QUIET SOUND

A Program of Washington Maritime Blue

Quiet Sound Advisory Committee (ORCAs) Meeting Summary

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Action Items & Decisions

Action Items	Who	Status
Check about the possibility of recovering image frames from thermal cameras for resident/transient identification.	Daniel Zitterbart	
Follow-up with information about tote speed and how totes are included in the slowdown data.	Sara Adams	
Follow-up about average vessel speed in Rosario Strait.	Sara Adams	
Reach out to stakeholders for 1:1 meetings regarding Slowdown Desktop Study.	Sara Adams	
To provide further feedback on the Desktop Study, please reach out directly to Sara (sara@maritimeblue.org).	ORCAs Members	
For info on the IMO November 2025 workshop on underwater radiated noise, or know someone who might be interested in speaking at the workshop, please email Regan Nelson: rnelson@nrdc.org.	ORCAs Members	

Meeting Notes

Welcome/Introductions

Alle Brown-Law, facilitator, provided a land and water acknowledgement. Grace Ferrara (NOAA Fisheries) provided the Orca Moment, noting a successful enforcement and education outcome – a recently closed case against a recreational boater who was caught chasing Southern Resident Killer Whales (SRKW) last summer. Grace also shared news of Lynne Barre's retirement from NOAA.

Alle provided an overview of the agenda and led the group in an icebreaker activity.

Thermal Imaging Camera Project Update

Gonzalo Banda-Cruz, Quiet Sound Program Manager, provided an update on the thermal imaging camera project, sharing that the camera has been successfully installed at the Point Wilson USCG VTS radar tower as of April 17, 2025. He thanked the Coast Guard for their partnership and allowing the camera to be installed on the radar tower.

Daniel Zitterbart, WhaleSpotter, explained the functionality of the thermal camera system and shared images/videos of initial whale sightings from the thermal camera currently installed at Point Wilson.

- There are two distinct fields of view, one with a wider range (12 degrees wide) and a narrower one (6 degrees) with a farther/longer range. There is a limited nearshore area that the camera cannot detect.
- The camera detects marine mammals and sometimes fish.
- Some detections have occurred beyond the estimated range, though those are considered less reliable. The most consistent detections of Killer Whales occur within the 500-meter to 3,000-meter range.
- Since April 18, there have been 10 killer whale encounters, with a total of 210 detections—averaging approximately one killer whale detection every three days.
- Other species detected include Minke whales, humpback whales, unidentified baleen whales, and other marine mammals.
- The system includes an AIS receiver, allowing users to see where ship movements overlap with whale presence.
- The Whale Report Alert System (WRAS) receives direct inputs from the WhaleSpotter code with less than a one-second delay.

Questions/Comments:

- Q: How does the system perform in different weather conditions?
    - A: In heavy rain and fog, visibility is significantly reduced, and the system is essentially blind. However, in light rain or other moderate conditions, it performs better than the human eye, though the range and detection capacity are still somewhat limited.

- Q: I help manage the hydrophone network. I saw in your notes that you were able to validate detections with sightings from Orca Network. How often have you validated in the last month, and going forward, how can we assist with validation – perhaps acoustically at night and visually during the day?
    - A: The validated sightings in our notes are from direct communication between Daniel and Gonzalo, where Gonzalo was able to verify sightings through Orca Network. There isn't yet a direct link between the WhaleSpotter thermal camera data and Orca Network, but this is something we'd like to do. Our plan is to make all of the WhaleSpotter data publicly available. Currently, we are considering several routes: connecting WhaleSpotter directly to WRAS, or connecting to Acartia.io, or a different path.
- Q: The infrared video you showed was averaged. Is it possible to get individual frames, so we can identify whether they're resident or transient?
    - A: The system is not set up to support that, because we don't store the raw data. Daniel can check to see if there's any possibility of recovering frames for identification.
- Q: You mentioned the system has a fast response time. Can you walk us through the algorithm's role in distinguishing different whale species? Is most of that work done through human review and how long does that review take?
    - A: On average, the human review takes about 13 seconds. This isn't as critical for land-based cameras, but it is much more important for vessel-based cameras, since captains have a very short time to change course or speed. There are several steps to decide what animal the sighting is. The AI does not mark whether something is a whale – the AI just notes it if it is fairly confident the sighting was a whale. Then the rest of the verification is done by a human reviewer. Cetaceans are marked immediately and passed on for human review.

Project Updates: Admiralty Inlet Slowdown Discussion

Rachel Aronson, Quiet Sound Program Director, provided an update on the Admiralty Inlet Slowdown. The slowdown is part of Quiet Sound's suite of voluntary commercial vessel operational measures that aim to reduce the acoustic and physical impacts on SRKW in Washington State. This was the third year of the slowdown. The slowdown's parameters include a defined geography, in Admiralty Inlet/North Puget Sound. This is the first year that we have included a trial for tugs running lite (tugs not actively towing). We also started monitoring for whale presence earlier, on September 1, and the slowdown started when SRKW presence was confirmed, on October 6. It ended on January 12, 2025.

- **2024–2025 Slowdown Metrics**
    - 66% of vessels (571 out of 860, excluding tugs) reported reducing speed.
    - 56% (485 out of 868, excluding tugs) met speed targets.
    - The slowdown lasted 98 days.
    - Orcas were present on 54 days.

- Noise reduction data is not yet available.

Quiet Sound collects vessel speed metrics through pilot reports and through an AIS + tidal model. There was lower participation compared to previous years, which may be due in part to reduced communication with vessels about the AIS data set. This year's slowdown period was also longer, and QS heard reports of poor offshore weather conditions, factors that may have led some vessels to increase speed to avoid rough conditions. The tug trial showed that it was extremely hard to figure out which tig transits are running lite, and it was difficult for tug businesses to pull this data regularly for Quiet Sound.

Every vessel type is operating differently on the water. Car carriers and containers both slowed down significantly. Bulkers, cargo, and tankers less so, but are already slower vessels. It is difficult to tell the difference between tug transits that were towing something. The baseline period doesn't have any cruise ships, so can't provide this metric.

Quiet Sound investigated whether ships were slowing down south of the official slowdown zone and if the slowdown was encouraging slower speeds before or after entering the area. Through an analysis of AIS data, QS found that the slowdown is informally acting as a "speed bump" for the rest of Puget Sound.

Questions/Comments:

For the area south of the slowdown, are these results in alignment with your experiences? What are the pros & cons of extending the slowdown area south?

- Pilots: It takes a long time, especially for large vessels to speed up and slow down. By the time one is going through the slowdown, it might not be enough time to speed up again, especially if they are going into Seattle (and the slowdown ends about Edmonds). The stage of the tide also plays a part – if it's a high tide, you may be slowing down already. On some of the container ships, the slowdown adds about an hour to your transit.
- PMSA: This goes back to the early 2000s, when we got complaints about the wake from larger ships going between Vashon and West Seattle. So, at high tides, the larger vessels were slowing down. There is a natural slowdown on the way to Tacoma.
- Q: Where are you counting tote? Are they included in the container category? Tote speed might be different, and they average 101 arrivals per year.
    - A: Sara will follow up, could look at the data together.
- PMSA: If you look at the data, vessels probably have a natural slowdown in this area, but I think you need to communicate this to the vessels. We've had some changeovers in agents, so we need to continue communicating with vessels about slowdowns before they enter Puget Sound.
- Q: If you did extend the slowdown south, would this affect ferries that operate in that area?
    - A: We don't currently have a speed target for ferries; we trust that ferries are following their own operational measures, and some of the ferries are subject to

WDFW's approach distance laws when not in the traffic lanes. We'd like to focus on ensuring ferries have access to the most real time whale presence data that WRAS can provide. So as of now, this potential extended slowdown area would likely impact current target vessels.

- C: If operationally, there is already a natural slowdown happening, and it's not a heavy ask for participating vessels, then the value is that this would provide more attention and awareness that SRKW are in these waters. I think there are significant pros in extending the slowdown, if it's already naturally happening.
- C: Echoing the awareness aspect, SRKWs regularly use this entire zone marked in purple, so extending the slowdown is worthwhile in that regard.
- C: I've heard that car carriers have tight schedules. It looks like they do increase their speed between the existing slowdown area and the potential Central Puget Sound area. One potential concern is that, if they are trying to meet a tight schedule, extending the slowdown zone could result in them ultimately not participating in the entire, larger slowdown area.
    - A: Car carriers do seem to speed up more than other vessel types in this zone. Everyone but the car carriers would already be meeting the slowdown targets in this area, so targeted outreach to car carriers might be needed.
- Q: Do you have noise profile differences between single propeller vs dual propeller? Does it create a difference in noise?
    - A: We have an underwater noise profile for car carriers. Sara to follow up.
    - C: Would also be interested in the noise profile for tote. They are running on LNG and have two propellers.
- C: The current slowdown area was chosen partially because it had little presence of Washington State Ferries and passenger-only ferries. This way, we could create a relatively quiet zone and there would be noise reduction benefits for the underwater soundscape north and south of the area. I'm worried that if we extend the official slowdown area to the south, where there are Kitsap Ferries and more WS Ferries routes occurring, we'll be unlikely to see clear underwater noise reduction benefits that we've seen before.
- C: Regarding the potential for not seeing significant benefits in underwater noise reduction: slowdowns can also offer other types of co-benefits, such as the reduced risk of ship strikes on whales, and reduced particulate matter and greenhouse gas emissions. So even if we don't see significant reduction in underwater noise, there are other benefits we can achieve through continuing the slowdown south.
- C: From our work on the water last fall with hydrophones in the so-called "Possession Triangle," the Edmonds-Kingston ferries dominated the soundscape in the southern portion of the current slowdown zone. So, Washington State Ferry noise isn't completely excluded from the current slowdown zone either.

- PMSA C: From other slowdown areas, such as California, we tried to target mitigation efforts for ship strikes to areas where we've had whale strike incidents. We didn't find many incidences of strikes in Puget Sound. It's complicated to find the optimal speed for vessels with regards to emissions – it depends on the types of emissions you are trying to reduce and the vessel type – so one size does not fit all.

Project Updates: Slowdown Desktop Study

Rachel provided an update on the Slowdown Desktop Study. This desktop study focused on the areas between the ECHO voluntary slowdown and the Admiralty Inlet Quiet Sound slowdown (east end of the Strait of Juan de Fuca). The goal was to examine how SRKW presence overlaps with areas of intense commercial vessel traffic, and better understand where, when, and whether the noise reduction benefits we've observed in Admiralty Inlet could be extended to other parts of SRKW critical habitat. This study helps us identify potential opportunities for future slowdown zones that could support orca recovery.

The areas of greatest SRKW presence and vessel traffic overlap:

- **Rosario Strait** (yellow): Tanker and tug traffic overlaps with SRKW from March to August. However, because these vessels are often heavily encumbered, a slowdown may not be the most effective intervention here. QS is looking further into the feasibility of this area.
- **Salmon Bank off San Juan Island** (pink): Cruise ship traffic overlaps with SRKW from May to October. These were some of the most intense whale presence data points in the study. This area connects to ECHO's existing Haro Strait/Boundary Pass slowdown zone and may be a logical extension area.
- **Port Angeles to Admiralty Inlet** (cyan): Includes piloted vessels, like container ships, car carriers, and cruise vessels, which interact with SRKW between June and December.

For further feedback on the Desktop Study, please reach out directly to Sara (sara@maritimeblue.org). Sara will also reach out to several stakeholders for 1:1 meetings.

Questions/Comments:

- Pilots C: In Rosario Strait, loaded tankers do 10 knots through the water, so that already is a 'free' slowdown. For Salmon Bank off of San Juan Island – I haven't gone up that way in years, though I don't have much data on that area. I don't have any comments on Port Angeles to Admiralty Inlet. We will try to adhere to whatever policy you come up with.

- Q: How fast are the vessels moving through Rosario Strait, on average? I recall that there were some concerns with the currents through there and that vessels may already be moving slowly for navigational and safety concerns.

    - A: Sara will follow up about this. It could also be that we need an operational intervention that is not speed reduction. Anecdotally, I think whales are more likely to be going through Rosario, not staying in Rosario.

LC member updates

- The International Maritime Organization has scheduled a follow-up workshop for their September 2023 workshop on underwater radiated noise and the co-benefits with energy efficiency. The follow-up workshop will be in early November 2025, and they are currently soliciting speakers. If you'd like more info on the workshop or know someone who might be interested in speaking at the workshop, please email Regan Nelson: rnelson@nrdc.org.

- It's hard to predict the impact of tariffs on vessel traffic, but there have been some service changes already. But overall, there are too many moving parts to predict what will happen to the container ships. PMSA put out the Economic Impact Study a week ago, focuses on the West Coast trade.

- The ninth year of the ECHO Program voluntary initiatives begin June 1 (Haro Strait & Boundary Pass starts depending on SRKW presence June 1 or later). All sharing of this season's launch is very appreciated! Learn more about the ECHO Program's 2025 voluntary slowdowns and route alteration for commercial ships | Vancouver Fraser Port Authority.

- Comments about the proposal to change the definition of harm under ESA are due Monday (5/19)! Comment here: https://www.federalregister.gov/documents/2025/04/17/2025-06746/rescinding-the-definition-of-harm-under-the-endangered-species-act

Attendees:

1. Adrienne Stutes, Washington State Ferries
2. Alexis Morrigan, The Whale Museum
3. Alle Brown-Law, Facilitator, Cascadia Consulting Group
4. Andrea Balla-Holden, US Navy
5. Andrea Doyle, AltaGas
6. Candice Emmons, NOAA
7. Carson Brock, Cascadia Consulting Group
8. Daniel Zitterbart, WhaleSpotter
9. David Bain, Orca Conservancy
10. Derek White, VFPA ECHO Program
11. Elise Adams, NOAA NMFS
12. Gonzalo Banda-Cruz, Quiet Sound
13. Grace Ferrara, NOAA
14. Jennifer McIntyre, ECHO Program
15. Jess Scott, Ocean Wise
16. John Robertson, USCG
17. Jon Sloan, Port of Seattle
18. Jostein Kalvøy, Puget Sound Pilots
19. Julie Watson (she/her)
20. Margaret Woodbridge, USCG
21. Marla Holt, NOAA
22. Meghan Reckmeyer, NWSA
23. Miguela Marzolf, Seattle Aquarium
24. Mike Moore, Pacific Merchant Shipping Association

25. Monika Wieland Shields, Orca Behavioral Institute
26. Rachel Aronson, Quiet Sound
27. Ray Scott, Marine Services Director - Kitsap Transit
28. Regan Nelson, NRDC
29. Scott Veirs, Orcasound
30. Stephanie Raymond, Orca Network
31. Tara Galuska, GSRO
32. Todd Hass, Puget Sound Partnership