

Pacific States Marine Fisheries Commission

Bonneville Smolt Monitoring Weekly Report, #24-20

Report Period: 7/13 – 7/19, 2024

Project Manager: Allan Martin

Prepared By: Dean Ballinger



SECTION 1. River Flow and Sampling Results

WEEK 20

	Min	Max	Mean		
			Current	Last Week	2023
A. River Flow	143.8	173.7	156.3	164.9	149.7
B. Powerhouse 1	0.0	0.0	0.0	0.0	0.0
C. Powerhouse 2	37.2	66.6	49.1	56.9	41.9
D. Spill (kcfs)	99.3	100.3	99.8	100.5	100.4
% of River Flow	57.4	69.1	64.2	61.3	67.2
E. Water Temp *	69.4	70.6	70.2	68.7	70.7
F. % Saturation *					

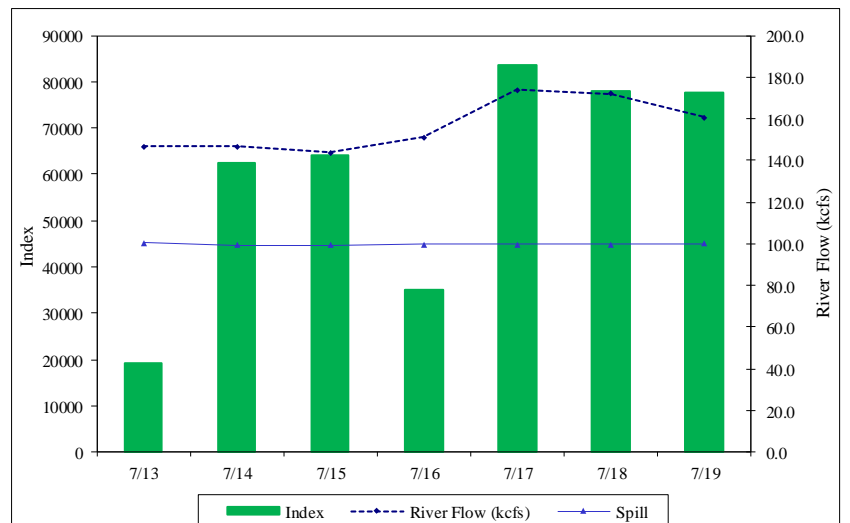
* In sampling facility.

% SAMPLE COMPOSITION	This Week Last Week	
YEARLING CHINOOK	0.0%	0.0%
SUBYEARLING CHINOOK	100.0%	99.7%
CHINOOK FRY	0.0%	0.1%
UNCLIPPED STEELHEAD	0.0%	0.0%
CLIPPED STEELHEAD	0.0%	0.0%
COHO	0.0%	0.1%
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
7/13	1.5%	0	0.0	0.0	0	0	80	1.3	0.0	5,334	19,123	0	0.0	0.0	0	0
7/14	1.8%	0	0.0	0.0	0	0	319	0.3	6.3	17,800	62,367	0	0.0	0.0	0	0
7/15	2.0%	0	0.0	0.0	0	0	350	0.0	2.0	17,500	64,214	0	0.0	0.0	0	0
7/16	2.0%	0	0.0	0.0	0	0	215	0.0	0.5	10,750	35,164	0	0.0	0.0	0	0
7/17	2.0%	0	0.0	0.0	0	0	670	0.0	0.3	33,500	83,649	0	0.0	0.0	0	0
7/18	1.0%	0	0.0	0.0	0	0	306	0.0	0.0	30,600	77,801	0	0.0	0.0	0	0
7/19	1.0%	0	0.0	0.0	0	0	269	0.4	0.4	26,900	77,610	0	0.0	0.0	0	0
Weekly		0	0.0	0.0	0	0	2,209	0.1	1.4	142,384	419,927	0	0.0	0.0	0	0
Season to date		14,437	2.6	0.6	614,987	2,468,541	22,332	0.9	1.5	596,757	1,670,126	3,012	1.1	0.5	138,748	553,457

End Date	Sample Rate	UNCLIPPED STEELHEAD					CLIPPED					SOCKEYE				
		# Smpld	% Desc	% Mort	# Coll	Index	# Smpld	% Desc	% Mort	# Coll	Index	# Smpld	% Desc	% Mort	# Coll	Index
7/13	1.5%	0	0.0	0.0	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0
7/14	1.8%	0	0.0	0.0	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0
7/15	2.0%	0	0.0	0.0	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0
7/16	2.0%	0	0.0	0.0	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0
7/17	2.0%	0	0.0	0.0	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0
7/18	1.0%	0	0.0	0.0	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0
7/19	1.0%	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
7/13	1.5%	80	1.3	0.0	5,334	19,123
7/14	1.8%	319	0.3	6.3	17,800	62,367
7/15	2.0%	350	0.0	2.0	17,500	64,214
7/16	2.0%	215	0.0	0.5	10,750	35,164
7/17	2.0%	670	0.0	0.3	33,500	83,649
7/18	1.0%	306	0.0	0.0	30,600	77,801
7/19	1.0%	269	0.4	0.4	26,900	77,610
Weekly		2,209	0.1	1.4	142,384	419,927
Season to date		42,251	1.6	1.1	1,488,202	5,223,844



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 20

End Date	Pacific Lamprey			Western Brook		
	Macrophthalmia			Ammocoetes		
	# Smpld	% Mort	# Coll	# Smpld	% Mort	# Coll
7/13	2	0.0	133	0	0.0	0
7/14	0	0.0	0	0	0.0	0
7/15	0	0.0	0	0	0.0	0
7/16	0	0.0	0	0	0.0	0
7/17	0	0.0	0	0	0.0	0
7/18	0	0.0	0	0	0.0	0
7/19	0	0.0	0	0	0.0	0
Weekly	2	0.0	133	0	0.0	0
Season to date	199	2.5	2,926	5	0.0	22

SECTION 3. Smolt and Juvenile Lamprey Condition Monitoring Summary

Smolt Condition

WEEK 20

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	680	1.2%	0.3%		0.4%			0.1%	0.4%				0.3%
Last Week	649	0.8%			0.3%				0.8%				0.9%

	SAMPLE #	DISEASE							PREDATION			
		Columnaris	FUNGUS	BKD	PARASITES	DEFORMITY	EYE HEM		BIRD	FISH	LAMPREY	OTH
This Week	680				0.7%	0.1%				0.1%		
Last Week	649				0.6%	0.2%				0.3%		

Juvenile Lamprey Condition

Week 20			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	7/19	2											50.0%	
Last Week	7/12	1						100.0%					100.0%	
AP - Ammocoetes		SAMPLE #												
This Week	7/19	0												
Last Week	7/12	1	100.0%					100.0%						

SECTION 4. Incidental Summary

Week 20

	Bass Largemouth	Bass Smallmouth	Bluegill and Pumpkinseed	Bullhead	Carp	Catfish, Channel	Chiselmouth	Crappie species
This Week	0	6	0	0	0	0	0	0
Season to Date	0	29	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	75	0
Season to Date	0	0	1	0	2	16	162	82

	Redside Shiner	Sand Roller	Sculpin species	Stickleback 3 spine	Sucker species	Shad Adult	Shad Juvenile	Sturgeon White
This Week	0	0	4	0	0	18	0	0
Season to Date	0	0	26	49	4	89	11	0

	Trout Bull	Trout Cutthroat	Trout Rainbow	Walleye	Whitefish Mountain	Siberian Prawn		Other/Not Listed
This Week	0	0	0	0	0	2	0	0
Season to Date	0	0	0	0	0	185	0	56

*Season-to-Date totals include: 49 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				2		109
2023	697	7	694						1,398
2024	39,364	3,298	19,070	2,386	7		5		64,130
								5,561	5,561
Grand Total	40,068	3,305	19,907	2,386	7	0	9	5,561	71,243

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: 100 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.

Fallbacks observed this week: one salmon.

SECTION 7. Research

A total of two fin clips were obtained from Pacific Lamprey macrophthalmia for Columbia River Inter-Tribal Fish Commission's genetic studies.

SECTION 8. Sampling Pictures



Yearling Chinook (*O. tshawytscha*) with leech (*Hirudinea sp.*) attached; observed earlier this season on 20 May.