

Pacific States Marine Fisheries Commission

Bonneville Smolt Monitoring Weekly Report, #24-21

Report Period: 7/20 – 7/26, 2024

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SECTION 1. River Flow and Sampling Results

WEEK 21

	Min	Max	Mean		
			Current	Last Week	2023
A. River Flow	119.4	164.1	147.3	156.3	139.2
B. Powerhouse 1	0.0	0.0	0.0	0.0	0.0
C. Powerhouse 2	32.3	56.6	43.7	49.1	35.9
D. Spill (kcfs)	79.8	100.1	96.2	99.8	95.8
% of River Flow	61.0	71.1	65.6	64.2	69.0
E. Water Temp *	70.0	71.5	70.7	70.2	71.8
F. % Saturation *					

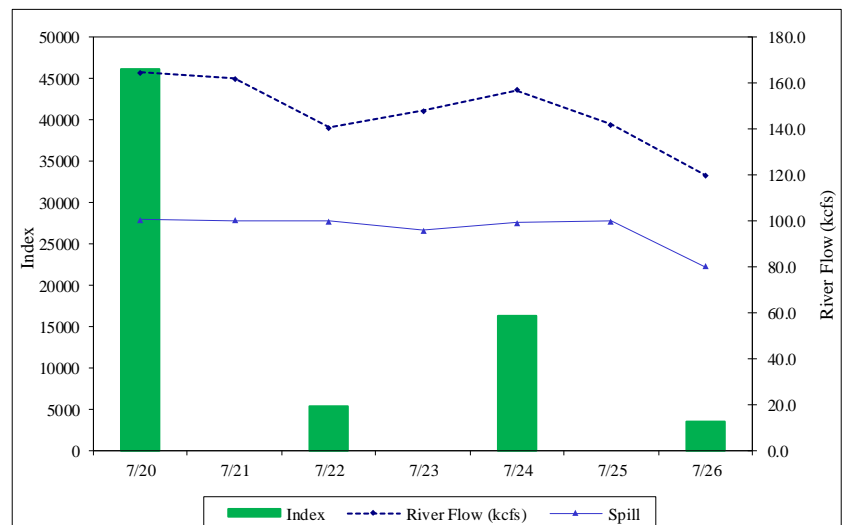
* In sampling facility.

% SAMPLE COMPOSITION	This Week Last Week	
YEARLING CHINOOK	0.2%	0.0%
SUBYEARLING CHINOOK	99.8%	100.0%
CHINOOK FRY	0.0%	0.0%
UNCLIPPED STEELHEAD	0.0%	0.0%
CLIPPED STEELHEAD	0.0%	0.0%
COHO	0.0%	0.0%
COHO FRY	0.0%	0.0%
SOCKEYE	0.0%	0.0%

YEARLING CHINOOK							SUBYEARLING CHINOOK					COHO				
End Date	Sample Rate	# Smpld	% Desc	% Mort	# Coll	Index	# Smpld	% Desc	% Mort	# Coll	Index	# Smpld	% Desc	% Mort	# Coll	Index
7/20	1.0%	0	0.0	0.0	0	0	166	0.0	1.2	16,600	45,958	0	0.0	0.0	0	0
7/21	0.0%	0	0.0	0.0	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0
7/22	4.8%	0	0.0	0.0	0	0	67	0.0	0.0	1,324	5,308	0	0.0	0.0	0	0
7/23	0.0%	0	0.0	0.0	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0
7/24	5.0%	1	0.0	0.0	20	59	273	0.0	0.0	5,460	16,195	0	0.0	0.0	0	0
7/25	0.0%	0	0.0	0.0	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0
7/26	3.0%	0	0.0	0.0	0	0	29	0.0	0.0	966	3,353	0	0.0	0.0	0	0
Weekly		1	0.0	0.0	20	59	535	0.0	0.4	24,350	70,814	0	0.0	0.0	0	0
Season to date		14,438	2.6	0.6	615,007	2,468,601	22,867	0.9	1.5	621,107	1,740,940	3,012	1.1	0.5	138,748	553,457

End Date	Sample Rate	UNCLIPPED STEELHEAD					CLIPPED STEELHEAD					SOCKEYE				
		# Smpld	% Desc	% Mort	# Coll	Index	# Smpld	% Desc	% Mort	# Coll	Index	# Smpld	% Desc	% Mort	# Coll	Index
7/20	1.0%	0	0.0	0.0	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0
7/21	0.0%	0	0.0	0.0	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0
7/22	4.8%	0	0.0	0.0	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0
7/23	0.0%	0	0.0	0.0	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0
7/24	5.0%	0	0.0	0.0	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0
7/25	0.0%	0	0.0	0.0	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0
7/26	3.0%	0	0.0	0.0	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0
Weekly		0	0.0	0.0	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0
Season to date		368	0.3	0.5	15,750	59,527	1,210	1.3	0.2	71,514	296,645	892	5.6	2.2	50,446	175,547

TOTAL						
End Date	Sample Rate	# Smpld	% Desc	% Mort	# Coll	Index
7/20	1.0%	166	0.0	1.2	16,600	45,958
7/21	0.0%	0	0.0	0.0	0	0
7/22	4.8%	67	0.0	0.0	1,324	5,308
7/23	0.0%	0	0.0	0.0	0	0
7/24	5.0%	274	0.0	0.0	5,480	16,255
7/25	0.0%	0	0.0	0.0	0	0
7/26	3.0%	29	0.0	0.0	966	3,353
Weekly		536	0.0	0.4	24,370	70,873
Season to date		42,787	1.6	1.1	1,512,572	5,294,718



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 21

End Date	Pacific Lamprey						Western Brook		
	Macrophthalmia			Ammocoetes			Ammocoetes		
	# Smpld	% Mort	# Coll	# Smpld	% Mort	# Coll	# Smpld	% Mort	# Coll
7/20	0	0.0	0	0	0.0	0	0	0	0
7/21	0	0.0	0	0	0.0	0	0	0	0
7/22	1	0.0	100	0	0.0	0	0	0	0
7/23	0	0.0	0	0	0.0	0	0	0	0
7/24	0	0.0	0	0	0.0	0	0	0	0
7/25	0	0.0	0	0	0.0	0	0	0	0
7/26	0	0.0	0	0	0.0	0	0	0	0
Weekly	1	0.0	100	0	0.0	0	0	0	0
Season to date	200	2.5	3,026	5	0.0	22	0	0	0

SECTION 3. Smolt and Juvenile Lamprey Condition Monitoring Summary

Smolt Condition

WEEK 21

Subyearling		DESCALING			INJURY						Other Conditions		
Chinook	SAMPLE #	3-19%	>20%	Pred. Desc.	BODY	EYE	HEAD	OP	FIN	POPEYE	PINK FIN	Fin Discolor.	FIN HEM
This Week	296				0.3%				0.3%				0.7%
Last Week	680	1.2%	0.3%		0.4%			0.1%	0.4%				0.3%

		DISEASE								PREDATION			
	SAMPLE #	Columnaris	FUNGUS	BKD	PARASITES	DEFORMITY	EYE	HEM		BIRD	FISH	LAMPREY	OTH
This Week	296				0.3%	0.3%							
Last Week	680				0.7%	0.1%					0.1%		

Juvenile Lamprey Condition

Week 21			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	7/26	1											100.0%	
Last Week	7/19	2											50.0%	
AP - Ammocoetes		SAMPLE #												
This Week	7/26	0												
Last Week	7/19	0												

SECTION 4. Incidental Summary

Week 21

	Bass Largemouth	Bass Smallmouth	Bluegill and Pumpkinseed	Bullhead	Carp	Catfish, Channel	Chiselmouth	Crappie species
This Week	0	15	0	0	0	0	0	0
Season to Date	0	44	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	598	0
Season to Date	0	0	1	0	2	16	760	82

	Redside Shiner	Sand Roller	Sculpin species	Stickleback 3 spine	Sucker species	Shad Adult	Shad Juvenile	Sturgeon White
This Week	0	0	0	0	0	21	1,397	0
Season to Date	0	0	26	49	4	110	1,408	0

	Trout Bull	Trout Cutthroat	Trout Rainbow	Walleye	Whitefish Mountain	Siberian Prawn		Other/Not Listed
This Week	0	0	0	0	0	0	0	1
Season to Date	0	0	0	0	0	185	0	57

*Other/Not Listed Season-to-Date totals include: 50 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	5		102	1			2		110
2023	697	7	696						1,400
2024	40,151	3,299	19,128	2,407	7		5		64,997
								5,407	5,407
Grand Total	40,855	3,306	19,967	2,408	7	0	9	5,407	71,959

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.

The trigger to initiate High Temperature Sampling Protocols, when river temperatures reach 70°F at Bonneville, was achieved on 15 July. However, per regional agreement, implementation of High Temperature Sampling Protocols was delayed to allow for completion of the Powerhouse 2 Fish Guidance Efficiency Post-Construction Evaluation which concluded on 20 July. At that point, these protocols were initiated. This means Index/Condition sampling will take place every other day until the daily average river temperature descends to 69.5°F. Sample and bypass mode will occur on alternating 24-hour periods (0700-0700).

Gas Bubble Trauma (GBT) examinations began on 13 April and are typically performed two days per week through the end of spill. However, due to current higher river temperatures, GBT monitoring was reduced to once per week. Results of this week's Gas Bubble Trauma (GBT) examinations: 56 Subyearling Chinook 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 at Bonneville on 19 June 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. No GBT exams were performed on non-salmonids this week as river temperatures exceeded the 68°F threshold. Please follow this link 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 one fin clip was obtained from a Pacific Lamprey macrophthalmia for Columbia River Inter-Tribal Fish Commission's genetic studies.

SECTION 8. Sampling Pictures



Peamouth (*Mylocheilus caurinus*), approximately 95 mm fork length, sampled on 24 July, 2024 at Bonneville Smolt Monitoring Facility.