

# History of North Carolina Outer Continental Shelf Planning Efforts for Offshore Wind

BUREAU OF OCEAN ENERGY MANAGEMENT

PUBLIC INFORMATION MEETING

OCTOBER 6, 2015

# Overview



Planning and Analysis Process



Development of the North Carolina Planning & Call Areas



Addressing Remaining Multiple-Use & Environmental Conflicts



Identification of the North Carolina Wind Energy Areas (WEA)

# Stage 1: Planning and Analysis for North Carolina

## **Establish Intergovernmental Task Force; Engaged Stakeholders**

- August 2010
- January 2011: Wilmington NC
- May 2011: Raleigh, NC
- October 2011: Wilmington, NC
- August 2012: Nags Head, NC
- October 2015: Wilmington, NC

## **Area Identification**

- Announced August 2014

## **Publish Call for Information and Nominations and Notice of Intent to Prepare an Environmental Assessment**

- Published December 13, 2012
- Public Meetings January 2013
- Comment Period Closed March 7, 2013

## **Complete Environmental Compliance Reviews**

- Published NOA Environmental Assessment Jan. 22, 2015
- 30 day Comment Period
- Published EA and FONSI September 2015

# Stage 1: Planning and Analysis for North Carolina

## BOEM NC Task Force

- August 2010
- January 2011
- May 2011
- October 2011
- August 2012
- October 2015

### NC Call

- Removed Planning Areas 3 & 4 from Immediate Consideration to Address NPS Concerns
- Published December 13, 2012
- Public Meetings January 2013

### Fishing, Diving & Ecotourism Study

- Completed 2013
- Focus on Access and Conflicts

### Area Identification Announced

- August 2014

### Visual Simulation Study

- Completed Mid-2012
- Presented to the Task Force

### Navigation & Viewshed Stakeholder Efforts

- **Maritime Working Group**
  - December 2013; June 2013;
  - Survey Questionnaire October 2013
- **Visual Simulation Open Houses**
  - January 2013; August 2013
  - Announced Area ID August 2014

### Benthic Habitat Mapping of Wilmington East

- Geophysical Surveys
- Diver Surveys

# Area Delineation Process



Formulation of  
BOEM  
North Carolina  
Renewable Energy  
Task Force



Identification of  
Siting Concerns  
and Relevant  
Stakeholders



Compile Existing  
information and  
determine if  
additional data  
analysis or  
collection is  
needed



Conduct additional  
analysis, outreach  
and deliberation.



Determination of  
Area to be included  
in a Federal  
Register Notice  
(Call for  
Information and  
Nominations)

Task Force and Stakeholder Input



# Development of the North Carolina Call Areas

Federal, State and  
NGO Initiated  
Studies

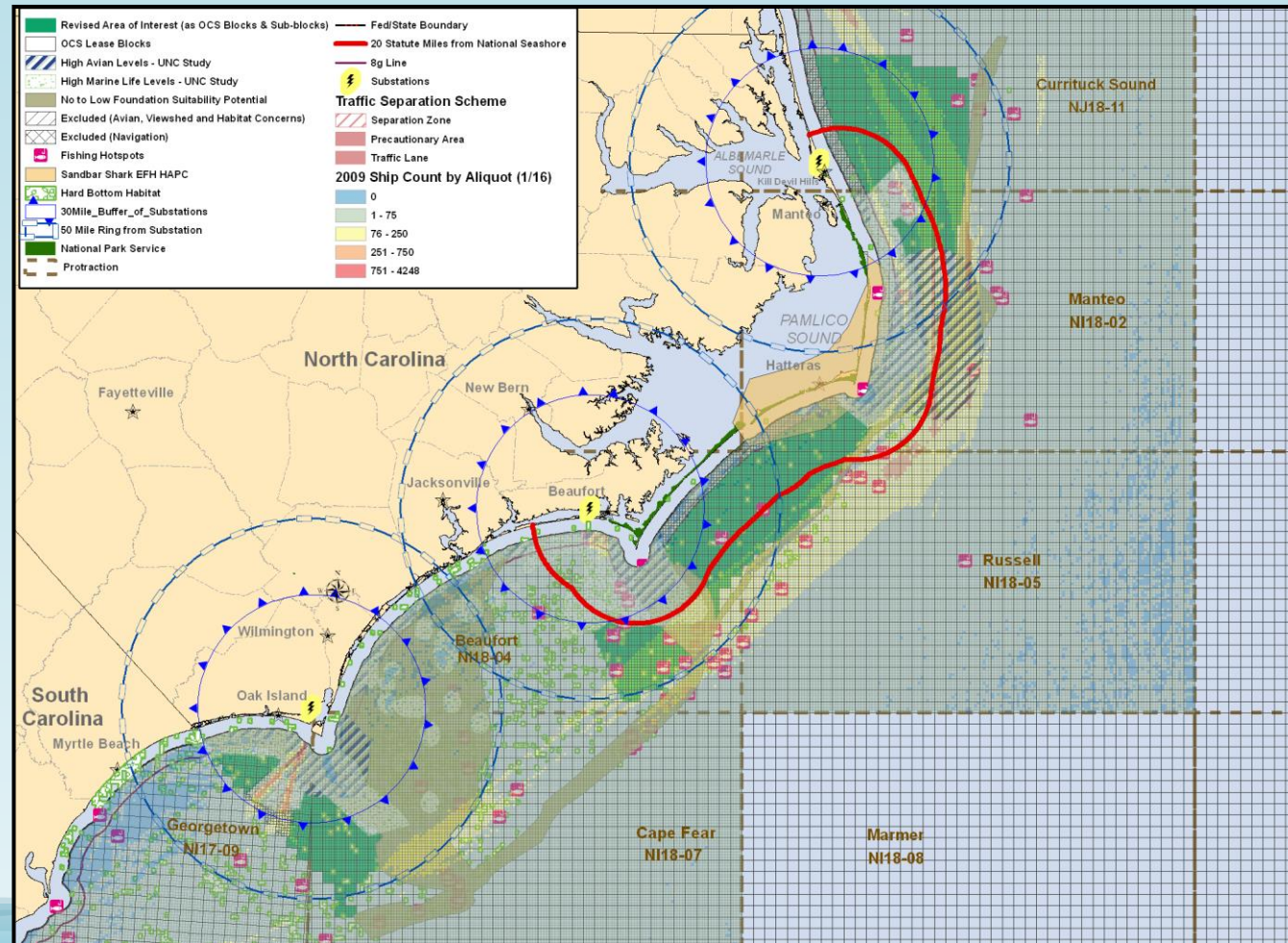
Lessons Learned  
From the  
Delineation of Other  
Call Areas

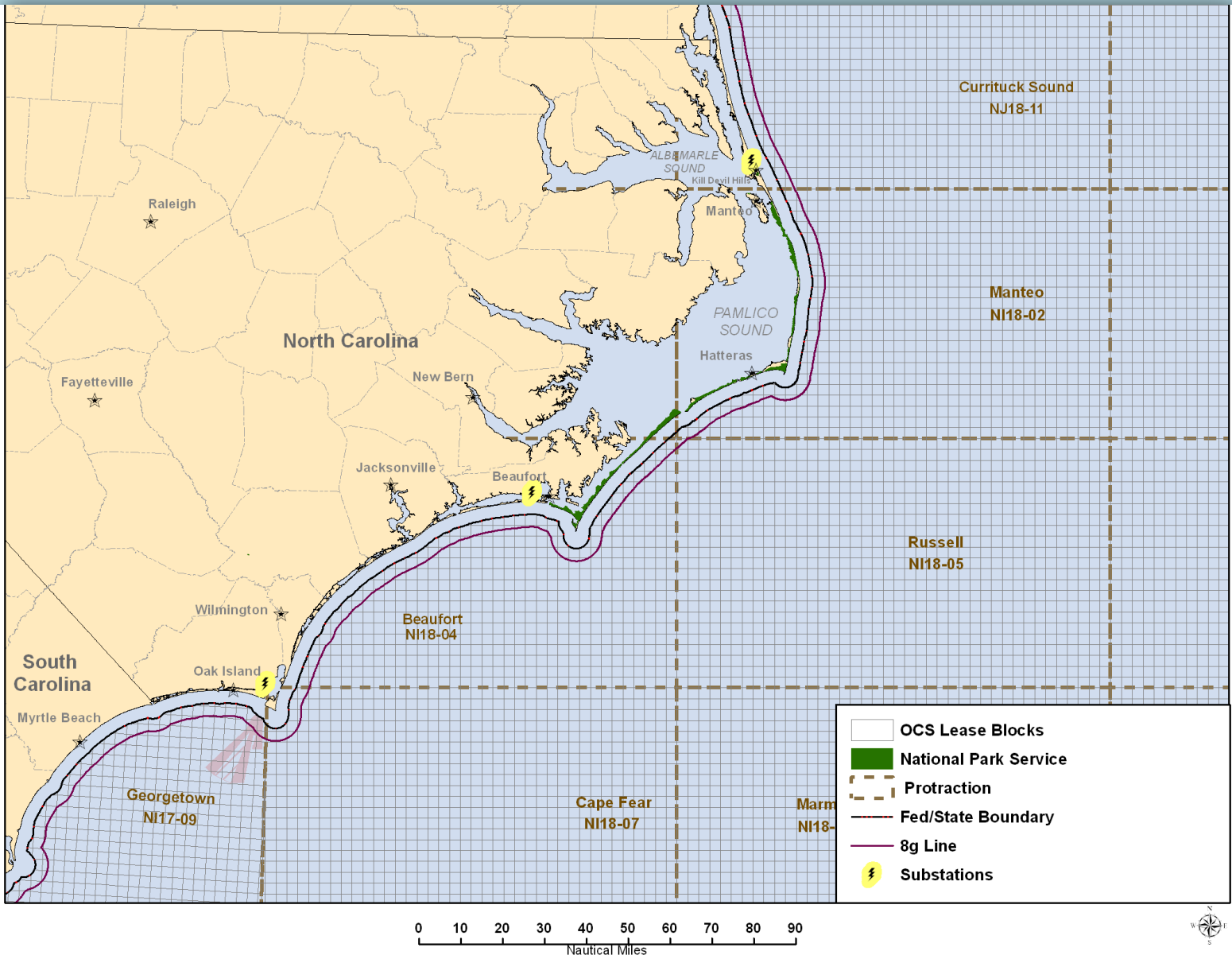
BOEM North  
Carolina Renewable  
Energy Task Force  
Dialogue

Analysis of Available  
Data

Stakeholder Input

Motivated Partners





A	B	C	D	A	B	C	D
E	F	G	H	E	F	G	H
<b>6629</b>				<b>6630</b>			
I	J	K	L	I	J	K	L
M	N	O	P	M	N	O	P
A	B	C	D	A	B	C	D
E	F	G	H	E	F	G	H
<b>6679</b>				<b>6680</b>			
I	J	K	L	I	J	K	L
M	N	O	P	M	N	O	P

1 OCS Block

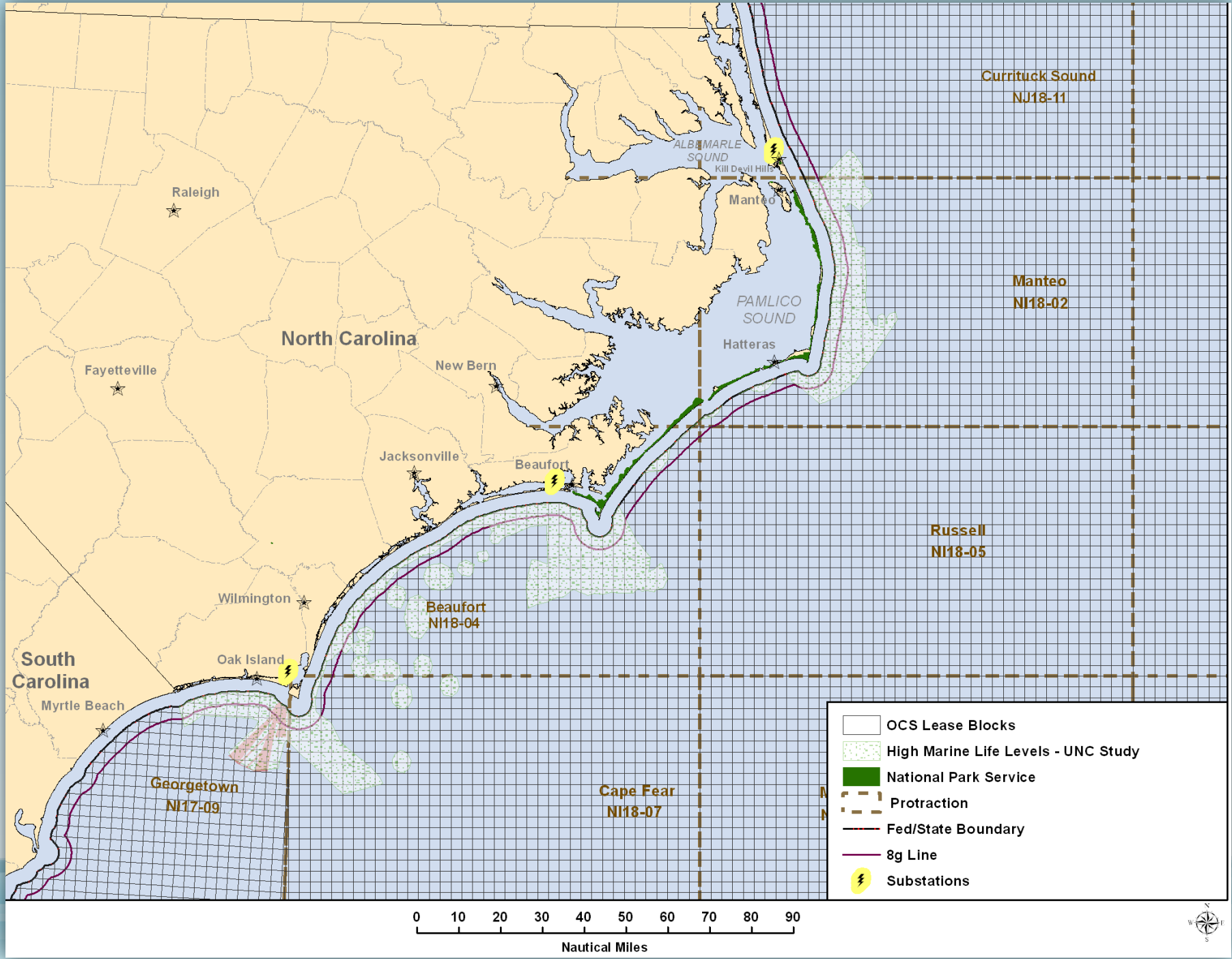
- 4800 meters x 4800 meters
- 3204 hectares

1 Aliquot = 1/16 of an OCS Block

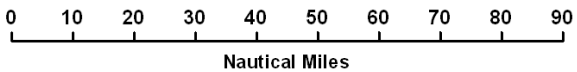
- 1200 meters x 1200 meters
- 144 hectares

Federal/State Boundary (SLA)

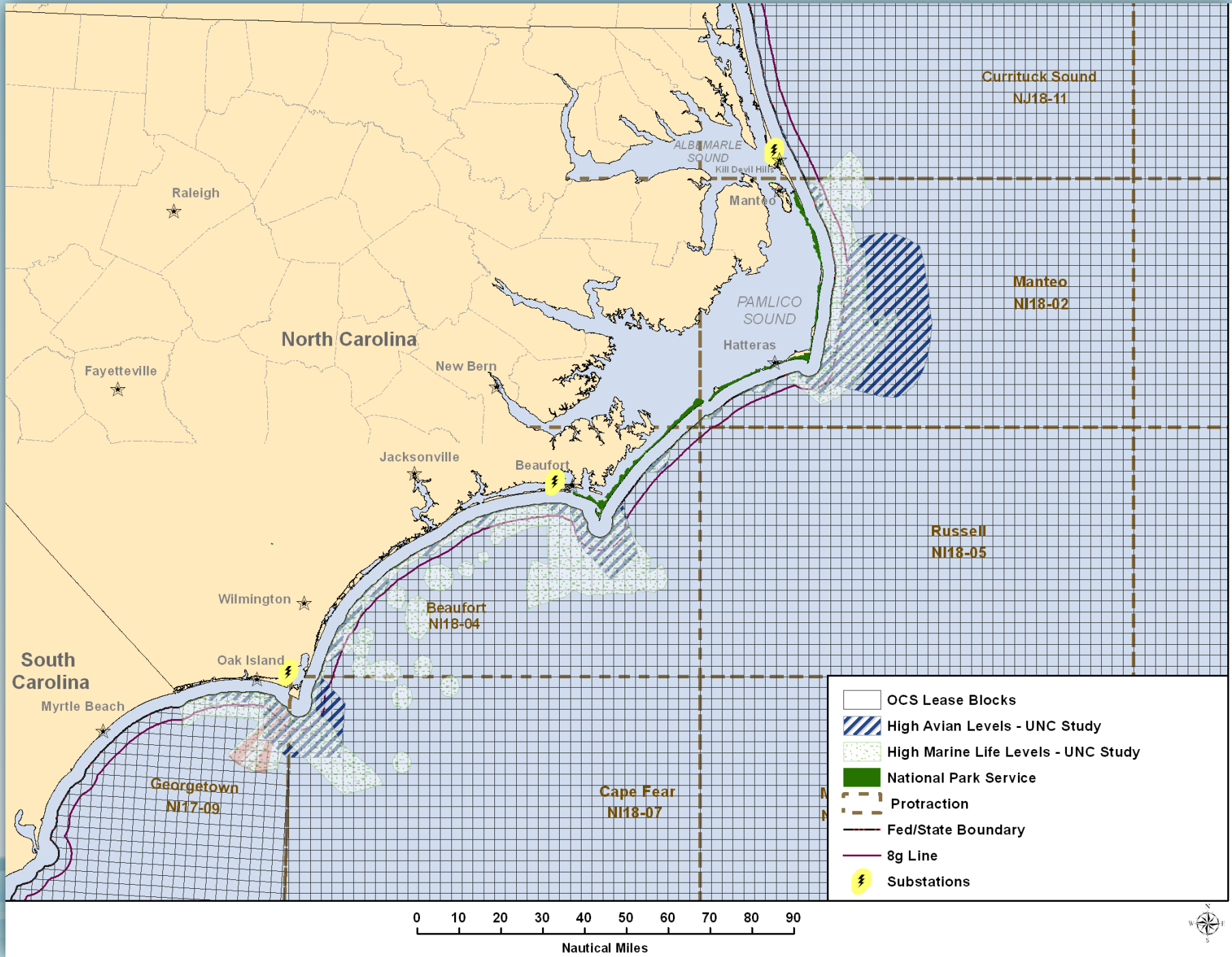
- 3 statue miles from the coastline

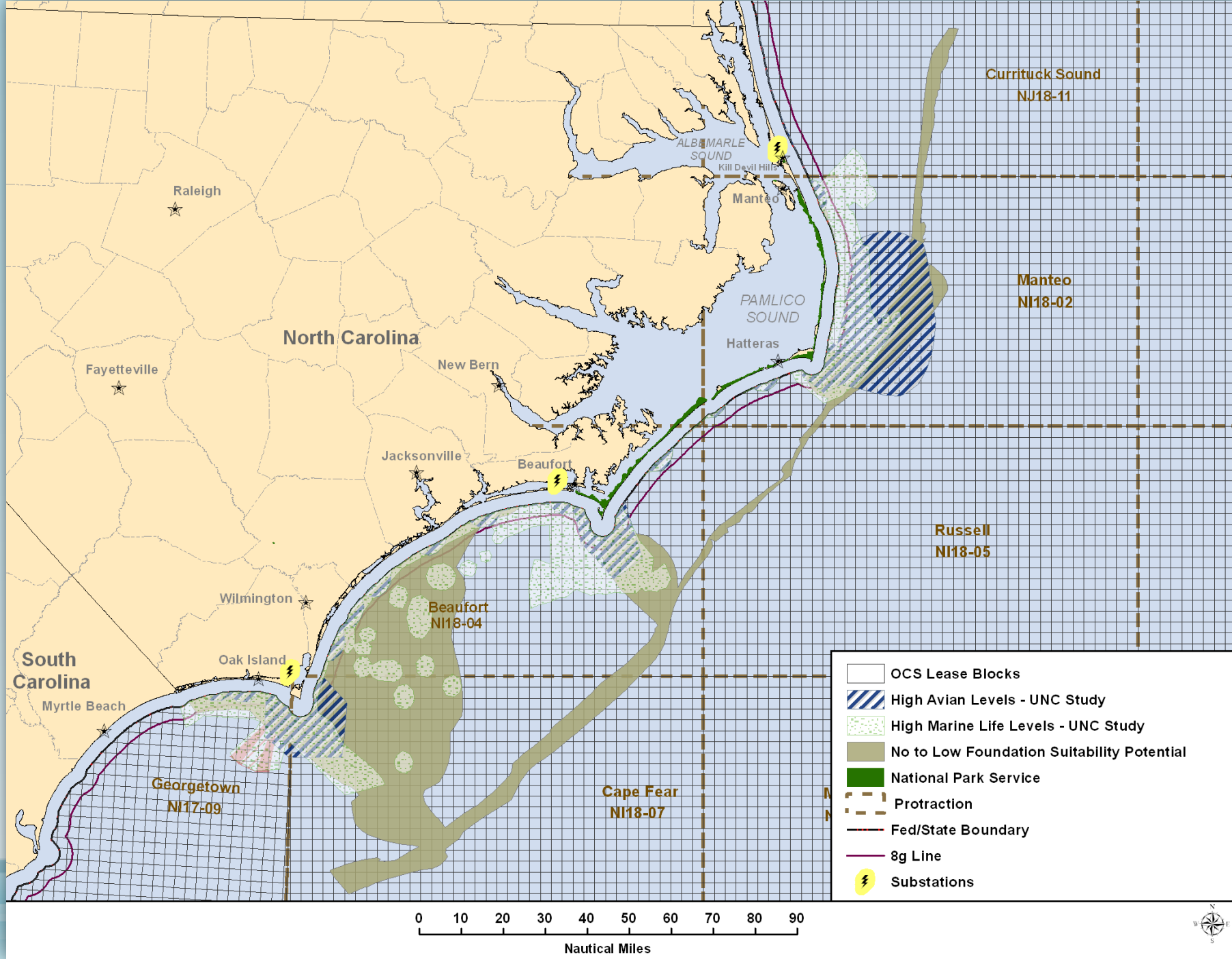


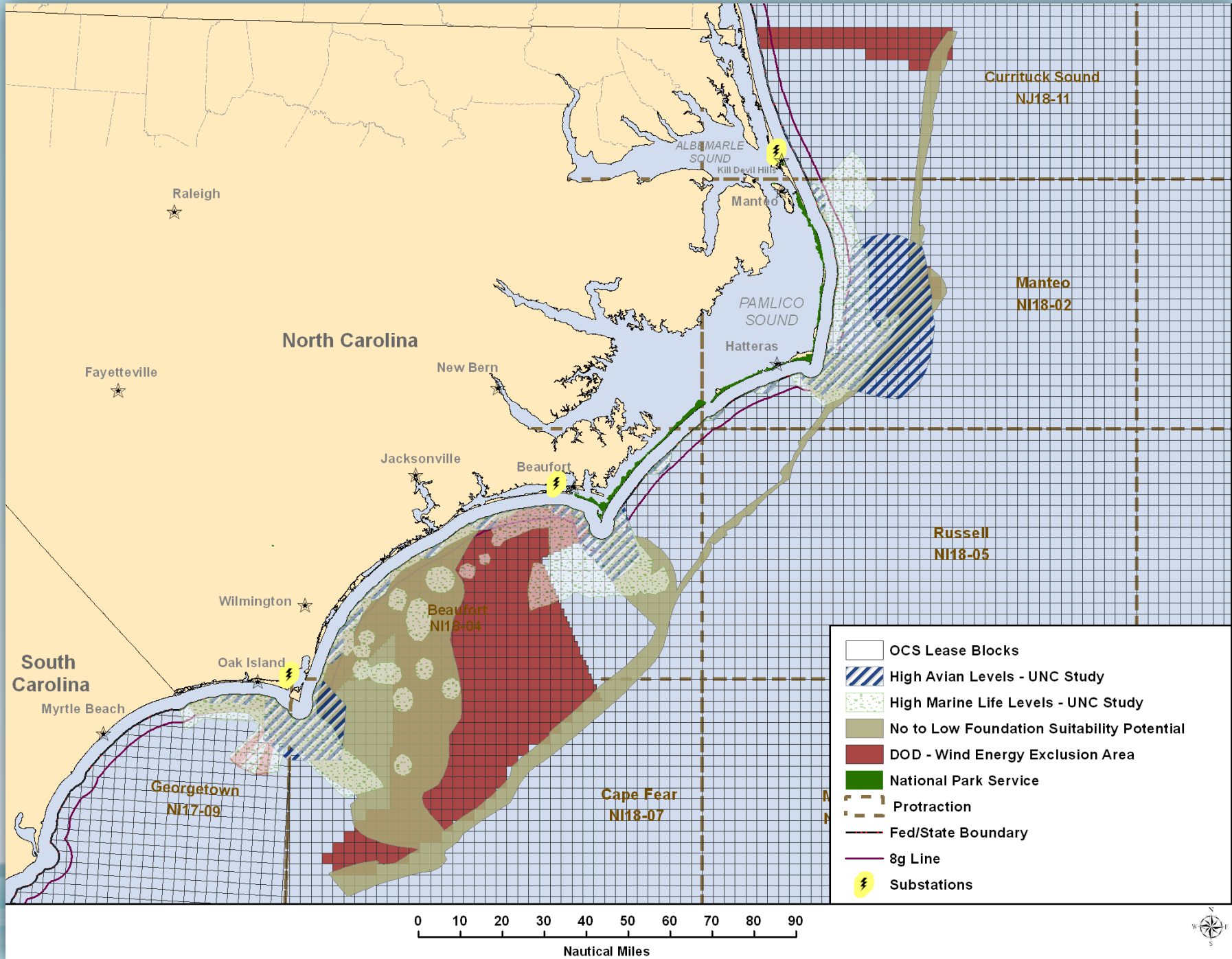
	OCS Lease Blocks
	High Marine Life Levels - UNC Study
	National Park Service
	Protraction
	Fed/State Boundary
	8g Line
	Substations

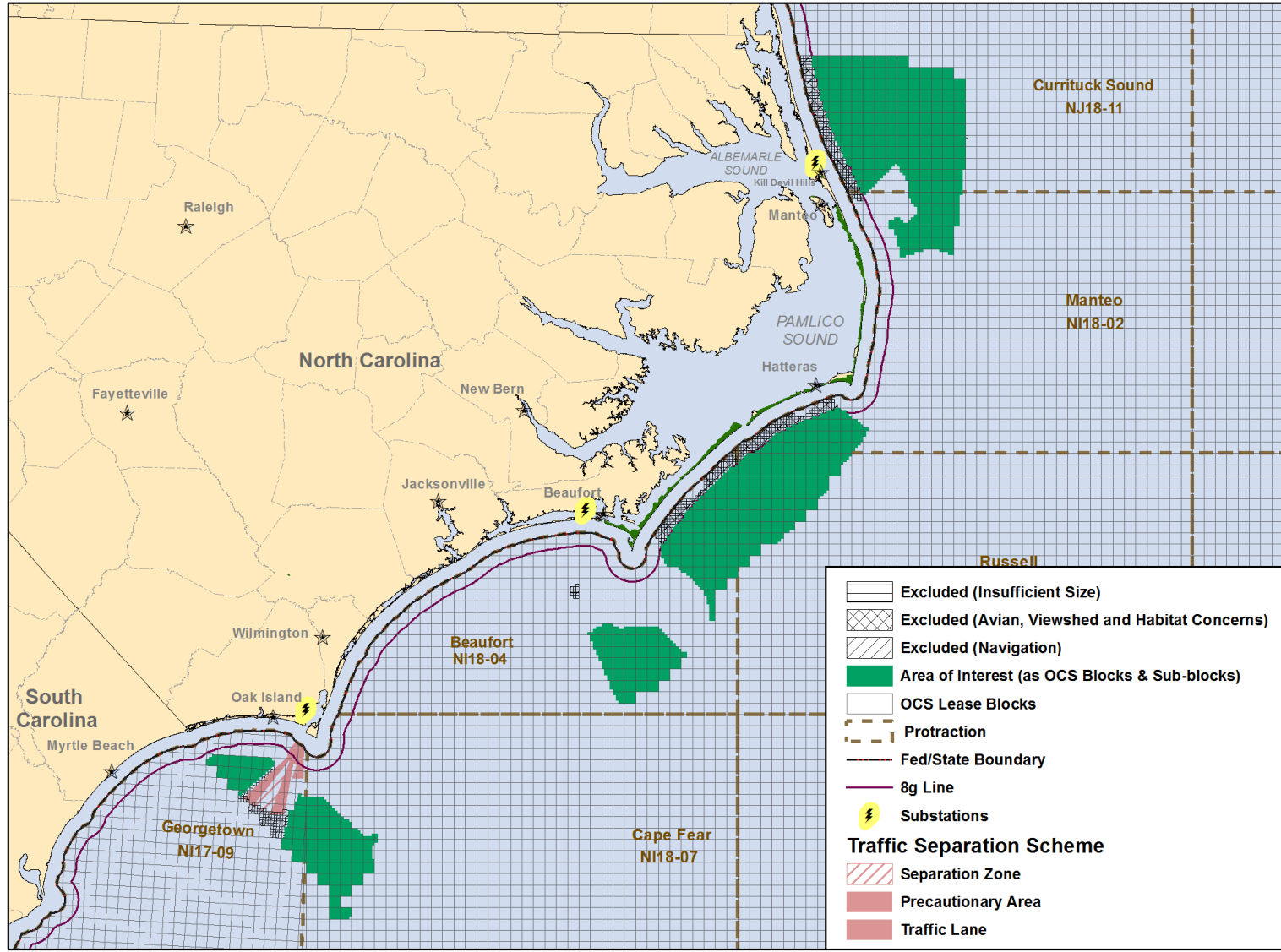




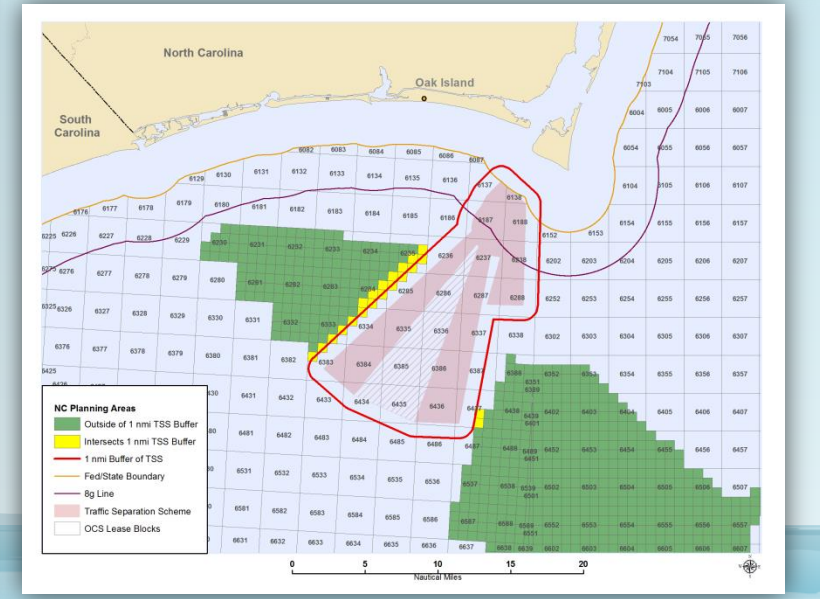
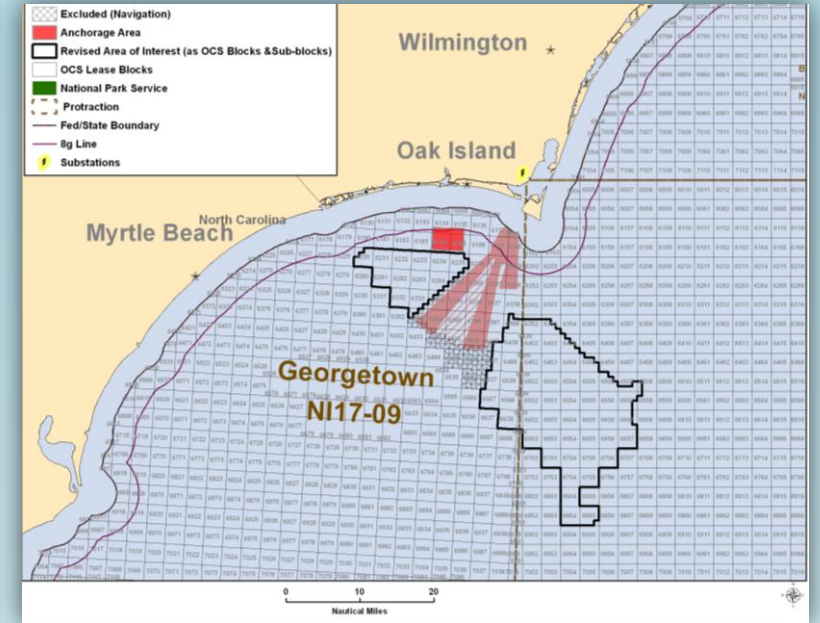
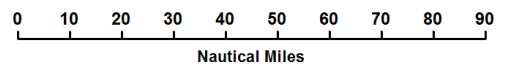




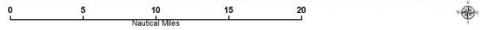




- Excluded (Insufficient Size)
  - Excluded (Avian, Viewshed and Habitat Concerns)
  - Excluded (Navigation)
  - Area of Interest (as OCS Blocks & Sub-blocks)
  - OCS Lease Blocks
  - Protraction
  - Fed/State Boundary
  - 8g Line
  - Substations
- Traffic Separation Scheme**
- Separation Zone
  - Precautionary Area
  - Traffic Lane

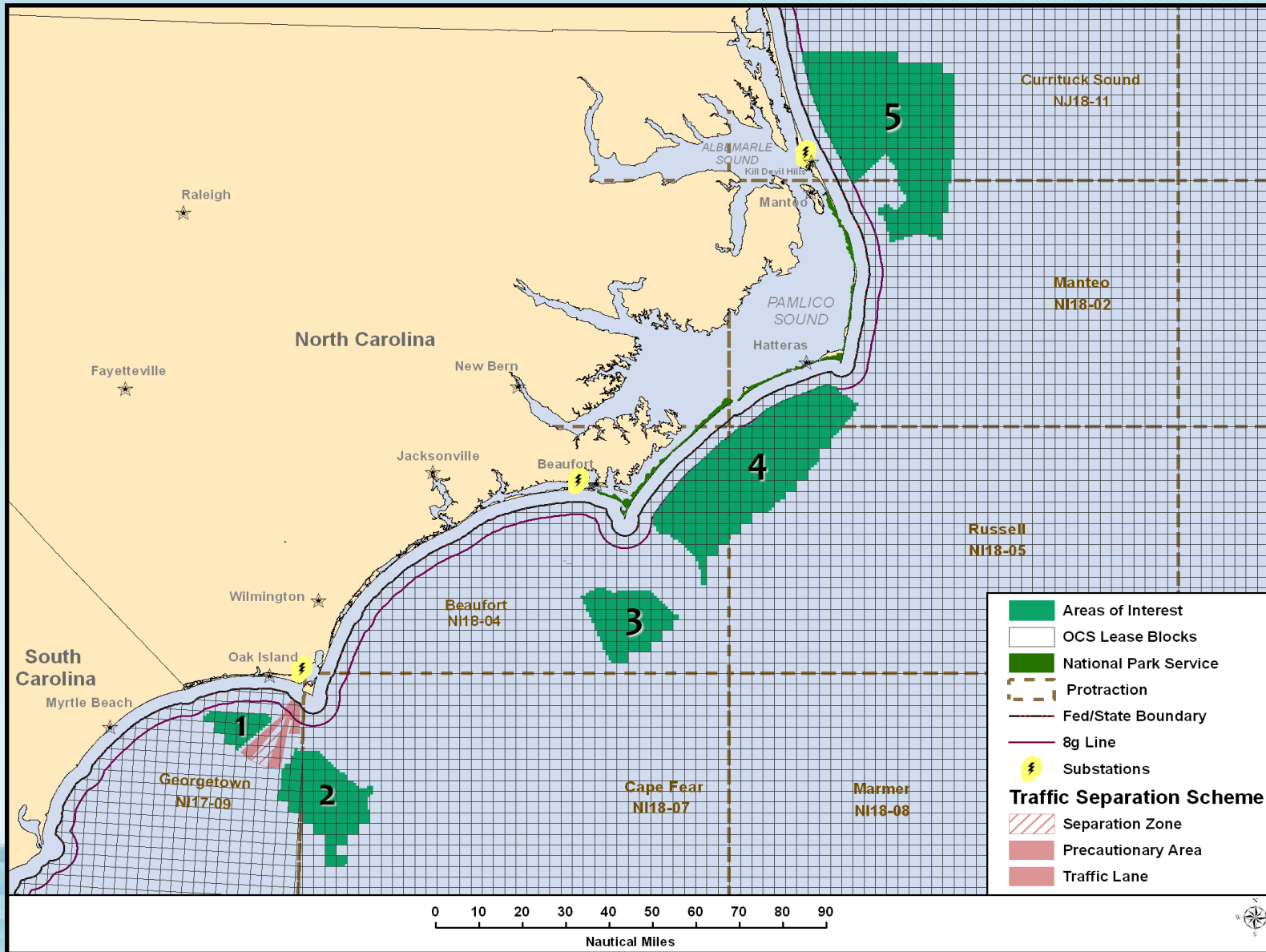


- NC Planning Areas**
- Outside of 1 nmi TSS Buffer
  - Intersects 1 nmi TSS Buffer
  - 1 nmi Buffer of TSS
  - Fed/State Boundary
  - 8g Line
  - Traffic Separation Scheme
  - OCS Lease Blocks



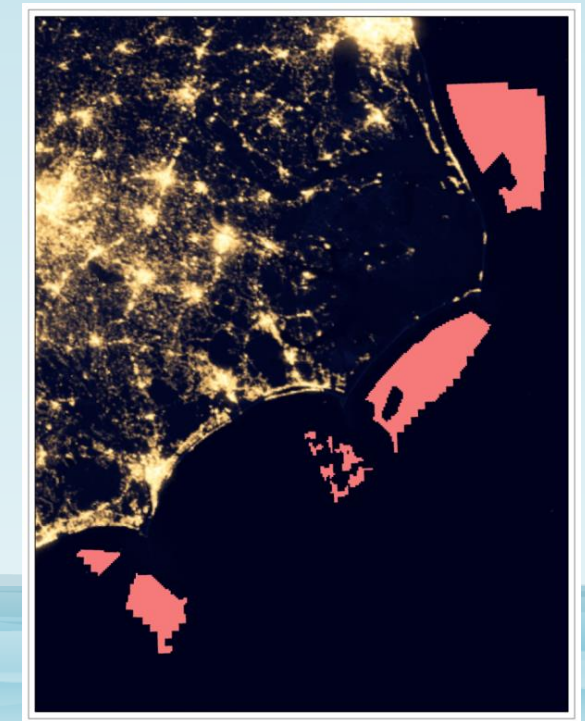
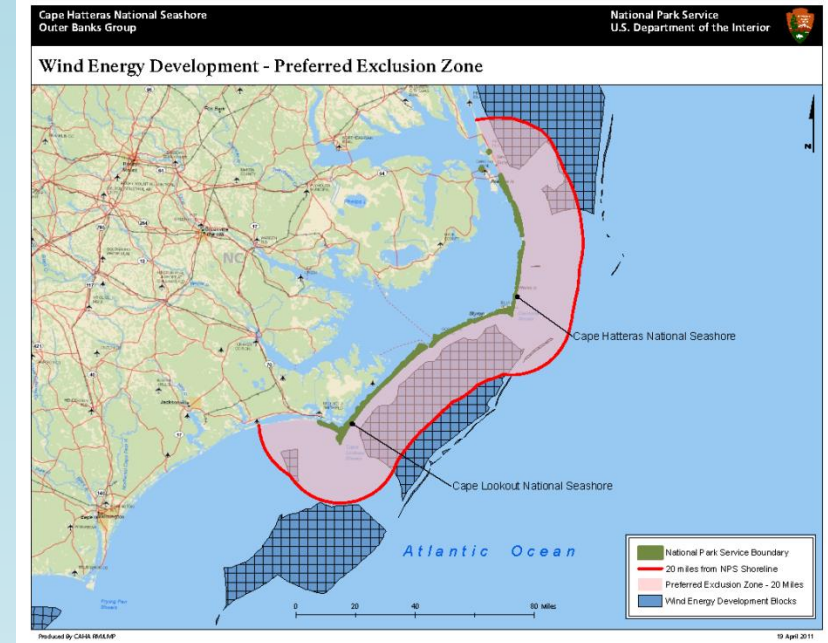
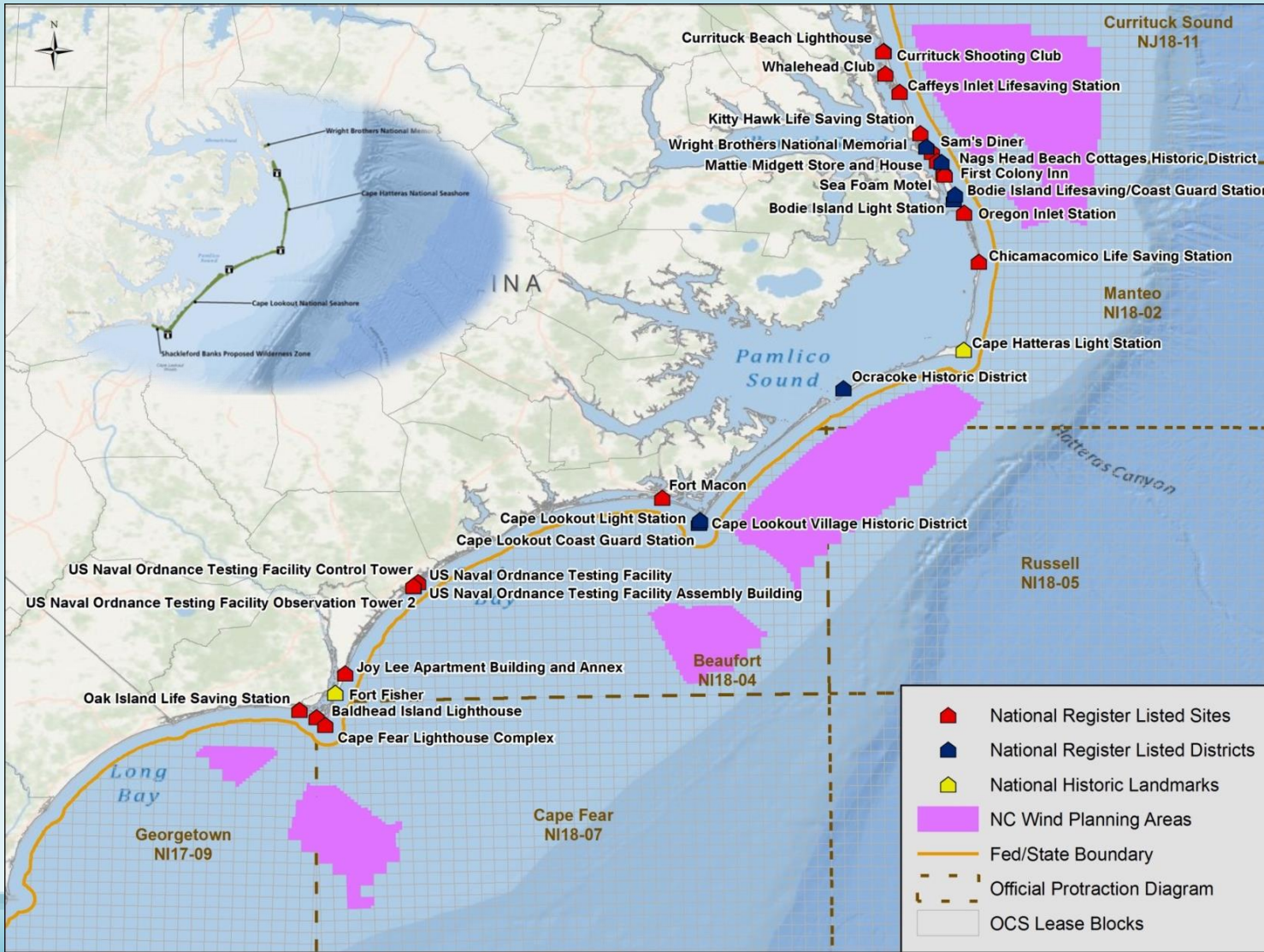


# North Carolina Planning Areas



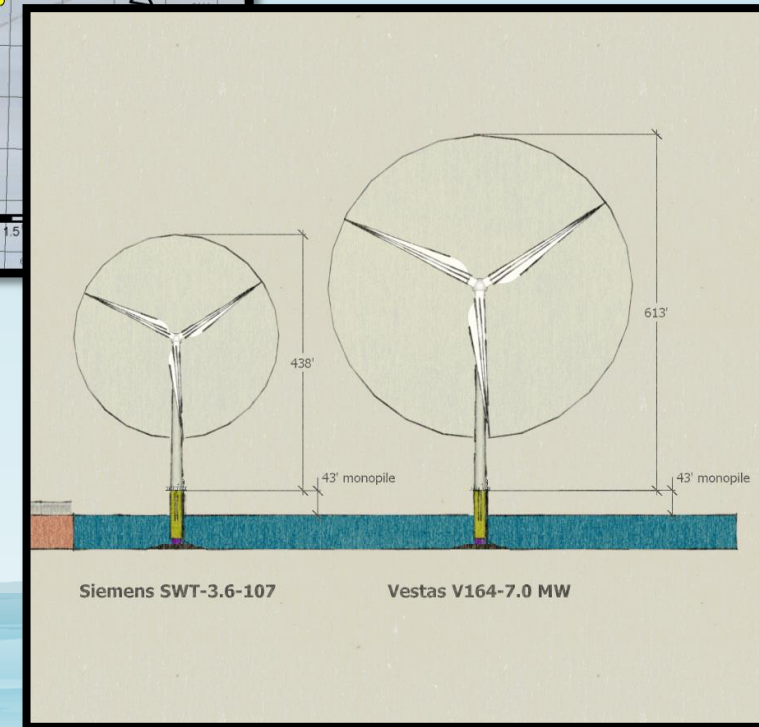
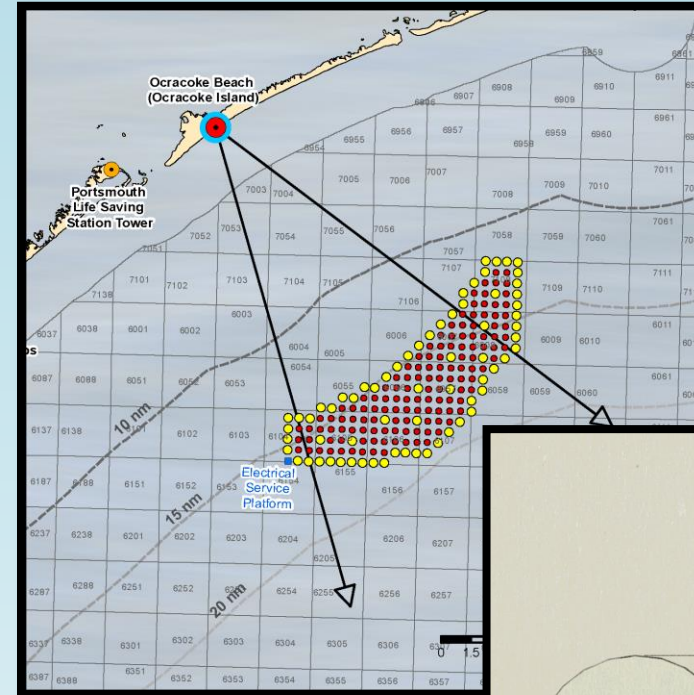


# Visual Concerns



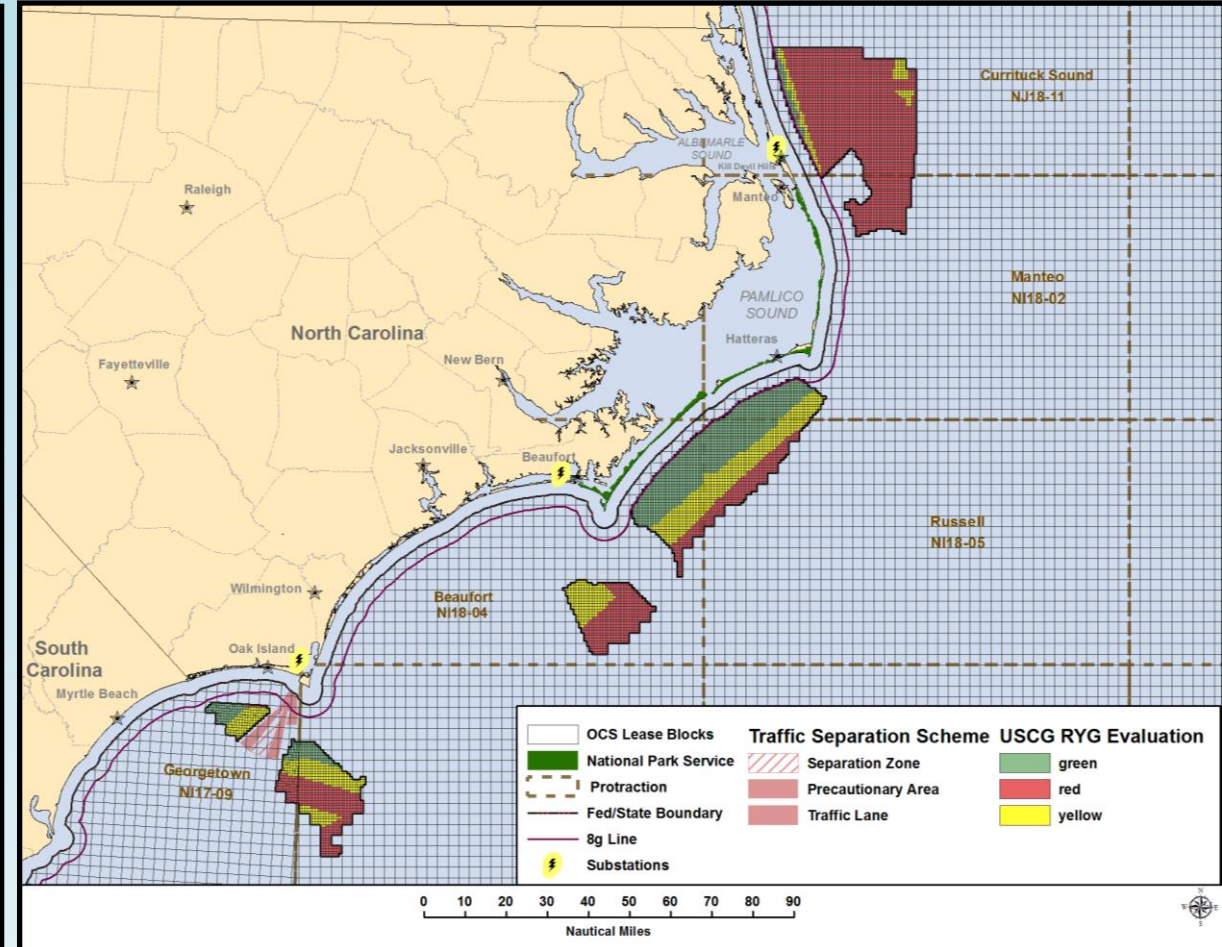
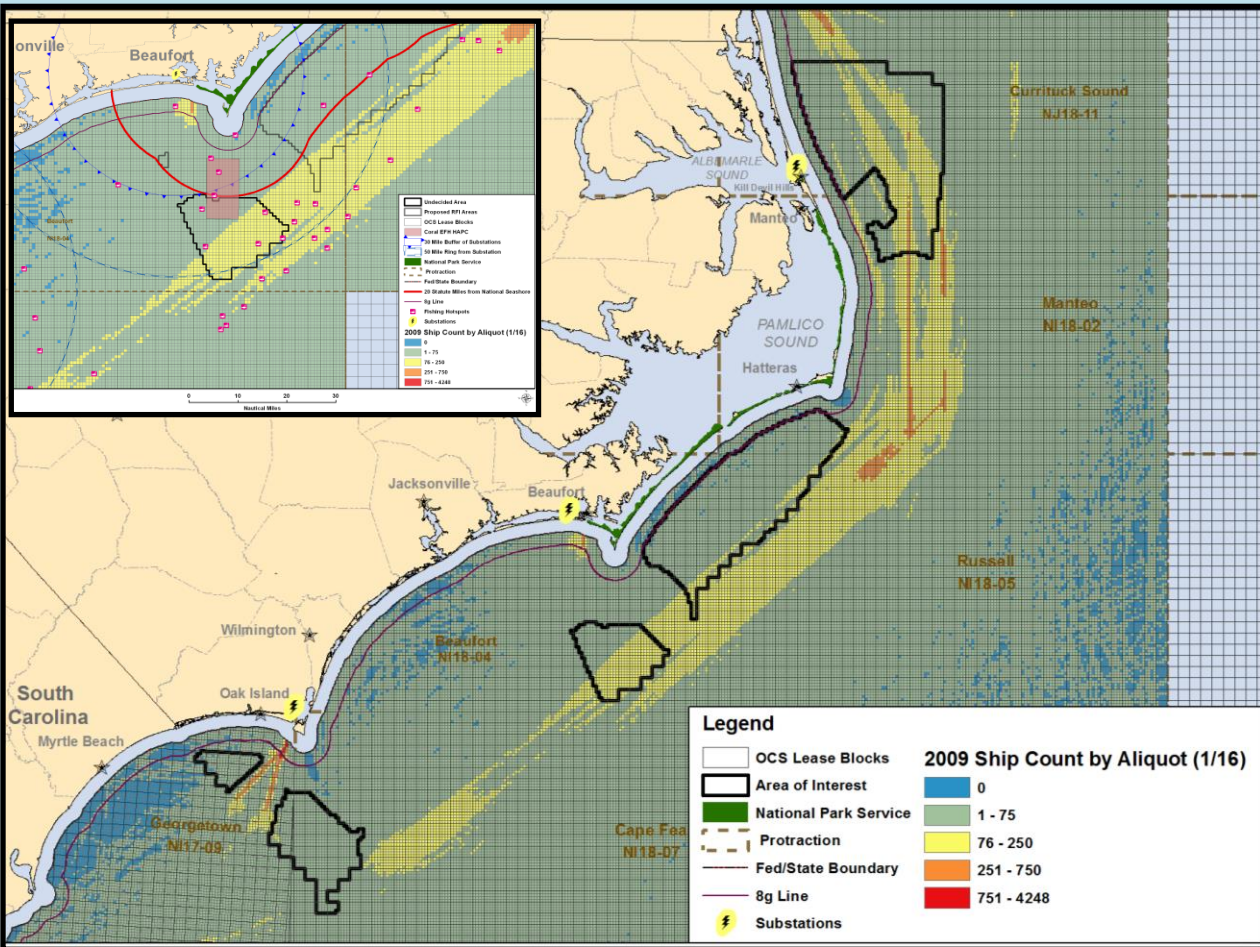
# North Carolina Visual Simulation Study

- Three different viewing distances: **10nm**, **15nm** and **20nm** from shore.
- 18 Locations (10 NPS, 8 State)
- 4 Lighting conditions
- 2 Wind Turbine Generators (WTG) models
  - Siemens SWT-3.6-107 & Vestas V164-8.0 MW
- Each layout includes **200** WTGs and **1** Electrical Service Platform (ESP)
- WTGs with a **1,000 meter** (1km) spacing
- Turbine layouts kept within the boundary of the NC planning areas.
- Current FAA and USCG Lighting Schemes



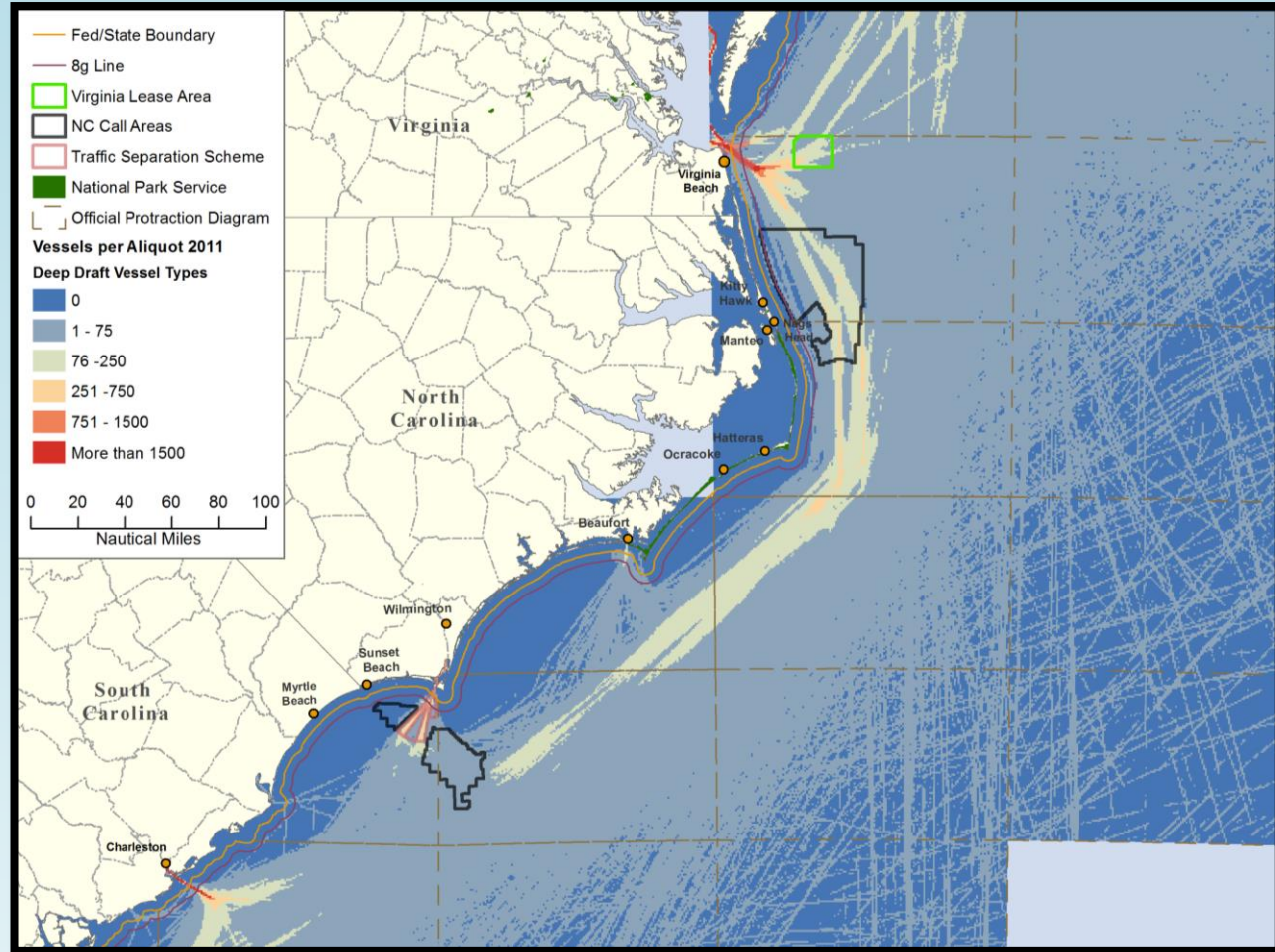


# Vessel Traffic and Navigational Safety Concerns

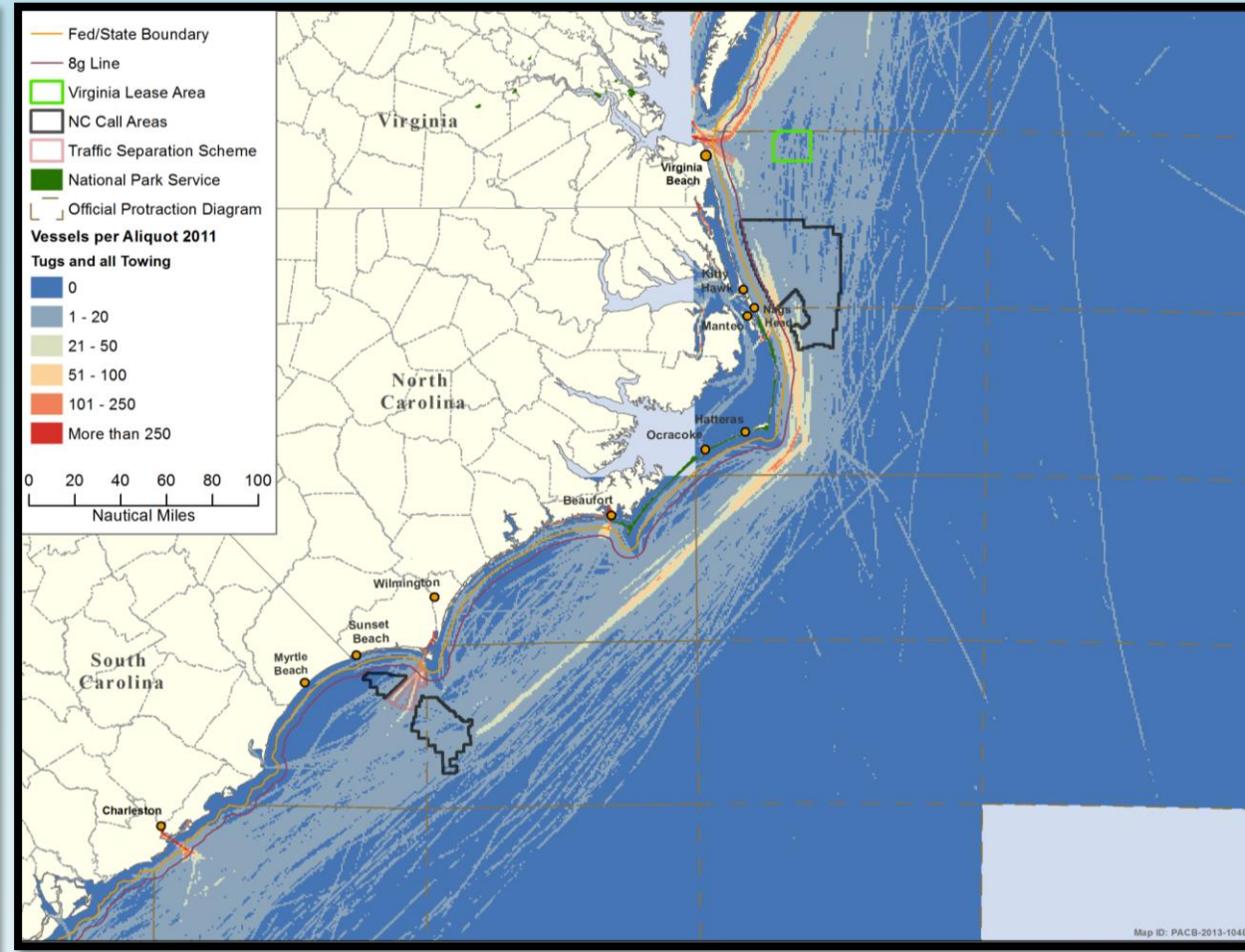




# Vessel Traffic



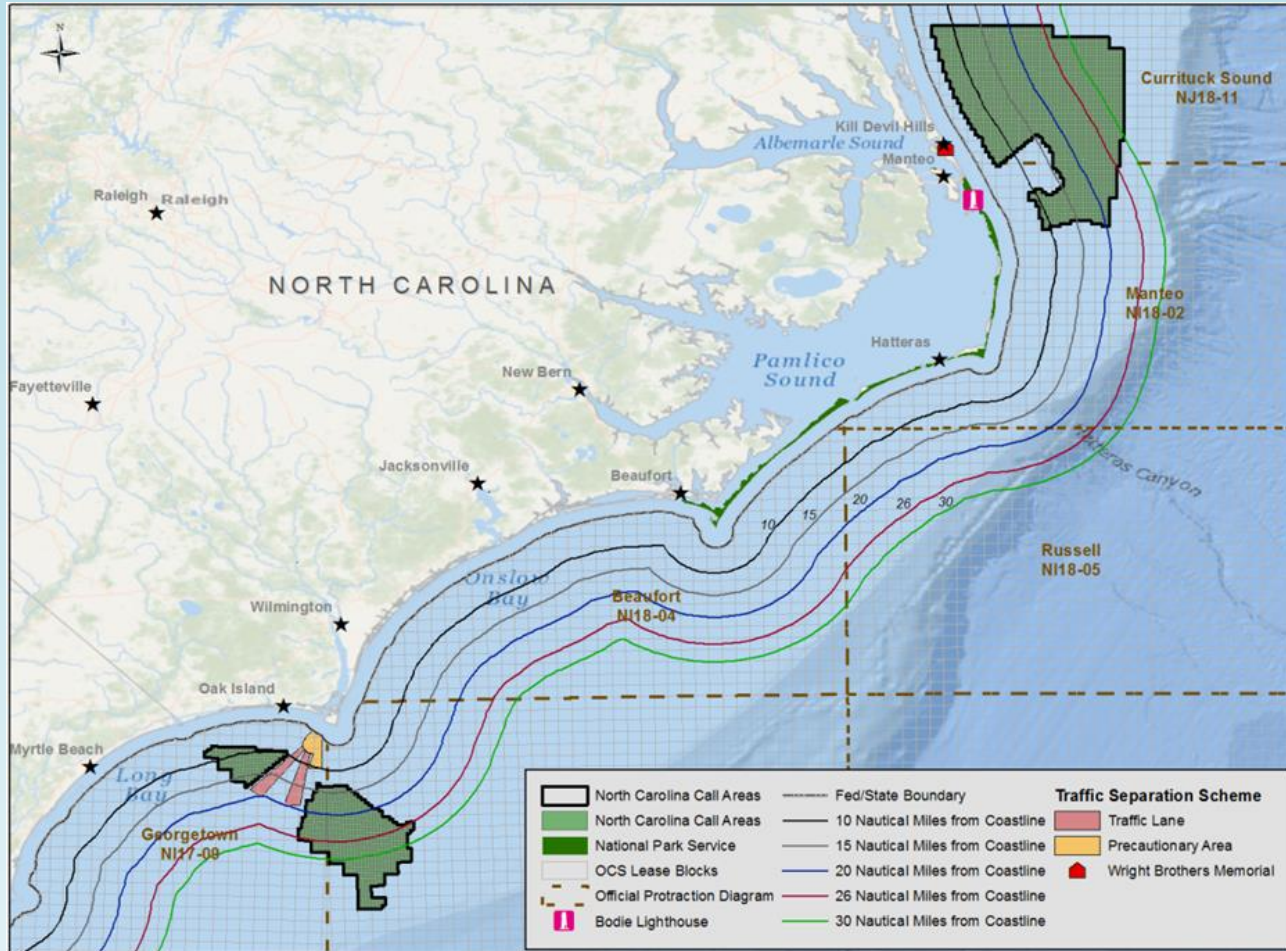
Deepwater Vessels  
(Cargo and Tankers)



Tugs and Barges



# North Carolina Call Areas

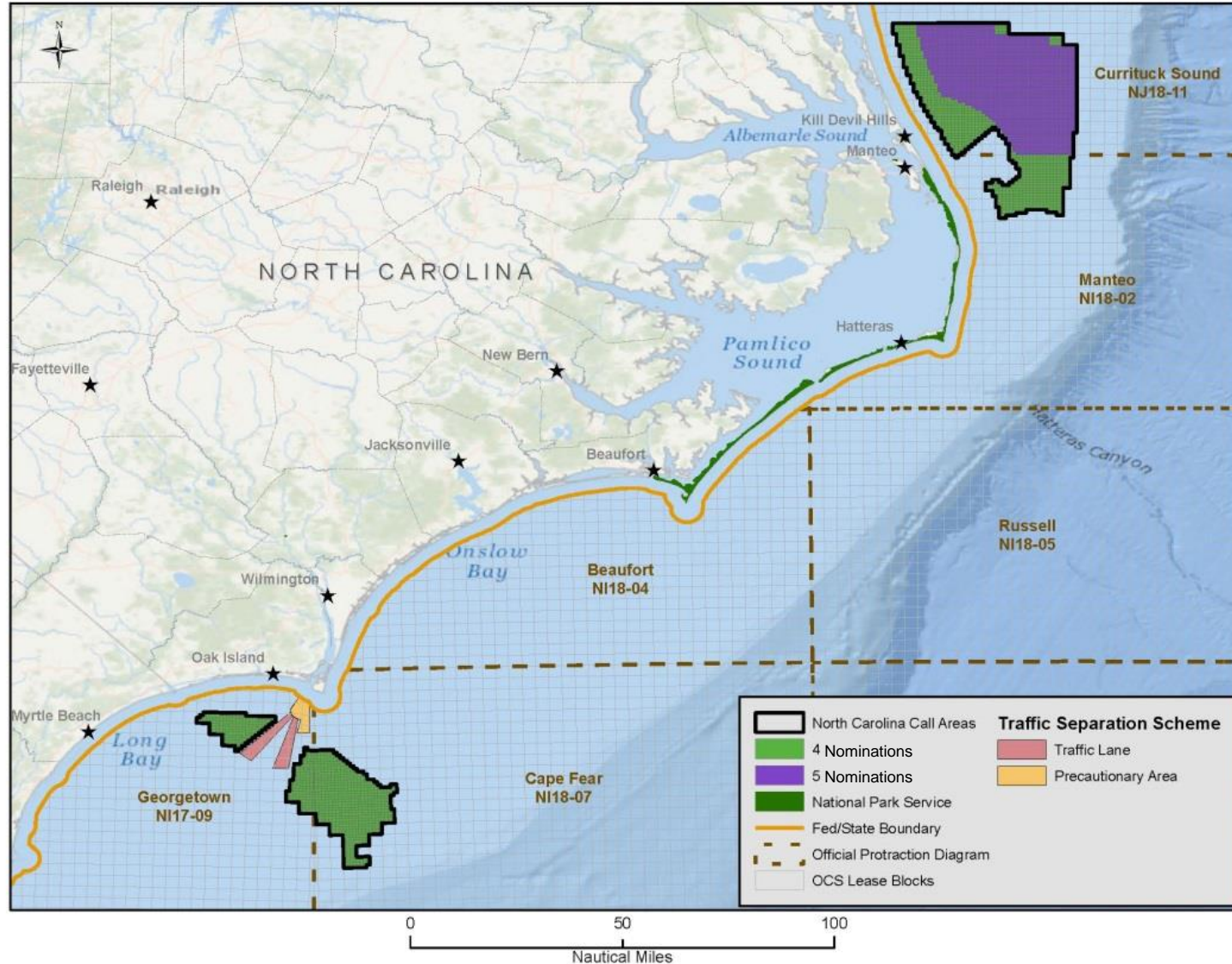
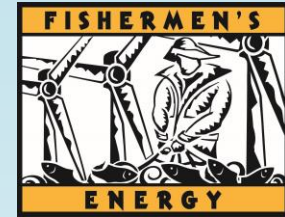
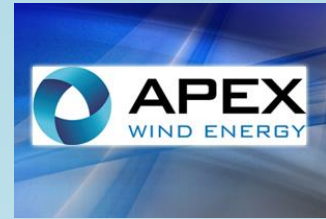


Area	Size (hectares)	Number of Blocks	Distance to Shore (nmi)
Wilmington - East	111,984 327 nmi	51 Full 15 Partial	7
Wilmington - West	26,784 78 nmi	6 Full 8 Partial	13
Kitty Hawk	355,284 1,036 nmi	138 Full 36 Partial	6
All Areas Combined	494,016 1,441 nmi	195 Full 60 Partial	N/A

Published in the Federal Register December 2012



# Nominations Received



# Key Issues Identified in Call Comments

## Visual Impacts

National Park  
Service  
Resources

Coastal  
Communities

## Vessel Traffic and Navigational Safety

Deep water  
Vessels (Cargo  
and Tanker)  
Vessels

Tugs and  
Towing Vessels

## New Information

Shrimping

Transit  
Corridors to  
Offshore  
Fishing Area

## Environmental

Marine  
Mammals  
Stipulations

Right Whales





# New Information: Fishing, Diving & Ecotourism Study

## BOEM/UNC Cooperate Agreement

- Identify fishing, diving and ecotourism areas

## Methodology

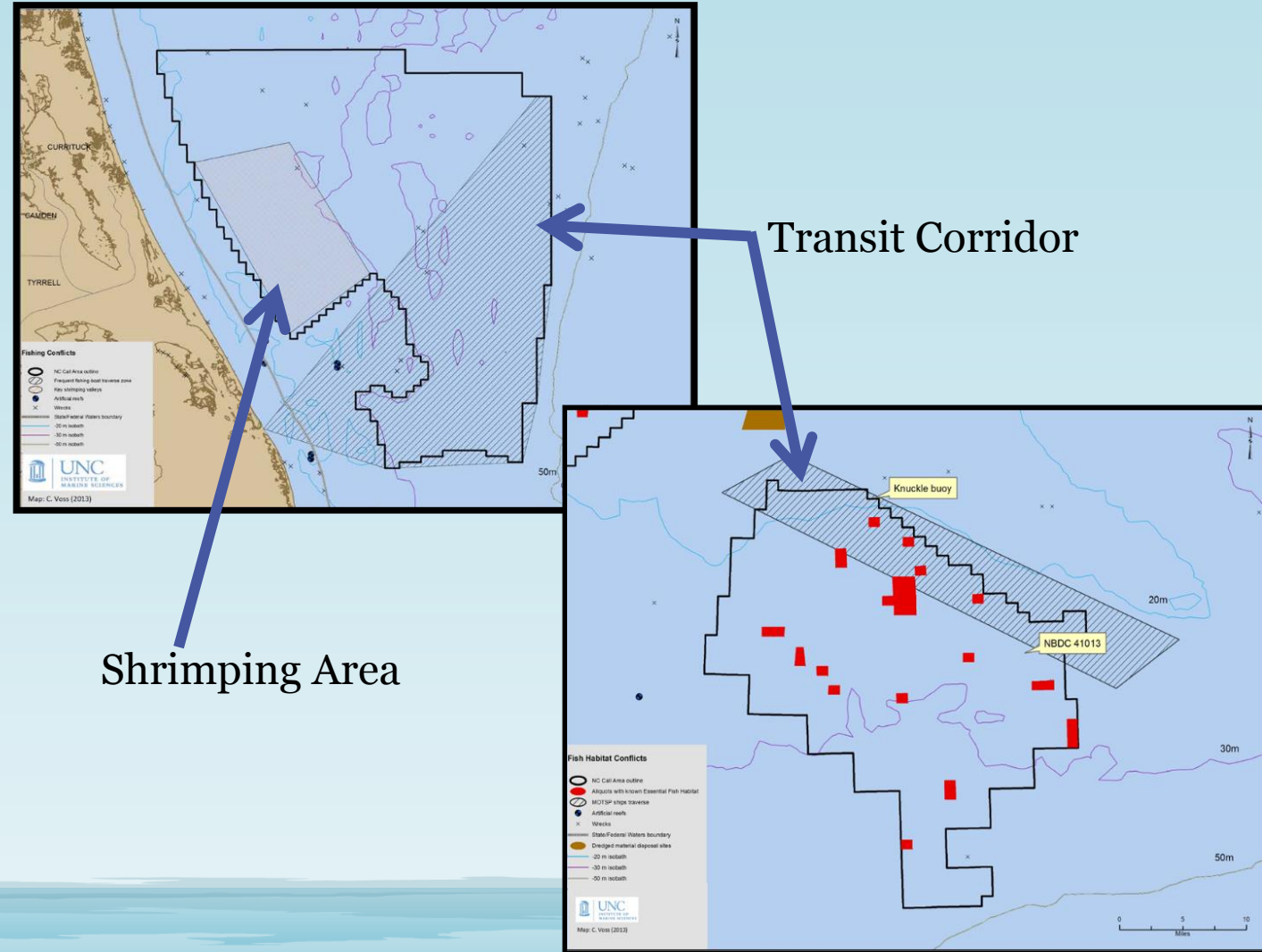
- Integrate existing data with stakeholder input.

## Results

- Shrimping Area with Call Area Kitty Hawk
  - Access is essential – Need sufficient spacing
  - Locate WTGs on parallel ridges

## Transit Corridors

- Sea state dependent to deeper waters
- Continued used despite wind facility presence.

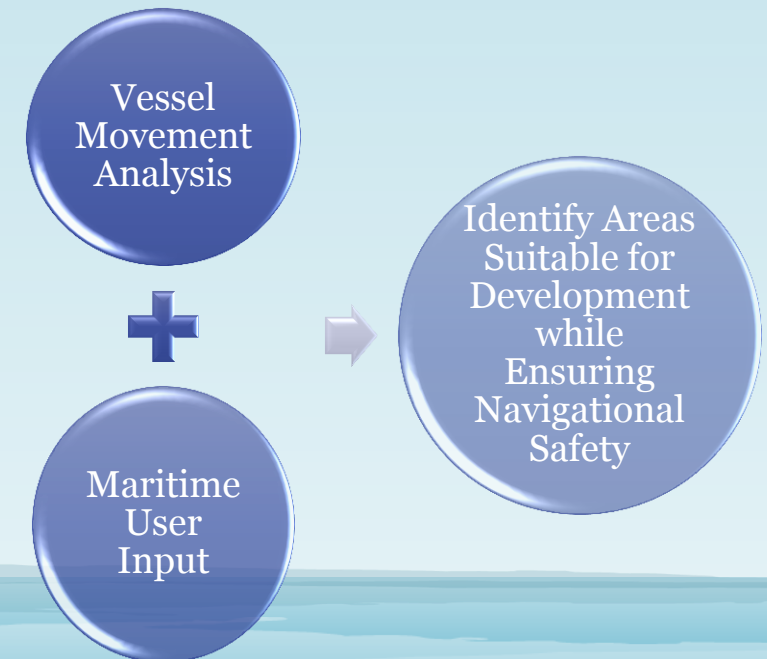


# Addressing Maritime Concerns

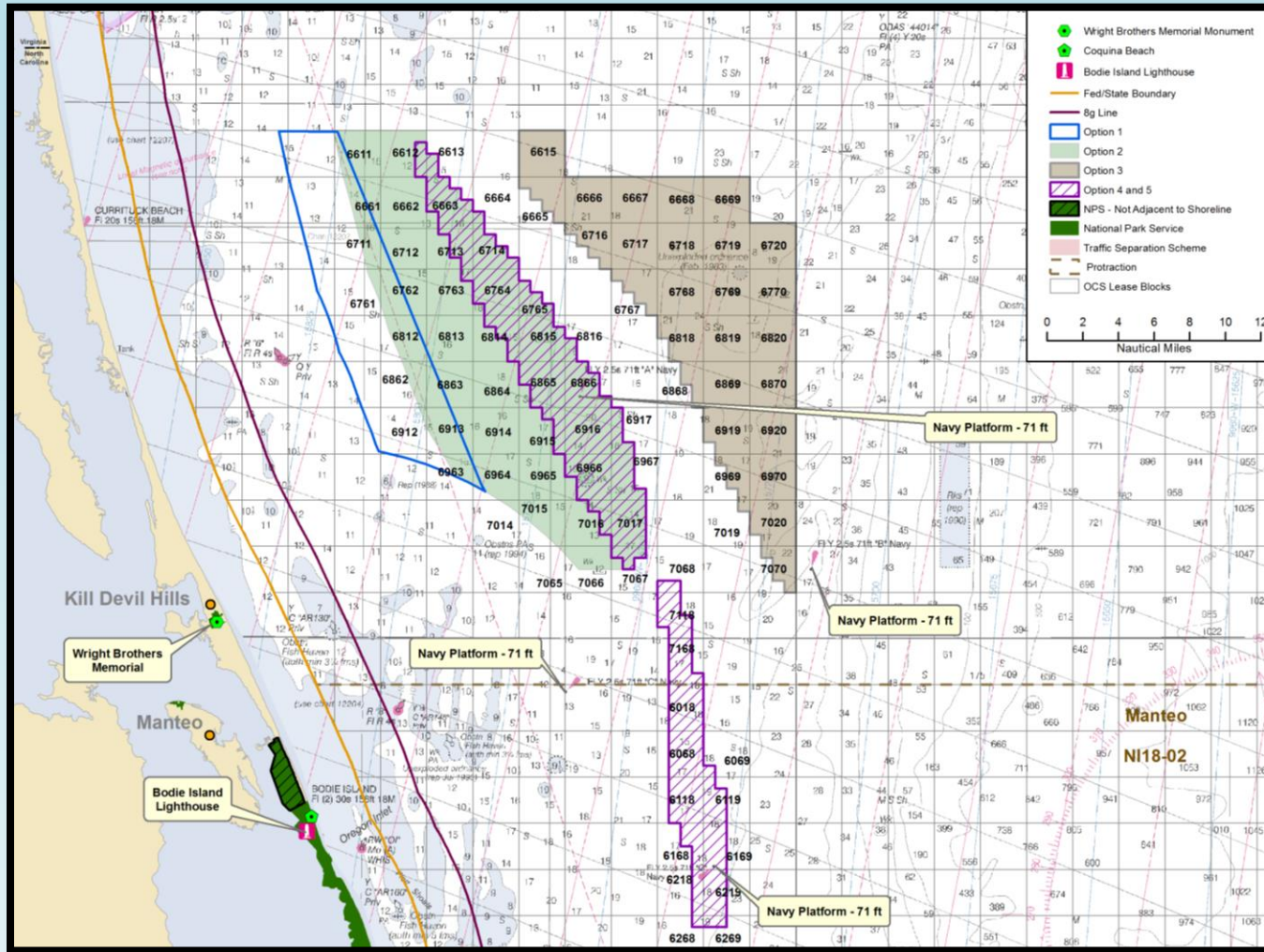


## ❖ Outreach Efforts through a Maritime Work Group (MWG)

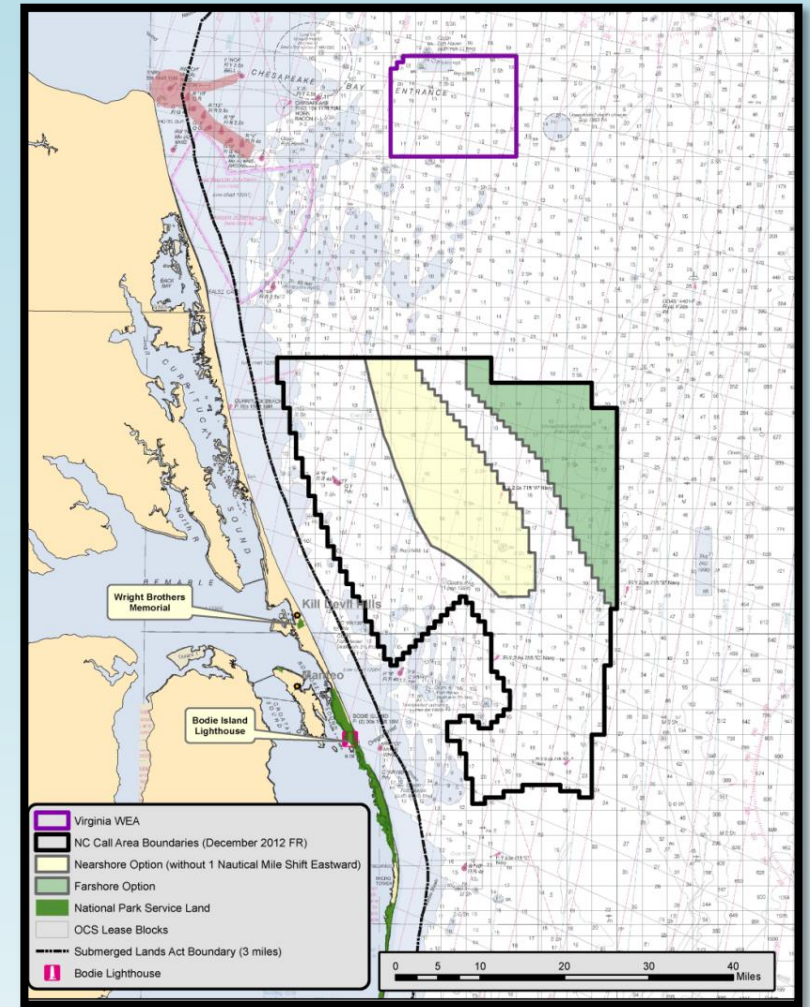
- ❖ MWG: December 2012
- ❖ BOEM/USCG: June 2013
- ❖ American Waterways Operators: June 2013
- ❖ Maritime Industry Survey: September 2013
- ❖ Draft USCG Recommendation Report: March 2014



# Addressing Navigation Concerns: Kitty Hawk



Five Options Developed

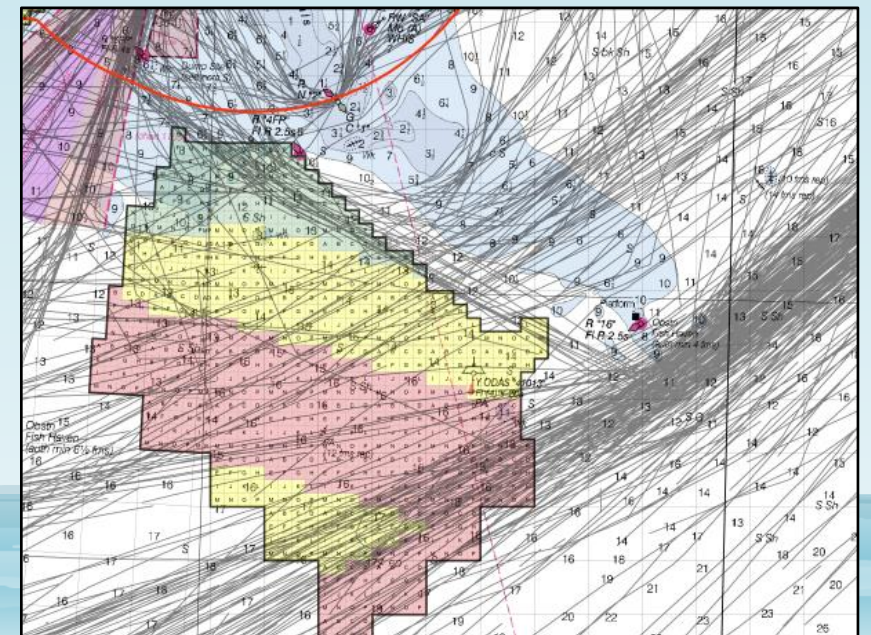
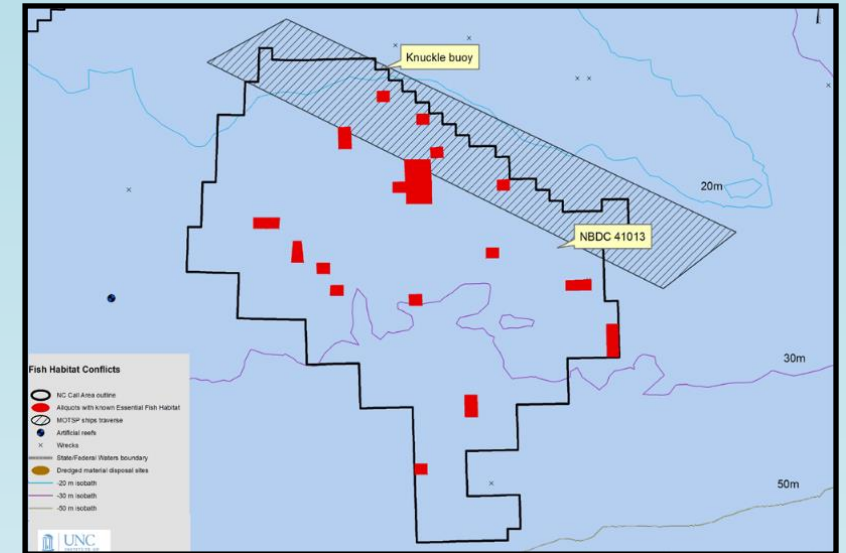
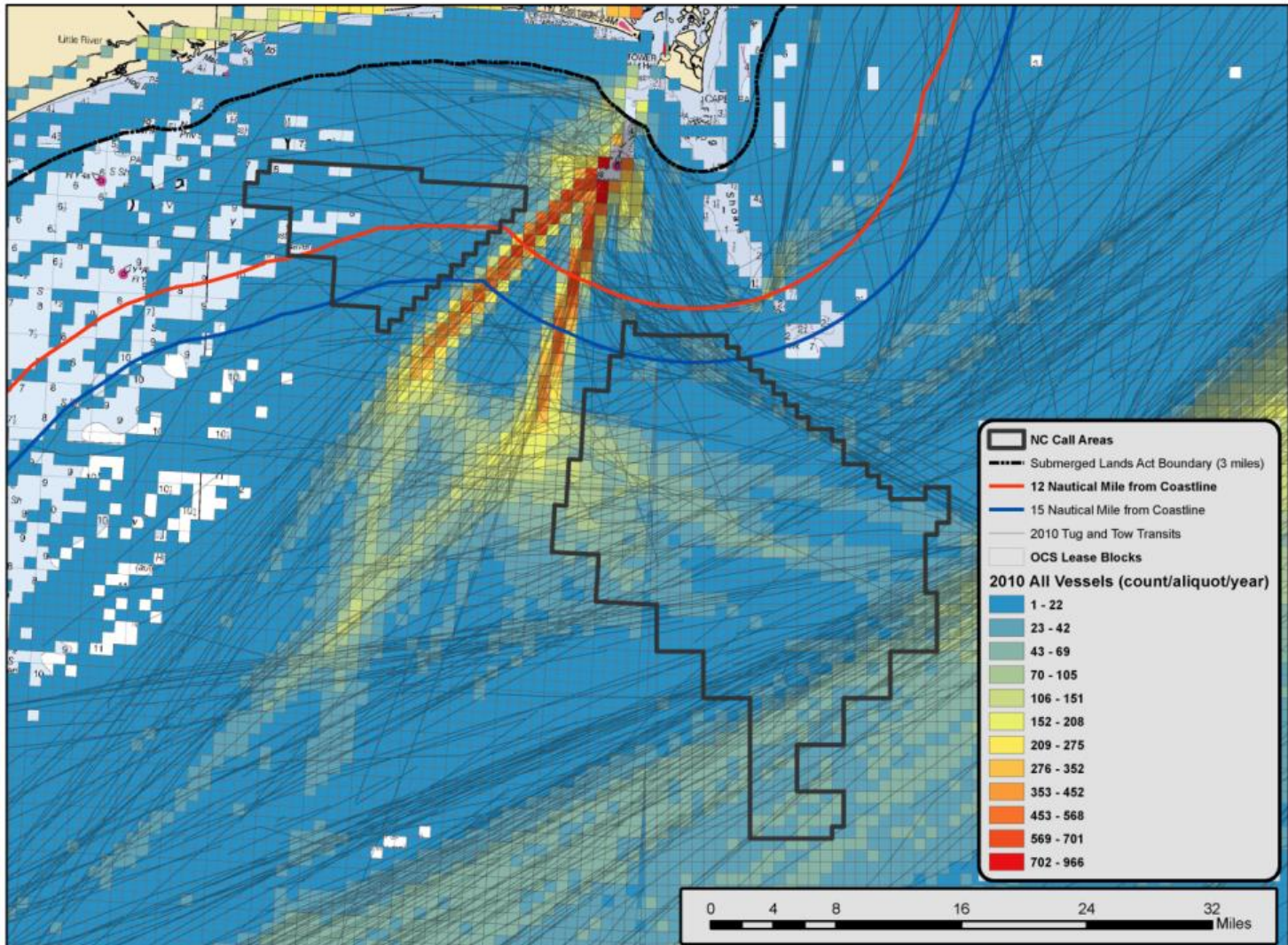


USCG Recommendations



# Addressing Navigation Concerns: Wilmington

2010 Tug and Tow Transits with Density Plot of All Vessels





# Response to NC Call and Open House: Visual Impacts

## Public Feedback

- Open House: January 2013
  - Kill Devil Hills & Wilmington, NC
  - Town of Kitty Hawk Pass Resolution for 20 nm Setback
- Open House: August 2013
  - Carolina Shores & South Port, NC
  - Several Requests in Brunswick County for Visual Setbacks
- Varied Responses from the Public



## National Park Service Feedback

- OCS block located within 26 nm of CAHA or CALO be excluded from WEA inclusion or leasing to Protect scenic ocean views.
- Remove to the extent of no visibility at day or nighttime.
- Strong concern for impacts to the Bodie Island Lighthouse viewshed/seascape
- Follow Up meetings results in a request for 33.7 nm setback from Bodie Island Lighthouse



# NPS Recommendation

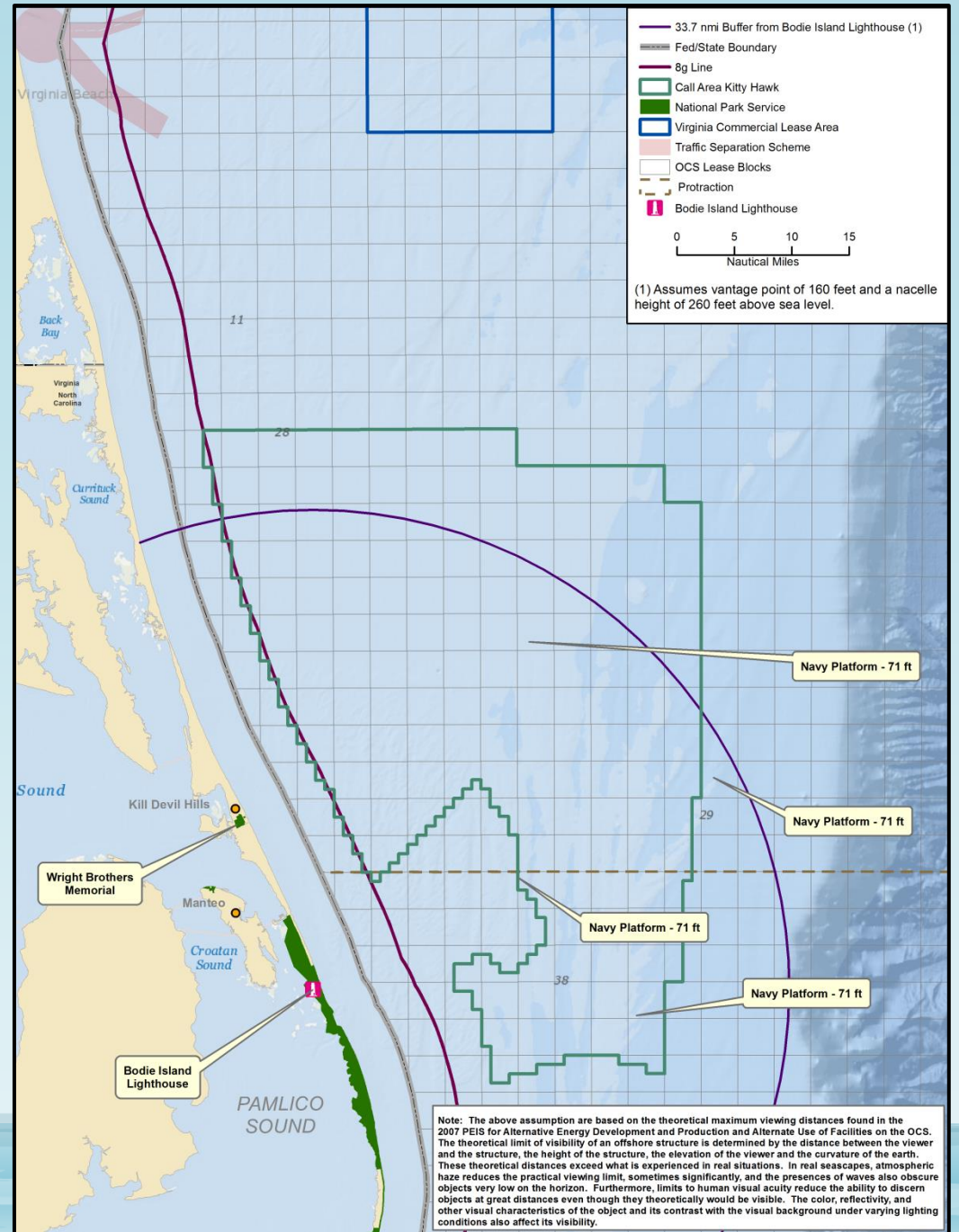
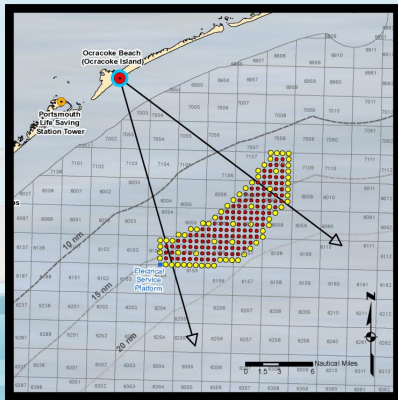
Major Concern for Nighttime

Introduction of nighttime tours

33.7 Nautical Miles from Bodie Island Light House

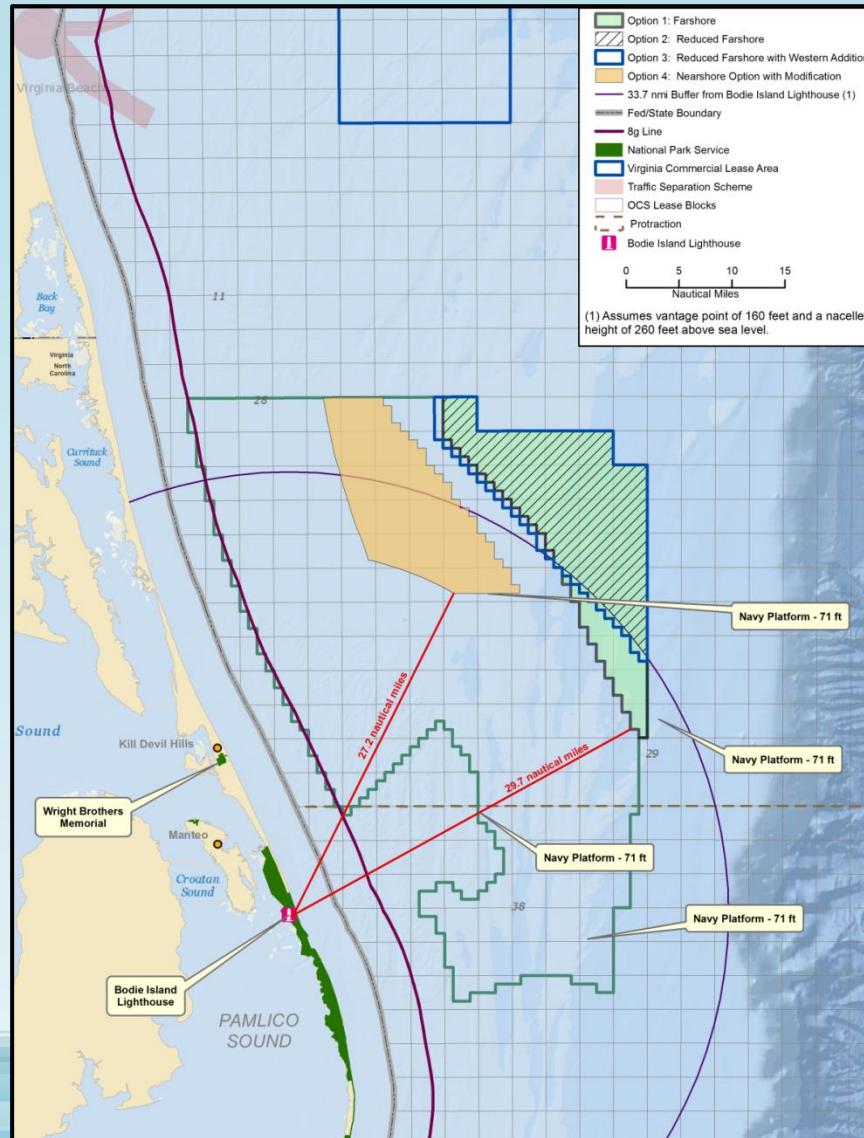
~160 ft. - Lighthouse Deck

~260 ft. Height of a Siemens 3.6-107 MW Nacelle

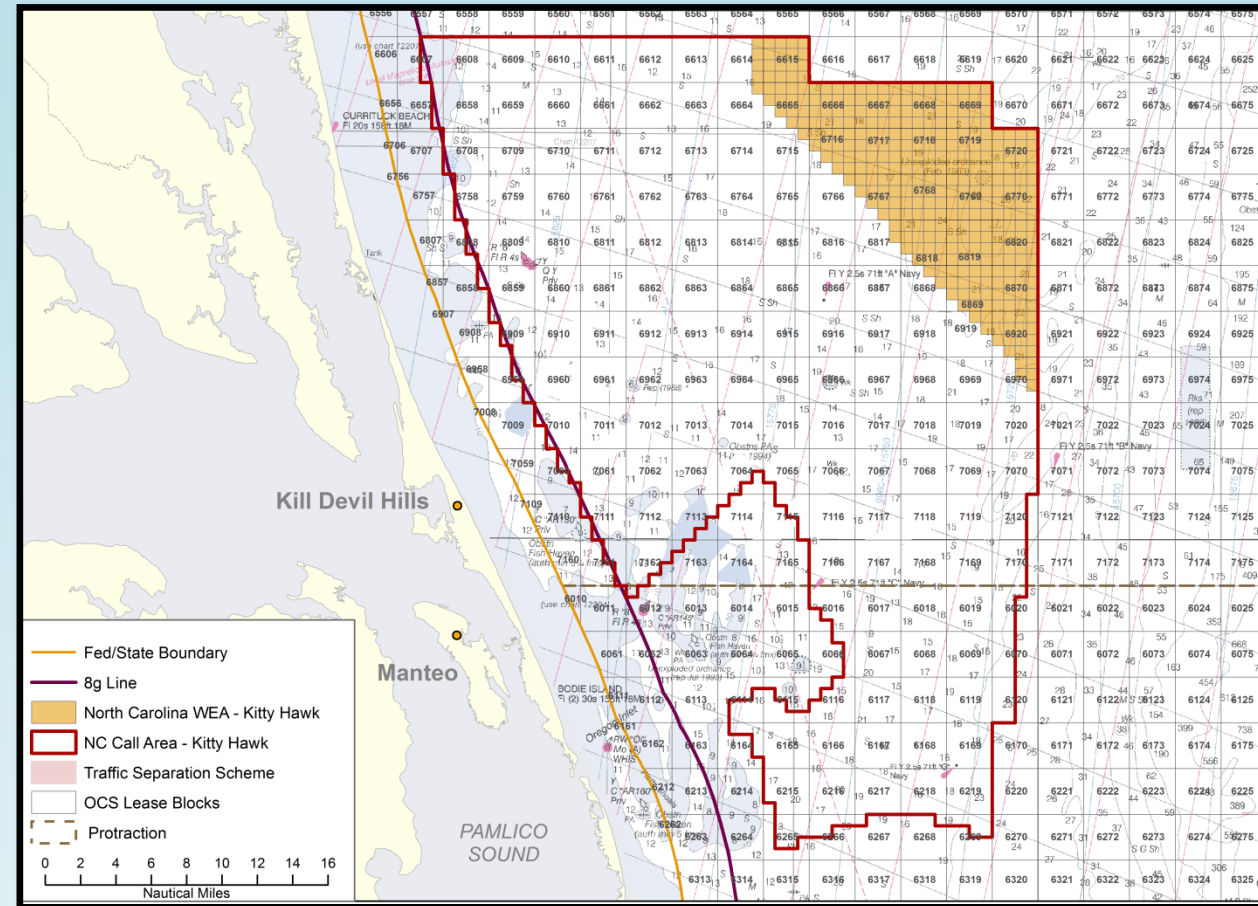
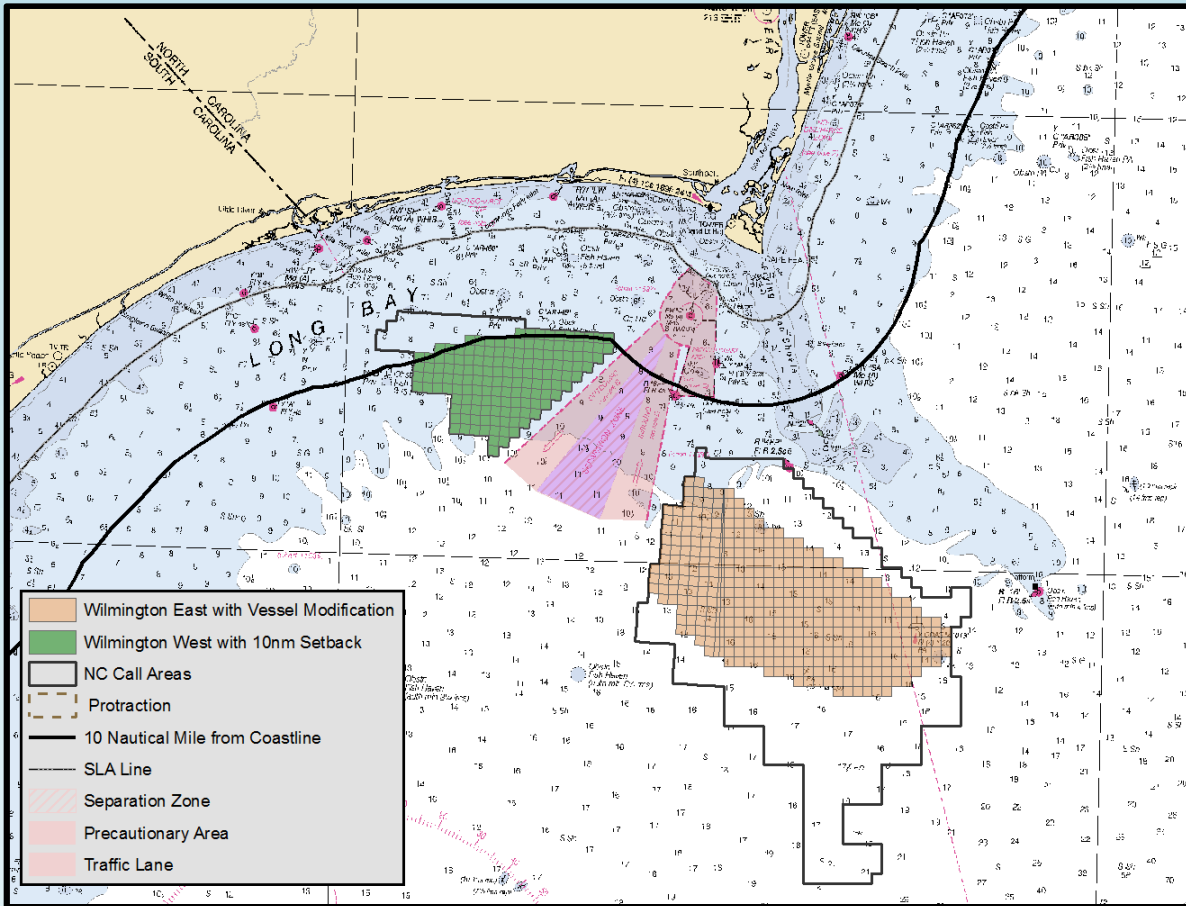




# Kitty Hawk Wind Energy Area Options



# North Carolina Wind Energy Areas



Announced August 2014



# Stage 1: Planning and Analysis for North Carolina

## Establish Intergovernmental Task Force

- January 2011: Wilmington NC
- May 2011: Raleigh, NC
- October 2011: Wilmington, NC
- August 2012: Nags Head, NC
- October 2015: Wilmington, NC

## Area Identification

- Announced August 2014

## Stage 2: Leasing

- Proposed Sale Notice
- Comment Period
- Final Sale Notice
- Mock Auction
- Auction

## Publish Call for Information and Nominations and Notice of Intent to Prepare an Environmental Assessment

- Published December 13, 2012
- Comment Period Closed March 7, 2013

## Completed Environmental Compliance Reviews

- Published NOA Environmental Assessment Jan. 22 2015
- 30 day Comment Period

# Questions?

