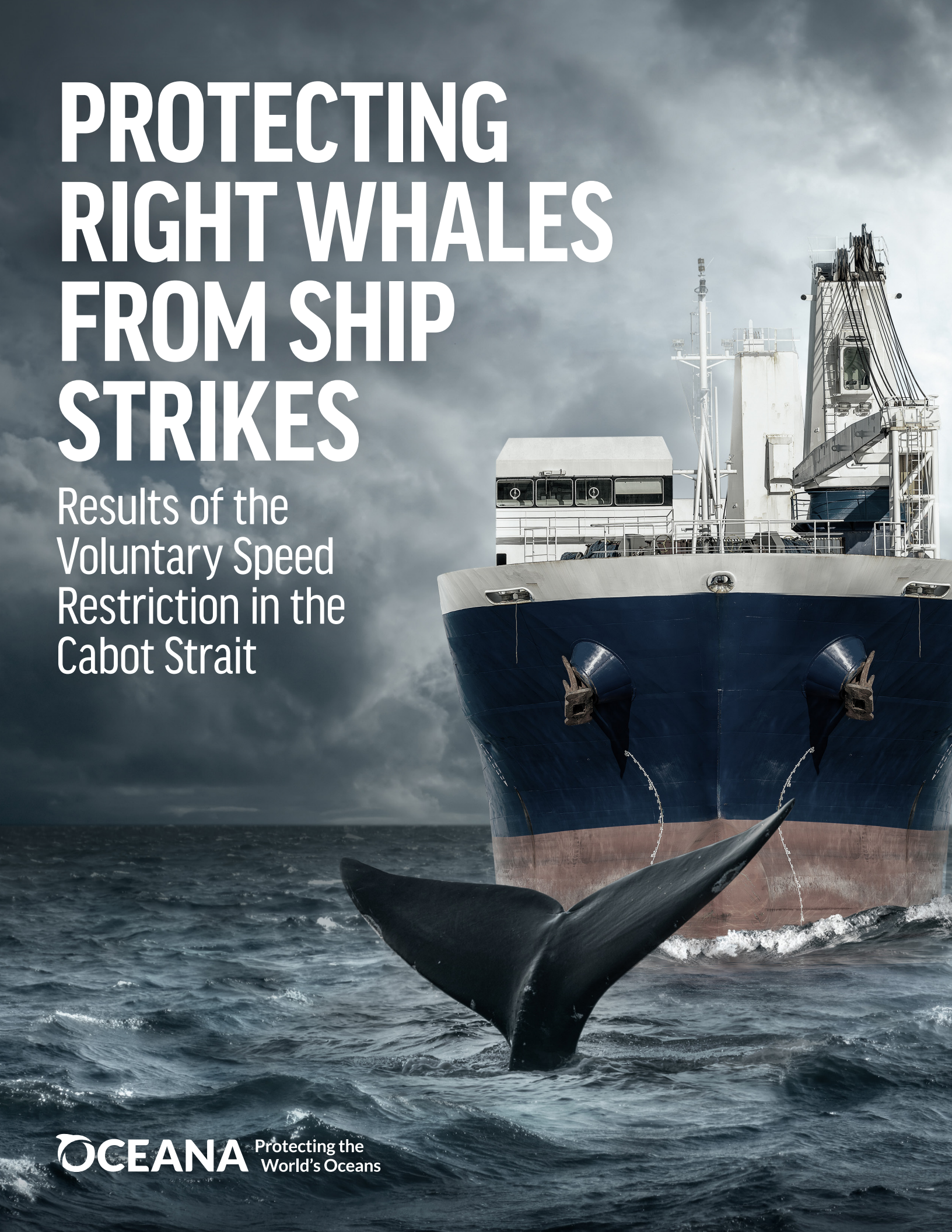
PROTECTING RIGHT WHALES FROM SHIP STRIKES

Results of the Voluntary Speed Restriction in the Cabot Strait



OCEANA Protecting the World's Oceans

What's In a Name?

There are **only 330** critically endangered North Atlantic right whales left in the world. They can be found off the East Coast of North America, and most have scars from human interactions in these busy waters — a legacy that often follows them by their name.

These whales are struck by ships or caught in fishing gear, which, if they survive, can leave lasting and painful damage that they carry for the rest of their lives.

Fishing ropes cause slow and painful deaths. While some whales starve, others drown. If they survive, the ropes can cause abrasive wounds and leave scarring patterns all over a whale's head, body and tail. Gully, for example, is a young female right whale born in 2016 who suffered serious entanglement early on in her short life. She was named after a deep scar on her head. Batman, Gemini, Tusk and Boomerang are also named after scarring likely caused by fishing gear.

Being hit by a vessel can be fatal. If a whale is lucky enough to survive, it is often left with devastating wounds from propellors. Trellis and Accordion are both named after scars from these injuries. Wolverine is another — named for three deep propellor scars across his back that were likened to the claws of the famous comic character. Tragically, Wolverine was found dead in the Gulf of St. Lawrence, in 2019, at just nine years old.

Time is running out for the few remaining whales. The government must do everything in its power to protect them, and with great urgency so that one day they might be named for their natural markings or personality, rather than their scars. Fortunately, we know what the key threats are, and we know how to reduce them.

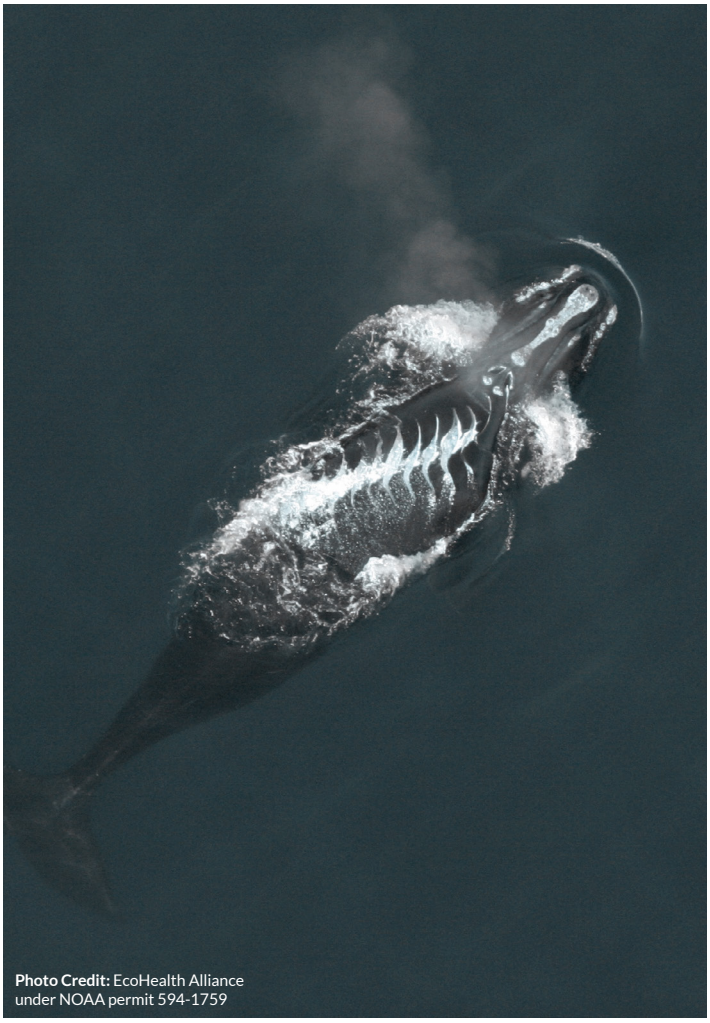


Photo Credit: EcoHealth Alliance
under NOAA permit 594-1759

Wolverine
Photo Credit: Sheila McKenney , Marineland Right Whale Project

Recommendations

A staggering 21 right whale deaths were documented between 2017-2019 in Canadian waters.[1] In the 10 cases where the cause of death could be determined, eight were caused by collisions with vessels and two by entanglements in fishing gear.[2]

The federal government has implemented many successful measures to protect this critically endangered whale,[3] but with so few left, it must do more to bring them back from the edge of extinction. Researchers have found that at least 40 per cent of right whales visit the Gulf of St. Lawrence to feed,[4] making it an important habitat for them.

The Cabot Strait lies at the entrance to the Gulf of St. Lawrence, a busy international shipping area that puts right whales directly in the path of danger. Their only current protection from fast-moving vessels is a voluntary slowdown measure that is often ignored.

During the trial slowdown, 68 per cent of vessels travelled over the recommended speed of 10 knots and 43 per cent exceeded 12 knots in 2020 and 2021.

Oceana Canada is calling on Transport Canada and Fisheries and Oceans Canada to prioritize the following actions:

1. **Make the Cabot Strait slowdown mandatory and season-long:** set a compliance target similar to what is observed with other similar slowdowns and have it start at the beginning of April, before whales arrive in Canadian waters.
2. Continue to expand the use of a comprehensive array of technologies (including acoustic, satellite and infra-red) to look for right whales and to better understand their movements in the Cabot Strait and other areas in Canada.
3. Transition to a management approach that is **permanent** in nature, provides **certainty** around decision-making, is **inclusive** of all stakeholders, is fully **transparent** and **adaptable** to changing whale behaviour.

Photo Credit: FWC

In 2021, the first critically endangered North Atlantic right whale of the year was spotted in the Cabot Strait on April 26[5] — two days before the voluntary slowdown started. **To protect right whales from vessels strikes in the Cabot Strait a mandatory vessel slowdown needs to be put in place that starts at the beginning of April.**

Cabot Strait Right Whale Protection Measure Investigation: Results

In 2020 and 2021, Transport Canada implemented a voluntary measure in the Cabot Strait asking vessels to slow to 10 knots during four time periods:[6]

- April 28 — June 15, 2020
- October 1 — November 15, 2020
- April 28 — June 29, 2021
- September 29 — November 15, 2021

Oceana Canada tracked vessel speeds to monitor compliance throughout these time frames. **The result: exceptionally few vessels complied.**

3,031 transits through the Cabot Strait

68% of transits did not comply with the slowdown

43% of transits exceeded 12 knots

What is a Transit?

A transit is a single trip that a vessel takes. Some vessels may make many transits back and forth through the Cabot Strait, and each one presents a risk to right whales when they are nearby.

5 knots	=	9.3 km/hr
10 knots	=	18.5 km/hr
15 knots	=	27.8 km/hr
20 knots	=	37 km/hr
25 knots	=	46.3 km/hr

Snow Cone entangled with calf
Credit: Georgia DNR under NOAA permit 20556

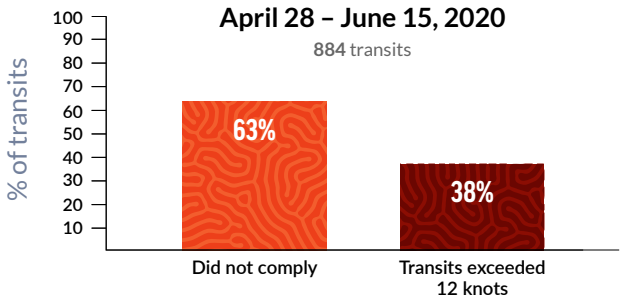
Results by Timeframe:

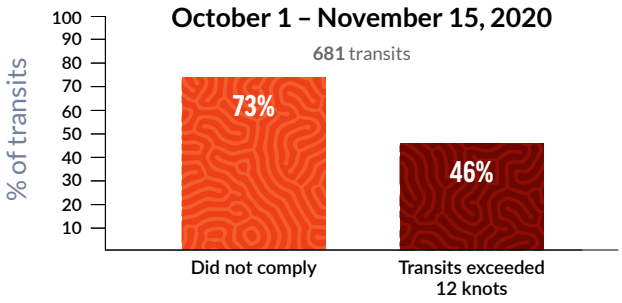
The numbers in this report provide a summary of when vessels exceeded the voluntary 10 knots slowdown.

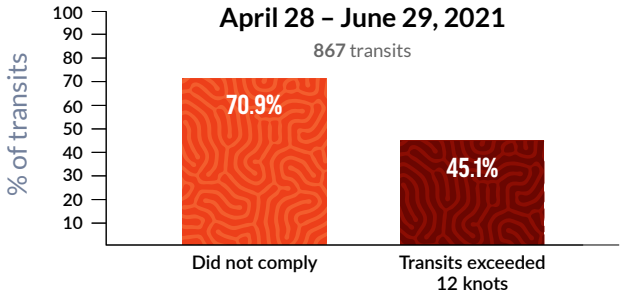
The rate of noncompliance over the past two years was way too high for this trial voluntary measure to be considered a success in terms of protecting right whales, or providing a level playing field for the vessels that travel through the Cabot Strait. The government must implement a permanent, mandatory slowdown measure starting at the beginning of April, to see measurable change on the water that will work to protect North Atlantic right whales.

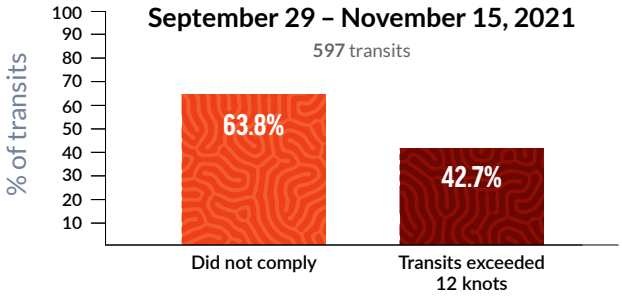
In an industry where speed often provides a competitive advantage, a voluntary measure creates a disincentive for vessels to comply and an unfair advantage to those that don't — some of which are travelling at more than double the recommended speed.

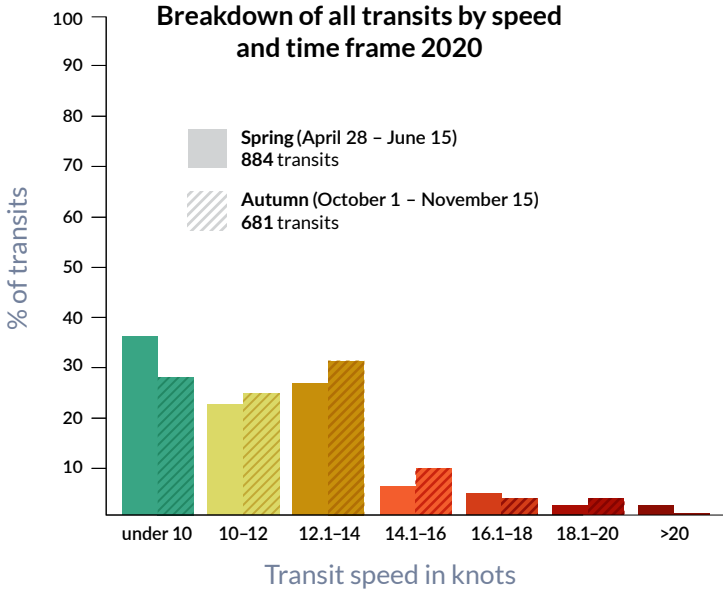
While overall compliance was poor, the results demonstrate that the greatest number of vessels traveling faster than 10 knots fall into the 10-12 or 12-14 knot categories. There are generally fewer vessels in the highest speed categories of 16-18, 18-20 and exceeding 20 knots. **This means a mandatory slowdown is possible without disrupting shipping activities**.

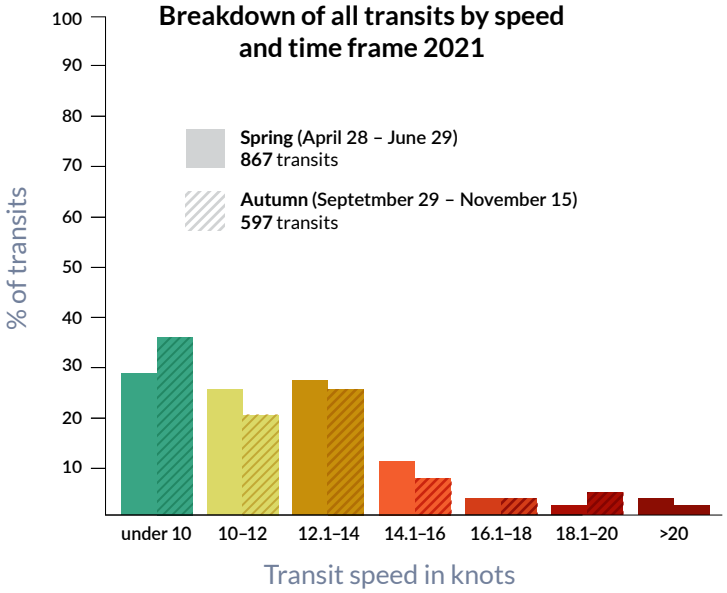












Slowdowns Made Some Impact

Although compliance was consistently low, the voluntary measure did result in some vessel speed reductions. However, every instance of non-compliance potentially puts this critically endangered species at risk.

Vessel Slowdown – Spring

	During two week period before and after slowdown	During voluntary slowdown
Spring 2020	87% of vessels exceeded 10 knots.	63% of vessels exceeded 10 knots.
Spring 2021	85% of vessels exceeded 10 knots.	71% of vessels exceeded 10 knots.

Vessel Slowdown – Autumn

	During two week period before and after slowdown	During voluntary slowdown
Autumn 2020	92% of vessels exceeded 10 knots.	73% of vessels exceeded 10 knots.
Autumn 2021	85% of vessels exceeded 10 knots.	64% of vessels exceeded 10 knots.

The Impact of Weather

There are several reasons why Transport Canada might temporarily lift a slowdown, despite the risk of a lethal collision with a whale. The most common one is to preserve the safety of the vessel and its crew during adverse weather conditions. The Cabot Strait can experience severe weather and sea state, especially in the autumn. This unavoidable necessity means strong, mandatory measures are even more important to protect whales when vessels can safely slow down.

Add Your Voice

Oceana Canada is committed to protecting North Atlantic right whales from extinction. Alongside other non-governmental organizations, right whale experts, scientists, industry allies, First Nations and ocean advocates, Oceana Canada is working to address this urgent issue with the Canadian government.

Visit Oceana.ca/RightWhaletoSave to get involved and add your name to our petition urging the government of Canada to act swiftly to stop these needless deaths. Right whales deserve protection. Together, we can turn the tide for right whales and build a strong future for their recovery.

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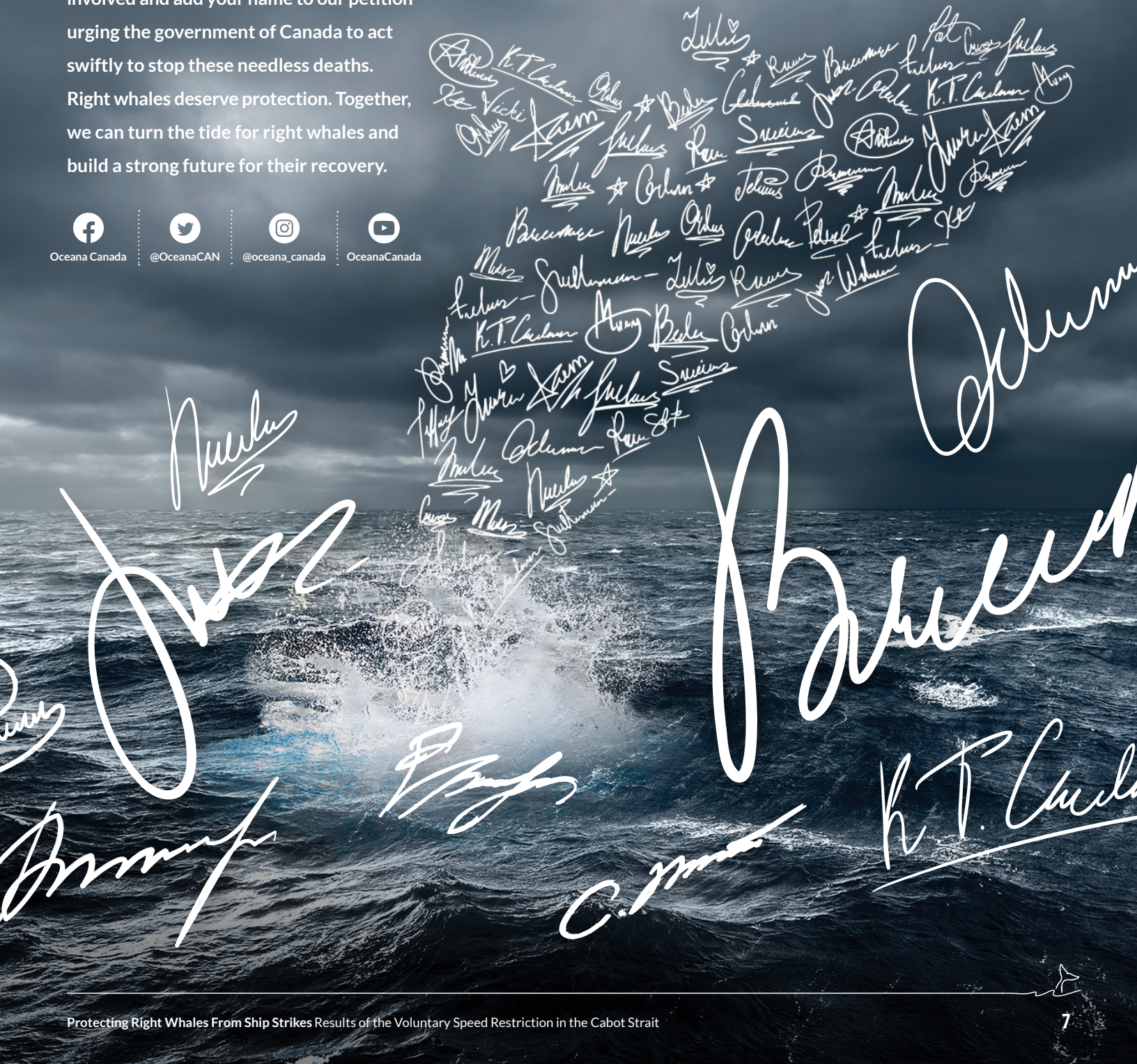

Methodology

Oceana's Ship Speed Watch is a public mapping tool that allows users to monitor vessel speeds in slowdown zones established to protect marine mammals like North Atlantic right whales along the East Coast of Canada and the U.S. in near-real time. The tool uses self-reported data to show ship speeds within the active voluntary and mandatory speed restriction zones. The tool also provides additional information about speed restrictions in place to protect this critically endangered species.

When mandatory and enforced, speed restriction zones can help prevent collisions with vessels. Ship Speed Watch was created based on Automatic Identification System (AIS) data from Global Fishing Watch, an independent non-profit organization founded by Oceana in partnership with Google and SkyTruth, which uses cutting-edge technology to interpret data from various vessel-tracking resources.

Oceana Canada used Global Fishing Watch to compile a list of vessel transits that exhibited speeds exceeding the voluntary 10-knot limit in Cabot Strait. This data is limited to vessels that have AIS, so this study did not capture all vessels. For instance, fishing vessels are not required to broadcast AIS data in Canada, although many do. Meanwhile, due to COVID-19 restrictions, cruise ships with more than 500 people were not allowed to dock in Canada during the study period, meaning there was a reduced amount of vessel activity.

Oceana Canada tracked the number of distinct AIS signals above the 10-knot speed limit that were transmitted by vessels inside the speed-restriction zone on a given day. It also tracked the highest speed attained by each vessel on that particular day. If a vessel travelled faster than 10 knots on separate days, it appeared in the data more than once. However, the weekly summary statistics treat these as one distinct vessel. Its highest speed over the weekly observation period is used in the summary statistics, and weekly statistics are then summed over the entire period.

Data for the report was pulled from Global Fishing Watch's vessel database. It was filtered to include only vessels that recorded at least two AIS signals during a transit within the Cabot Strait in the timeframes of April 28 to June 15, 2020, October 1 to November 15, 2020, April 28 to June 29, 2021, and September 29 to November 15, 2021, when the voluntary Cabot Strait slowdowns were in place.

Any speeds that seemed erroneously high were removed from the data. For example, if a vessel's AIS recorded consecutive speeds of 11, 12, 11, 11, 38 and 12 knots, the outlier was removed. In some cases, a vessel's highest-recorded AIS signal was discounted as an error if researchers found a large discrepancy between the signal and the maximum attainable speed of that vessel, based on online resources. To calculate compliance rates in the slowdown zone, the number of distinct transits with at least two AIS signals and at least one AIS signal exceeding 10 knots was divided by the total number of distinct vessels with at least two AIS signals.

Photo Credit: Nick Hawkins

References

1 NOAA Fisheries (2021). "2017–2021 North Atlantic Right Whale Unusual Mortality Event." https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2021-north-atlantic-right-whale-unusual-mortality-event

2 Ibid.

3 https://www.canada.ca/en/transport-canada/news/2021/02/government-of-canada-outlines-its-2021-measures-to-protect-north-atlantic-right-whales.html

4 Crowe LM, Brown MW, Corkeron PJ, Hamilton PK and others (2021) In plane sight: a mark-recapture analysis of North Atlantic right whales in the Gulf of St. Lawrence. Endang Species Res 46:227-251. https://doi.org/10.3354/esr01156

5 https://www.cbc.ca/news/canada/nova-scotia/right-whale-canadian-waters-first-2021-1.6002384

6 https://tc.canada.ca/en/campaigns/voluntary-slowdown-cabot-strait

About Oceana Canada

Oceana Canada was established as an independent charity in 2015 and is part of the largest international advocacy group dedicated solely to ocean conservation. Oceana Canada has successfully campaigned to end the shark fin trade, make rebuilding depleted fish populations the law, improve the way fisheries are managed and protect marine habitat. We work with civil society, academics, fishers, Indigenous Peoples and the federal government to return Canada's formerly vibrant oceans to health and abundance. By restoring Canada's oceans, we can strengthen our communities, reap greater economic and nutritional benefits and protect our future. **Oceana.ca**

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