Priest Rapids Fish Forum

Conference Call

Wednesday, 1 November 2023
10:00 a.m. – 12:00 p.m.

FINAL MINUTES

PRFF Members

RD Nelle, USFWS	Patrick Verhey, Benjamin Cox, WDFW
Ralph Lampman, YN	Breean Zimmerman, WDOE
Nathan and Clayton Buck, Wanapum	Aaron Jackson, Carl Merkle, CTUIR
Jason McLellan, Bret Nine, CTCR	N/A, BIA
Mike Clement, Chris Mott, Grant PUD	N/A, CRITFC
Tracy Hillman, Chair	

Meeting Attendees

Jason McLellan, CTCR	Nathan Patterson, YN
Mike Clement, Grant PUD	RD Nelle, USFWS
Patrick Verhey, WDFW	Chris Mott, Grant PUD
Ralph Lampman, YN	Ben Cox, WDFW
Nathan Buck, Wanapum	Paul Gutter, WSP
Tracy Hillman, Chair	Erin Harris, Grant PUD

Action Items:

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

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.

III. Approve October Meeting Notes

The PRFF reviewed and approved the 4 October 2023 meeting minutes.

IV. Review Action Items

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

- Tracy Hillman will share the PRFF responses to comments in the Draft Pacific Lamprey Subgroup Meeting Notes with the RRFF. **Completed**
- Tracy Hillman will share the PRFF responses to comments in the Attachment to the Draft Pacific Lamprey Subgroup Meeting Notes with the RRFF. **Completed**
- PRFF will review the Updated Framework for Upper Columbia Juvenile Lamprey Acoustic Telemetry Study and the Updated Upper Columbia Juvenile Source Lamprey Datasheet prepared by the Yakama Nation. **Ongoing**
- Grant PUD will populate cells in Tab 1 in the Updated Upper Columbia Juvenile Source Lamprey Datasheet. **Completed**

V. White Sturgeon

White Sturgeon Rearing – Nate Patterson reported that the juvenile sturgeon on station at the Yakama Nation Sturgeon Hatchery are doing well. Fish sampling occurred on 30 October and the fish averaged 25.5 fish per pound. They have grown considerably since the last sampling when the fish averaged 59.9 fish per pound. Nate also noted that the fish have limited fin deformities this year.

Juvenile White Sturgeon Index Monitoring Preliminary Results (WSP) – Paul Grutter with WSP gave a presentation titled, "Juvenile White Sturgeon Population Indexing: 2023 Update" (see Attachment 1). Paul began by stating that this is a high-level review and results may change as they complete analyses of the data. Although they were successful in completing the index work, wind was an issue this year.

Paul briefly describing the original study design and noted the PRFF-approved changes to the original study design, including deploying equal numbers of 4/0 and 12/0 hooks, using 30 gangions per setline (reduced from 40/setline), deploying gangions on 122-m-long, ¼-inch-diameter setlines, and maintaining the same level of sampling effort of overnight sets (but reduce effort based on hook-hours). They will continue to sample within the 360 GRTS-selected sites (90 sites in Priest Rapids reservoir and 270 in Wanapum reservoir). He then reminded the Forum of the number, lengths, and weights of juvenile sturgeon released into the project area over time. So far, 47,217 juvenile sturgeon have been released into the project area.

Paul compared results from the 2023 efforts to the 2022 indexing efforts. In 2023, they captured 775 sturgeon (591 in Wanapum reservoir and 184 in Priest Rapids reservoir). In 2022, they captured 687 sturgeon (498 in Wanapum reservoir and 189 in Priest Rapids reservoir). Paul showed figures that identified which brood years contributed most to the catch. He then identified the catch, length, and

weight of sturgeon captured by different hook sizes and noted that with the modifications to the sampling gear, they captured a larger range of fish sizes; abundance and growth estimates are more representative of the hatchery population; there was a higher CPUE in 2023 based on hook hours; survival estimates should increase; and population estimates should be more representative of the population.

Tracy Hillman asked whether there are enough fish to consider a harvest within the project area. Paul said probably not because of the earlier harvest that targeted CRITFC fish. He added that they caught seven CRITFC fish and one was 45-cm long (this was a recapture). Ralph Lampman asked whether they removed any CRITFC fish captured. Paul said they are not set up to euthanize sturgeon; therefore, they release the fish back into the project area. Ralph ask why Wanapum reservoir has more fish than Priest Rapids reservoir. Paul responded that fish in Wanapum tend to have higher survival rates than those in Priest Rapids reservoir. Ralph asked whether Chelan PUD uses 12/0 hooks in their monitoring surveys. Jason McLellan responded that Chelan PUD has not added 12/0 hooks to their monitoring program.

The PRFF thanked Paul for the presentation and discussion.

Other White Sturgeon Items – No other White Sturgeon items were discussed.

VI. Pacific Lamprey

Juvenile Survival Studies – Tracy Hillman showed the Framework/Implementation Plan and spreadsheet that Ralph Lampman presented during the last meeting and reminded members that they were supposed to review and be prepared to discuss them during the meeting today. He briefly discussed the contents of the document and spreadsheet and then asked whether members were able to fill out the first tab in the spreadsheet, which identifies sources, numbers, and migration timing of juvenile lamprey.

Mike Clement indicated that Grant PUD does not have juvenile trapping facilities for salmonids or lamprey at Wanapum or Priest Rapids dam and therefore he placed "NA" in all the cells in the spreadsheet that indicate collections of juvenile lamprey at Wanapum and Priest Rapids dams. Ralph asked Mike whether he contacted anyone at the Army Corps of Engineers (Corps) regarding juvenile numbers at McNary and John Day dams. Mike responded that he did not because those are not Grant PUD facilities. Ralph said he will contact the Corps. Tracy asked whether fish collected at the Corps projects will be prioritized for Snake River and lower Columbia River survival studies. Ralph responded that they will be used for those studies but there may be enough to support Upper Columbia studies.

Ralph stated that he has most of the information for the traps and facilities he was assigned. He will add those data to the master spreadsheet. Tracy reported that Chelan PUD also provided information on most of the facilities and traps they were assigned.

Following the discussion on numbers, timing, and availability of juvenile lamprey, Tracy then reviewed the Key Questions identified in the spreadsheet. The following summarizes responses from each party.

1. What is the primary scope of the survival study (project scale or dam only)?

    YN: The dam should be the focus; however, we should try to estimate reservoir survival where feasible and possible.

    Grant PUD: The dam should be the focus of the study.

    WDFW: Need to discuss this internally.

    USFWS: The dam should be the focus of the study.

CTCR: Need to discuss this internally.

Wanapum: The dam should be the focus of the study.

2. Which survival model (ViRDCt or ViPRe) is the most appropriate for juvenile lamprey studies?

   YN: The most appropriate model for a juvenile survival study at the dam is the ViRDCt model.

   Grant PUD: The ViRDCt model is the most appropriate.

   WDFW: Need to discuss this internally.

   USFWS: The ViRDCt model is the most appropriate.

   CTCR: Need to discuss this internally.

   Wanapum: The ViRDCt model is the most appropriate.

3. What is the acceptable level of precision on the survival estimate (2.5%, 3%, 5%, or 10%)?

   YN: We should use 5% as the goal but strive for 3%.

   Grant PUD: Because this is a study that will lead to mitigation measures, 2.5%, which is consistent with salmonid studies, should be the goal.

   WDFW: Need to discuss this internally.

   USFWS: Need more time to think about the level of precision.

   CTCR: Need to discuss this internally.

   Wanapum: It should be consistent with the salmonid survival studies (2.5%).

4. What is the source of juvenile lamprey?

   YN: Include all potential sources and then rank them based on which source(s) should be used in survival studies.

   Grant PUD: Juveniles for the study should come from upstream sources and preferably from the project area.

   WDFW: Need to discuss this internally.

   USFWS: Need more time to think about sources of fish for a survival study.

   CTCR: Need to discuss this internally.

   Wanapum: Need to discuss this internally.

Members will continue to evaluate and discuss the key questions during the next meeting.

Other Pacific Lamprey Items – Ralph Lampman indicated that lamprey topics presented during the AFEP (Anadromous Fish Evaluation Program) meeting will be on 24 January 2024 from 9:00 am to 5:00 pm. Ralph also noted that the 7th Annual Lamprey Information Exchange will be held on 13-14 December at the Water Resources Education Center in Vancouver, WA. The Policy meeting will be on 12 December. An agenda should be available soon.

VII. Administration

Tracy Hillman reported that he received a letter from Sonja Kokos (USFWS) identifying their representatives and alternates on the PRFF Policy Committee and PRFF. He said Tara Callaway will

represent the USFWS on the Policy Committee and Bill Gale will be the alternate. RD Nelle will continue to represent the USFWS on the PRFF and Emily Orling will be the alternate. Tracy said he shared the letter with all members in October.

VIII. Adjourn

With no additional business to discuss, Tracy Hillman adjourned the meeting at 12:00 pm.

IX. Next Meeting

The next meeting of the PRFF will be on 6 December 2023.

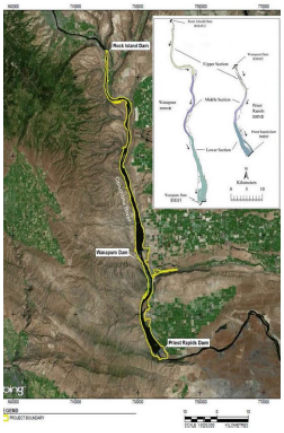
Attachment 1

Presentation by Paul Grutter on White Sturgeon Index Monitoring in 2023

Original Juvenile Indexing Study Design

2016 and onward

- Conducted by WSP and Blue Leaf biologists/Grant PUD biologist
- Juvenile white sturgeon population indexing mid-September to early October
- 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 (¼") diameter ground line
- 40 gangions per line
- 0.5 m (20") in length and consisted of a swivel snap, a 30" (12") length of 150# test monofilament
- 2/0 or 4/0 sized circle hooks, space ~4m apart, size or random
- Set overnight and retrieved following day
- All gangions were baited with pickled squid

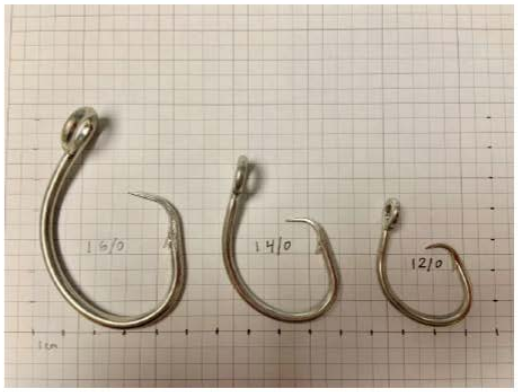


Hook Size Selectivity Effect on Catch

- *Noted by Jason McLellan and by report authors*
- *Older Brood Year releases "age-out" of the juvenile indexing gear as the fish increase in size and weight*
- *In each successive study year, the sampling gear tends to catch the smaller and slower growing individuals of each brood year*
- *Abundance and growth estimates are representative of the population susceptible to capture and less representative of the entire population*

Comparison of Juvenile and Adult White Sturgeon Gear

Juvenile Indexing Hooks



Adult Indexing Hooks

4

New Juvenile Indexing Sample Gear

Due to capture of larger fish that require more handling time, study logistics and effort will have to be modified

- Deploy equal numbers of 4/0 (150# mono leader) and 12/0 (Round Braid #84 5# Tarred leader) hooks
- 30 gangions per set line
  - Reduced from 40 gangions/setline to 30 gangions/setline to save time baiting hooks.
  - 100% saturation of hooks unlikely; maximum catch per setline to date is 24 fish on a 40 gangion line.
- Deployed on 122 m long (400') 1/4" diameter setlines
- Keep same level of sampling effort of overnight sets, but reduced effort based on hook-hours
  - 360 GRTS selected sample sites; 90 sites in Priest Rapids, 270 sites in Wanapum Reservoir.

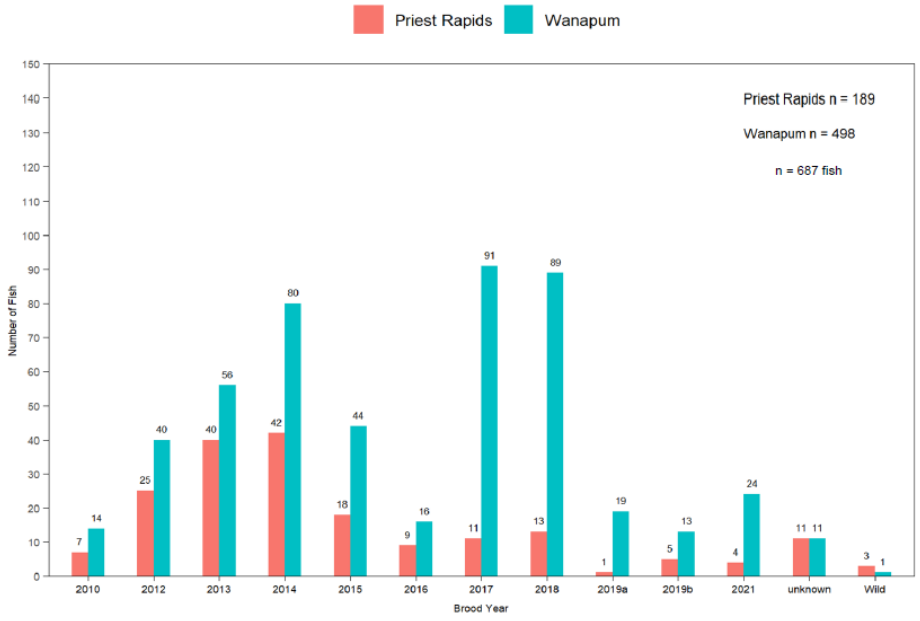
5

Summary by brood year of hatchery White Sturgeon juveniles released in the Project area 2023

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**
	47247	**299**	**40**	**193**	**81**

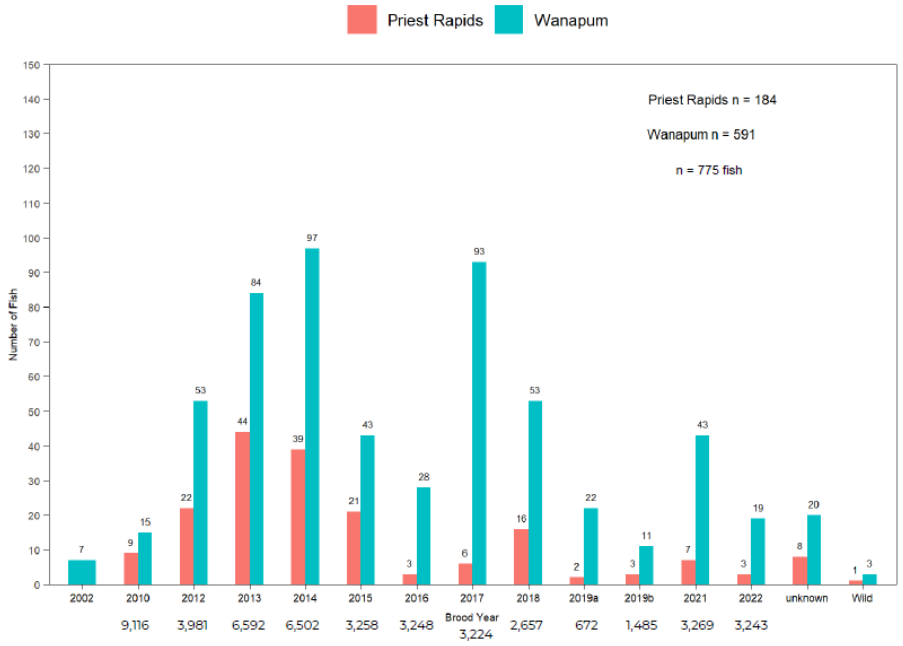
6

2022 Juvenile Indexing



7

2023 Juvenile Indexing



8

Length and Weight of White Sturgeon catch by hook size in the Priest Rapids Project Area in 2022 and 2023

2022 Indexing 2/0 and 4/0 hooks

Reservoir	Hook Size	Catch	Fork Length (cm)				Weight (g)			
		n	Mean	SD	Min	Max	Mean	SD	Min	Max
Wanapum	2/0	199	68.1	17.5	33.5	111.0	2704	2175	85	11520
	4/0	299	72.8	21.7	33.0	136.5	3393	3068	215	14420
Priest Rapids	2/0	86	71.2	16.5	43.5	122.5	2866	2325	515	14150
	4/0	103	79.3	20.0	37.5	127.0	4126	3114	290	15430

2023 Indexing 4/0 and 12/0 hooks

Reservoir	Hook Size	Catch	Fork Length (cm)				Weight (g)			
		n	Mean	SD	Min	Max	Mean	SD	Min	Max
Wanapum	4B	263	74	25	33	128	4031	3779	195	16830
	12B	330	81	25	35.5	206	5164	6407	240	65800
Priest Rapids	4B	71	69	18	33	123.5	2773	2744	195	13735
	12B	114	79	26	38	149	4493	4792	325	24000

9

4/0 and 12/0 New Juvenile Indexing Gear Hook Size

- *Increase size range of fish captured*
- *Reduce size selectivity of gear so that abundance and growth estimate are representative of hatchery population*
- *Same number of overnight sets, but lower hook-hours in 2023 compared to previous years (30 hooks/set vs 40 hooks/set); higher CPUE in 2023 based on hook-hours*
  - Less time bait/deploying gear; time cost savings; increase effort/day (weather)
- *CJS model population; Survival estimate should increase; population estimate may increase and be more representative of the true population.*