

Current Status of Cowlitz River Salmonids

Science Conference and
Annual Program Review

Greg Mackey,
Four Peaks Environmental
&
Tacoma Power

August 22, 2023



Today's Presentations

Tacoma Power Operations

- 10:40 AM** • Project Operations
- 11 AM** • Hatchery Operations
- 11:20 AM** • Habitat Efforts

Fish Information

- 11:40 PM** • Fish Passage
- 12 PM** • Pre-Terminal/Terminal Harvest

LUNCH – 12:20 PM – 1:20 PM

Fish Information continued

- 1:20 PM** • Lower Cowlitz Adult Estimates
- 1:40 PM** • Adult Returns to the Separator
- 2 PM** • Update on Early Winter Steelhead Run Timing
- 2:20 PM** • Update on Fall Chinook Carcass Tagging

Break – 2:40 PM – 3 PM

Annual Program Review

- 3 PM** • APR Introduction
- 3:20 PM** • Cowlitz Hatchery Operation and Programs

Melora Shelton, Tacoma Power

Eric Shoblom, Tacoma Power

Matt Peter, Tacoma Power

Gabe McGuire, Tacoma Power

Josua Holowatz, WDFW

John Serl, WDFW

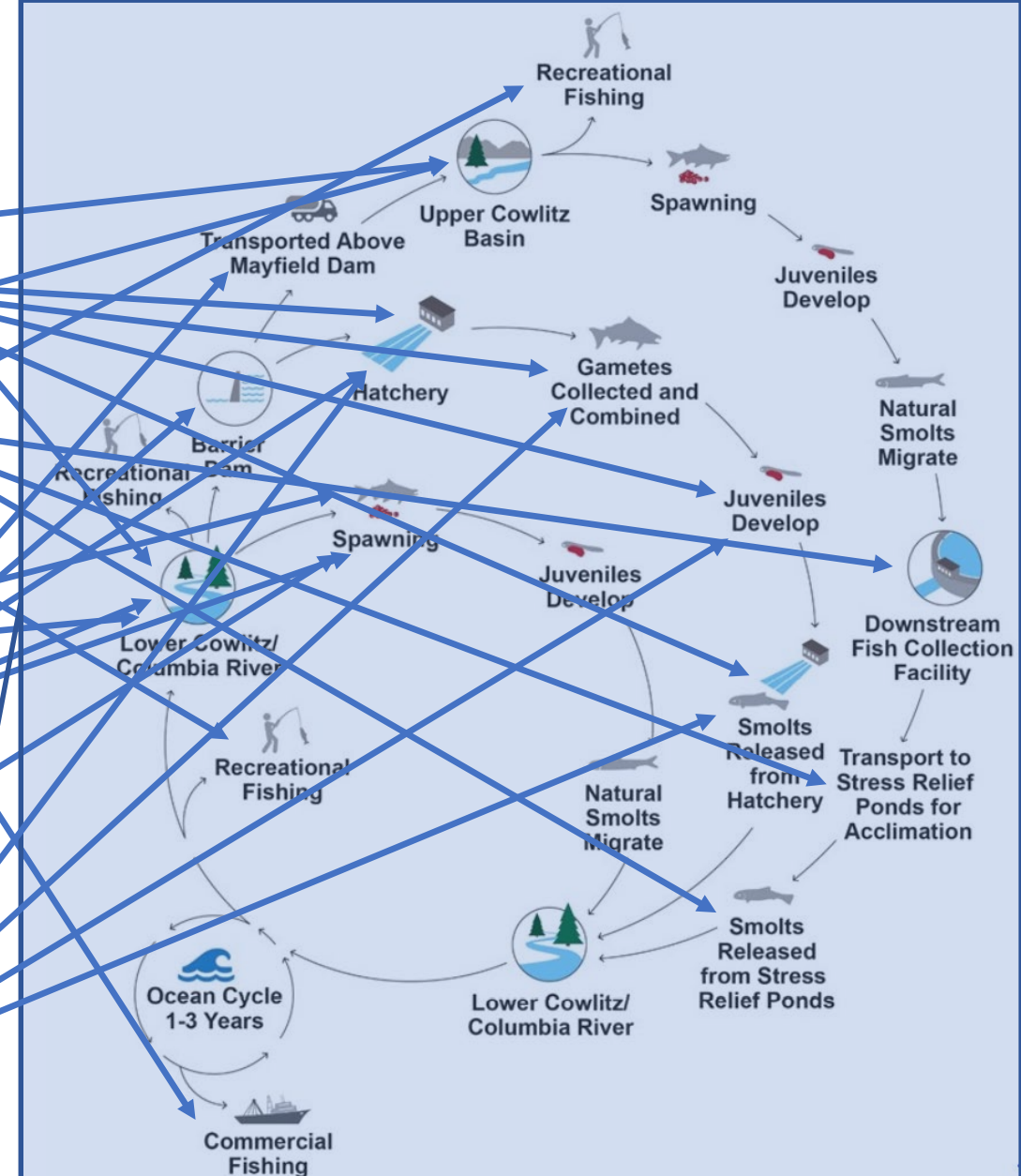
Jamie Murphy, Tacoma Power

John Serl, WDFW

John Serl/Erick Rockwood/Thomas Buehrens, WDFW

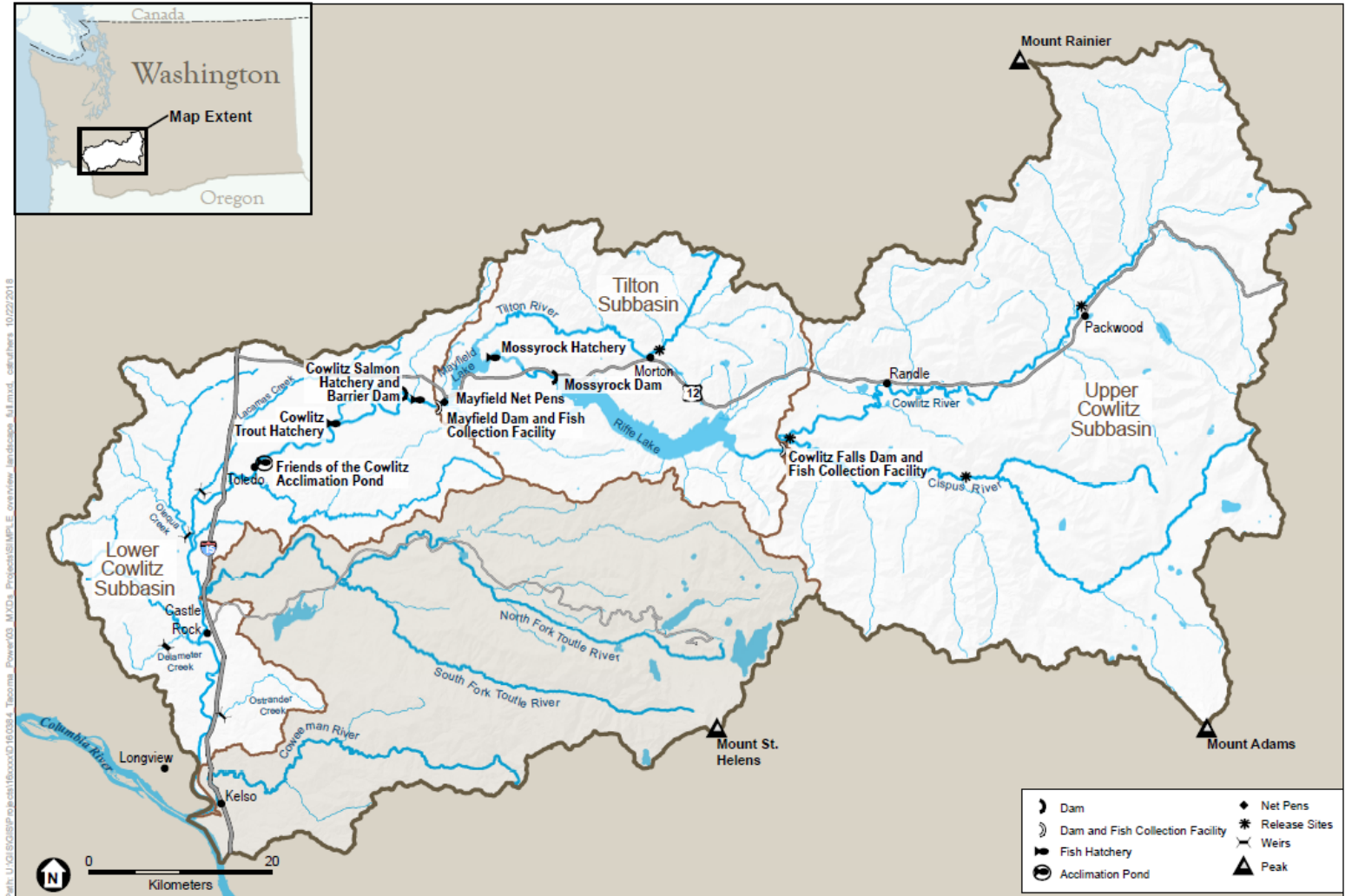
Matt Bleich, Tac Pwr; Bryce Glaser, WDFW

Eric Shoblom, Tacoma Power



Current Status

- Lower Cowlitz Fall Chinook
- Upper Cowlitz Basin Fall Chinook
- Lower Cowlitz Coho
- Tilton River Coho
- Upper Cowlitz Basin Coho
- Lower Cowlitz Steelhead
- Tilton River Steelhead
- Upper Cowlitz Basin Steelhead



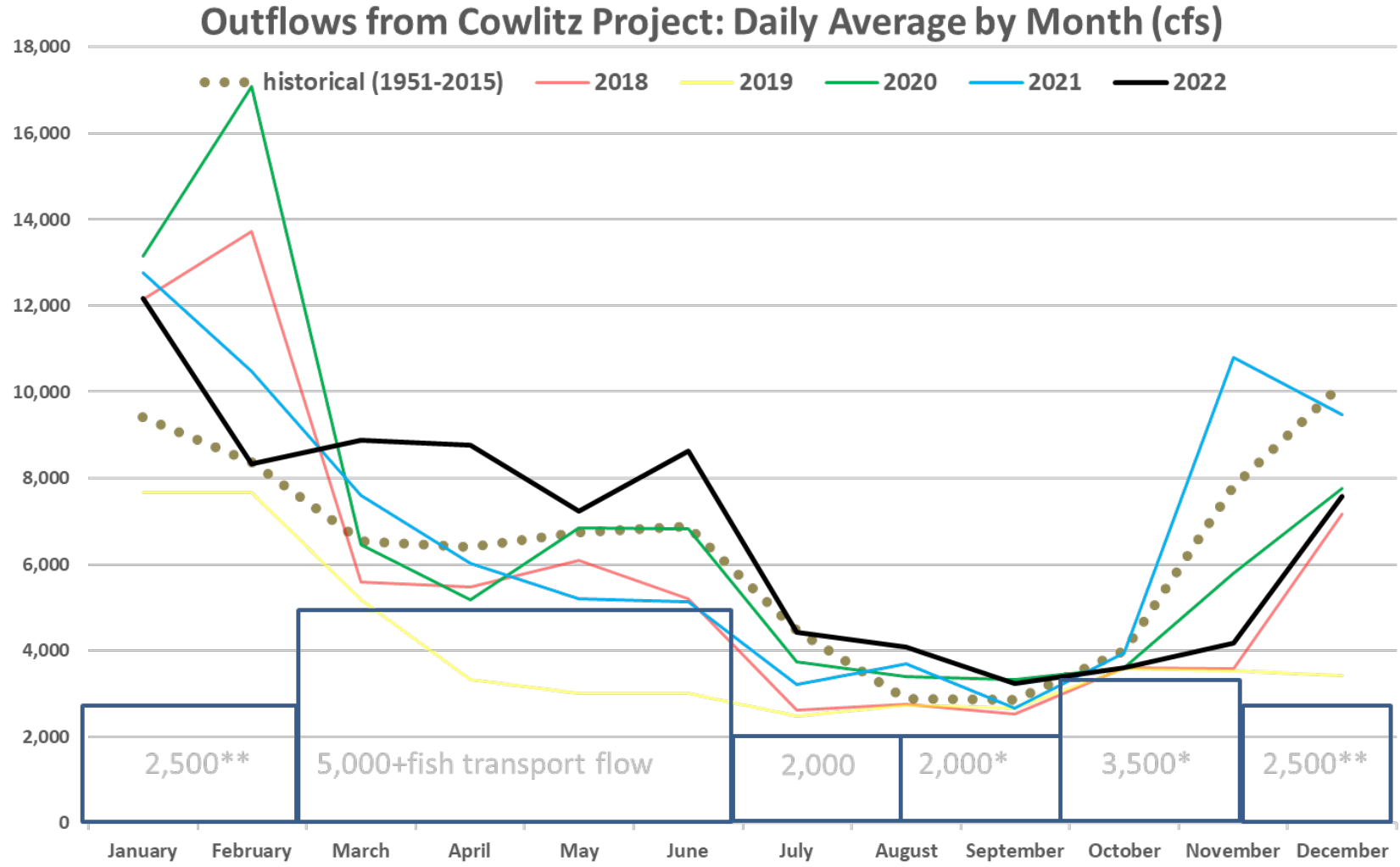
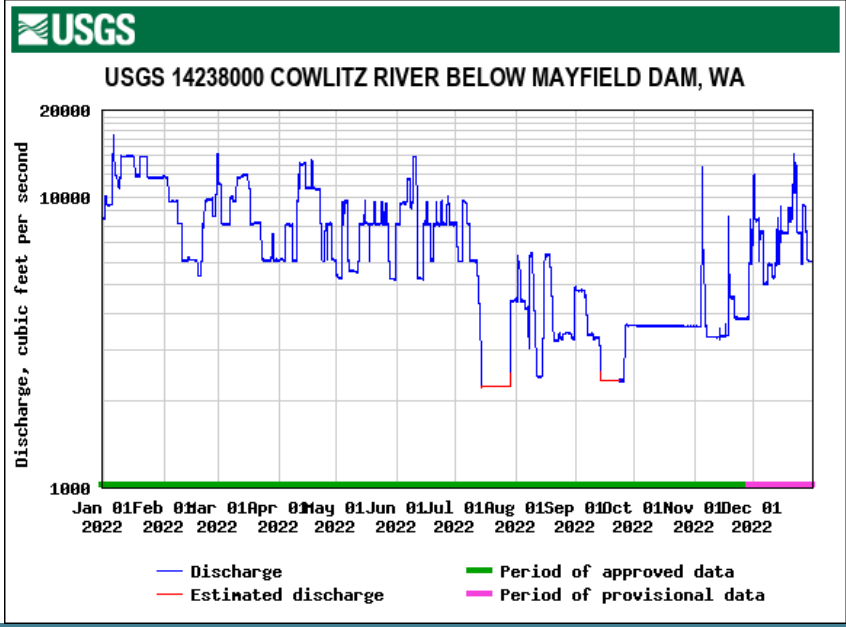
SOURCE: SWIFD, 2014; WDNR, 2017

Tacoma Power
Figure 1
 Cowlitz River Subbasins

APR Status Data: Upper Cowlitz Coho

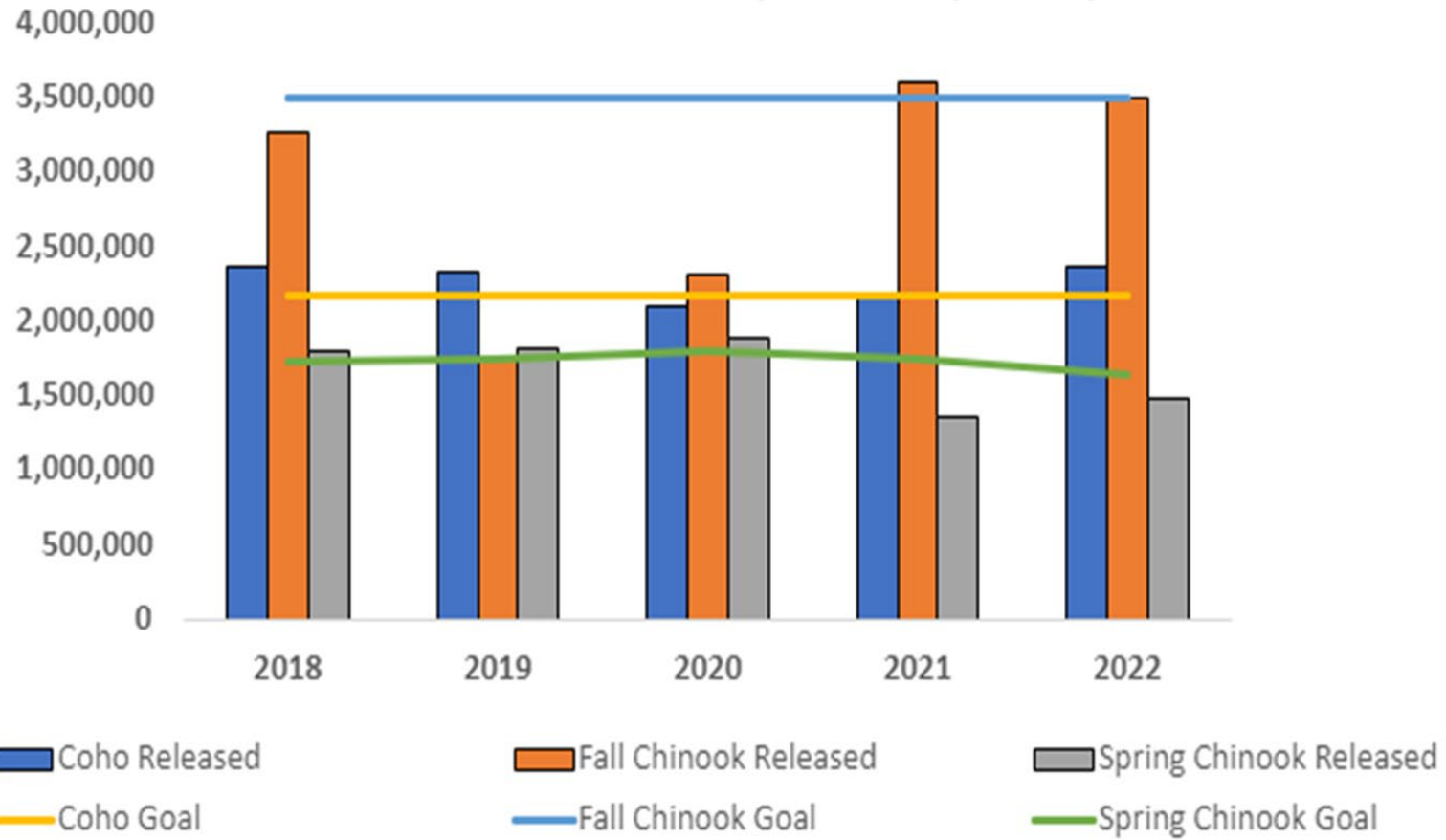
| | Adults | | Hatchery | | Juvenile Production | | | Harvest | |
|------|--------|--------|--------------------|------------|---------------------|-----|-----|---------|-----|
| Year | HOR | NOR | Broodstock Spawned | Production | Fish Captured | FCE | FPS | HOR | NOR |
| 2017 | 10,153 | 6,141 | 579 | 1,201,922 | 26,196 | 50% | 52% | 1,353 | 0 |
| 2018 | 16,635 | 1,187 | 671 | 1,127,160 | 161,529 | 81% | 82% | 560 | 0 |
| 2019 | 7,466 | 4,016 | 566 | 1,055,449 | 184,713 | 90% | 93% | TBD | TBD |
| 2020 | 24,646 | 10,393 | 650 | 1,003,205 | 127,544 | 69% | 72% | TBD | TBD |
| 2021 | 25,330 | 11,054 | 741 | 968,489 | 158,096 | 66% | 69% | TBD | TBD |
| 2022 | 15,973 | 11,814 | 706 | | 102,557 | 28% | 29% | TBD | TBD |

Hydro Operations



Hatchery Programs

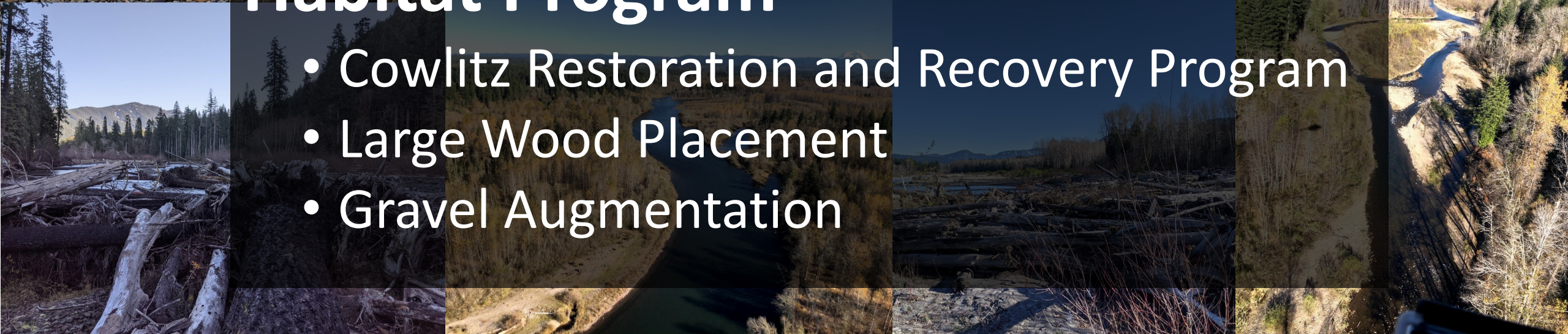
Cowlitz Salmon Hatchery Releases (5 Years)



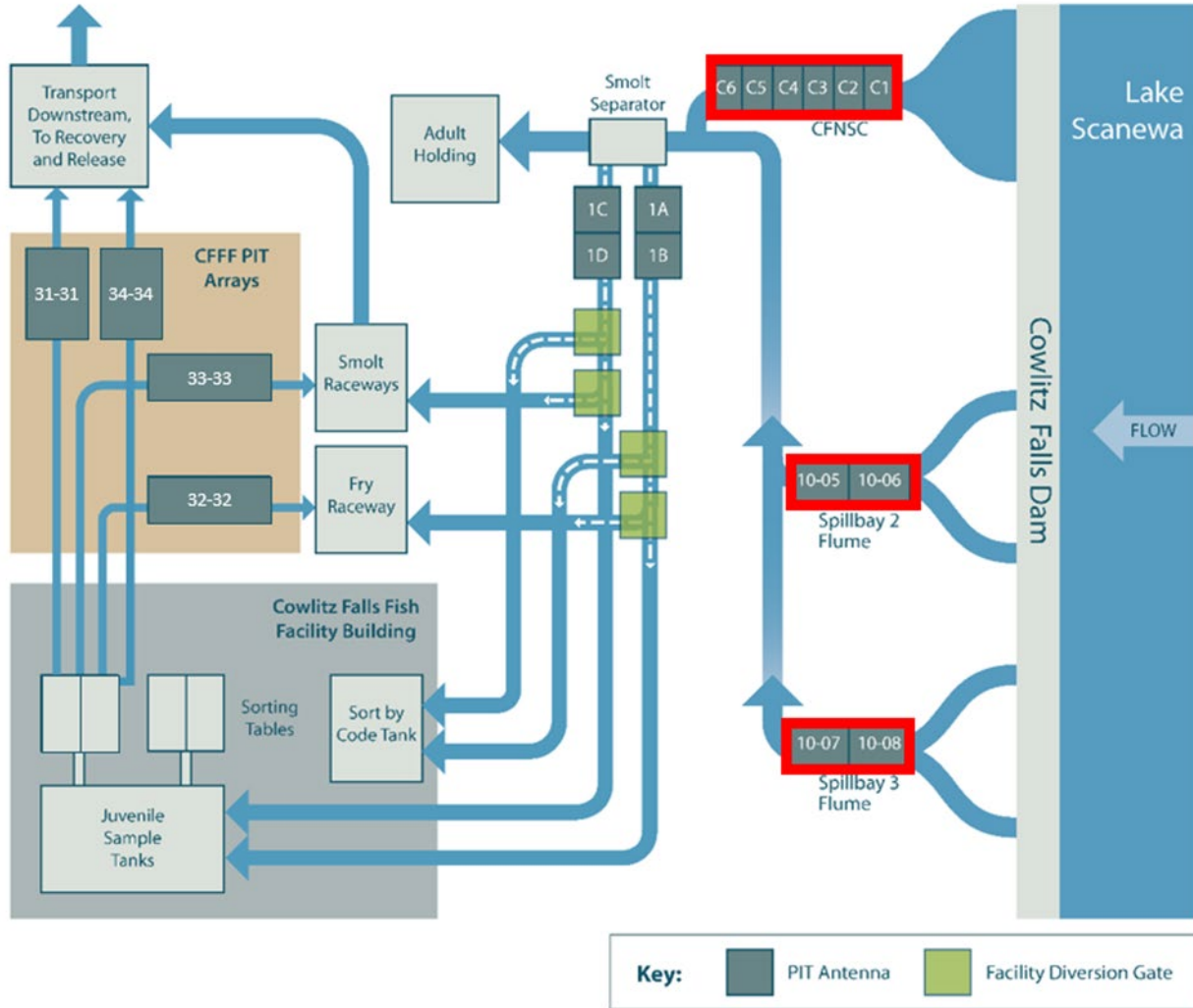


Habitat Program

- Cowlitz Restoration and Recovery Program
- Large Wood Placement
- Gravel Augmentation

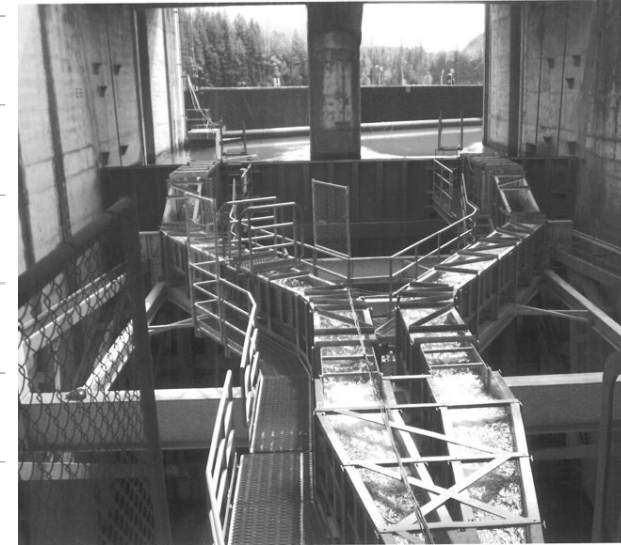
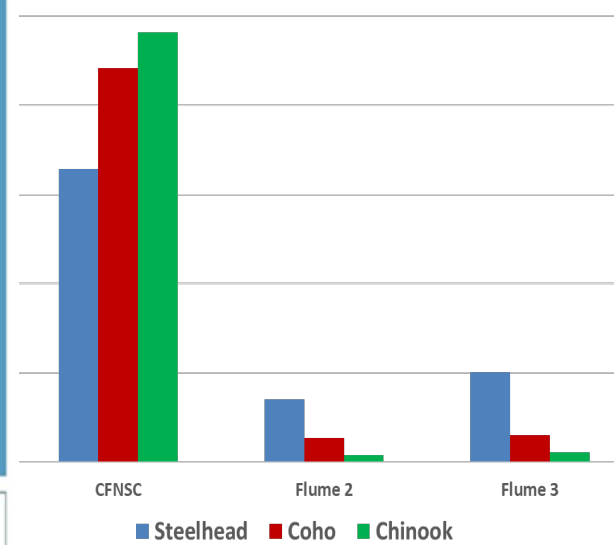


Fish Passage



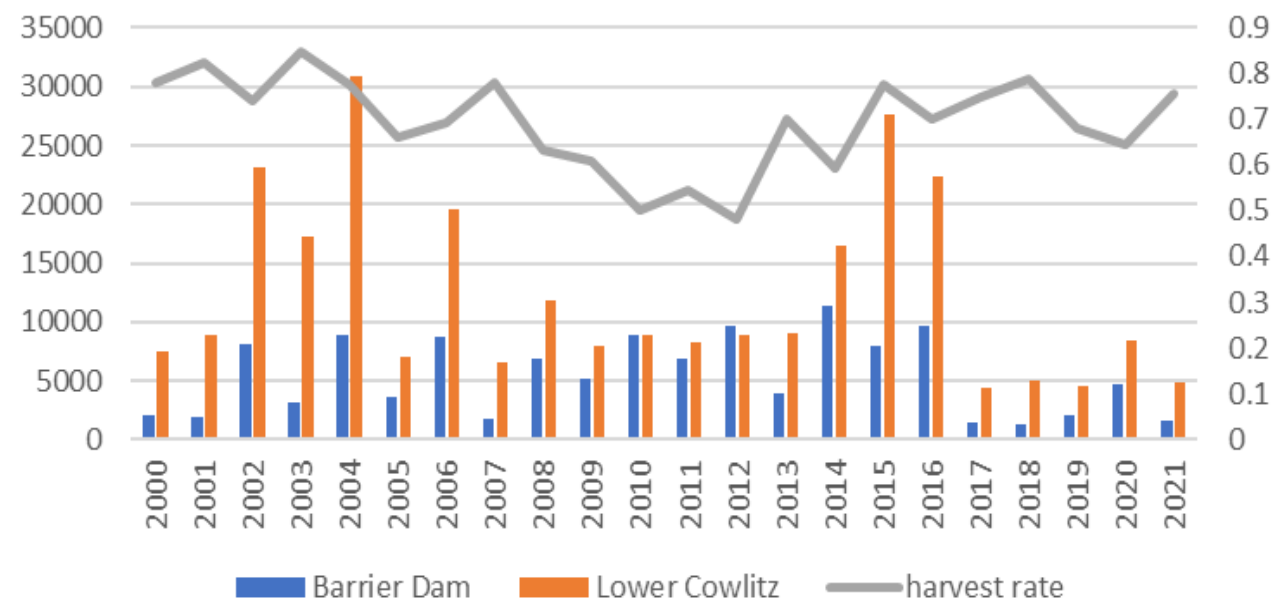
Smolts – all age classes

| | Chinook | Coho | Steelhead | Cutthroat | Total |
|-------------|---------|---------|-----------|-----------|---------|
| 2017 | 56,345 | 26,196 | 4,860 | 952 | 88,353 |
| 2018 | 27,070 | 161,529 | 14,450 | 1070 | 204,119 |
| 2019 | 62,885 | 184,713 | 11,892 | 684 | 260,174 |
| 2020 | 7,315 | 127,544 | 8,287 | 1,171 | 144,317 |
| 2021 | 13,110 | 158,096 | 9,975 | 1,528 | 182,709 |
| 2022 | 6,656 | 102,094 | 8,388 | 1,081 | 118,219 |



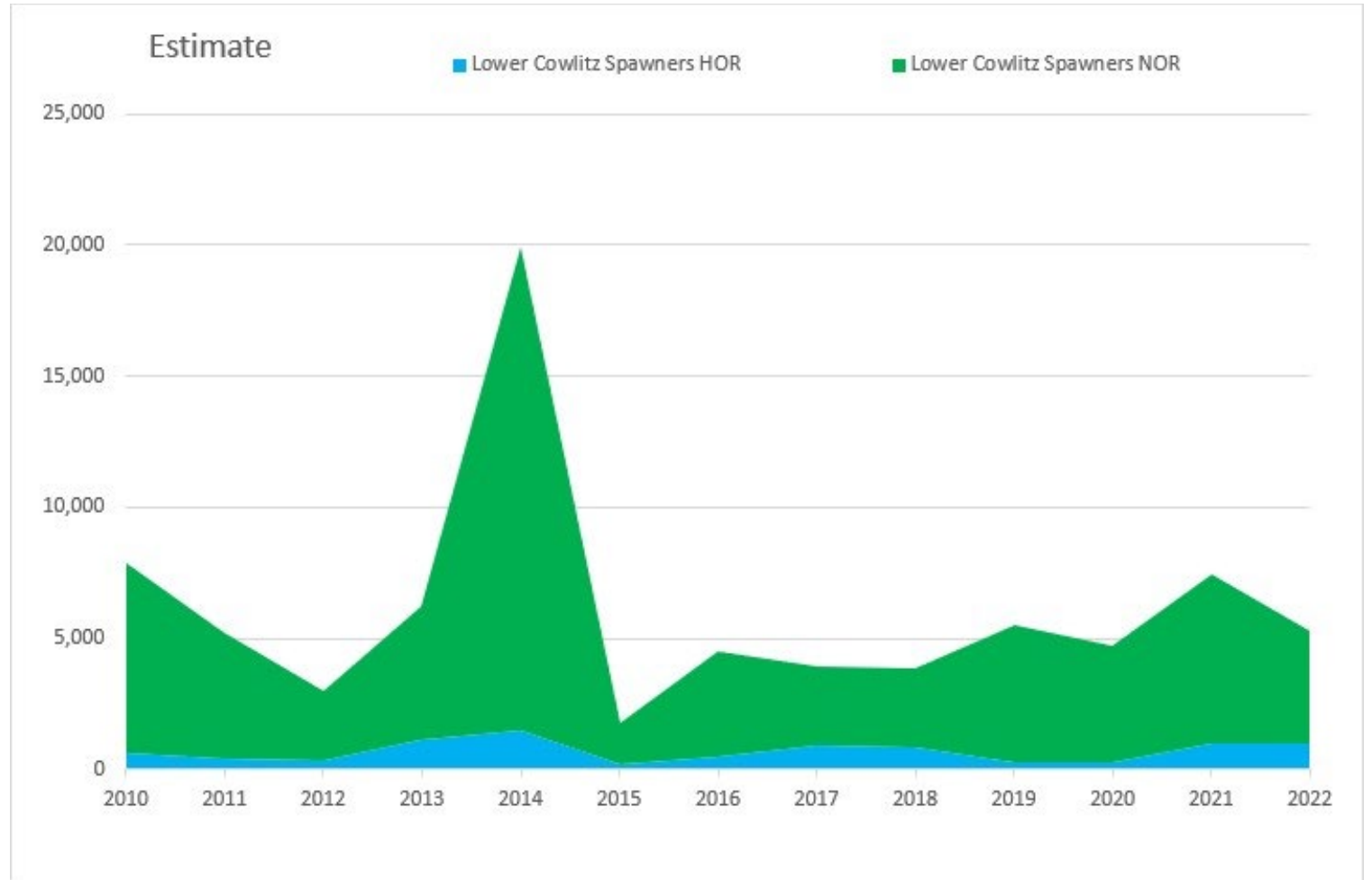


Lower Cowlitz Summer Steelhead Harvest 2000-2021



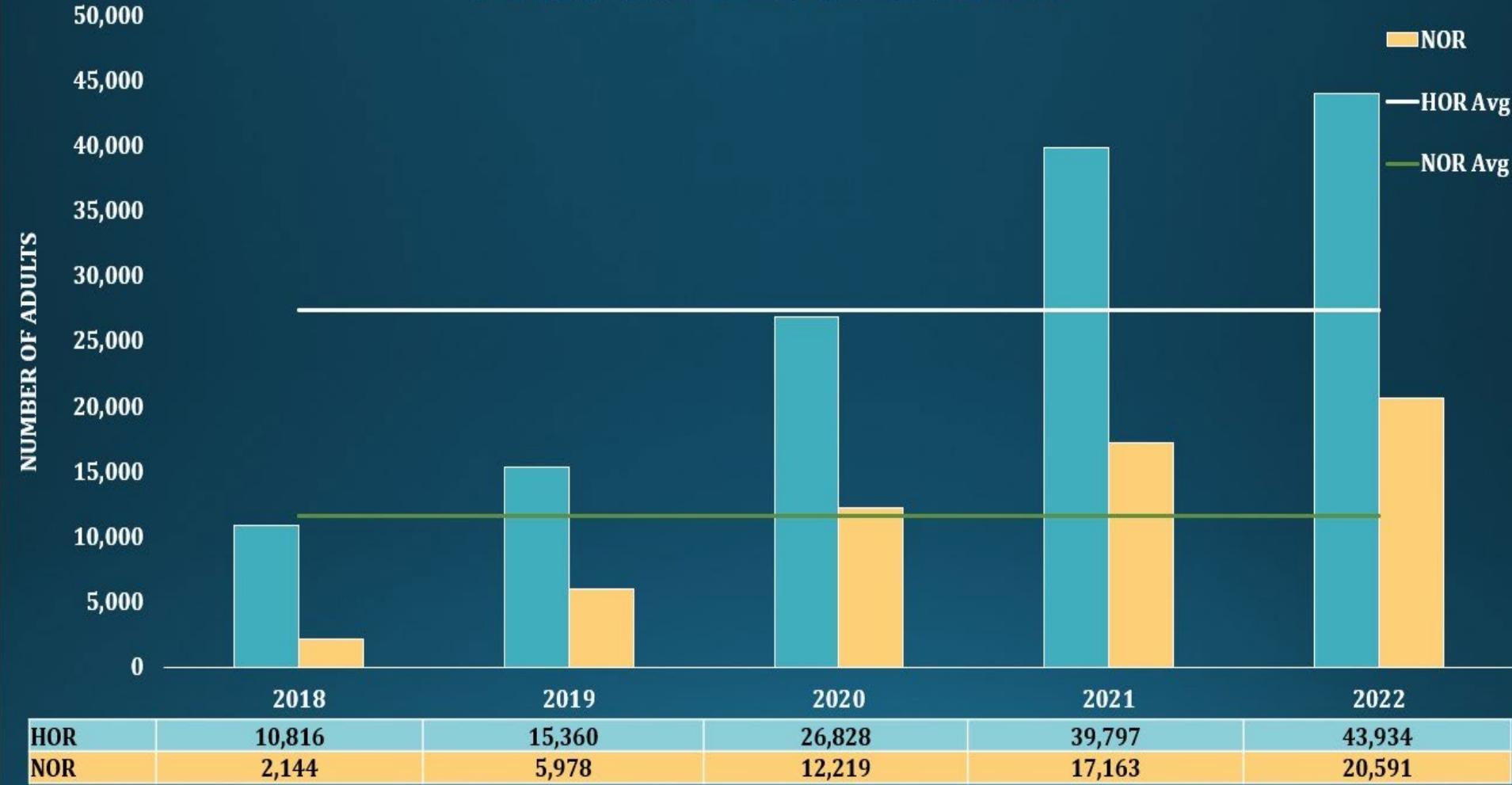
Pre-terminal and Terminal Harvest

Lower Cowlitz Adult Abundance Estimates

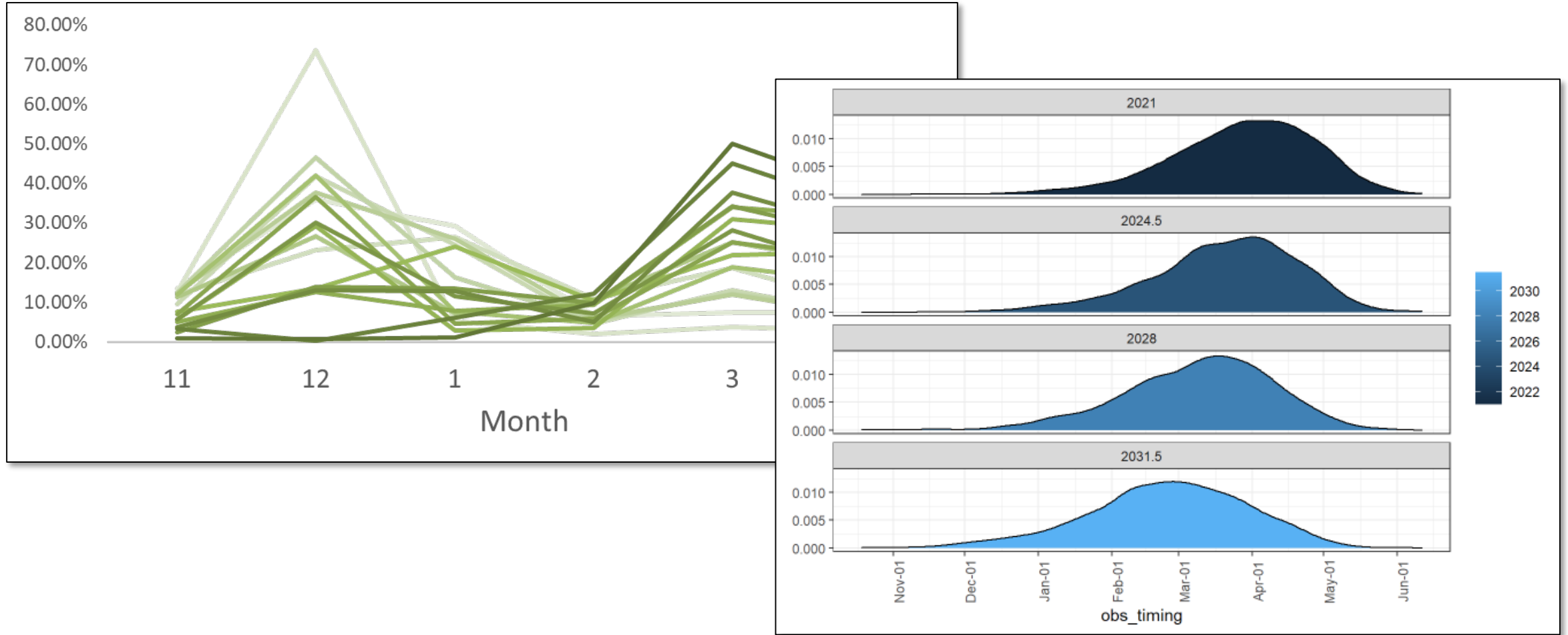


Adult Returns to the Separator

COHO ADULT RETURNS

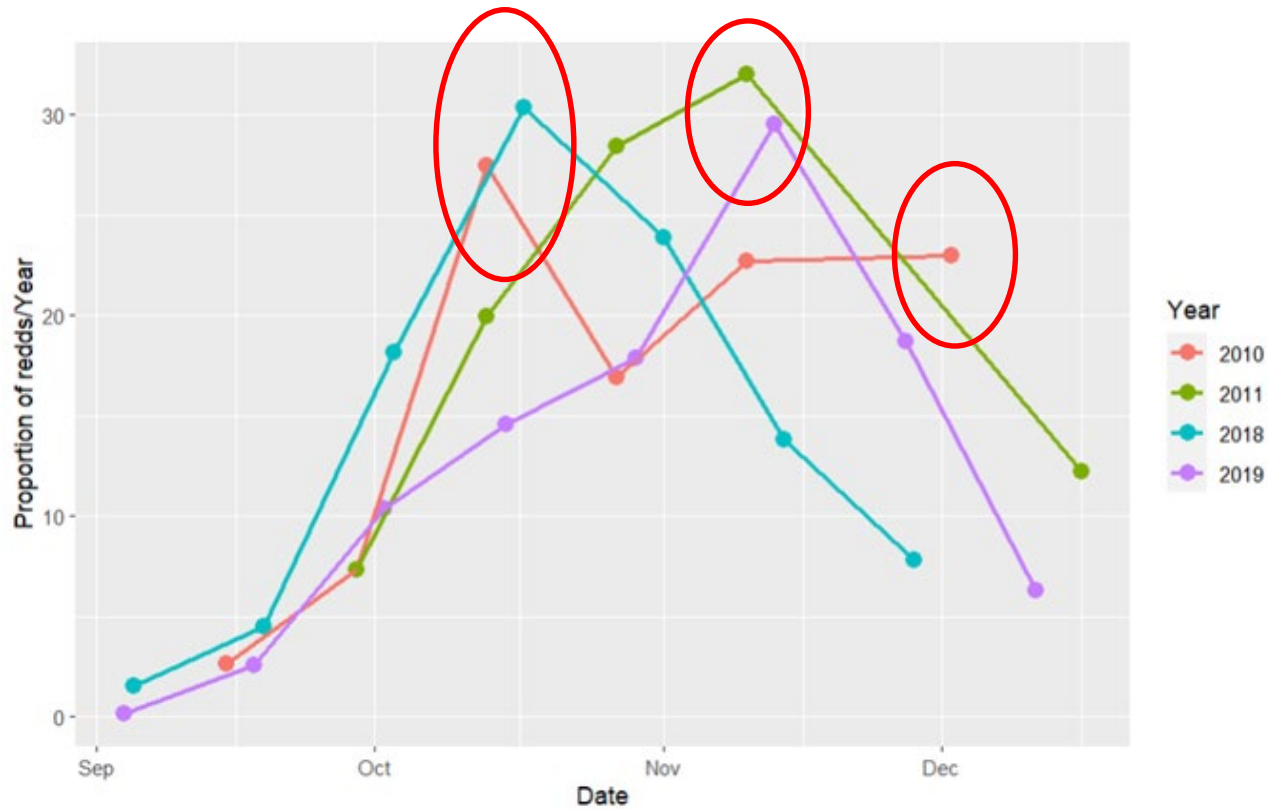


Early Winter Steelhead Run Timing



Fall Chinook Spawner Abundance Estimates

Peak Count Expansion



Mark-Recapture: Jolly-Seber Estimate



What Did 2022 Look Like for the Cowlitz?

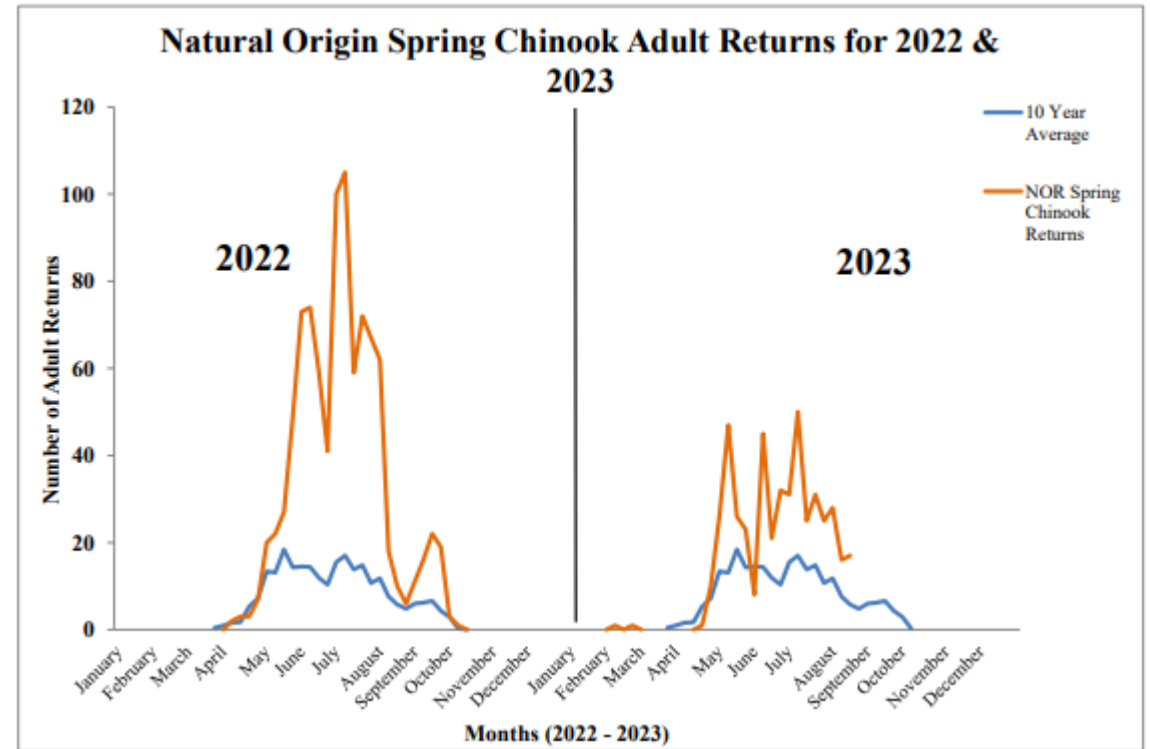
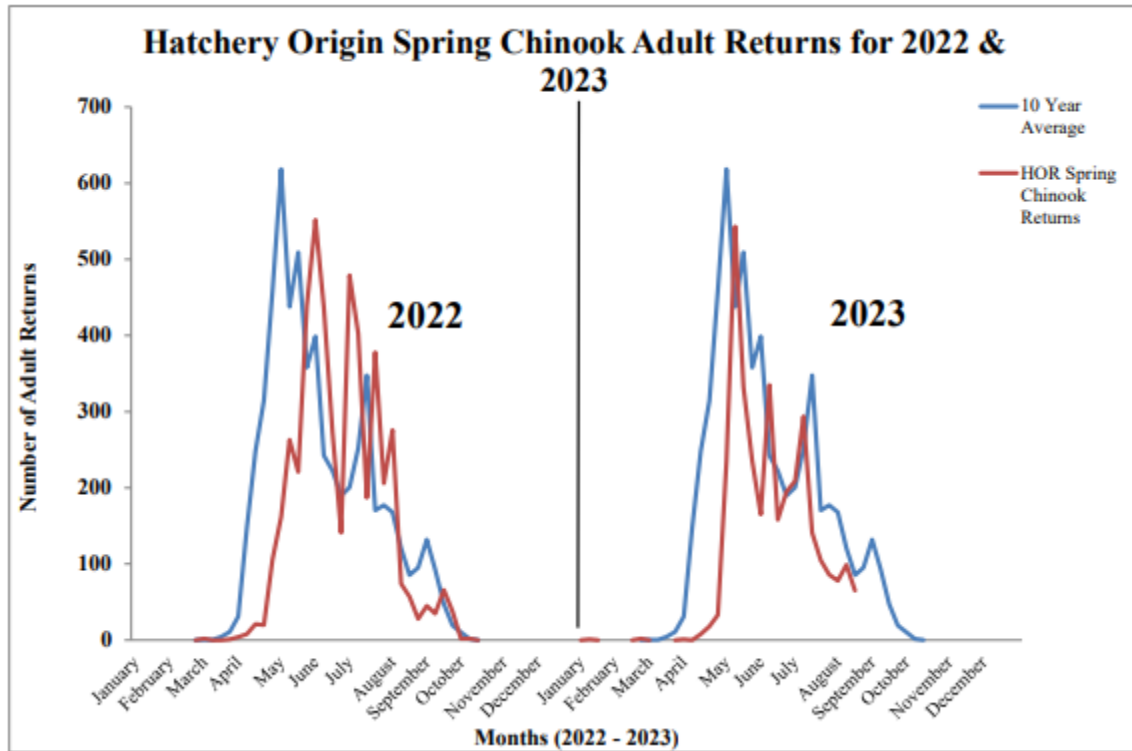
- Adult Abundances:

| | Lower Cowlitz | | Tilton | | Upper Cowlitz/Cispus | |
|------------------|---------------|-------|--------|-------|----------------------|--------|
| | HOR | NOR | HOR | NOR | HOR | NOR |
| Spring Chinook | 111 | 0 | -- | -- | 3,279 | 954 |
| Fall Chinook | 327 | 2,945 | 72 | 554 | -- | -- |
| Coho | 1,019 | 4,294 | 13,336 | 7,897 | 15,973 | 11,814 |
| Winter Steelhead | 300 | 324 | 255 | 132 | 271 | 609 |

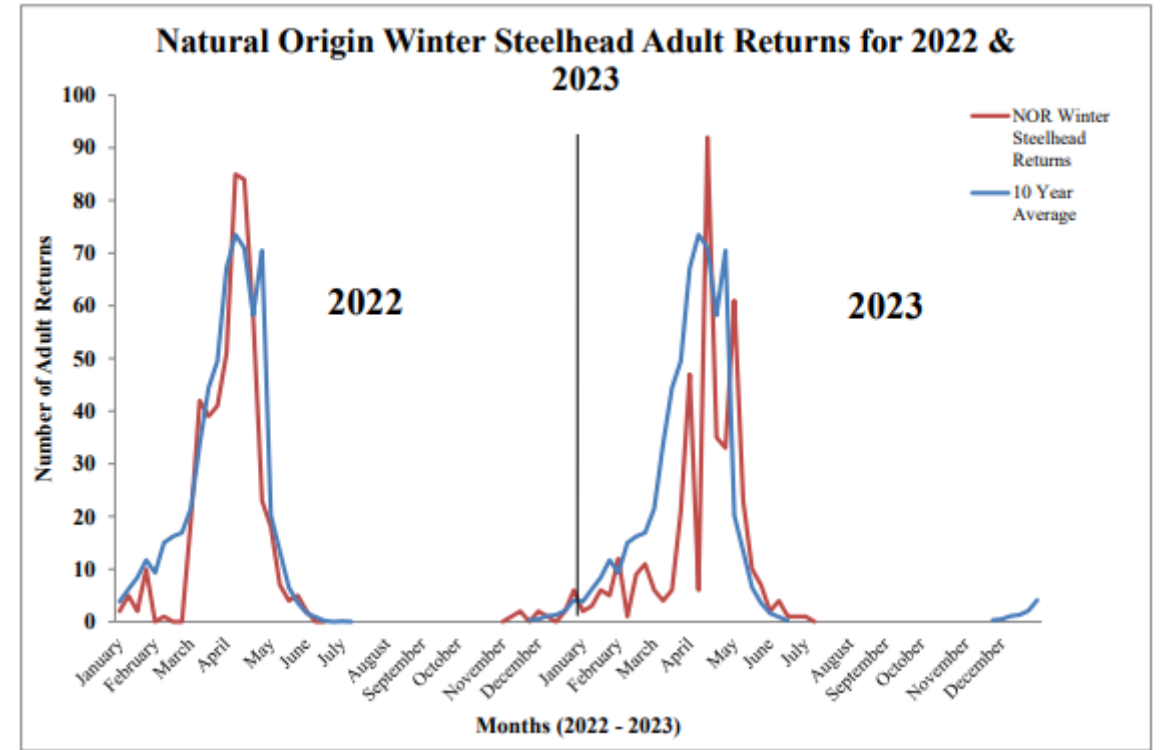
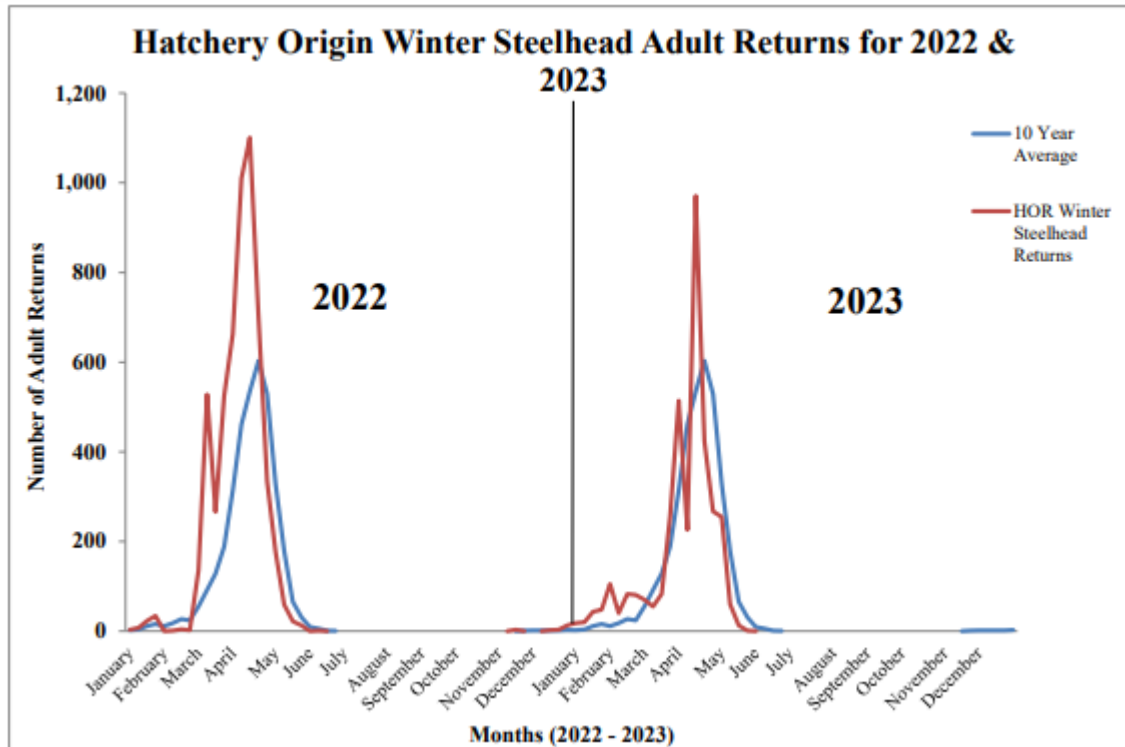
- Juvenile Abundances:

| | Tilton | Upper Cowlitz/Cispus |
|------------------|--------|----------------------|
| Spring Chinook | -- | 7,126 |
| Fall Chinook | 21,700 | -- |
| Coho | 36,747 | 102,557 |
| Winter Steelhead | 7,255 | 8,409 |

Early 2023 Information...Spring Chinook



Early 2023 Information...Winter Steelhead





Questions?