SOUTHERN GULF ISLANDS WHALE SIGHTING NETWORK

2024 Annual Report







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Previous Page Photos by Rachel Fairfield Checko, Dave Paton, Marlene Cummings, 2024 Sightings

Who We Are

The Southern Gulf Islands Whale Sighting Network (SGIWSN) is a volunteer community-led initiative, sponsored by the Saturna Island Marine Research and Education Society (SIMRES). Our network monitors and collects field data on whale activity around the Saturna, Pender, Mayne, and Galiano Islands. The network is a diverse group of retirees, students, scientists, and islanders of all backgrounds, working to support the recovery of our coastal neighbours—the whales.

The catalyst for this initiative was the implementation of the Canadian Government's Interim Sanctuary Zones (ISZ) in 2019. These zones, in effect between June 1 to November 30, are located off the southern coast of North Pender Island and in Boundary Pass off Saturna Island. The ISZs are closed to vessels to provide Southern Resident Killer Whales (SRKW) with a respite from vessel-related noise and physical disturbance.

In response to the establishment of the ISZs, volunteers developed a citizen-scientist program to monitor the abundance, frequency, distribution, and species of whales in the waters of the Southern Gulf Islands. There is considerable local knowledge about our marine environment, and by creating a structured monitoring program, we began recording the social dynamics, travelling patterns, and feeding habits of local cetaceans. We also started collecting data on vessel interactions with whales, including marine mammal, fishing, and vessel infractions within the ISZ.

SGIWSN sightings are from land-based observations and verified by multiple sightings, researchers, and/or hydrophone data. Citizen scientists and researchers record detailed notes on species, group composition, behaviour, and direction of travel. Individual cetaceans are identified using photographs, visual markers, or acoustic recordings. All data is publicly accessible at Spyhopper.ca.

Waiting for the Southern Residents at East Point, Saturna Island, on May 27, 2024. Photo by Mairead Boland.

Year in Review

The SGIWSN recorded 263 whale days in 2024, highlighting the continued importance of monitoring and stewardship efforts in the Southern Gulf Islands. We reported 844 vessels without Automatic Identification Systems (AIS) entering the Pender and Saturna Interim Sanctuary Zones (ISZs), underscoring ongoing compliance challenges and the need for outreach and enforcement. We have real-time information-sharing protocols with QENTOL, YEN/W̱SÁNEĆ Marine Guardians, and Straitwatch, which increases our collective capacity to respond to violations and support whales in the region.

Scientific collaborations also grew: Simon Fraser University (SFU) researchers returned to East Point, Saturna, while the SGIWSN launched a new monitoring program at Oaks Bluff on Pender Island. Our outreach efforts also expanded: SIMRES and the SGIWSN brought the Critical Distance exhibit to Ottawa, sharing the story of J pod with new audiences and decision-makers. As a testament to our collective impact, the SGIWSN was honoured with the John Nightingale Award for Ocean Engagement from the Raincoast Conservation Foundation.

2024 was a landmark year for the SGIWSN, and we are well-positioned to build on this momentum in 2025. This report provides a detailed overview of our activities, findings, and ongoing efforts to support whale conservation in the Southern Gulf Islands. We're excited to share where we've been and where we're headed next.

The Southern Gulf Islands Whales Sighting Network team at the Raincoast Ocean Science Awards, accepting the Nightingale Award in Ocean Engagement. From left to right: Kathleen Durant, Lauren Laturnus, Susie Washington-Smyth, Lucy Quayle, April Houweling. Photo by Alex Harris/Raincoast.

Observer Network Growth

Our community of volunteer citizen-scientists continues to grow. In 2024, 58 individuals submitted sightings, up from 45 the previous year. The total number of registered sighters across the network has now surpassed 100. We now have representation from each of the Southern Gulf Islands, with robust participation from the Saturna, Pender, and Mayne Islands. A goal for 2025 is to increase the number of sighters on Galiano Island to strengthen our sightings coverage.

To support our growing network, the SGIWSN uses a specially designed Discord platform for real-time communication. The platform allows sighters to alert one another about whales in the area, share relevant news, new research, and flag potential vessel infractions. It has helped foster a strong sense of community across the islands and improved the quality and consistency of data collection. By notifying others when whales are nearby, sighters coordinate efforts, improve documentation through photos or notes, and create the opportunity for more observers to witness and record sightings. Discord is also a valuable tool for collaboration when reporting infractions, enabling sighters to share observations and submit more accurate reports.

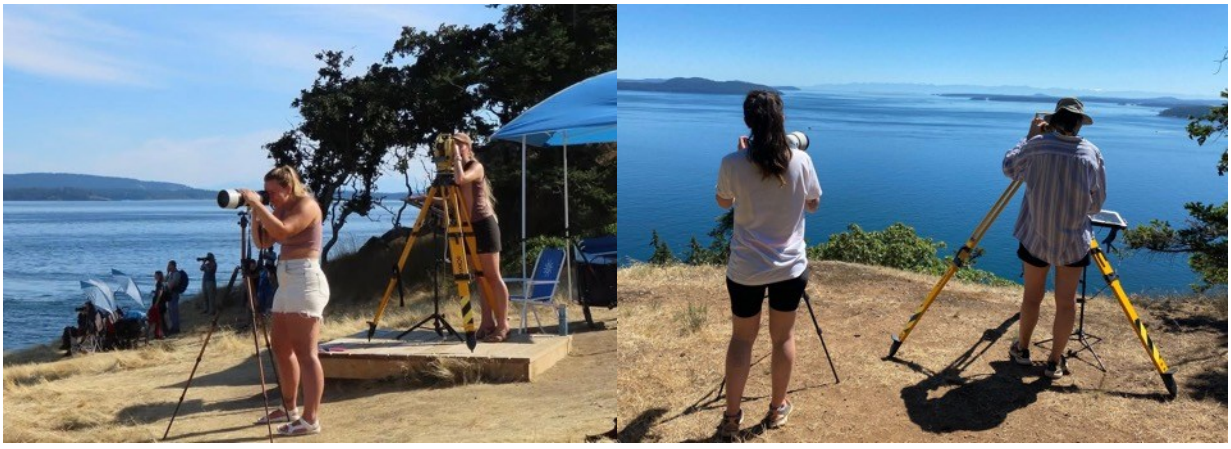
Humpback whale Stripe/BCZ0004 flukes as he passes Saturna Island on August 8, 2024. Photo by Marlene Cummings.

Researchers

In 2024, Lauren Laturnus and Rachel Fairfield Checko returned to Saturna Island to conduct systematic monitoring from East Point as part of Lauren's master's research at SFU. In addition to tracking whales and vessels, they reported a range of vessel infractions, including violations of marine mammal regulations, fishing infractions, and unauthorized transits through the Saturna ISZ. Their continued work provides valuable data on whale presence and vessel activity in this critical habitat.

This year also marked the first season of systematic surveys of the Pender ISZ. Mikayla Young and Janine McNeilly, researchers trained at SFU, conducted land-based observations from the Oaks Bluff viewpoint on North Pender Island from July through October. Their efforts resulted in a dramatic increase in reported ISZ infractions, from 45 in 2023 to 578 in 2024, underscoring the ongoing need for improved enforcement and public education around sanctuary zone regulations.

SFU researchers will return to East Point and SIMRES researchers to Oaks Bluff in 2025 to continue this critical work, strengthening our understanding of whale behaviour in Boundary Pass and Swanson Channel and helping to inform effective protection strategies.



Rachel Fairfield Checko and Lauren Laturnus monitor the Saturna ISZ from East Point, Saturna Island. Mikayla Young and Janine McNeilly monitor the Pender ISZ from Oaks Bluff, Pender Island. Photos by Katie Dentry and Valeria Vergara.

Partnerships

The success, creativity, and impact of the SGIWSN are made possible by the active support of our neighbours, colleagues, and friends.

Simon Fraser University (SFU)

2024 marked the fifth consecutive year that master's students from SFU conducted research from East Point on Saturna Island. These researchers are a valuable contribution to the SGIWSN, monitoring the ISZ almost daily throughout the summer and contributing detailed observational data. The researchers' master's theses contribute to the scientific understanding of the interactions between cetaceans and vessels, helping to create a knowledge base for effective monitoring and mitigation measures.

Raincoast Conservation Foundation

Members of Raincoast Conservation Foundation and the SGIWSN began actively collaborating in 2024 when Raincoast contributed financial and research support to our monitoring of the Pender ISZ. Both organizations have shared acoustic and visual sighting data and collaborate on regional priorities. The SGIWSN was honoured to receive the Nightingale Bursary in Ocean Engagement at the Raincoast Ocean Science Awards in November 2024.

QENTOL, YEN / W̱SÁNEĆ Marine Guardians

The QENTOL, YEN / W̱SÁNEĆ Marine Guardians Program conducts surveys of marine mammal populations, monitors compliance with boating regulations, and champions the KELŁOLEMEĆEN (killer whales) and other endangered species throughout their traditional territories. As a vessel-based program, the Guardians are uniquely positioned to communicate directly with boaters about marine mammal regulations. In 2024, the SGIWSN and QENTOL, YEN agreed to share information on whale activity, helping each organization build a more complete picture of cetacean presence in the region. The SGIWSN appreciates the Guardians' willingness to share their knowledge with our network.

Straitwatch

Straitwatch South, part of the Cetus Society, monitors the Southern part of the Salish Sea to track vessel behaviour around marine mammals, with a particular focus on the SRKW and commercial whale-watching vessels. In 2024, SGIWSN and Straitwatch developed a collaboration that enabled real-time communication about whale sightings and vessels of concern. Our collaboration is designed to support and strengthen our shared goal of protecting marine mammals through education and presence.

Island Conservancies

We appreciate the ongoing support of several Southern Gulf Islands conservation groups, whose contributions have been integral to the success of our network. The Pender Ocean Defenders, Mayne Island Conservancy, and Galiano Conservancy have assisted with community outreach, supported local sighter recruitment, facilitated training, and helped maintain communication channels. In 2024, all three organizations also collaborated with us to present Critical Distance on their respective islands.

Nature Canada

Effective policy depends on partnerships and thoughtful data analyses. Our work with Nature Canada builds on our shared strong commitment to whale conservation and the need to create protected areas in the Salish Sea. Nature Canada has helped SGIWSN promote our research and Critical Distance nationally by providing networking and resources and by collaborating with federal agencies. The goal of our work together is to define essential parameters for progress toward creating a Marine Conservation Area to support the recovery of the SRKW population.

Vision3

We are grateful to Vision3 for allowing the SGIWSN to take Critical Distance on the road. Their immersive experience helps us share the story of J pod with communities near and far. We look forward to continuing this meaningful partnership as Critical Distance reaches new audiences in museums across the country.

Government Agencies

SGIWSN values our relations with Transport Canada, Fisheries and Oceans Canada (DFO), and Parks Canada. In 2024, SGIWSN was honoured that the enforcement divisions of Fisheries and Oceans, Transport Canada, and Parks Canada expressed their appreciation for the quality and consistency of the infraction reports submitted by SGIWSN sighters. This feedback reinforces the value of our community-based monitoring network and the high standard of documentation that our volunteers provide. We are encouraged by the growing commitment of these agencies to increase their on-water presence and outreach to improve compliance with marine mammal protection laws.

We extend a special thank you to Lucy Quayle of the Whale Detection and Localization Team at Fisheries and Oceans Canada (DFO). Lucy has been a valued member of the SGIWSN community since conducting her master's research on Saturna Island in 2020. Her ongoing contributions have been essential to our operations: she verifies whale sightings, supports management of our Discord communications, and monitors hydrophone data to differentiate between Southern Resident and Bigg's killer whales. She is also the creator and administrator of Spyhopper, the platform we rely on to store and share our data.

Whale Sightings in 2024

Across all cetacean species, the SGIWSN recorded a record-breaking 263 whale days in 2024—our most active year on record. From April through November, there were at least 23 whale days per month, with peak months reaching 29. These numbers underscore the critical importance of sustained, year-round monitoring and reflect the growing contributions of our passionate sighters.

Southern Resident Killer Whales

A whale from J pod breaching near East Point, Saturna Island, on May 20, 2024. Photo by Lauren Laturnus.

In 2024, the SGIWSN documented 41 SRKW days, a notable increase from 30 in 2023, though still slightly below the 48 days recorded in 2022 (Figure 1). This rise reflects both our expanded coverage and the continued dedication of our volunteer sighters. Notably, SRKW were absent in August, challenging the common assumption that they primarily use the Salish Sea during the summer. More SRKW activity was recorded near the Southern Gulf Islands in May than during many of the months when the ISZs were in effect. The whales were frequently observed swimming north through Swanson Channel and Active Pass and reappearing at East Point on Saturna Island a few days later as they travelled south.

SRKW were sighted in every month of 2024 except January and August, reinforcing what we've observed in past years—that these whales use the Southern Gulf Islands year-round. Twelve of the 41 sighting days occurred outside the ISZ season, highlighting the importance of extending protective measures beyond the current timeframe. These findings further support the need for year-round conservation efforts, such as sanctuary zones and the Port of Vancouver's ECHO Slowdown program.

Three new SRKW calves were born in 2024: L128, J61, and J62. SGIWSN sighters were among the first to spot L128 travelling with a superpod past Saturna Island in September. Days later, L128 and their mother, L90, spent an extended period near Pender Island. SIMRES researchers were among the first to observe concerning behaviour when L90 appeared to be supporting the calf in the water. Sadly, L128 passed away a few weeks later, and J61 has also since died. However, the most recent reports indicate that J62 is alive and still travelling with her family.

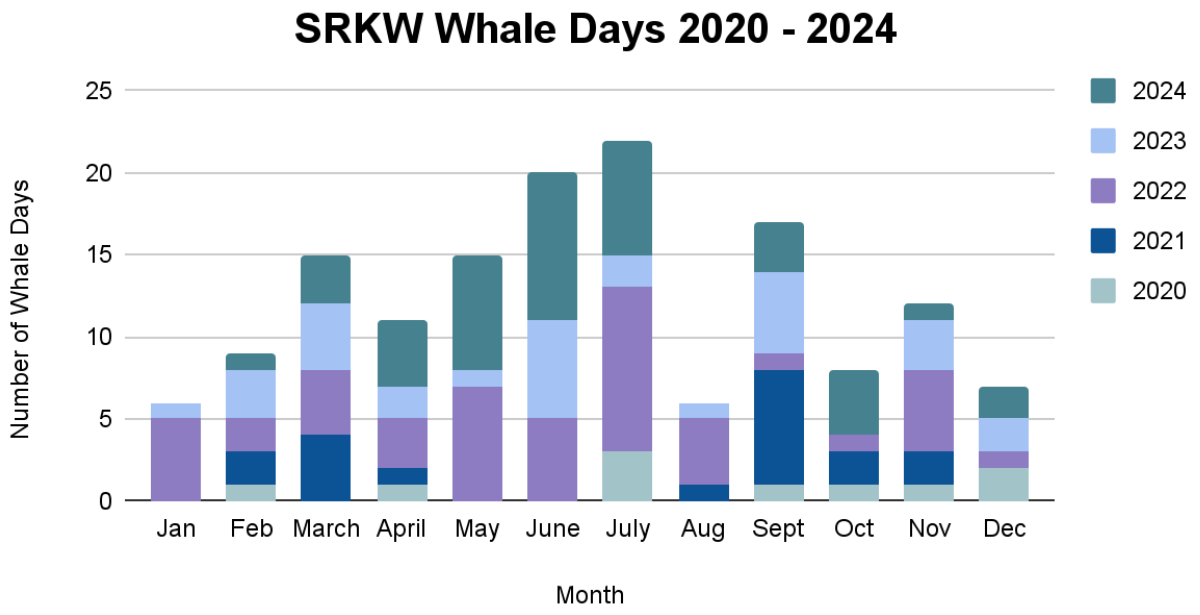


Figure 1. SRKW sightings reported by the SGIWSN from 2020 to 2024.

Bigg's (Transient) Killer Whales

The T046Bs visited Bedwell Harbour, Pender Island, on July 21, 2024. Photo by Mikayla Young.

Bigg's killer whales were observed on 133 days in 2024, continuing their strong and consistent presence in the Southern Gulf Islands. Unlike Southern Residents, our sightings of Bigg's do not indicate consistent directional travel patterns. However, notable patterns in distribution were observed. Sightings increased in Plumper Sound and Navy Channel—areas where our sighters have never observed SRKW and have only rarely recorded humpbacks. A pod of Bigg's was also documented travelling deep into Bedwell Harbour, despite the area's high vessel traffic.

In 2024, the SGIWSN recorded eighteen Bigg's killer whales that were new to the network. This reflects the critical role of community-based monitoring in tracking the movement and presence of Bigg's across the region, especially as we continue to see more pods entering the Salish Sea.

The T101s swim by East Point, Saturna Island, on September 1, 2024. Photo by Rachel Fairfield Checko.

Humpback Whales

Humpback whale Hendrix/BCY1278 passing through the Pender ISZ near Oaks Bluff on August 28, 2024. Photo by Janine McNeilly.

Humpback whales were observed on 129 days in 2024, with particularly high activity in the fall and early winter. November alone saw 17 humpback whale days, surpassing the previous record of 10 for that month. Most humpbacks were observed travelling north or east, likely reflecting both genuine movement patterns and the seasonal increase in observer effort during the summer months, when weather conditions improve, and whale numbers rise. These directional trends indicate favoured travel routes, although additional data is needed to confirm this.

The network identified 12 humpback whales new to the SGIWSN in 2024, deepening our understanding of the population's increasing use of the region. Many familiar whales also returned, including Big Mama and Divot, each spotted by our sighters for the fifth consecutive year. Notably, Divot was seen with a calf this year, an encouraging sign that the Salish Sea continues to serve as an essential habitat for mothers and young whales.

Griffin/BCY1043 and an unidentified humpback swim past Pender Island on December 7, 2024. Photo by Kathleen Durant.

Other Cetaceans

A minke swims by East Point, Saturna Island, on September 16, 2024. Photo by Rachel Fairfield Checko.

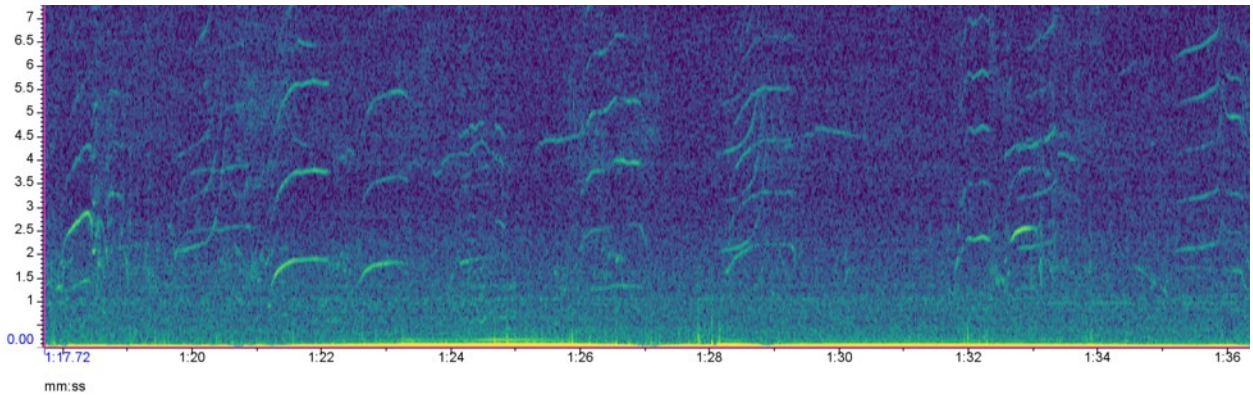
Minke whales were sighted four times, marking the highest number of minke sightings since 2020. As in previous years, these encounters were concentrated in Boundary Pass.

We also had a rare and exciting few weeks of Dall's porpoise activity in October, with multiple sightings in Boundary Pass, near the shore off Pender Island, and east of Saturna Island in the Strait of Georgia. In an average year, the network records just three Dall's porpoise whale days, so this concentrated burst of activity was a highlight for many sighters.

2024 was a record-breaking year for Harbour porpoise reports, marking the highest number received since 2021. Reporting sightings of these small cetaceans is just as important as reporting sightings of large whales. These observations provide valuable data for researchers studying population trends, distribution patterns, and seasonal movements.

A harbour porpoise mother and calf swim past East Point, Saturna Island, on September 21, 2024. Photo by Rachel Fairfield Checko.

Whale Acoustics



SRKW calls recorded on the East Point hydrophone on July 24, 2024.

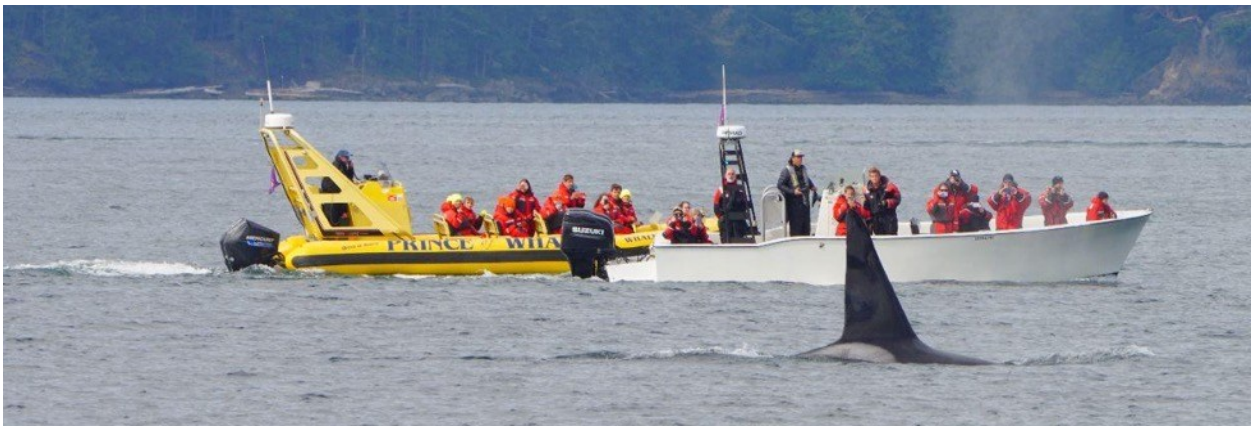
Ben Hendricks at SoundSpace Analytics has developed the Hydra model to detect whale vocalizations on the SIMRES hydrophones. In 2024, SIMRES manually reviewed their hydrophone recordings to assess the model's accuracy. East Point was selected for this review as the Monarch Head hydrophone was inactive for several months during the summer.

The analysis focused on SRKW events as they are more consistently vocal than Bigg's or humpback whales, and the number of SRKW events within range of the hydrophone was more manageable. Whale sightings recorded by the Southern Gulf Islands Whale Sighting Network (SGIWSN) were used to identify relevant events when the East Point hydrophone was operational. The location of each sighting was verified using Spyhopper's map feature to confirm that the whales were within the hydrophone's range. Audio files were reviewed starting 20 minutes before and ending 20 minutes after each confirmed whale event.

The model detected three of the fifteen SRKW events reported near Saturna Island in 2024. Manual review confirmed that these three events contained SRKW calls. Seven events were true negatives, in which SRKW passed the hydrophone but did not vocalize. The remaining five events did contain calls, but either the number of calls was too few for the model to flag them as an event, or the level of vessel noise was too high for the model to detect them. Conversely, the Hydra model detected five killer whale events in 2024 that were not reported by SGIWSN sighters. Four of these detections occurred during the night, when visual confirmation would not have been possible, and one occurred on December 29, when many sighters were likely away for the holidays.

No detection model is perfect. Given the significant vessel noise in Boundary Pass, the placement of the SIMRES hydrophones, and the inherent limitations of hydrophone range and sensitivity, we cannot expect the model to detect every whale call. However, Ben's detection model remains valuable to SIMRES and the SGIWSN. It validates visual sightings, helps detect whale presence during poor weather, nighttime, or the off-season, and alerts us to events with clear whale calls that can be shared with our volunteer network and the public.

Whale Watching Vessel Presence



T019C Spouter is pursued by whale watching vessels in Swanson Channel on September 10, 2024. Photo by Janine McNeilly.

In the summer of 2024, the SGIWSN and SIMRES launched a pilot study to better understand the presence of whale-watching vessels during whale sightings around the Southern Gulf Islands. From June 2024 to September 2024, citizen scientists from Saturna, Pender, Mayne, and Galiano Islands documented 266 whale events, of which 180 were included in the final analysis. These included sightings of humpbacks, Bigg's killer whales, and SRKW.

Vessels were present during 55.5% of all reported whale events. Bigg's killer whales had the highest vessel presence rate at 64.5%, followed by SRKW at 60%, and humpbacks at 37.5%. On average, SRKW events involved fewer vessels at one time (maximum of 4), compared to Bigg's (maximum of 12) and humpbacks (maximum of 7). While vessel types were not differentiated in this study, the results highlight the continued popularity of Bigg's killer whales for commercial whale watching tours and the relative rarity of vessels near humpbacks.

For SRKW, vessel presence may reflect activity from monitoring and enforcement groups such as Straitwatch or Soundwatch, as many whale-watching companies have agreed to avoid SRKW under the Sustainable Whale Watch Agreement.

While this pilot project provided valuable baseline data, it also revealed gaps in continuous monitoring. Many events had only one or two vessel reports, limiting the ability to assess how long vessels were with the whales. The study underscores the importance of refining data collection methods, improving volunteer training, and increasing participation in future seasons.

This pilot effort lays the groundwork for a stronger citizen science-based vessel monitoring program. It provides crucial context for developing regulations and outreach to reduce vessel disturbance and better protect whales in the Salish Sea.

Infraction Reports

A vessel cuts through the Pender ISZ on September 20, 2024. Photo by Janine McNeilly.

The SGIWSN works with Fisheries and Oceans Canada (DFO), Transport Canada, and Parks Canada to report infractions within the Southern Gulf Islands, including ISZ violations, fishing violations, and breaches of marine mammal regulations. All reports submitted by the SGIWSN are reviewed by these agencies, which contact vessel owners directly and pursue enforcement actions, such as fines, when sufficient evidence is provided.

The SGIWSN has been reporting infractions to these agencies since 2021. This review focuses on 2023 and 2024, the years when our Jotform reporting system was introduced, and a significant increase in submissions was observed. While reporting methods have improved, the overall trend suggests that the number of infractions has remained relatively consistent over the past five years.

Sighters use the SGIWSN Jotform to submit details about the violations, including the date, time, infraction type, vessel information (e.g., registration number, name, commercial or recreational), and location. Whenever possible, sighters include coordinates or distances calculated using range finders, along with photographs or videos to support their reports. ISZ infractions are submitted to Transport Canada bi-weekly, while marine mammal and fishing violations are reported to DFO immediately. Special attention is given to repeat offenders, as this helps build stronger cases for enforcement.

In addition to submitting reports, sighters can contact many on-water enforcement agencies in real-time to alert them to ongoing violations. Straitwatch and the W̱SÁNEĆ Marine Guardians are available on Discord to assist with on-water education. Parks Canada can be reached through their emergency line, and Fisheries Officers often share their patrol schedules with the SGIWSN. All federal agencies acknowledge the enforcement challenges in the ISZs and are working to increase their on-water presence and public outreach efforts to improve compliance.

Interim Sanctuary Zone Infractions

The Saturna and Pender ISZs were established to create an area of refuge for SRKW from the physical and acoustic disturbances of vessels[1]. Our data suggests that the ISZs are not effectively deterring vessel activity in key SRKW habitats. The continued high number of infractions, particularly by recreational vessels and vessels without AIS, demonstrates that a lack of boater awareness, visible enforcement, and meaningful penalties undermines the intended conservation impact of these zones. Without improved outreach and accountability, these critical protections risk becoming little more than symbolic.

ISZ Infractions: AIS-Equipped Vessels

Vessels equipped with AIS can be tracked to understand how marine traffic moves through sensitive areas. The SGIWSN focuses on AIS vessel presence within the Saturna and Pender ISZs between June 1 and November 30, when these zones are in effect (Figure 2). An infraction is counted each time a vessel enters either ISZ during this period. Repeat entries are included if the same boat re-entered or remained in the zone after more than 60 minutes.

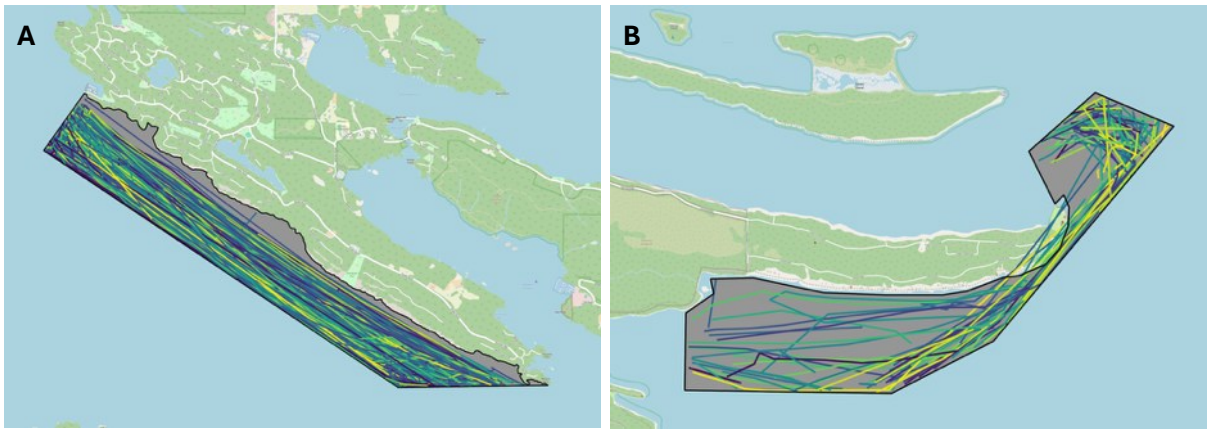


Figure 2. AIS-equipped vessels entering the A) Pender ISZ and B) Saturna ISZ from June 1, 2024, to November 30, 2024. The Pender and Saturna ISZs are shown as grey polygons.

AIS-tracked vessel infractions in the Saturna ISZ returned to 2022 levels, following a slight dip in 2023 (Figure 3A). The Pender ISZ saw a 14% decrease in AIS infractions, dropping below 1,000 for the first time in two years. However, 893 violations in a single season are still troublingly high.

[1] Transport Canada (2024) *Protecting killer whales in the waters of southern British Columbia – 2024 (SSB No. 27/2024)*. Available at: https://tc.canada.ca/en/marine-transportation/marine-safety/ship-safety-bulletins/protecting-killer-whales-waters-southern-british-columbia-2024-ssb-no-27-2024 (Accessed: 22 April 2025)

AIS data from June 1 to December 30, 2024, show that 67% of unique AIS-equipped vessels entering the Pender and Saturna Islands Zone (ISZs) were registered in the United States (Table 1). This analysis reflects the number of distinct vessels that entered the zone; repeat infractions by the same boat were only counted once. American vessels made up 70% of entries into the Pender ISZ and 55% in the Saturna ISZ, highlighting the need for increased outreach and education for both Canadian and American boaters.

Table 1. Number of unique AIS-equipped vessels that entered the Pender and Saturna ISZs in 2024, grouped by country of registration. The majority of boats in both zones were American-flagged, comprising 70% of vessels in the Pender ISZ and 55% in the Saturna ISZ.

	Canadian Vessels	American Vessels	Other Countries
Pender ISZ	213	513	10
Saturna ISZ	54	70	3

ISZ Infractions: Non-AIS Vessels

Violations by vessels without AIS remained steady in the Saturna ISZ, with 266 reports in 2024, comparable to past years (Figure 3B). However, infractions by non-AIS vessels in the Pender ISZ increased dramatically, jumping from 45 in 2023 to 578 in 2024 (Figure 3B). This sharp rise is due primarily to consistent daily monitoring at Oaks Bluff by SIMRES researchers, underlining the scale of vessel activity in the area and the importance of sustained on-the-water observation in detecting violations that would otherwise go undocumented.

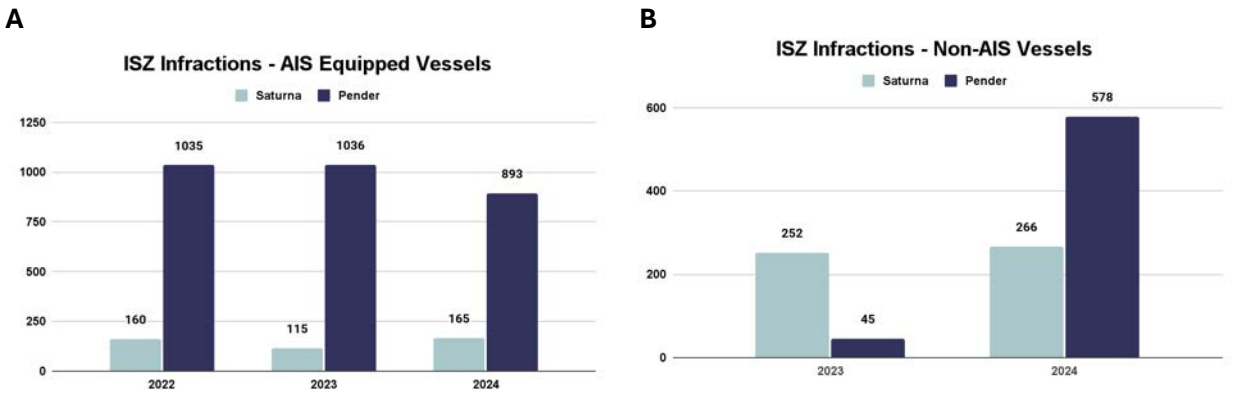


Figure 3. ISZ infractions recorded in 2023 and 2024 within the Pender and Saturna ISZs, shown for A) AIS-equipped vessels, and B) non-AIS-equipped vessels. In both years, the ISZs were active from June 1 to November 30.

Marine Mammal Violations

A recreational vessel gets too close to a pod of Bigg's killer whales on August 25, 2024, near East Point, Saturna Island. Photo by Dave Paton.

Reports of vessels violating Canada's Marine Mammal Regulations doubled from five in 2023 to ten in 2024 (Table 2). All reported incidents involved killer whales: nine with Bigg's killer whales and one with SRKW. Five infractions involved recreational vessels, while the other five involved ecotourism vessels. A calf was present during eight of the ten incidents.

These findings underscore the importance of continued monitoring by the SGIWSN. On-water enforcement presence is often limited, and some operators may take advantage of this to get closer than regulations allow. Our reports, photos, and video evidence ensure that these infractions are documented, helping federal agencies hold those responsible accountable.

Table 2. Marine mammal infractions reported by the SGIWSN in 2023 and 2024.

	2023	2024
Mayne	0	1
Pender	1	3
Saturna	4	6

Fishing Violations

A vessel illegally fishing in the Pender ISZ was stopped by DFO's Whale Protection Unit on August 8, 2024. Photo by Mikayla Young.

Fishing violations near Saturna and Pender islands increased in 2024, with infractions rising from 22 to 50 on Saturna and from 24 to 35 on Pender compared to the previous year (Table 3). A notable spike occurred in June through September, peaking in August with 33 infractions, 15 of which occurred during the August long weekend. The majority of these violations were committed by vessels whose country of origin could not be determined because the sighter could not see a registration number (41 infractions), followed by Canadian vessels (23) and American vessels (16). Alarmingly, only one of the offending vessels was identified through AIS, highlighting a gap in tracking and enforcement.

Table 3. Fishing violations reported by the SGIWSN in 2023 and 2024.

	2023	2024
Pender	24	35
Saturna	22	50

Commercial Vessel Trends

Between June and mid-November 2024, commercial vessel traffic through Haro Strait and Boundary Pass remained relatively consistent across most categories compared to the same period in 2023 (Figure 4). However, tanker traffic saw a dramatic increase, from 148 tankers in 2023 to 405 in 2024[2]. This spike follows the completion of Trans Mountain's Westridge Marine Terminal expansion in Burrard Inlet in May 2024, which increased tanker capacity from 5 to 34 vessels per month[3]. The increase in tanker activity is also tied to the Trans Mountain Pipeline Expansion (TMX) project, which runs between Edmonton and Burnaby. This project is expected to triple the pipeline's capacity and significantly increase oil exports from the Port of Vancouver.

This marked rise in tanker traffic raises growing concerns about the increasing acoustic and physical disturbances, as well as other cumulative impacts, on marine mammals and the coastal ecosystem in the Salish Sea.

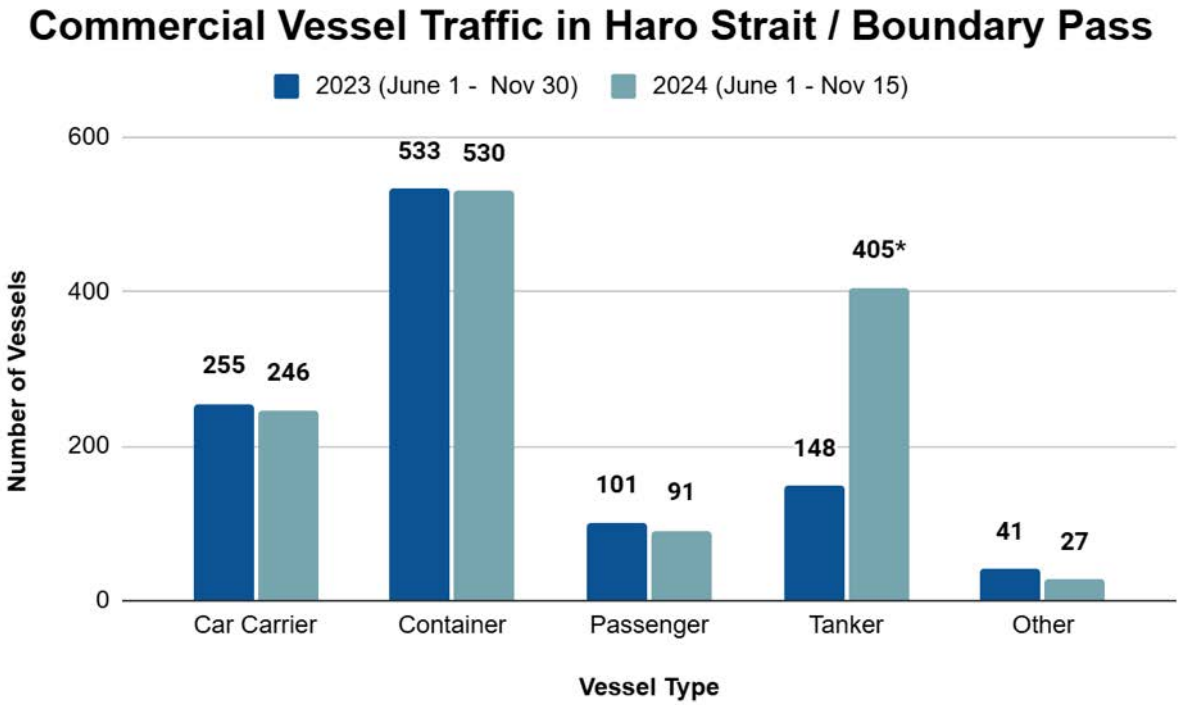


Figure 4. Comparison of commercial vessel transits through Haro Strait and Boundary Pass during the Port of Vancouver's ECHO slowdown periods in 2023 and 2024. While most vessel types remained consistent from year to year, 2024 saw a notable increase in tanker traffic following the expansion of the Trans Mountain Westridge Marine Terminal.

[2] Commercial vessel data provided by the Port of Vancouver's ECHO Program.
[3] Environmental Assessment Office (n.d.) *Roberts Bank Terminal 2 Project*. Available at: https://www.projects.eao.gov.bc.ca/p/5885121eaaecd9001b82b274/project-details (Accessed: 15 April 2025).

Tumbo Channel

Tumbo Channel lies between Saturna Island and the neighbouring Tumbo and Cabbage Islands. Its eastern edge connects directly with the Saturna ISZ, which is in effect from June 1 to November 30 each year. Due to the presence of lingcod and multiple salmon species, Tumbo Channel remains a popular area for recreational fishing. These activities often lead to vessel traffic within or through the Saturna ISZ, potentially compromising its intended protection for SRKW (Figure 5).

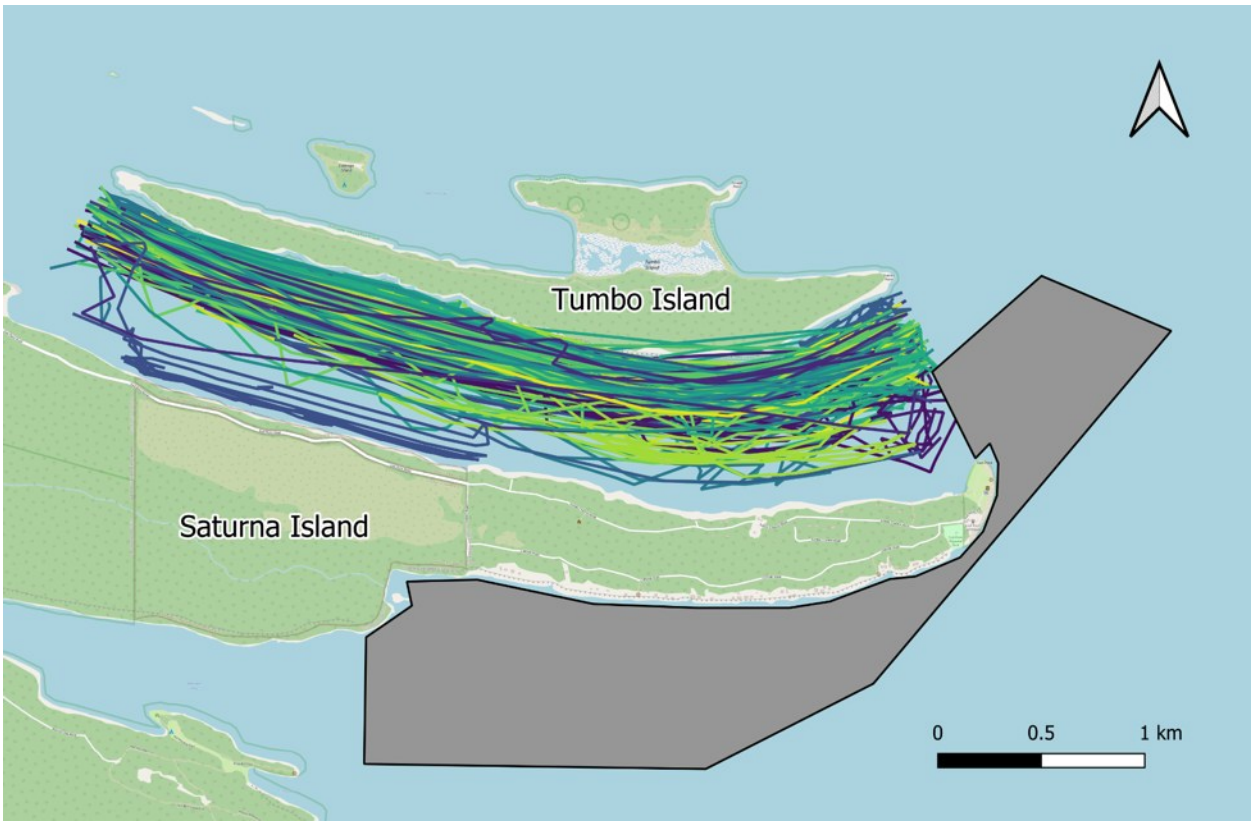


Figure 5. AIS tracks of vessel traffic in Tumbo Channel recorded between January 1 and December 31, 2024. The tracks highlight the extent and frequency of vessel activity in the channel over the year. The Saturna ISZ is shown as a grey polygon.

Drawing on local knowledge that most recreational vessels observed in Tumbo Channel are not equipped with AIS, several sighters conducted a snapshot survey of vessel activity in Tumbo Channel in 2024. Observations took place over 28 hours across thirteen days from May to July. Although not a formal scientific study, these observations revealed that 92% of the vessels were recreational fishing boats, roughly one-third of which originated from Washington State, and none were equipped with AIS. The sighters also noted that many vessels transited to the west end of Tumbo Channel at high speeds against the prevailing current, then drifted eastward while trolling (Figure 6). Several vessels repeated this pattern multiple times per day—one boat made 22 passes in a single day.

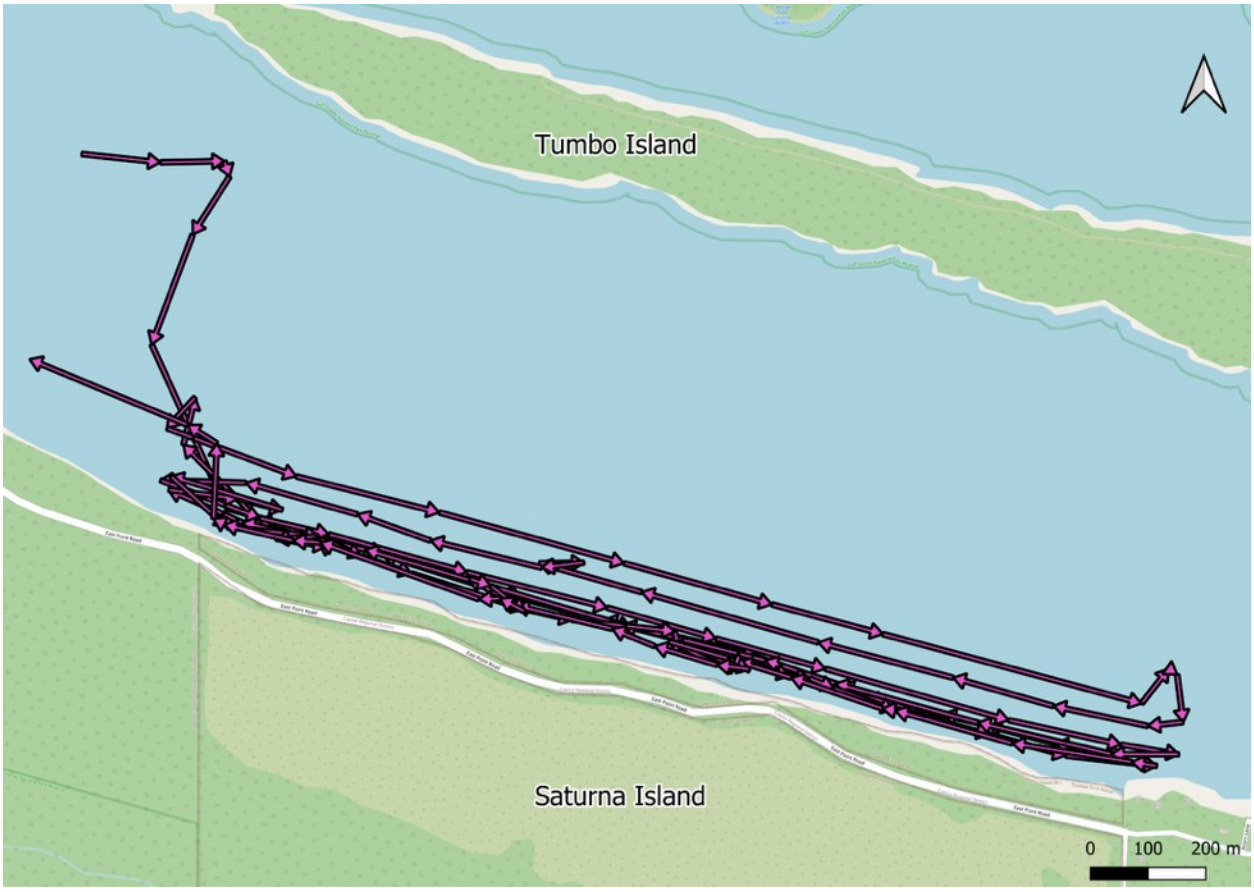


Figure 6. AIS track of a vessel operating in Tumbo Channel. The track illustrates the typical pattern of fishing vessels, with the boat transiting westward, often at higher speeds, before drifting eastward while trolling. This pattern was repeated multiple times throughout the day.

Vessel noise and presence are well-documented sources of disturbance to SRKW foraging[4]. In 2024, Transport Canada introduced a Voluntary Speed Reduction Zone in Tumbo Channel, based on recommendations from a 2023 analysis by Simon Fraser University[5]. To further reduce acoustic and physical disturbance, the SGIWSN recommends that Tumbo Channel be closed to fishing. This would minimize the number of vessels transiting through the channel, restoring a traditional foraging area for SRKW and other cetaceans adjacent to the Saturna ISZ.

[4] Holt, M.M. *et al.* (2021) 'Vessels and their sounds reduce prey capture effort by endangered killer whales (Orcinus orca)', *Marine Environmental Research*, 170, p. 105429. doi:10.1016/j.marenvres.2021.105429.
[5] Murphy, O. *et al.* (2023) *Analysis of Southern Resident Killer Whale Management Measures Surrounding Saturna Island*. rep. Available at: https://www.sfu.ca/~rjoy/SaturnaAnalysisOfMeasures_SFU.pdf (Accessed: 17 April 2025).

Critical Distance

Critical Distance allows participants to experience life in the Salish Sea through the eyes and ears of J Pod. Image by Vision3.

Critical Distance, designed and produced by Vision3, is an augmented reality experience that invites participants into the world of J pod, one of the resident killer whale families. Through immersive storytelling and cutting-edge technology, Critical Distance allows people to witness firsthand the impacts of human activity, particularly vessel traffic, on these endangered whales. By blending art, science, and emotional engagement, the experience builds a deeper understanding of the whales' lives and inspires action to protect their habitat.

In 2024, with funding support from Oceans Network Canada and Nature Canada, the SGIWSN brought Critical Distance to communities across the Southern Gulf Islands. The exhibit toured Saturna, Pender, Mayne, and Galiano Islands, reaching new audiences and strengthening local conservation dialogue. We also exhibited Critical Distance in Ottawa, where it was featured at the Canadian Museum of Nature in June. Elizabeth May also hosted an event featuring Critical Distance at the House of Commons.

The Port of Vancouver invited the SGIWSN to bring Critical Distance to Vancouver to showcase it to its advisory committee. Members participated in the experience, prompting meaningful discussions around enhancing whale protection measures. Our final event of the year was a multi-day presentation at the Pender Island Elem-Secondary school, where students and community members met Kiki and the rest of J pod in augmented reality.

Looking ahead, the SGIWSN is bringing Critical Distance to Victoria in June 2025 for Ocean Week. Vision3 is in active discussions with Nature Canada and the Museums Association of Canada to bring Critical Distance to museums across the country, helping to share the story of the Southern Residents with a broader audience

SGIWSN Recommendations

Interim Sanctuary Zones

After five years, the ISZs are not achieving their intended purpose of providing quiet, undisturbed areas for SRKW to forage, rest, and socialize. Although the ISZs were created to reduce vessel noise and disturbance, data indicate that the zones are too small, poorly located, and not interconnected. The Pender and Saturna ISZs must become permanent, year-round closures to be effective. SRKW are present in these waters throughout the year, and so are vessels. A permanent designation would also reduce confusion among boaters and improve compliance.

In addition, both zones must be expanded. Underwater noise in these areas remains high, interfering with the whales' ability to echolocate. Tracking data show that SRKW regularly travel through Boundary Pass, moving between Saturna and Pender Islands in all directions. The Pender ISZ should be extended along Boundary Pass to Gowlland Point, while the Saturna ISZ needs to be expanded beyond its current boundary past the Java Islets.

Vessel Slowdown

SRKW and other marine species use Boundary Pass year-round. In 2024, noise and physical disturbance in the area intensified with the increase in tanker traffic following the expansion of the Westridge Marine Terminal. To help mitigate these impacts, the voluntary vessel slowdown in Boundary Pass should become a year-round measure.

Tumbo Channel

Noise from recreational fishing vessels in Tumbo Channel is a growing concern. This narrow channel, located adjacent to the Saturna ISZ, has become a high-disturbance zone due to fishing activity. To reduce acoustic and physical impacts on cetaceans, the voluntary slowdown in Tumbo Channel should be made mandatory, and the channel should be closed to fishing.

Commercial Whale Watching

To strengthen protection for SRKW and other cetaceans, the federal government needs to implement a licensing system for whale-watching vessels. This system should regulate the number of vessels, viewing times, number of allowable viewing days, and approach distances for all cetaceans in the Salish Sea.

Additionally, greater efforts are needed to promote shore-based whale watching as a sustainable alternative to on-water viewing.

Public Education and Communication

Stronger public communication is urgently needed. The federal government must improve outreach about marine mammal regulations, including vessel distance requirements and ISZ boundaries. Communications should be tailored to key audiences and released in early spring, ahead of the busy boating season.

Need for Enforcement and Administrative Changes

Enforcement remains one of the weakest aspects of ISZ implementation. Many boaters violate ISZ boundaries without consequence, reducing the effectiveness of the zones. The SGIWSN looks forward to working with Transport Canada and DFO's Whale Protection Unit to enhance enforcement opportunities.

Boater education and enforcement must go hand in hand. Many boaters are unaware of the ISZs or marine mammal rules, or assume there will be no penalties for noncompliance. Outreach should begin well in advance of the June 1 closure and focus on marinas throughout British Columbia and Washington State. Enforcement should be prioritized on high-traffic days, such as Canada Day and the U.S. Fourth of July weekend.

Finally, marine mammal violations that are documented via photos, videos, multiple witnesses, or rangefinder data should be treated as ticketable offences, similar to fisheries violations. A transparent enforcement and compliance policy also needs to be developed to outline criteria for responses and maintain a record of enforcement actions. Combined with targeted incentives, such a system would increase compliance and help protect all whales in the Salish Sea, especially the endangered Southern Residents.

Looking Forward to 2025

The SGIWSN is entering 2025 with renewed momentum and a commitment to collaboration, innovation, and community-driven conservation. This year, we aim to expand our monitoring network, with a focus on improving coverage around Galiano Island. Systematic research on the ISZs will continue, with SFU researchers returning to Saturna Island and SIMRES launching new monitoring efforts on Pender Island, supported by funding from Transport Canada and Raincoast Conservation Foundation.

We are excited to continue strengthening partnerships with Transport Canada, DFO, and academic and policy groups to improve reporting protocols and ensure that critical cases are escalated effectively. Public engagement remains a key priority, with Critical Distance scheduled to appear in Victoria during Ocean Week 2025, bringing the story of the Southern Residents to new audiences.

We're expanding training opportunities in acoustic identification, rangefinder use, and improved videography to support our citizen-scientists. We also hope to enhance our monitoring tools by installing cameras overlooking Boundary Pass and Tumbo Channel, and by acquiring additional equipment to improve the accuracy and impact of our documentation. Building on the achievements of 2024, the SGIWSN is committed to deepening its role as a regional leader in marine stewardship.

We thank every sighter and partner for their continued participation in and support of the SGIWSN. Your observations, dedication, and collaboration are the foundation of this network. Together, we are making a meaningful difference for whales in the Salish Sea.

J Pod swims through Swanson Channel at sunset on July 27, 2024. Photo by Janine McNeilly.

Resources

Saturna Island Marine Research & Education Society (SIMRES). https://simres.ca

Spyhopper https://spyhopper.ca