.0%	0.1%
SOCKEYE	1.3%	4.2%

#### YEARLING CHINOOK

End Date	Sample Rate	# Smpld	% Desc	% Mort	# Coll	Index	# Smpld	% Desc	% Mort	# Coll	Index	# Smpld	% Desc	% Mort	# Coll	Index
6/15	3.0%	1	0.0	0.0	33	136	202	3.5	2.0	6,734	27,751	6	0.0	0.0	200	824
6/16	5.8%	2	50.0	0.0	71	339	215	2.4	3.7	3,742	17,873	6	0.0	0.0	24	115
6/17	3.0%	7	0.0	0.0	233	602	206	1.5	0.5	6,867	17,740	3	0.0	0.0	100	258
6/18	3.0%	7	0.0	0.0	233	547	423	1.7	2.1	14,100	33,128	11	0.0	0.0	366	860
6/19	3.2%	11	18.2	0.0	169	382	340	4.2	0.9	10,823	24,447	12	0.0	0.0	111	251
6/20	1.5%	3	0.0	0.0	200	435	142	3.5	0.7	9,467	20,614	5	0.0	0.0	333	725
6/21	1.5%	0	0.0	0.0	0	0	76	1.4	2.6	5,067	12,425	3	0.0	0.0	200	490
Weekly		31	9.7	0.0	939	2,442	1,604	2.7	1.7	56,800	153,977	46	0.0	0.0	1,334	3,523
Season to date		14,418	2.6	0.6	614,197	2,466,466	15,105	0.7	1.6	244,345	694,835	2,973	1.1	0.5	137,550	550,456

#### SUBYEARLING CHINOOK

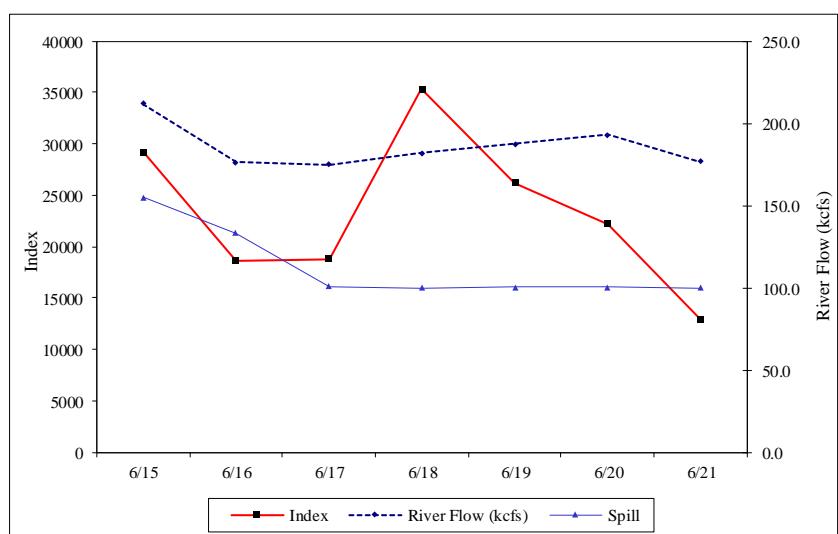
End Date	Sample Rate	# Smpld	% Desc	% Mort	# Coll	Index
6/15	3.0%	1	0.0	0.0	33	136
6/16	5.8%	2	50.0	0.0	71	339
6/17	3.0%	7	0.0	0.0	233	602
6/18	3.0%	7	0.0	0.0	233	547
6/19	3.2%	11	18.2	0.0	169	382
6/20	1.5%	3	0.0	0.0	200	435
6/21	1.5%	0	0.0	0.0	0	0
Weekly		31	9.7	0.0	939	2,442
Season to date		14,418	2.6	0.6	614,197	2,466,466

#### COHO

End Date	Sample Rate	# Smpld	% Desc	% Mort	# Coll	Index
6/15	3.0%	1	0.0	0.0	200	824
6/16	5.8%	2	0.0	0.0	24	115
6/17	3.0%	7	0.0	0.0	100	258
6/18	3.0%	7	0.0	0.0	366	860
6/19	3.2%	11	18.2	0.0	111	251
6/20	1.5%	3	0.0	0.0	333	725
6/21	1.5%	0	0.0	0.0	200	490
Weekly		31	9.7	0.0	1,334	3,523
Season to date		14,418	2.6	0.6	137,550	550,456

#### TOTAL

End Date	Sample Rate	# Smpld	% Desc	% Mort	# Coll	Index
6/15	3.0%	213	3.3	1.9	7,100	29,259
6/16	5.8%	225	2.8	3.6	3,908	18,665
6/17	3.0%	218	1.4	0.5	7,266	18,771
6/18	3.0%	451	1.6	2.0	15,032	35,318
6/19	3.2%	376	4.6	0.8	11,594	26,188
6/20	1.5%	153	3.3	0.7	10,200	22,210
6/21	1.5%	79	1.3	2.5	5,267	12,916
Weekly		1,715	2.7	1.6	60,367	163,327
Season to date		34,938	1.7	1.1	1,132,960	4,241,364



Notes: Condition percentages are calculated from sample numbers.  
Subyearling chinook and coho include fry.

## SECTION 2. Juvenile Lamprey Sampling Results

Juvenile lamprey are differentiated by species (Pacific or Western Brook lamprey) and by life stage (Macrophthalmia, the fully formed actively migrating juvenile, and Ammocoete, the blind, filter feeding larval stage). Weekly results and season to date totals are presented in the table below:

**WEEK 16**

End Date	Pacific Lamprey			Western Brook				
	Macrophthalmia		Ammocoetes		Ammocoetes			
	#	%	#	#	%	#	%	#
	Smpld	Mort	Coll	Smpld	Mort	Coll	Smpld	Mort
6/15	3	0.0	100	0	0.0	0	0	0
6/16	0	0.0	0	1	0.0	4	0	0
6/17	0	0.0	0	0	0.0	0	0	0
6/18	1	0.0	33	0	0.0	0	0	0
6/19	0	0.0	0	0	0.0	0	0	0
6/20	0	0.0	0	0	0.0	0	0	0
6/21	2	0.0	133	0	0.0	0	0	0
Weekly	6	0.0	266	1	0.0	4	0	0
Season to date	192	2.6	2,662	4	0.0	18	0	0

## SECTION 3. Smolt and Juvenile Lamprey Condition Monitoring Summary

### Smolt Condition

WEEK 16		Yearling Chinook		Subyearling Chinook		Unclipped Steelhead		Clipped Steelhead		Coho		Sockeye	
		This Week	Last Week	This Week	Last Week	This Week	Last Week	This Week	Last Week	This Week	Last Week	This Week	Last Week
SAMPLE #		31	66	677	702	3	25	8	32	46	103	23	81
DESCALING	3-19%	9.7%	12.1%	4.3%	3.3%		4.0%		15.6%	15.2%	5.8%	34.8%	7.4%
	>20%	9.7%	6.1%	4.0%	3.8%					1.0%	1.0%	4.3%	3.7%
Pred. Desc.													
INJURY	BODY	3.2%	4.5%	1.2%	1.4%		4.0%		18.8%		1.9%		
	EYE					0.1%					1.0%		
	HEAD					0.7%	0.6%			3.1%		1.0%	
	OPERC.					0.9%	0.9%	33.3%		3.1%	4.3%	2.9%	3.7%
	FIN												2.5%
	POPEYE												
OTHER CONDITIONS	PINK FIN												
	Fin Discolor.												
	FIN HEM.			1.5%	1.5%	1.3%					1.0%		1.2%
DISEASE	Columnaris										1.0%		
	FUNGUS										2.9%		
	BKD												
	PARASITES		3.2%										
	DEFORMITY					0.1%							
	EYE HEM.					0.3%	0.1%						
PREDATION	BIRD							4.0%		6.3%	2.2%	1.9%	
	FISH							4.0%		3.1%		1.9%	
	LAMPREY												
	OTHER												
	end dates	6/21	6/14										

### Juvenile Lamprey Condition

Week 16			INJURY					DISEASE and OTHER CONDITIONS					PREDATION		
MP-Macrophthalmia	End Date	SAMPLE #													
			BODY	EYE	HEAD	FIN	POPEYE	FIN HEM	Columnaris	FUNGUS	DEFORMITY	EYE HEM.	BIRD	FISH	
			6/21	6										66.7%	
AP - Ammocoetes		SAMPLE #	6/14	7			14.3%		33.3%						
			6/21	1											
			6/14	1					100.0%						

## SECTION 4. Incidental Summary

### **Week 16**

	Bass Largemouth	Bass Smallmouth	Bluegill and Pumpkinseed	Bullhead	Carp	Catfish, Channel	Chiselmouth	Crappie species
This Week	0	0	0	0	0	0	0	0
Season to Date	0	13	11	2	0	1	0	0
	Dace - Longnose	Dace - Speckled	Chinook Jack	Kokanee	Lamprey Adult	Northern Pikeminnow	Peamouth	Perch Yellow
This Week	0	0	0	0	0	0	2	0
Season to Date	0	0	0	0	2	11	21	80
	Redside Shiner	Sand Roller	Sculpin species	Stickleback 3 spine	Sucker species	Shad Adult	Shad Juvenile	Sturgeon White
This Week	0	0	3	0	0	1	4	0
Season to Date	0	0	12	49	2	2	6	0
	Trout Bull	Trout Cutthroat	Trout Rainbow	Walleye	Whitefish Mountain	Siberian Prawn		Other/Not Listed
This Week	0	0	0	0	0	1	0	0
Season to Date	0	0	0	0	0	179	0	42

\*Other/Not listed in Season-to-Date totals include: 35 Banded killifish and seven Pink salmon fry.

## SECTION 5. PIT Tag Summary

### **Bonneville season to date detections, 2024.**

Migration Year	Chinook	Coho	Steelhead	Sockeye	Cutthroat	Pacific Lamprey	Other	Orphan/ Unknown	Grand Total
2020			1				1		2
2021	2		40				1		43
2022	3		95				2		100
2023	678	7	680						1,365
2024	35,371	3,086	18,349	2,357	7		5		59,175
Grand Total	36,054	3,093	19,165	2,357	7	0	9	6,293	66,978

## SECTION 6. Facility Operations

Sample collections at the Smolt Monitoring Facility (SMF) began at 0700 on 2 March. Debris at the primary dewatering structure (PDS) and fish/debris separator was light consisting mostly of aquatic macrophytes, sticks and other woody debris. The Outfall hydro-cannons are operating.

Gas Bubble Trauma (GBT) examinations began on 13 April and are typically performed two days per week through the end of spill. Results of this week's Gas Bubble Trauma (GBT) examinations: 200 combined yearling Chinook, subyearling Chinook and steelhead examined: one fish (0.5%) was observed with GBT symptoms. Please follow this link <https://www.fpc.org/currentdaily/gbtsumbybatchdate.pdf> to the FPC web page for further details.

Non-salmonid GBT Monitoring was initiated this week at Bonneville with the start of summer spill operations. This effort is paired in conjunction with salmonid GBT monitoring with the goal of examining up to 50 non-salmonids (native and non-native species) per session using the same procedures and protocols employed in the salmonid GBT Monitoring Program. Non-salmonid GBT exams only occur when TDG levels are above 110% and water temperatures are below 68°F. Results of this week's Non-salmonid Gas Bubble Trauma (GBT) examinations: one fish (sculpin sp.) in total was examined with no GBT symptoms observed. Please follow this link [https://www.fpc.org/currentdaily/Summer\\_NS\\_gbtsumbybatchdate\\_realtime.pdf](https://www.fpc.org/currentdaily/Summer_NS_gbtsumbybatchdate_realtime.pdf) to the FPC web page for specific details.

No fallbacks were observed this week.

## **SECTION 7. Research**

A total of six fin clips were obtained from Pacific Lamprey *macrophthalmia* and one from a Pacific Lamprey ammocoete for Columbia River Inter-Tribal Fish Commission's genetic studies.

## **SECTION 8. Sampling Pictures**



Clipped Subyearling Fall Chinook smolt (*Oncorhynchus tshawytscha*), approximately 115 mm fork length, displaying teeth marks from attempted fish predation, sampled at Bonneville Smolt Monitoring Facility on June 20, 2024.