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Eyes on the Water: Citizen Science in the Salish Sea

Susie Washington-Smyth

Southern Gulf Islands Sighting Network & Saturna Island Education And Research Society

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Eyes on the Water: Citizen Science in the Salish Sea

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Introduction

Whale movement patterns are changing in the Salish Sea (1,2) and vessels, a key threat to whales, are on the rise

Since April 2020, the Southern Gulf Island Whale Sighting Network (SGIWSN), in collaboration with the Saturna Island Marine and Education Society (SIMRES) has been documenting cetacean presence and vessel activity around Saturna, Pender and Mayne Islands

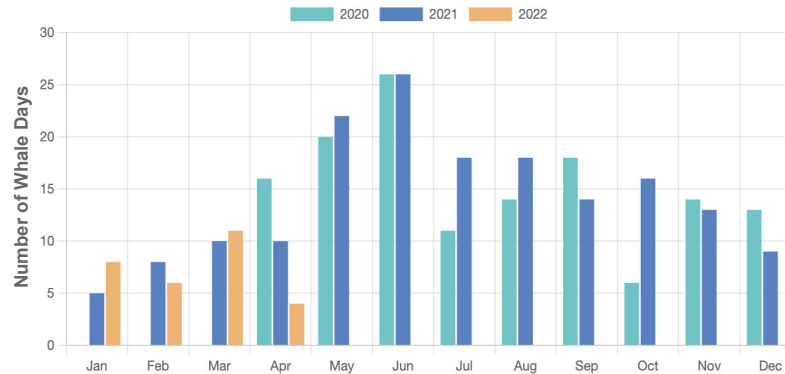
Visual Methods

- Observations of whales (surveys + opportunistic) by trained citizen scientists and SFU researchers
- Monitoring ISZs for vessel infractions and compliance (surveys + opportunistic sightings)
- Photographic documentation of whales, vessels & laser rangefinder measurements for vessel compliance/infractions

Acoustic Methods

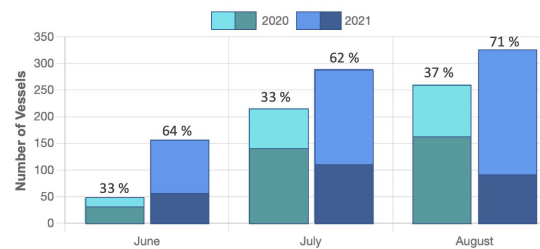
- Hydrophone detections of whales in Boundary Pass (via SIMRES)
- Help identify ecotypes for Killer whales

Whale Observations



Killer whale and Humpback whale days per month from data collected by the SGIWSN/SIMRES and SFU researchers in waters around Saturna (April 2020 - April 2022), Pender (Jan 2021- April 2022) and Mayne Island (Jan 2022- April 2022).

Interim Sanctuary Zone Infractions



Vessels recorded in the Saturna ISZ survey area by SFU researchers. Vessel infractions (bottom of the bar) in the darker colour, vessel compliance (top of bar) in lighter colour with compliance rate above the bar for 2020 (green) and 2021 (blue). An additional 88 infractions were documented by SGIWSN/SIMRES between June 1 and Nov. 30 2021.

Conclusions/Next Steps

Whales are present in the Southern Gulf Islands year round (presence varies for species/ecotypes)

Average vessel compliance rates in the Saturna ISZ survey area increased from 36.8% in 2020 to 66.9% in 2021, however, over 350 infractions were documented from June-August 2021

The SGIWSN/SIMRES will continue documenting whale presence and monitoring ISZs

SIMRES will investigate & incorporate new methodologies & technologies with visual sightings (SIMRES hydrophone, infrared camera detections)

DID YOU KNOW?
SIMRES has a livestream where you can listen to underwater sounds 24/7!



SCAN ME TO LISTEN

Literature cited

- 1) Olson, J. et al 2018. Sightings of Southern Resident Killer Whales in the Salish Sea 1976-2014: the importance of a long-term opportunistic dataset. *Endangered Species Research*. 37:105-118
- 2) Shields, M. et al 2018. Increased presence of mammal-eating killer whales in the Salish Sea with implications for predator-prey dynamics. *PeerJ* 6:e6062

Acknowledgments

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Further information

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