
Final Report of the Mid-Atlantic Marine Wildlife
Surveys, Modeling, and Data: Workshop to
Establish Coordination & Communication
Appendix D: Presentations

July 2013

Presentation #10

**Mid-Atlantic Aerial Surveys
for Marine Mammals, Sea Turtles
and Other Large Marine Vertebrates
1998 - 2012**

**What we did...
and where we did it...**

**William McLellan
UNC Wilmington**



Team Approach



Extensive marine mammal management experience
15 years of vessel surveys in the mid-Atlantic
experience with acoustic monitoring



Extensive experience with survey design
Literally “wrote the book” on line transect surveys



Extensive marine mammal stranding response
and survey experience all aimed at conservation



They invented the ocean...

Aerial Surveys

Methods

- CFR Part 135 certified aircraft
- 2 dedicated pilots
- Surveys conducted at 305 m and ~185 km/hr
- 2 observers conducting separate strip surveys



Aerial Surveys

Methods

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Line Transect Methodology

On Effort

Recording trackline points

Recording environmental variables



Line Transect Methodology

Sighting cue observed

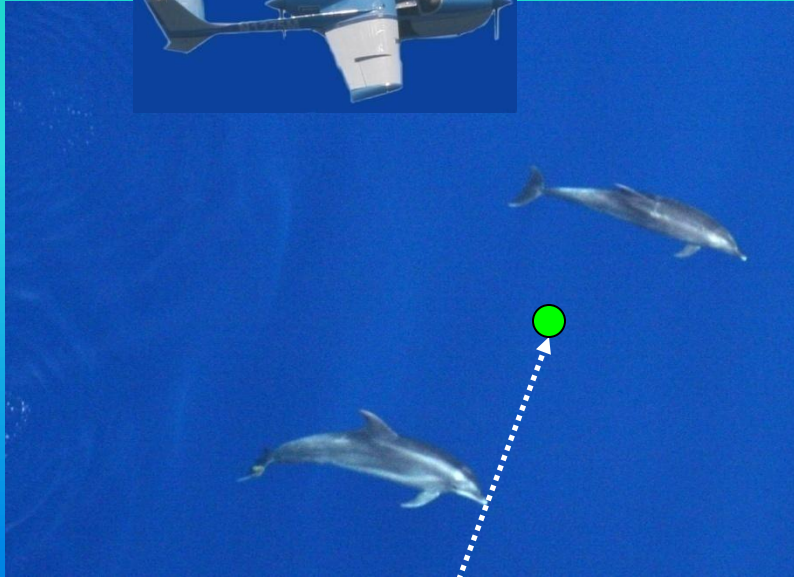


1. Break from track line

- Record GPS position and time
- Record cue and confidence
- Record horizontal and vertical angle to cue
- Go Off Effort
- Direct pilots to location of cue



Line Transect Methodology



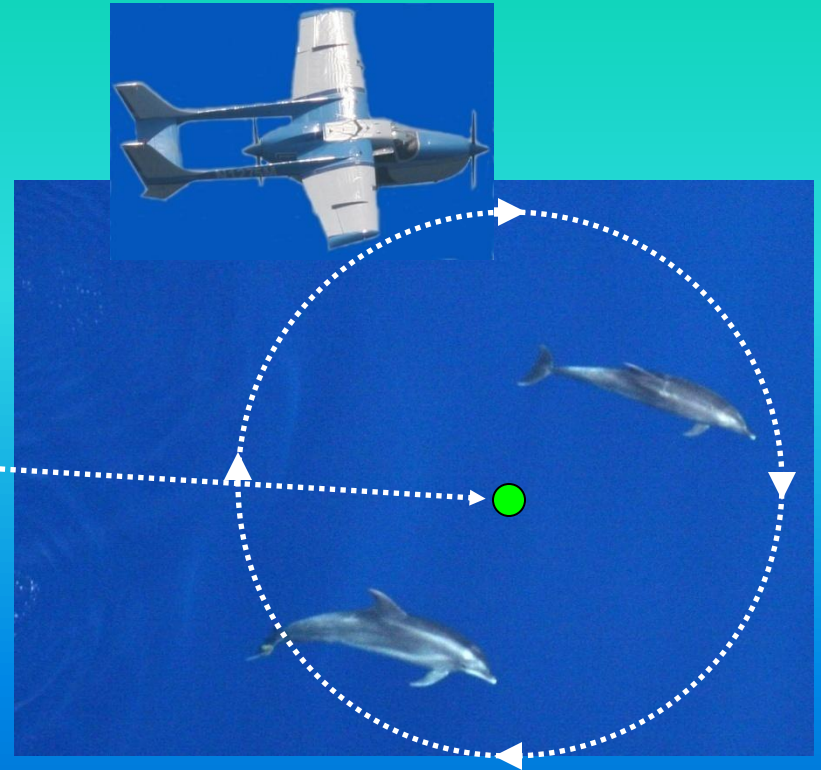
2. Actual Location

- Record GPS position and time
- Photo documentation
- Estimate group size
- Identify probable species
- Note behavior

Line Transect Methodology

3. Final Location

- Record GPS position and time



Line Transect Methodology

4. Rejoin track line

- Return to location of break
- Record GPS position and time
- Resume On Effort survey



Species ID protocol

Initial species ID is made in the field while reviewing images.

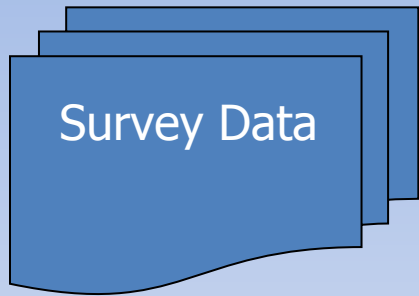
Final species ID is made after reviewing digital images in lab.

If in doubt of species ID sighting is labeled as unidentified.

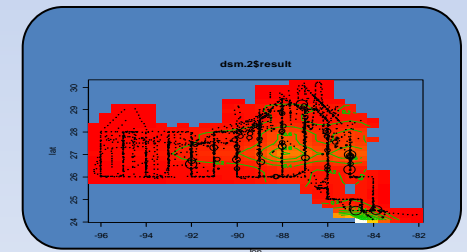
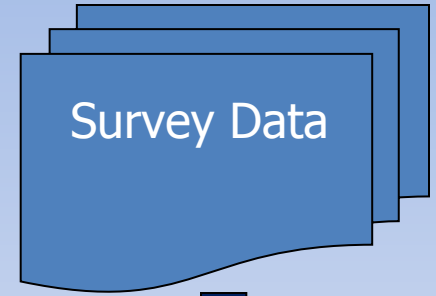
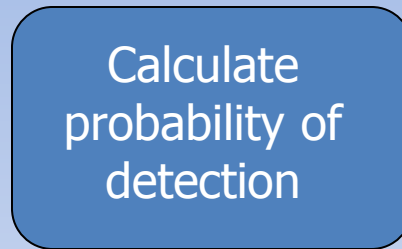
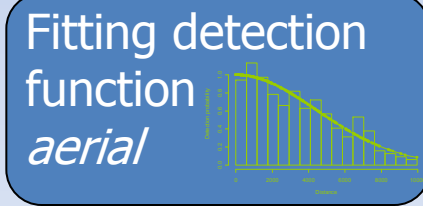
Over 95% of all sightings are now identified to species.



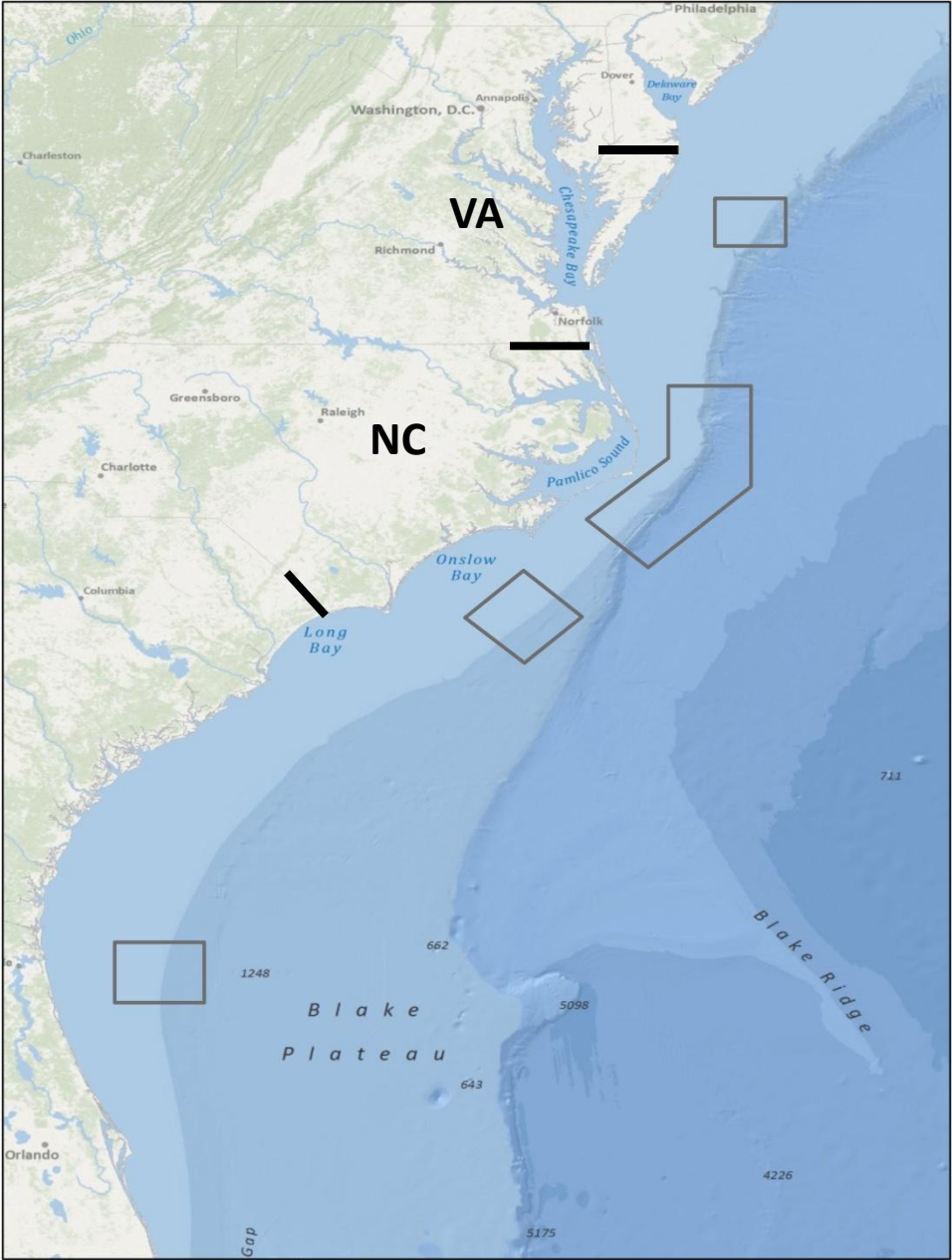
Data Analysis

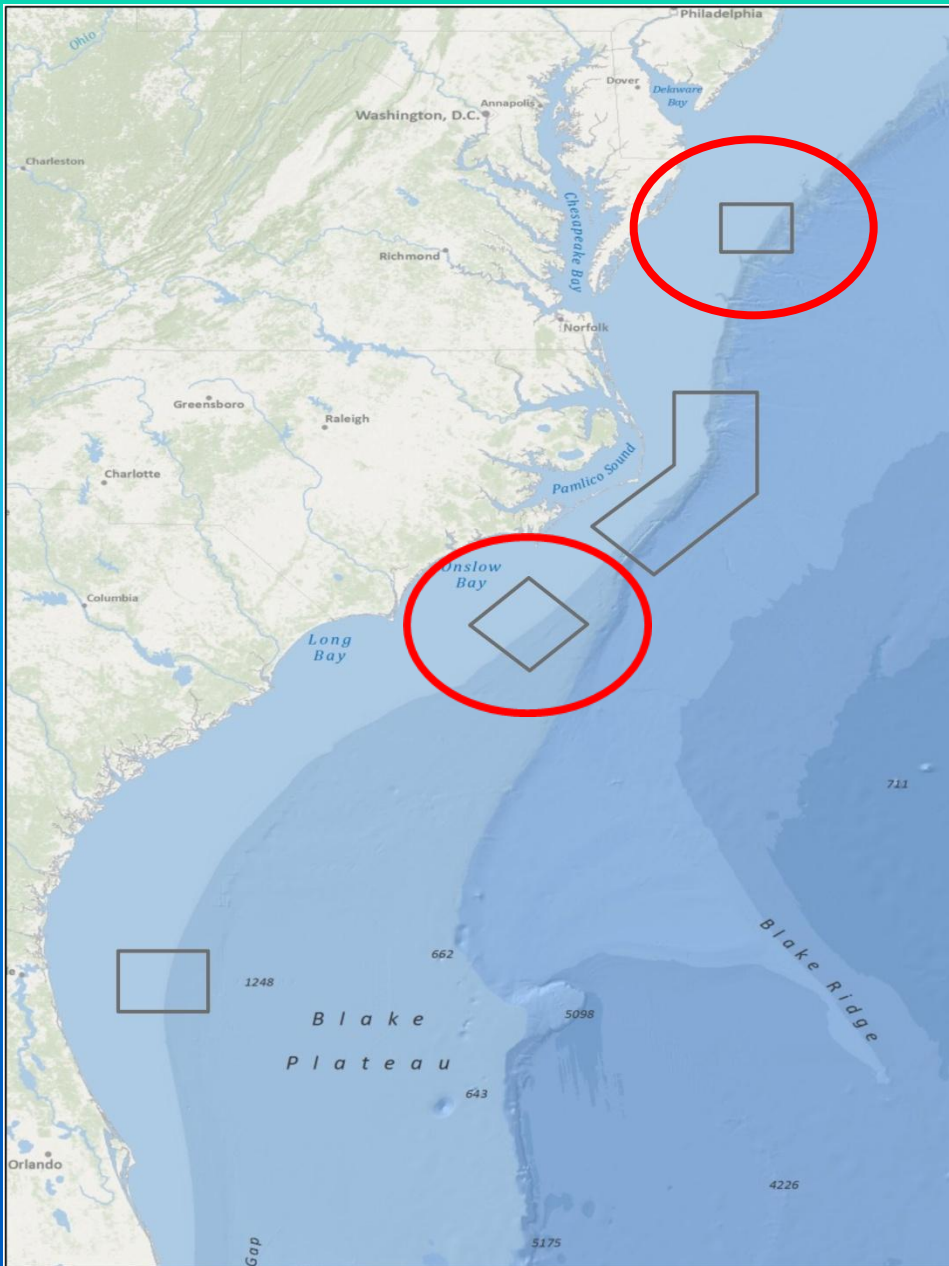


Off to Scotland



Where We Did It





Wallops Island & Onslow Bay

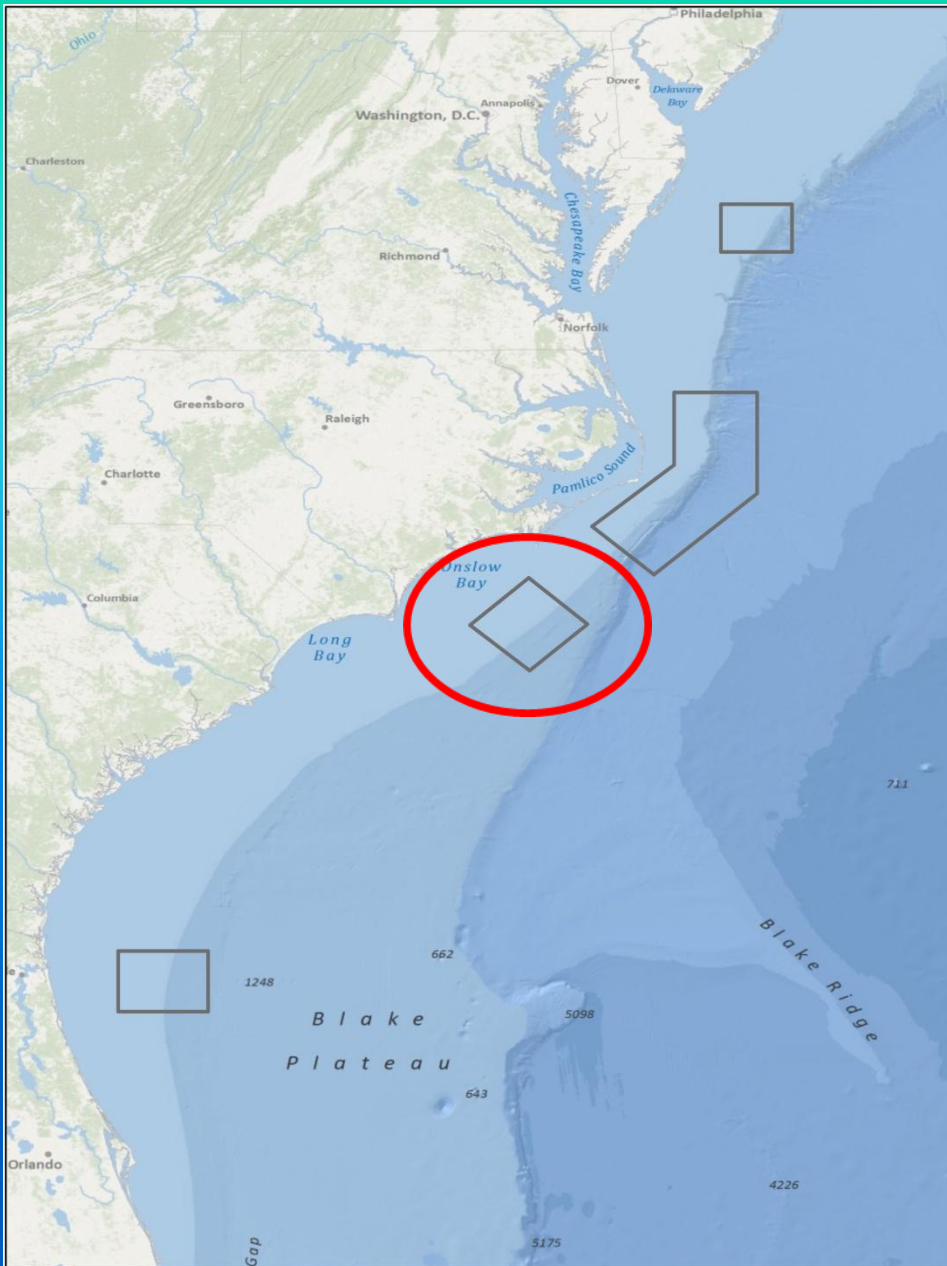
1998 - 1999

All cetaceans

Sea turtles

Large pelagic fish/sharks

Funded by US Navy



Onslow Bay

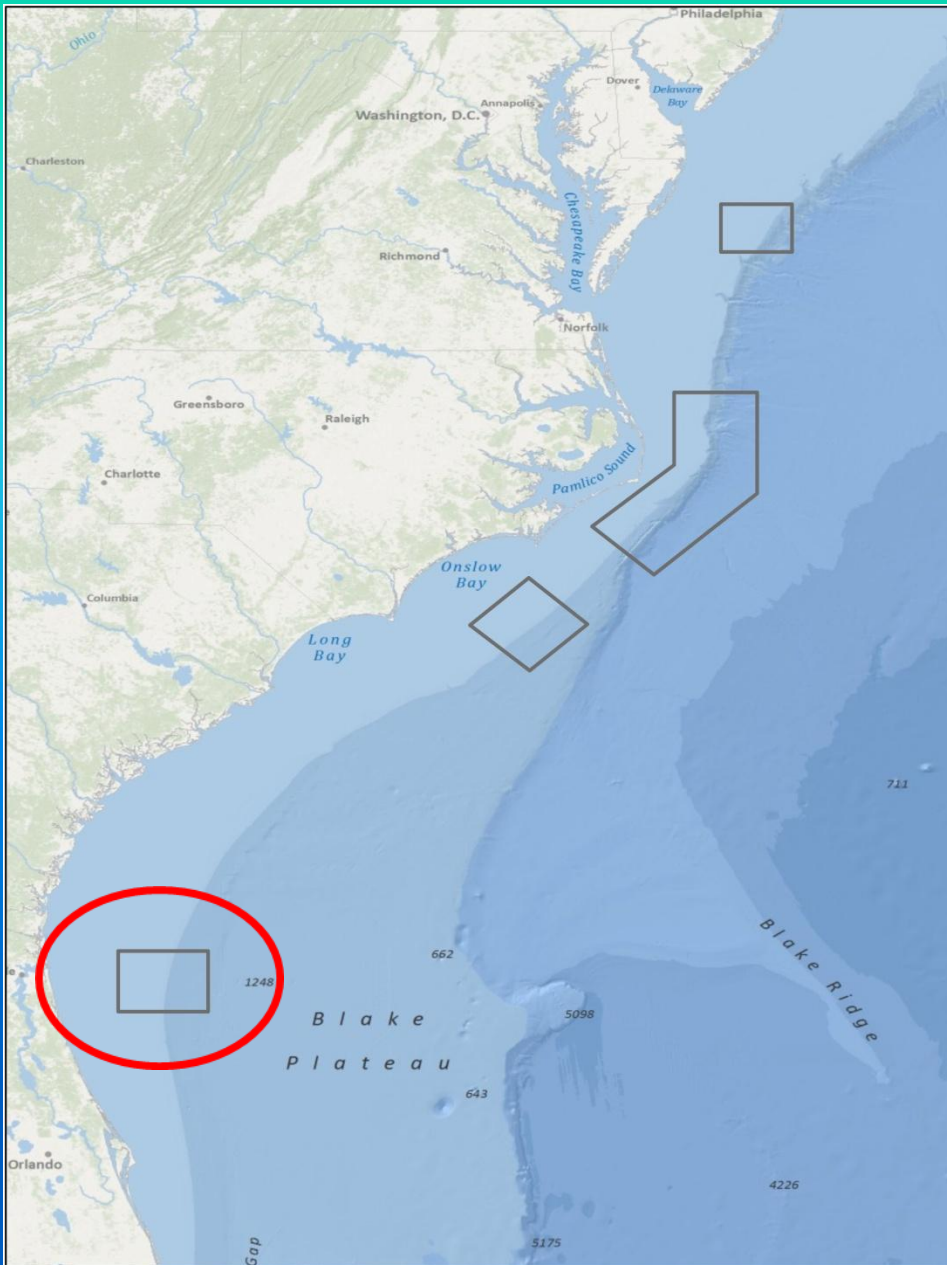
2007 – 2011

All cetaceans

Sea turtles

Large pelagics

Funded by US Navy



Jacksonville

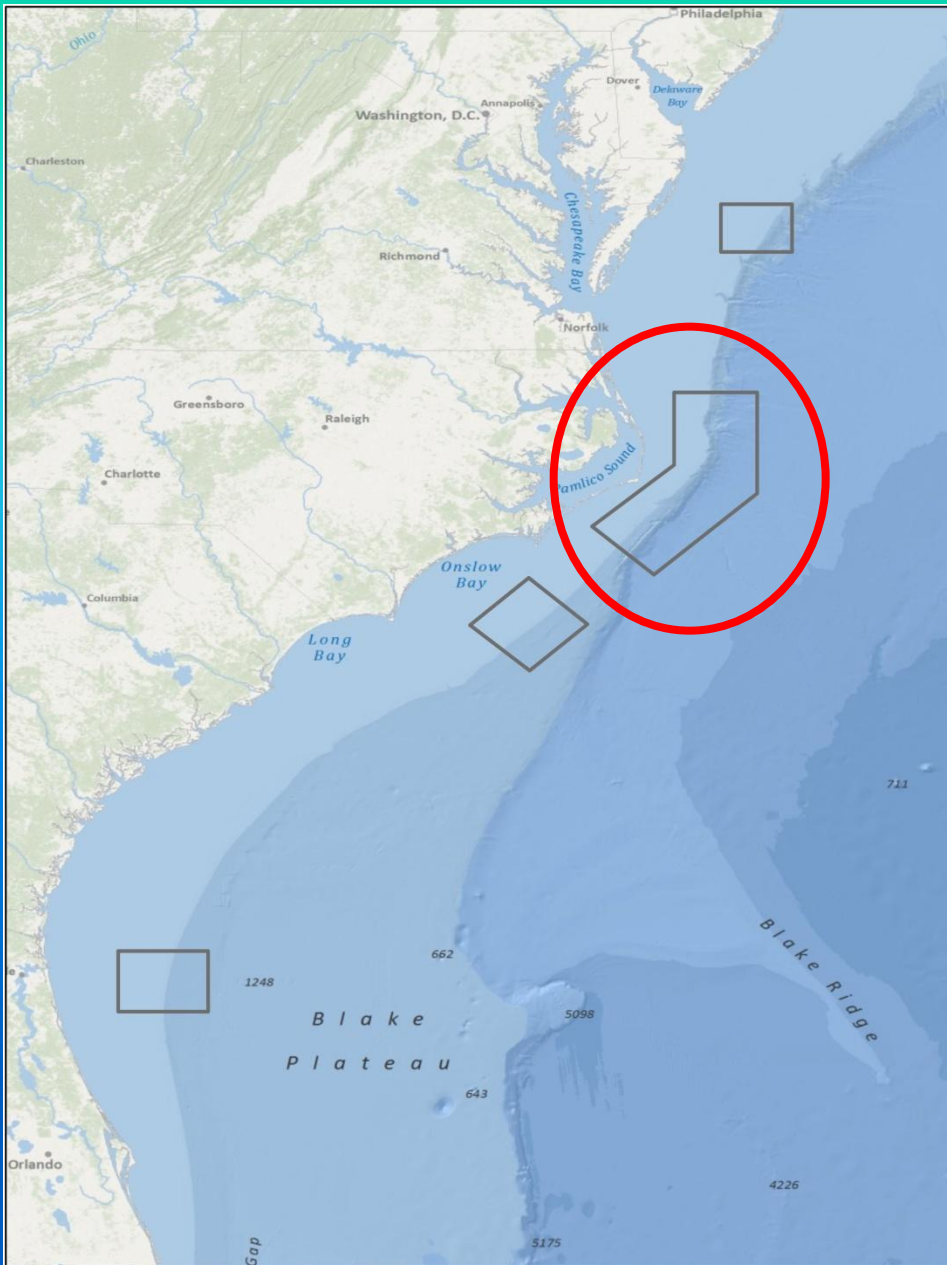
2009 – present

All cetaceans

Sea turtles

Large pelagics

Funded by US Navy



Cape Hatteras

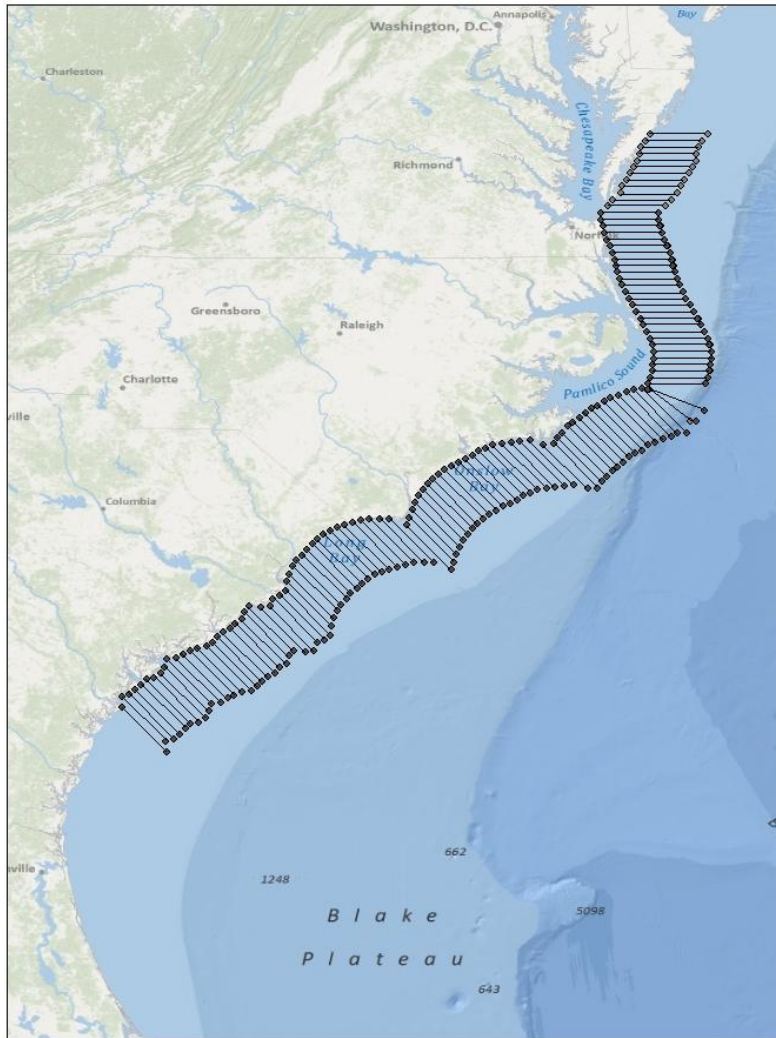
2011 - present

All cetaceans

Sea turtles

Large pelagics

Funded by US Navy



Right Whale Surveys

2001- 2008

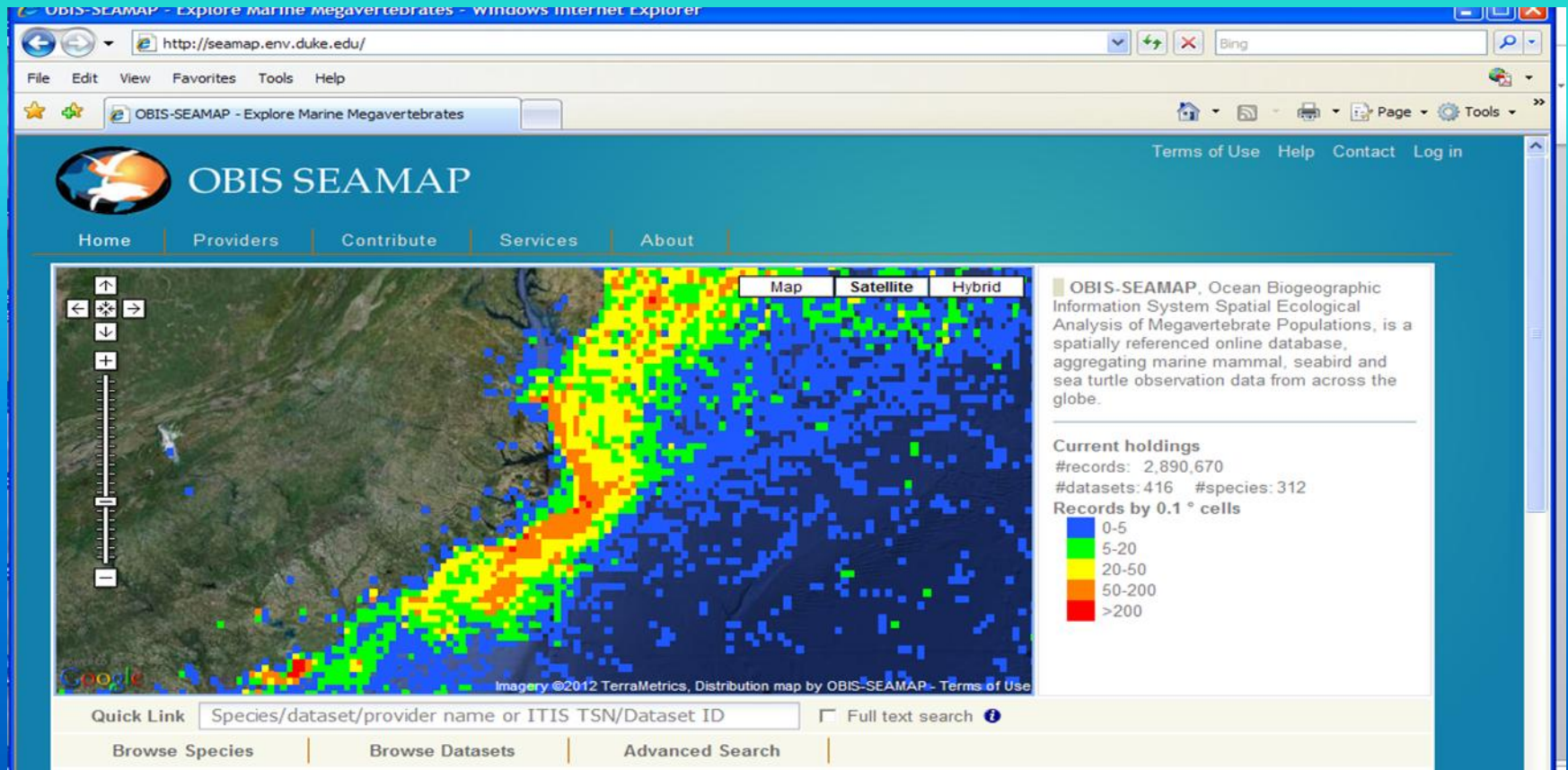
Cetaceans

Large pelagics

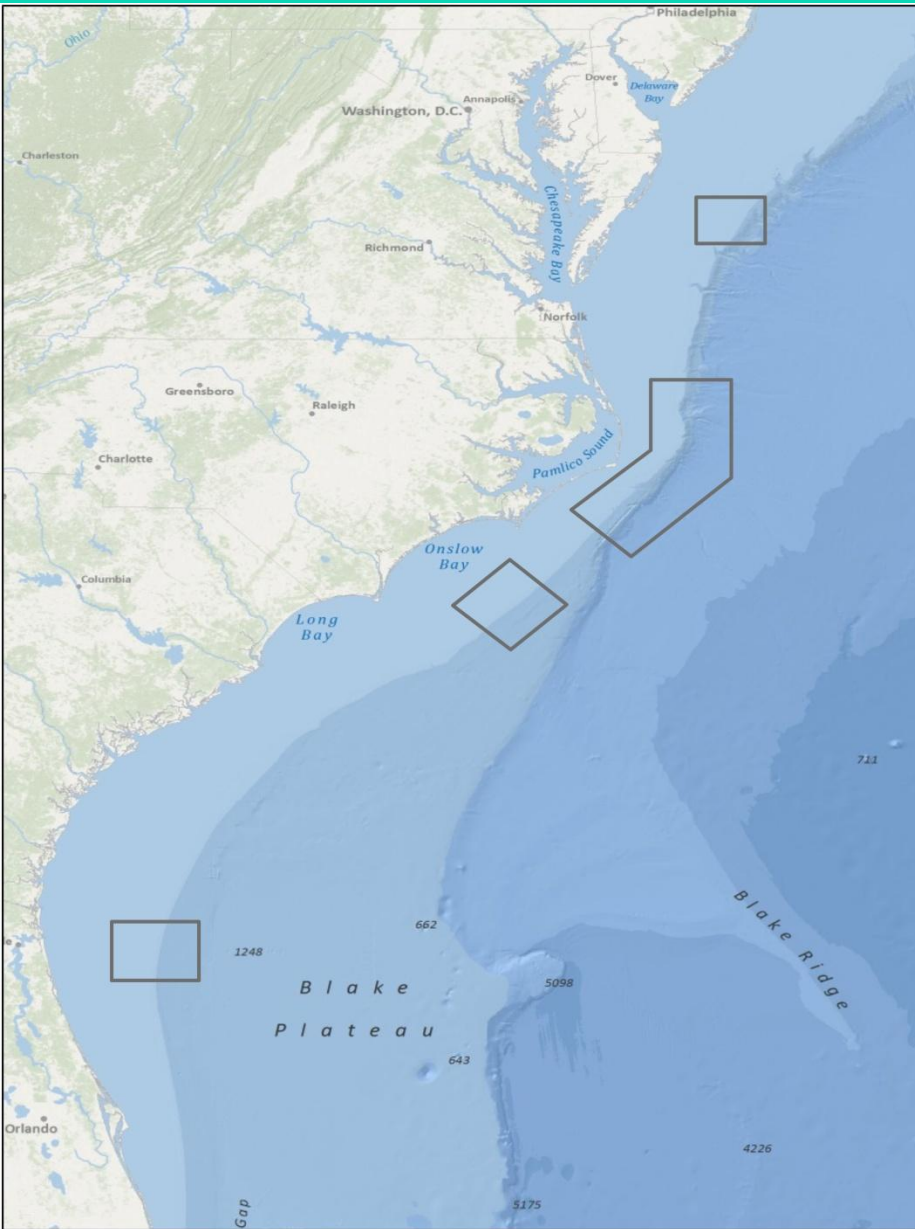
Funded by NOAA Fisheries

ALL Aerial Observations Are Now Posted On OBIS-SEAMAP

[//seamap.env.duke.edu](http://seamap.env.duke.edu)



with current data sets in cue, UNCW has provided 23 data sets to OBIS SEAMAP



Future Effort

Virginia Beach
wind energy project

Continue Cape Hatteras
monthly surveys

Continue JAX
monthly surveys

Acknowledgements

Ed Coffman and pilots of Orion Aviation

All of the observers over the years

Joel Bell, Lance Garrison, Mike Payne

Andy Read, Mark Swingle, Sue Barco

Ann Pabst

Funding from

US Navy

NOAA Fisheries



21 April 2007

25 nm offshore of the VA/NC border

All surveys conducted under NOAA Scientific Permits to UNCW