

U.S. - Canada Lobster Town Meeting - Shifting Distributions in a Changing Climate  
February 3, 2023



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Director and Senior Scientist





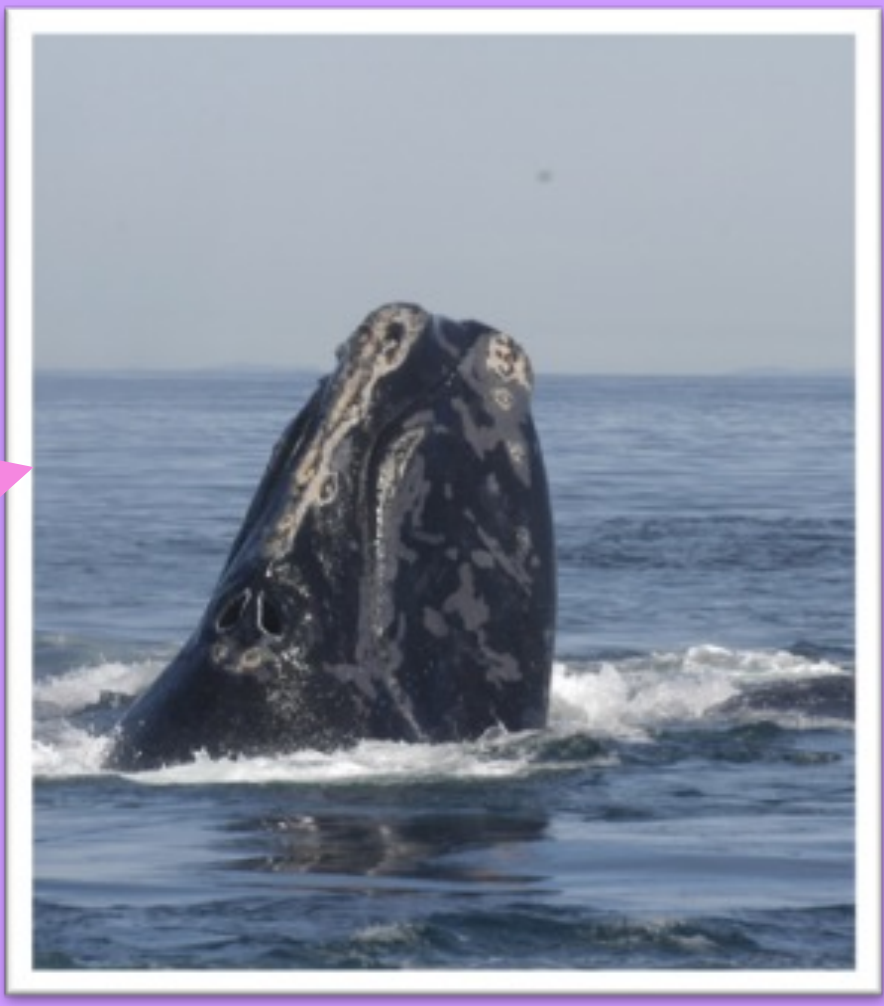
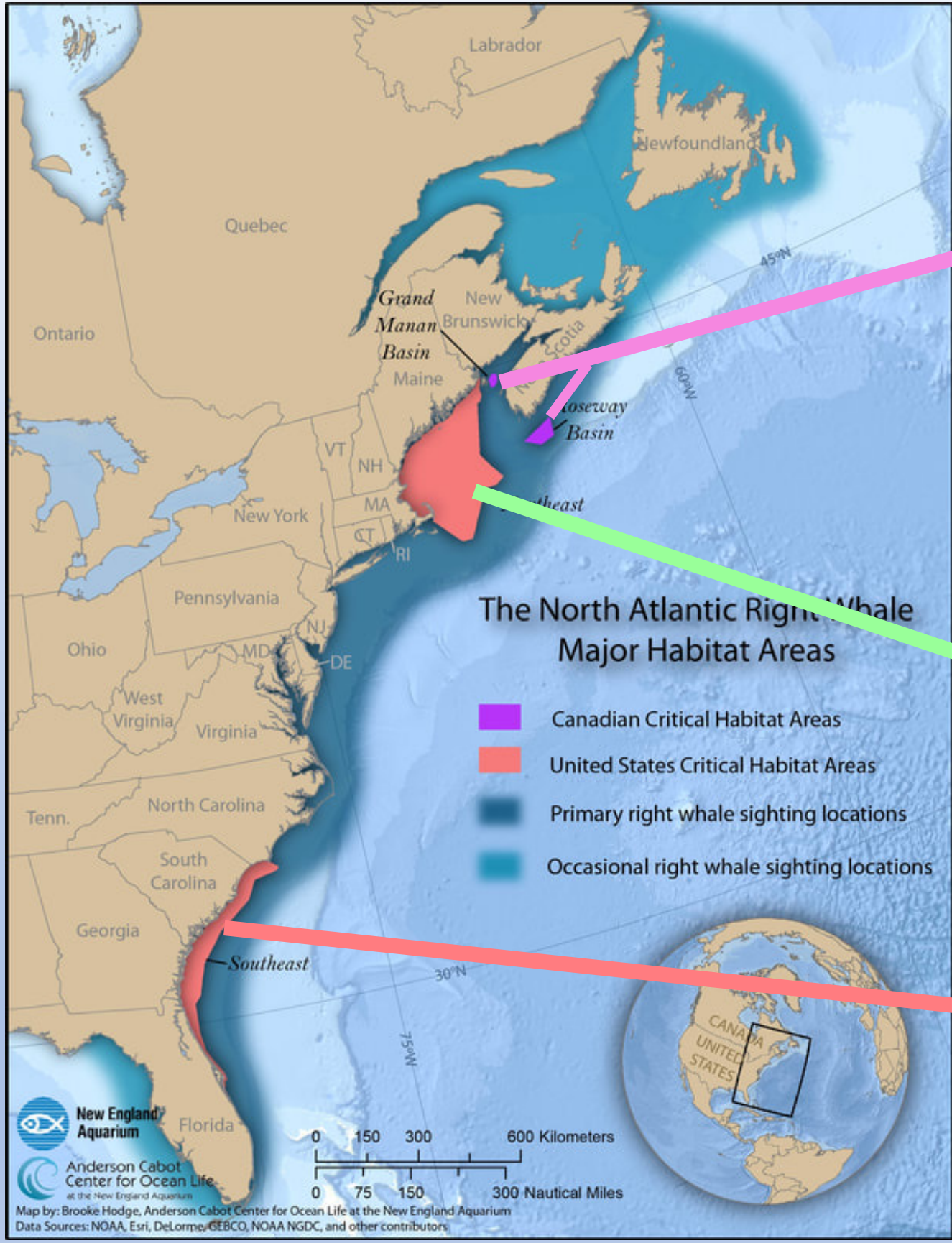
# RIGHT WHALE DIET

Right whales filter plankton from the water  
Consume ~ 1.4 billion/hr  
~1,700 hamburgers/day

Right whales **skim feed** at or just below the surface and down to depths of 200+ meters

**Baleen** is made from keratin, same protein found in human hair.

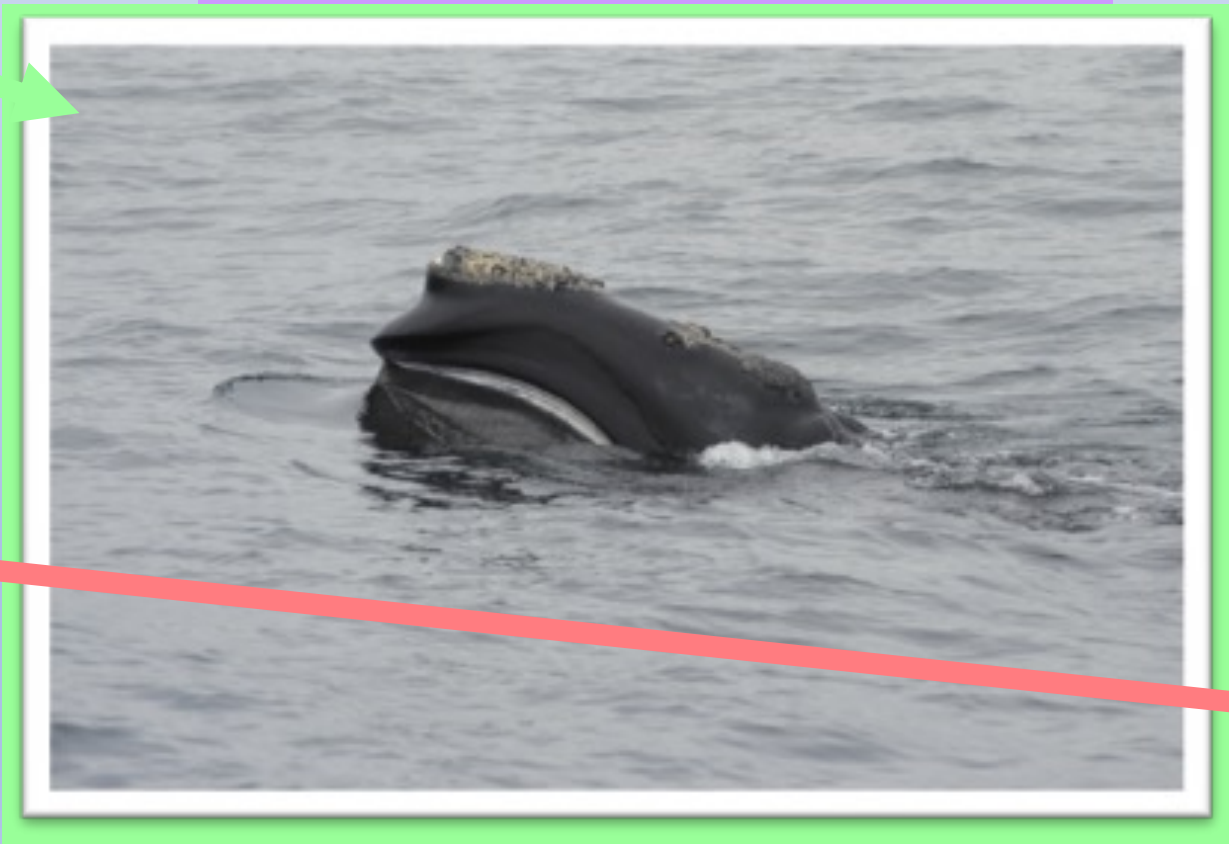
# RANGE AND CRITICAL HABITATS



**Bay of Fundy & Roseway Basin**



**Southeast United States**



**Gulf of Maine, Cape Cod and Great South Channel**

# DISTRIBUTION SHIFTS BEGAN AROUND 2010

## FOUR CRITICAL HABITATS

**Bay of Fundy, Roseway Basin (2014), Great South Channel, Southeastern US**

Declines in right whale sightings from previous decade

### **Cape Cod Bay**

Major increase in number of sightings late winter/spring

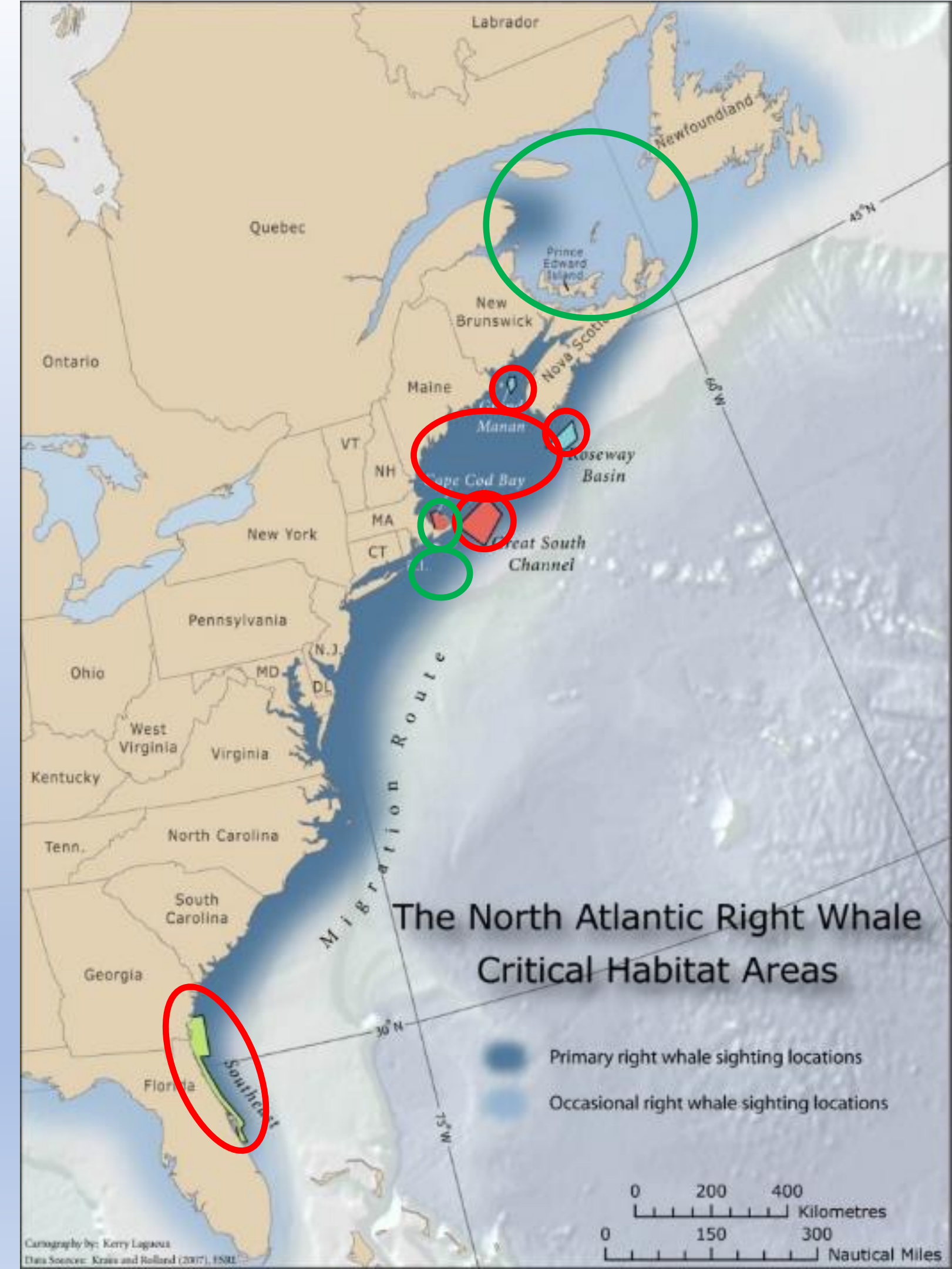
### **South of Nantucket/Martha's Vineyard**

Aerial and acoustic surveys – newly identified aggregation area

### **Gulf of St Lawrence**

Increase in sightings starting in 2015

[www.whalemap.org](http://www.whalemap.org)

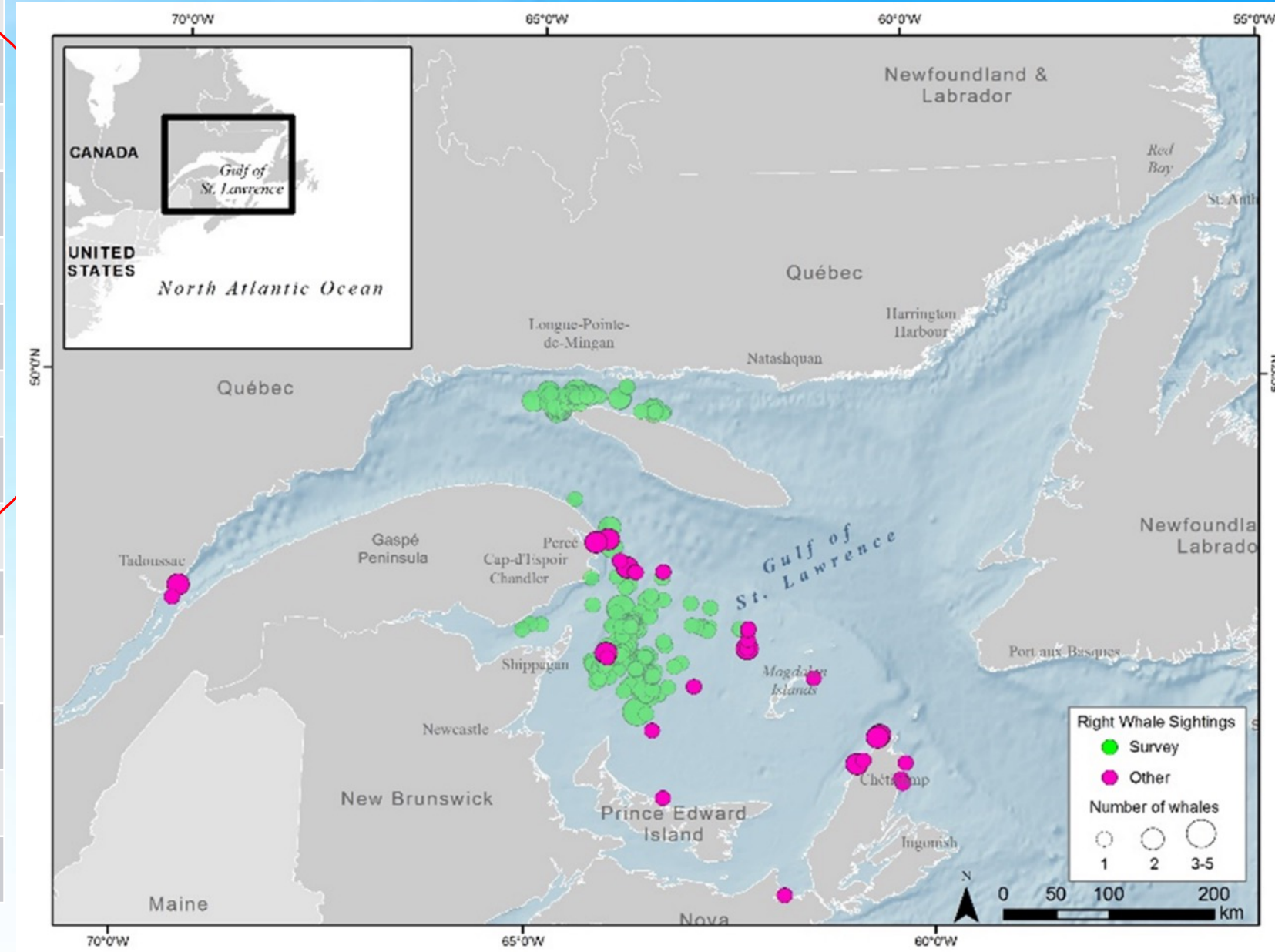
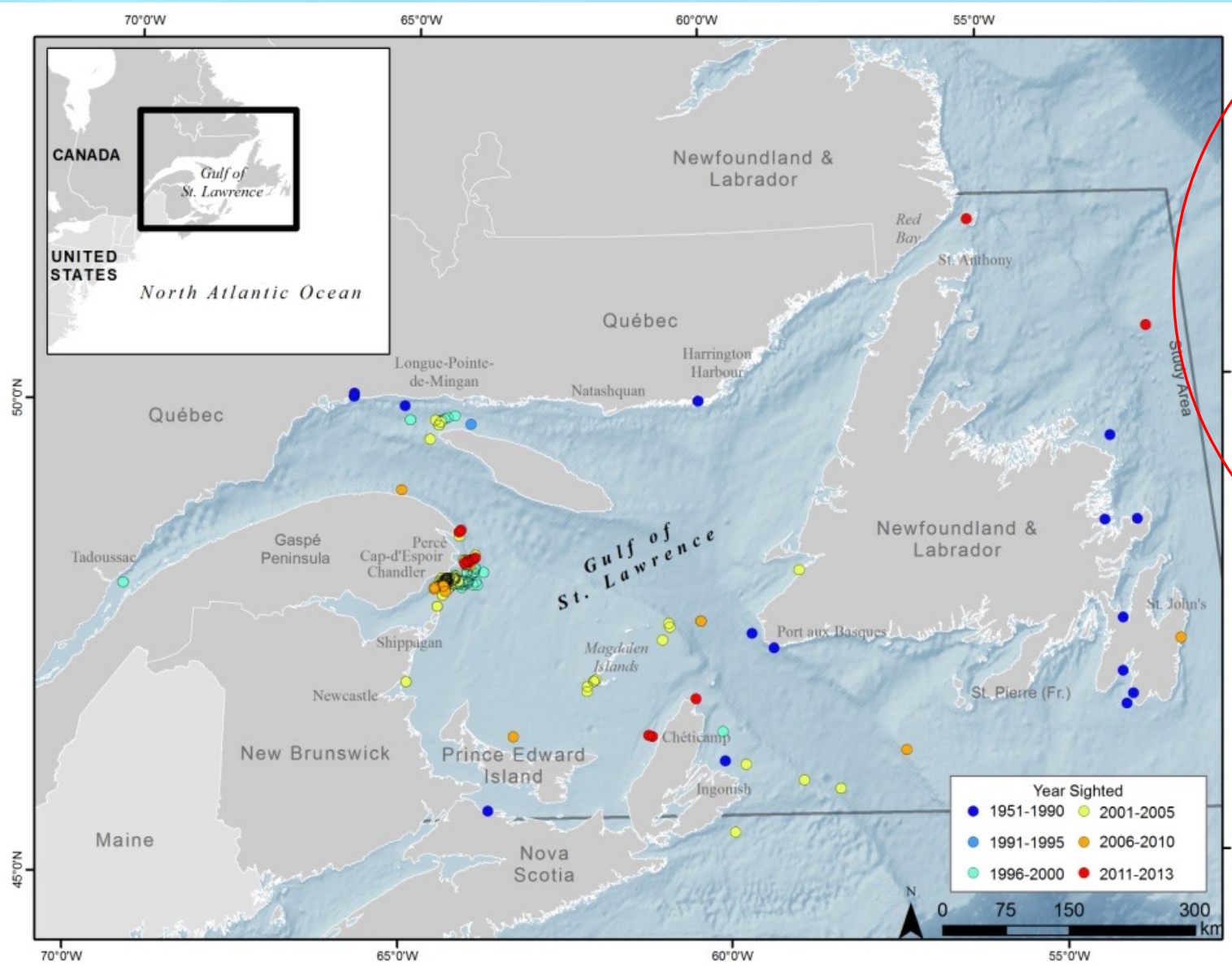


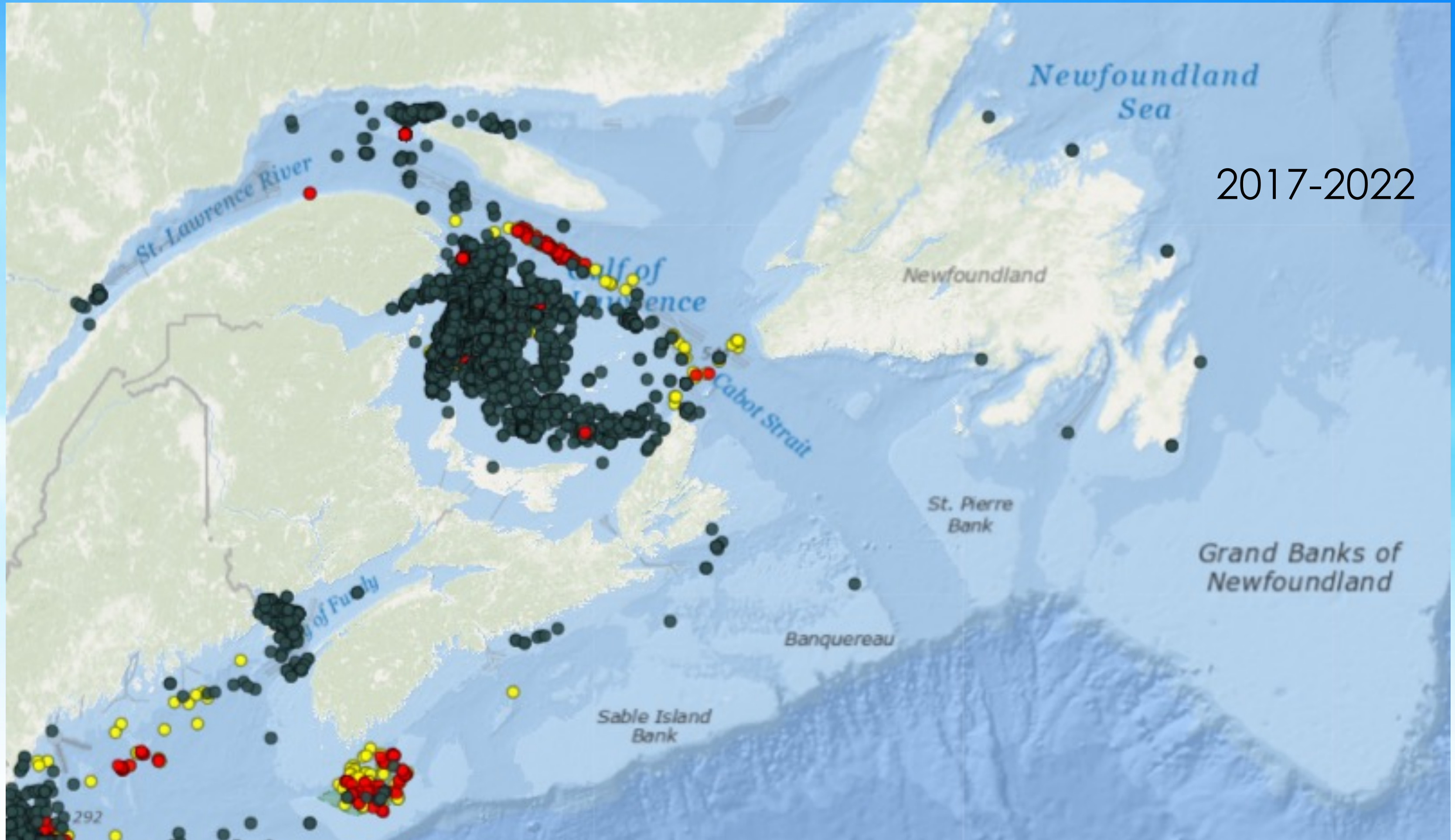
# Sighting summary by year

87% (180/206) of sightings contributed between 1995 and 2005 by whale watch operators and public.  
Total of 42 right whales.

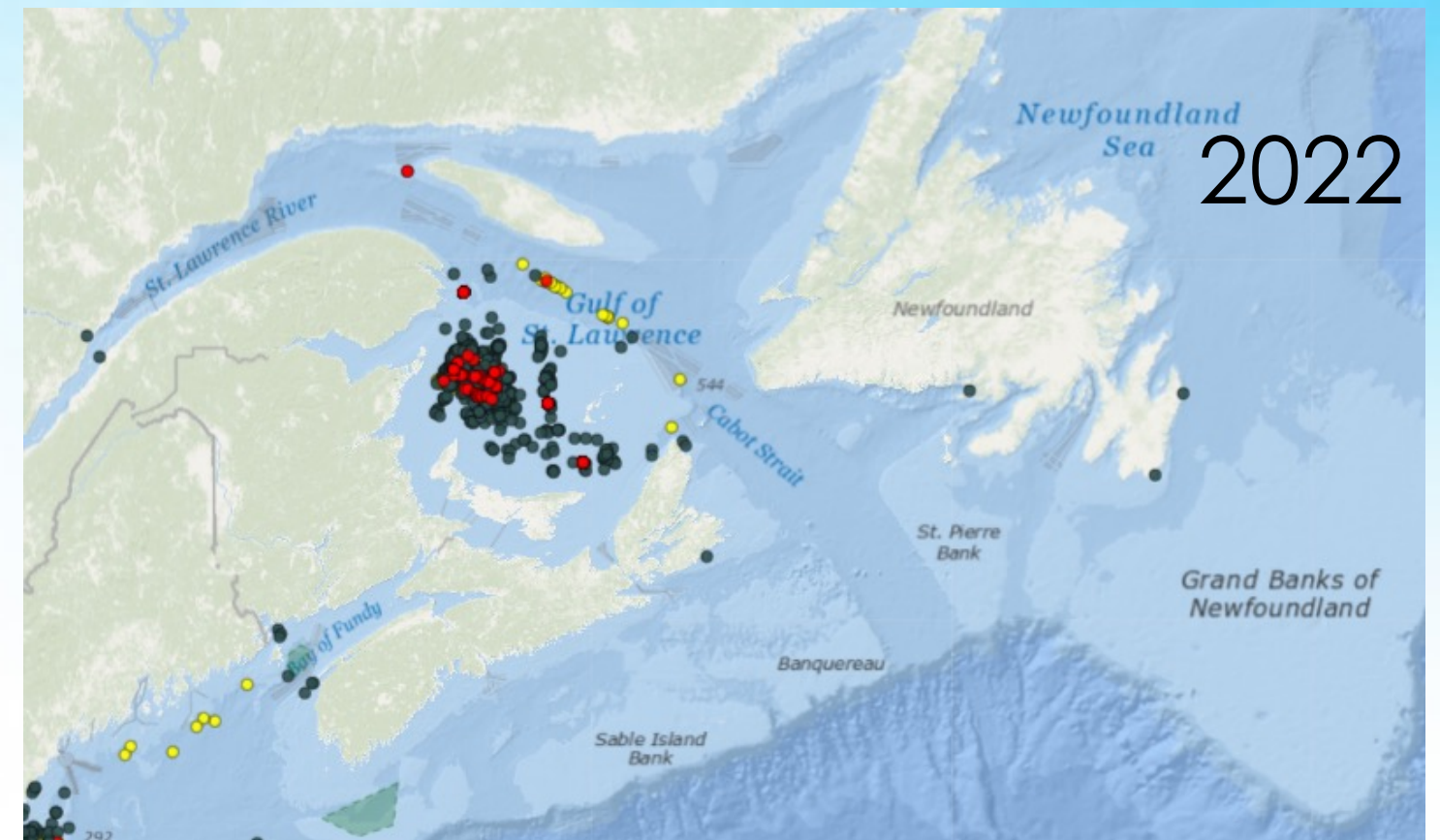
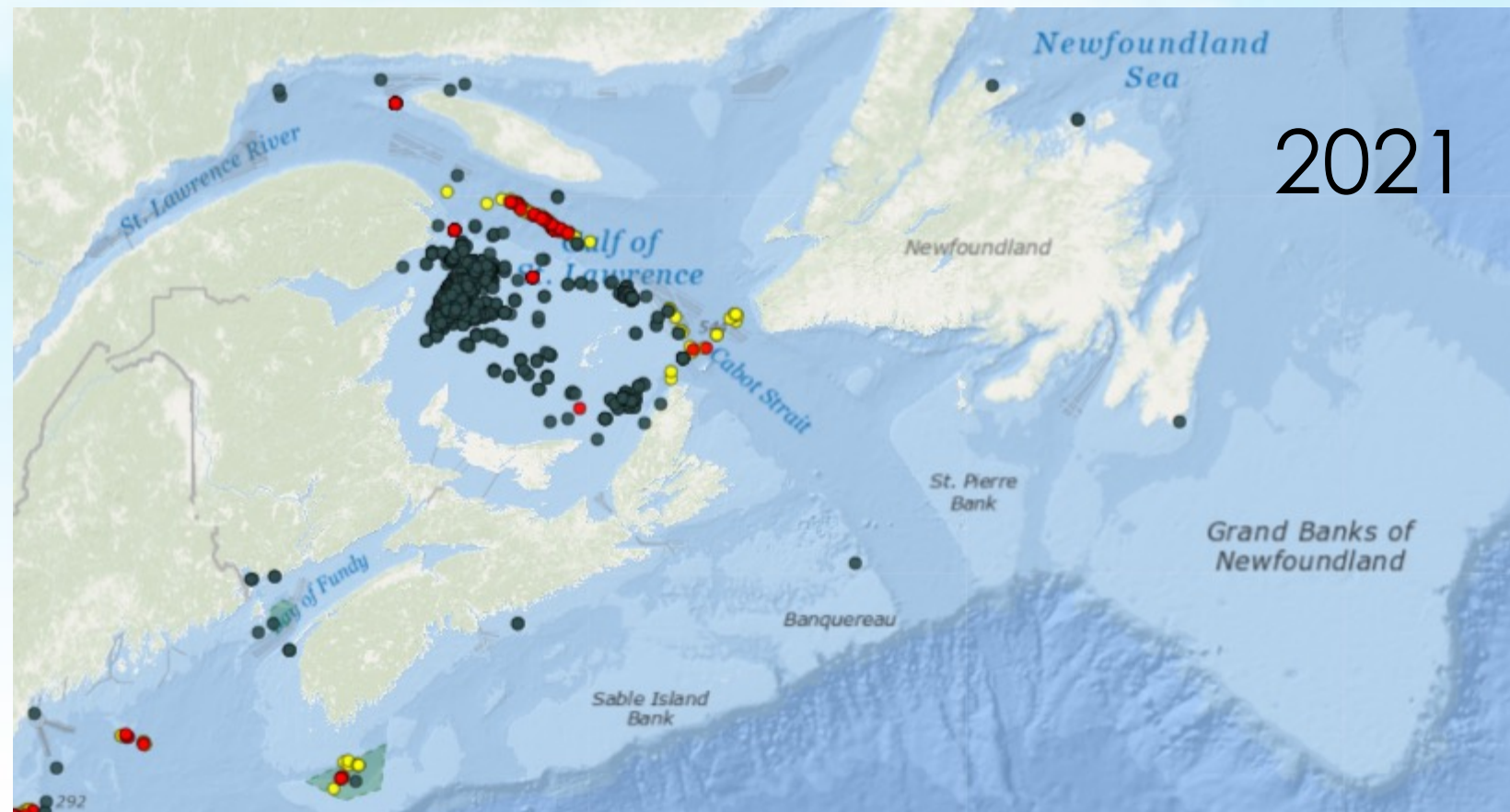
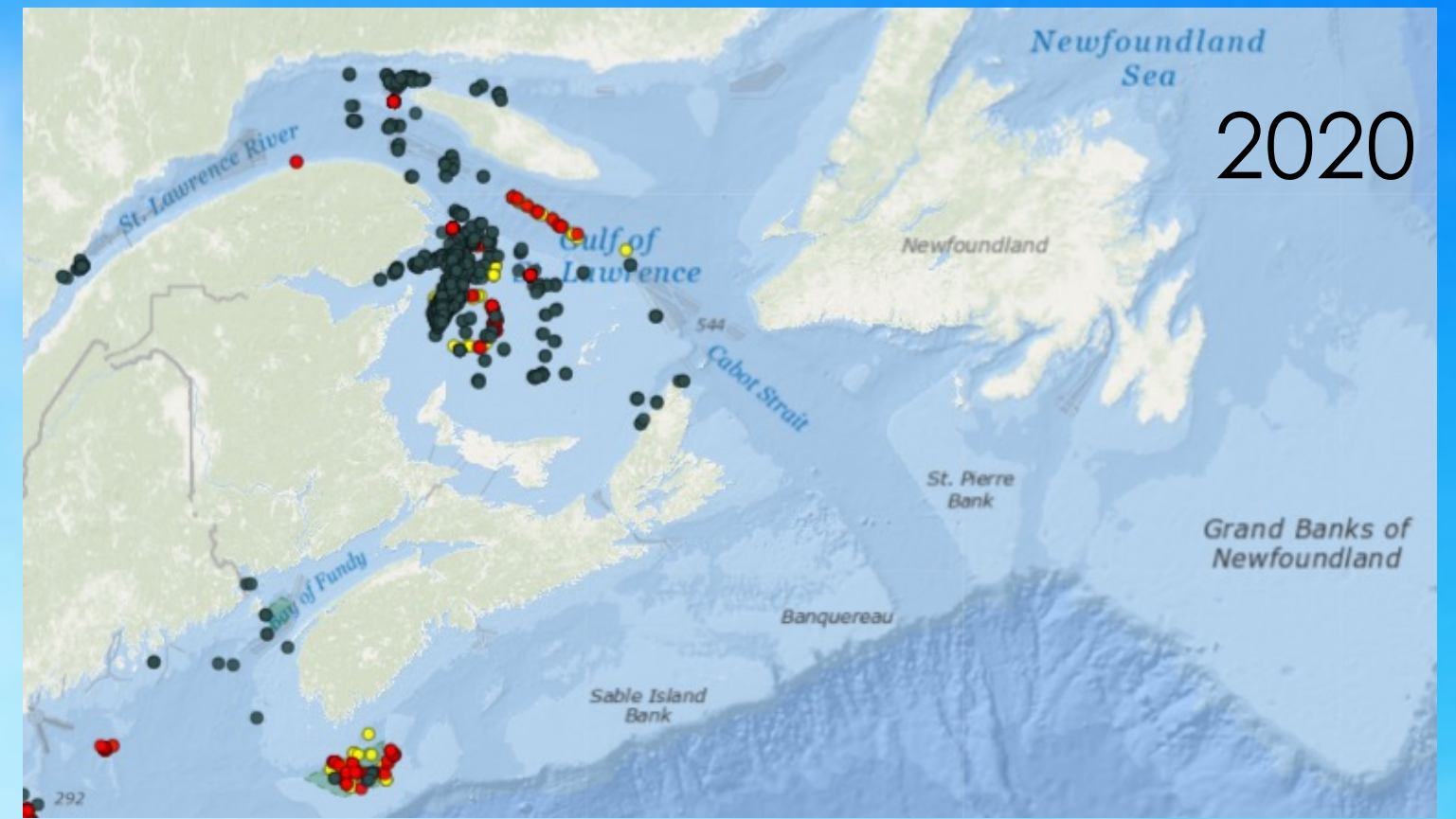
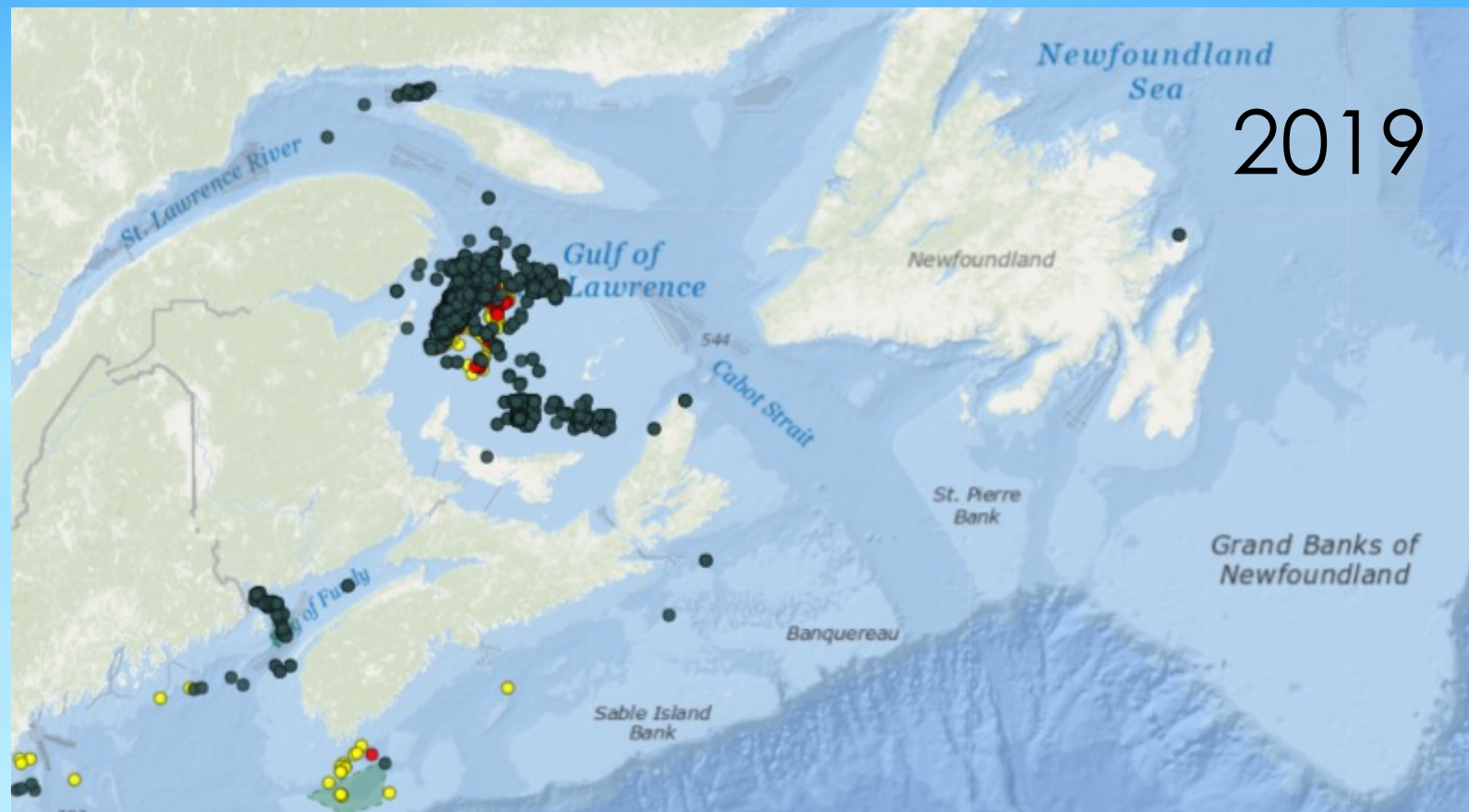
Year	Sightings
1981	1
1990	1
1994	1
1995	3
1996	8
1997	16
1998	27
2001	25
2002	75
2003	14
2004	3
2005	9
2006	7
2007	1
2010	2
2011	3
2012	10

2014 - 2016





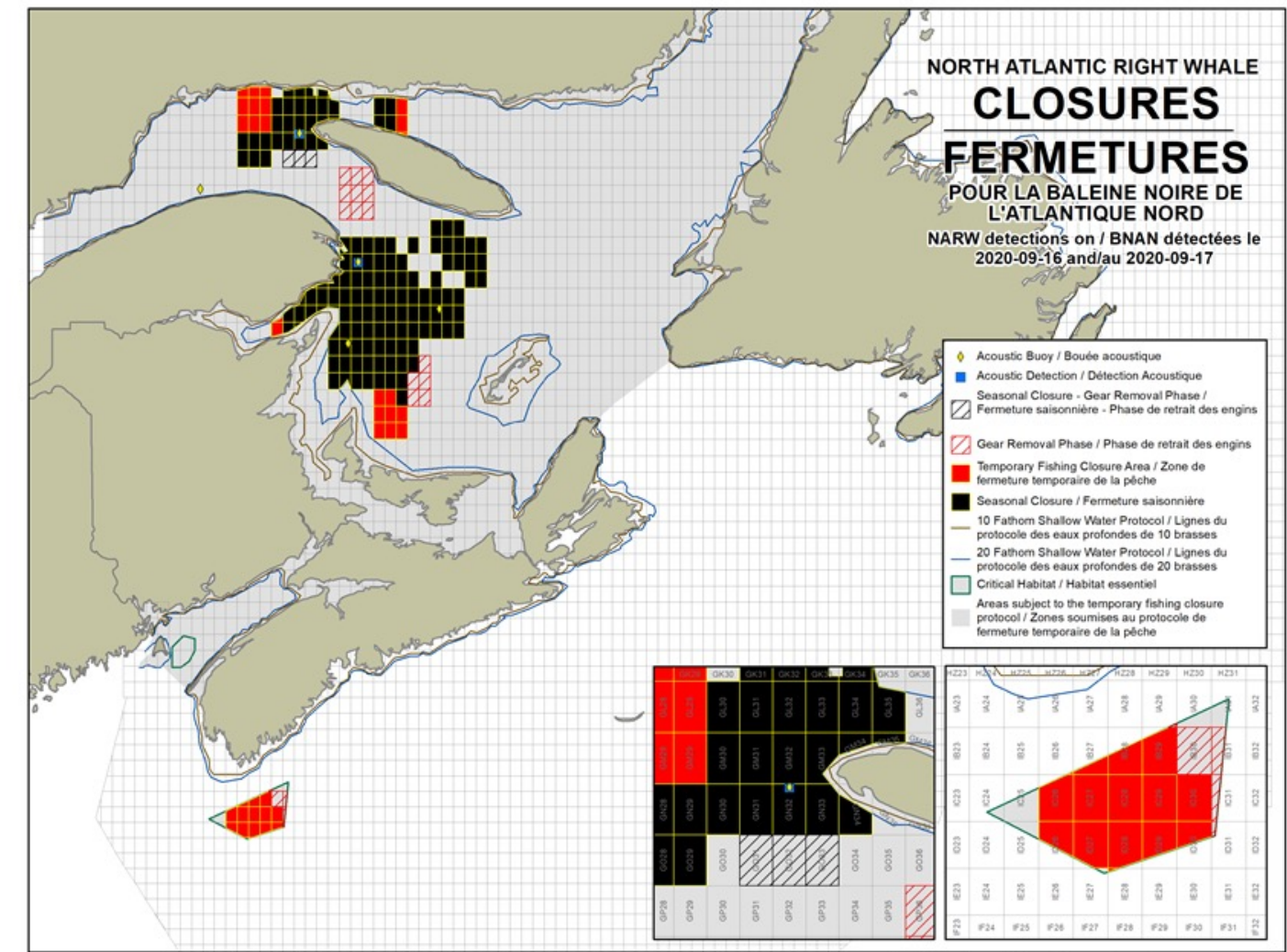
2017-2022



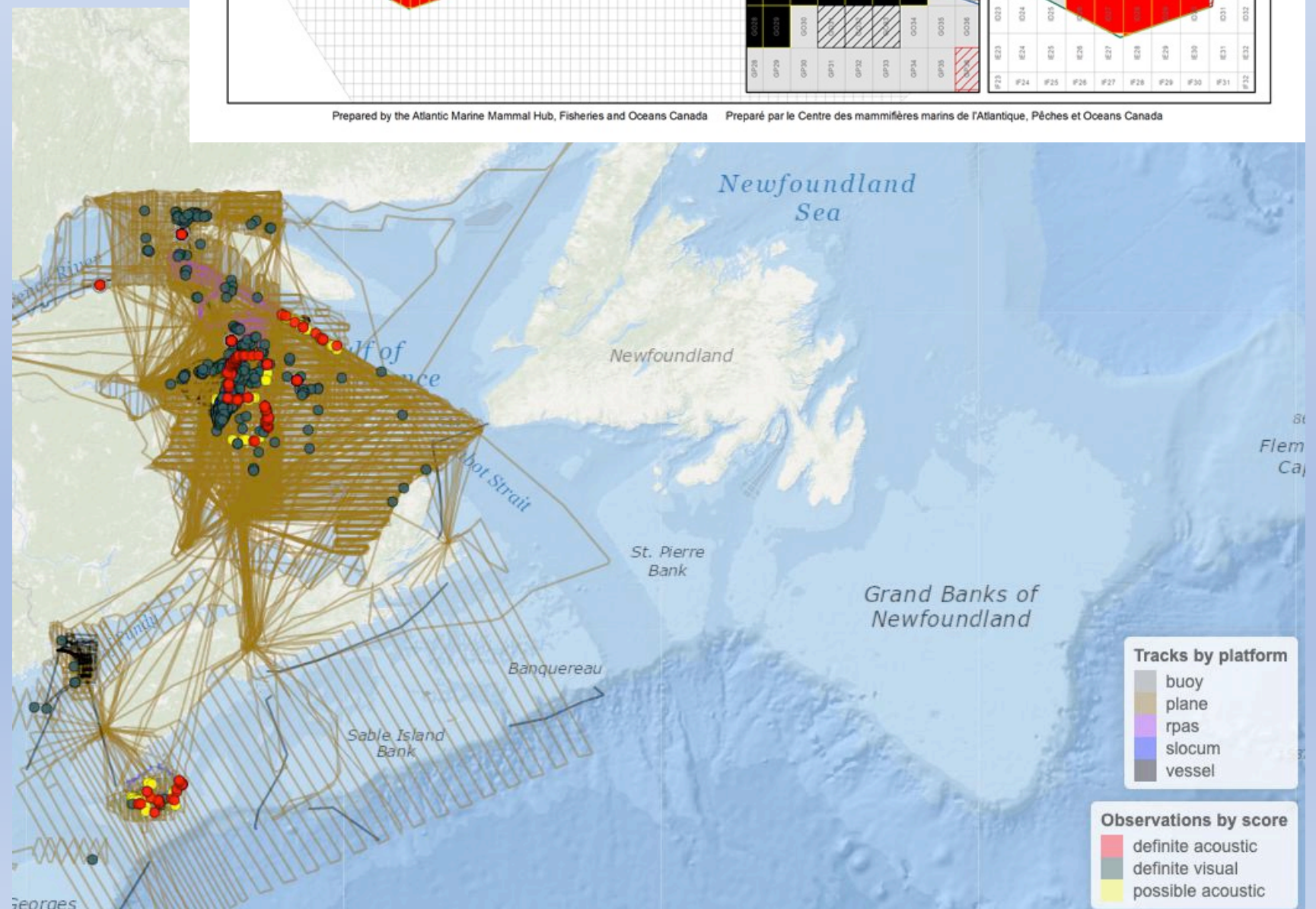
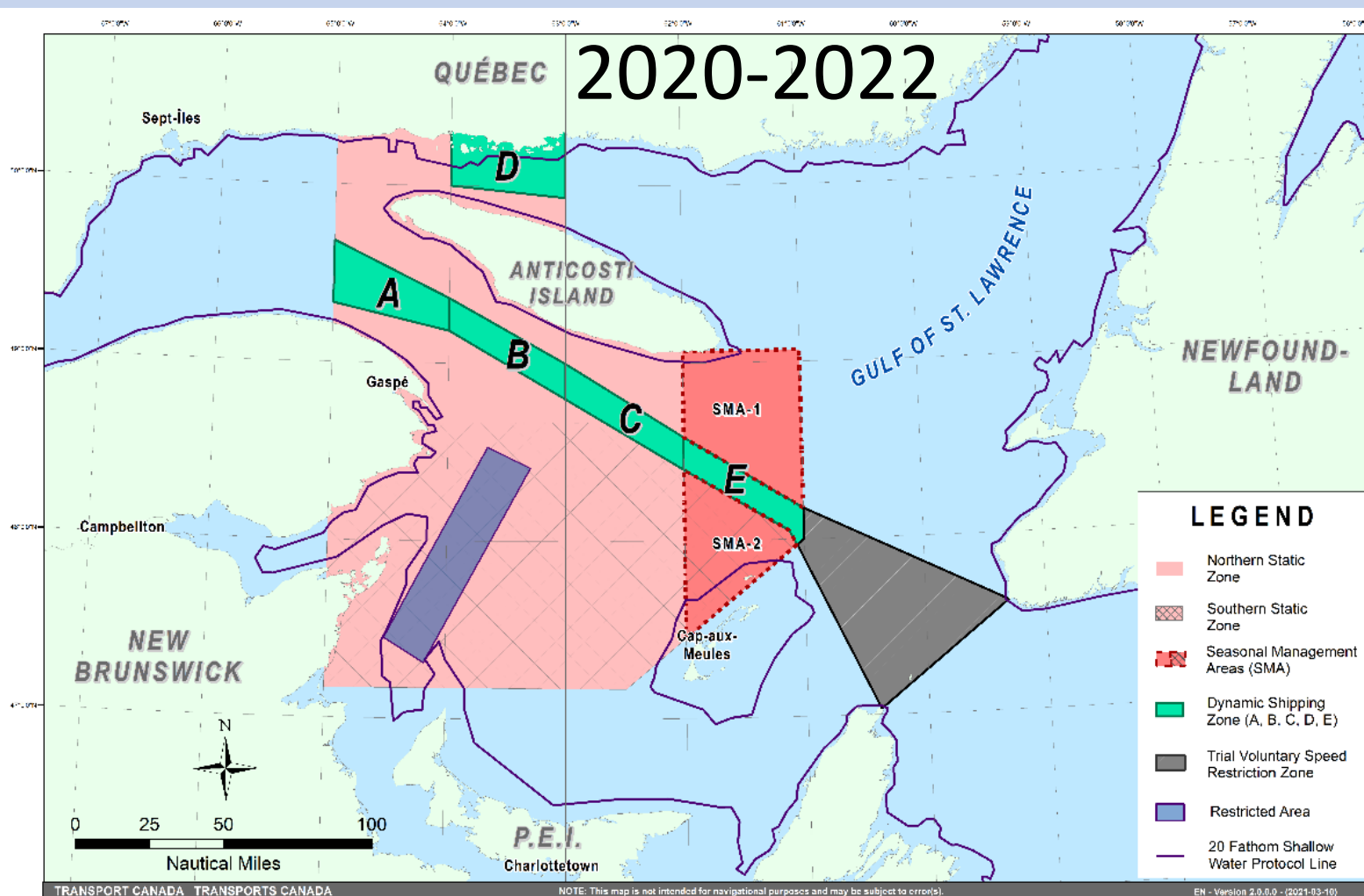



# Looking and listening for right whales

- Survey sightings
- Acoustic detections



Prepared by the Atlantic Marine Mammal Hub, Fisheries and Oceans Canada / Préparé par le Centre des mammifères marins de l'Atlantique, Pêches et Océans Canada



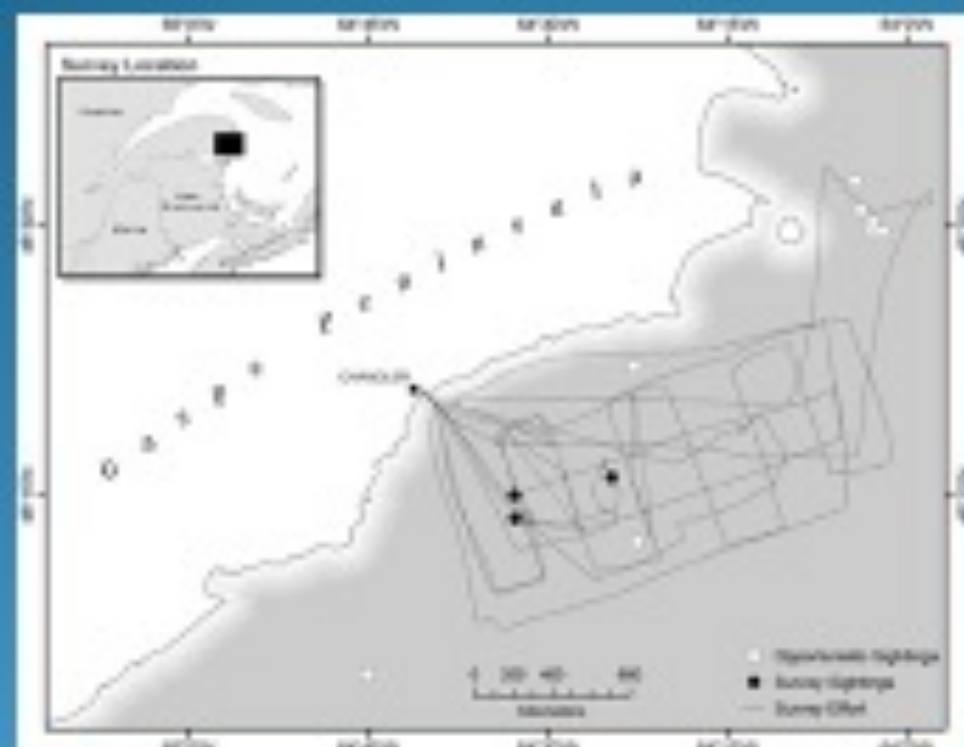


[www.canadianwhaleinstitute.ca](http://www.canadianwhaleinstitute.ca)  
@CanWhaleInst

## Systematic Surveys

### 2006 vessel survey

- ❖ 3 sightings,
- ❖ 1 right whale photo'd
- ❖ 6 right whales from network



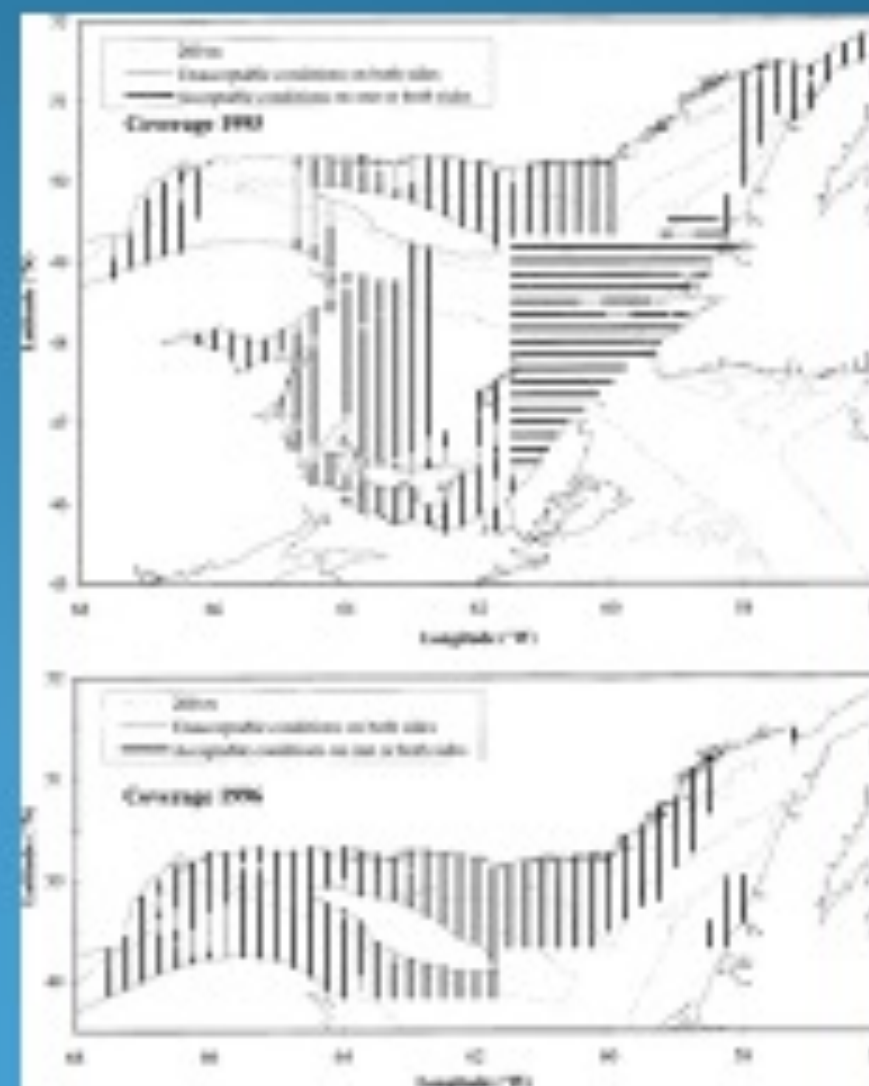
### 2007 vessel survey

- ❖ 0 right whales
- ❖ 1 right whale from network



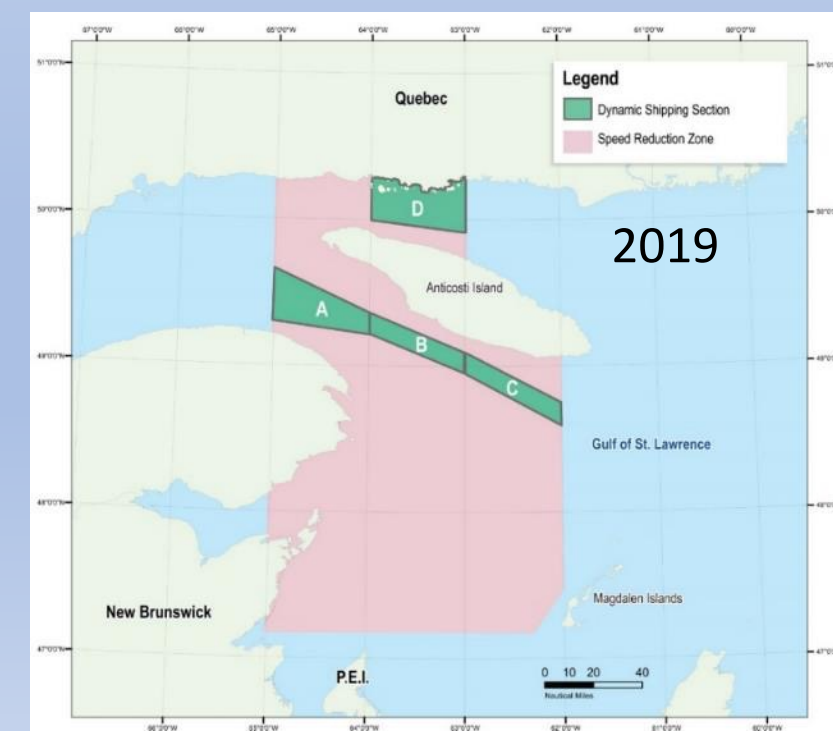
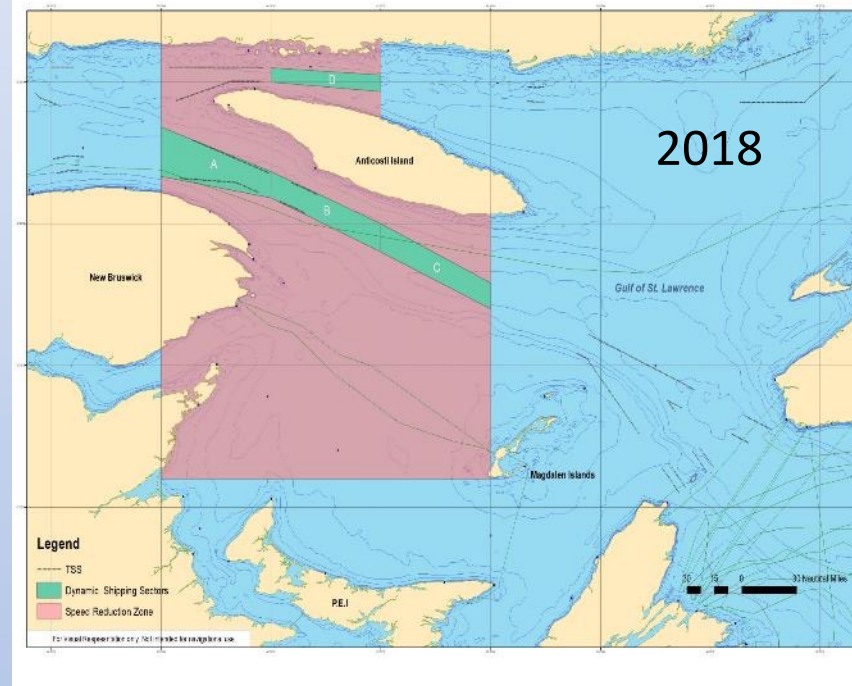
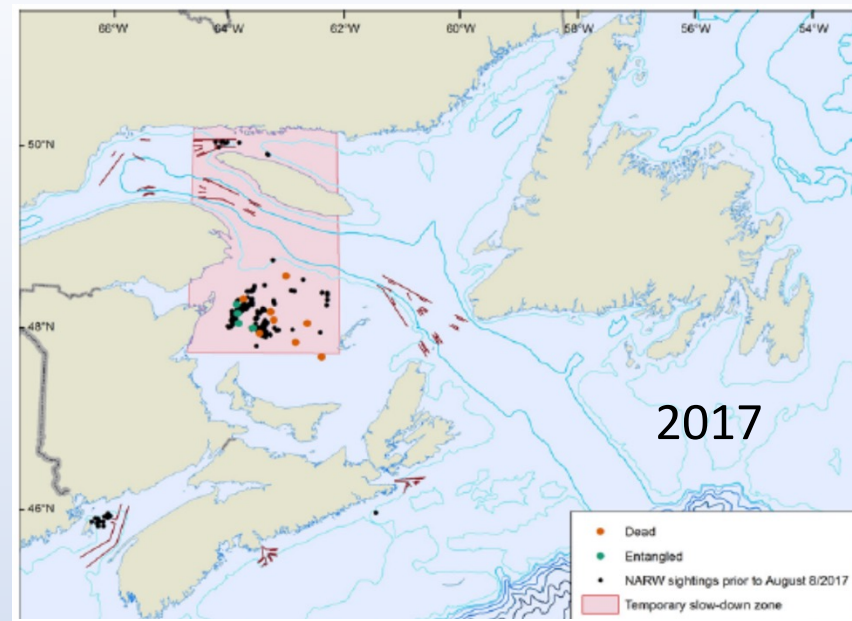
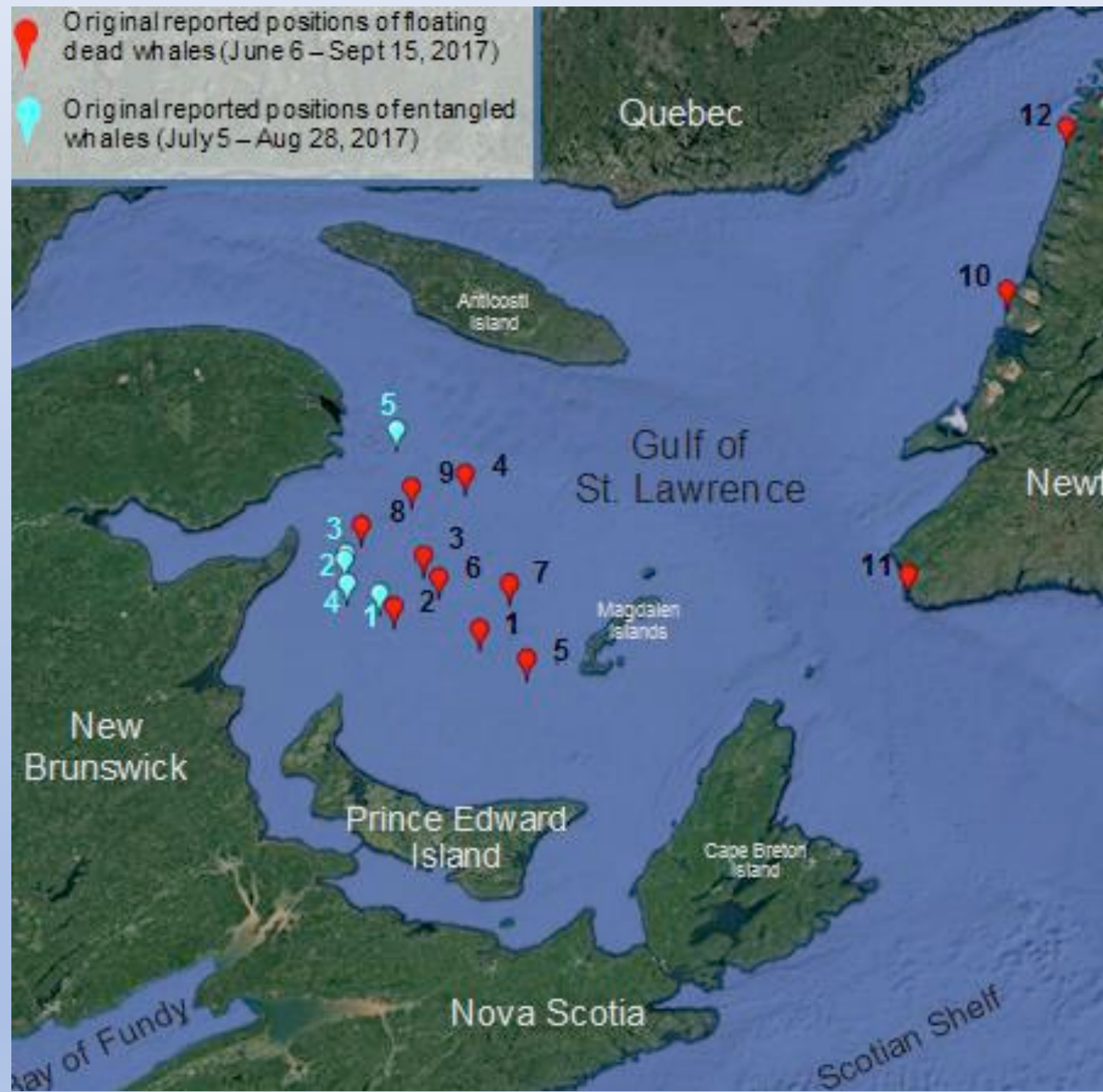
### 1995 and 1996 aerial survey (Kinglsey and Reeves 1999)

- ❖ 0 right whales
- ❖ 11 from whale watch



## 2017 June 6 - Sept 15<sup>th</sup>

- 12 dead whales
- 5 live, entangled whales



## 2019 June 4 - July 21

- 9 dead whales
- 4 live, entangled whales

