DANGEROUS PASSAGE

Make 10 knots mandatory for ships in the Cabot Strait

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HALF MEASURES, DEADLY CONSEQUENCES

MAKE 10 KNOTS MANDATORY

There are only around 400 North Atlantic right whales left. Transport Canada must immediately upgrade the voluntary slowdown in the Cabot Strait to mandatory to protect this critically endangered species.

Authors: Kim Elmslie, Alexandra Vance, Tammy Thorne and Sarah Cameron
Published in July 2020 by Oceana Canada
DOI: 10.5281/zenodo.3952770

Dashed hopes for two right whale calves

The first North Atlantic right whale born during the 2019-2020 calving season lived an unnaturally short and tragic life. Over the winter, he delighted whale lovers when seen swimming with his mother in the Gulf of Mexico off the coast of Pensacola, Florida. The two whales later returned to the Atlantic and began their migration north through busy shipping lanes and fishing grounds.

On June 25, the seven-month-old calf's body was found floating off the coast of New Jersey. He had been struck by ships at least two separate times during his short life. The first strike caused serious harm to his head and chest, and the impact of the second damaged his tail and likely caused his death.[1] He died before researchers could name him.

Also spotted off the coast of Florida was Derecha (Spanish for "right"). Researchers spotted her on January 8, 2020 with her newborn calf. Later that day, her calf was hit by a boat, which sliced through its mouth and head leaving two parallel S-shaped wounds. As a result, researchers concluded that it was likely left unable to nurse.

A rescue team gave the calf antibiotics to prevent the wounds from getting infected. However, Derecha and her calf have not been seen since January 15, and the calf is presumed dead.

Today, this species is in grave danger of extinction. At least 30 North Atlantic right whales were killed between 2017 and 2019 - 21 of them in Canadian waters.[2] Their survival depends on lots of healthy calves — and no more tragic, preventable deaths.[3]

Repercussions

North Atlantic right whales are one of the most endangered whales in the world.[4] In the days before whaling, there were 9,000 to 21,000.[5] Now, only about 400 remain.

Right whales inhabit the busy shipping routes and fishing grounds along North America's East Coast from the Gulf of St. Lawrence to Florida. Unfortunately, these busy waterways put the whales in the path of ships. When they collide, the results are often serious. In some cases, whales are sliced by propellers. In other cases, they're killed by blunt force trauma.

Between 2017 and 2019, at least 30 right whales were killed.[6] Twenty-one of these deaths happened in Canadian waters. Necropsies were conducted on 12 of these whales and the results found that seven of the deaths were caused by ship strikes, one was a suspected ship strike and two were due to entanglement in fishing gear. The remaining two deaths were undetermined.[7,8,9]

Every calf is precious

Low birth rates in recent years are making this crisis worse. Between 1990 and 2010, the number of right whales slowly grew to 483. Then came a 40 per cent decrease in the calving rate that saw population growth stall.[10] In the 2017/2018 season, no calves were born.[11]

The number of calves is now starting to inch up, but there are still more deaths than births. With so few right whales, and even fewer breeding age females, every calf is precious. The calf that was found dead in June and Derecha's newborn that is presumed dead were two of just 10 born in 2019/2020.[12]

Danger in the Cabot Strait

In recent years, more right whales are gathering to feed in the Gulf of St. Lawrence as climate change pushes their source of food, small crustaceans including copepods, further north.[13] The main route the whales take to reach the Gulf is through the Cabot Strait — a busy shipping area between Cape Breton, Nova Scotia and the Southwestern Coast of Newfoundland.

Slowing down to save whales

According to research, when ships travel more slowly, whales have a greater chance of surviving a ship strike.[14]

Transport Canada uses several measures to protect right whales from ship strikes, including mandatory season-long slowdown zones and temporary slowdown zones in areas and at times when right whales are known to be present.[15]

In February 2020, Transport Canada announced a trial voluntary slowdown in the Cabot Strait. From April 28 to June 15 and again from October 1 to November 15 — when right whales typically migrate through the area — vessels longer than 13 metres are asked to slow down to 10 knots.[16]

Credit: Nick Hawkins

MAKE 10 KNOTS **MANDATORY**

Slower speeds save right whales. Mandatory slowdowns reduced the risk of lethal ship strikes by 56 per cent, according to Fisheries and Oceans Canada's study in the Western Gulf of St. Lawrence.[18]

Voluntary measures are not cutting it

In an industry where speed often provides a competitive advantage, Oceana Canada is concerned that having a voluntary measure rather than a mandatory one creates a disincentive for vessels to comply with the slowdown and rewards those who do not. A mandatory measure levels the playing field.

Oceana Canada's latest study provides hard numbers.

Using data from Global Fishing Watch, an independent non-profit founded by Oceana in partnership with Google and SkyTruth, Oceana Canada monitored ship speeds and positions in near-real time in areas where right whales are commonly found along the East Coast of Canada. This data is a component of *Ship Speed Watch*, a public mapping tool available at oceana.ca/Cabot-Strait.

Between April 28 and June 15, Oceana Canada found that 67 per cent of vessels (464 out of 697) were travelling faster than the 10-knot limit in the Cabot Strait. Several vessels were travelling at 20 knots or more. At this speed, right whales have little chance of surviving a collision.[17]

Make the slowdown mandatory

Canada needs to do everything possible to protect critically endangered right whales from extinction. **The Cabot Strait slowdown must be made mandatory to protect right whales from ship strikes — before it is too late.** Each death pushes right whales closer to extinction and the risk of death from ship strikes is unacceptably high.

Right of Way

Right whales are dark in colour and lack a dorsal fin, making them difficult to see at the sea surface. They are also slow swimmers, averaging five knots.[19] In contrast, the ships they share the ocean with can reach speeds up to 24 knots.[20]

Why right whales are susceptible to ship strikes

Even if a right whale is spotted, it can be very difficult for a ship to stop or slow down enough to avoid hitting it. However, decreasing the speed of a vessel can increase a right whale's chances of surviving a strike. Research conducted along the U.S. Eastern Seaboard has shown that mandatory season-long speed limits of 10 knots in certain areas reduced the risk of lethal collisions by 86 per cent.[21]

Although right whales can live up to 70 years,[22] females have lower survival rates than males.[23] Most females will die before they turn 30, when they are still in their calf-bearing years.[24] Research has shown that pregnant whales and mothers with calves may be more susceptible to ship strikes because they spend more time resting and nursing at the surface.[25]

Ship strikes can be fatal or result in non-lethal injuries like cuts from propellers. Many right whales bear the scars of these encounters.[26] Some — like Punctuation, pictured right — are even named after them. Punctuation was a young whale with scars from at least two previous ship strikes. Sadly, she was found dead from a ship strike in the Gulf of St. Lawrence in June 2019. Her injury was so severe that some of her organs were beginning to protrude from a six-foot-long cut on her back.[27]

KNOT TO KM/H CONVERSION TABLE

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

Credit: Nick Hawkins

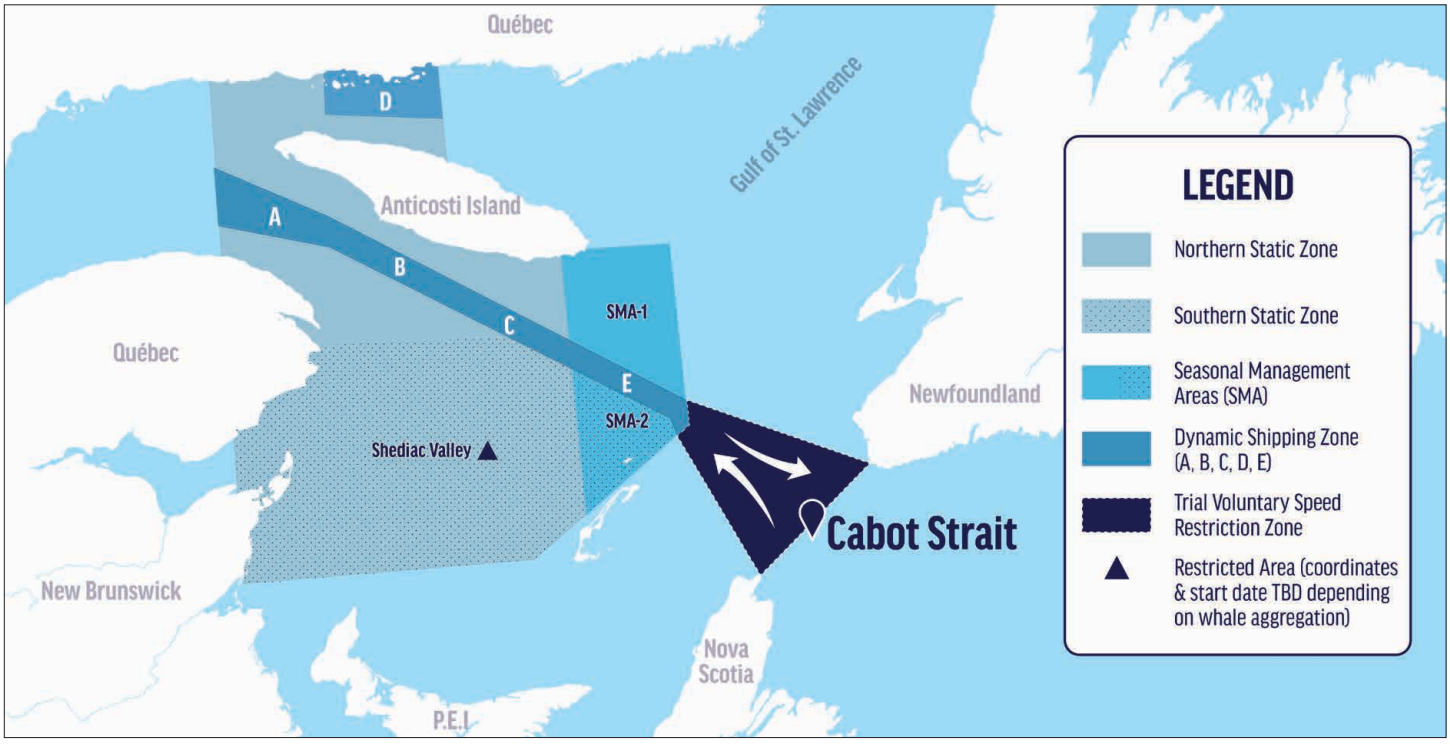
Credit: Nick Hawkins

MAKE 10 KNOTS MANDATORY

Right whales were first seen this year in the Gulf of St. Lawrence on May 3, 2020. **The Cabot Strait is their main route to enter and exit the Gulf as they search for food.**

SLOWDOWN MEASURES IN THE GULF OF ST. LAWRENCE

In addition to the voluntary slowdown zone in the Cabot Strait, there are two mandatory seasonal slowdown zones and five dynamic slowdown zones in the Gulf of St. Lawrence. In the dynamic zones, a mandatory slowdown is required for 15 days when a right whale is spotted in the shipping lane. These measures apply to all vessels longer than 13 metres. According to Transport Canada, between April 28 to November 15, 2019, only 19 vessels (approximately one per cent) were fined for not complying.



Results

Oceana Canada's recent study used Global Fishing Watch data – a component of the tool *Ship Speed Watch* available at oceana.ca/Cabot-Strait – to track ship speeds in the Cabot Strait from April 28 to June 15, 2020. During this 49-day period, Transport Canada asked vessels longer than 13 metres to slow down to 10 knots. Exceptionally few ships complied.

Summary of Findings from April 28 – June 15, 2020:

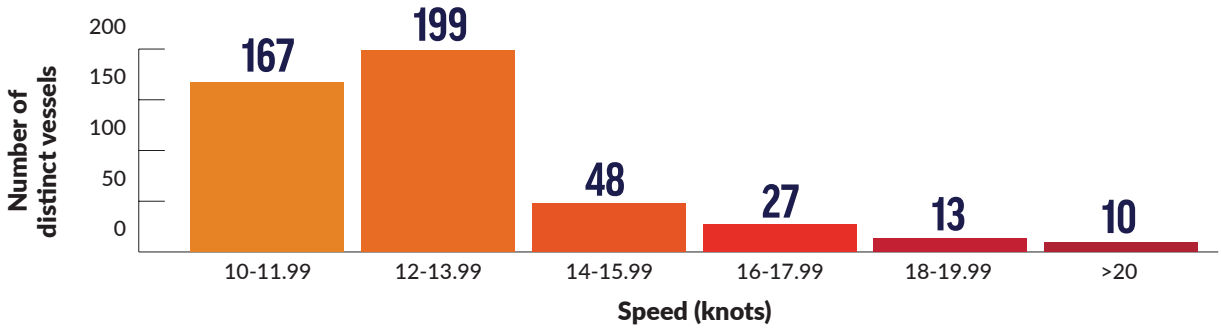
697
vessels travelled through the Cabot Strait.

464
vessels travelled faster than 10 knots.

67%
of vessels had a maximum speed above 10 knots.

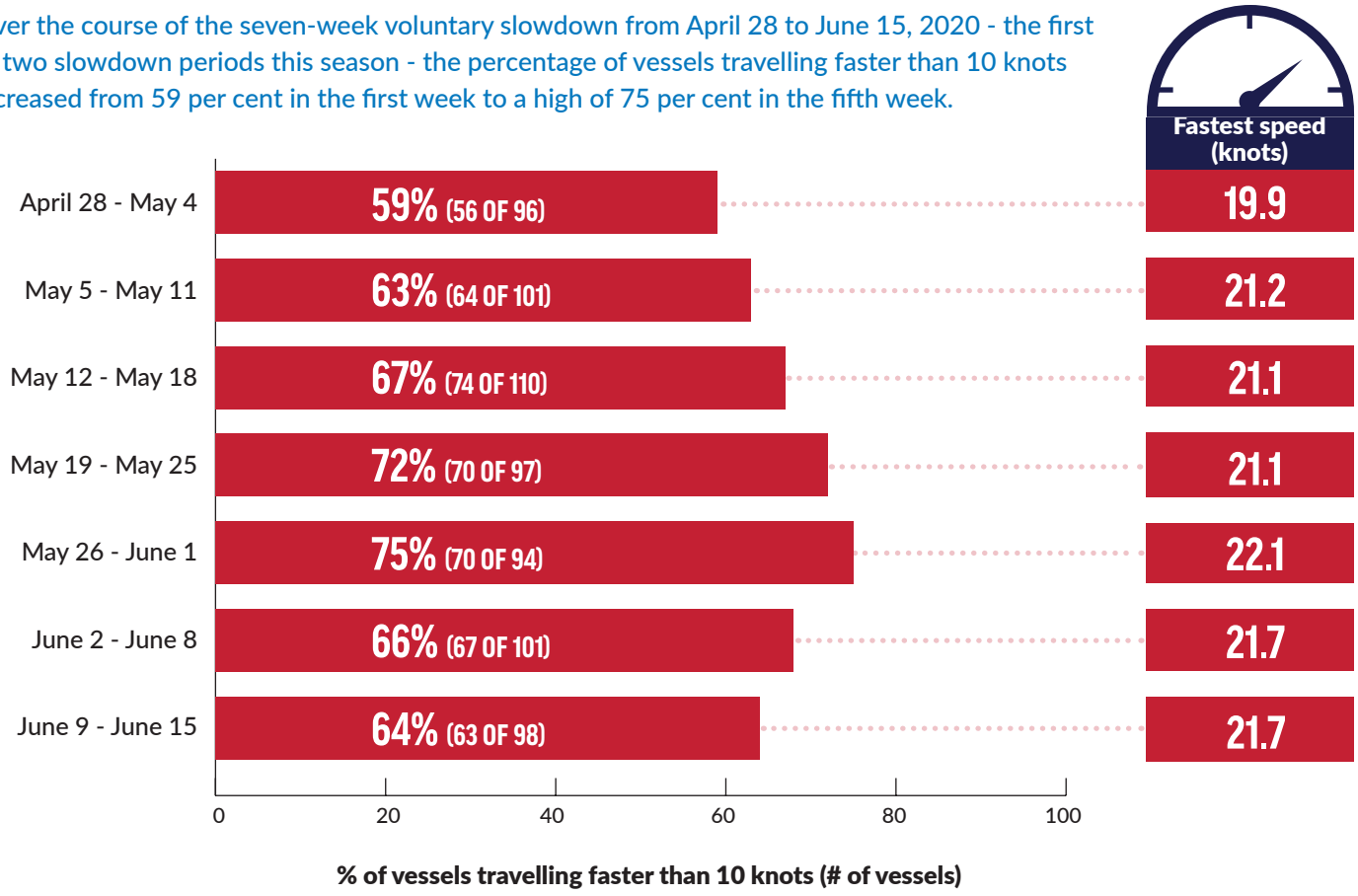
BREAKDOWN OF VESSEL SPEED ABOVE 10 KNOTS

Of the 697 vessels that travelled through the Cabot Strait between April 28 to June 15, 2020, 464, or 67 per cent, travelled at speeds above the 10-knot voluntary slowdown.



PERCENTAGE OF VESSELS TRAVELLING ABOVE 10 KNOTS WEEK OVER WEEK

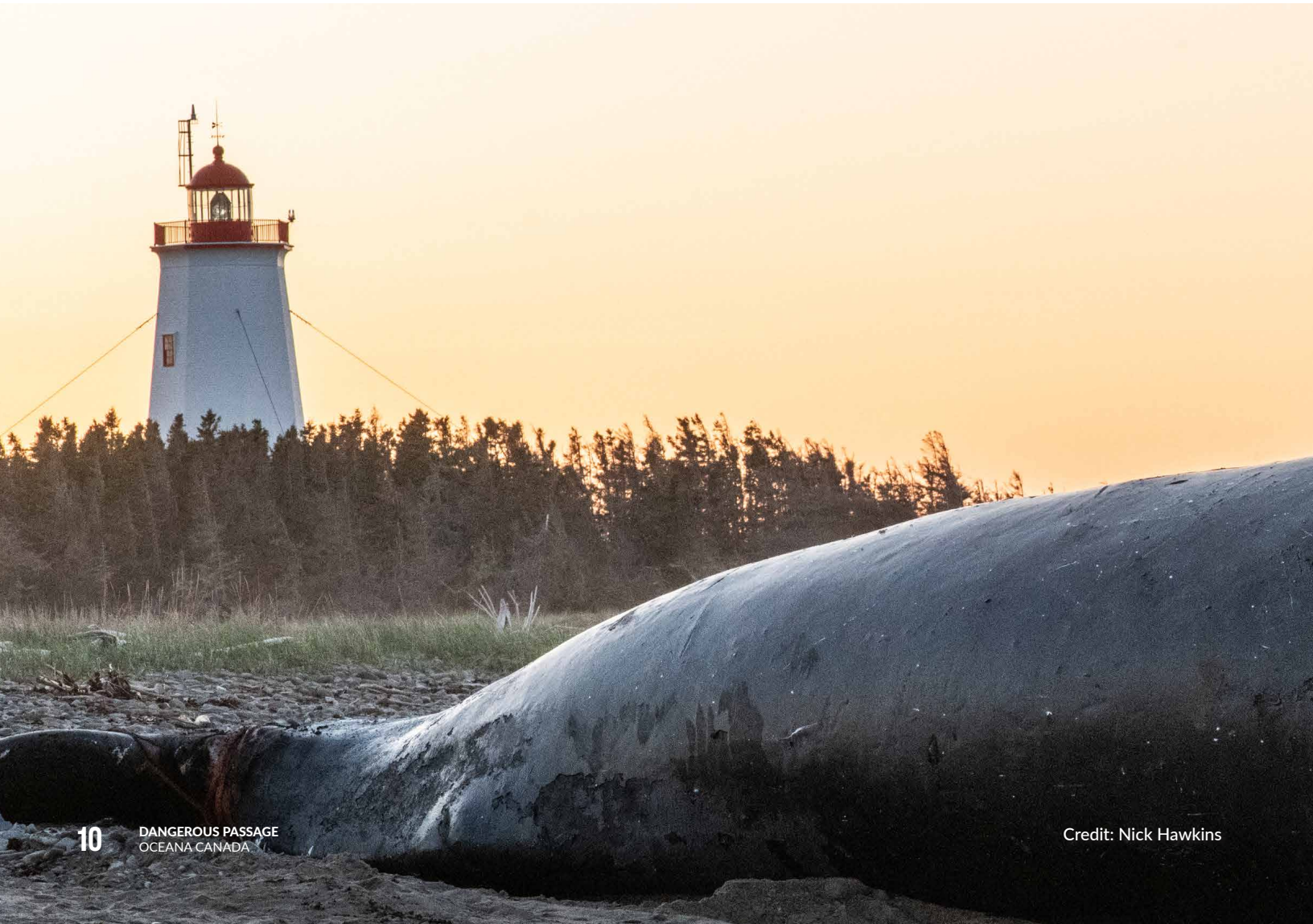
Over the course of the seven-week voluntary slowdown from April 28 to June 15, 2020 - the first of two slowdown periods this season - the percentage of vessels travelling faster than 10 knots increased from 59 per cent in the first week to a high of 75 per cent in the fifth week.



Credit: FWC

Voluntary Measures Don't Work

The purpose of right whale management measures is to reduce the likelihood of death and serious injuries. When a collision happens, the faster and bigger the vessel, the more likely the whale will die. But even smaller vessels can cause serious injuries or death.[28] Mandatory slowdowns have been proven to save more whales than voluntary measures do.[29,30] If a collision occurs, the whale is less likely to die. In contrast, voluntary measures often result in low compliance[31] and greater risk of collision.[32]



Credit: Nick Hawkins

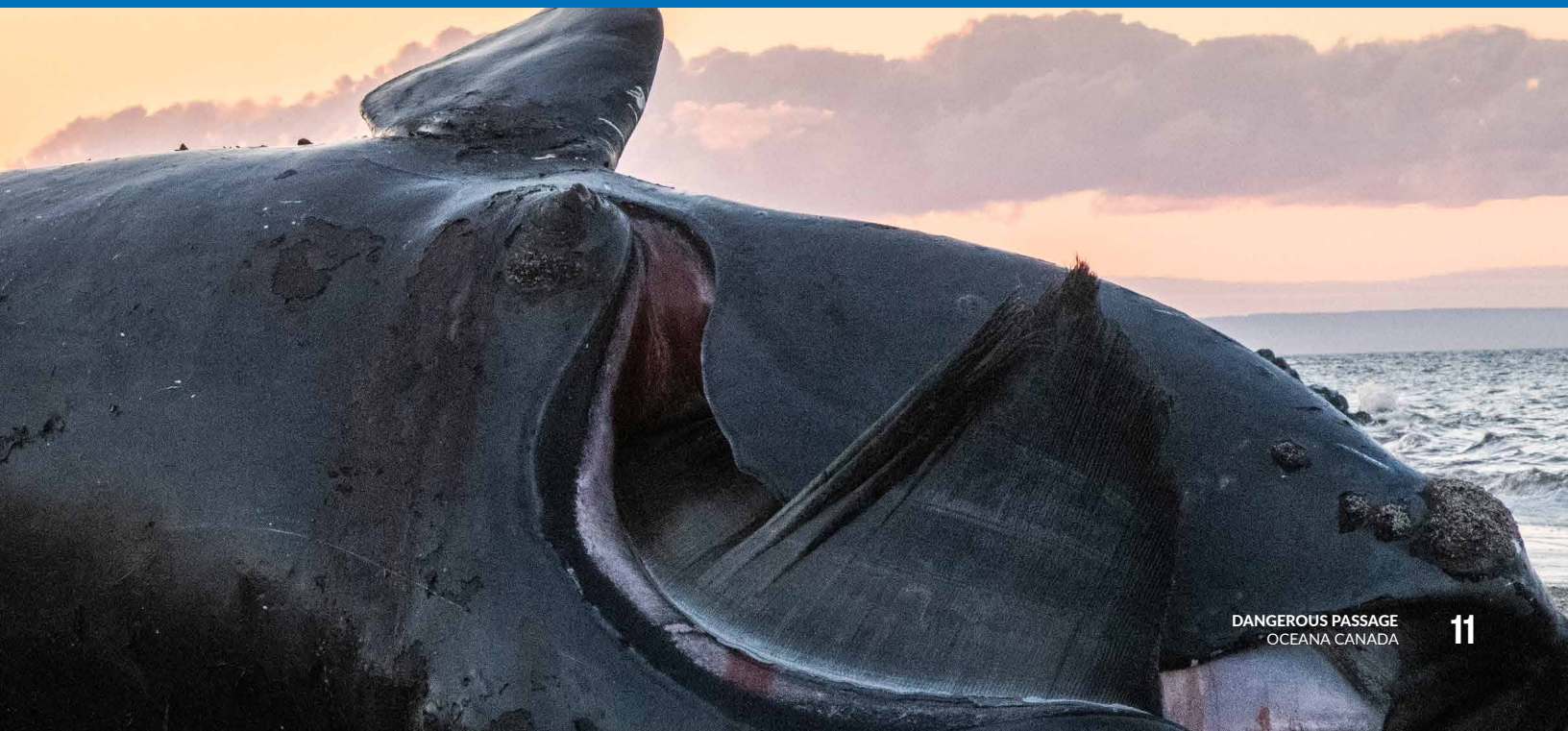
In 2008, the U.S. introduced Seasonal Management Areas, restricting the speed of vessels in important whale habitat, including right whale calving and nursery grounds.[33] In some areas, the slowdowns are voluntary. In others, they are mandatory. Researchers have been studying the success of these two different approaches.

Using tools such as computer modelling and tracking vessels' Automatic Identification System (AIS), researchers can compare compliance rates between mandatory and voluntary measures, as well as compare overall speeds before and after measures are put in place.[34,35] The results are clear. In one study, researchers found 75 per cent of vessels complied with mandatory speed restrictions. When the slowdowns were voluntary, only 16 per cent complied.[36]

Earlier this year, Oceana in the U.S. conducted a similar study and found that 41 per cent of ships in a voluntary zone south of Nantucket exceeded the 10-knot limit. In contrast, 88 per cent of vessels complied with a mandatory 10-knot speed restriction area off Block Island, Rhode Island.[37]

In another study from California, none of the vessels in the voluntary slowdown zone travelled at or below the recommended 10-knot limit.[38] The researchers concluded the only way to effectively reduce vessel speeds — and the risk to whales — was to implement mandatory speed reductions.

Even with mandatory measures, it may take time to achieve compliance. When mandatory speed restrictions first came into effect along the Eastern Seaboard of the U.S., less than five per cent of vessels complied. However, thanks to increased notifications and outreach, as well as enforcement programs, compliance improved over time.[39]



In a study from California, **none** of the vessels in the voluntary slowdown zone travelled at or **below the recommended 10-knot limit**.[38]

Conclusion

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

This report highlights a clear way to help protect right whales from ship strikes in the Cabot Strait: make the slowdown mandatory.

Voluntary slowdown zones are not effective and do not protect endangered right whales. **A mandatory slowdown in the Cabot Strait** should also include enhanced monitoring and surveillance of the area to better understand when and where the whales are present. If we fail to act now, these whales could go extinct in our lifetime.

Visit Oceana.ca/RightWhaletoSave to get involved and add your name to our petition urging the government of Canada to act swiftly and stop the needless death of right whales.

Right whales deserve the right of way. Let's give them safe passage through Canadian waters by standing together to slow down the ships.

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Credit: Nick Hawkins

Methodology

Oceana's *Ship Speed Watch* is a public mapping tool that allows users to monitor ship speeds in speed restricted zones established to protect marine mammals like the 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 ships, one of two leading causes of North Atlantic right whale injury and death. *Ship Speed Watch* was created based on Automatic Identification System (AIS) data from Global Fishing Watch, an independent non-profit founded by Oceana in partnership with Google and SkyTruth, which uses cutting-edge technology to interpret data from various ship tracking resources.

Oceana Canada used Global Fishing Watch to compile a list of vessels that exhibited speeds exceeding the voluntary 10-knot limit in Cabot Strait. This data is limited to vessels that have AIS, so this study didn't capture all vessels. Fishing vessels are not required to broadcast AIS in Canada, although many do. Due to COVID-19 restrictions, cruise ships with more than 500 people were not allowed to dock in Canada during the study period.

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 will appear in the data more than once. However, the summary statistics treat these as one distinct vessel, and its highest speed over the observation period is used in the summary statistics.

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 in the timeframe of April 28 to June 15, when the voluntary Cabot Strait slowdown was in place.

Any speeds that seemed erroneously high were removed from the data. For example, if a ship'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 vessels with at least two AIS signals and at least one AIS signal over 10 knots was divided by the total number of distinct vessels with at least two AIS signals.

Acknowledgements:

The authors would like to thank the many people, including several Oceana team members, who contributed to this report, specifically Beth Lowell, Jennifer Whyte, Josh Laughren, Lesley Wilmot, Reba McIver, Dr. Robert Rangeley and William Markowski.

Note: All photos of living North Atlantic right whales were taken under permits from Fisheries and Oceans Canada or NOAA.

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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.

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