



A Program of Washington Maritime Blue

Quiet Sound Leadership Committee

January 22, 2025 Meeting Summary

v. 2.24.2025

Action Items & Decisions

Action Items	Who	Status
QS to connect with Todd regarding tug standard of care approach.	QS	
QS will circulate the Letter of Support via email.	Rachel	
QS to send the slowdown shapefile with MITAGs.	Sara	In progress
Correction: Cassidy will work with Quiet Sound to circulate our takeaways from the MARAD shipbuilding workshop.	Cassidy/QS	

Meeting Notes

Welcome/Introductions

Alle provided a land and water acknowledgement. Grace Ferrara (NOAA Fisheries) provided the Orca Moment. Alle provided an overview of the agenda.

Presentation: Killer whale, Salmon and Herring Response to Vessel Noise

Dr. Kieran Cox, Postdoctoral Fellow at Simon Fraser University (email: Kieran_cox@sfu.ca)

Kieran's research is currently supported by the Seadoc Society and the Salish Sea Institute. Kieran co-founded [FishSounds](#), which archives fish sound recordings. Kieran provided an overview of the

negative impact of anthropogenic noise on fish and marine invertebrates, notably reduced foraging and increased stress. Kieran presented dose-response data on killer whales, showing the probability of negative behavioral responses at specific noise levels. For example, common noise levels range from 150–175 dB, with a 50 dB difference between the coast and other areas. Herring has a 123 dB dose-response rate, allowing us to identify where 123 dB is exceeded.

Kieran mapped underwater noise pollution along Washington's outer coast, taking into account vessel noise, wind and wave noise, at different depths (surface, midwater and beneath) and varying resolutions. By doing so, the team can understand minimum noise levels, such as what the coast sounded like before motorized vessels. Kieran acknowledged the challenge of mapping noise levels accurately, especially in areas with less AIS data. The team tracks when vessel noise exceeds 50% and, when possible, 90% of the response rate. Currently, the focus is on the Salish Sea, with plans to expand analysis to other routes.

Kieran's goal is to inform water quality targets and species management. He invited feedback and collaboration to align with broader conservation goals.

Questions/Comments:

- **Have you seen effects on older salmon?** A: Most of the data we have is on juvenile salmon.
- **Ships being built now are considering how to address noise; there's a need for developing noise monitoring mechanisms and noise profiles.** A: Yes, our team recently applied for a grant to look into noise profiles of certain vessels. Our team wants to collaborate with the shipping industry to help inform effective noise reduction strategies.
- **The ECHO program and Quiet Sound use AIS data; should align how vessel types are marked for utility of findings.** A: We aren't close to mapping the coast, and we are going to get it out to 200 nautical miles, appreciate any insights on AIS.
- **Did your noise mapping rely mainly on AIS data, excluding smaller vessels?** A: Hydrophones are crucial but won't produce a map useful for everyone. Combining hydrophones with AIS data can improve real-time mapping. In less trafficked areas, additive noise is lower. In the Salish Sea, AIS data enhances results, but on the broader coast, gaps remain where AIS indicates no noise.
- **Are fish affected by broadband noise?** A: Yes, fish are affected by both broadband and low-frequency noise.

Project Updates: Voluntary Commercial Vessel Operational Measures

Sara Adams provided an update on the 2024–2025 Admiralty Inlet Slowdown, using preliminary data covering the period from October 6 to December 31. The slowdown was the longest to date, at 98 days total. Preliminary participation data from the Puget Sound Pilots shows a 68% participation rate, 505 out of the 748 transits between Oct 6 - Dec 31 reduced their speeds. SRKW were present for at least 50 days. Quiet Sound is expecting whale presence data and

pilot-reported participation for the final two weeks of the slowdown in the coming days. Quiet Sound will send a final newsletter when the data is received.

SMRU has requested AIS data for the slowdown period from the Marine Exchange and begun calculating AIS-validated participation. Quiet Sound is providing fleet-specific participation data as part of our recognition efforts.

Quiet Sound will work with SMRU and Gravity Marine to retrieve the hydrophone from Useless Bay the week of February 12. Quiet Sound will present early results to the LC during the April 23rd meeting. The proposed 2025-26 slowdown parameters will be presented during the June 25 LC meeting.

Regarding the slowdown desktop study, in response to requests from the LC, Quiet Sound is modifying SMRU's scope on the vessel traffic analysis to include the portion of Puget Sound south of the Admiralty Inlet. Quiet Sound is working with NOAA to understand SRKW presence.

Foss invited Quiet Sound to present to 40 tug captains on January 16 and 30th in Tacoma. These sessions focused on threats facing SRKW and explored what tug operators can do to mitigate risks. Tug captains were introduced to the WRAS app and guided through its features.

Presentation: WhaleSpotter Thermal Imaging Technology

Dr. Daniel Zitterbart: dpz@whoi.edu

Shawn: Shawn@whalespotter.ai

Daniel provided an overview of how WhaleSpotter's thermal imaging technology works to detect whales. Their systems achieve a reliable detection range of 1–3.5 nautical miles (nm) and a maximum range of 7 nm. These systems operated across all vessel classes, supported baleen and toothed whales, and used artificial intelligence (AI) for real-time evaluation. By 2024, over 50,000 whale detections were recorded. This growth was attributed to the expansion of detection technology on vessels and continuous improvements to the detection process. Deployment efforts include seven permanent vessel installations, twelve temporary vessel installations, and fourteen land-based systems. To minimize false alerts, a human operator verifies AI detections in real time. Real-time data from these detections were shared through networks such as WRAS, Whale Insight, and Whale Map.

Questions/Comments:

- **Are you using thermal imaging for purposes other than mammal identification? A:** The system is designed to focus in one direction, but it will detect anything within the camera's view. There are limitations, especially in conditions like high humidity or fog, though it can still detect objects at certain ranges. It's not suitable for search and rescue due to its stabilization requirements.
- **What is the cost range and imaging distance for killer whales? A:** There are two detection peaks for killer whales: 1.5 kilometers and 3 kilometers. The cost is approximately \$40,000.

- **Do you need to clean any of the land-based units? A:** Cleaning is minimal for land-based units. Some have been in place for six years and are cleaned only once per year, with no noticeable difference in detection spikes. For vessel-mounted units, we recommend cleaning every three months.
- **Considering various contexts on how NOAA could use this system. Can you share more about maintenance and installation? A:** There's no regular maintenance schedule; the system can operate for over 10 years. Issues are typically related to Wi-Fi. Permits for land-based towers can take up to three months, though the installation itself can be done in a day. The system requires Wi-Fi and uses about 100 MB per day, which is relatively low.

Project Updates: SRKW Detections and Alerts to Mariners

Gonzalo Banda-Cruz provided an update on the latest WRAS work. Sustained funding of Orca Network has led to 3,216 whale detections reported to WRAS in 2024 and over 12,000 alerts sent to mariners. Initial funding was provided by the U.S. Coast Guard but later covered by Puget Sound Partnership. Next steps include renewing data-sharing agreements and ensuring modifications to alert deployment are communicated to WRAS users.

Regarding thermal imaging, Quiet Sound selected WhaleSpotter as the technology provider and is working with the USCG to secure permits for camera deployment. Cameras will be installed on towers instead of lighthouses due to range limitations, with installation planned for March 2025. Towers require permits and a certified climber. Costs include \$40,000 per camera, \$2,000/month for human verification, \$60-70 for unlimited cellular service, and annual cleaning. Installations are planned for Point Wilson and Port Townsend. The detection map will be publicly available, but raw AI training data will remain restricted. Existing WRAS connections will integrate new data.

Regarding acoustic detections, Orca Conservancy received a subgrant to repair storm-damaged hydrophones. QS submitted proposals to NFWF and Puget Sound Partnership to fund a cable-to-shore hydrophone and is collaborating with Orca Conservancy on long-term hydrophone monitoring.

A proposal was submitted to WDFW for a diversity grant, focusing on visual sightings and thermal imaging for execution from July 1, 2025, to June 30, 2026.

Questions/Comments:

- **Can you identify who from USCG was essential to moving this forward? A:** We'll follow up with specific names.
- **How easy is it to put in other locations like Whale Report? A:** Through API it is fairly easy to streamline this into Whale Report.
- **It would be helpful to have a conversation around Key Performance Indicators for the thermal imaging project. A:** We can go over KPI in the next meeting, there is a current baseline that we are measuring the metrics against.

ORCAS Advisory Group Updates

Gonzalo Banda-Cruz shared an update on the first ORCAS advisory group meeting held on December 6th. The group discussed ground rules, the thermal imaging camera project, a voluntary slowdown update, and the desktop study on potential slowdown locations. The group will serve as a resource, with the next meeting scheduled for March 14th.

- **Comment:** Thought this was a great way to foster collaboration between different parties, seemed successful and promoted collaboration and understanding!

Draft Budget

Rachel Aronson provided an update on the 2024-2025 fiscal year.

Legislative Engagement

Quiet Sound continues to engage with legislators through a lobbyist. The team is developing a coalition letter of support. Quiet Sound will work with Nora and the ORCAs Advisory Group to reach a broader audience, including signing letters of support for the state funding request. Rachel also confirmed that companion letters would be welcomed for those who would prefer to send an individual letter rather than joining the sign-on letter. Looking ahead, Rachel mentioned that a more detailed update on expenses and the budget will be provided in April.

LC member updates

- Quiet Sound solicited the group's thoughts on inviting the Puget Sound Pilots to join the Leadership Committee. The group responded positively.
- Quiet Sound will be attending the National Working Waterfronts Coalition conference in San Diego next month with partners. The panel is called: Enhancing Coexistence Between Ports, Whales, and Commercial Shipping: Lessons from the Pacific Northwest.
- Puget Sound Partnership: Salish Sea Strategy led by Transport Canada to increase alignment for work being done and promote conversations. They are delaying the workshop until March.
- NOAA: Olympic Coast National Marine Sanctuary applied for funding to explore the possibility for a slowdown on the outer coast. The Quiet Sound team is in conversation with them to ensure alignment.

Attendees:

1. [Rachel Aronson](#), Quiet Sound Program Director, Washington Maritime Blue
2. [Sara Adams](#), Quiet Sound Program Manager, Washington Maritime Blue
3. [Gonzalo Banda-Cruz](#), Quiet Sound Program Manager, Washington Maritime Blue
4. [Elise Adams](#), NOAA
5. [Grace Ferrara](#), NOAA
6. [Meghan Reckmeyer](#), NWSA
7. [Tara Galuska](#), Governor's Salmon Recovery Office

8. [Todd Hass](#), Puget Sound Partnership
9. [Adrienne Stutes](#), Washington State Ferries
10. [Regan Nelson](#), NRDC
11. [Mike Moore](#), Pacific Merchant Shipping Association
12. [Natalie Lowell](#), Makah Tribe
13. [Cassidy Fisher](#), Maritime Blue
14. [Kieran Cox](#), Simon Fraser University, Dept of Biology
15. [Nora Nickum](#), Seattle Aquarium
16. [Daniel Zitterbart](#), WhaleSpotter and Woods Hole Oceanographic Institute
17. [Shawn Henry](#), WhaleSpotter
18. [Jon Sloan](#), Port of Seattle
19. [Alle Brown-Law](#), Facilitator, Cascadia Consulting Group
20. [Carson Brock](#), Notetaker, Cascadia Consulting Group