



Reducing the risk of collisions between ships and whales in the Western Indian Ocean

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ICMMPA5, April 8-12, Greece

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The South West Indian Ocean



Vanilla Islands

- Reunion Island
- Mauritius/Rodrigues
- Madagascar
- Seychelles
- Comoros
- Mayotte

➔ many threats in the area : entanglement, harassment / intensive whale-watching, collision



- Legal tools (soft law and hard law) to protect whales during their migration in the region

Humpback whales migration in the WIO

Baleen species :

Southern Right Whale (*Eubalaena australis*)



Pygmy Blue Whale (*Balaenoptera musculus brevicauda*)



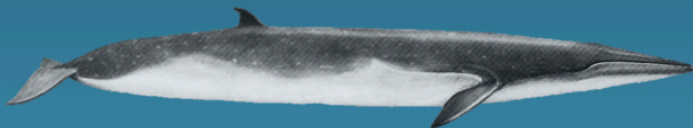
Fin Whale (*Balaenoptera physalus*)



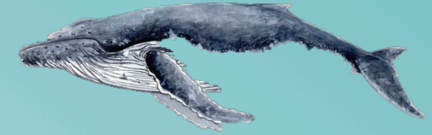
Minke Whale (*Balaenoptera acutorostrata*)



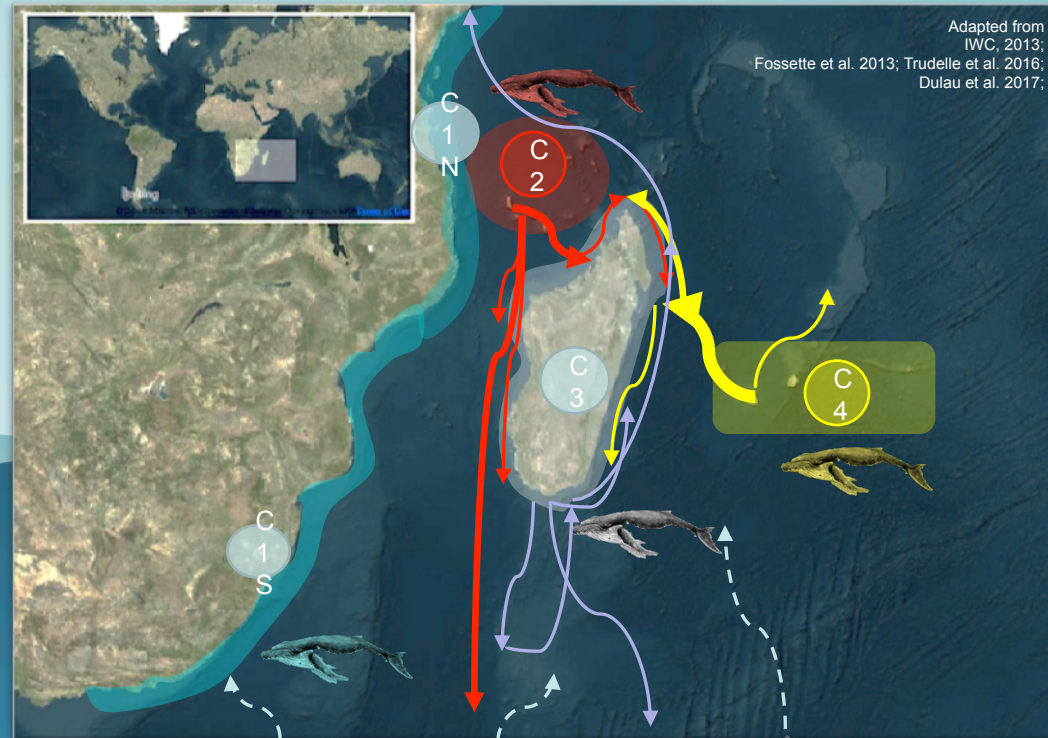
Bryde's Whale (*Balaenoptera edeni*)



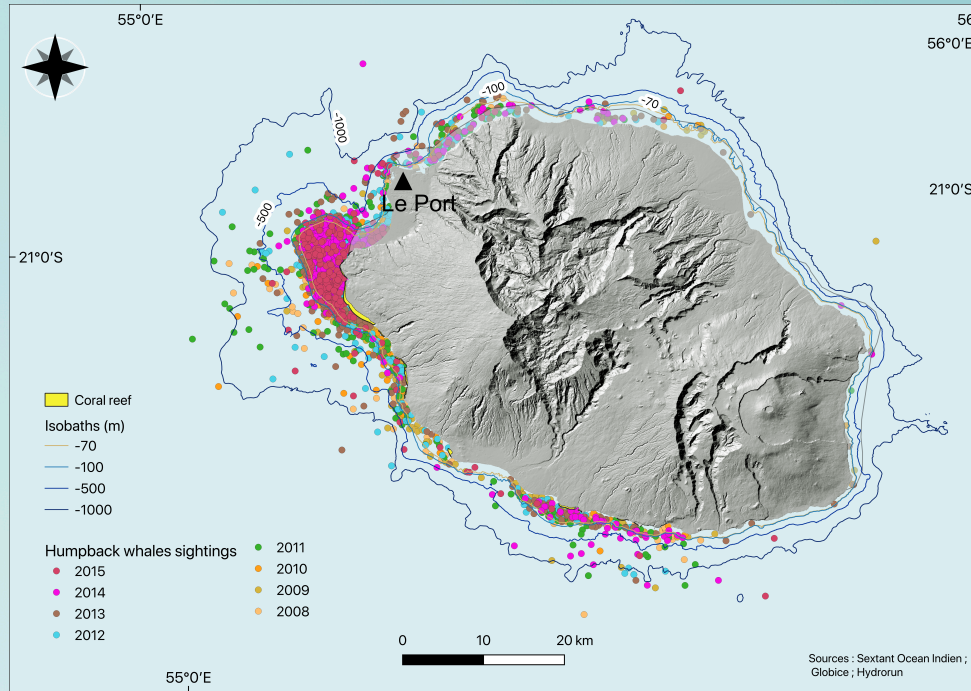
Humpback Whales
(*Megaptera novaeangliae*)



- from June to October
- to breed and give birth (feeding ground: Antarctica)
- 500 groups identified 2018 (1-10 individuals)
- 317 new individuals (2018)



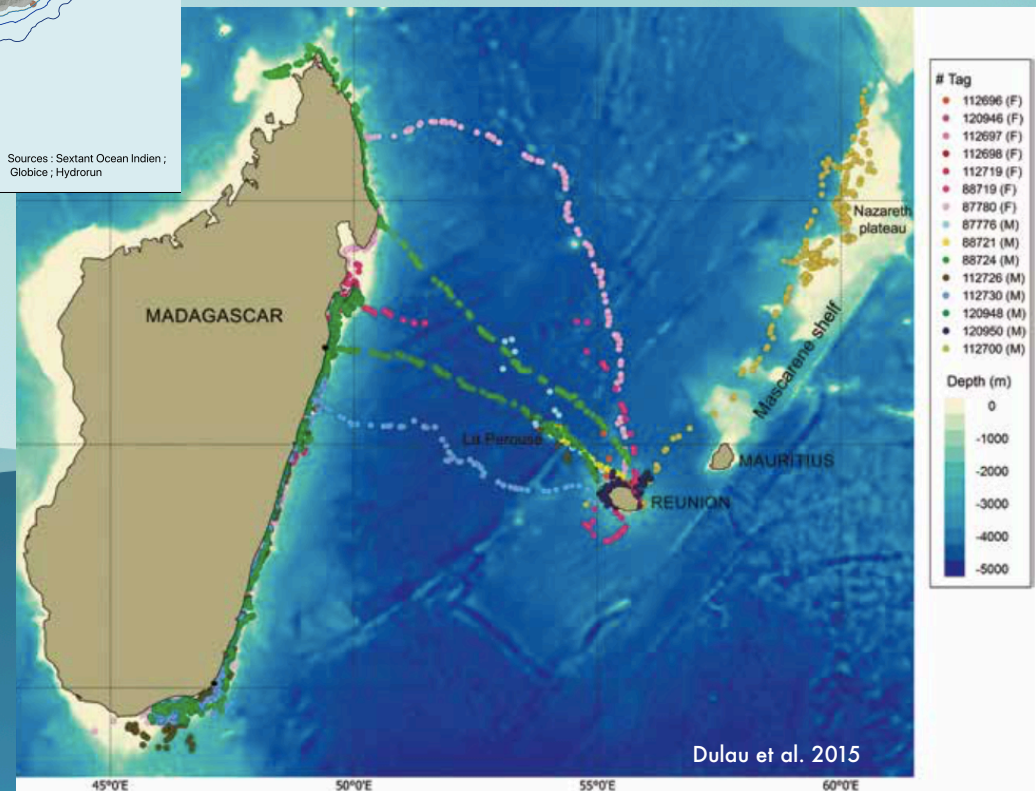
Distribution of humpback whales sightings and movements



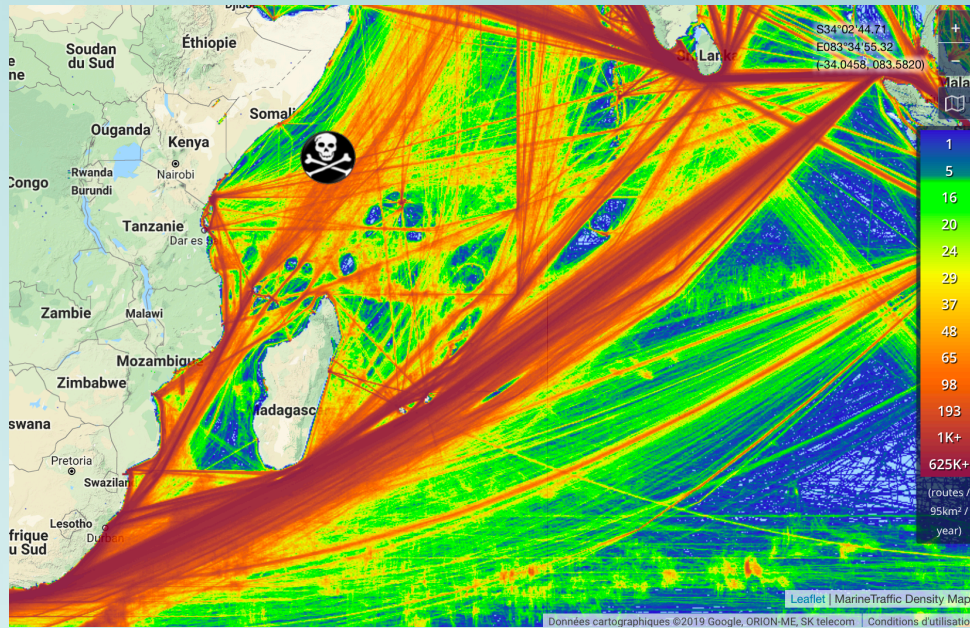
➤ Vulnerable

- Coming from/going back to South
- Travel to Madagascar
- Close to the port

➤ Spending time off the coast



International navigation and collisions



❖ Shipping connections: India, Malaysia, Oman, Singapore, Sri Lanka, United Arab Emirates

➤ Strategic area

❖ Impacts of piracy (off the coast of Somalia) on maritime routes

➤ rerouting ship traffic to the East coast of Madagascar, close to Reunion and Mauritius

❖ No official data regarding ship strikes in the SWIO



❖ Nothing has been done to mitigate collisions in the region



First steps to reduce the risk of collisions

❖ Actions to be taken at the national level (following IMO guidelines)

- **Gather information**

Type of vessels, vessel traffic, data on species

- **Education and Outreach**

Brochures, notices to mariners, documentaries, educational-informational media

- **Technological development**

Eg. Funding research to enhance detection at sea to minimize ship strikes

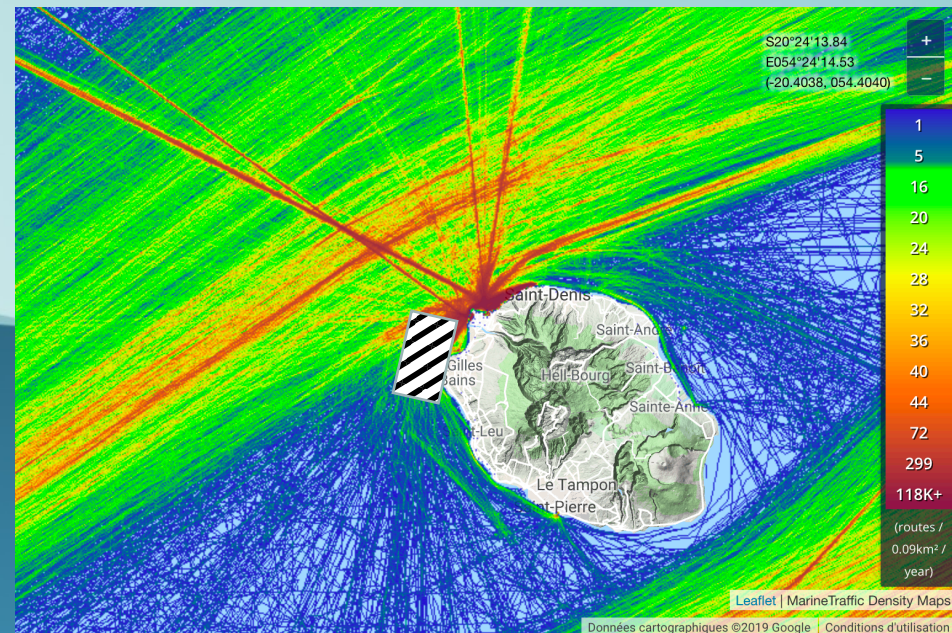
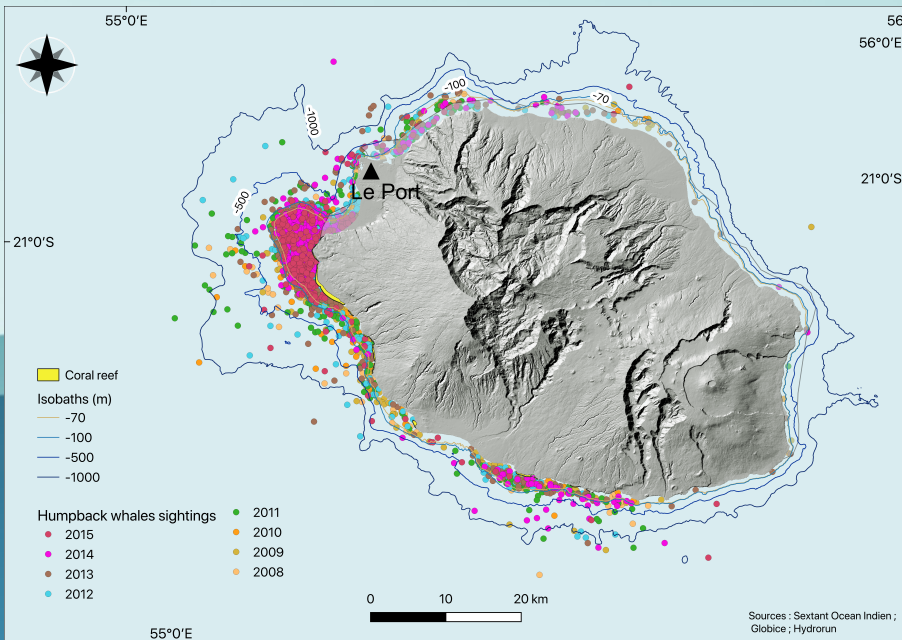


Possible action at the national level

❖ Voluntary Seasonal Area To Be Avoided

ATBA: « A routing measure that comprises an area within defined limits in which either navigation is particularly hazardous or it is exceptionally important to avoid casualties and should be avoided by all ships or certain classes of ships ». (*General Provisions on Ships' Routing*)

- recommendatory for all vessels +300 GT annually from June to October (*Eg. of Roseway Basin, Canada for Right Whales*)



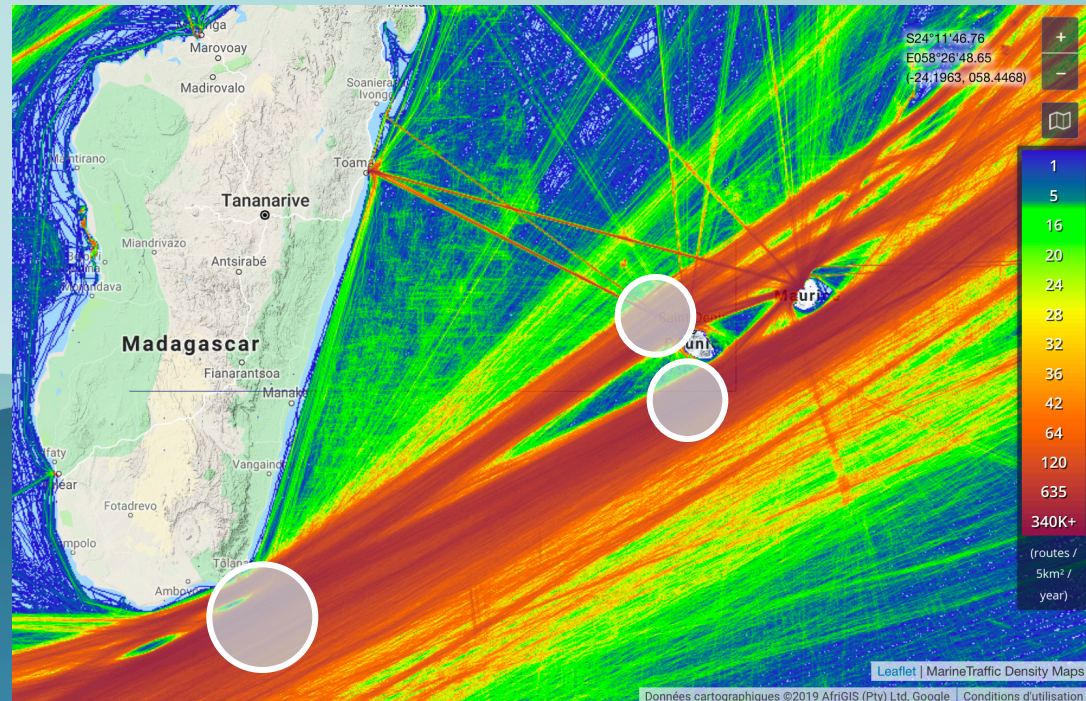
Possible action at the national level

❖ Mandatory ship reporting system

Ships (Eg. larger than 300 GT) report their location/speed/destination when entering in key habitats to a land based station

In return, ships are informed about local whale population, their vulnerability to vessel collisions and measures to avoid them

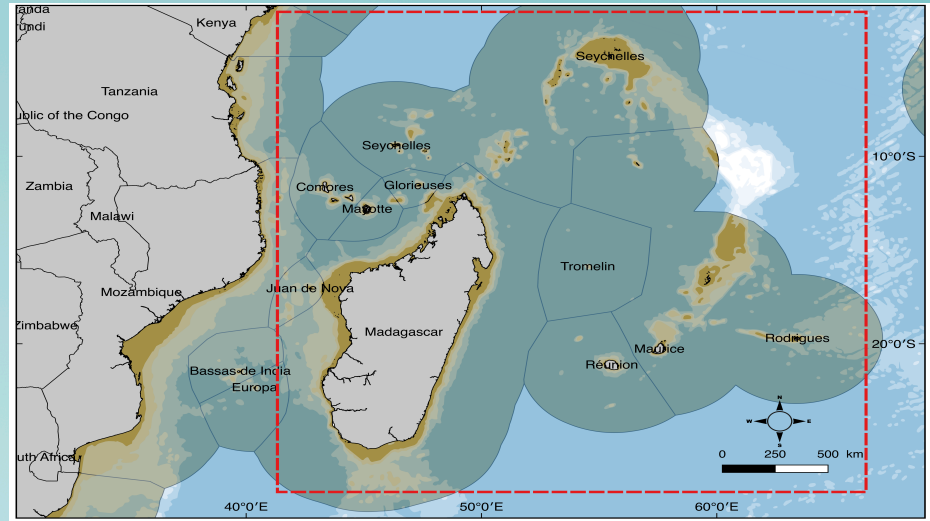
Eg. : Waters off New England and waters off coastal Georgia and Florida (Right Whale)



Possible action at the national level

Geo-strategic assets:

- Adjacent EEZ
- No high sea : easier for conservation
- ❖ Nairobi Convention, 1985



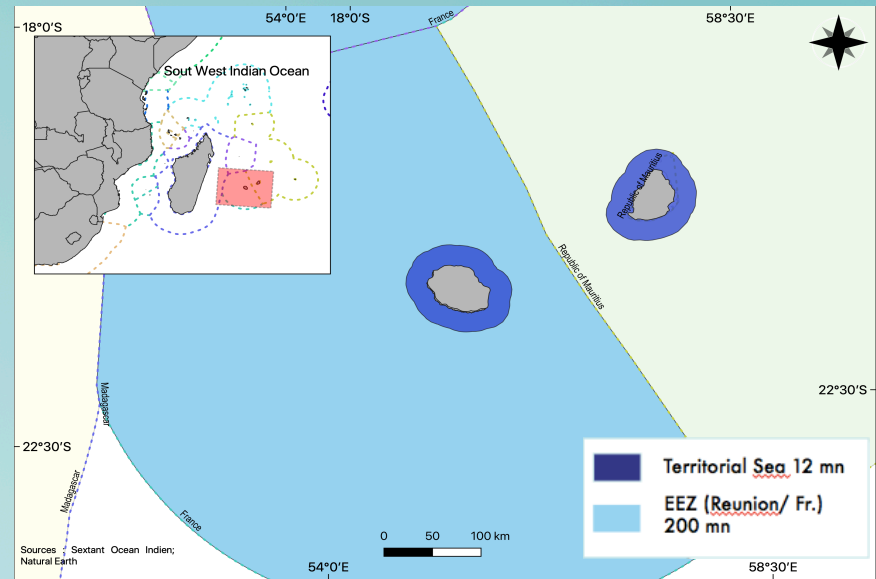
Art. 10 : « take all appropriate measures to protect and preserve ecosystems and species and their habitats in the Convention area »

➡ Creation of MPA benefiting whales



MPA and international navigation

- MPA with a prohibition of navigation
Eg. Marine Reserve of Reunion Island



What are the effects of this ban on international navigation in these areas?

UNCLOS art. 58: ➔ Freedom of navigation in the EEZ

UNCLOS art. 17: ➔ Ships of all States enjoy the right of innocent passage through the territorial sea

Restricting the freedom of navigation in MPA could be challenging



Solutions to regulate international navigation in MPA

❖ Innocent passage in the territorial sea

UNCLOS, Art. 21 : The coastal State may adopt laws and regulations relating:

- The conservation of the living resources of the sea
- The preservation of the environment of the coastal State

Legal doctrine is divided

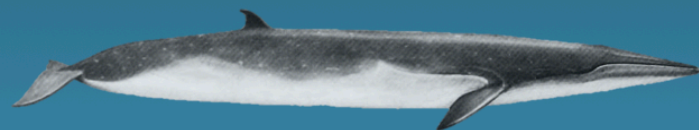
Sufficient to entitle the coastal state to limit navigation in MPA (if MPA bans navigation)

In breach of international law
Right of Innocent passage

- Best alternative = UNCLOS art. 22 « Traffic Separation Schemes »

TSS : can be used to protect whale population

TSS for Reunion? Not appropriate : no busy shipping traffic such as in confined channels in areas surrounding the entrance of the port

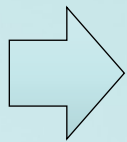


Solutions to regulate international navigation in MPA

❖ Freedom of navigation in the EEZ

UNCLOS Art. 211 (6) an area in an EEZ =

- navigationally challenging / ecologically sensitive
- asking the IMO to permit more stringent regulations

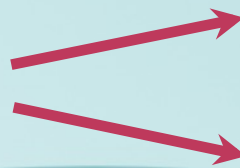


provides authority for the designation of an area in the EEZ by the IMO as a Particularly Sensitive Sea Areas (PSSAs)

A PSSA could be appropriate off the coast of Reunion but:

- Identification of high risk areas (more detailed studies of patterns of whale and vessel distribution)

PSSA with associated



Routing measures

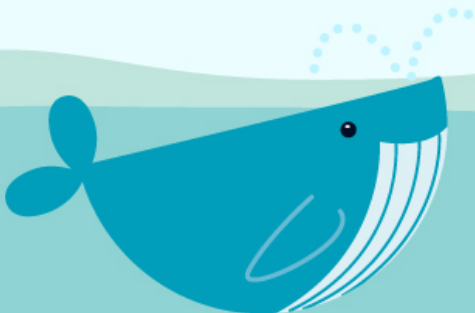
Speed restriction



Could be established by the coastal State in its EEZ provided endorsement by IMO

Collision due to whale watching

- Whale watching boats
- Rental boats
- Diving boats
- Fishing boats
- Jet ski
- Paddle/canoë



Collision due to whale watching

❖ Local context

- Code of conduct : whale watching Charter
- Hard law : speed limit of 5 knots within the 300 m shore limit

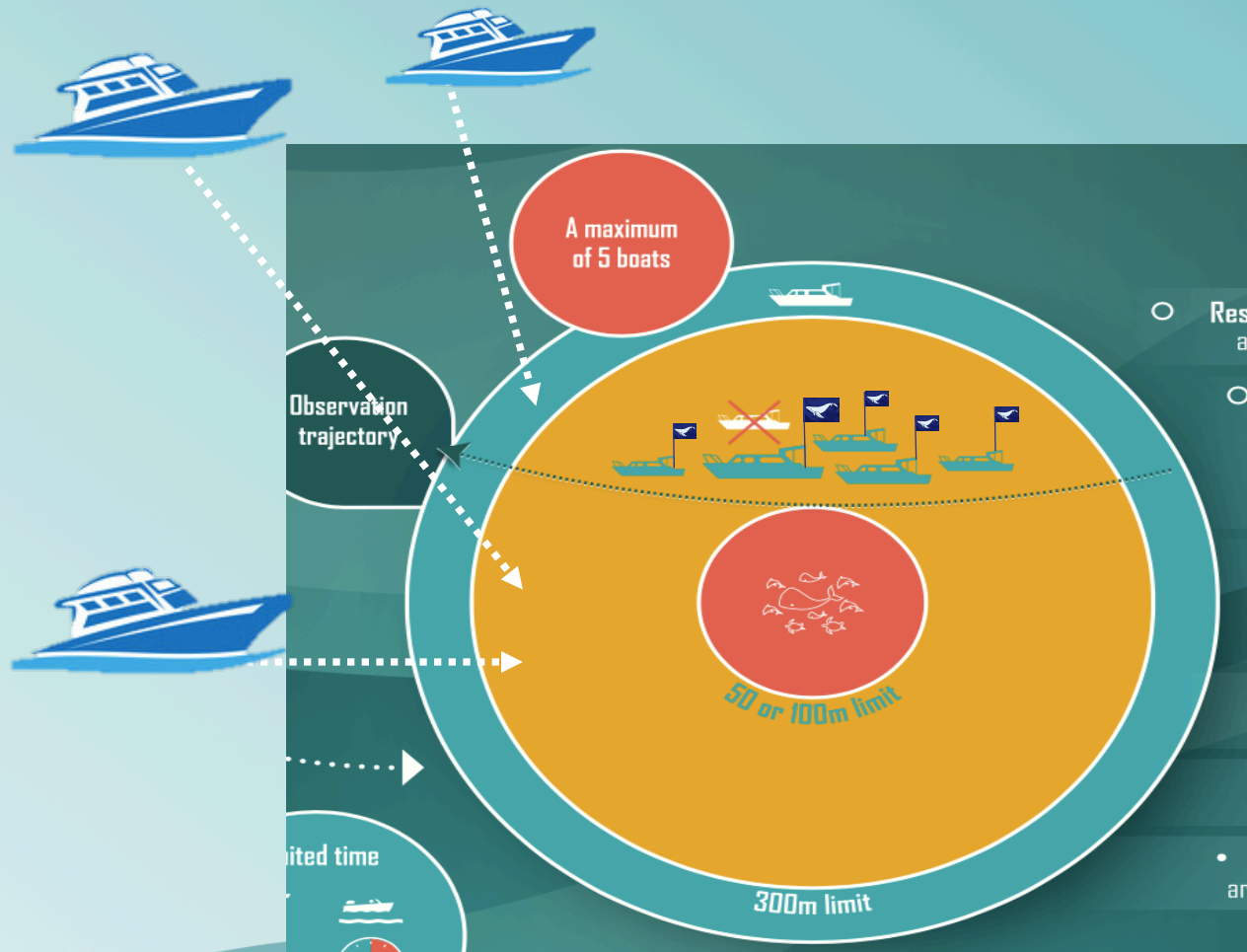
❖ Causes of collisions

- No visible sign to alert to whale watching
- Hard to determine if a boat is whale watching
- Risk of collision when other boats are entering the area without knowledge there is a whale
- Lack of respect of speed limit

↳ Maritime police : No device to measure speed at sea



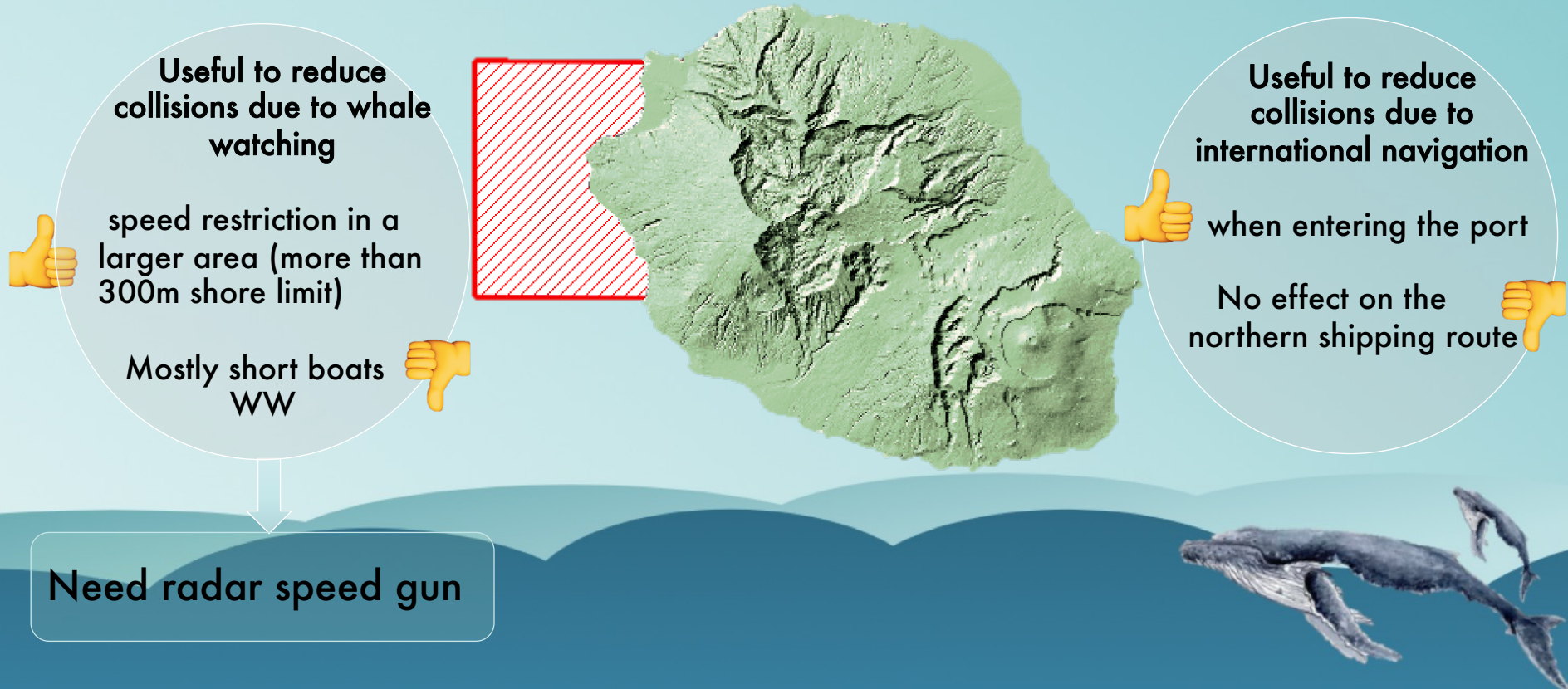
Solution to avoid collision due to whale watching activities



- ❖ Put a Signal flag to inform of the presence of whales
- Easy to implement (could be voluntary as a first step)

Solution to avoid collision due to whale watching activities

- ❖ **Seasonal Management Areas** = Mandatory speed restrictions / ships longer than 20m / during whale season (Eg. of U.S.A East Coast)
- ❖ **Voluntary Dynamic Management Areas** = Mariners are encouraged to avoid or reduce speed



CONCLUSION

- Need to gather data
- Articulation between international navigation and MPA is challenging but non incompatible
- Tools to reduce collisions during whale watching : easy to implement
- Marine speed measuring equipment
- Learn from other countries experience

