

Pacific States Marine Fisheries Commission

Bonneville Smolt Monitoring Weekly Report, #24-3

Report Period: 3/16 – 3/22, 2024

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SECTION 1. River Flow and Sampling Results

Please note: Our report week encompasses 0700 Saturday through 0700 Friday. Also, please note that all subyearling Chinook on this report are fry.

WEEK 3

| | Min | Max | Mean | | |
|-------------------|-------|-------|---------|-----------|-------|
| | | | Current | Last Week | 2023 |
| A. River Flow | 135.2 | 144.5 | 139.3 | 129.2 | 116.0 |
| B. Powerhouse 1 | 9.5 | 10.4 | 10.1 | 9.4 | 43.2 |
| C. Powerhouse 2 | 114.6 | 119.7 | 117.3 | 109.4 | 62.6 |
| D. Spill (kfcfs) | 1.4 | 4.4 | 1.9 | 1.4 | 6.3 |
| % of River Flow | 1.0 | 3.0 | 1.3 | 1.1 | 5.4 |
| E. Water Temp * | 44.7 | 46.4 | 45.7 | 43.9 | 41.4 |
| F. % Saturation * | | | | | |

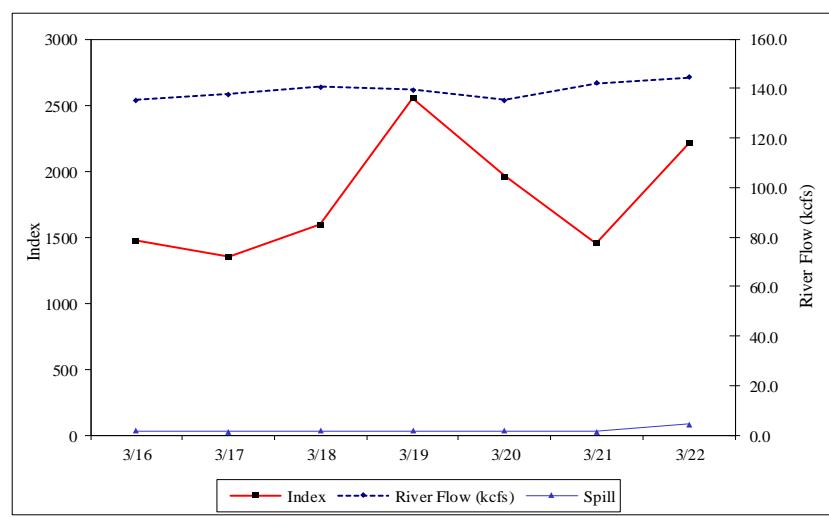
* In sampling facility.

| % SAMPLE COMPOSITION | This Week | Last Week |
|----------------------|-----------|-----------|
| YEARLING CHINOOK | 3.1% | 7.6% |
| SUBYEARLING CHINOOK | 0.0% | 0.0% |
| CHINOOK FRY | 95.9% | 89.7% |
| UNCLIPPED STEELHEAD | 0.2% | 0.3% |
| CLIPPED STEELHEAD | 0.0% | 0.0% |
| COHO | 0.1% | 0.5% |
| COHO FRY | 0.7% | 1.9% |
| 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 | |
| 3/16 | 20.0% | 5 | 0.0 | 0.0 | 25 | 27 | 257 | 0.0 | 1.2 | 1,285 | 1,407 | 5 | 0.0 | 0.0 | 25 | 27 | |
| 3/17 | 20.0% | 8 | 0.0 | 0.0 | 40 | 44 | 232 | 0.0 | 1.3 | 1,160 | 1,272 | 5 | 0.0 | 0.0 | 25 | 27 | |
| 3/18 | 20.0% | 9 | 0.0 | 0.0 | 45 | 49 | 278 | 0.0 | 2.5 | 1,390 | 1,528 | 2 | 0.0 | 0.0 | 10 | 11 | |
| 3/19 | 20.0% | 7 | 0.0 | 0.0 | 35 | 38 | 454 | 0.0 | 2.2 | 2,270 | 2,496 | 2 | 0.0 | 0.0 | 10 | 11 | |
| 3/20 | 20.0% | 10 | 0.0 | 0.0 | 50 | 55 | 345 | 0.0 | 1.7 | 1,725 | 1,900 | 1 | 0.0 | 0.0 | 5 | 6 | |
| 3/21 | 20.0% | 13 | 0.0 | 0.0 | 65 | 71 | 249 | 0.0 | 0.4 | 1,245 | 1,366 | 2 | 0.0 | 0.0 | 10 | 11 | |
| 3/22 | 20.0% | 18 | 0.0 | 5.6 | 90 | 101 | 373 | 0.0 | 2.4 | 1,865 | 2,095 | 0 | 0.0 | 0.0 | 0 | 0 | |
| Weekly | | 70 | 0.0 | 1.4 | 350 | 387 | 2,188 | 0.0 | 1.8 | 10,940 | 12,064 | 17 | 0.0 | 0.0 | 85 | 93 | |
| Season to date | | 558 | 0.0 | 0.4 | 3,487 | 3,842 | 3,676 | 0.0 | 1.3 | 19,545 | 21,538 | 49 | 0.0 | 0.0 | 272 | 299 | |

| UNCLIPPED | | | | | | STEELHEAD | | | | | | CLIPPED | | | | | | SOCKEYE | | | | | |
|----------------|-------------|---------|--------|--------|--------|-----------|---------|--------|--------|--------|-------|---------|--------|--------|--------|-------|---------|---------|--------|--------|-------|--|--|
| End Date | Sample Rate | # Smpld | % Desc | % Mort | # Coll | Index | # Smpld | % Desc | % Mort | # Coll | Index | # Smpld | % Desc | % Mort | # Coll | Index | # Smpld | % Desc | % Mort | # Coll | Index | | |
| 3/16 | 20.0% | 1 | 0.0 | 0.0 | 5 | 5 | 0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0 | | |
| 3/17 | 20.0% | 1 | 0.0 | 0.0 | 5 | 5 | 0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0 | | |
| 3/18 | 20.0% | 1 | 0.0 | 0.0 | 5 | 5 | 0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0 | | |
| 3/19 | 20.0% | 1 | 0.0 | 0.0 | 5 | 5 | 0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0 | | |
| 3/20 | 20.0% | 0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0 | | |
| 3/21 | 20.0% | 1 | 0.0 | 0.0 | 5 | 5 | 0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0 | | |
| 3/22 | 20.0% | 0 | 0.0 | 0.0 | 0 | 0 | 1 | 0.0 | 0.0 | 5 | 6 | 1 | 0.0 | 0.0 | 5 | 6 | 1 | 0.0 | 0.0 | 5 | 6 | | |
| Weekly | | 5 | 0.0 | 0.0 | 25 | 27 | 1 | 0.0 | 0.0 | 5 | 6 | 1 | 0.0 | 0.0 | 5 | 6 | 1 | 0.0 | 0.0 | 5 | 6 | | |
| Season to date | | 10 | 0.0 | 0.0 | 50 | 55 | 1 | 0.0 | 0.0 | 5 | 6 | 1 | 0.0 | 0.0 | 5 | 6 | 1 | 0.0 | 0.0 | 5 | 6 | | |

| TOTAL | | | | | | |
|----------------|-------------|---------|--------|--------|--------|--------|
| End Date | Sample Rate | # Smpld | % Desc | % Mort | # Coll | Index |
| 3/16 | 20.0% | 268 | 0.0 | 1.1 | 1,340 | 1,468 |
| 3/17 | 20.0% | 246 | 0.0 | 1.2 | 1,230 | 1,348 |
| 3/18 | 20.0% | 290 | 0.0 | 2.4 | 1,450 | 1,594 |
| 3/19 | 20.0% | 464 | 0.0 | 2.2 | 2,320 | 2,551 |
| 3/20 | 20.0% | 356 | 0.0 | 1.7 | 1,780 | 1,960 |
| 3/21 | 20.0% | 265 | 0.0 | 0.4 | 1,325 | 1,454 |
| 3/22 | 20.0% | 393 | 0.0 | 2.5 | 1,965 | 2,207 |
| Weekly | | 2,282 | 0.0 | 1.8 | 11,410 | 12,583 |
| Season to date | | 4,295 | 0.0 | 1.2 | 23,364 | 25,745 |



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

Chum Fry Sampling Results

| CHUM FRY | | | | | | |
|----------------|-------------|---------|--------|--------|--------|-------|
| End Date | Sample Rate | # Smpld | % Desc | % Mort | # Coll | Index |
| 3/16 | 20.0% | 13 | 0.0 | 0.0 | 65 | 71 |
| 3/17 | 20.0% | 11 | 0.0 | 0.0 | 55 | 60 |
| 3/18 | 20.0% | 1 | 0.0 | 0.0 | 5 | 5 |
| 3/19 | 20.0% | 2 | 0.0 | 0.0 | 10 | 11 |
| 3/20 | 20.0% | 11 | 0.0 | 0.0 | 55 | 61 |
| 3/21 | 20.0% | 6 | 0.0 | 0.0 | 30 | 33 |
| 3/22 | 20.0% | 11 | 0.0 | 9.1 | 55 | 62 |
| Weekly | | 55 | 0.0 | 0.0 | 275 | 303 |
| Season to date | | 106 | 0.0 | 0.9 | 530 | 583 |

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 3 | Pacific Lamprey | | | | | | Western Brook | | | | | |
|----------------|-----------------|--------|--------|------------|--------|--------|---------------|--------|--------|------------|--------|--------|
| | Macrophthalmia | | | Ammocoetes | | | Ammocoetes | | | Ammocoetes | | |
| End Date | # Smpld | % Mort | # Coll | # Smpld | % Mort | # Coll | # Smpld | % Mort | # Coll | # Smpld | % Mort | # Coll |
| 3/16 | 5 | 0.0 | 25 | 1 | 0.0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3/17 | 6 | 0.0 | 30 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3/18 | 11 | 0.0 | 55 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3/19 | 12 | 0.0 | 60 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3/20 | 13 | 7.7 | 65 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3/21 | 0 | 0.0 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3/22 | 6 | 0.0 | 30 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Weekly | 53 | 1.9 | 265 | 1 | 0.0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| Season to date | 103 | 3.9 | 535 | 2 | 0.0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 |

SECTION 3. Smolt and Juvenile Lamprey Condition Monitoring Summary

Smolt Condition

| WEEK 3 | | Yearling Chinook | Subyearling Chinook | Unclipped Steelhead | Clipped Steelhead | Coho | Sockeye |
|------------------|---|------------------|---------------------|---------------------|-------------------|-----------|-----------|
| SAMPLE # | | This Week | Last Week | This Week | Last Week | This Week | Last Week |
| DESCALING | 3-19% >20% Pred. Desc. | 7.2% | | | 33.3% | | |
| INJURY | BODY EYE HEAD OPERC. FIN POPEYE | 7.2% 2.9% | 1.5% 1.5% | | | | |
| OTHER CONDITIONS | PINK FIN Fin Discolor. FIN HEM. | | | | | | |
| DISEASE | Columnaris FUNGUS BKD PARASITES DEFORMITY EYE HEM. | | 8.7% 10.6% | | | | |
| PREDATION | BIRD FISH LAMPREY OTHER | | 1.4% | | | | |
| end dates | | 3/22 | 3/15 | | | | |

Juvenile Lamprey Condition

| Week 3 | | | 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 | 3/22 | 52 | | | | | 1.9% | | 3.8% | | | | 3.8% |
| | Last Week | 3/15 | 33 | | | | | 3.0% | | 3.0% | | 3.0% | | 9.1% |
| AP - Ammocoetes | SAMPLE # | | | | | | | | | | | | | |
| | This Week | 3/22 | 1 | | | | | | | | | | | |
| Last Week | 3/15 | 1 | | | | | | | | | | | | |

SECTION 4. Incidental Summary

| Week 3 | Bass Largemouth | Bass Smallmouth | Bluegill and Pumpkinseed | Bullhead | Carp | Catfish, Channel | Chiselmouth | Crappie species |
|----------------|--------------------|--------------------|-----------------------------|------------------------|-----------------------|------------------------|------------------|---------------------|
| This Week | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Season to Date | 0 | 2 | 3 | 1 | 0 | 1 | 0 | 0 |
| | | | | | | | | |
| This Week | Dace - Longnose | Dace - Speckled | Chinook Jack | Kokanee | Lamprey Adult | Northern Pikeminnow | Peamouth | Perch Yellow |
| | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 18 |
| Season to Date | 0 | 0 | 0 | 0 | 0 | 2 | 6 | 38 |
| | | | | | | | | |
| This Week | Redside Shiner | Sand Roller | Sculpin species | Stickleback 3 spine | Sucker species | Shad Adult | Shad Juvenile | Sturgeon White |
| | 0 | 0 | 1 | 10 | 0 | 0 | 0 | 0 |
| Season to Date | 0 | 0 | 3 | 22 | 1 | 0 | 0 | 0 |
| | | | | | | | | |
| This Week | Trout Bull | Trout Cutthroat | Trout Rainbow | Walleye | Whitefish Mountain | Siberian Prawn | | Other/Not Listed |
| | 0 | 0 | 0 | 0 | 0 | 48 | 0 | 17 |
| Season to Date | 0 | 0 | 0 | 0 | 0 | 99 | 0 | 24 |
| | | | | | | | | |

*Other/Not listed in this week's totals include: 16 Banded killifish and one Pink salmon fry.

Season-to-Date totals include: 22 Banded killifish and two 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 |
|----------------|---------|------|-----------|---------|-----------|--------------------|-------|--------------------|-------------|
| 2021 | | | 5 | | | | | | 5 |
| 2022 | 1 | | 1 | | | | | | 2 |
| 2023 | 6 | | 14 | | | | | | 20 |
| 2024 | 219 | | | | | | | 1 | 219 |
| Grand Total | 226 | 0 | 20 | 0 | 0 | 0 | 0 | 1 | 247 |

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 ranged from moderate to heavy consisting mostly of sticks and other woody debris. The Outfall hydro-cannons are operating.

Fallbacks observed this week: four steelhead.

SECTION 7. Research

A total of 51 fin clips were obtained from Pacific Lamprey macrourhalmia and one from a Pacific Lamprey ammocoete for Columbia River Inter-Tribal Fish Commission's genetic studies this week.

SECTION 8. Sampling Pictures



Pink salmon fry (*Oncorhynchus gorbuscha*), approximately 35 mm, sampled at Bonneville Smolt Monitoring Facility this report week.