

Mitigating the risk of ship strikes through a collaborative approach

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GREEN MARINE

A **voluntary certification program** to reduce environmental footprint of marine operations by

- exceeding regulatory compliance
- promoting a culture of continuous improvement



A **benchmarking tool** to measure performance

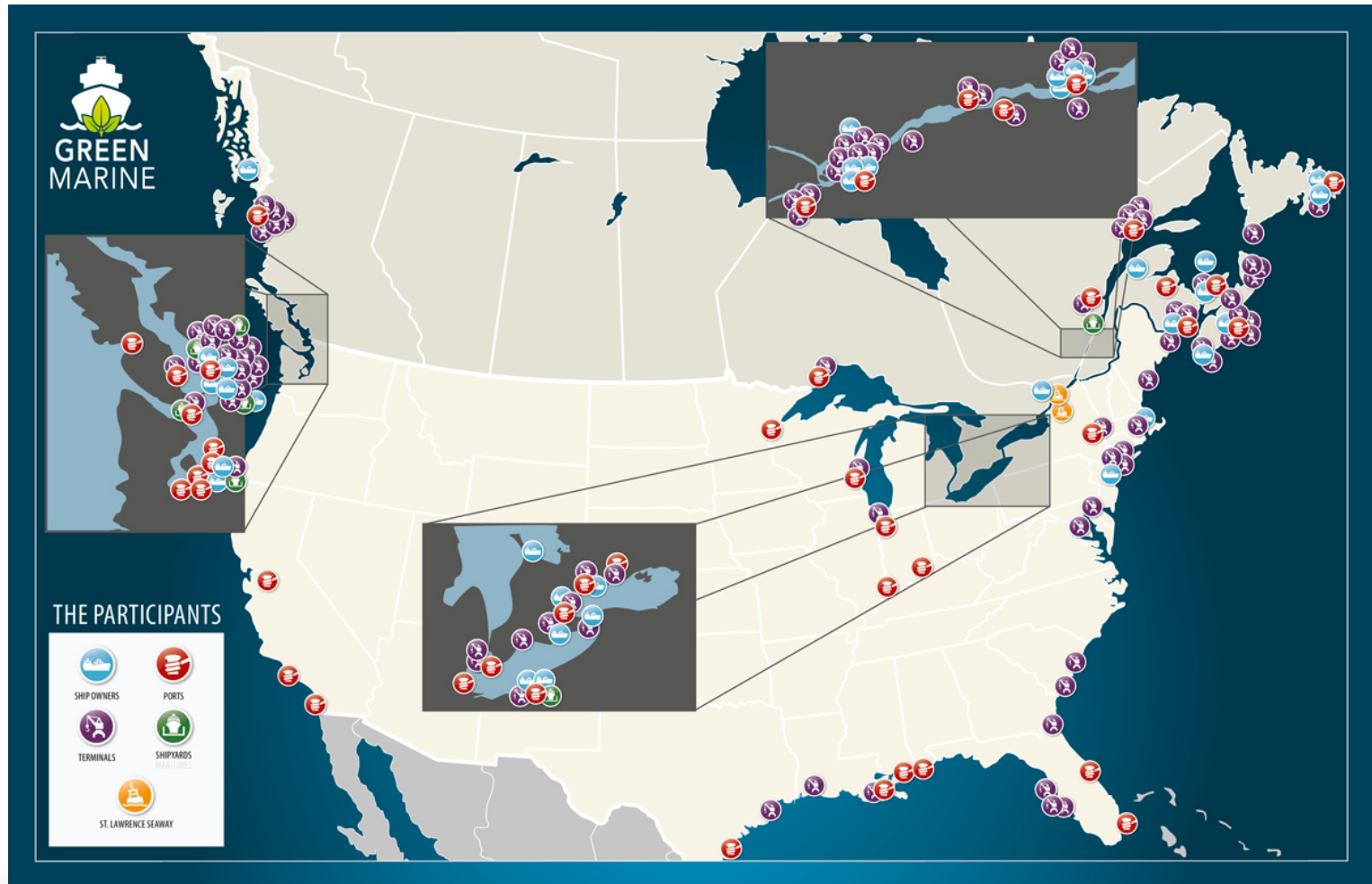
A **partnership** initiative involving stakeholders



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133 PARTICIPANTS IN U.S. & CANADA



12 PERFORMANCE INDICATORS

ENVIRONMENTAL PERFORMANCE INDICATORS

| PERFORMANCE INDICATORS | SHIP OWNERS | PORTS & SEAWAY | TERMINALS & SHIPYARDS |
|-----------------------------------|-------------|----------------|-----------------------|
| Aquatic invasive species | | | |
| Community impacts | | | |
| Dry bulk handling and storage | | | |
| Environmental leadership | | | |
| Garbage management | | | |
| Greenhouse gas emissions | | | |
| Oily water | | | |
| Pollutant air emissions NOx | | | |
| Pollutant air emissions SOx & PM | | | |
| Prevention of spills and leakages | | | |
| Underwater noise | | | |
| Waste management | | | |

1

Monitoring of
regulations

2

Best
practices

3

Formally adopted
management plan and a
quantitative measurement
of environmental impacts

4

Advanced
technologies and/or
reduction targets

5

Excellence
and leadership



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GREEN MARINE & WHALES

PERFORMANCE INDICATOR: UNDERWATER NOISE (ship owners)



Monitoring of regulations



Conduct regular hull cleaning and propeller blade maintenance; determine the cavitation inception speed (CIS) for each vessel in the fleet; **review the list of sensitive areas** in Canadian and US waters.



Actively participate in providing whale sighting data; develop and adopt a Marine Mammal Management Plan (MMMP) in order to reduce the potential adverse effects of vessels, especially within known sensitive marine areas.



Incorporate applicable vessel quieting technologies during re-fits and new vessel construction; work with ports or use a dedicated hydrophone to estimate relative ship noise levels for at least one vessel in their fleet; **support / collaborate on scientific research**



Work with ports or use a dedicated hydrophone to estimate relative ship noise levels for 15% of the vessels in their fleet; proceed to an in-depth analysis of vessel noise footprint on at least one ship in order to identify and reduce main noise sources.



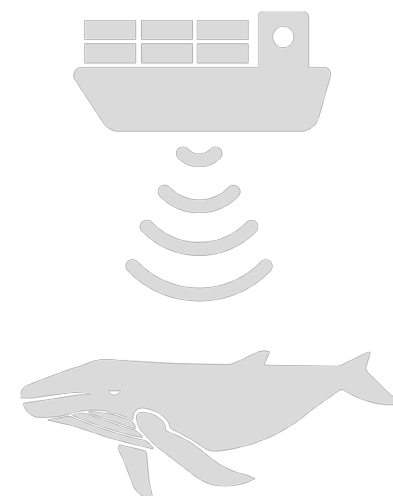
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GREEN MARINE & WHALES

Green Marine also addresses indirectly ship strikes through other criteria in its program:

- Voluntary slowdown measures
- Air emissions reduction
- Whale watchers training program
- Rerouting
- Raising awareness of mariners



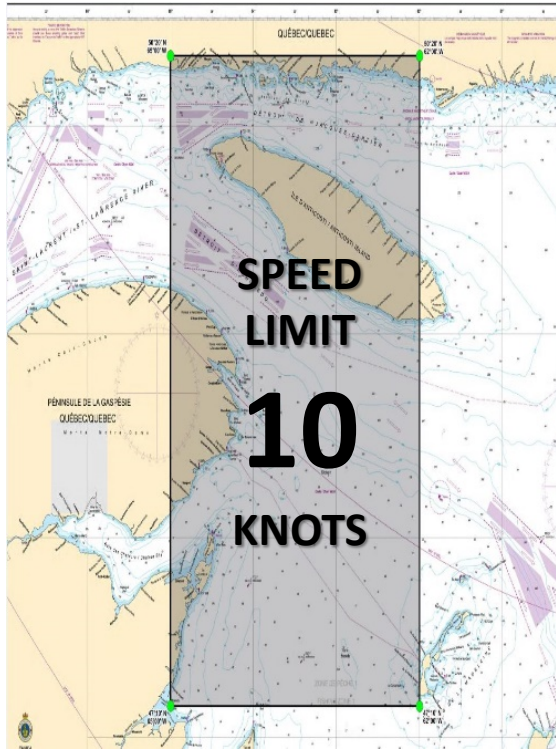
And through its implication in different national and binational working groups – East Coast and West Coast



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NARW - 2017



- Federal government managed in reaction to a crisis
- Static speed limit was imposed throughout a huge area from August to January
- Significant impacts on some sectors of the industry:
 - The static area affected major trade corridors; Cruise, ferries, cargo vessels supporting the St. Lawrence and Great Lakes economies
 - The static speed represented additional transit time of up to 10 hours for certain sectors



NARW - 2017



Government
of Canada

Gouvernement
du Canada

Industry representatives



Scientific community



AS A RESULT, shipping industry stakeholders asked CAN Government for the establishment of a formal workgroup and diligently work in partnership with NARW scientists:

- Shared the concerns for survival and recovery of NARW
- Worked on an approach that could deliver on both:
 1. Whale protection
 2. The need for effective and safe marine transportation within this vital commercial corridor

SHIPPING INDUSTRY WANTED TO BE PART OF THE SOLUTION



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Industry is Invested

Shipping Industry is a constructive and proactive partner in managing the threat to NARW:

- We initiated the **development of a dynamic management approach** grounded on both science AND operational / commercial realities
- Shipowners, ship agents and industry representatives participate in **bi-weekly conference calls** with Canadian government to support implementation of the dynamic approach
- Joint Industry/Science/Government NARW **Technical and Advisory Working Group** looking at management for future years



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NARW - 2017

Considerations were given to:

Based on the best data we had, the “known high aggregation areas” were mostly outside of shipping corridors, so we worked on:

- Focussing static speed limits on “known high aggregation areas”
- Managing shipping corridors – outside of the aggregation areas – through dynamic management, allowing vessels to navigate at normal operational speed when NARW are not observed (dynamic management)
- Inspired by the U.S. model – but refined for the Canadian context

Industry’s proposal fed into the management approach that the Canadian government implemented

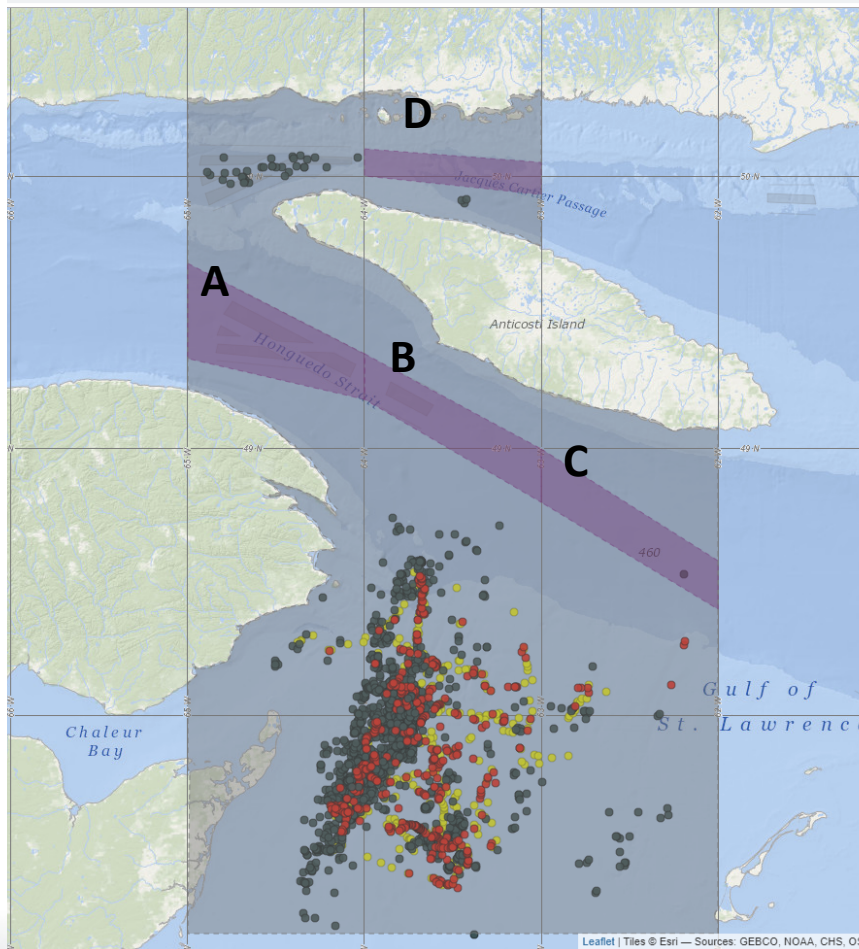


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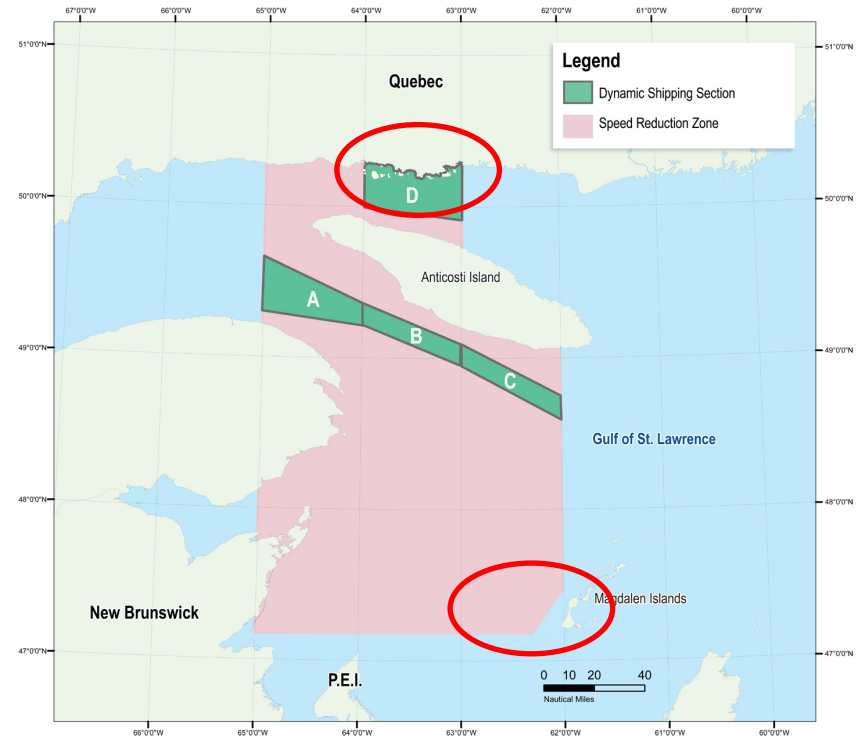
2018 & 2019 Dynamic Management

2018



NARW confirmed sightings for 2014, 2015, 2016, 2017, and 2018 (up to October 28) – Source: Whalemap – Dalhousie

2019



Transport Canada website

<http://www.tc.gc.ca/en/services/marine/navigation-marine-conditions/protecting-north-atlantic-right-whales-collisions-ships-gulf-st-lawrence.html>

2018 Dynamic Management

Lessons learned from 2018 dynamic management:

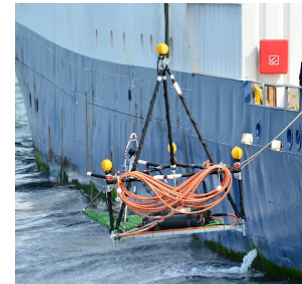
- Dynamic management is working BUT we can make it even more efficient
- In 2018, managing dynamic zones depends **solely** on aerial surveillance and if planes cannot fly, the speed limit is applied as a precaution
- A **combination of detection technologies** is **needed in the dynamic sector** to further improve mitigation measures.



Transport Canada



Ocean Tracking Network



JASCO



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NEXT STEP - Enhancing Detection Capacity

- Deploying **acoustic monitoring** in the “dynamic shipping lanes” is a much-needed step:
 - Will improve both efficiency of and confidence in the dynamic management approach
 - The performance of acoustic monitoring in GOSL is proven and it runs continuously; not subject to daylight only (as visual)
 - Urging the Canadian government to undertake pilot project for 2019 – Deploying **near real time acoustic detection technologies** in dynamic **zones A & D, in addition to** aerial surveillance



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NEXT STEP - Enhancing Detection Capacity

- **From a shipping perspective...**
 - Protecting the whales is a **high priority level**
 - **Economic aspects** needs to be taken into account – St.Lawrence River is the gateway to North America!
 - Many working groups, advisory committee, independent initiatives, ... shipping industry people are **saturated** with too many requests
 - Being able to have access to a long-term sustained Biological Observation Network in the Northeast Region would be **beneficial for everyone**

One **downside - challenge**: will there be a public and shared database?



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Thank you!



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