

Pacific States Marine Fisheries Commission

Bonneville Smolt Monitoring Weekly Report, #24-17

Report Period: 6/22 – 6/28, 2024

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SECTION 1. River Flow and Sampling Results

WEEK 17

	Min	Max	Mean		
			Current	Last Week	2023
A. River Flow	153.3	184.6	171.1	185.8	154.9
B. Powerhouse 1	0.0	0.0	0.0	0.3	0.0
C. Powerhouse 2	46.4	78.5	64.5	65.4	46.8
D. Spill (kcfs)	98.7	100.3	99.3	112.7	100.7
% of River Flow	53.5	64.9	58.3	60.5	65.2
E. Water Temp *	63.5	63.8	63.6	62.0	65.4
F. % Saturation *					

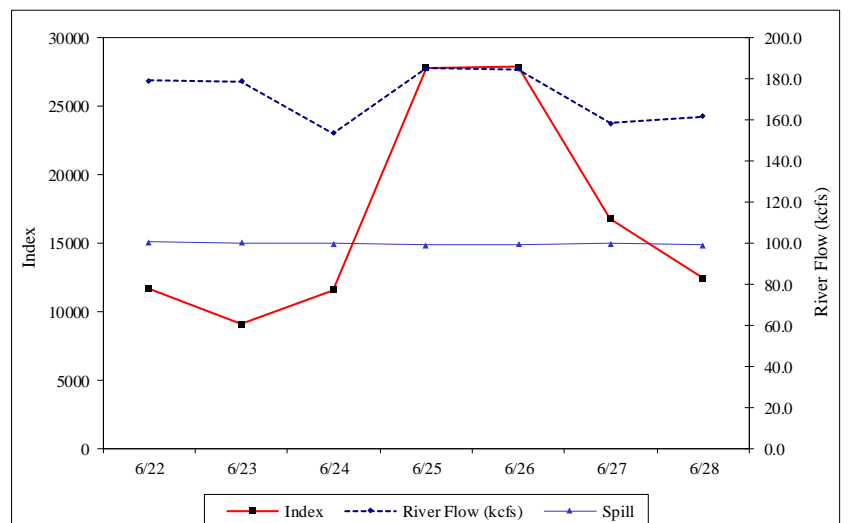
* In sampling facility.

% SAMPLE COMPOSITION	This Week Last Week	
YEARLING CHINOOK	0.8%	1.8%
SUBYEARLING CHINOOK	95.4%	93.4%
CHINOOK FRY	0.1%	0.1%
UNCLIPPED STEELHEAD	0.1%	0.2%
CLIPPED STEELHEAD	0.6%	0.5%
COHO	2.3%	2.7%
COHO FRY	0.0%	0.0%
SOCKEYE	0.6%	1.3%

YEARLING CHINOOK							SUBYEARLING CHINOOK					COHO				
End Date	Sample Rate	# Smpld	% Desc	% Mort	# Coll	Index	# Smpld	% Desc	% Mort	# Coll	Index	# Smpld	% Desc	% Mort	# Coll	Index
6/22	3.0%	2	0.0	0.0	67	162	137	2.9	0.7	4,566	11,016	4	0.0	0.0	134	323
6/23	4.1%	2	0.0	50.0	71	171	142	4.2	0.0	3,450	8,304	5	20.0	0.0	146	351
6/24	3.0%	1	0.0	0.0	33	104	104	3.8	0.0	3,467	10,902	5	0.0	0.0	166	522
6/25	4.0%	0	0.0	0.0	0	0	480	2.8	1.9	12,000	27,088	8	0.0	0.0	200	451
6/26	2.5%	2	50.0	0.0	200	454	287	10.2	1.4	11,516	26,118	8	0.0	0.0	320	726
6/27	2.0%	3	0.0	0.0	150	441	109	2.8	0.9	5,450	16,020	0	0.0	0.0	0	0
6/28	3.0%	2	0.0	0.0	66	184	126	0.8	4.8	4,200	11,710	3	0.0	0.0	100	279
Weekly		12	9.1	8.3	587	1,515	1,385	4.4	1.5	44,649	111,158	33	3.0	0.0	1,066	2,653
Season to date		14,430	2.6	0.6	614,784	2,467,981	16,490	1.0	1.6	288,994	805,992	3,006	1.1	0.5	138,616	553,109

End Date	Sample Rate	UNCLIPPED STEELHEAD					CLIPPED					SOCKEYE				
		# Smpld	% Desc	% Mort	# Coll	Index	# Smpld	% Desc	% Mort	# Coll	Index	# Smpld	% Desc	% Mort	# Coll	Index
6/22	3.0%	1	0.0	0.0	33	80	1	0.0	0.0	33	80	0	0.0	0.0	0	0
6/23	4.1%	1	0.0	0.0	4	10	0	0.0	0.0	0	0	2	0.0	0.0	71	171
6/24	3.0%	0	0.0	0.0	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0
6/25	4.0%	0	0.0	0.0	0	0	1	0.0	0.0	25	56	3	33.3	0.0	75	169
6/26	2.5%	0	0.0	0.0	0	0	5	0.0	0.0	20	45	2	0.0	0.0	200	454
6/27	2.0%	0	0.0	0.0	0	0	2	0.0	0.0	100	294	0	0.0	0.0	0	0
6/28	3.0%	0	0.0	0.0	0	0	0	0.0	0.0	0	0	2	0.0	0.0	67	187
Weekly		2	0.0	0.0	37	89	9	0.0	0.0	178	475	9	11.1	0.0	413	981
Season to date		368	0.3	0.5	15,750	59,527	1,209	1.3	0.2	71,494	296,598	885	5.7	2.3	50,252	175,027

TOTAL						
End Date	Sample Rate	# Smpld	% Desc	% Mort	# Coll	Index
6/22	3.0%	145	2.8	0.7	4,833	11,660
6/23	4.1%	152	4.6	0.7	3,742	9,007
6/24	3.0%	110	3.6	0.0	3,666	11,527
6/25	4.0%	492	2.9	1.8	12,300	27,765
6/26	2.5%	304	10.0	1.3	12,256	27,796
6/27	2.0%	114	2.7	0.9	5,700	16,755
6/28	3.0%	133	0.8	4.5	4,433	12,359
Weekly		1,450	4.4	1.5	46,930	116,870
Season to date		36,388	1.8	1.1	1,179,890	4,358,235



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 17

Pacific Lamprey

Western Brook

End Date	Macrophthalmia			Ammocoetes			Ammocoetes		
	# Smpld	% Mort	# Coll	# Smpld	% Mort	# Coll	# Smpld	% Mort	# Coll
6/22	1	0.0	33	0	0.0	0	0	0	0
6/23	0	0.0	0	0	0.0	0	0	0	0
6/24	0	0.0	0	0	0.0	0	0	0	0
6/25	0	0.0	0	0	0.0	0	0	0	0
6/26	0	0.0	0	0	0.0	0	0	0	0
6/27	0	0.0	0	0	0.0	0	0	0	0
6/28	0	0.0	0	0	0.0	0	0	0	0
Weekly	1	0.0	33	0	0.0	0	0	0	0
Season to date	193	2.6	2,695	4	0.0	18	0	0	0

SECTION 3. Smolt and Juvenile Lamprey Condition Monitoring Summary

Smolt Condition

WEEK 17

		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 #		9	31	700	677	2	3	9	8	30	46	7	23
DESCALING	3-19%	11.1%	9.7%	4.7%	4.3%	50.0%		22.2%		13.3%	15.2%	14.3%	34.8%
	>20%	11.1%	9.7%	4.1%	4.0%					3.3%		14.3%	4.3%
	Pred. Desc.												
INJURY	BODY	11.1%	3.2%	2.7%	1.2%			11.1%		6.7%		14.3%	
	EYE												
	HEAD												
	OPERC.			1.0%	0.7%			11.1%					
	FIN		6.5%	1.6%	0.9%		33.3%			10.0%	4.3%		
	POPEYE												
OTHER	PINK FIN												
CONDITIONS	Fin Discolor.												
	FIN HEM.	11.1%		1.1%	1.5%								
DISEASE	Columnaris									6.7%			
	FUNGUS			0.1%									
	BKD												
	PARASITES		3.2%	0.4%									
	DEFORMITY				0.1%								
	EYE HEM.			0.1%	0.3%								
PREDATION	BIRD			0.1%						2.2%		14.3%	
	FISH			1.3%	0.3%								
	LAMPREY												
	OTHER												
end dates		6/28	6/21										

Juvenile Lamprey Condition

Week 17

			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
This Week	6/28	1												
Last Week	6/21	6						33.3%					66.7%	
AP - Ammocoetes		SAMPLE #												
This Week	6/28	0												
Last Week	6/21	1						100.0%						

SECTION 4. Incidental Summary

Week 17

	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	3	1	0
Season to Date	0	0	0	0	2	14	22	80

	Redside Shiner	Sand Roller	Sculpin species	Stickleback 3 spine	Sucker species	Shad Adult	Shad Juvenile	Sturgeon White
This Week	0	0	2	0	0	11	2	0
Season to Date	0	0	14	49	2	13	8	0

	Trout Bull	Trout Cutthroat	Trout Rainbow	Walleye	Whitefish Mountain	Siberian Prawn		Other/Not Listed
This Week	0	0	0	0	0	2	0	2
Season to Date	0	0	0	0	0	181	0	44

*Other/Not listed in this week's totals include: two Banded killifish.

*Season-to-Date totals include: 37 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	4		99				2		105
2023	683	7	689						1,379
2024	36,004	3,207	18,637	2,383	7		5		60,243
								6,115	6,115
Grand Total	36,693	3,214	19,466	2,383	7	0	9	6,115	67,887

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 sticks and aquatic macrophytes. 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 were examined with no GBT symptoms observed. 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: two fish in total were examined with no GBT symptoms observed. Please follow this link https://www.fpc.org/currentdaily/Summer_NS_gbtsumbybatchdate_realtime.pdf to the FPC web page for specific details.

Fallbacks observed this week: one steelhead and one salmon.

SECTION 7. Research

A total of one fin clip was obtained from Pacific Lamprey macrophthalmia for Columbia River Inter-Tribal Fish Commission's genetic studies.

SECTION 8. Sampling Pictures



Clipped Steelhead smolt (*Oncorhynchus mykiss*), approximately 200 mm fork length with spinal deformity, sampled at Bonneville Smolt Monitoring Facility on May 6, 2024.