



Priest Rapids Fish Forum

Conference Call

Wednesday, 5 July 2023

9:00 a.m. – 11:00 a.m.

FINAL MINUTES

PRFF Members

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

Patrick Verhey, Laura Heironimus, WDFW
Breean Zimmerman, WDOE
Aaron Jackson, Carl Merkle, CTUIR
Marchelle Foster, BIA
Tom Skiles, CRITFC/CTUIR

Meeting Attendees

Ralph Lampman, YN
Mike Clement, Grant PUD
Patrick Verhey, WDFW
Nate Patterson, YN
Paul Grutter, Golder

Laura Heironimus, WDFW
RD Nelle, USFWS
Chris Mott, Grant PUD
Jason McLellan, CTCR
Tracy Hillman, Facilitator

Action Items:

- Ralph Lampman will coordinate with the Detroit River Fish Laboratory on a time to present their Lake Sturgeon modeling and reef building work to the PRFF.

Decision Items:

- The PRFF approved modifications to the juvenile White Sturgeon indexing sample gear. Sampling gear will include equal numbers of 4/0 and 12/0 hooks, which will allow sampling of all size/age classes of sturgeon in the project area.

- The PRFF agreed that trapping of adult Pacific Lamprey should start the week of 10 July at Priest Rapids Dam.

I. Welcome and Introductions

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

II. Agenda Review

The PRFF reviewed and approved the July agenda.

III. Approve June Meeting Notes

The PRFF reviewed and approved the 7 June 2023 meeting minutes.

IV. Review Action Items

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

- Ralph Lampman will coordinate with the Detroit River Fish Laboratory on a time to present their Lake Sturgeon modeling and reef building work to the PRFF. **Ongoing.**
- Jason McLellan will share the Hatten et al. (2018) paper that describes substrate and flow characteristics associated with White Sturgeon recruitment in the Columbia River Basin. **Complete. Jason shared the Hatten et al. (2018) paper with the group following the June meeting.**
- Tracy Hillman will identify a date later this summer for the joint PRFF/RRFF Pacific Lamprey Working Group meeting. **Complete. See discussion under Pacific Lamprey.**
- Tracy Hillman will coordinate with John Ferguson, Chair of the Aquatic Settlement Working Group (ASWG), to see whether members of the ASWG are willing to participate in the joint PRFF/RRFF Pacific Lamprey Working Group meeting. **Complete. Tracy reported that members of the ASWG are willing to participate in the joint PRFF/RRFF Pacific Lamprey Working Group.**

V. White Sturgeon

White Sturgeon Hatching and Rearing – Nate Patterson reported that on 6 June they successfully spawned six females and six males at the Yakama Nation Sturgeon Hatchery. He said the juveniles produced from that spawning just started feeding. Although rearing is going well, there have been some mortalities, which were expected.

Population Assessment Sampling Methodology – Mike Clement reported that when they submitted their draft annual White Sturgeon report to the PRFF for review, they received some comments on the gear used in the indexing program and the inability of the current gear to capture fish that grow beyond the catchability of the gear. That is, the current gear may be okay capturing age-1 to 6 fish, but it is not good at capturing older, larger fish. Mike said he discussed this with Jason McLellan and Paul Grutter (Golder) and they believe a slight change to the gear should resolve the catchability issue. Mike invited Paul to the meeting to discuss the proposed changes to the juvenile index sampling gear.

Paul gave a presentation titled, “Juvenile White Sturgeon Population Indexing: Proposed Study Design Change” (see Attachment 1). Paul started the presentation by describing the original juvenile indexing study design, including the timing of the study, site selection, sampling gear, and sampling effort. He also identified the numbers and sizes of juvenile sturgeon released into the project area. As of recent, a

total of 44,004 juveniles have been released into the project area with larger releases occurring in the early years (frontloading). He then summarized the concern, which is that older brood year releases grow out (age out) of the indexing gear and therefore the abundance and growth estimates generated from sampling represent the portion of the hatchery population susceptible to the gear and not the entire population of hatchery sturgeon in the project area. He demonstrated this concern by showing histograms that relate numbers of fish captured by brood year for the 2016, 2018, and 2022 sampling periods. The indexing program is currently set up to capture smaller sturgeon in the project area.

Paul described the differences in hook sizes used to capture juveniles versus adults. He noted they currently deploy equal numbers of 2/0 and 4/0 hooks and stated that both hook sizes have similar catch rates. He said to increase the size range of fish captured, they propose to deploy equal numbers of 4/0 (150# mono leader) and 12/0 (Round Braid #84 5# Tarred leader) hooks. The number of gangions per line would decrease from 40 to 30; the sampling effort would not change. This modified gear array should reduce the size selectivity of the gear and allow better estimates of abundance and growth of the entire hatchery population in the project area. Paul showed a figure that demonstrated the rationale for the proposed gear change. He added that the capture of larger fish will require more handling time and therefore study logistics and effort will have to be modified accordingly. In conclusion, Paul summarized the proposed juvenile indexing sample gear as follows:

- Deploy equal numbers of 4/0 and 12/0 hooks.
- Use 30 gangions per setline (reduced from 40/setline).
- Deploy gangions on 122-m-long, ¼-inch-diameter setlines.
- Maintain the same level of sampling effort of overnight sets (but reduce effort based on hook-hours).
- Sample within the 360 GRTS-selected sites (90 sites in Priest Rapids reservoir and 270 in Wanapum reservoir).

Ralph Lampman asked whether non-barbed hooks could be used. Paul said using non-barbed hooks would make it easier to remove fish from the gear; however, they will lose several fish because the fish will not be retained by the gear. Ralph asked why there is more sampling effort in Wanapum reservoir than in Priest Rapids reservoir. Paul said Wanapum reservoir is larger than Priest Rapids reservoir and the study was set up with proportional sampling. RD Nelle asked whether the change in gear will affect year-to-year comparisons. Paul said the change in gear should not affect or interrupt the time series.

Decision: All members present approved the modification in juvenile indexing sample gear. Grant PUD will use the modified approach beginning this year.

Coordination on Habitat Suitability Models and Artificial Spawning Reefs Presentation – Ralph Lampman said he is coordinating with Jason Fischer with the Detroit River Fish Laboratory on presenting their work on constructing artificial spawning reefs for Lake Sturgeon in the St. Clair and Detroit rivers. Ralph said he asked Jason whether he could present to the PRFF, RRFF, and ASWG during the PRFF meeting on 2 August. As of the time of this meeting, Ralph had not received a response from Jason.¹ Jason McLellan indicated it would be useful for Jason Fischer to describe the justification for the work they did in the St. Clair and Detroit rivers and how that process can be applied to the Columbia River (specifically White Sturgeon).

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

¹ Following the meeting, Jason indicated that he can present their work at 11:00 am on Wednesday, 2 August.

VI. Pacific Lamprey

Grant PUD Trapping Efforts in 2023 – Mike Clement reported that he believes the adult Pacific Lamprey run is close to peaking at Bonneville Dam. He added that they are seeing about 15-25 adult lamprey per day at Priest Rapids Dam. Given the current status of the run, Mike asked whether the PRFF would approve the beginning of Pacific Lamprey trapping at Priest Rapids Dam during the week of 10 July. As before, all fish captured during the first four weeks will be provided to Douglas PUD for their fish passage study. Fish captured during the second four-week period will be either provided to Douglas PUD (depending on whether they received enough fish for their study during the first four-week collection period) or will be released at Kirby-Billingsley Hydro Park upstream from Rock Island Dam.

Decision: All member present agreed that trapping of Pacific Lamprey should start the week of 10 July at Priest Rapids Dam.

Pacific Lamprey Subgroup Meeting with RRFF Subgroup – Tracy Hillman reminded the PRFF that the PRFF Pacific Lamprey Subgroup and the RRFF and ASWG subgroups will meet jointly to evaluate the different models that can be used to estimate juvenile Pacific Lamprey survival rates and behavior through the hydro-system. All the models being evaluated have important assumptions that need to be addressed before a valid survival study can be implemented within the project areas. Tracy said the objectives of the subgroup meeting are to discuss models and assumptions of models used to estimate juvenile survival and behavior. Ralph Lampman added that the subgroup will also discuss juvenile studies to be conducted in the upper Columbia in synchrony with the lower Columbia River studies.

Tracy asked the PRFF whether subgroup members are available to meet during the week of 21 August. Members indicated that Monday, 21 August would work best for them. Tracy will check with the RRFF subgroup to see whether 21 August works for them.² Tracy noted that the meeting will be virtual.

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

VII. Administration

Laura Heironimus reported that she will go on maternity leave this fall. She will rejoin the PRFF early next year. RD Nelle reported that Judy Neibauer has retired and will no longer serve as the USFWS alternate on the PRFF.

VIII. Adjourn

With no additional business to discuss, Tracy Hillman adjourned the meeting at 11:00 am.

IX. Next Meeting

The next meeting of the PRFF will be on 2 August 2023.

² Following the PRFF meeting, the RRFF agreed to hold the Pacific Lamprey Subgroup Meeting on Monday, 21 August.

Attachment 1

Presentation by Paul Grutter on Proposed Study Design Changes to the Juvenile White Sturgeon Population Indexing Program



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Juvenile White Sturgeon Population Indexing: Proposed Study Design Change

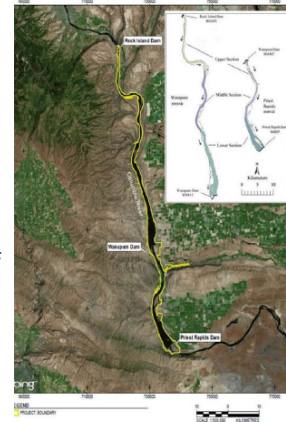
Paul Grutter, WSP

Date: 5 July 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



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Summary by brood year of hatchery White Sturgeon juveniles released in the Project area 2022

| Brood Source | Release Date | Number Released | Fork Length (cm) | | Weight (g) | |
|-----------------|--------------|-----------------|------------------|-----|------------|-----|
| | | | Mean | SD | Mean | SD |
| Total 2010 | | 9,116 | 29.4 | 5.2 | 177 | 99 |
| Total 2012 | | 3,981 | 29.1 | 2.6 | 154 | 44 |
| Total 2013 | | 6,592 | 27.5 | 4.3 | 130 | 63 |
| Total 2014 | | 6,502 | 31.3 | 3 | 198 | 56 |
| Total 2015 | | 3,258 | 30.3 | 2.6 | 171 | 46 |
| Total 2016 | | 3,248 | 27.2 | 3.1 | 126 | 45 |
| Total 2017 | | 3,224 | 28.5 | 4.3 | 144 | 58 |
| Total 2018 | | 2,657 | 26.7 | 2.9 | 128 | 43 |
| Total 2019a | | 672 | 35.5 | 5.2 | 288 | 106 |
| Total 2019b | | 1,485 | 48.3 | 5.2 | 783 | 265 |
| Total 2021 | | 3,269 | 28.9 | 4.1 | 153 | 62 |
| Total 2010-2021 | | 44,004 | 30.3 | 3.7 | 202 | 73 |

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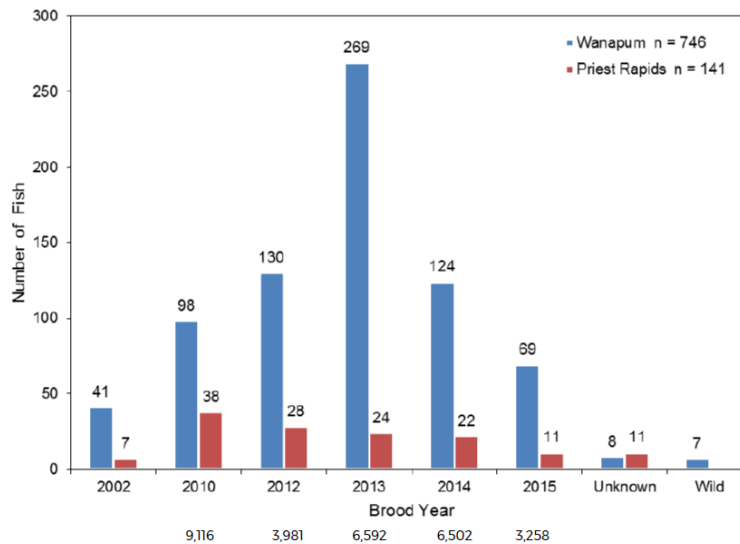
Hook Size Selectivity Effect on Catch

- 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

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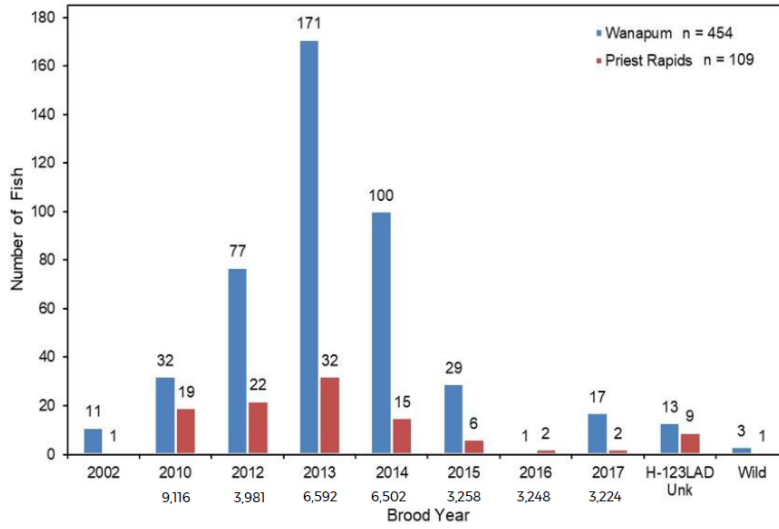
2016 Juvenile Indexing



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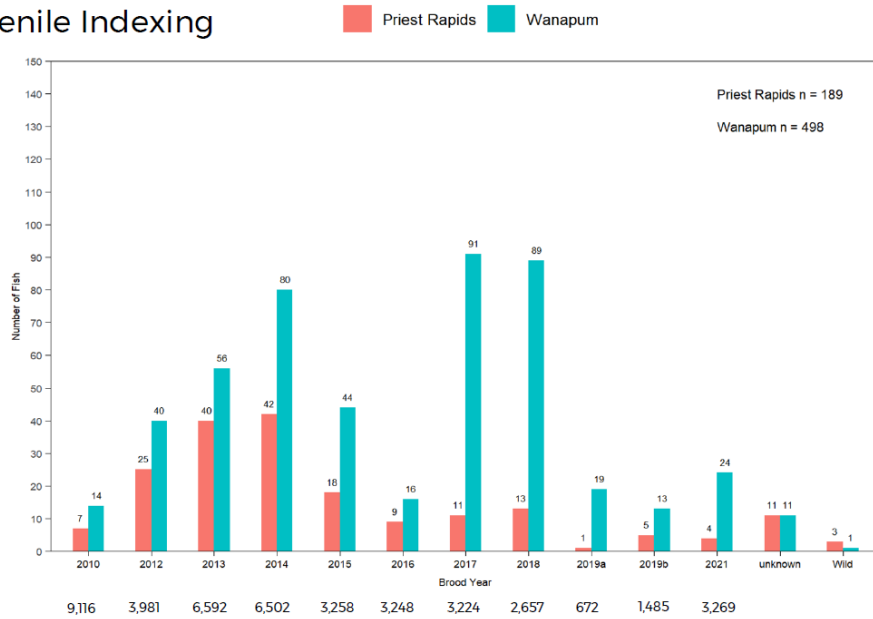
2018 Juvenile Indexing



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2022 Juvenile Indexing



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Comparison of Juvenile and Adult White Sturgeon Gear



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White Sturgeon catch by hook size in the Priest Rapids Project Area during the juvenile White Sturgeon indexing program in 2022

Similar catch size (length) by 2/0 and 4/0 hooks

| Reservoir | Hook Size | Catch | Fork Length (cm) | | | |
|---------------|-----------|-------|------------------|------|------|-------|
| | | n | Mean | SD | Min | Max |
| Wanapum | 2/0 | 199 | 68.1 | 17.5 | 33.5 | 111.0 |
| | 4/0 | 299 | 72.8 | 21.7 | 33.0 | 136.5 |
| Priest Rapids | 2/0 | 86 | 71.2 | 16.5 | 43.5 | 122.5 |
| | 4/0 | 103 | 79.3 | 20.0 | 37.5 | 127.0 |

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Proposed New Juvenile Indexing Gear Hook Size

Increase size range of fish captured

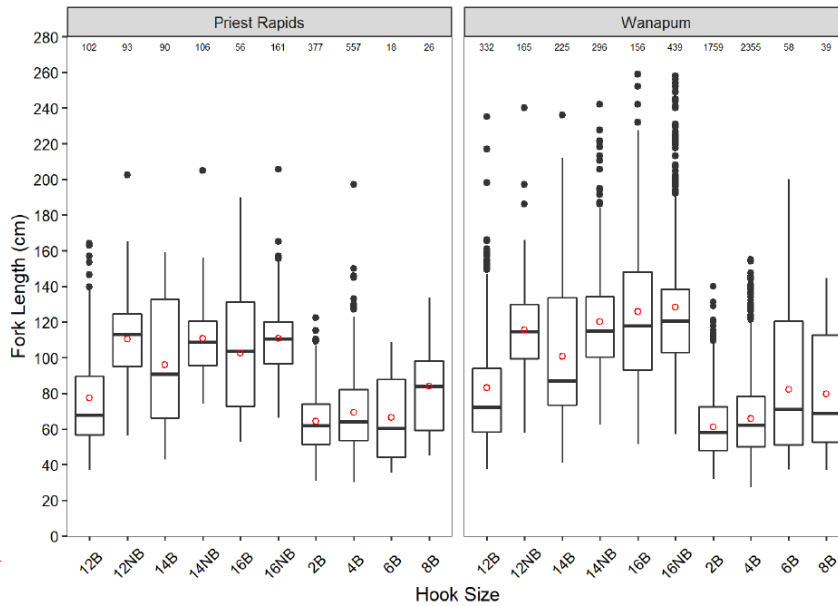
Reduce size selectivity of gear so that abundance and growth estimate are representative of hatchery population

- Deploy equal numbers of 4/0 (150# mono leader) and 12/0 (Round Braid #84 5# Tarred leader) hooks

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Rationale for Proposed Hook Size Selection Based on Historic Catch



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Proposed 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.

