



Priest Rapids Fish Forum

Conference Call

Wednesday, 6 November 2024

9:00 a.m. – 10:00 a.m.

FINAL MINUTES

PRFF Members

RD Nelle, Emily Orling, USFWS
Ralph Lampman, Keely Murdoch, YN
Nathan and Clayton Buck, Wanapum
Jason McLellan, Bret Nine, CTCR
Mike Clement, Chris Mott, Grant PUD
Tracy Hillman, Chair

Patrick Verhey, Benjamin Cox, WDFW
Chad Brown, WDOE
Aaron Jackson, Carl Merkle, CTUIR
Steve Lewis, BIA
N/A, CRITFC

Meeting Attendees

Mike Clement, Grant PUD
Steve Lewis, BIA
Patrick Verhey, WDFS
Laura Heironimus, WDFW
Todd Miller, WDFW
Shannon Adams, YN
Chris Mott, Grant PUD
Tracy Hillman, Chair

RD Nelle, USFWS
Emily Orling, USFWS
Tygh Schuster, YN
Joseph LeMoine, Grant PUD
Nate Patterson, YN
Paul Grutter, WSP
Erin Harris, Grant PUD

Action Items:

- Ralph Lampman will update the Upper Columbia Juvenile Source Lamprey Datasheet and send it to Tracy Hillman for distribution to the PRFF.
- Tracy Hillman will send the Passage Guidelines for Selective Native Pacific Northwest Fish report prepared by the U.S. Fish and Wildlife Service to the PRFF committee.

Decision Items:

- None.

I. Welcome and Introductions

Tracy Hillman welcomed everyone to the meeting and identified all attendees.

II. Agenda Review

The PRFF reviewed and approved the November agenda with one addition: Distribution of Western Ridge Mussels.

III. Approve October Meeting Notes

The PRFF reviewed and approved the 2 October 2024 meeting minutes with no edits.

IV. Review Action Items

The PRFF reviewed the following action item from the October meeting:

- Ralph Lampman will update the Upper Columbia Juvenile Source Lamprey Datasheet and send it to Tracy Hillman for distribution to the PRFF. **Ongoing.**

V. White Sturgeon

Update on White Sturgeon Rearing – Tygh Schuster reported that juvenile sturgeon at the Yakama Nation Sturgeon Hatchery are doing well. They average 28.55 fish per pound, which is greater than the average weight of sturgeon measured at this time last year. Thus, these fish are ahead of last year's fish in growth. Tygh also noted that survival has increased and stabilized. Laura Heironimus asked whether there are enough fish on station to meet stocking numbers. Tyge confirmed that they have enough fish on station to meeting stocking numbers in the project area in 2025.

White Sturgeon Index Monitoring Preliminary Results – Paul Grutter with WSP gave a presentation titled “2024 Grant PUD White Sturgeon M&E Program: Preliminary Results (see Attachment 1). Paul provided a brief overview of the presentation and noted that this year they conducted both juvenile and adult index monitoring in the project. He then gave a brief description of the project area and pointed out that each reservoir (Priest Rapids and Wanapum reservoirs) was divided into three sections (lower, middle, and upper) based on hydraulic and physical characteristics.

Paul summarized rearing of brood year 2023 fish at the Yakama Nation Sturgeon Hatchery. He stated that all juvenile fish were tested for spontaneous autoploidy before marking and tagging. Only five fish tested positive for spontaneous autoploidy. He shared that testing and tagging went very fast this year (completed within 4 days). A total of 3,227 juvenile sturgeon were released into the project area on 23 April 2024 (1,974 into Priest Rapids reservoir and 1,253 into Wanapum reservoir). Paul pointed out that unlike in past years, the fish released this year had low prevalence of fish deformities. He also showed the release numbers and mean sizes of fish released since 2010.

Paul summarized broodstock capture efforts conducted in 2024. Collection efforts occurred over a 10-day period during 13-17 and 20-24 May. Fishing for broodstock occurred just downstream of McNary Dam. With the support of guides, Grant PUD and Blue Leaf staff collected broodstock and used surgical procedures to inspect the gonads. Although it was a low-flow year (32% below the 10-year mean), 124 sturgeon were landed. Of these, 52 were of mature spawning size (>150 cm FL). A total of 6 ripe females

and 6 ripe males were transported to the Yakama Nation Sturgeon Hatchery. Spawning occurred at the hatchery on 4 June 2024. Sufficient gametes were obtained from broodstock to produce 34 genetic families. This fell just short of the 36 genetic family goal because one female produced few eggs.

Next, Paul summarized the methods used to conduct adult and juvenile index monitoring within the project area in 2024. He noted that the last adult indexing event occurred in 2021 (adult indexing occurs every three years). Adult monitoring was conducted by WSP and Blue Leaf from 2 August to 6 September. There were two sessions of 96 overnight sets (192 total sets) distributed between Wanapum (132 overnight sets) and Priest Rapids reservoirs (60 overnight sets). Fishing gear consisted of a 600-foot-long nylon mainline anchored at both ends with 35-pound metal anchors. Up to 30 gangions were attached to the mainline at 15-foot intervals. Three different sizes of barbed circle hooks (12/0, 14/0, and 16/0) baited with pickled squid were used to capture adult sturgeon. Fishing lines were pulled every 24 hours during sampling.

WSP, Blue Leaf, and Grant PUD conducted juvenile index monitoring from 9-28 September in the project area. Juvenile sampling consisted of 360 random, spatially balanced, overnight sets that were distributed between Wanapum (270 overnight sets) and Priest Rapids (90 overnight sets) reservoirs. A 400-foot-long groundline with 30 gangions per line was used to capture juvenile sturgeon. Two different sized circle hooks (4/0 and 12/0) spaced roughly 13 feet apart were baited with pickled squid. Lines were set overnight and retrieved the following day. Paul noted that from 2016-2022, sampling gear included 40 gangions per line and 2/0 and 4/0 hooks. Sampling gear used in 2023 to present includes 30 gangions per line and 4/0 and 12/0 hooks. The change in juvenile sampling gear was approved by the PRFF in 2023. As a final comment, Paul noted that the old 4/0 hooks were more durable than the newer 4/0 hooks.

Paul then summarized preliminary results from the adult index monitoring conducted in 2024. He showed the number of adults captured by brood year in both Wanapum and Priest Rapids reservoirs over time (i.e., BY 2002-2022). He indicated that they captured 372 adults in 2024 (107 in Priest Rapids reservoir and 265 in Wanapum reservoir). Of these, 5 were natural-origin fish. For comparison, crews captured 443 adult sturgeon in the project area in 2021. He also showed the distribution of catch and CPUE (Catch Per Unit Effort) among sampling sites within each reservoir and the catch by river mile. Lastly, he showed the distribution of fork lengths for each brood year within the Priest Rapids and Wanapum reservoirs.

Paul shared preliminary results from juvenile index monitoring conducted in 2024 within the project area. As with adults, Paul showed the number of juveniles captured by brood year in both Wanapum and Priest Rapids reservoirs over time (i.e., BY 2010-2023). Crews captured a total of 586 juvenile sturgeon in 2024 (179 in Priest Rapids reservoir and 407 in Wanapum reservoir). Of these, one was a natural-origin fish. For comparison, crews captured 778 juvenile sturgeon in 2023 and 687 juveniles in 2022. Paul also showed the distribution of catch and CPUE among sampling sites within each reservoir and the catch by river mile. Lastly, Paul showed the distribution of fork lengths for each brood year within the Priest Rapids and Wanapum reservoirs.

Paul ended the presentation by identifying the need for additional analyses. That is, WSP will conduct adult and juvenile population modeling to estimate population sizes. In addition, they will model growth using size at age data. These analyses should be completed early next year.

Steve Lewis asked how many of the juvenile sturgeon at the hatchery were sampled for spontaneous autopolyploidy. Paul said all of the juveniles were tested for spontaneous autopolyploidy. Steve asked whether the CRITFC fish are viable and reproducing in the project area. Paul said they are large enough to be spawning in the project area; however, there appear to be few of them in the project area. Steve

asked whether juvenile sampling could determine the reproductive success of CRITFC fish. Paul said that would require genetic sampling and that is not something they are doing at this time. Tygh Schuster asked about the number of juvenile sturgeon released in 2009? Paul indicated that 3,070 were released. Tygh asked whether there was any information on how many of those fish were released into each of the two reservoirs. Paul responded that he does not recall the split but could find that information.

Other White Sturgeon Items – Tracy Hillman shared that the U.S. Fish and Wildlife Service just released a report titled, “Passage Guidelines for Select Native Pacific Northwest Fish.” The report summarizes the state-of-the-science and provides guidelines for implementing nature-based and technical fish passage solutions. The report describes the passage needs of Bull Trout, Pacific Lamprey, White Sturgeon, and small-bodied fish in the Pacific Northwest. The report also provides useful links to more in-depth information on fish passage. Tracy will send the report to the group following the meeting.

VI. Miscellaneous

Macroinvertebrate Sampling – RD Nelle noted that the US Fish and Wildlife Service is reviewing a petition to list the Western Ridge Mussel as well as some snails under the Endangered Species Action. As a result, RD inquired about the distribution of macroinvertebrates, specifically, Western Ridge Mussel and snails, within the project area. He asked whether any macroinvertebrate sampling is planned in the future and whether there will be studies conducted to evaluate the interaction of White Sturgeon and macroinvertebrates in the future.

Mike Clement responded that there are no specific requirements for sampling macroinvertebrates in the project area at this time. He added that a comprehensive survey was conducted in 2014 or 2015 during the Wanapum reservoir drawdown. No macroinvertebrate sampling has occurred since then nor is there a plan to do additional sampling. RD said he has looked through the report and noted that no Western Ridge Mussels were found during those surveys. Mike noted that divers sampled below the water surface during the drawdown, and they did not find any Western Ridge Mussels. Mike added that eDNA sampling could be used to document the presence of different macroinvertebrates.

RD asked whether there are any bathymetric maps of the project area. Mike indicated that bathymetric maps were developed in 1999-2000 and were included in the final FERC license. He noted that those maps had relatively poor resolution. They should be available on the FERC website.

Wanapum Archeology Days – Mike Clement reported that the Wanapum hosted the Annual Archaeology Days at the Wanapum Heritage Center on 8-9 October 2024. Mike thanked the Yakama Nation and US Fish and Wildlife Service for setting up public outreach displays. Mike also thanked Nate Patterson and his staff for providing juvenile sturgeon for the festivities and a juvenile sturgeon display. He said the event was excellent and well attended.

VII. Adjourn

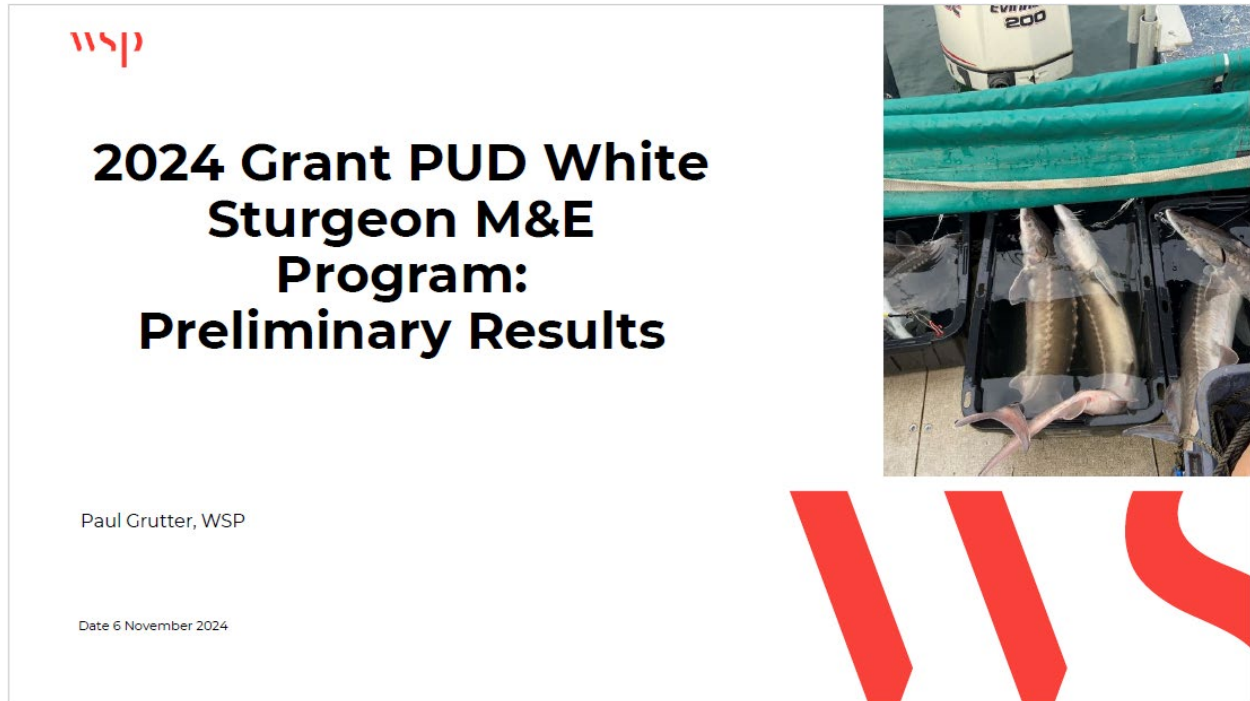
With no additional business to discuss, Tracy Hillman adjourned the meeting at 10:15 am.

VIII. Next Meeting

The next meeting of the PRFF will be on 4 December 2024.

Attachment 1

Presentation by Paul Grutter on the 2024 Juvenile and Adult White Sturgeon Index Monitoring within the Priest Rapids Project Area


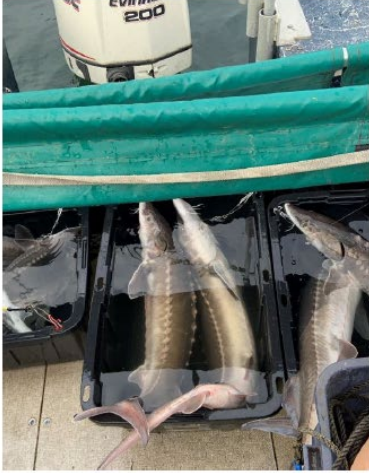


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2024 Grant PUD White Sturgeon M&E Program: Preliminary Results

Paul Grutter, WSP

Date 6 November 2024





Agenda

2024 Grant PUD White Sturgeon M&E Summary

2023BY Tagging and Release

Broodstock Capture

Adult White Sturgeon Indexing

Juvenile White Sturgeon Indexing

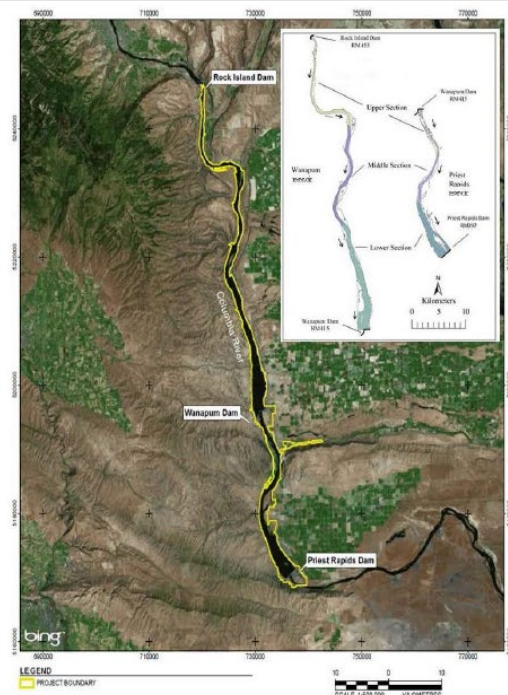
Priest Rapid Project Area

Priest Rapids Dam (Grant PUD; River Mile [RM] 397)

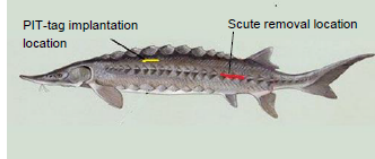
Wanapum Dam (Grant PUD; RM 416)

Rock Island Dam (Chelan PUD; RM 453.5)

Each reservoir divided into lower, middle, and upper sections based on hydraulic and physical transitions from riverine to lentic dominant habitats



2023BY Tagging and Release, 2024



- 2023BY held at YNSH were tested for spontaneous autopolyploidy (SA), measured, PIT-tagged and marked from March 25 to March 28 (fast!)
- SA testing conducted prior to tagging with a Coulter counter to identify 10N or 12N vs 8N (normal) fish
- 5 fish identified with SA
 - Female 1. 3D9.1C2D6BB1E = 1
 - Female 2. 3D9.1BF2646DE2 = 2
 - Female 3. 3D9.1C2DC94B7A = 2
- 3,227 2023BY released 23 April 2024
- Low prevalence of fin deformities (pectoral fin deformity most common)

2024 White Sturgeon 2023BY Release			
Release Location Reservoir (River Mile)	No. of Fish	Mean FL mm	Mean Weight g
Wanapum (420.6) ¹	1,974	283	137
Priest Rapids (400.3) ²	1,253	280	143
Total	3,227	281	140

¹ Vantage boat launch ² Desert Aire boat launch

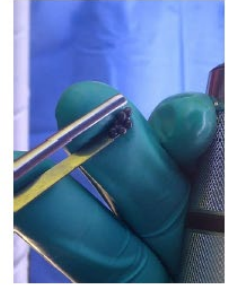
Summary by brood year of hatchery White Sturgeon juveniles released in the Project area 2024

Year Cross	Number Released	Mean Fork Length (mm)	StDev Fork Length (mm)	Mean Weight (g)	StDev Weight (g)
2010	9116	294	52	177	99
2012	3981	291	26	154	44
2013	6592	275	43	130	63
2014	6502	313	30	198	56
2015	3258	303	27	171	46
2016	3248	272	31	126	45
2017	3224	285	42	144	58
2018	2657	267	29	128	43
2019a&b	2157	443	79	631	323
2021	3269	289	41	154	62
2022	3243	257	41	114	54
2023	3227	281	31	140	44
	50474	305	38	208	76

Broodstock Capture

2024 Capture Effort

- Broodstock capture efforts were conducted over ten days from May 13 to 17 and from May 20 to 24
- Angling conducted immediately downstream of McNary Dam
- Involved Grant PUD and Blue Leaf Environment with fishing guide support
- Candidate broodstock identified by surgical inspection of gonads
- Transported to YNSH with the Grant PUD sturgeon transport trailer



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Broodstock Capture Results 2024

- Low flow year
 - 32% below the 10 year mean of 313 kcfs
- 124 sturgeon were landed
- 52 individual white sturgeon of mature spawning size (i.e., greater than 150 cm fork length)
- 6 ripe females and 6 ripe males were transported to YNSH
- On June 4, a 6x6 spawning matrix was attempted
- Sufficient gametes were obtained to produced 34 genetic families (fewer eggs from 1 female 1Fx4M)



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Adult Indexing Study Design

2024

Conducted by WSP and Blue Leaf biologists

Adult white sturgeon population indexing capture and recapture sessions were conducted from August 2 to September 6)

Two sessions of 96 overnight (192 total) sets distributed between Wanapum (n=132 overnight sets) and Priest Rapids reservoirs (n=60 overnight sets)

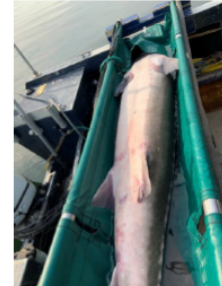
183 m (600 ft) long nylon mainline, 0.64 cm (3/8") in diameter, anchored at both ends with 16 kg (35 lbs) metal anchors attached to float retrieval lines.

Up to 30 leaders (gangions) were attached to the ground line at 4.6 m (15 ft) intervals.

Three sizes of barbed circle hooks [i.e., small hooks #7 (12/0), medium size hooks #5 (14/0), and large hooks #3 (16/0)]

pulled approximately every 24 hours during sampling.

All gangions were baited with pickled squid.



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Original Juvenile Indexing Study Design

2016-2023 40 gangions/line 2/0 & 4/0 2023 – onward 30 gangions/line 4/0 & 12/0

Conducted by WSP and Blue Leaf biologists/Grant PUD biologist

Juvenile white sturgeon population indexing 9 September to 28 September

360 random, spatially balanced overnight sets distributed between Wanapum (n=270 overnight sets) and Priest Rapids reservoirs (n=90 overnight sets)

122 m (400 ft.) 0.25 cm (3/4") diameter ground line

30 gangions per line

0.5 m (20") in length and consisted of a swivel snap,

4/0 a 30 cm (12") length of 150# test monofilament

12/0 30 cm (12") 660 # test round braid or three-strand nylon

4/0 or 12/0 sized circle hooks, space ~4m apart, size or random

Set overnight and retrieved following day

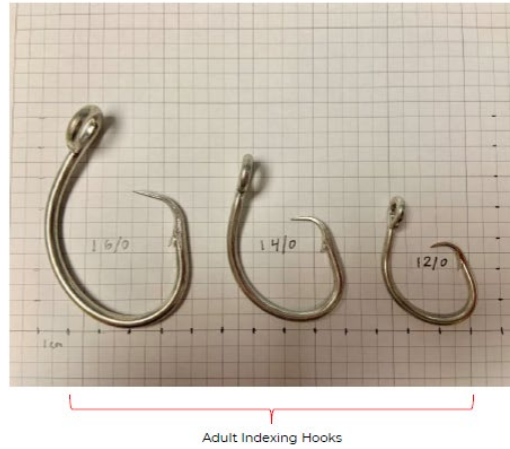
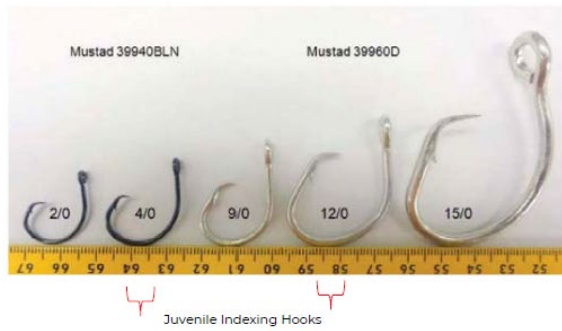
All gangions were baited with pickled squid



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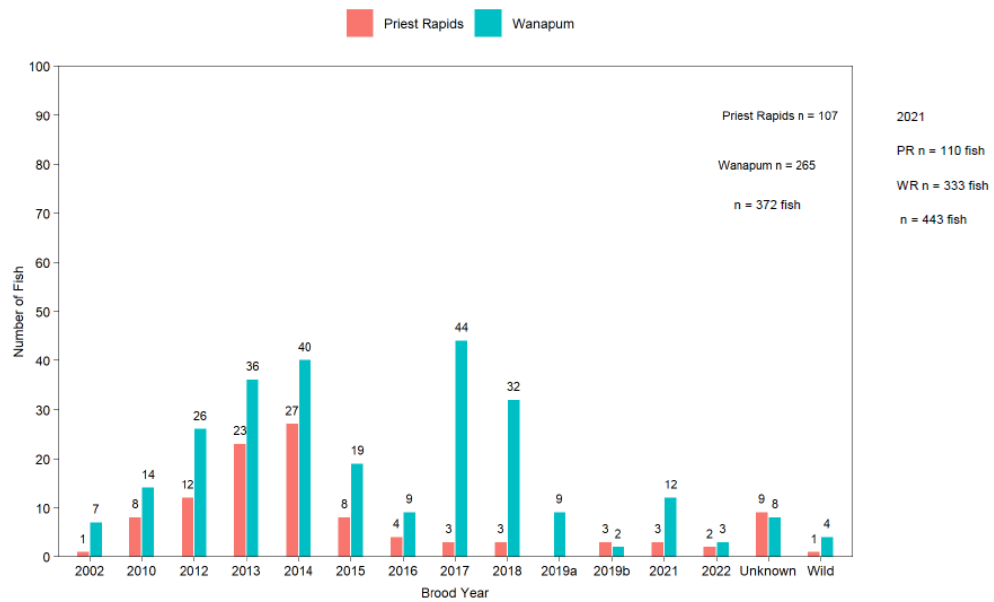
Comparison of Juvenile and Adult White Sturgeon Gear



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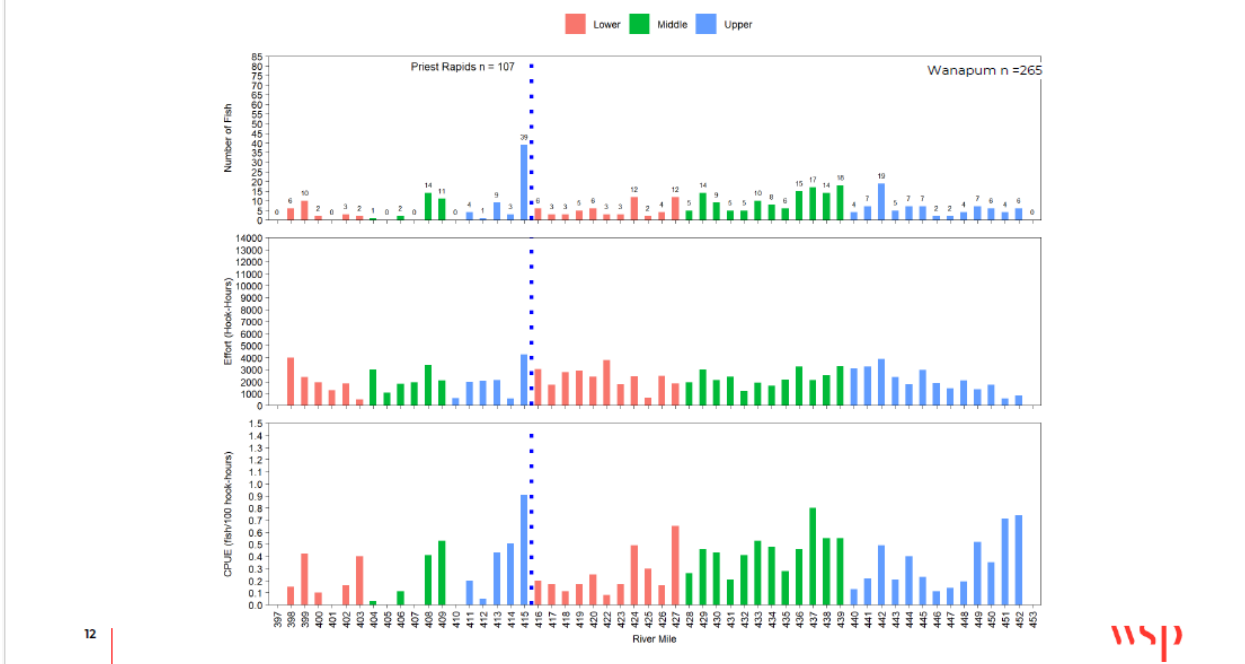
2024 Adult Indexing



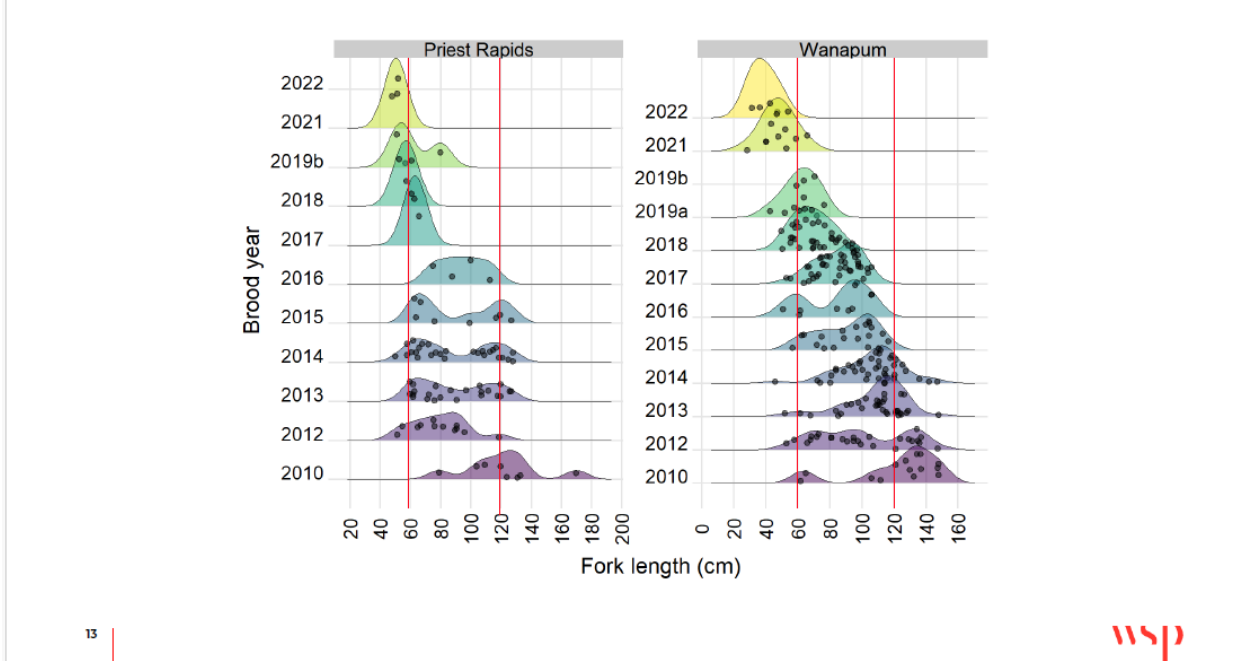
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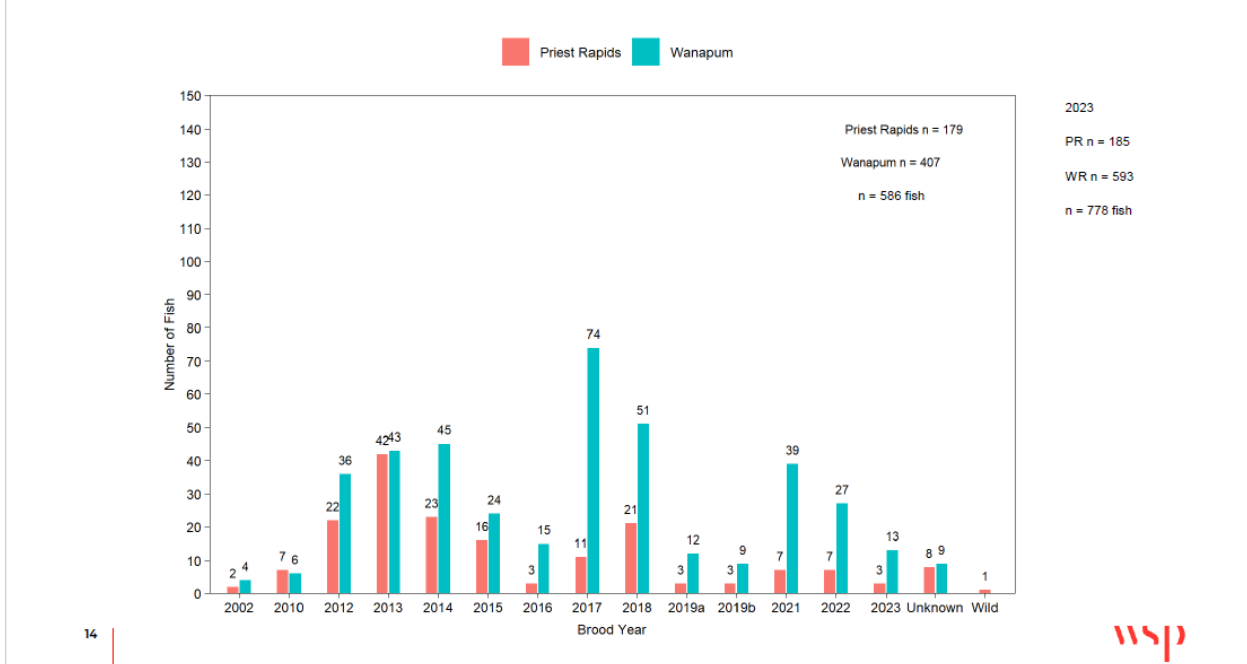
2024 Adult Indexing



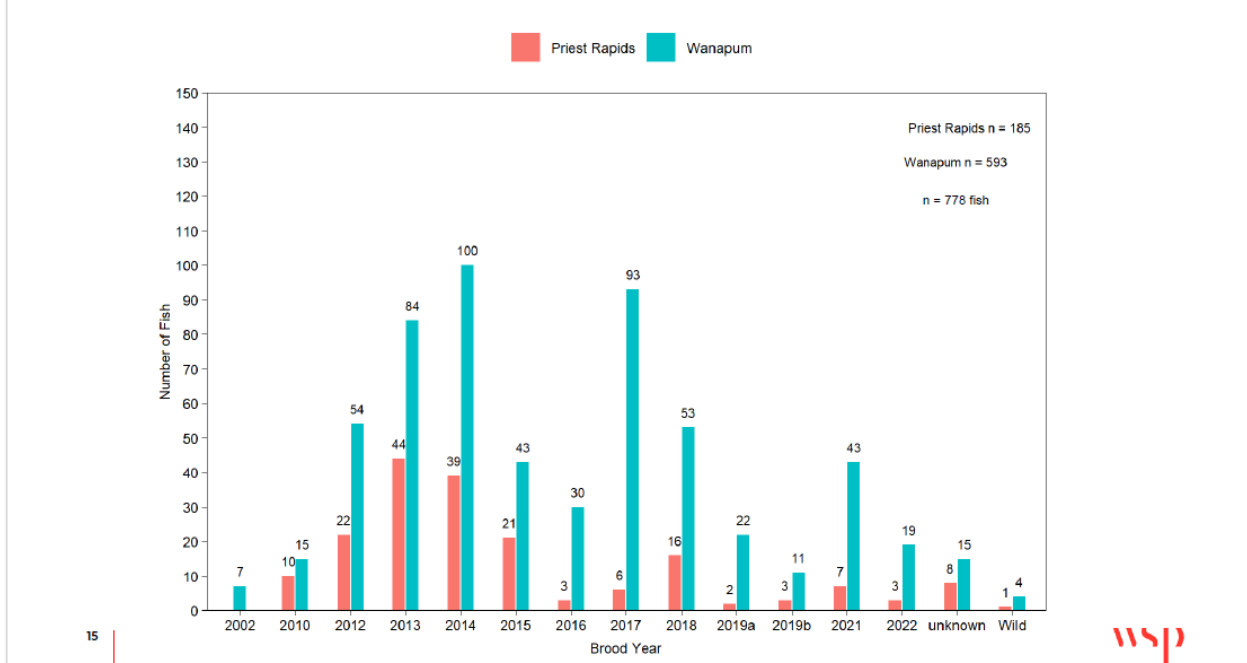
2024 Adult Indexing



2024 Juvenile Indexing



2023 Juvenile Indexing



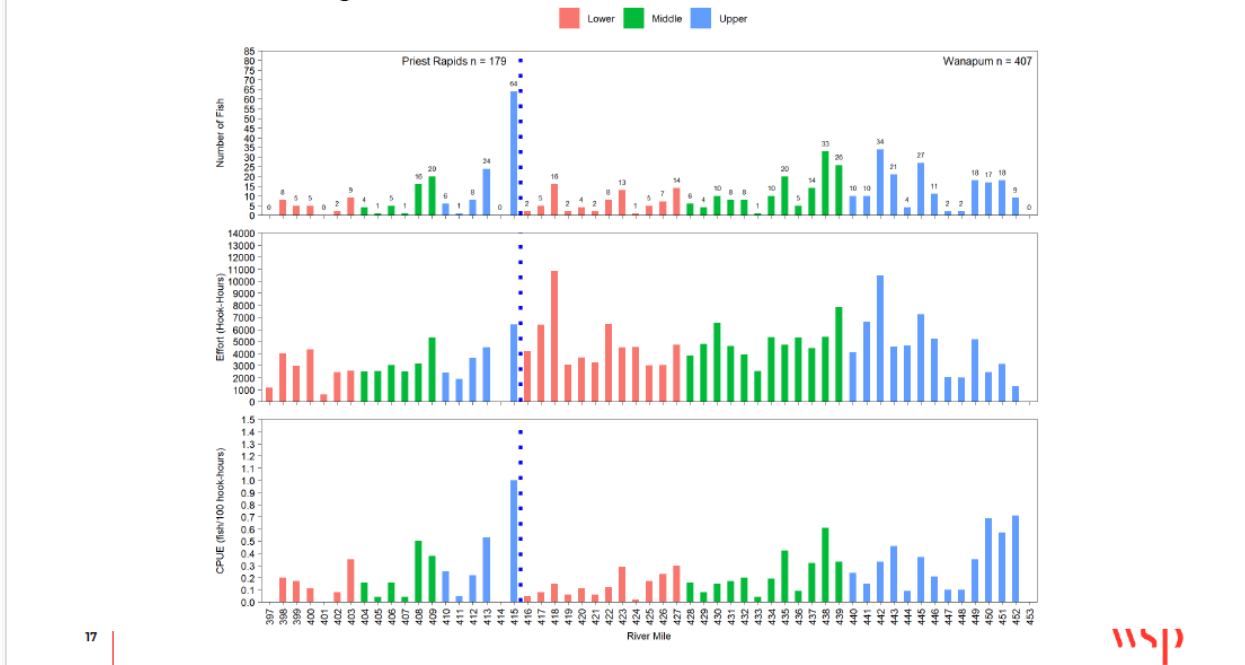
2022 Juvenile Indexing



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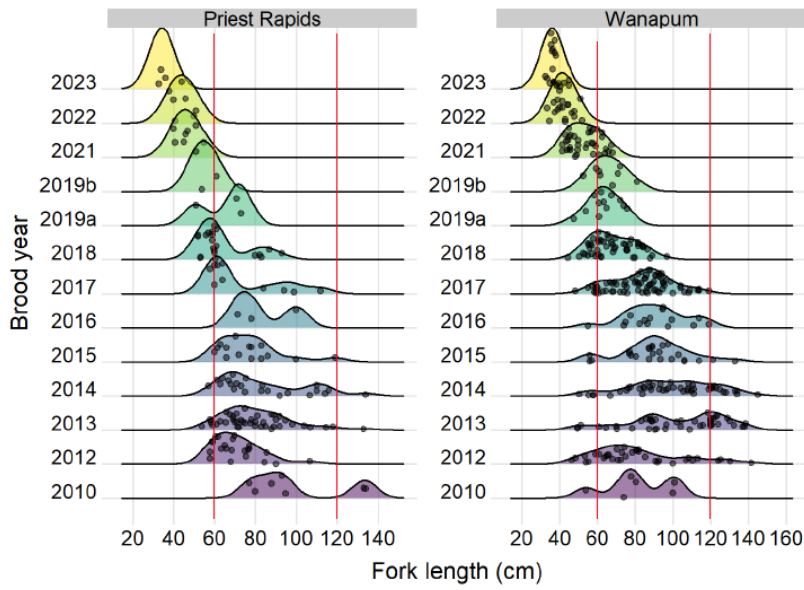


2024 Juvenile Indexing



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Additional Analysis

- 2024 Adult and Juvenile Population Modeling
 - CJS model population
- Growth Modeling
 - Size at age data (von Bertalanffy)



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