

Sharks in the Sanctuary

Marine Fisheries
Commonwealth of Massachusetts



Greg Skomal, PhD

Massachusetts Shark Research Program

Massachusetts Division of Marine Fisheries

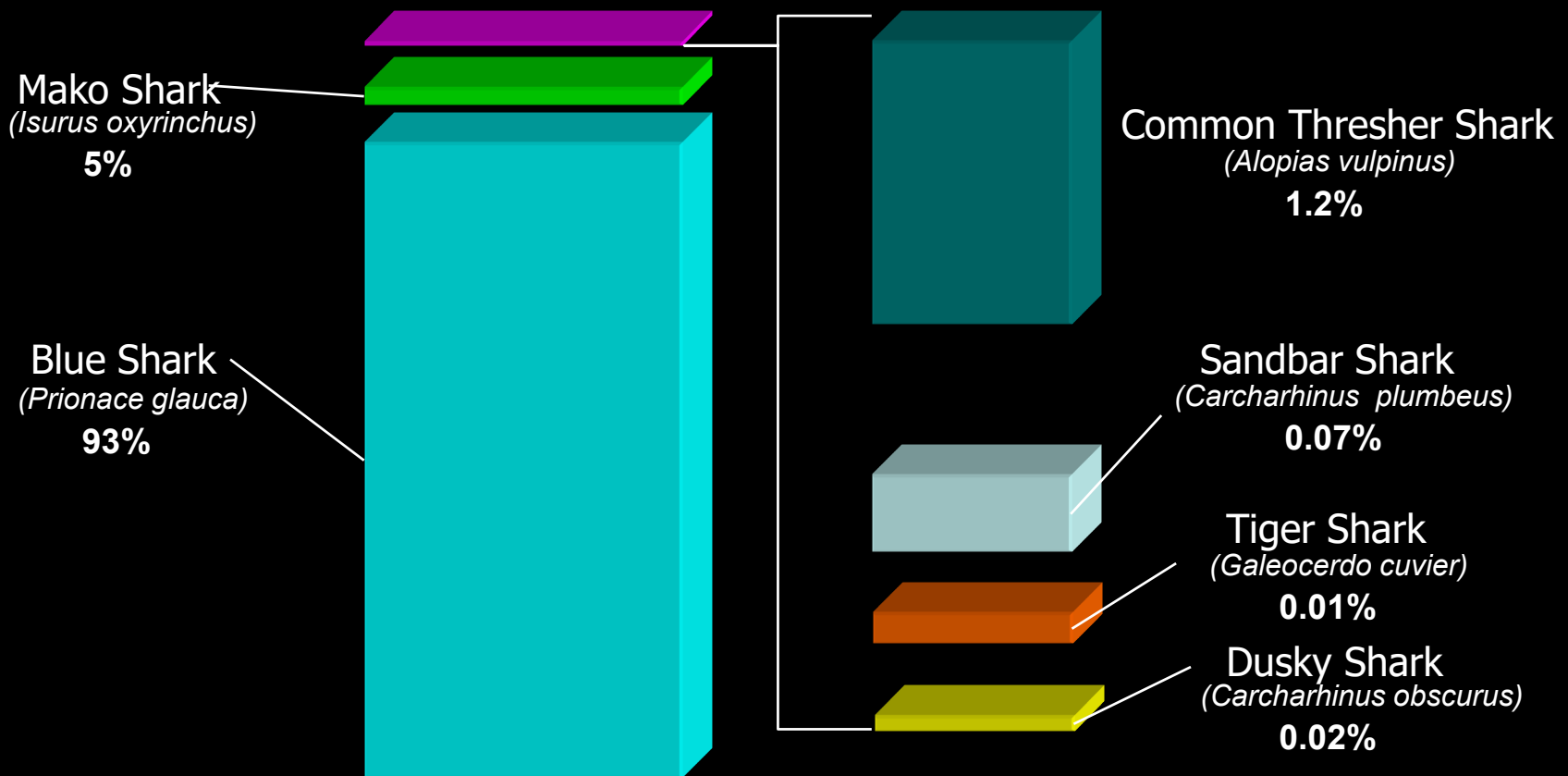
Massachusetts Division of Marine Fisheries Shark Research Program

- Management
- Research
 - Life History
 - Ecology
 - Physiology
- Collaboration
- Education

Massachusetts Shark Tournaments

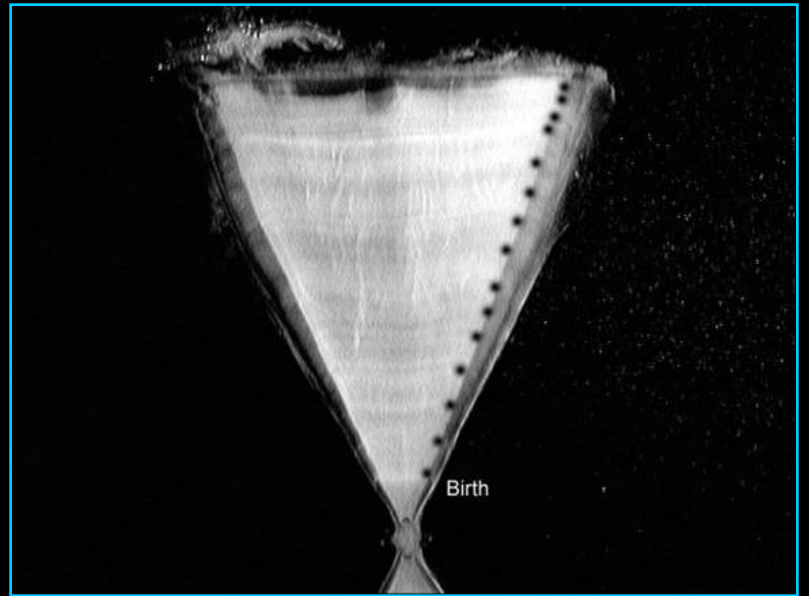
Species Composition (n = 24,840)

1987-2010



Blue Shark

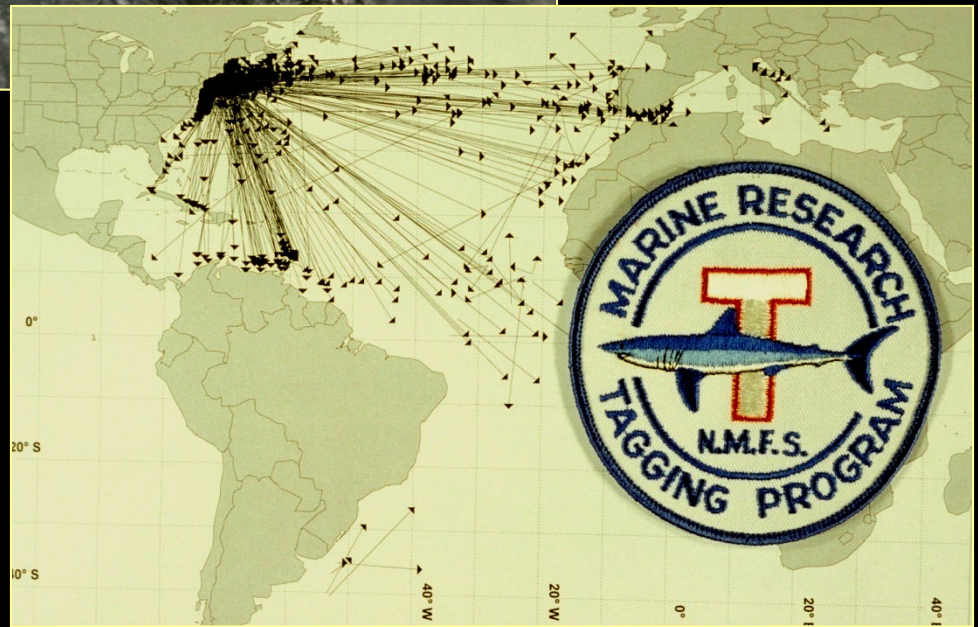
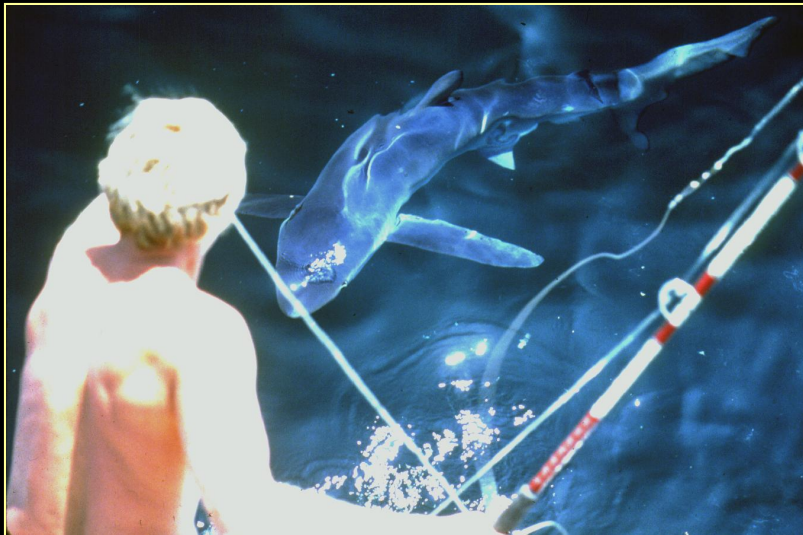
Prionace glauca



Skomal and Natanson, 2003

Blue Shark: Movements

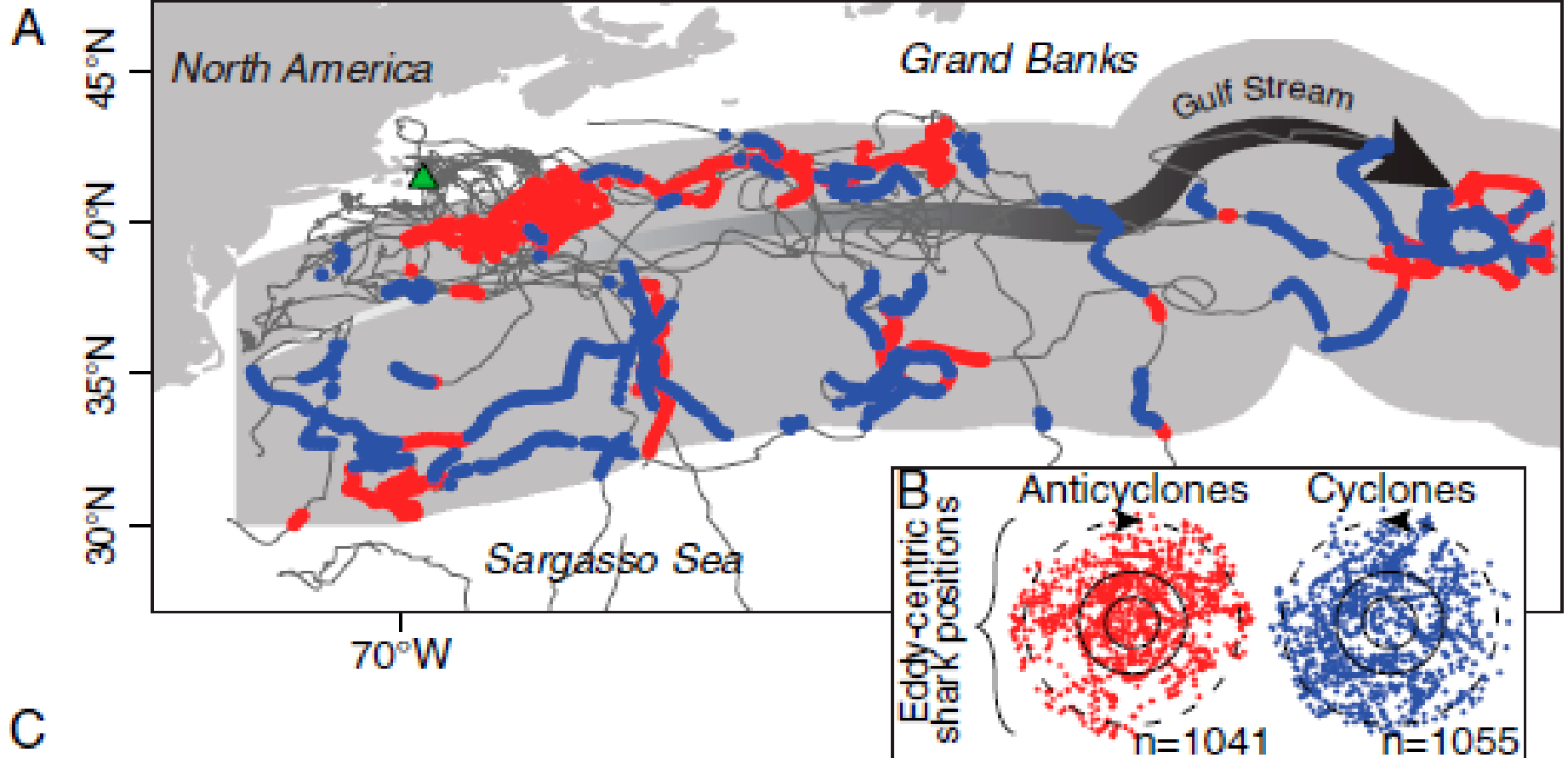
Conventional Tagging



Kohler et al., 1998

Blue Shark: Movements

Satellite Tagging



Shortfin Mako

Isurus oxyrinchus





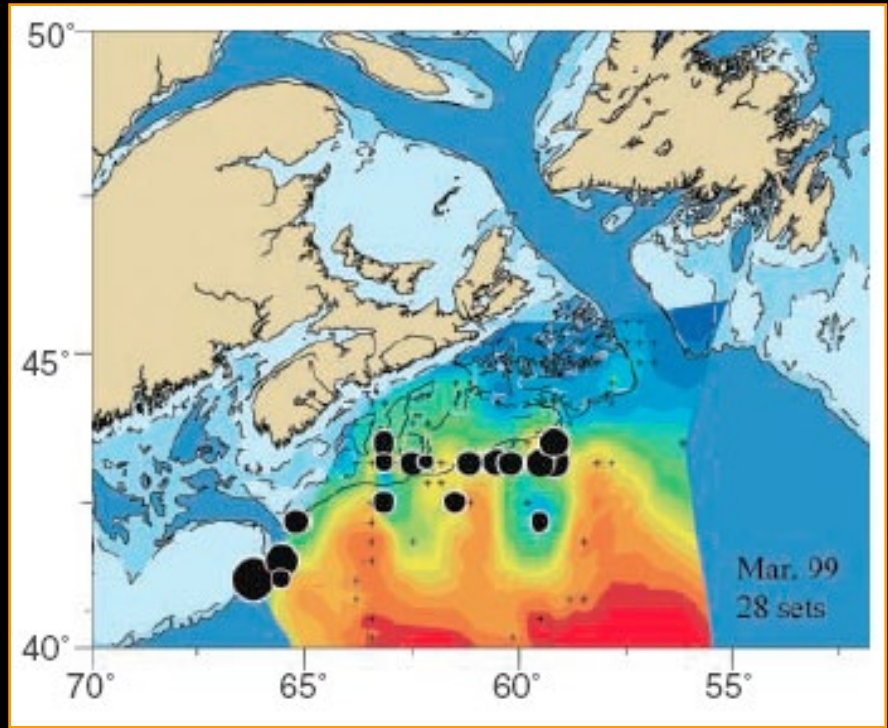
Shortfin Mako

IGFA World Record 1221 lbs.



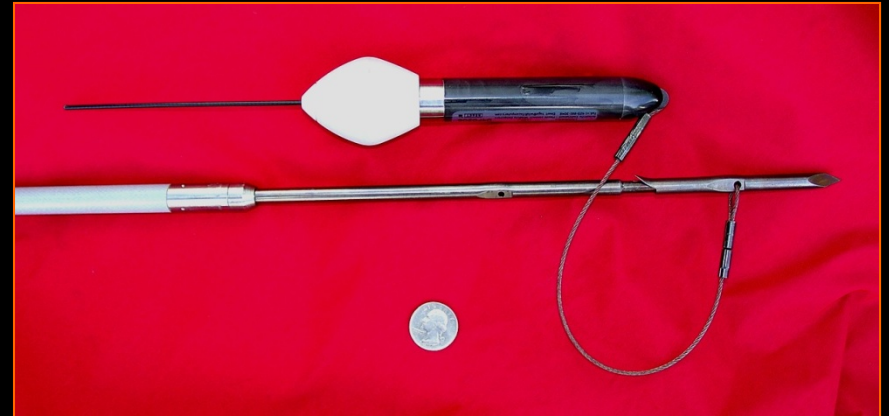
Porbeagle

Lamna nasus



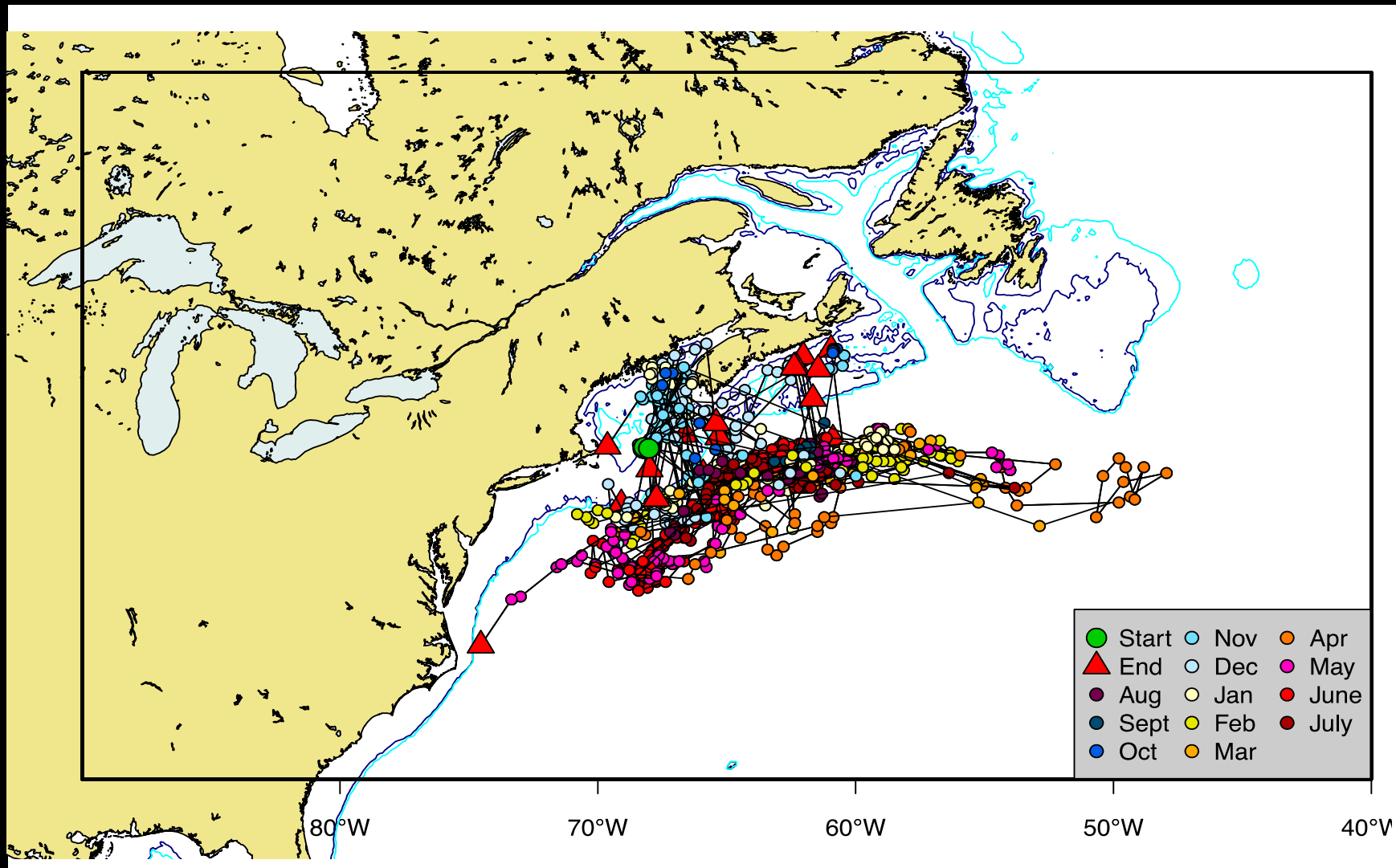
Porbeagle

Lamna nasus



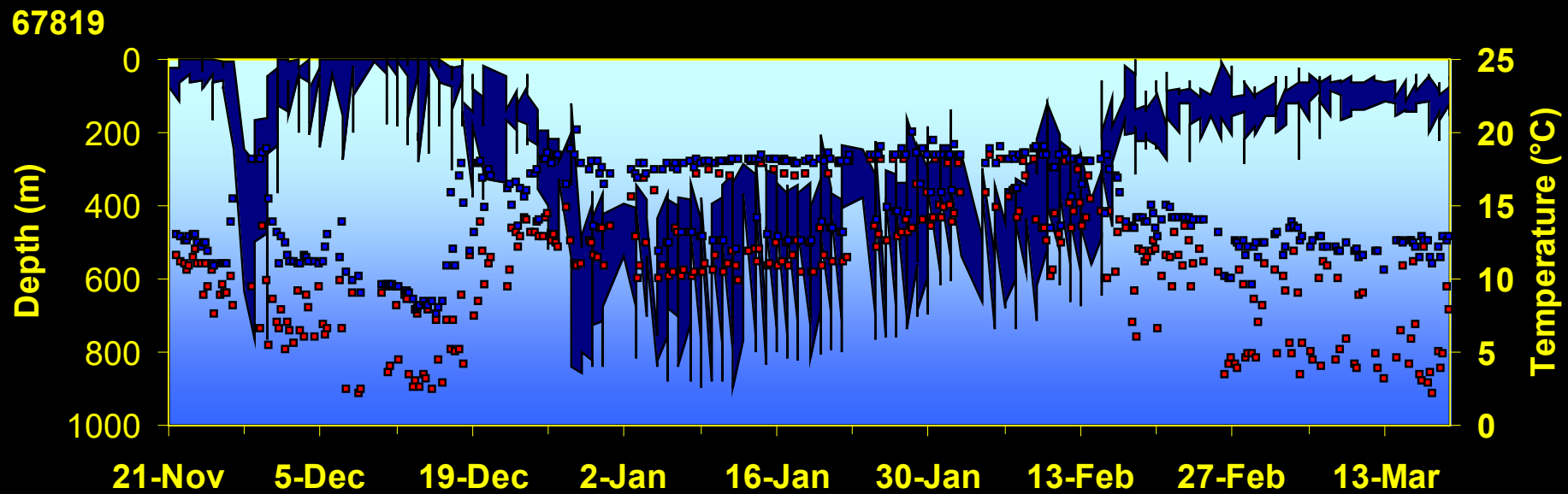
Porbeagle

Lamna nasus



Porbeagle

Lamna nasus



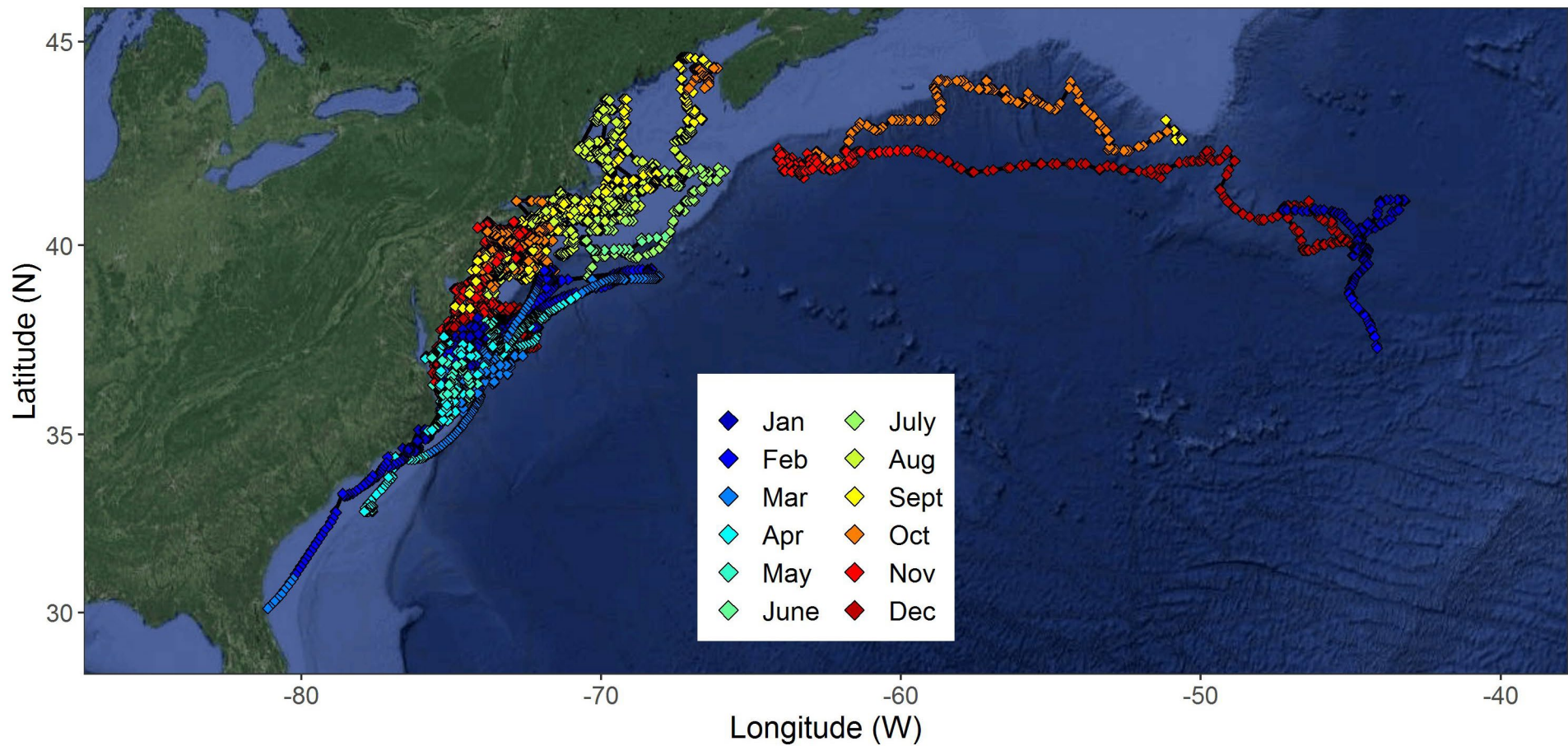
Common Thresher

Alopias vulpinus



Common Thresher

Alopias vulpinus



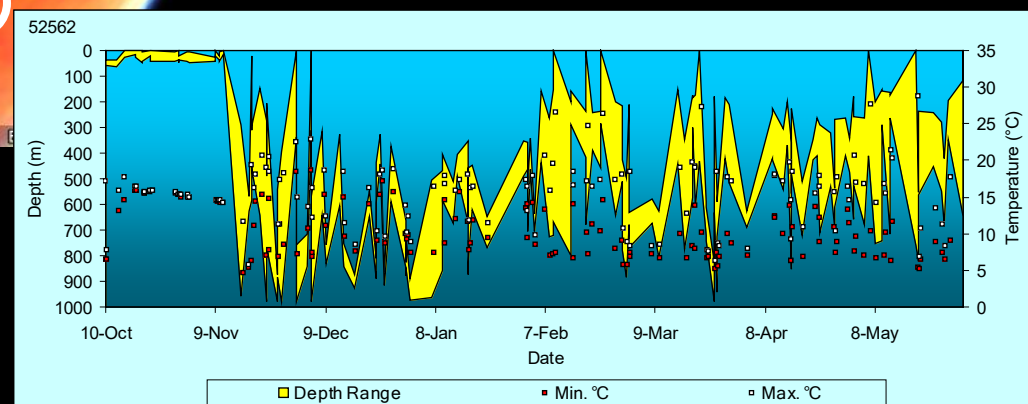
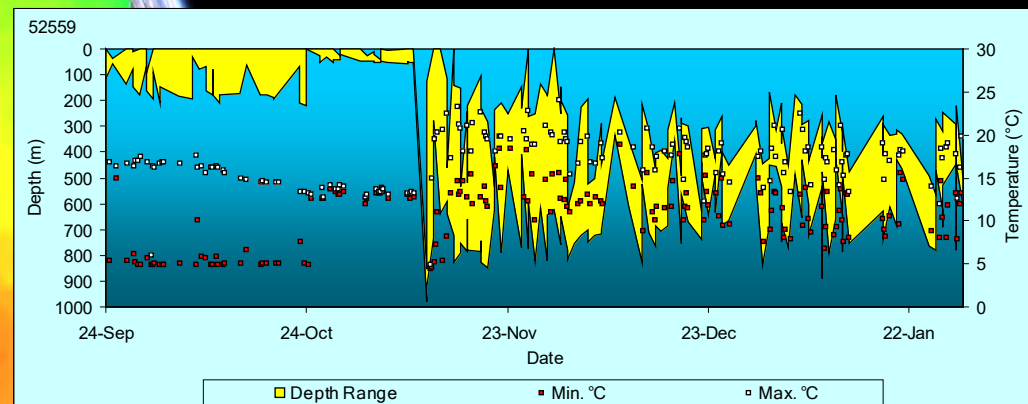
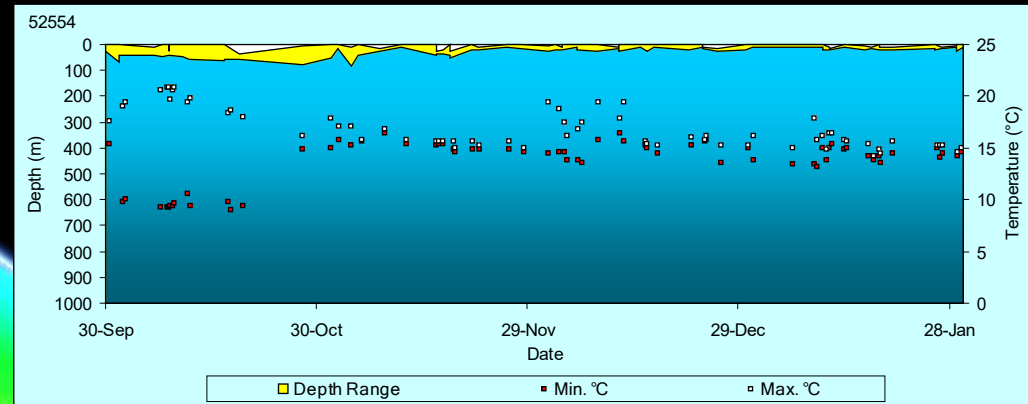
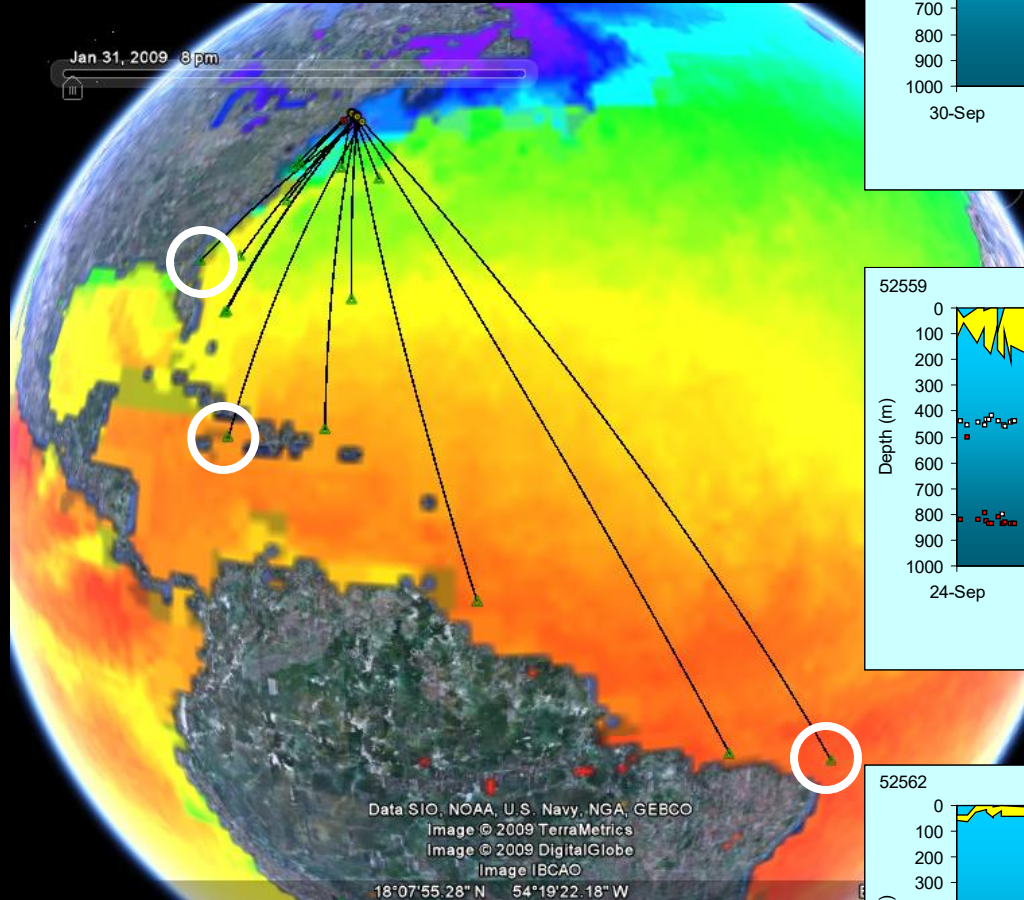
Basking Shark *Cetorhinus maximus*



Basking Shark: Movements

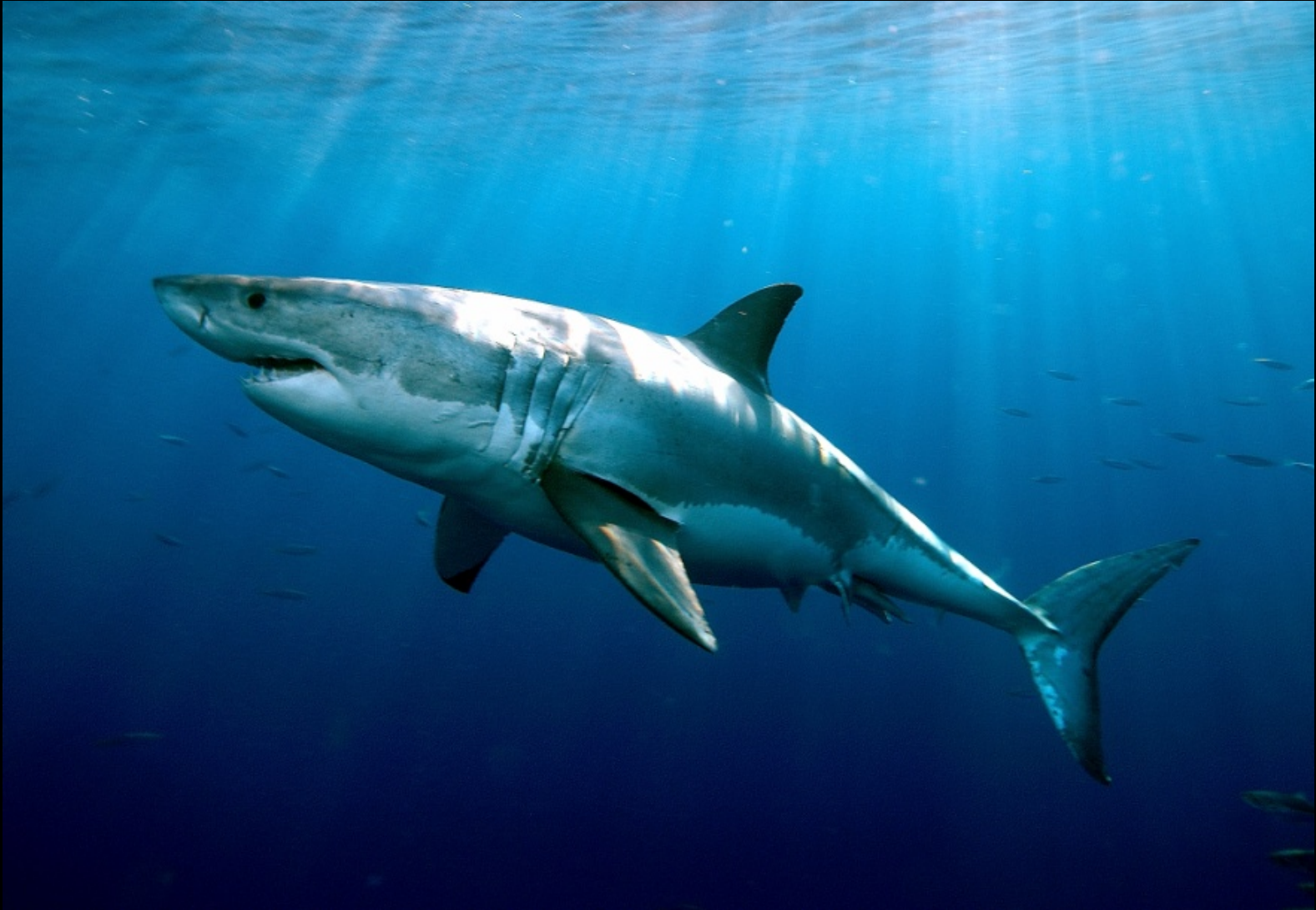


Basking Shark



White Shark

Carcharodon carcharias





Global “Hotspots”

California, South Africa, South Australia, Mexico



Gray Seal *Halichoerus grypus*



Wayne Davis



Wayne Davis



Tagging to Date

2009 – 2019 (203 sharks)
2.4 – 5.5 m (4-17 ft)

182 Acoustic (V16, Vemco)



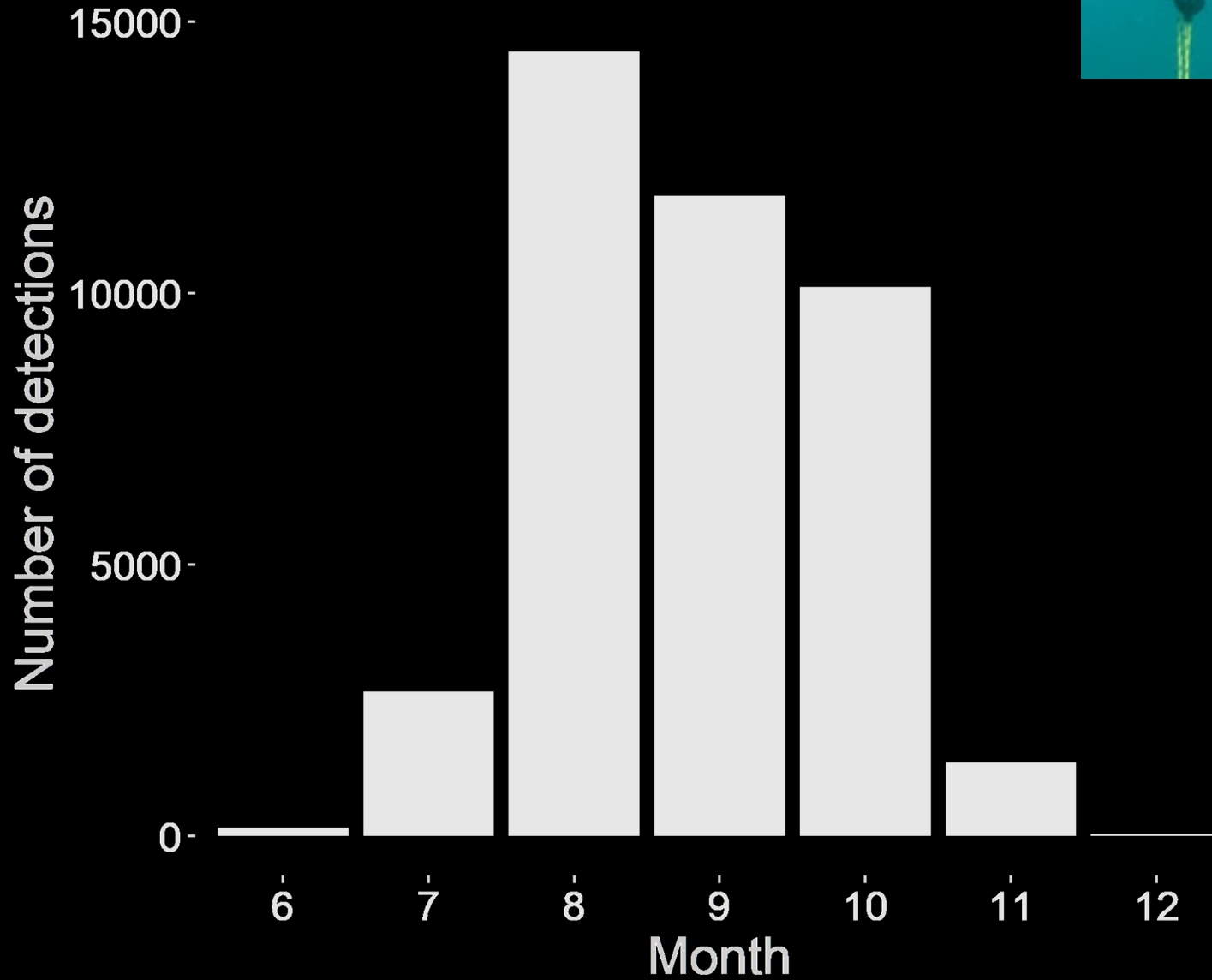
55 Pop-up Satellite (PAT, Wildlife Computers)



8 Real-time Satellite (SPOT, Wildlife Computers)

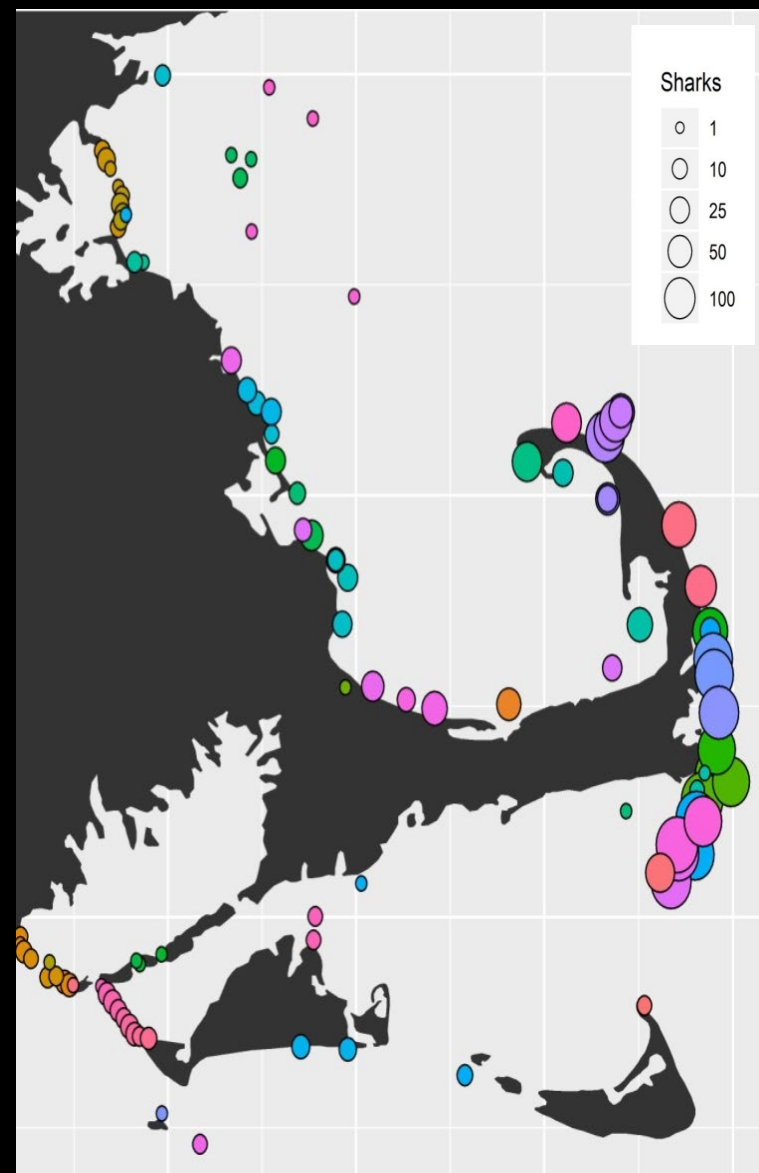


Acoustic Detections



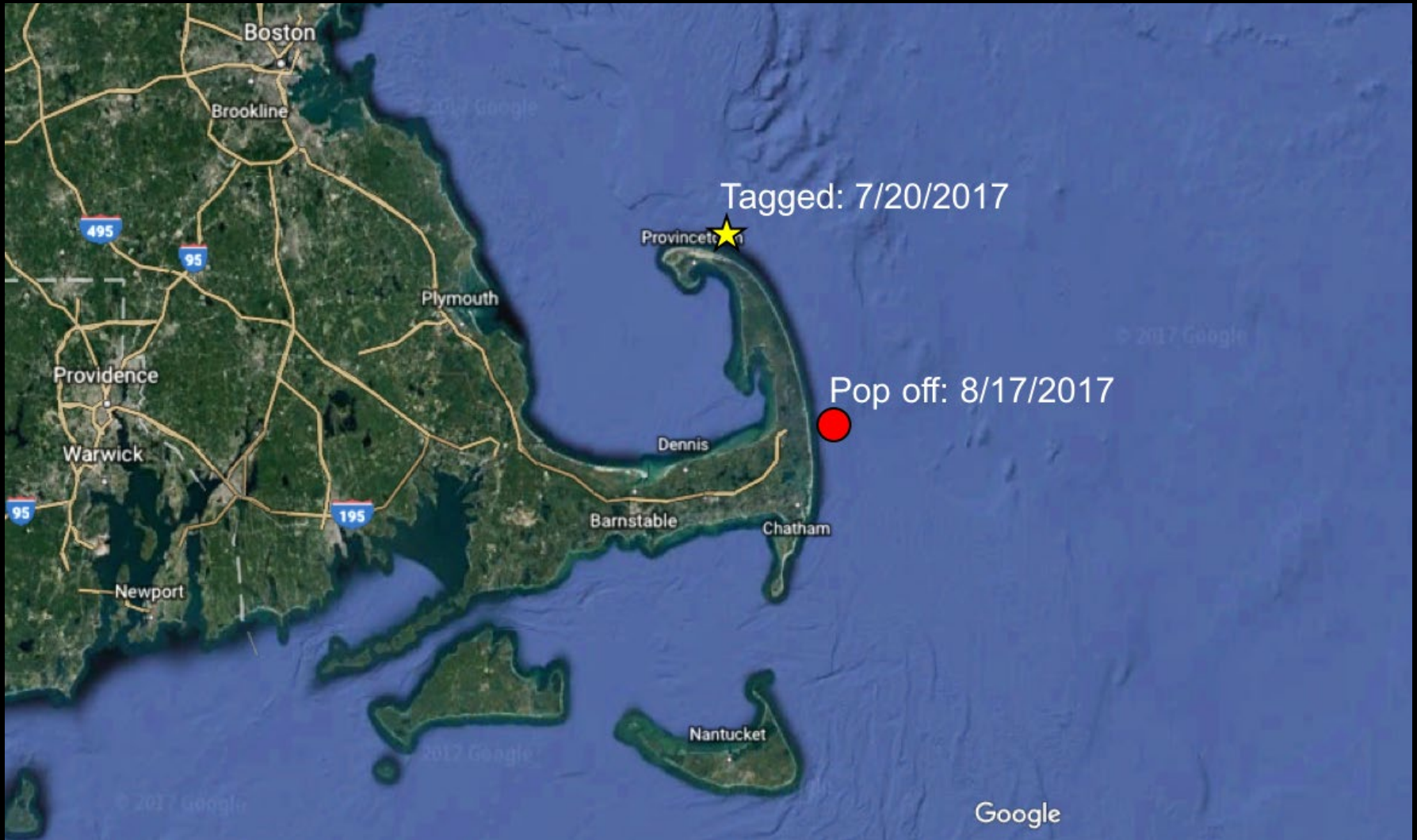
Acoustic Detections

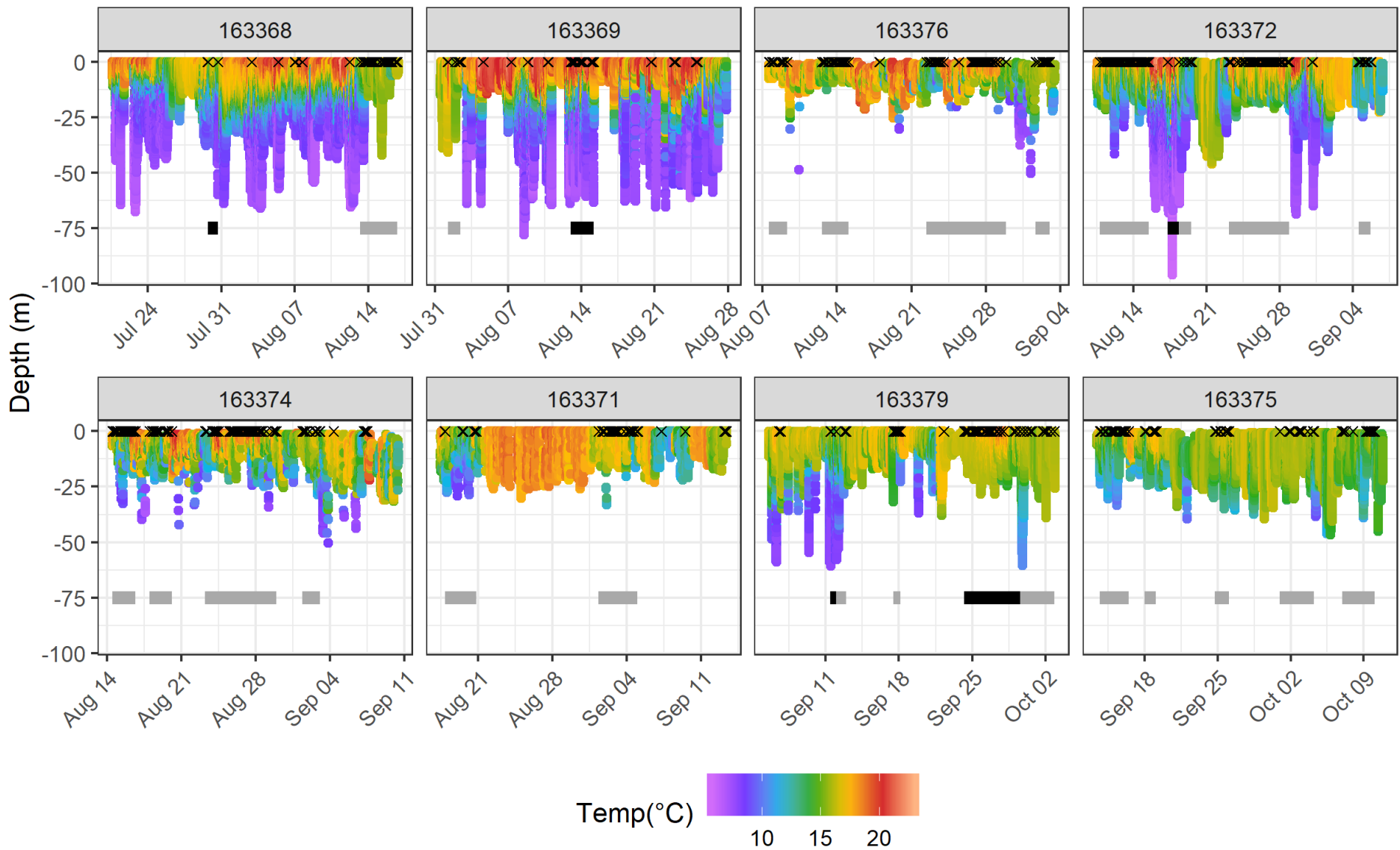
2012-2018



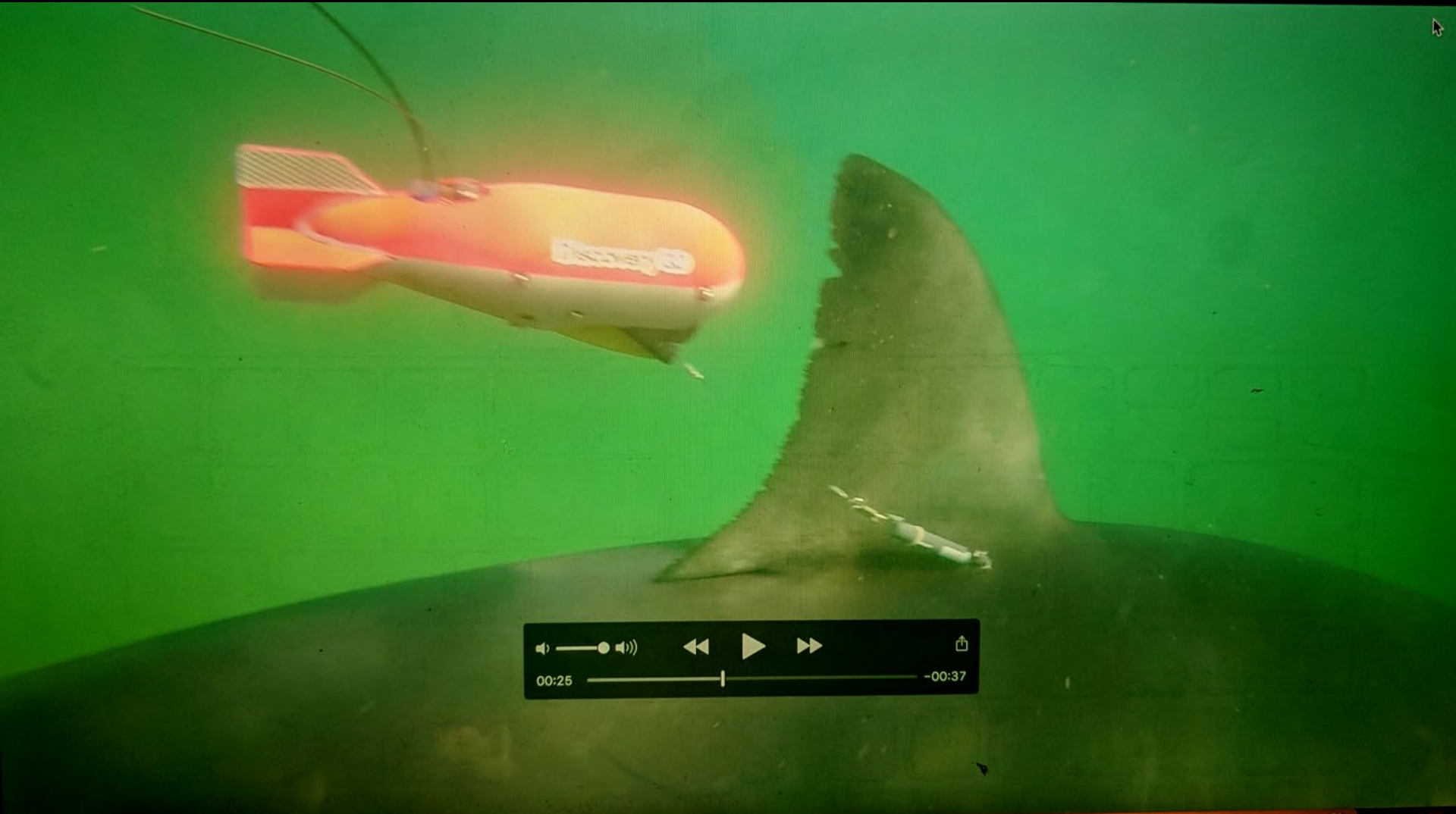
Cape Cod Movements: Satellite-based Tag

28-day Pop-up Satellite Tag





Acceleration Data Loggers

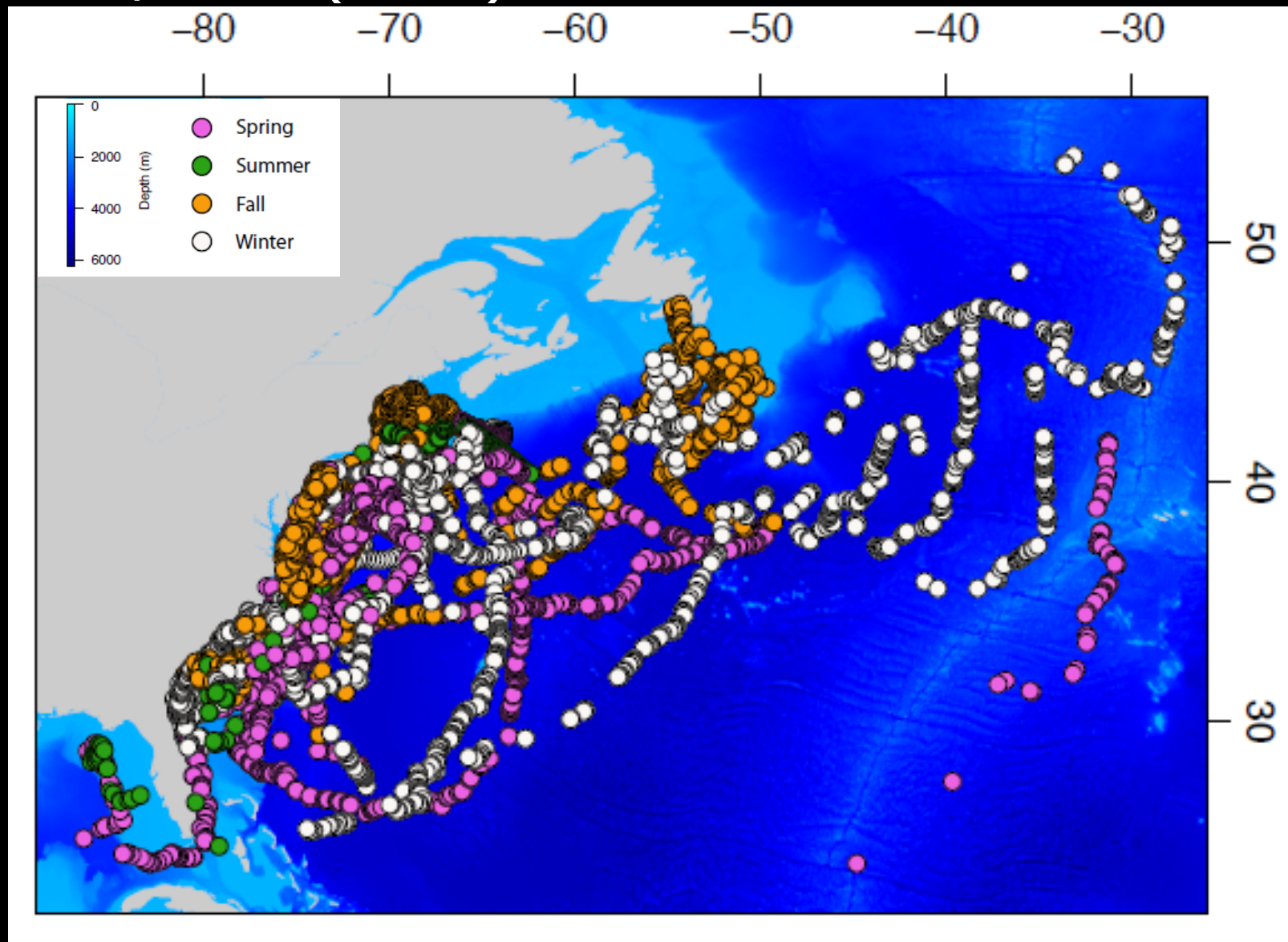


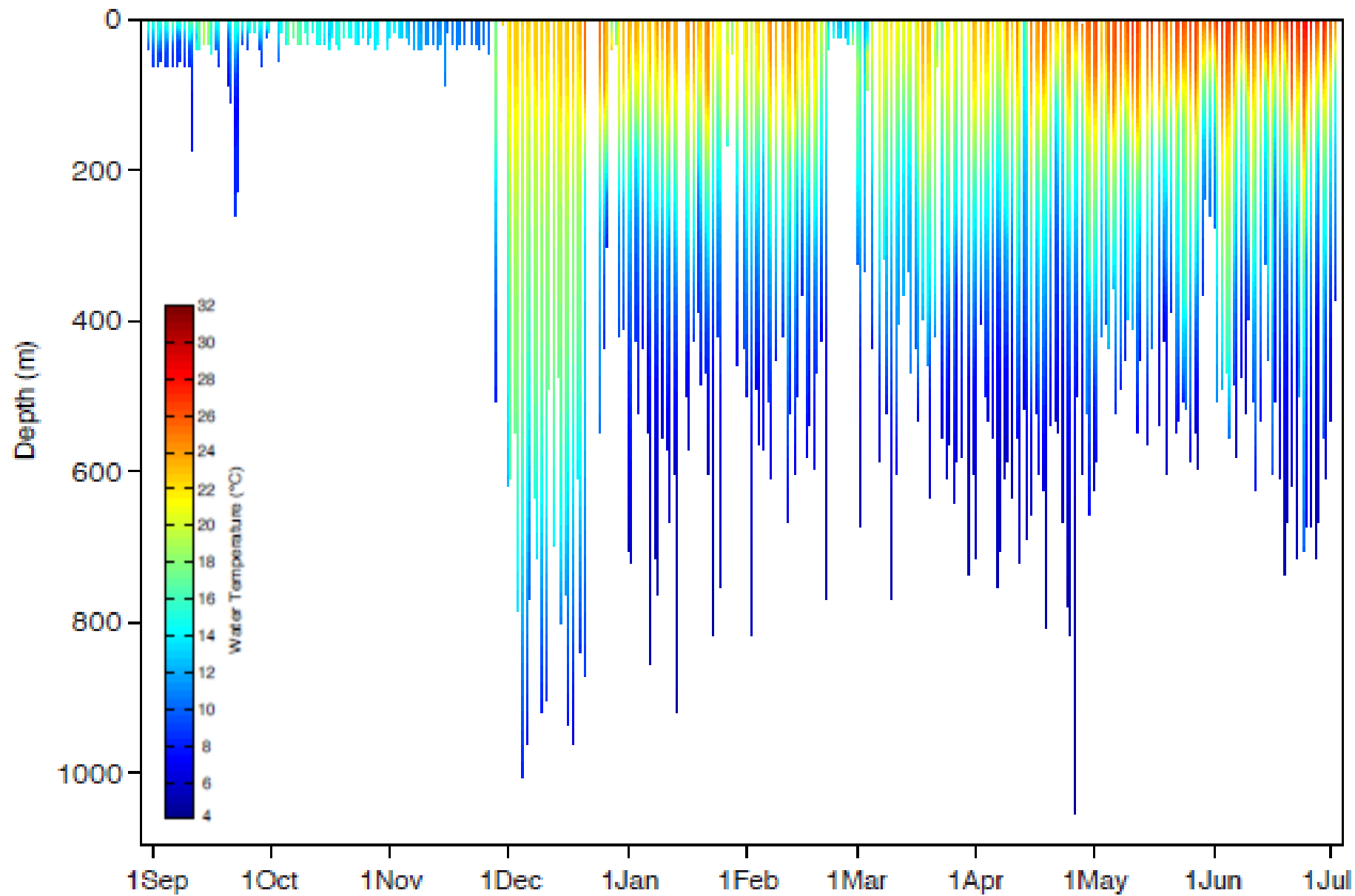
Broad-scale Movements



Broad-Scale Movements

PSAT/SPOT (n=28)





Questions?

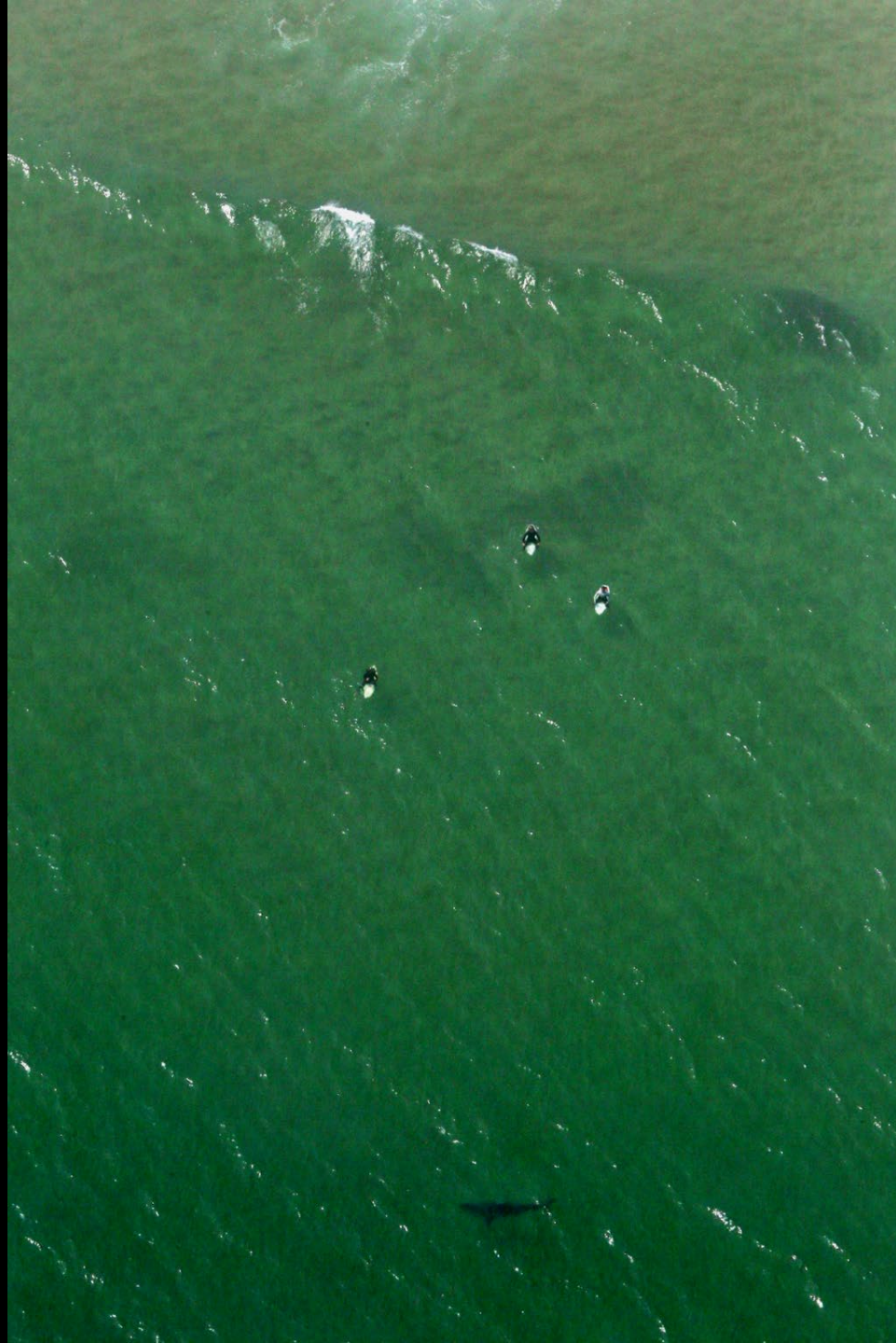


2004

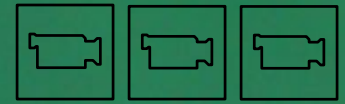
A white shark? Really?
Where?





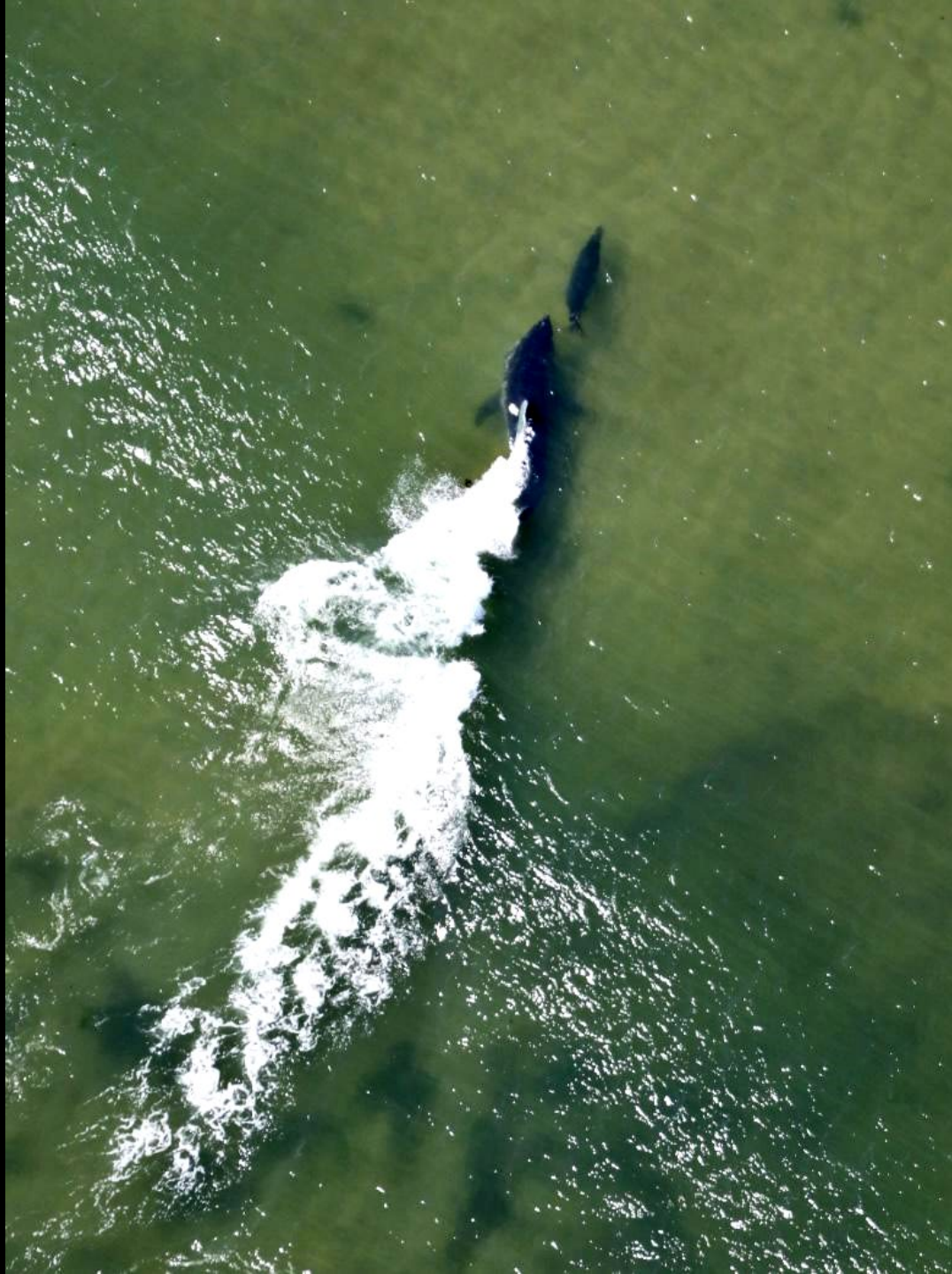


Tagging



Wayne Davis

Coastal

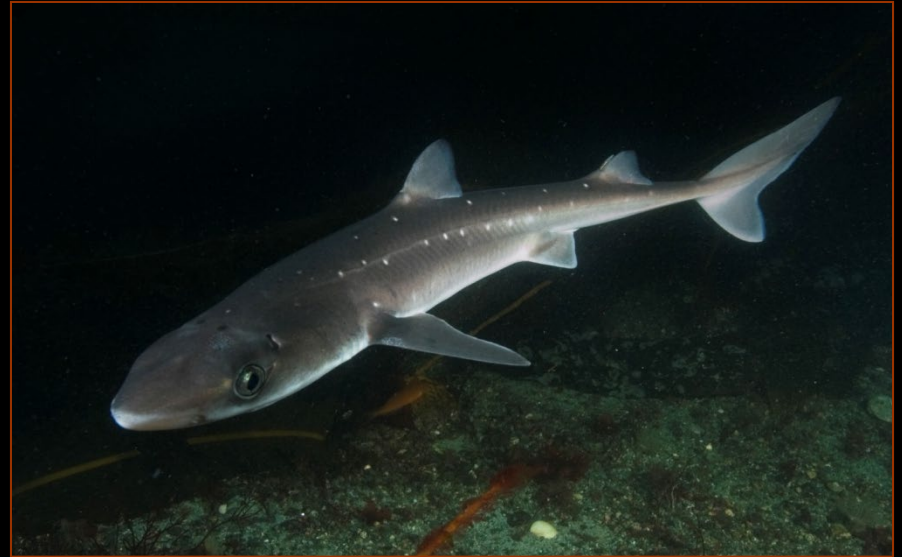


Wayne Davis

Sand Sharks = Dogfish

Spiny Dogfish

Squalus acanthias



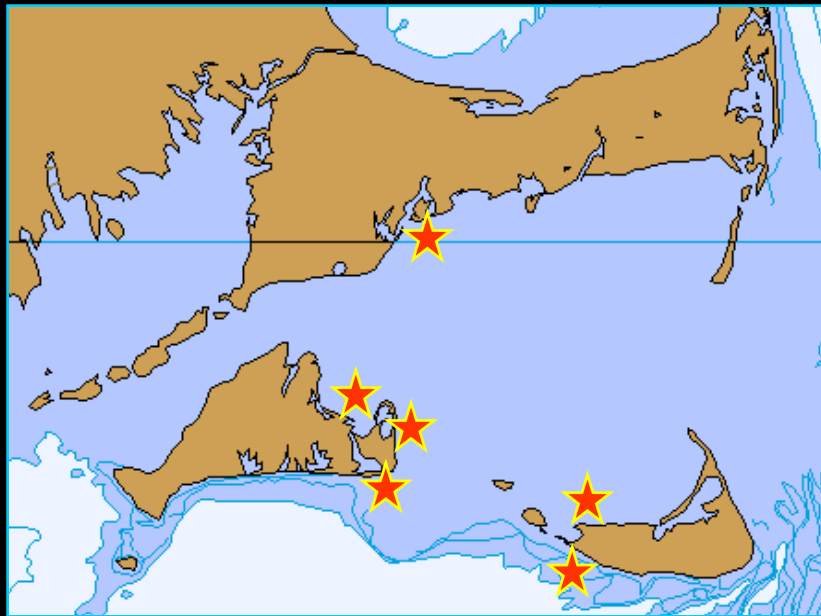
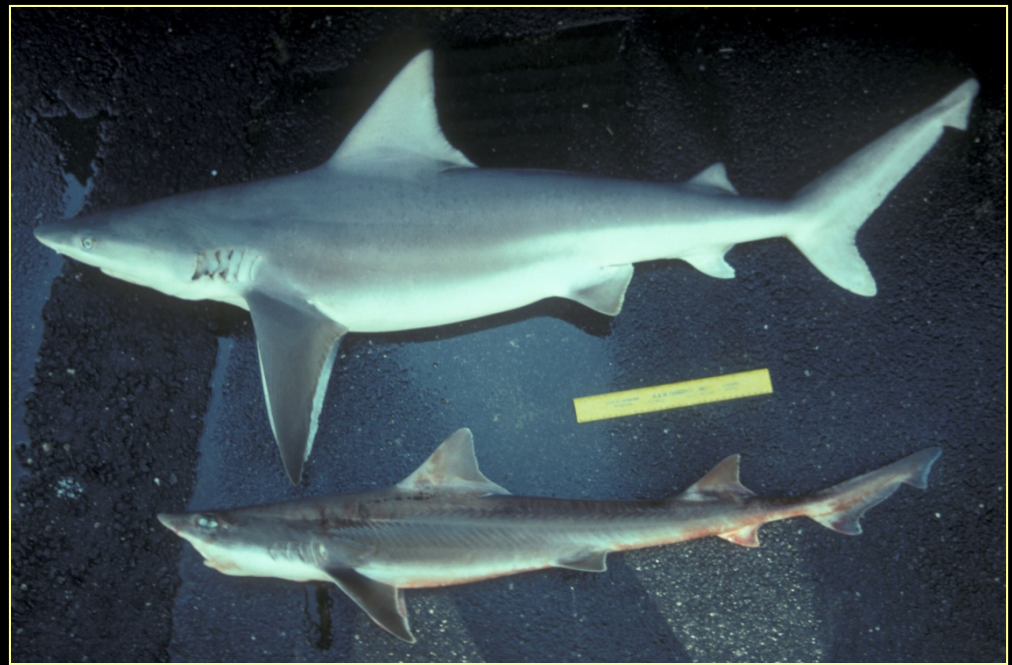
Smooth Dogfish

Mustelus canis



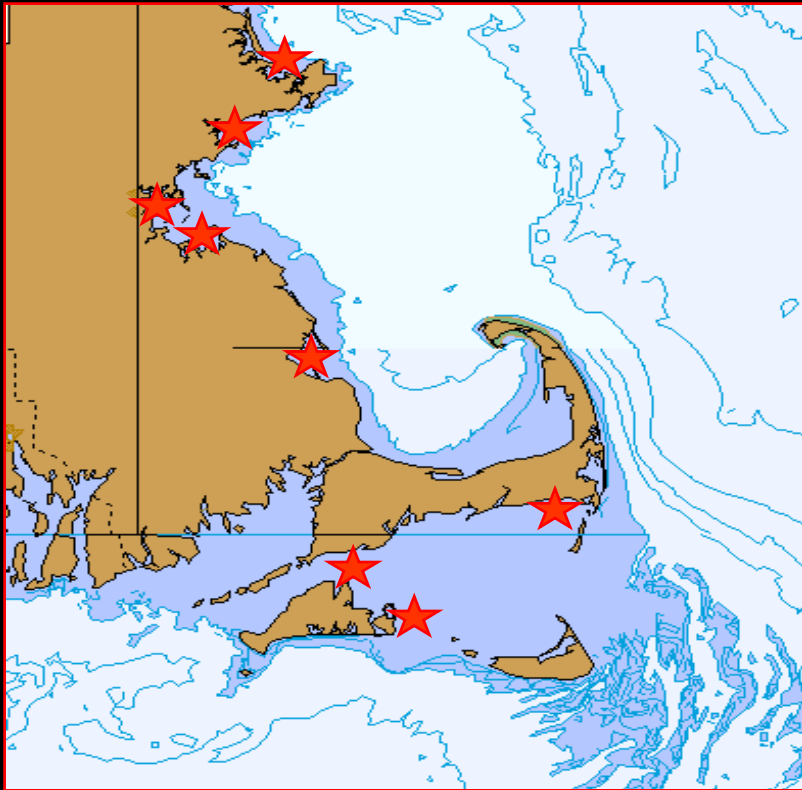
Sandbar Shark

Carcharhinus plumbeus



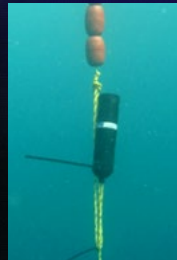
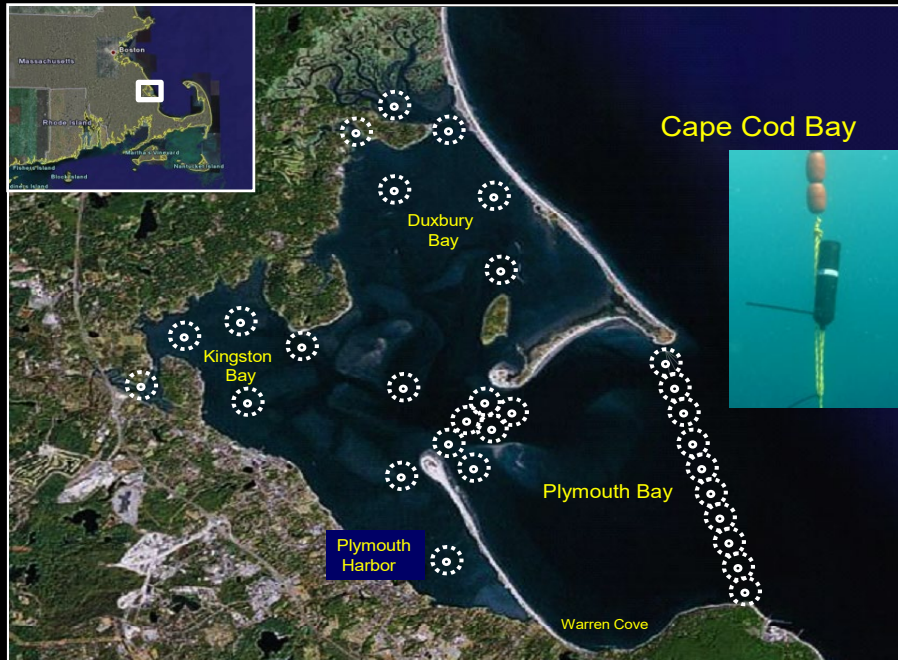
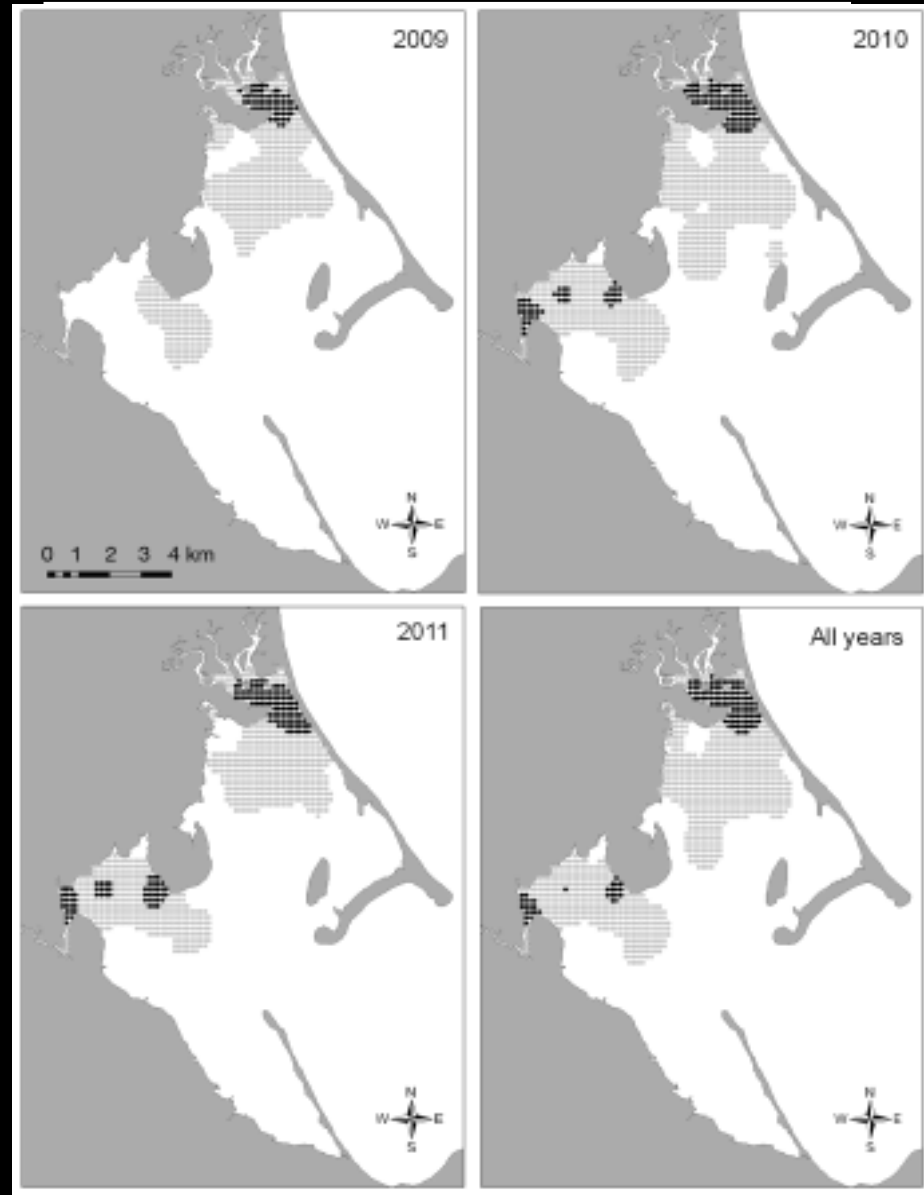
Sand tiger

Carcharias taurus



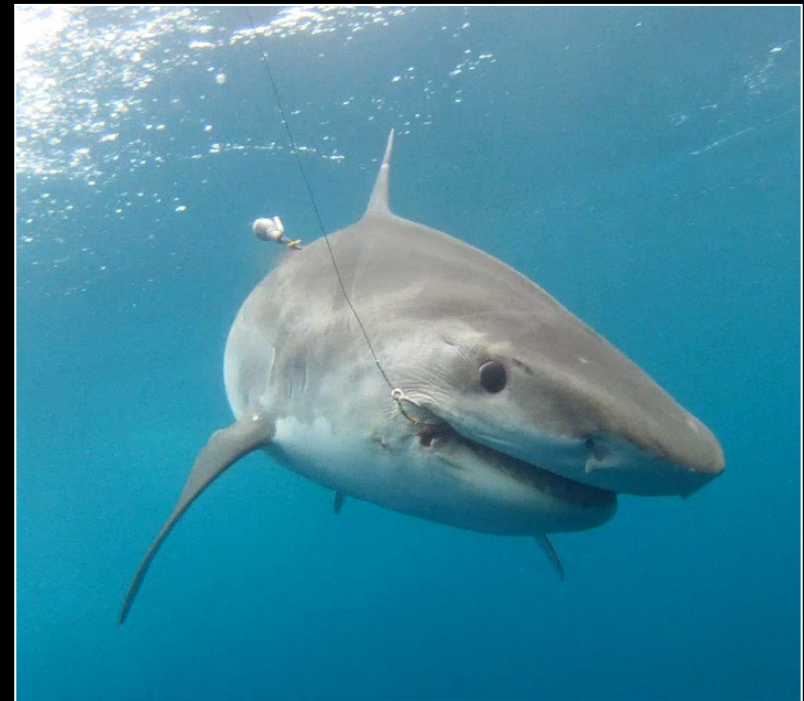
Sand tiger

Plymouth, Kingston, Duxbury Bay – 2009-2012



Tiger Shark

Galeocerdo cuvier



Offshore

Inshore/Offshore