

# Pacific States Marine Fisheries Commission

## Bonneville Smolt Monitoring Weekly Report, #24-23

Report Period: 8/3 – 8/9, 2024

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### SECTION 1. River Flow and Sampling Results

#### WEEK 23

|                   | Min   | Max   | Mean    |           |       |
|-------------------|-------|-------|---------|-----------|-------|
|                   |       |       | Current | Last Week | 2023  |
| A. River Flow     | 116.6 | 139.1 | 130.2   | 130.7     | 131.7 |
| B. Powerhouse 1   | 0.1   | 3.4   | 2.2     | 0.4       | 0.0   |
| C. Powerhouse 2   | 54.3  | 75.5  | 66.4    | 38.5      | 31.5  |
| D. Spill (kcfs)   | 54.1  | 55.8  | 54.7    | 84.3      | 92.8  |
| % of River Flow   | 38.9  | 47.0  | 42.2    | 64.6      | 70.4  |
| E. Water Temp *   | 70.7  | 72.1  | 71.6    | 70.4      | 71.3  |
| F. % Saturation * |       |       |         |           |       |

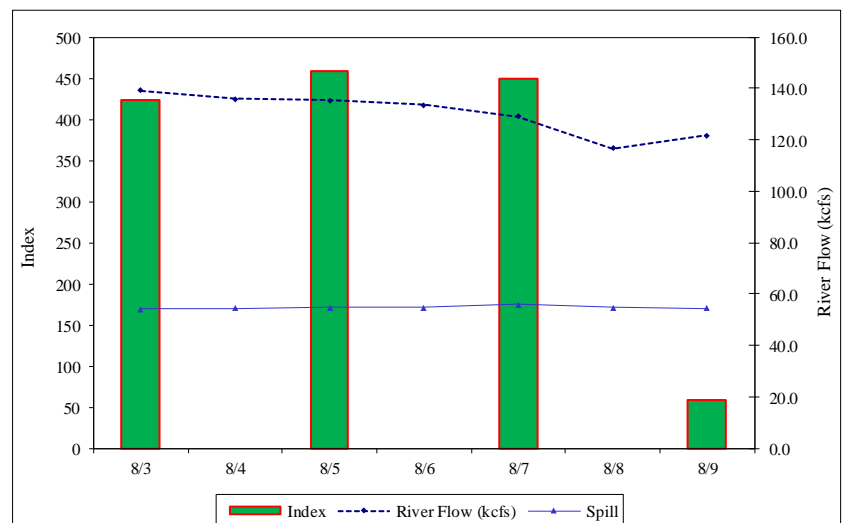
\* In sampling facility.

| % SAMPLE COMPOSITION | This Week Last Week |        |
|----------------------|---------------------|--------|
|                      |                     |        |
| YEARLING CHINOOK     | 0.0%                | 0.0%   |
| SUBYEARLING CHINOOK  | 100.0%              | 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   |
| 8/3              | 7.0%        | 0       | 0.0    | 0.0    | 0       | 0         | 17                  | 0.0    | 5.9    | 243     | 424       | 0       | 0.0    | 0.0    | 0       | 0       |
| 8/4              | 0.0%        | 0       | 0.0    | 0.0    | 0       | 0         | 0                   | 0.0    | 0.0    | 0       | 0         | 0       | 0.0    | 0.0    | 0       | 0       |
| 8/5              | 7.8%        | 0       | 0.0    | 0.0    | 0       | 0         | 20                  | 0.0    | 0.0    | 255     | 459       | 0       | 0.0    | 0.0    | 0       | 0       |
| 8/6              | 0.0%        | 0       | 0.0    | 0.0    | 0       | 0         | 0                   | 0.0    | 0.0    | 0       | 0         | 0       | 0.0    | 0.0    | 0       | 0       |
| 8/7              | 10.0%       | 0       | 0.0    | 0.0    | 0       | 0         | 24                  | 0.0    | 0.0    | 240     | 449       | 0       | 0.0    | 0.0    | 0       | 0       |
| 8/8              | 0.0%        | 0       | 0.0    | 0.0    | 0       | 0         | 0                   | 0.0    | 0.0    | 0       | 0         | 0       | 0.0    | 0.0    | 0       | 0       |
| 8/9              | 10.0%       | 0       | 0.0    | 0.0    | 0       | 0         | 3                   | 0.0    | 0.0    | 30      | 59        | 0       | 0.0    | 0.0    | 0       | 0       |
| Weekly           |             | 0       | 0.0    | 0.0    | 0       | 0         | 64                  | 0.0    | 1.6    | 768     | 1,390     | 0       | 0.0    | 0.0    | 0       | 0       |
| Season to date   |             | 14,438  | 2.6    | 0.6    | 615,007 | 2,468,601 | 22,996              | 0.9    | 1.5    | 622,342 | 1,744,115 | 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   |
| 8/3            | 7.0%        | 0                   | 0.0    | 0.0    | 0      | 0      | 0       | 0.0    | 0.0    | 0      | 0       | 0       | 0.0    | 0.0    | 0      | 0       |
| 8/4            | 0.0%        | 0                   | 0.0    | 0.0    | 0      | 0      | 0       | 0.0    | 0.0    | 0      | 0       | 0       | 0.0    | 0.0    | 0      | 0       |
| 8/5            | 7.8%        | 0                   | 0.0    | 0.0    | 0      | 0      | 0       | 0.0    | 0.0    | 0      | 0       | 0       | 0.0    | 0.0    | 0      | 0       |
| 8/6            | 0.0%        | 0                   | 0.0    | 0.0    | 0      | 0      | 0       | 0.0    | 0.0    | 0      | 0       | 0       | 0.0    | 0.0    | 0      | 0       |
| 8/7            | 10.0%       | 0                   | 0.0    | 0.0    | 0      | 0      | 0       | 0.0    | 0.0    | 0      | 0       | 0       | 0.0    | 0.0    | 0      | 0       |
| 8/8            | 0.0%        | 0                   | 0.0    | 0.0    | 0      | 0      | 0       | 0.0    | 0.0    | 0      | 0       | 0       | 0.0    | 0.0    | 0      | 0       |
| 8/9            | 10.0%       | 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     |
| 8/3            | 7.0%        | 17      | 0.0    | 5.9    | 243       | 424       |
| 8/4            | 0.0%        | 0       | 0.0    | 0.0    | 0         | 0         |
| 8/5            | 7.8%        | 20      | 0.0    | 0.0    | 255       | 459       |
| 8/6            | 0.0%        | 0       | 0.0    | 0.0    | 0         | 0         |
| 8/7            | 10.0%       | 24      | 0.0    | 0.0    | 240       | 449       |
| 8/8            | 0.0%        | 0       | 0.0    | 0.0    | 0         | 0         |
| 8/9            | 10.0%       | 3       | 0.0    | 0.0    | 30        | 59        |
| Weekly         |             | 64      | 0.0    | 1.6    | 768       | 1,390     |
| Season to date |             | 42,916  | 1.6    | 1.1    | 1,513,807 | 5,297,892 |



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

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:

| End Date       | Macrophthalmia |        |        | Ammocoetes |        |        | Ammocoetes |        |        |
|----------------|----------------|--------|--------|------------|--------|--------|------------|--------|--------|
|                | # Smpld        | % Mort | # Coll | # Smpld    | % Mort | # Coll | # Smpld    | % Mort | # Coll |
| 8/3            | 0              | 0.0    | 0      | 1          | 0.0    | 14     | 0          | 0      | 0      |
| 8/4            | 0              | 0.0    | 0      | 0          | 0.0    | 0      | 0          | 0      | 0      |
| 8/5            | 0              | 0.0    | 0      | 0          | 0.0    | 0      | 0          | 0      | 0      |
| 8/6            | 0              | 0.0    | 0      | 0          | 0.0    | 0      | 0          | 0      | 0      |
| 8/7            | 0              | 0.0    | 0      | 0          | 0.0    | 0      | 0          | 0      | 0      |
| 8/8            | 0              | 0.0    | 0      | 0          | 0.0    | 0      | 0          | 0      | 0      |
| 8/9            | 1              | 0.0    | 10     | 0          | 0.0    | 0      | 0          | 0      | 0      |
| Weekly         | 1              | 0.0    | 10     | 1          | 0.0    | 14     | 0          | 0      | 0      |
| Season to date | 201            | 2.5    | 3,036  | 6          | 0.0    | 36     | 0          | 0      | 0      |

### Smolt Condition

| Subyearling Chinook |           | DESCALING |      |             | INJURY |     |      |    |      |        | Other Conditions |               |         |
|---------------------|-----------|-----------|------|-------------|--------|-----|------|----|------|--------|------------------|---------------|---------|
|                     | SAMPLE #  | 3-19%     | >20% | Pred. Desc. | BODY   | EYE | HEAD | OP | FIN  | POPEYE | PINK FIN         | Fin Discolor. | FIN HEM |
| <b>This Week</b>    | <b>63</b> | 1.6%      |      |             |        |     | 1.6% |    | 4.8% | 1.6%   |                  |               | 1.6%    |
| <b>Last Week</b>    | <b>64</b> |           |      |             |        |     |      |    | 1.6% |        |                  |               |         |

|           |          | DISEASE    |        |     |           |           |         | PREDATION |      |         |     |
|-----------|----------|------------|--------|-----|-----------|-----------|---------|-----------|------|---------|-----|
|           | SAMPLE # | Columnaris | FUNGUS | BKD | PARASITES | DEFORMITY | EYE HEM | BIRD      | FISH | LAMPREY | OTH |
| This Week | 63       | 3.2%       |        |     |           |           |         | 1.6%      |      |         |     |
| Last Week | 64       |            |        |     |           |           |         |           |      |         |     |

| <b>Week 23</b>                |                     |          | INJURY |     |      |     |        | DISEASE and OTHER CONDITIONS |            |        |                   |      |      | PREDATION |  |
|-------------------------------|---------------------|----------|--------|-----|------|-----|--------|------------------------------|------------|--------|-------------------|------|------|-----------|--|
| <b>MP-<br/>Macrophthalmia</b> | <b>End<br/>Date</b> | SAMPLE # | BODY   | EYE | HEAD | FIN | POPEYE | FIN HEM                      | Columnaris | FUNGUS | DEFORMITYEYE HEM. | BIRD | FISH |           |  |
| This Week                     | 8/9                 | 0        |        |     |      |     |        |                              |            |        |                   |      |      |           |  |
| Last Week                     | 8/2                 | 0        |        |     |      |     |        |                              |            |        |                   |      |      |           |  |
| <b>AP - Ammocoetes</b>        |                     | SAMPLE # |        |     |      |     |        |                              |            |        |                   |      |      |           |  |
| This Week                     | 8/9                 | 2        |        |     |      |     |        |                              |            |        |                   |      |      |           |  |
| Last Week                     | 8/2                 | 0        |        |     |      |     |        |                              |            |        |                   |      |      |           |  |

## **SECTION 4. Incidental Summary**

### **Week 23**

|                | Bass<br>Largemouth | Bass<br>Smallmouth | Bluegill and<br>Pumpkinseed | Bullhead | Carp | Catfish,<br>Channel | Chiselmouth | Crappie<br>species |
|----------------|--------------------|--------------------|-----------------------------|----------|------|---------------------|-------------|--------------------|
| This Week      | 0                  | 2                  | 0                           | 0        | 1    | 0                   | 0           | 0                  |
| Season to Date | 0                  | 58                 | 11                          | 2        | 3    | 1                   | 0           | 0                  |

|                | Dace -<br>Longnose | Dace -<br>Speckled | Chinook Jack | Kokanee | Lamprey<br>Adult | Northern<br>Pikeminnow | Peamouth | Perch Yellow |
|----------------|--------------------|--------------------|--------------|---------|------------------|------------------------|----------|--------------|
| This Week      | 0                  | 0                  | 0            | 0       | 0                | 0                      | 81       | 0            |
| Season to Date | 0                  | 0                  | 1            | 0       | 2                | 16                     | 1,001    | 82           |

|                | Redside<br>Shiner | Sand Roller | Sculpin<br>species | Stickleback<br>3 spine | Sucker<br>species | Shad Adult | Shad<br>Juvenile | Sturgeon<br>White |
|----------------|-------------------|-------------|--------------------|------------------------|-------------------|------------|------------------|-------------------|
| This Week      | 0                 | 0           | 7                  | 0                      | 0                 | 51         | 76,910           | 0                 |
| Season to Date | 0                 | 0           | 37                 | 50                     | 4                 | 226        | 102,699          | 0                 |

|                | Trout Bull | Trout<br>Cutthroat | Trout<br>Rainbow | Walleye | Whitefish<br>Mountain | Siberian<br>Prawn |   | Other/Not<br>Listed |
|----------------|------------|--------------------|------------------|---------|-----------------------|-------------------|---|---------------------|
| This Week      | 0          | 0                  | 0                | 0       | 0                     | 1                 | 0 | 0                   |
| Season to Date | 0          | 0                  | 0                | 0       | 0                     | 187               | 0 | 59                  |

\*Other/Not Listed Season-to-Date totals include: 52 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<br>Lamprey | Other | Orphan/<br>Unknown | Grand Total |
|----------------|---------|-------|-----------|---------|-----------|--------------------|-------|--------------------|-------------|
| 2020           |         |       | 2         |         |           |                    | 1     |                    | 3           |
| 2021           | 3       |       | 41        |         |           |                    | 1     |                    | 45          |
| 2022           | 5       |       | 102       | 1       |           |                    | 2     |                    | 110         |
| 2023           | 697     | 7     | 697       |         |           |                    |       |                    | 1,401       |
| 2024           | 40,338  | 3,350 | 19,241    | 2,408   | 7         |                    | 6     |                    | 65,350      |
|                |         |       |           |         |           |                    |       | 5,218              | 5,218       |
| Grand Total    | 41,043  | 3,357 | 20,083    | 2,409   | 7         | 0                  | 10    | 5,218              | 72,127      |

## **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, a few sticks and dead adult American shad. The Outfall hydro-cannons are operating.

Higher temperature sampling protocols continued throughout the week as daily average river temperatures remained above 70°F. Modified sampling during higher temperatures means Index/Condition sampling will take place every other day until the daily average 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: three 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](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**

One fin clip was obtained from Pacific Lamprey *macrophthalmia* for Columbia River Inter-Tribal Fish Commission's genetic studies.

### **SECTION 8. Sampling Pictures**



Juvenile American shad (*Alosa sapidissima*), approximately 70mm fork length with eye hemorrhage, sampled at Bonneville Smolt Monitoring Facility this week.