



Grant County
PUBLIC UTILITY DISTRICT
Excellence in Service and Leadership

Priest Rapids Fish Forum

Conference Call

Wednesday, 3 June 2026

9:00 a.m. – 10:00 a.m.

FINAL MINUTES

PRFF Members

Michael Lucid, 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, Laura Heironimus, WDFW
Melissa Peterson, Chad Brown, Ecology
Aaron Jackson, Carl Merkle, CTUIR
Steve Lewis, BIA
Pete McHugh, CRITFC

Meeting Attendees

Chris Mott, Grant PUD
Melissa Peterson, Ecology
Sima Usvyatsov, WSP
Tygh Schuster, YN
Jason McLellan, CTCR
Tim Taylor, Grant PUD
Erin Harris, Grant PUD

Ralph Lampman, YN
Nate Patterson, YN
Patrick Verhey, WDFW
Joseph LeMoine, Grant PUD
Michael Lucid, USFWS
Pete McHugh, CRITFC
Tracy Hillman, Chair

Action Items:

- Tim Taylor will finalize the TMDL WQAP evaluation criteria with Ecology and begin evaluating temperature-related options once the criteria are approved by Ecology.
- Laura Heironimus will update the White Sturgeon Spontaneous Autopolyploidy Guidance document based on recently published literature.
- Sima Usvyatsov (WSP) will generate figures showing the relationship between White Sturgeon growth and sturgeon density (fish/area and fish/linear distance) in the project area. She will also

generate figures showing the relationship between White Sturgeon survival and fish abundance (numbers and density).

- Tracy Hillman will schedule a White Sturgeon Subgroup meeting. The purpose of the meeting is to work through the action items and prepare recommendations for the PRFF regarding updating the White Sturgeon 2016 SOA.
- Ralph Lampman will share CRITFC's genetic report (or supporting information) with the PRFF once available.
- Grant PUD will begin development of a draft juvenile Pacific Lamprey survival study plan based on current information, including sample size assumptions, detection design, and source fish availability.

Decisions:

- 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 June agenda.

III. Approve May Meeting Notes

The PRFF reviewed and approved the 6 May 2026 meeting minutes.

IV. Review Action Items

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

- Tim Taylor will finalize the TMDL WQAP evaluation criteria with Ecology and begin evaluating temperature-related options once the criteria are approved. **Ongoing.**
- Laura Heironimus will update the White Sturgeon Spontaneous Autopolyploidy Guidance document based on recently published literature. **Ongoing.**
- Ralph Lampman will refine the juvenile lamprey source spreadsheet to identify fish collected upstream of Rock Island (or Priest Rapids as applicable), including isolating those greater than 130 mm and summarizing seasonal timing, peak migration windows, and any relevant trends in availability. **Ongoing. Because this is Grant PUD's study, Ralph recommended that Grant PUD complete this assignment.**
- Ralph Lampman will share CRITFC's genetic report (or supporting information) with the PRFF once available. **Ongoing. Ralph will distribute the report once it is available.**
- Grant PUD will discuss internally whether to begin development of a draft juvenile Pacific Lamprey survival study plan based on current information, including sample size assumptions, detection design, and source fish availability. **Ongoing. Joe LeMoine reported that Grant PUD will begin developing a juvenile Pacific Lamprey study plan.**

- Ralph Lampman will confirm the reported number of adult lamprey planned to be tagged at Bonneville Dam and provide clarification if needed. **Complete. Ralph reported that no adult lamprey will be tagged at Bonneville Dam this year. Activities in the lower river only include translocation.**

V. Water Quality

Water Temperature TMDL WQAP Proposed Improvement Options – Tim Taylor reported that development of the Water Quality Attainment Plan (WQAP) evaluation criteria remains ongoing and is currently dependent on receipt of the Technical Memo from Ecology. Once received, the team will proceed with evaluating temperature-related management options and advancing the WQAP.

Other Water Quality Items – No additional water quality items were discussed.

VI. White Sturgeon

White Sturgeon Broodstock Collection – Joe LeMoine reported that White Sturgeon broodstock collection began on 11 May and concluded on 22 May. Collection activities occurred downstream of McNary Dam using two boats. Joe said they captured a total of 87 sturgeon including 59 that met spawning size criteria. Broodstock were transported to the Yakama Nation Sturgeon Hatchery for spawning. Joe said this was a very successful year for collecting broodstock.

White Sturgeon Spawning – Tygh Schuster reported that they successfully spawned 6 females and 6 males at the Yakama Nation Sturgeon Hatchery, resulting in the targeted 36 family groups. He added that spawning went smoothly this year.

White Sturgeon 2016 Statement of Agreement (SOA) – Tracy Hillman reminded the PRFF that they started the process of updating the 2016 SOA. Referring to the December 2025 meeting notes, Tracy noted that the group discussed the consequences of overstocking within the project area and identified two management actions that need to be evaluated: (1) reducing stocking rates and (2) targeted removals. These actions may be necessary in Priest Rapids Reservoir where it appears there may be density dependence. Sima Usvyatsov added that density dependence in Priest Rapids reservoir is only apparent in age-1 and 2 fish. There is no evidence of density dependence in old fish. Thus, removing (harvesting) some of the older fish will likely not affect the issue of density dependence in the younger fish. However, reducing stocking rates in the reservoir could reduce density dependence in the younger age groups.

In December, members also began the process of defining what is meant by “adult” (i.e., the size of a sturgeon at which it is considered an adult) and identifying an appropriate adult abundance target for the project area. This included a discussion on density (e.g., fish per km or fish per surface area). During the December meeting, members recommended adapting the LGL/Chelan PUD/CTCR model for the Priest Rapids project area. Here is a link to the model: <https://analytics.lglsidney.com/chelan-sturgeon/>. Lastly, members identified the following actions to be completed:

- **Laura Heironimus will compile adult White Sturgeon abundance and biomass data from Bonneville Reservoir. WDFW defines an adult sturgeon as >167 cm FL.**

After the subgroup meeting last year, Laura provided the following data:

Bonneville Reservoir														
Year	Abundance		Density (fish/ac)		Density (fish/ha)		Density (fish/RKM)		Median Weight (kg)	Median Weight (lbs)	Total Biomass (lbs)	Density (lbs/ac)	Density (lbs/ha)	Density (lbs/RKM)
	167+ cm FL	All 54+ cm FL	167+ cm FL	All 54+ cm FL	167+ cm FL	All 54+ cm FL	167+ cm FL	All 54+ cm FL						
1999	292	128,314	0.01	6.2	0.03	15.2	3.9	1711	4.3	9.5	1,216,400	58.5	144.5	16,219
2003	746	119,909	0.04	5.8	0.09	14.2	9.9	1599	3.6	7.9	951,674	45.8	113.1	12,689
2006	243	205,392	0.01	9.9	0.03	24.4	3.2	2739	2.8	6.2	1,267,872	61.0	150.6	16,905
2009	1,064	334,423	0.05	16.1	0.13	39.7	14.2	4459	4.2	9.3	3,096,558	148.9	367.9	41,287
2012	1,974	228,249	0.09	11.0	0.23	27.1	26.3	3043	3.3	7.3	1,660,568	79.8	197.3	22,141
2015	610	191,893	0.03	9.2	0.07	22.8	8.1	2559	3.0	6.6	1,269,153	61.0	150.8	16,922
2018	3,473	248,772	0.17	12.0	0.41	29.6	46.3	3317	3.3	7.3	1,809,877	87.0	215.0	24,132
2021	4,070	215,650	0.20	10.4	0.48	25.6	54.3	2875	5.3	11.7	2,519,759	121.1	299.3	33,597
2024	3,367	155,406	0.16	7.5	0.40	18.5	44.9	2072	4.9	10.8	1,678,795	80.7	199.4	22,384
Mean	1760	203,112	0.08	9.8	0.21	24.1	23.5	2708	3.9	8.5	1,718,962	82.6	204.2	22,911

- **Jason McLellan will compile adult White Sturgeon abundance (number per area and number per length) and biomass (weight per area and weight per length) from the Rocky Reach project area.**

Jason contacted Lance Keller at Chelan PUD to acquire these data. Lance indicated that he would try to get Jason the data although no timeline was provided. Jason believes these data are in the Rocky Reach annual report currently being prepared by LGL.

- **Jason McLellan and Laura Heironimus will research effective population size (N_e) for White Sturgeon. They will evaluate whether N_e can be estimated for the project area.**

After the subgroup meeting last year, Jason provided that following articles:

Jay, K., J. Crossman, and K. Scribner. 2014. Estimates of effective number of breeding adults and reproductive success for White Sturgeon. Transactions of the American Fisheries Society 143:1204-1216.

Korman, J., J. Crossman, J. McLellan, and A. Miller. 2025. The effectiveness of conservation aquaculture in meeting recovery objectives for an endangered White Sturgeon population. Transactions of the American Fisheries Society <https://doi.org/10.1093/tafafs/vnaf029>.

Johnson, P., J. Crossman, A. Miller, B. Nichols, J. McLellan, M. Howell, and A. Schreier. 2025. Conservation aquaculture of wild-origin offspring preserves genetic diversity in an endangered population of White Sturgeon. Conservation Genetics. <https://doi.org/10.1007/s10592-024-01670-2>

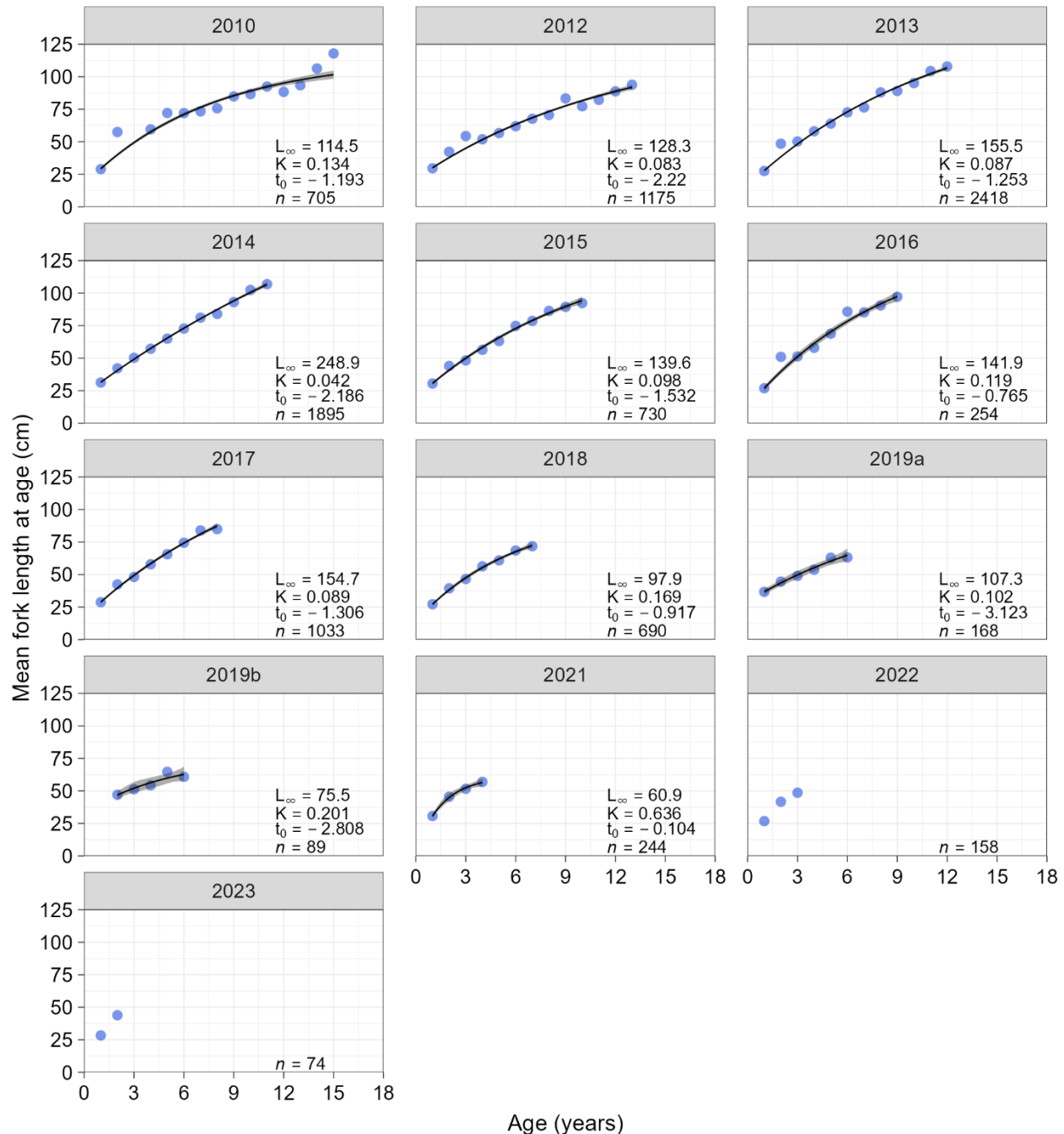
Crossman, J., J. Korman, J. McLellan, M. Howell, and A. Miller. 2023. Competition overwhelms environment and genetic effects on growth rates of endangered white sturgeon from a conservation aquaculture program. Canadian Journal of Fisheries and Aquatic Sciences [dx.doi.org/10.1139/cjfas-2022-0113](https://doi.org/10.1139/cjfas-2022-0113).

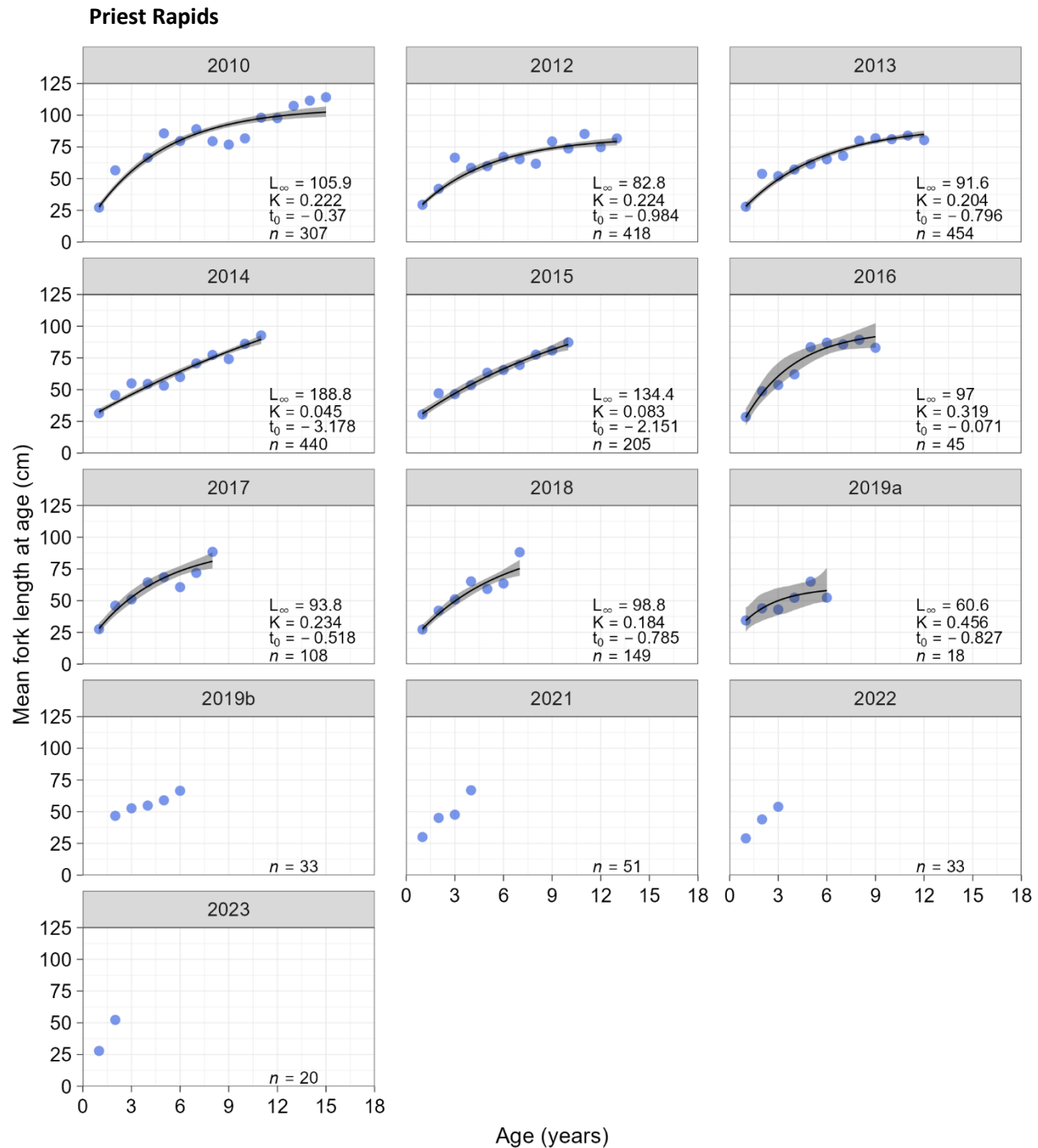
Crossman, J., J. Korman, J. McLellan, A. Miller, and M. Howell. 2025. High densities of hatchery-origin White Sturgeon suppress somatic growth rates of an endangered wild population. Ecological Applications <https://doi.org/10.1002/eap.70042>

- Paul Grutter will provide separate growth figures for each brood year in each of the Priest Rapids and Wanapum reservoirs. The figures will show the lengths by age, the fit of the von Bertalanffy growth curve to the data, precision of the model (e.g., PI or CI), the parameter estimates (i.e., L_{∞} , K , and t_0), and sample size. He will also evaluate the effects of juvenile sampling gear on growth data and consider ways to incorporate data from adult sampling gear.

Paul provided the following figures, which include adult data, before the PRFF meeting:

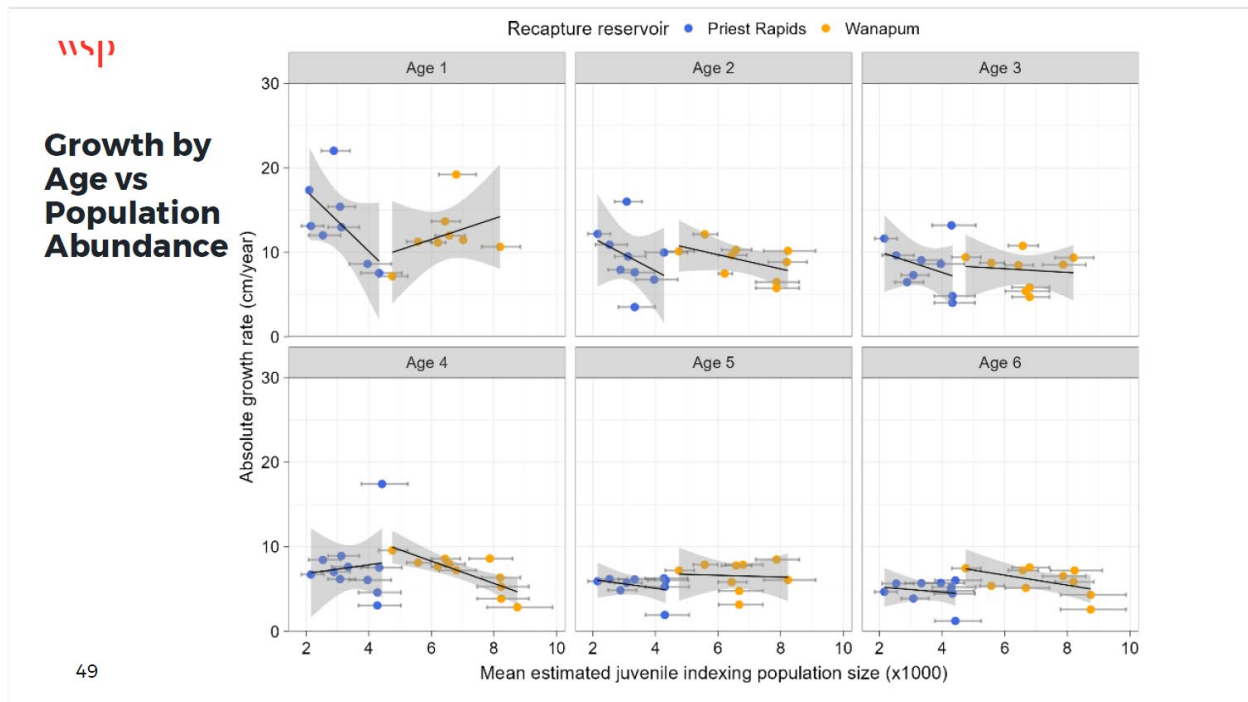
Wanapum





Jason noted that L_{∞} should be close to 250 cm, which is the size of the largest sturgeon in most populations. Sima responded that the lower L_{∞} are likely because there are few to no large adults included in the analysis. Nevertheless, there remain differences in the L_{∞} between the two reservoirs. Sima believes the parameters of the growth model will change as adults grow and larger fish are included in the model.

Ralph Lampman asked whether these growth figures show evidence of density dependence. Sima responded that these do not show density dependence because age, not density or biomass, is on the X-axis. The figures in the annual report showing the relationship between growth and density can be used to identify density dependence. Sima showed the following figure indicating some evidence of density dependence in the younger age groups in Priest Rapids reservoir.

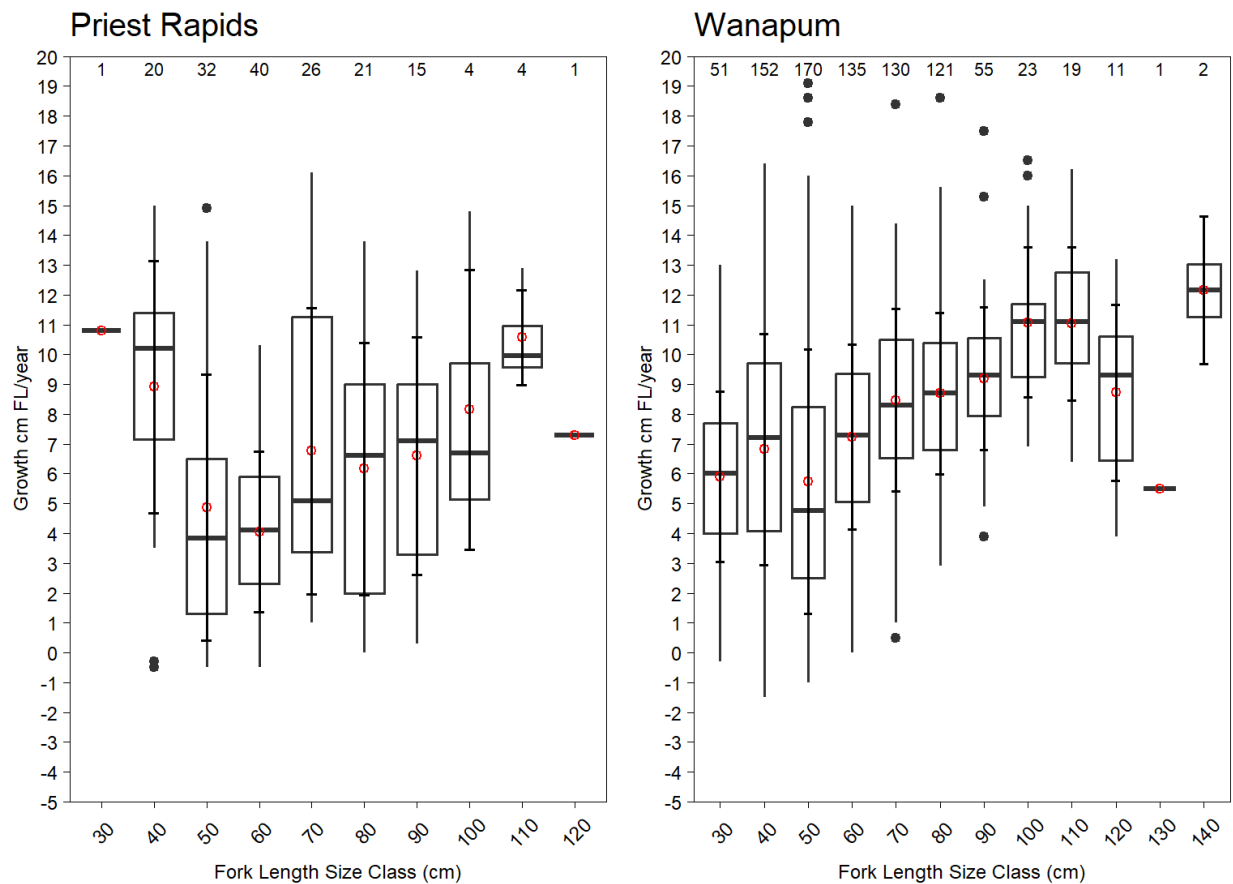


Ralph asked whether the figures could be regenerated using density (fish/area and fish/linear distance) on the X-axis. Sima said she could generate those figures.

Jason asked whether there was any evidence of density dependence in analysis of survival rates. Sima indicated that she does not recall putting together figures showing relationships between survival and abundance. She believes she can do that.

- **Paul Grutter will generate figures showing the relationship between length classes (X-axis) and mean annual growth rates (mean cm/yr on Y-axis) for sturgeon in the project area. Laura will provide Paul with an example figure.**

Before the meeting, Paul provided the following figures:



Paul noted that annual growth rate is based on change in fork length (FL cm/year) of hatchery White Sturgeon ranging in size between 30 and 140 cm FL in Priest Rapids and Wanapum reservoirs. Annualized growth rates were calculated based on change in FL of recaptured fish, with time between capture and recapture events from 1 to 2 years based on adult and juvenile White Sturgeon indexing data from 2010 to 2025. Red circles represent the mean, the short thin horizontal line represents standard deviation around the mean, the solid thick horizontal line represents the median, the box represents 25 and 75 percentiles, the whiskers represent 10 and 90 percentiles, and the black circle represents outliers. Numbers along the top equal recaptures in each size class.

- **The Subgroup will familiarize themselves with the White Sturgeon life-cycle model.**

Tracy indicated that some members have introduced themselves to the life-cycle model.

- **The Subgroup will consider different slot limits for harvest.**

Ongoing.

Tracy asked the PRFF whether they want to continue addressing these items within the PRFF or send them back to the White Sturgeon Subgroup and let them work through the items and provide recommendations to the PRFF. Members present agreed to reconvene the Subgroup. The Subgroup will

work through the action items and provide recommendations to the PRFF. Tracy will schedule a time for the White Sturgeon Subgroup to meet this summer.

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

VII. Pacific Lamprey

Juvenile Pacific Lamprey Survival Studies – Tracy Hillman reminded members that during the last several PRFF meetings, they have been discussing how to move forward with a valid juvenile Pacific Lamprey survival study in the Priest Rapids project area. This included several discussions on precision (standard error or SE) of a survival estimate and sample size, both of which were informed by Dave Robichaud’s presentation. In addition, the PRFF previously supported survival studies conducted at the scale of the dams and the use of the Virtual Release/Dead-Fish Correction (ViRDcT) model. In addition, the PRFF has been discussing source fish for the study. Last month, Ralph provided an undated spreadsheet identifying locations and possible numbers of source fish. Lastly, Grant PUD had an action item to discuss internally the need to begin developing a draft study plan for a survival study in the project area.

Joe LeMoine said Grant PUD is working on developing a draft study plan. They do not have a delivery date for the draft plan at this time; however, they are working on the plan and will keep the PRFF posted on progress or any questions Grant PUD may have. Joe said they want to be as transparent as possible as they develop the plan. Ralph asked whether Grant PUD will be doing any studies or work to identify and collect source fish for a survival study. For example, Chelan PUD is proposing to test a trap in the Entiat Canal to help them secure enough fish for a survival study. Is Grant PUD considering testing a trap in the Dryden Canal? Joe responded that these are items that the PUD is considering and will be addressed in the draft study plan. Ralph added that he hopes Grant PUD will also consider a slightly larger SE, similar to the SE proposed by Douglas PUD (SE = 0.04). Joe thanked Ralph and said, yes, they are considering these items in their study design.

Grant PUD Adult Trapping Efforts in 2026 – Joe LeMoine said that Grant PUD plans to conduct four weeks of trapping to fulfill their mitigation obligations, with an additional four weeks of trapping conducted on behalf of Douglas PUD in support of their study needs under a memorandum of understanding. Joe noted that lamprey numbers are trending higher and earlier than anticipated. He said the trapping effort is expected to begin in mid-July, consistent with typical operational timing.

Other Pacific Lamprey Items – No additional Pacific Lamprey items were discussed.

VIII. Administration

In-Person Meeting – Tracy Hillman reminded members that they will meet in-person on Tuesday, 4 August with the Aquatic Settlement Work Group and Rocky Reach Fish Forum at Wells Dam. The meeting will coincide with the adult lamprey passage studies conducted at Wells Dam. Tracy will provide more information as we get closer to the meeting date.

IX. Adjourn

With no additional business to discuss, Tracy Hillman adjourned the meeting at 10:00 am.

X. Next Meeting

The next meeting of the PRFF will be on Wednesday, 1 July 2026.