



Priest Rapids Fish Forum

Conference Call

Wednesday, 4 June 2025

9:00 a.m. – 10:15 a.m.

FINAL MINUTES

PRFF Members

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

Meeting Attendees

Mike Clement, Grant PUD
 Melissa Peterson, WDOE
 Jason McLellan, CTCR
 Patrick Verhey, WDFW
 Chris Mott, Grant PUD
 Erin Harris, Grant PUD

Ralph Lampman, YN
 Tim Taylor, Grant PUD
 Todd Miller, WDFW
 Pete McHugh, CRITFC
 Joseph LeMoine, Grant PUD
 Tracy Hillman, Chair

Action Items:

- Mike Clement will ask Corey Wright to share Grant PUD’s sturgeon catch data with Laura Heironimus.
- Laura Heironimus will conduct a literature search to determine whether there is more recent information on White Sturgeon spontaneous autopolyploidy.
- Tracy Hillman will coordinate with Laura Heironimus on topics to discuss during the White Sturgeon Subgroup meeting in September.

- Tracy Hillman will send the PRFF a placeholder for the White Sturgeon Subgroup meeting that will be held on Wednesday, 3 September 2025.
- All members will review the strategy and provide comments to Ralph Lampman by Friday, 6 June 2025.
- Ralph Lampman will confirm the start date for adult lamprey tagging at Bonneville, and Mike Clement will coordinate the activation of new HDX readers accordingly.

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 with no additions.

III. Approve May Meeting Notes

The PRFF reviewed and approved the 7 May 2025 meeting minutes.

IV. Review Action Items

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

- Mike Clement will share Grant PUD's sturgeon catch data with Laura Heironimus. **Ongoing. Catch data from the 2025 broodstock collection efforts are being compiled. Once that work is complete, Mike or Corey Wright will share the data with Laura.**
- Laura Heironimus will conduct a literature search to determine whether there is more recent information on White Sturgeon spontaneous autopolyploidy. **Ongoing. In an email, Laura reported that she found a few more recent papers on spontaneous autopolyploidy that she will discuss with the PRFF during the July meeting.**
- Laura Heironimus will reach out to Jason to see whether Jason has any updated information on spontaneous autopolyploidy. **Complete. In an email, Laura indicated that she contacted Jason, and he identified a few additional papers related to spontaneous autopolyploidy. She also noted that they had a productive conversation about working towards consistent sampling methods among the co-managers. She will discuss these with the PRFF during the July meeting.**
- Tracy Hillman will organize a White Sturgeon Subgroup meeting. The group will review the 2016 stocking SOA, while considering the most recent monitoring/indexing data, and determine whether there is a need to update the SOA. **Complete (see Section VI).**
- Tracy Hillman will send the PRFF a placeholder for the Pacific Lamprey Subgroup meeting that will be held on Wednesday, 6 August 2025. **Complete.**
- Ralph Lampman will share the updated Pacific Lamprey survival strategy with the group. **Complete.**
- All members will review the strategy and provide comments to Ralph Lampman by Friday, 6 June 2025. **Ongoing.**
- Tracy Hillman will share the 2018 Adult Pacific Lamprey NNI SOA with the group. **Complete.**

- Ralph Lampman will provide information on the number of adult lamprey to be PIT tagged at Bonneville Dam in 2025. **Complete.**

V. Water Quality

Columbia and Snake River Temperature TMDL – Melissa Peterson gave a presentation titled, “Columbia and Lower Snake Rivers Temperature TMDL” (see Attachment 1). She began by giving an overview stating that sections of the mainstem Columbia and Lower Snake rivers are listed on Washington’s 303(d) list as impaired for high water temperatures that frequently exceed state water quality criteria for protecting salmonid and steelhead populations. She added that per the Clean Water Act, each state must develop a TMDL (Total Maximum Daily Load) for state waters on the 303(d) list. Because of the size and multijurisdictional nature of the Columbia River, the U.S. Environmental Protection Agency (EPA) was identified as the appropriate agency to complete the TMDL.

Melissa then provided a bit of history on TMDLs. In 2000, EPA and the states of Washington, Oregon, and Idaho signed a MOA (Memorandum of Agreement) to address Columbia and Lower Snake River temperatures. EPA would produce the TMDL and the states would complete individual state-specific implementation plans. In 2017, the Columbia Riverkeeper filed suit against EPA over the delay in producing the TMDL. In 2019, the Ninth Circuit Court ordered EPA to issue the temperature TMDL, which they did in August 2021. The states are producing implementation plans.

Melissa said that the state of Washington includes implementation plans in all state-produced TMDLs. These plans outline the broad strategies and actions necessary to meet wasteload and load allocations outlined in the TMDL. Implementation of actions in the plans requires a coordinated effort by different organizations across the state. These plans include management goals, solutions to achieve wasteload and load allocations, financial and technical assistance pathways, education and outreach, and progress tracking, monitoring, and an adaptive management plan.

Melissa then described the Water Quality Attainment Plan (WQAP). She said for dams that cause or contribute to a violation of the water quality standards, the dam owner must develop a water quality attainment plan that provides a detailed strategy for achieving compliance. She said that an approved WQAP must contain the following: (1) full evaluation of reasonable and feasible actions; (2) clear goals for criteria attainment; (3) evaluation criteria to rank and prioritize actions; (4) set approvable baselines for modeling/analysis of abatement actions; (5) detailed compliance schedule; (6) monitoring/reporting benchmarks throughout the compliance schedule; and (7) continuous engagement with the Advisory Workgroup and Ecology. She then provided contact information for Ecology’s Hydropower Unit.

Melissa noted that they will have the Advisory Workgroup formed within the next few weeks. She said each PUD will have a representative (one representative per PUD rather than one person representing the three PUDs). Ecology is also putting together a public implementation plan survey, which will allow the public to provide their input on what measures should be included in the plan. Finally, Ecology will spearhead a basin-wide analysis for the TMDL. This will be conducted using data and results from the individual attainment plans. The data collected by the PUDs will inform the attainment plans.

Following Melissa’s presentation, Tim Taylor provided an update on the connection between the WQAP process and the PRFF. He explained that under the 401 Water Quality Certification, any violations of water quality standards must be addressed through a coordinated process, which includes consultation with the Fish Forum. This establishes a formal link between water quality discussions and the forum’s activities. He said in the coming months, discussions will continue around the development of attainment plans and the Columbia and Lower Snake Rivers Temperature TMDL. The goal is to explore all available options and collaboratively navigate the planning process.

Tim noted that there has already been significant modeling work related to estimating effects on temperature, both prior to and following the issuance of the 401 certification. This modeling has helped characterize the Priest Rapids Project's influence on water temperature. A summary of this historical modeling will be shared to provide context as the Fish Forum becomes more engaged in water quality discussions. Additionally, coordination is ongoing among the three Public Utility Districts (Grant, Douglas, and Chelan) and Ecology. These discussions aim to advance the WQAP process. By mid-summer, a schedule and timeline for the development of the attainment plan are expected to be available. Tim emphasized that this is an evolving process and that all parties are learning and adapting as they move forward.

The PRFF thanked Melissa for the presentation and Tim for the additional information.

Other Water Quality Items – No additional items were discussed.

VI. White Sturgeon

White Sturgeon Broodstock Collection – Mike Clement reported that they began fishing for broodstock just downstream from McNary Dam on 12 May. Consistent with the 2016 SOA, they fished for two weeks and were able to successfully collect six females and six males. Mike noted that they captured the six males quickly but found it difficult to collect the six females. Several captured females had oocyte PI (polarization index) values outside the target. Nevertheless, they captured the appropriate number of broodstock for a 6x6 spawning matrix. The fish were sent to the Yakama Nation Sturgeon Hatchery for spawning.

Mike stated that flows in the Columbia River were relatively flat and low this year (~250 kcfs – typically between 350 and 400 kcfs) and that may explain why they had trouble collecting broodstock. He opined that the adults were located closer to the dam in areas where they could not fish. He also noted that all fish collected for broodstock had not been previously captured. Thus, all were first-time broodstock.

Spawn Timing and Maturation – In an email, Tygh Schuster reported that they successfully spawned the sturgeon at the Yakama Nation Sturgeon Hatchery on Tuesday, 3 June. They spawned the six females and six males, resulting in 36 family groups. They expect the fish to begin hatching in 1.5 weeks.

White Sturgeon Subgroup Meeting – Tracy Hillman revisited a suggestion made by Laura Heironimus during the previous meeting regarding the 2016 White Sturgeon Stocking Program Statement of Agreement (SOA). For several years, the PRFF has annually extended the 2016 SOA by one year. Laura proposed that it may be time for the White Sturgeon Subgroup to convene and consider developing a new SOA—potentially with a multi-year duration—to avoid the need for annual re-approval.

To facilitate this, Tracy proposed scheduling a dedicated White Sturgeon Subgroup meeting. Given that the first Wednesday of each month is typically reserved for PRFF meetings, and that the September meeting is often skipped due to a light agenda, he suggested repurposing the 3 September meeting for this discussion. Alternative dates considered were 1 October and 5 November. Jason McLellan expressed a preference for 3 September, noting that late September and October are typically busy with fieldwork. No objections were raised, and the PRFF agreed to hold the White Sturgeon Subgroup meeting on 3 September 2025.

Tracy will follow up with Laura to confirm the scope of the subgroup discussion. Based on previous conversations and meeting notes, the meeting may focus on juvenile release numbers, where to collect broodstock, and continued use of broodstock or transition to larvae. Because this was a recommendation by Laura during the last meeting, Mike Clement suggested that Laura offer her

thoughts during the next meeting on the topics to discuss during the subgroup meeting. Tracy said he will coordinate with Laura.

Other White Sturgeon Items – No additional items were discussed.

VII. Pacific Lamprey

Comments on the Juvenile Lamprey Survival Study Document – Ralph Lampman reported that he has received no comments on the draft document. Tracy Hillman reminded members that comments on the draft report are due to Ralph by Friday, 6 June 2025.

Ralph requested that the PRFF identify specific questions for PNNL (Pacific Northwest National Laboratory). These questions will be shared with PNNL before the subgroup meeting in August. The following questions were identified during the meeting:

1. Route Selection
 - What routes through dams are juvenile lamprey most likely to take during downstream migration (i.e., is there a relationship between flow distribution at a dam and the route juvenile lamprey take)?
 - What are the route-specific survival rates of juvenile lamprey as they pass through dams?
 - How do flows, flow fluctuations, and water temperatures affect passage routes and survival?
 - How does migration vary by time of day and water column depth?
 - What role does proximity to the thalweg and flow fluctuations play in route selection?
2. Performance of Hatchery versus Wild Juvenile Lamprey
 - Are there differences in behavior, route selection, and survival rates between hatchery- and natural-origin juveniles?
 - Do hatchery-origin juvenile lamprey use the same passage routes as natural-origin juvenile lamprey?
3. Source Fish
 - Is there a difference in survival rates and behavior of fish that are captured downstream of the project area and used in an upstream study area compared to those captured upstream from the study area?
 - Do juveniles from mainstem habitats behave or survive differently than those from tributaries?
 - Do wild juveniles from distant source populations behave differently than local ones?
 - How do wild fish held in captivity compare to freshly collected wild fish?
4. Release Location
 - Do migration behavior and survival vary depending on where the tagged fish are released (e.g., differences in survival and behavior of fish released in the reservoir versus upstream of the reservoir)?
 - How far upstream from a dam should juvenile lamprey be released to maximize detection and survival?
5. Precision and Survival
 - What is the relationship between sample size (i.e., number of juveniles tagged) and precision of route-specific survival rates?
 - What level of precision can be expected in survival estimates?
 - What are the standard error rates and confidence intervals based on in current studies?
6. Tague Detection and Residency

- What proportion of tagged migrants delay their migration through the reservoir?
 - How many juveniles reside in the reservoir without migrating through the dam?
 - Do the tags last long enough to track the slow migrants through the reservoir and dam?
 - How does seasonality affect movement and survival within reservoirs?
7. Tag Availability
- Are suitable tags readily available for a juvenile lamprey tagging study?
8. Modeling Approaches
- What are the pros and cons of using the Virtual/Paired Release (ViPre) Model and the Virtual Release/Dead-Fish Correction (ViRDcT) Model?
 - Why is the ViRDcT model the most appropriate model for a juvenile lamprey survival study?
9. Scale of Study
- Are the tags capable of assessing unbiased project-scale (upstream end of the reservoir through the dam and into the tailrace) survival rates?
 - What are the limitations in estimating full project-scale survival (e.g., battery life, reservoir length, flow conditions, etc.)?
10. Run Timing and Environmental Conditions
- Are there optimal run timing windows or environmental conditions (e.g., flow, temperature) that reduce variability in migration and improve detection?
 - What factors contribute to fish holding or staging behavior?
 - How long should tagged juveniles be held before releasing them into the study area?

Members will identify additional questions and discuss them during the July meeting.

Grant PUD Adult Trapping Efforts in 2025 – Mike Clement reported that Grant PUD will be collecting adult lamprey at Priest Rapids Dam for Chelan PUD’s adult lamprey survival study at Rock Island Dam and Douglas PUD’s study at Wells Dam. In addition, they will be collecting adult Pacific Lamprey following the approved 2018 Grant PUD Adult Lamprey No Net Impact SOA. He said they will begin trapping in mid-June and will continue trapping through early October. Mike added that if we have a relatively low run this year, Chelan PUD is the highest priority for receiving fish. Mike said he believes Chelan PUD needs 250 adults and Douglas needs 400 adults.

Other Pacific Lamprey Items – Ralph Lampan shared the following Pacific Lamprey updates:

- A 3.5-week study on the Bonneville Hatchery Floating Adult Collector will start in June 2025. The purpose of the study is to finetune the floating adult lamprey collector, following modifications based on lab testing. Michigan State University will install a smart panel on the trap during the week of 16 June 2025. The smart panel should detect lamprey within a 4-inch tube on the floating trap. This technology may help estimate lamprey abundance in the future.
- David Hines (USFWS), who was previously responsible for GIS-based lamprey distribution monitoring, has left federal service. A replacement is being sought.
- Willamette Falls Lamprey Translocation and Celebration will occur in June. Fish collection and translocation will begin the week of 23 June 2025. The goal is to translocate 500 adult lamprey above five Army Corps of Engineers Dams. The Willamette Falls Lamprey Celebration will take place on 26 June 2025. This is a public event celebrating the lamprey release.

VIII. Administration

No new administration business was discussed.

IX. Adjourn

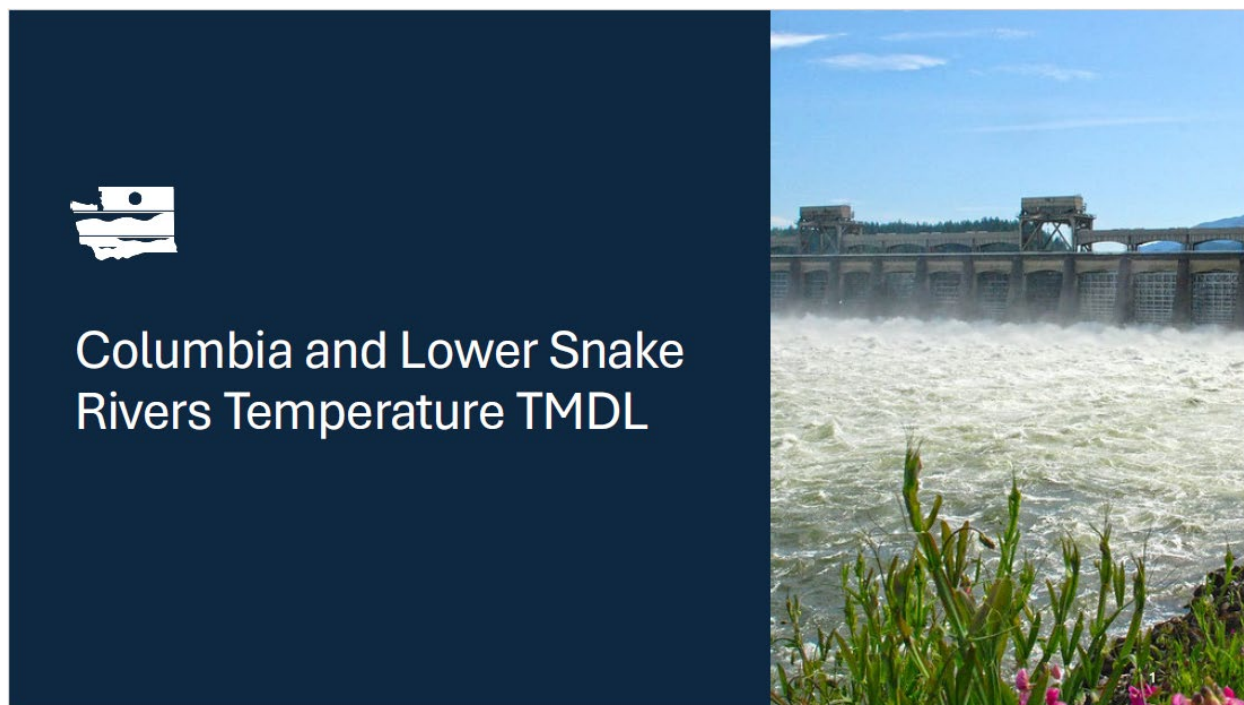
With no additional business to discuss, Tracy Hillman adjourned the meeting at 10:15 am.

X. Next Meeting

The next meeting of the PRFF will be on 2 July.

Attachment 1

Presentation by Melissa Peterson on Columbia and Lower Snake River Temperature TMDL



Overview

- Sections of the mainstem Columbia and Lower Snake Rivers are listed on Washington's 303(d) list as impaired for high water temperatures that frequently exceed state water quality criteria protecting salmonid and steelhead populations.
- Per the Clean Water Act each state must develop a Total Maximum Daily Load (TMDL) for state waters on the 303(d) list.
- Due to the Columbia's size and multijurisdictional nature, the US EPA was deemed the appropriate agency to complete the TMDL.

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TMDL History

- **2000:** EPA and States of Washington, Oregon, and Idaho signed a Memorandum of Agreement (MOA) to address temps on Columbia and Lower Snake Rivers
 - EPA would produce the TMDL and states would complete individual state-specific implementation plans
- **2017:** Columbia Riverkeeper files suit against EPA over delay in producing the TMDL
- **2019:** Ninth Circuit Court orders EPA to issue the TMDL
- **August 2021:** EPA issues the final Columbia and Lower Snake Rivers Temperature TMDL. The States of Washington and Oregon will produce implementation plans

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What is an implementation plan?

- The state of Washington includes implementation plans in all state produced TMDLs.
- Implementation plans outline the broad strategies and actions necessary to meet wasteload and load allocations outlined in the TMDL.
- Implementation plans are not self-implementing. Actions require a coordinated effort by different organizations across the state.



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Implementation plan components

- Management goals
- Solutions to achieve wasteload and load allocations
- Financial and technical assistance pathways
- Education and outreach strategies
- Progress tracking, monitoring, and an adaptive management plan



**Columbia and Lower Snake Rivers Temperature
Total Maximum Daily Load**
U.S. Environmental Protection Agency
Region 10
1200 Sixth Avenue, Suite 155
Seattle, WA 98101-3188



August 13, 2021

Document was revised on May 10, 2022 to correct minor formatting errors and inadvertent omission of a water quality model segment from Table 1.1 (see letter from Daniel Quisenberry to Vincent McQueen on October 7, 2022).

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Water Quality Attainment Plan (WQAP)

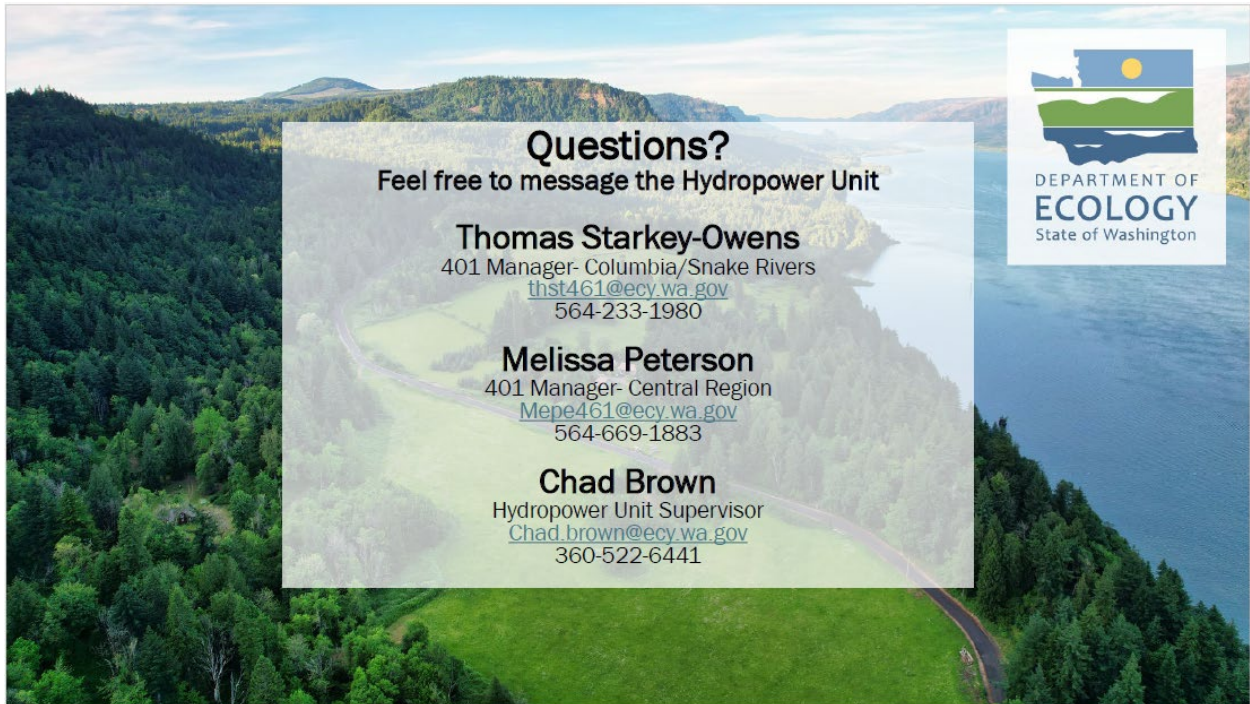
For dams that cause or contribute to a violation of the water quality standards, the dam owner must develop a water quality attainment plan that provides a detailed strategy for achieving compliance

An approvable WQAP must contain:

- **Full evaluation of reasonable and feasible actions**
- **Clear goals for criteria attainment**
 - TMDL load allocation exceedances
- **Evaluation criteria to rank and prioritize actions**
 - Example: Reducing the magnitude, duration and frequency of criteria exceedances
- **Set approvable baselines for modeling/analysis of abatement actions**
 - Produce a Model Calibration report for review and comment
- **Detailed compliance schedule**
 - *Not to exceed 10 years*
- **Monitoring/reporting benchmarks throughout compliance schedule**
- **Continuous engagement with Advisory Workgroup and Ecology**



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Questions?

Feel free to message the Hydropower Unit

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