

QUIET SOUND



Sound Check: A Quiet Sound for Killer Whales

Brought to you by Quiet Sound, a program of Maritime Blue
One Ocean Week Seattle

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Maritime Blue is a catalyst for the Pacific Northwest as a global innovation hub for a thriving maritime industry and Blue Economy, leading on climate action, healthy ocean ecosystems, and equitable communities.



Innovation Cluster Model

Who we are

We are a formalized, industry-led, membership-based organization, working in the Blue Economy.

What we do

Our cluster model activates Industry, Research, Capital, Government and Community to:

- Drive innovation
- Overcome barriers
- Access new market opportunities
- Attract talent and capital

Maritime Forward:

Building the Future of
the Blue Economy



The Maritime Forward Campaign

\$10 million private campaign building on a \$33 million public investment.



Capital



Operations



**Program
Expansion**

The Maritime Innovation Center

- A Headquarters for Systems Change
- A Launchpad for Blue Tech Ventures
- A Convening Place for Action
- A Workforce Development Engine

Maritime Forward:

Building the Future of the
Blue Economy

By 2030 the ocean economy is expected to reach **\$3 trillion** and **40 million jobs**. Washington is poised lead the world in ocean-based innovation and climate solutions.

Daniel Pulse | Chief Growth Officer
daniel@maritimeblue.org

Thank you to Quiet Sound's funders in 2025!



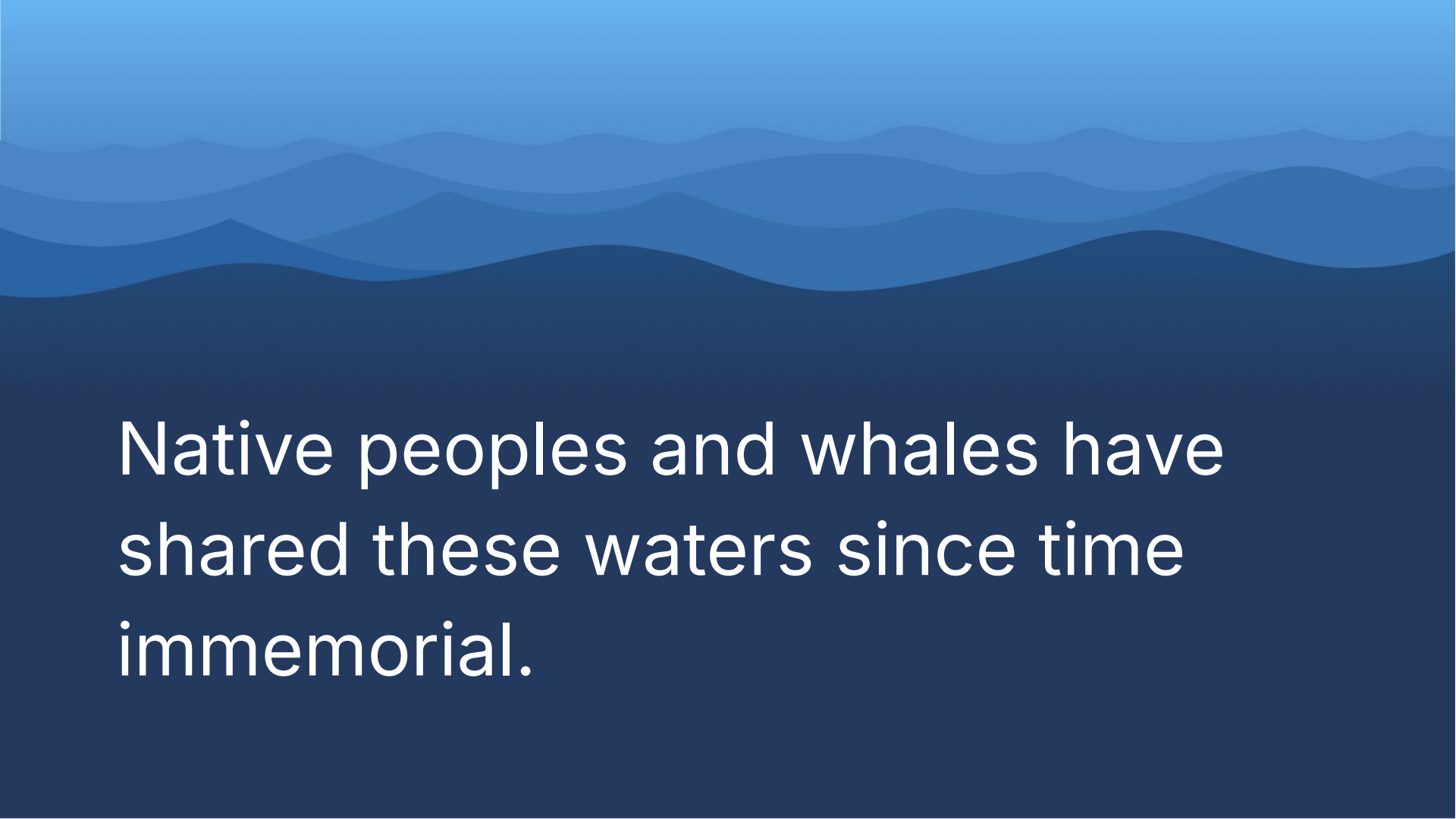
A Strategic Alliance for Maritime Innovation
and a Sustainable Blue Economy

AltaGas

ALA Energy

**National Fish and Wildlife Foundation
With support from the U.S. Department of
Defense and National Oceanic and
Atmospheric Administration**

And individual donors



Native peoples and whales have
shared these waters since time
immemorial.

Quiet Sound is a **non-regulatory coalition** whose goal is to better understand and reduce the cumulative effects of **acoustic and physical disturbance** from **large commercial vessels** on **Southern Resident killer whales** throughout their range in **Washington State**.

Vessel Impacts are a Major Threat to SRKW Recovery

- Only **74** Southern Resident killer whales remain.
- Governor's Orca Task Force defined 3 major threats: prey availability (salmon), water quality, **vessels** (underwater noise, presence, strikes).



Photo Credit: Ashley Whitman (Orca Network)

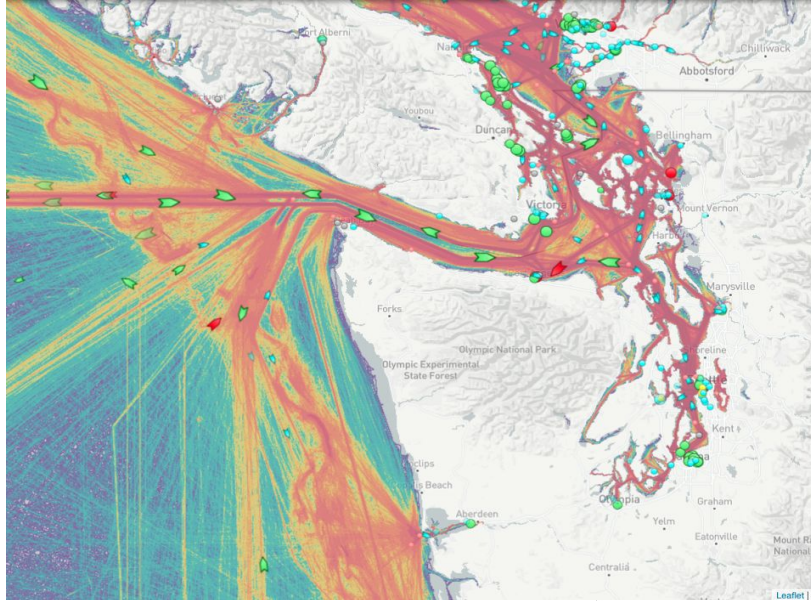
Underwater noise negatively impacts Southern Resident killer whales

Whales need quiet (under 110 dB)
habitat to:

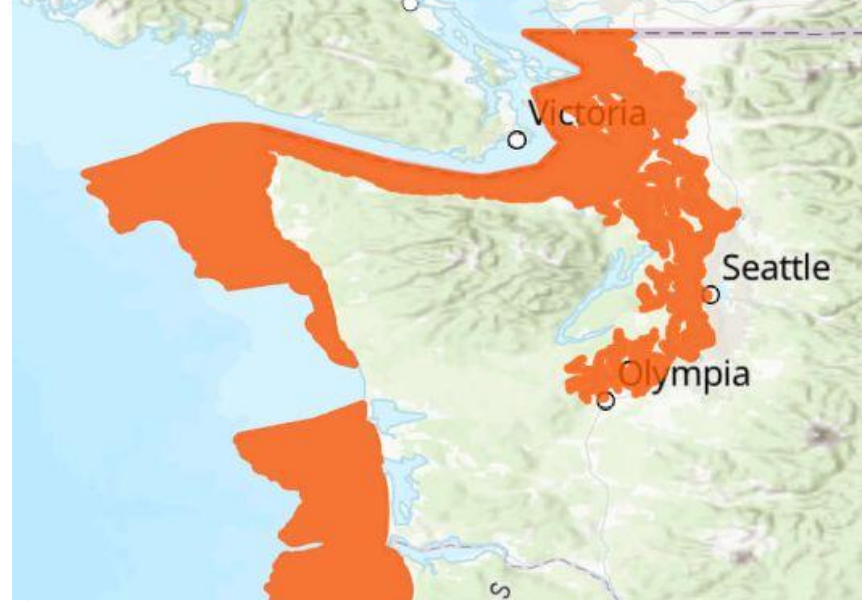
- Echolocate (hunt)
- Communicate/socialize
- Rest
- Navigate



In the PNW, Vessel Traffic Lanes Overlap with Critical Habitat



Vessel Traffic (AIS)



SRKW Critical Habitat
(NOAA)

Expertise From a Broad Coalition

Leadership Committee



ORCAS Advisory Group

AltaGas | ALA Energy, AWO, CLIA, ECHO, Foss, King County Water Taxi, Kitsap Transit, Ocean Wise, NOAA, Oceans Initiative, Orca Behavior Institute, Orca Conservancy, Orca Network, Orcasound, Puget Sound Pilots, Skagit County Ferry, Whale Museum, US Navy

Quiet Sound Team



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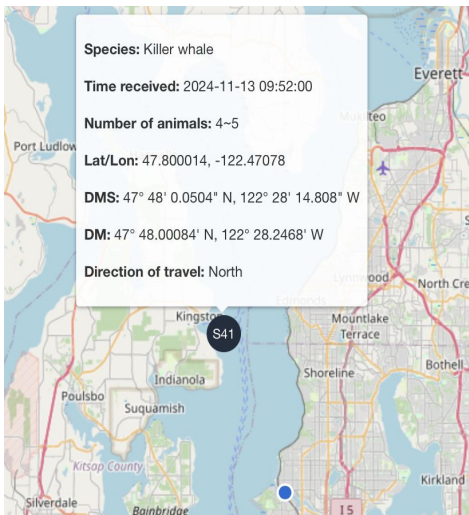


Sara Adams
Program Manager
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Quiet Sound's Strategic Focus Areas



**Voluntary Commercial
Vessel Operational
Measures**



**SRKW Detection and
Alerts to Mariners**



**Support Adoption of
Vessel Quieting
Technology**

The background of the slide features a stylized landscape. The top half is a light blue sky with a subtle gradient. The bottom half is a darker blue sea. In the distance, there are several layers of stylized, wavy mountains or hills in various shades of blue, creating a sense of depth.

Voluntary Vessel Operational Measures

Voluntary Vessel Operational Measures

Outcome: When safe and feasible to do so, most large commercial vessel operators are following Quiet Sound's recommendations to reduce their acoustic and physical impact on SRKW, at all times when SRKW are present in the Washington waters of the Salish Sea.



Photo by Marla Smith via Orca Network

Best Practices for Passenger-only Ferries

- In response to growing interest in increasing passenger-only ferry capacity in Washington ('Mosquito Fleet')
- Goal: Collate best practices for safer operations of current and future passenger-only ferry operators in Washington.
- Spoke with current operators (Thank you FRS Clipper, Kitsap Fast Ferries, King County Transit)
- Rapid review of literature.
- Funded by Puget Sound Partnership.



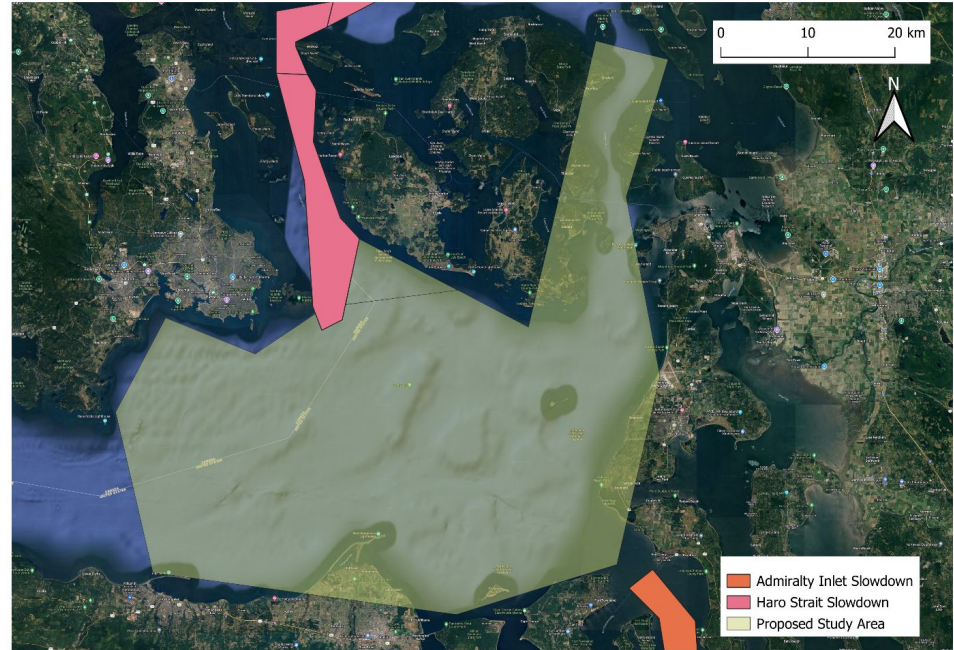
Best Practices for Passenger-only Ferries Operating in SRKW Critical Habitat

- **Know the Rules:** Understand regulations and learn about whale behavior
- **Have a Plan:** Define and implement operational measures to reduce underwater noise impact and strike risk
- **Be Whale Aware:** Report whale sightings, improve whale detection capabilities, and receive whale alerts
- **Assess Your Impact:** Understand your fleet's noise signature and relevant quieting measures (operational or technical)
- **Design for the Future:** Prioritize underwater radiated noise reduction in vessel design and retrofits

Understanding Vessel Traffic and Whale Presence Overlap

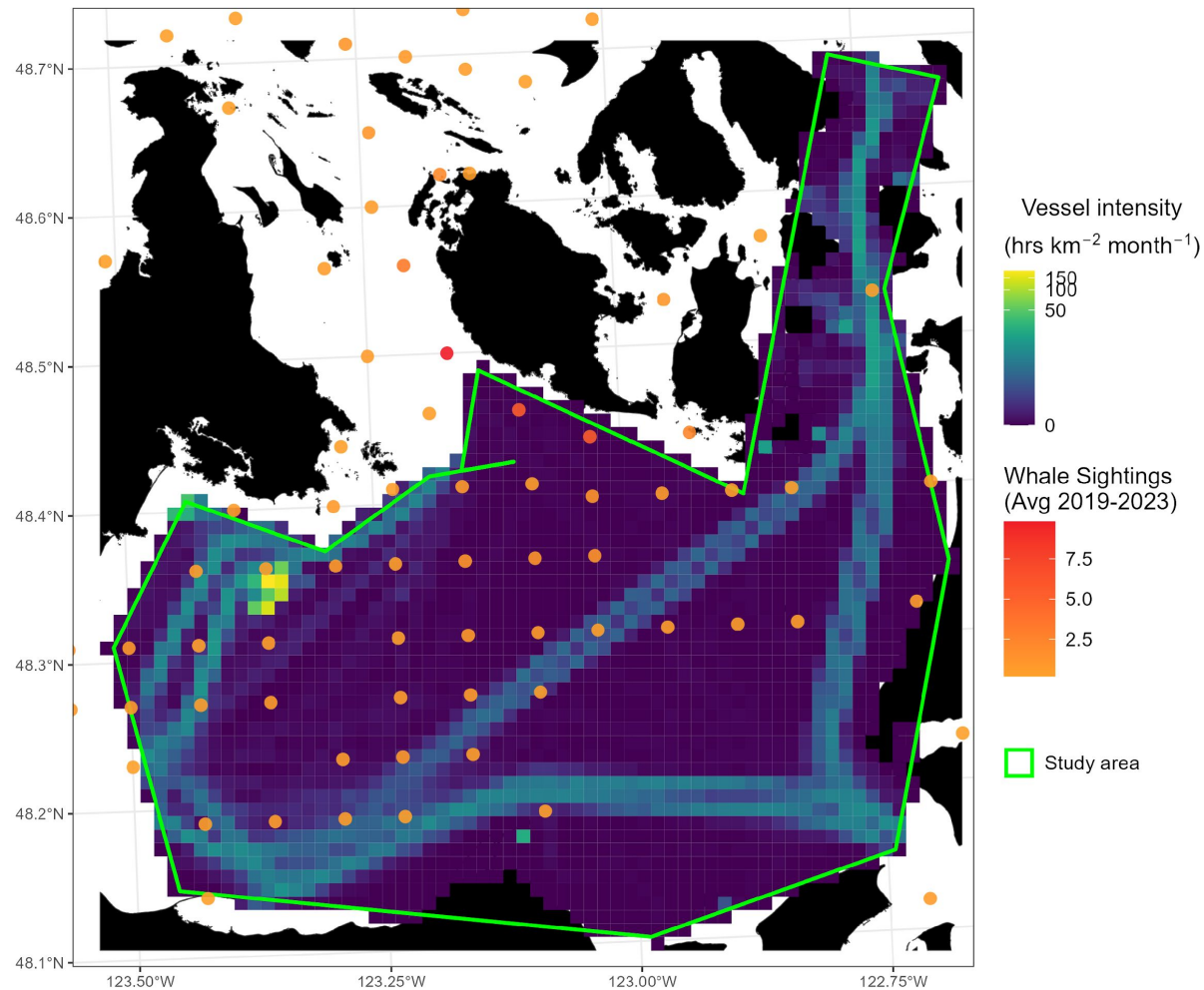
Goal: Understand whether, where, and when large commercial vessels are sharing the waters with SRKW.

- Desktop study with SMRU Consulting, funded by NFWF.
- Whale presence data from NOAA and the Whale Museum + AIS data from Marine Exchange of Puget Sound.
- Maritime stakeholder engagement to understand operational feasibility and safety considerations.



Study area: East end of Strait of Juan de Fuca

Vessel Intensity and SRKW Sightings for September



On the Horizon for Voluntary Vessel Operational Measures

Expanding targeted operational measures for:

- Vessel type
- Time of year
- SRKW hotspots
- Safety & operational feasibility

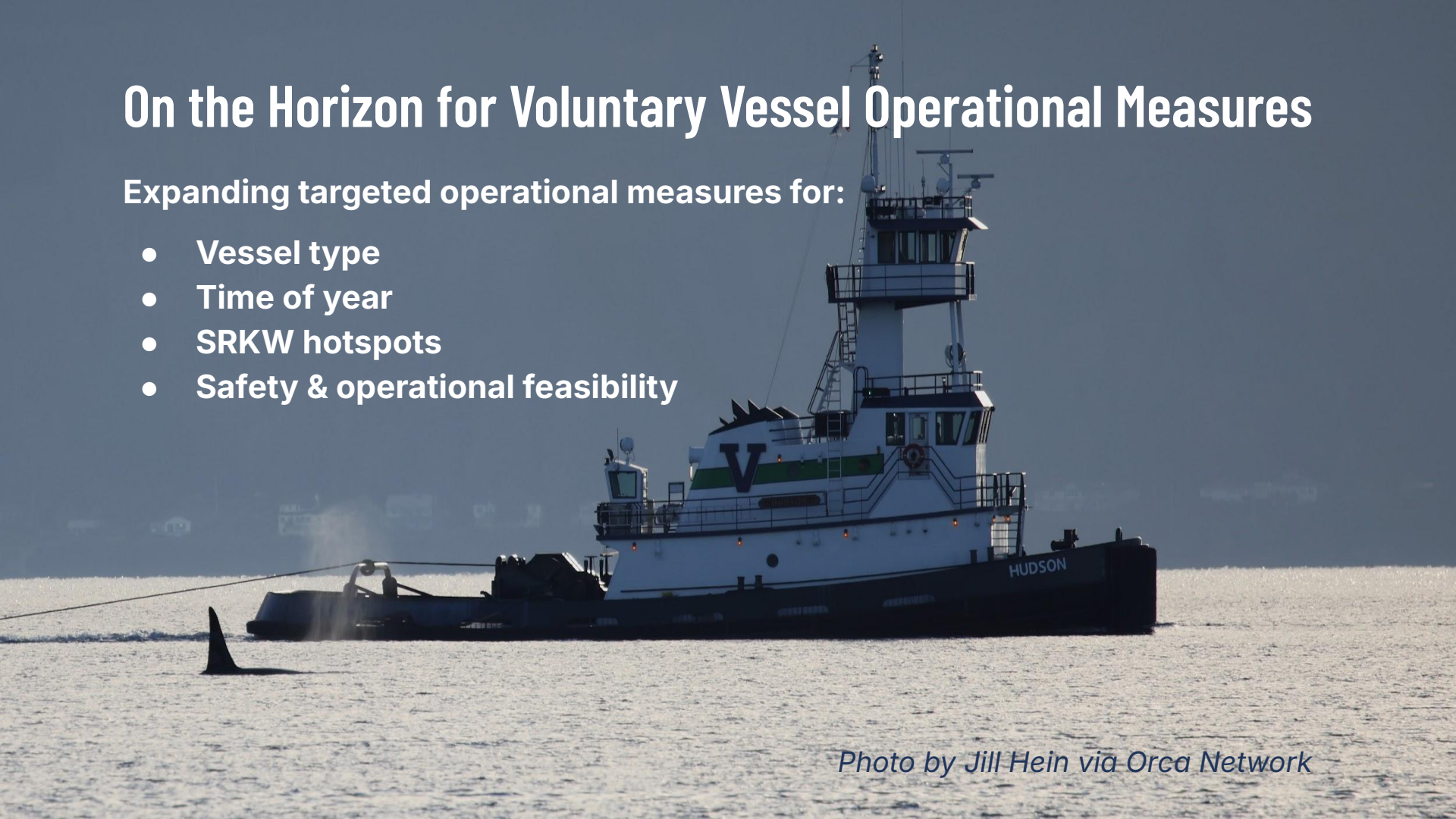


Photo by Jill Hein via Orca Network

Admiralty Inlet Voluntary Slowdown

Recommended target speeds (STW):

- **14.5 knots:** vehicle carriers, cruise, containers
- **11 knots:** bulkers, tankers, general cargo

Dates: Responsive to whale presence

- ~September through mid-January

We measure: Participation (pilot-reported and AIS-validated), underwater noise, whale presence



All Slowdown Seasons | Metrics

	2022-2023	2023-2024	2024-2025
Vessels that reduced speed (Pilot-reported)	70% 469 out of 670 transits	71% 562 out of 795 transits	66% (excludes tugs) 571 of 860 transits
Vessels that met speed targets (AIS-calculated)	53% 351 out of 662 transits	59% 499 out of 843 transits	56% (excluding tugs) 485 out of 868 transits 70% (including all tugs) 1197 out of 1705 transits
Slowdown length	81 days	92 days	98 days
Orca presence	36 days	20 days	57 days
Noise reduction (median broadband)	2.8 dB (48% reduction)	3.0 dB (50% reduction)	0.5 dB (12% reduction)

2025-26 Admiralty Slowdown Results So Far

In the first 2 weeks of the slowdown,

- 71% of transits that have reduced their speed
- 59% of transits meeting suggested speed targets



J pod spends time in Puget Sound in mid September

Slowdown Implementation Partners

- Communicating parameters to ship owners/operators
- Measuring participation
- Assessing underwater noise reduction
- Collating SRKW presence



Capt. Will Kelly

Pilot

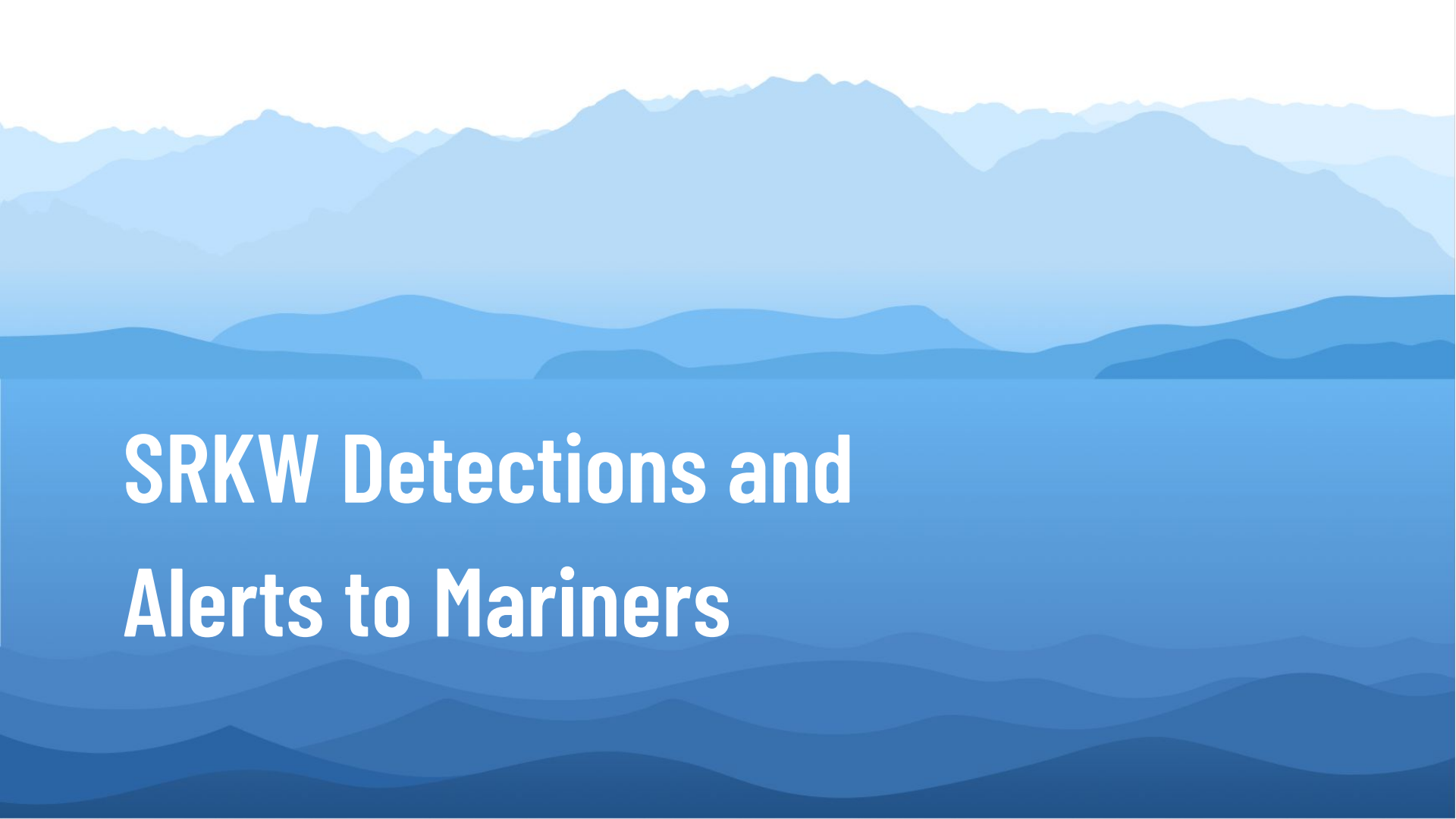
Puget Sound Pilots



PUGET SOUND PILOTS
Protecting Puget Sound Since 1935

Sound Check: A Quiet Sound for Killer Whales

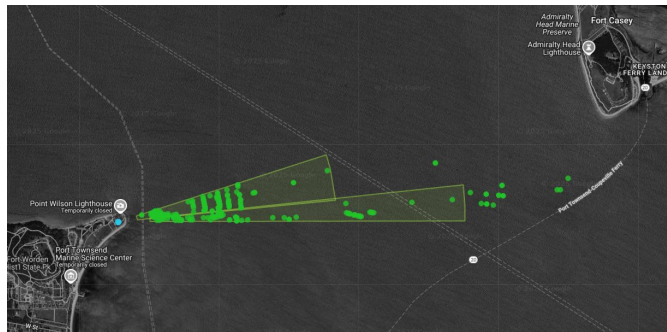
**Brought to you by Quiet Sound, a program of Maritime Blue
One Ocean Week Seattle**

The background features a stylized coastal scene. In the upper half, there are several layers of jagged mountain peaks in varying shades of light blue, creating a sense of depth. Below the mountains is a solid band of medium blue, representing the sea. The bottom half of the image is filled with dark blue, wavy lines that represent ocean waves.

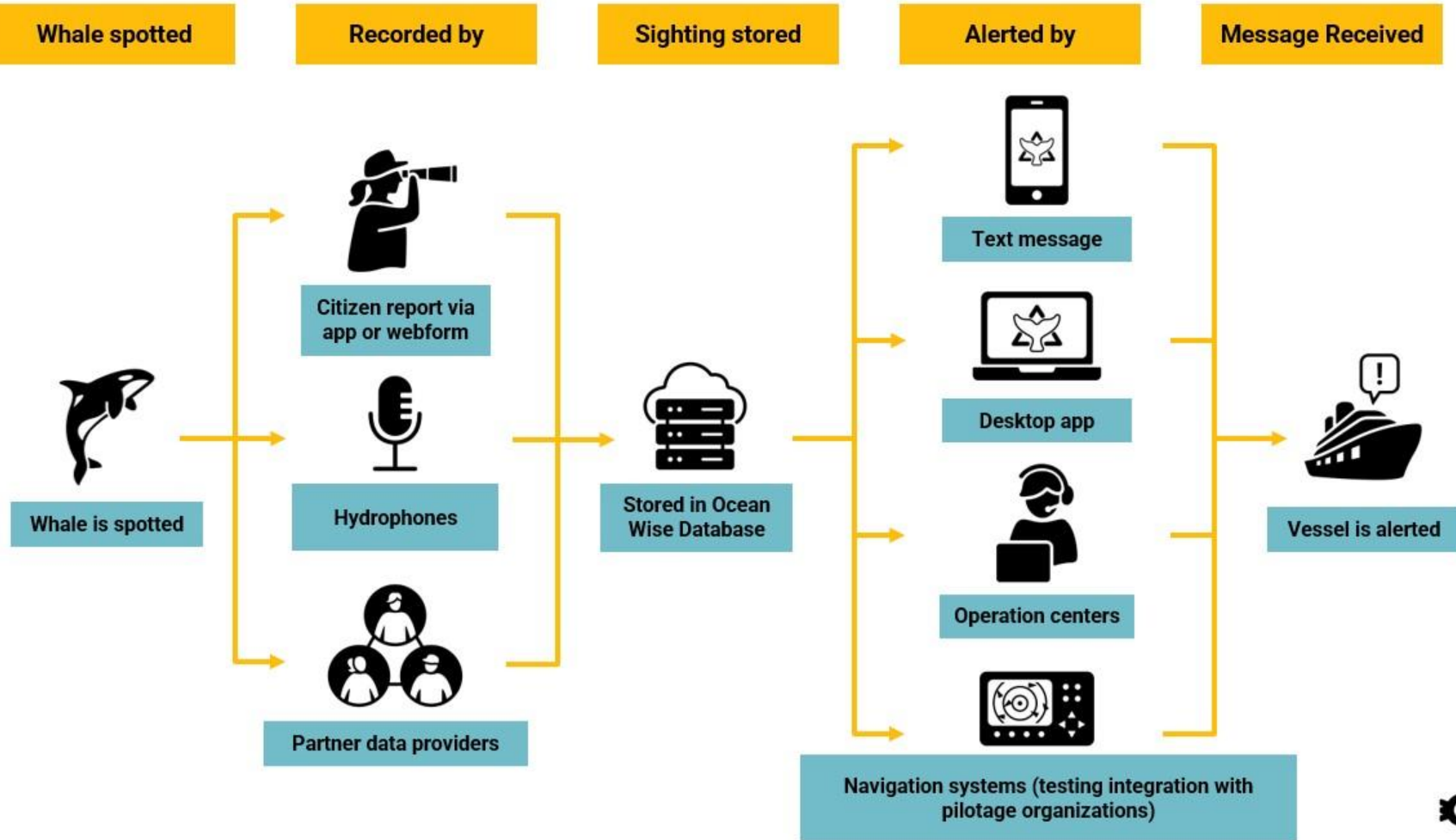
SRKW Detections and Alerts to Mariners

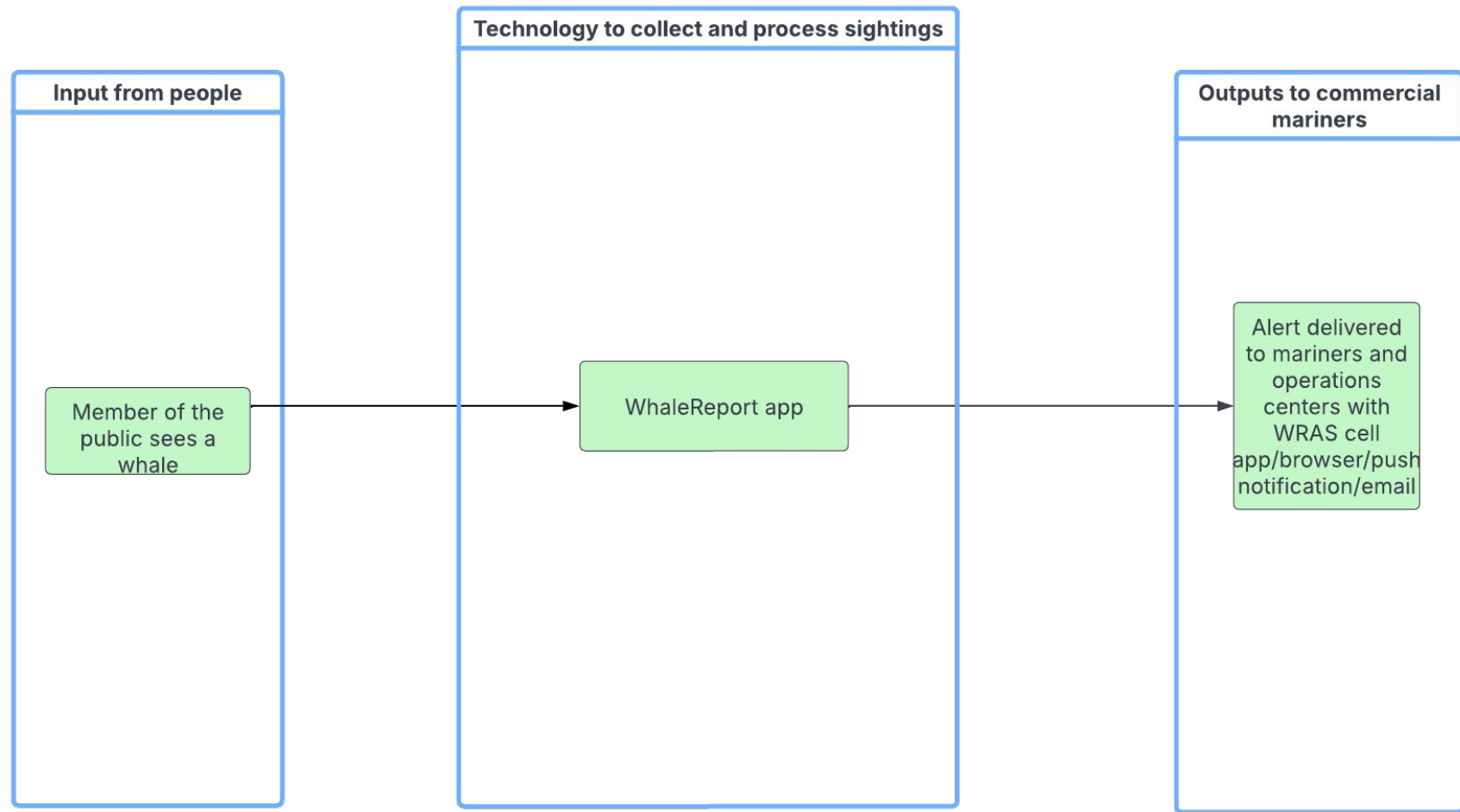
SRKW Detections and Alerts to Mariners

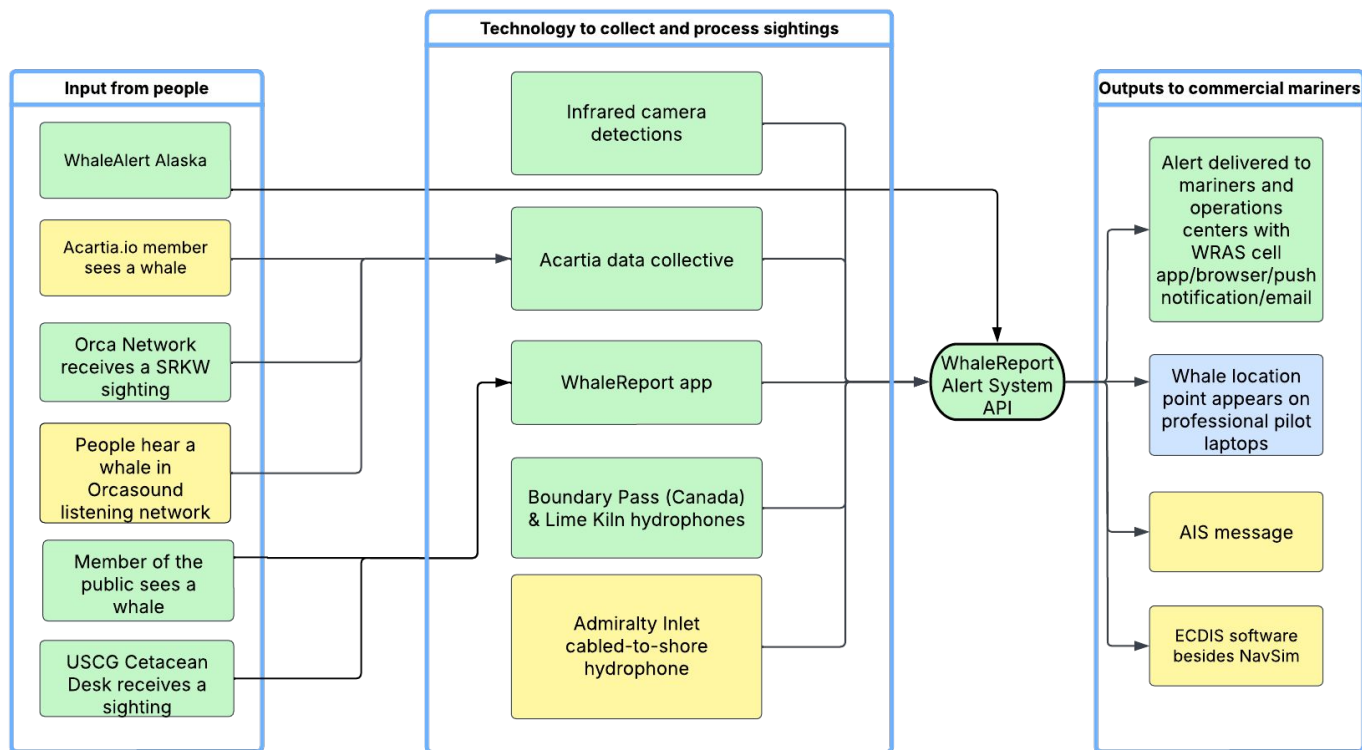
Outcome: SRKW are reliably detected at regular intervals, at all hours of the day, and professional mariners in proximity to whales receive these detections.



The WhaleReport Alert System





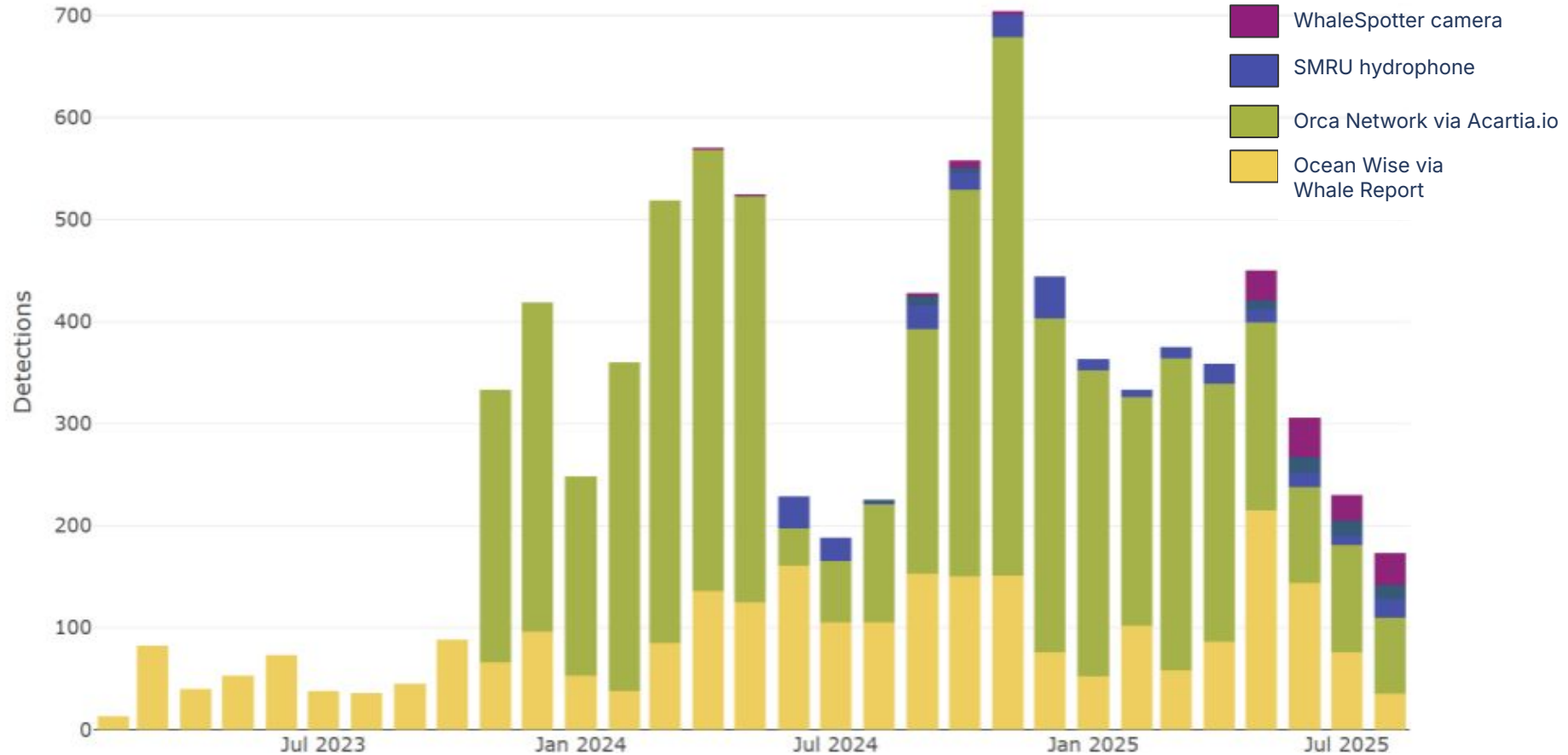


Status of WRAS ecosystem

- Functionality in testing phase
- Active functionality
- Potential functionality that needs resources (R&D, trial, licenses, etc)



Importance of Visual Sightings



Building Out a Long-Term Underwater Listening Station

2024-25:

- Assessed **WA's hydrophone network**, find current independent hydrophones are not calibrated for ship noise.
- Solution: Developing a **listening station** similar to those run by JASCO and SMRU north of the Admiralty Inlet.
- Provided a grant to Orca Conservancy to **maintain OrcaSound network hydrophones**.

2025-26:

- NFWF grant:** Engagement, permitting, and designing a new long-term hydrophone system, aiming to detect whales, monitor noise, and provide ship-specific acoustic readings.

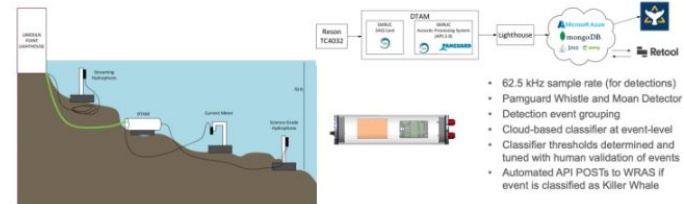


Fig. 1. Physical infrastructure diagram of Lime Kiln station, Fig. 2. Software architecture of Lime Kiln

First Land-Based Thermal Camera on US West Coast

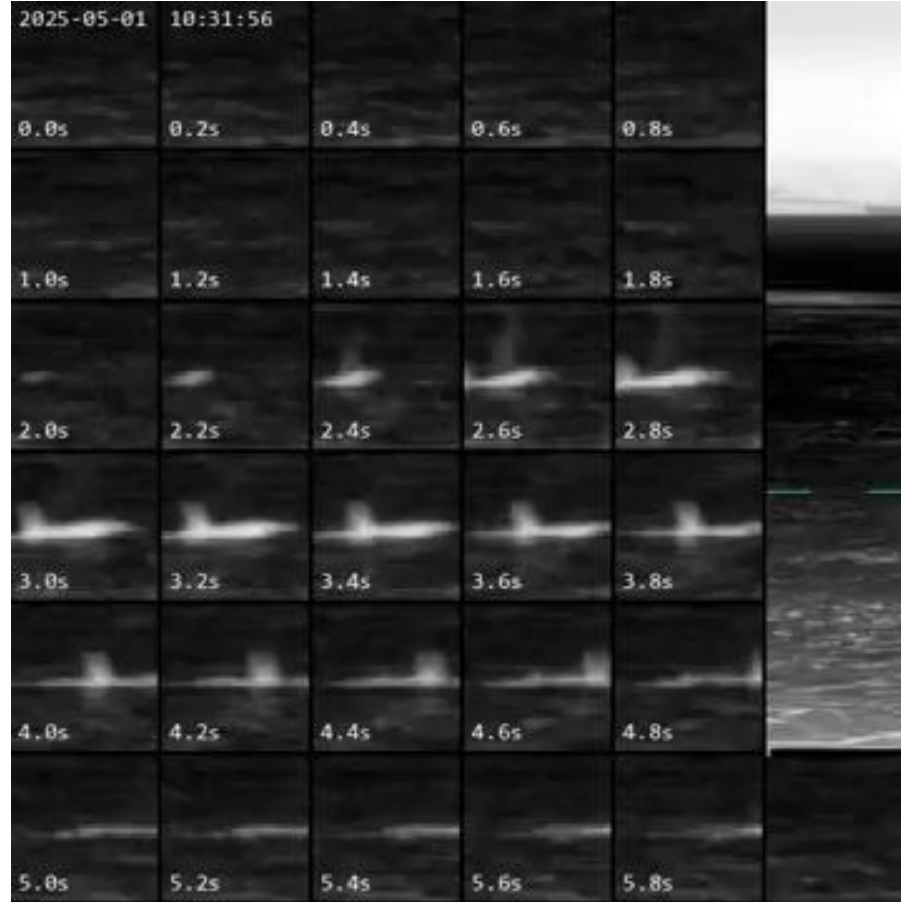
- Installed this spring on USCG radar tower at Point Wilson
- Funded by Puget Sound Partnership
- Operated by WhaleSpotter



Killer whales thermal footage

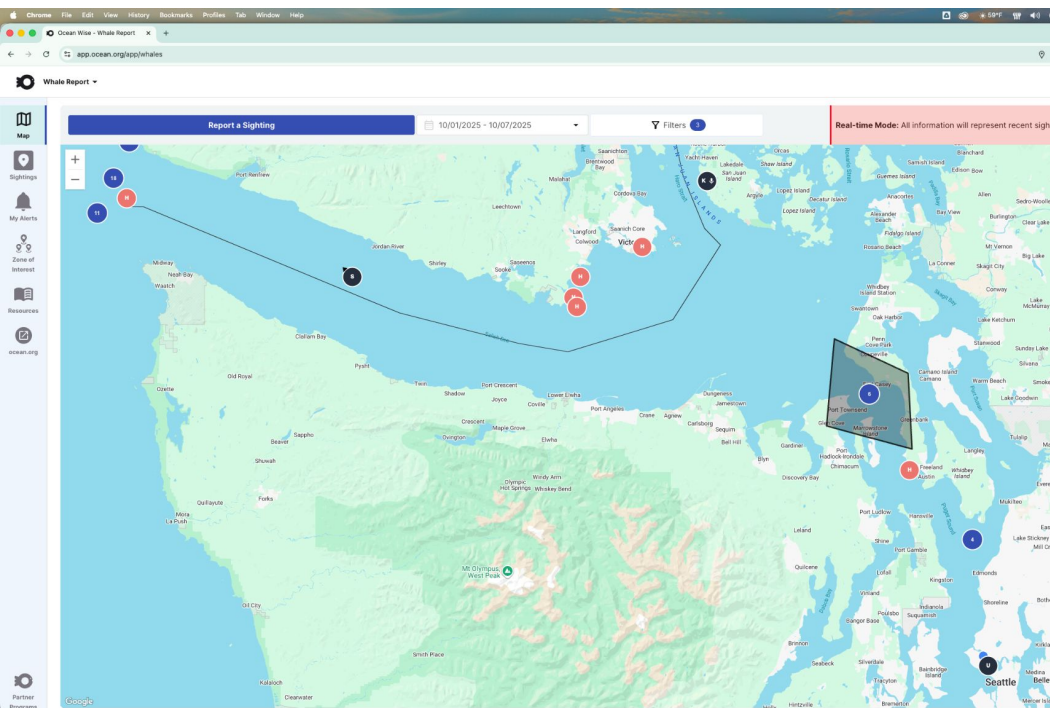


Killer whales



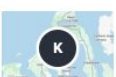
#	Date	Time	System	Species	Species ID
2025					
09					
1	2025-09-17	12:35:48	QUIETSOUND1	Cetacean	OK
1	2025-09-17	03:17:40	QUIETSOUND1	Fish	OK
1	2025-09-17	02:52:24	QUIETSOUND1	Fish	OK
2	2025-09-17	02:30:02	QUIETSOUND1	Fish	OK
1	2025-09-16	23:51:19	QUIETSOUND1	Fish	OK
9	2025-09-16	09:10:41	QUIETSOUND1	-	9
1	2025-09-16	07:38:15	QUIETSOUND1	Porpoise	OK
2	2025-09-16	01:41:09	QUIETSOUND1	Fish	OK
1	2025-09-16	01:25:35	QUIETSOUND1	Fish	OK
12	2025-09-16	00:49:03	QUIETSOUND1	Fish	OK
5	2025-09-16	00:20:27	QUIETSOUND1	Fish	OK
34	2025-09-15	22:14:55	QUIETSOUND1	-	34
6	2025-09-15	13:36:39	QUIETSOUND1	Cetacean	OK
1	2025-09-14	14:24:54	QUIETSOUND1	Baleen	OK
6	2025-09-13	23:22:30	QUIETSOUND1	Killer Whale	OK
3	2025-09-13	22:41:08	QUIETSOUND1	Fish	OK
2	2025-09-13	21:33:23	QUIETSOUND1	Fish	OK
1	2025-09-12	05:10:19	QUIETSOUND1	Cetacean	OK
1	2025-09-12	04:48:59	QUIETSOUND1	Fish	OK
11	2025-09-10	17:00:09	QUIETSOUND1	Cetacean	OK

47 Killer Whale encounters since April 18th with a total of **900 detections** (n=1865)



Whale Report

My Alerts

- **Killer whale**
10-09-2025, 09:21
48.11970, -122.66041
- **Unidentified whale**
10-09-2025, 05:31
48.14372, -122.74062
- **Unidentified whale**
10-08-2025, 02:50
48.14373, -122.72912
- **Minke whale**
10-07-2025, 04:00
48.14624, -122.69911
- **Killer whale**
10-07-2025, 03:49
48.14557, -122.73935

Project FI 4:23 PM 19%

  New WRAS >

Thursday 5:31 AM

Sighting in your Zone of Interest!
Unidentified whale Alert!
48.1437° N, -122.7406° W
10/9/2025 5:31:22 AM America/Los_Angeles

Thursday 9:22 AM

Sighting in your Zone of Interest!
Killer whale Alert!
48.1197° N, -122.6604° W
10/9/2025 9:22:17 AM America/Los_Angeles

Sighting in your Zone of Interest!
Killer whale Alert!
48.1443° N, -122.7329° W
10/9/2025 10:02:33 AM America/Los_Angeles

Thursday 12:15 PM

 Text Message • SMS 

Outcome: SRKW are reliably detected at regular intervals, at all hours of the day, and professional mariners in proximity to whales receive these detections.

The background of the slide is a stylized illustration. The top half features a range of mountains in various shades of light blue, creating a sense of depth. Below the mountains is a solid blue horizontal band. The bottom half of the slide is filled with a pattern of dark blue, wavy lines that resemble ocean waves. The text "Supporting Vessel Quieting" is centered in the white space between the mountains and the waves.

Supporting Vessel Quieting



Locally

- Quiet Sound case study presented at Maritime Administration workshop
- Sharing data with NWSA study

Nationally

- National Working Waterfront Conference panel with NWSA, Port of Seattle, Port of Tacoma, VFPA
- USCFI Vessel URN Workgroup

Internationally

- IMO Presentation on how we build quiet and efficient ships
- IMO Lessons Learned Submittal with Port of Seattle, NRDC and PSP

Report Whales



Report whales to USCG, your local sightings network, Whale Alert, Whale Report.

Give Them Space



Commit to giving whales space by taking the pledge at givethemspace.org.

Restore Habitat



Join your local salmon recovery organization to restore salmon habitat.

How Can You Take Action?

QS brings
QS brings

ONE OCEAN WEEK

SEATTLE
WASHINGTON



October 20-26, 2025
**The Pacific Northwest's flagship
gathering of ocean innovators,
policymakers, entrepreneurs and
cultural leaders**

Discover. Connect. Lead the blue future



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Let's connect!

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