Realignment of Wilmington East and Wilmington West Wind Energy Areas

BUREAU OF OCEAN ENERGY MANAGEMENT

NORTH CAROLINA TASK FORCE WEBINAR

APRIL 19, 2016

Overview

Response to the South Carolina Call for Information and Nominations

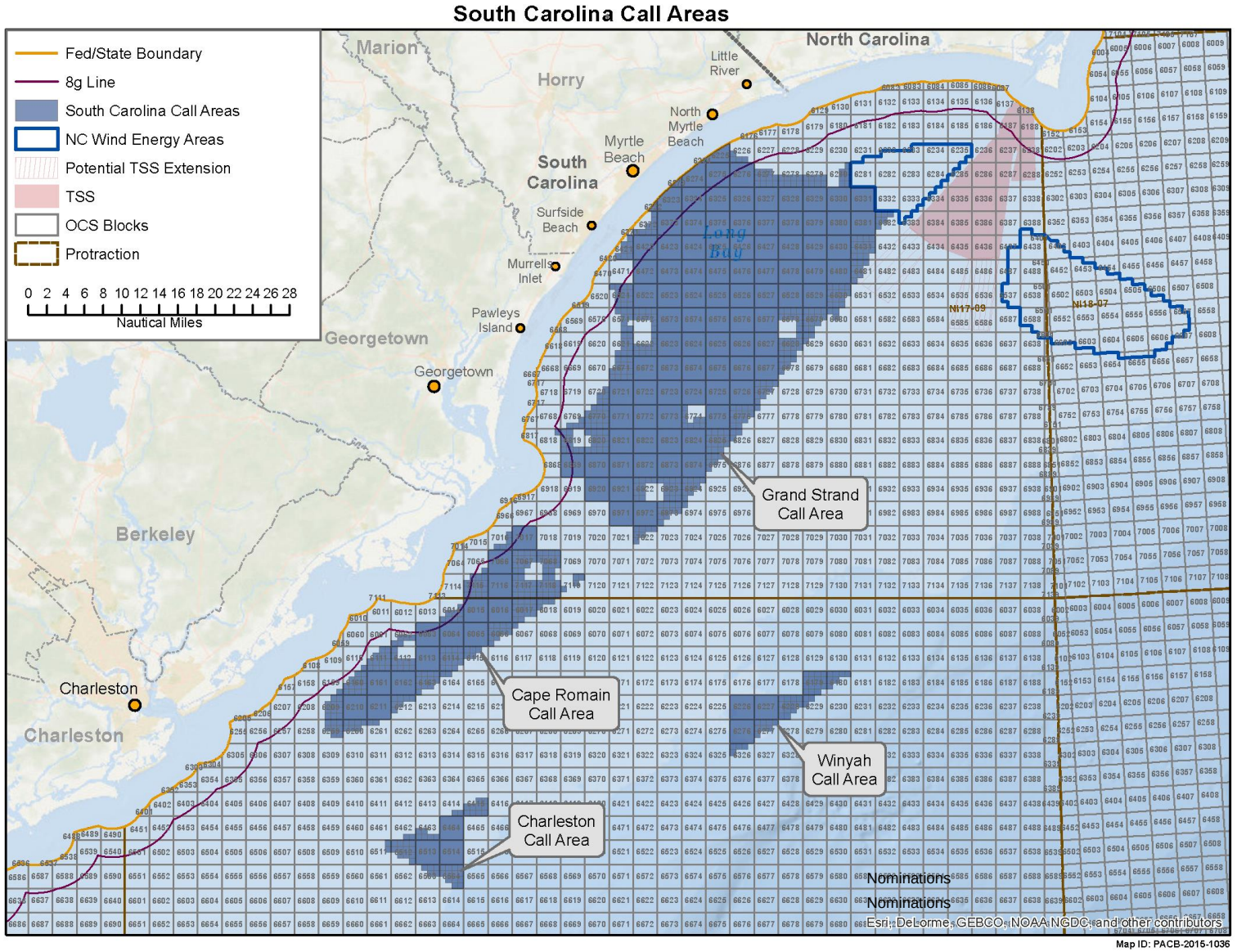
North Atlantic Right Whale Critical Habitat Expansion

Viewshed

Wake Effects

Path Forward

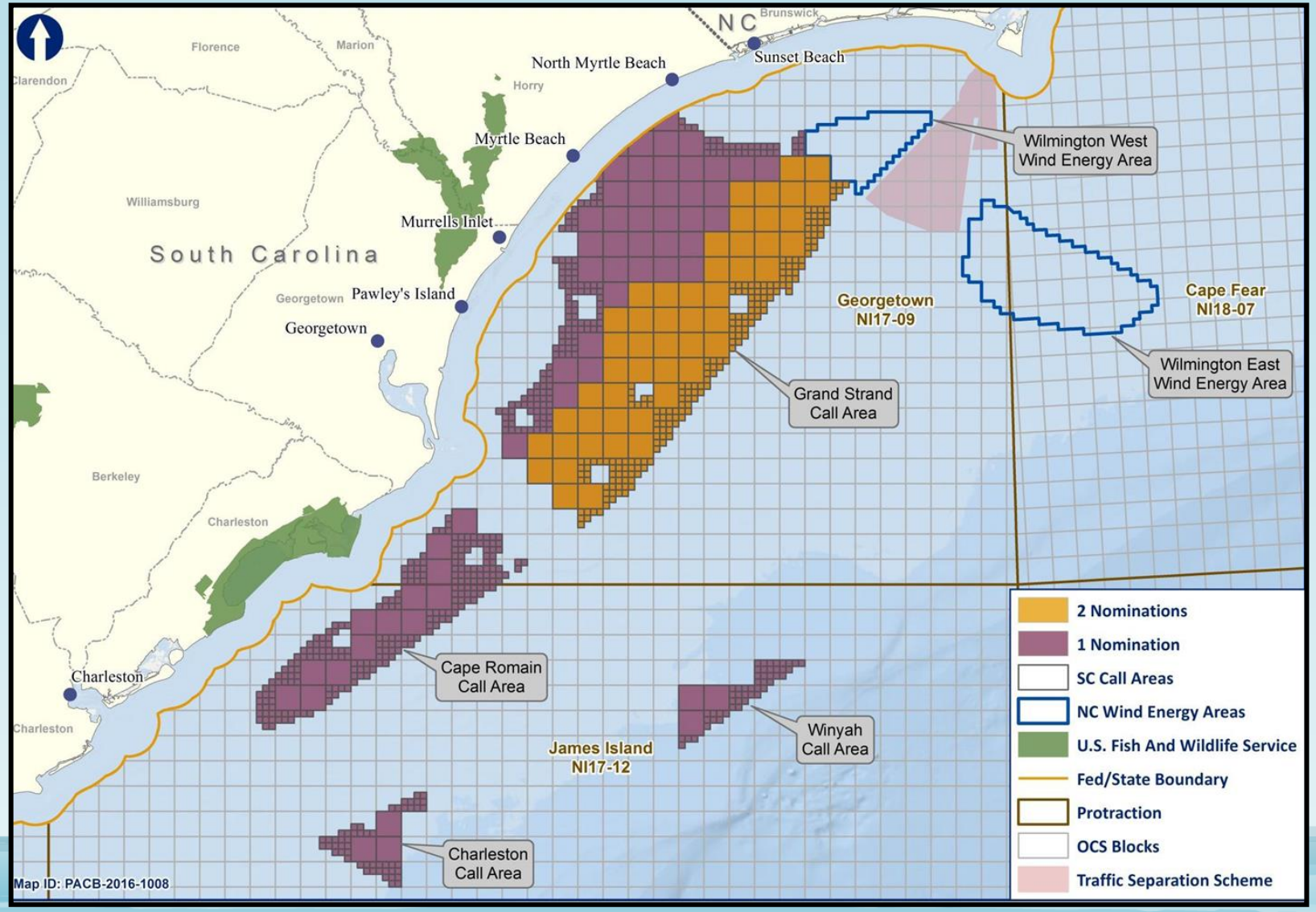
South Carolina Call For Information & Nominations



Parameter	
Total # OCS Blocks	150
• Grand Strand	110
Total # of Acres	853,956
• Grand Strand	628,003
Distance to Shore (Statue Miles)	3
Average Water Depth (m)	5-42
• Grand Strand	8-24

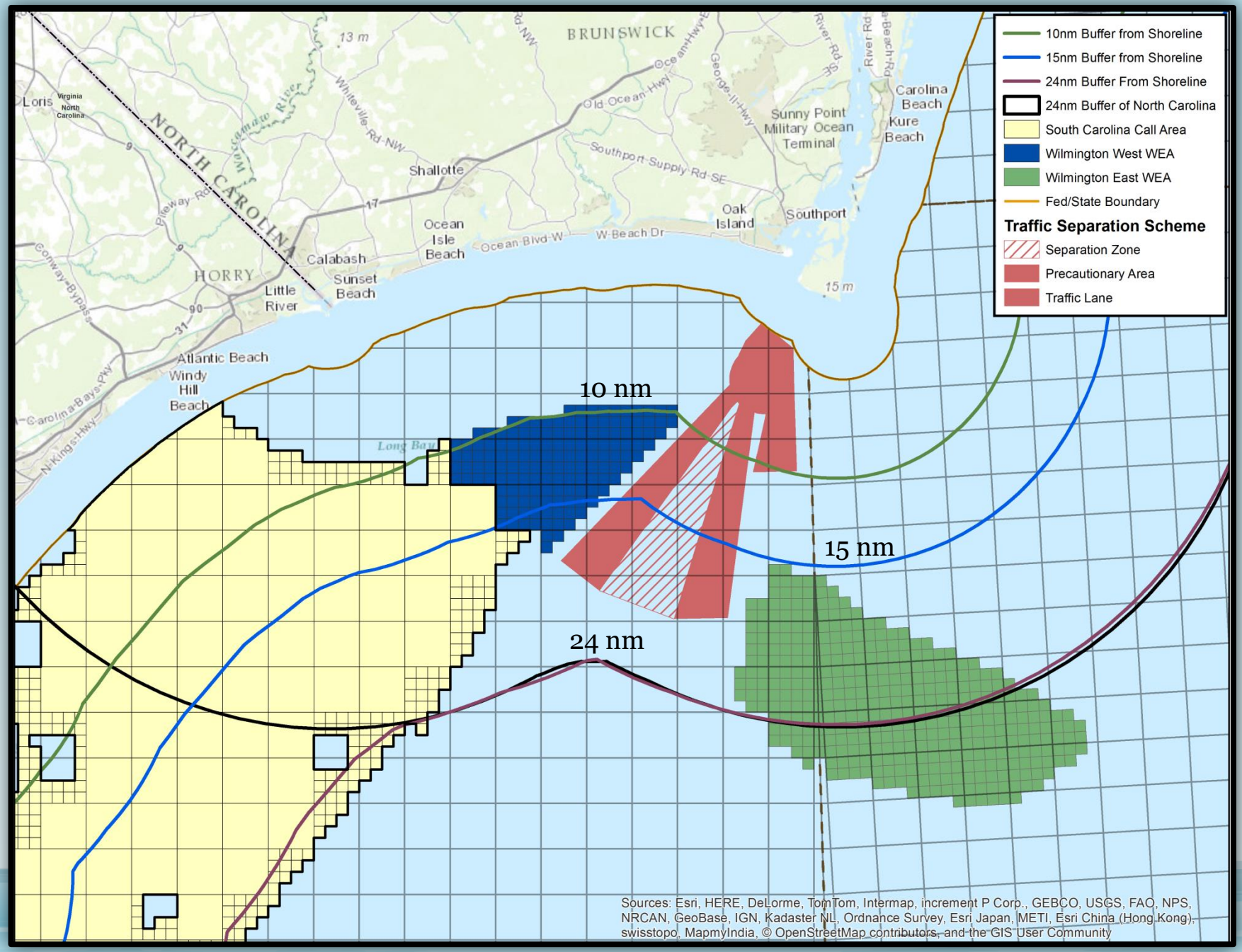
Call for Information and Nominations published November 2015

Nominations Received in Response to South Carolina Call



FISHERMEN'S ENERGY

US Wind inc sea energy



Visual Concerns

State of North Carolina: 24 nm

Town of Sunset Beach: 24 nm

Bald Head Island:

- Village of Bald Head Island: 24 nm or >
- Bald Head Association s: 24 nm or >
- Bald Head Island Conservancy

Holden Beach Properties Owners Association: 30 nm

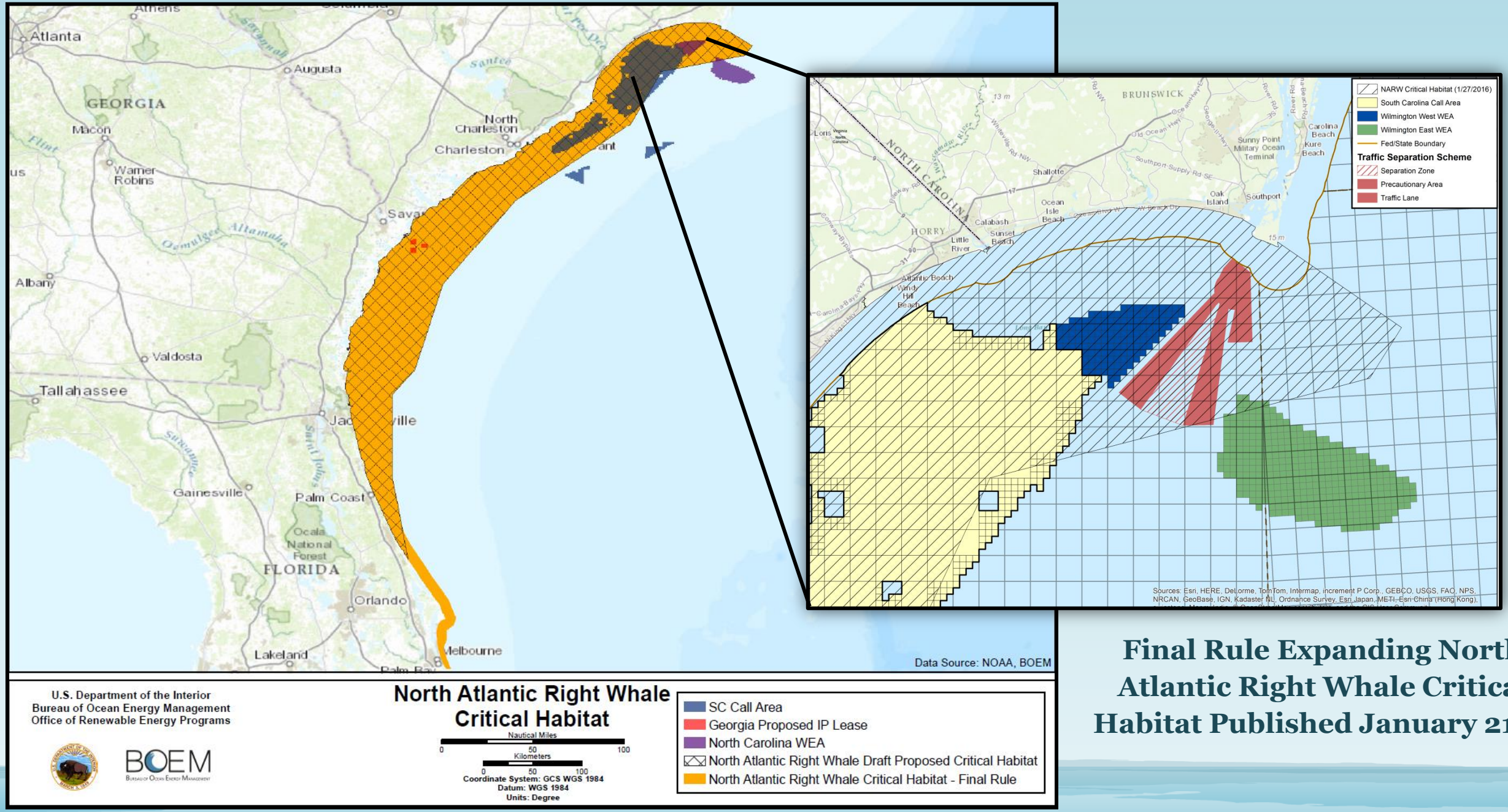
Town of Ocean Isle Beach: 25 miles

Caswell Beach (CB) : 33.7nm from CB, 24nm, 33.7 nm Oak Island Light House

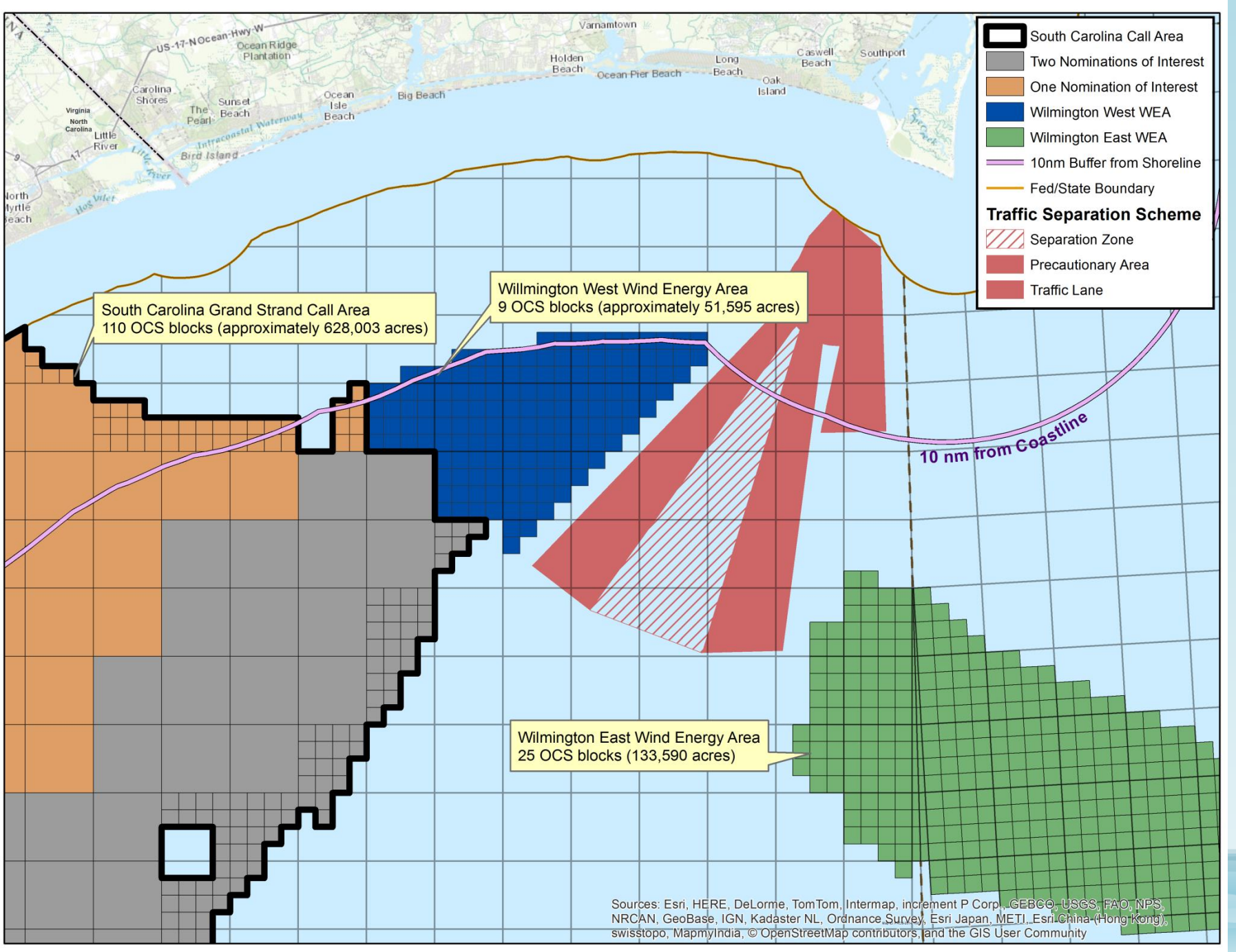
North Myrtle Beach: 24 nm setback unnecessary

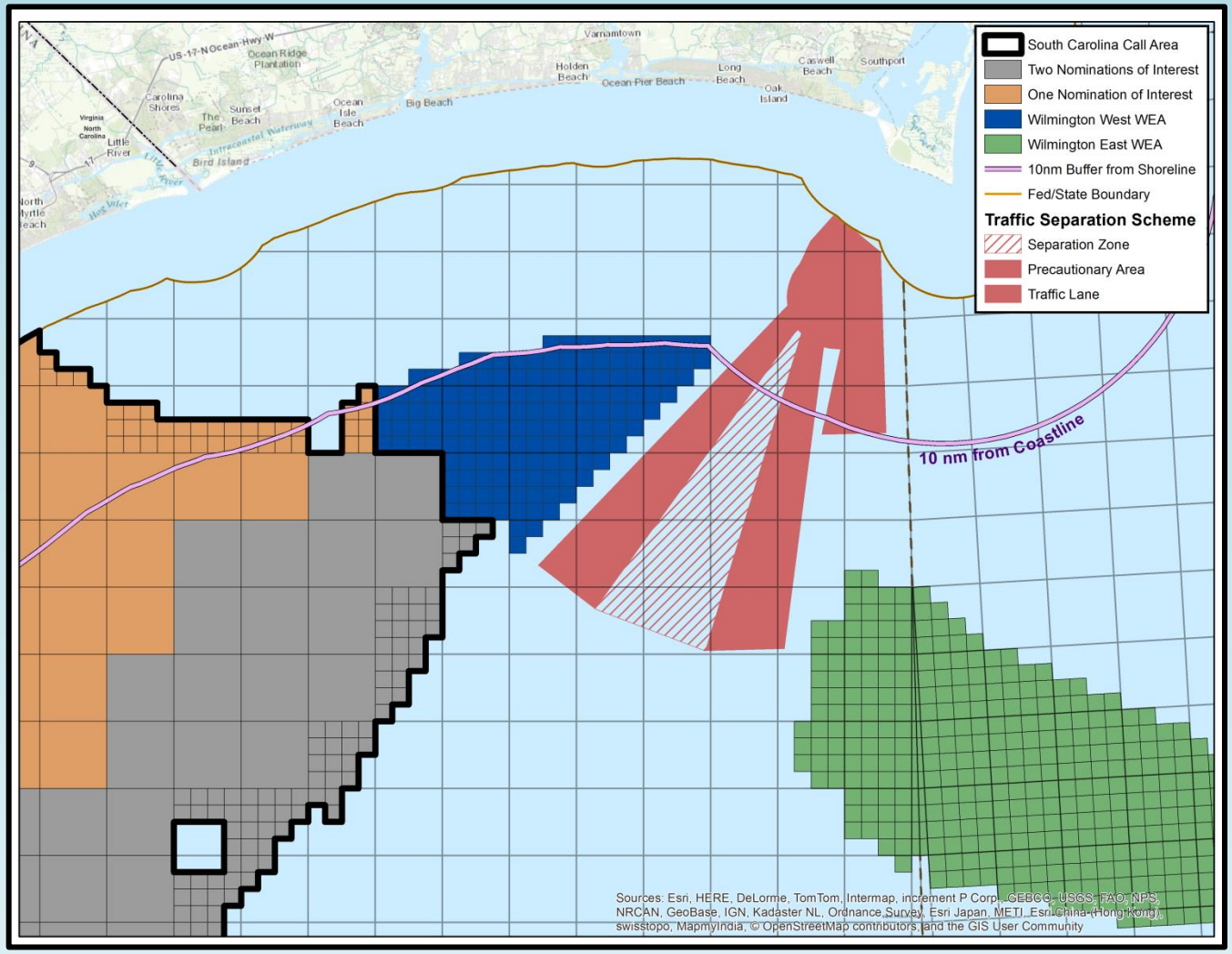
Brunswick County – General Concerns

Not An All Inclusive List

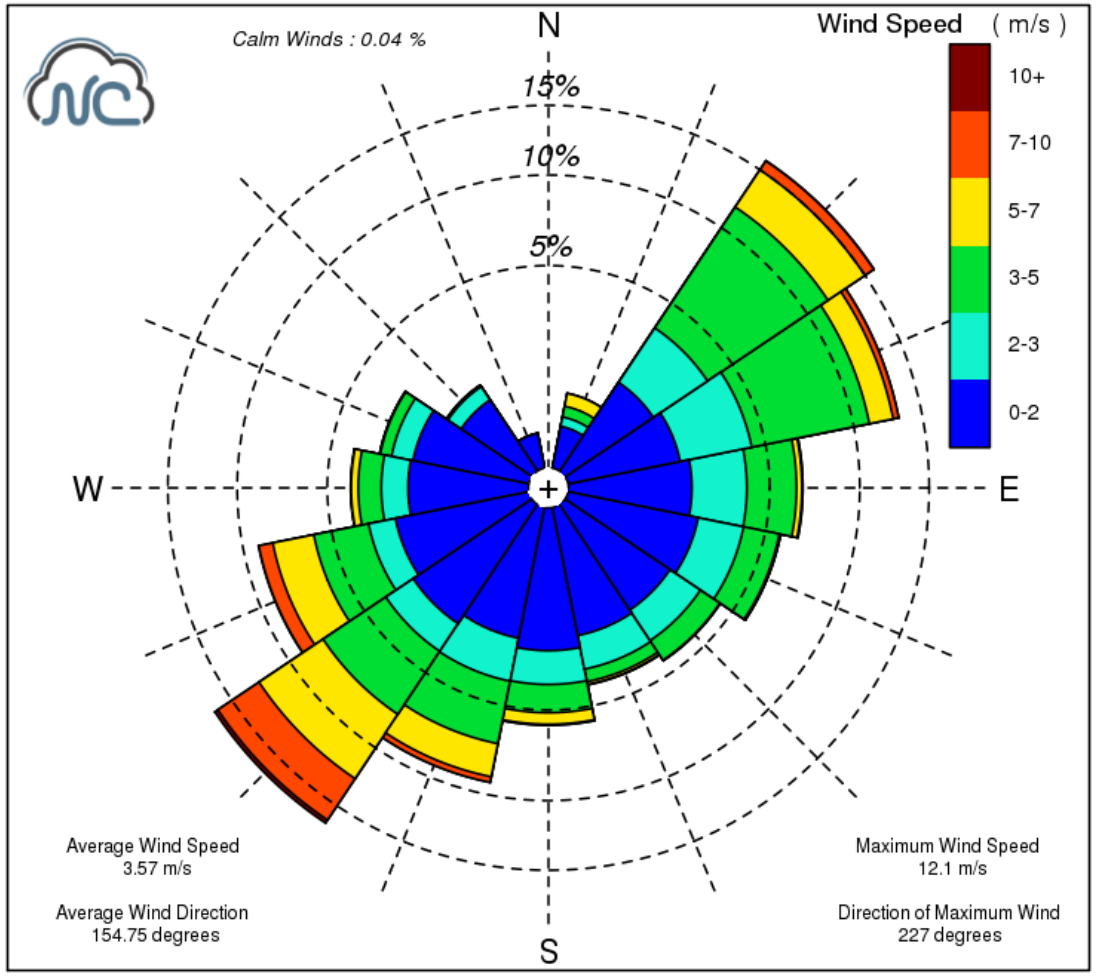


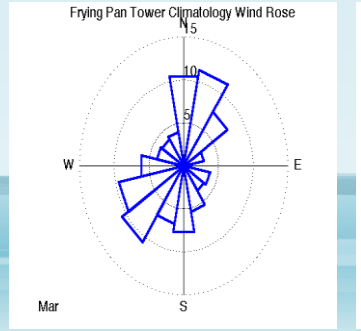
Final Rule Expanding North Atlantic Right Whale Critical Habitat Published January 2106

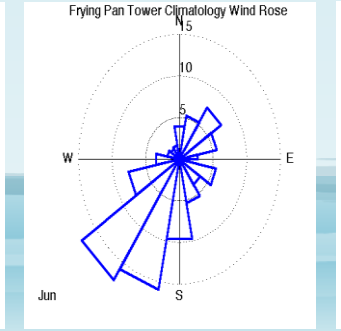

South Carolina Call Area
Two Nominations of Interest
One Nomination of Interest
Wilmington West WEA
Wilmington East WEA
10nm Buffer from Shoreline
Fed/State Boundary
Traffic Separation Scheme
Separation Zone
Precautionary Area
Traffic Lane
South Carolina Grand Strand Call Area
110 OCS blocks (approximately 628,003 acres)
Willmington West Wind Energy Area
9 OCS blocks (approximately 51,595 acres)
10 nm from Coastline
Wilmington East Wind Energy Area
25 OCS blocks (133,590 acres)
Varnamtown
Holden Beach
Ocean Pier Beach
Long Beach
Caswell Beach
Southport
Oak Island
Ocean Ridge Plantation
US-17-N Ocean-Hwy-W
Carolina Shores
The Pearl
Sunset Beach
Ocean Isle Beach
Big Beach
Intracoastal Waterway
Bird Island
Little River
Virginia
North Carolina
Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

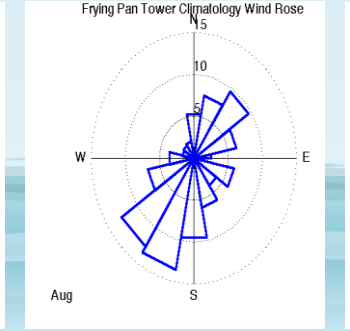


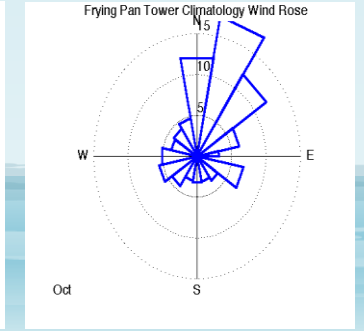
Wind Rose for Bald Head Island Conservancy (BALD)
Jan. 1, 2015 to Dec. 31, 2015

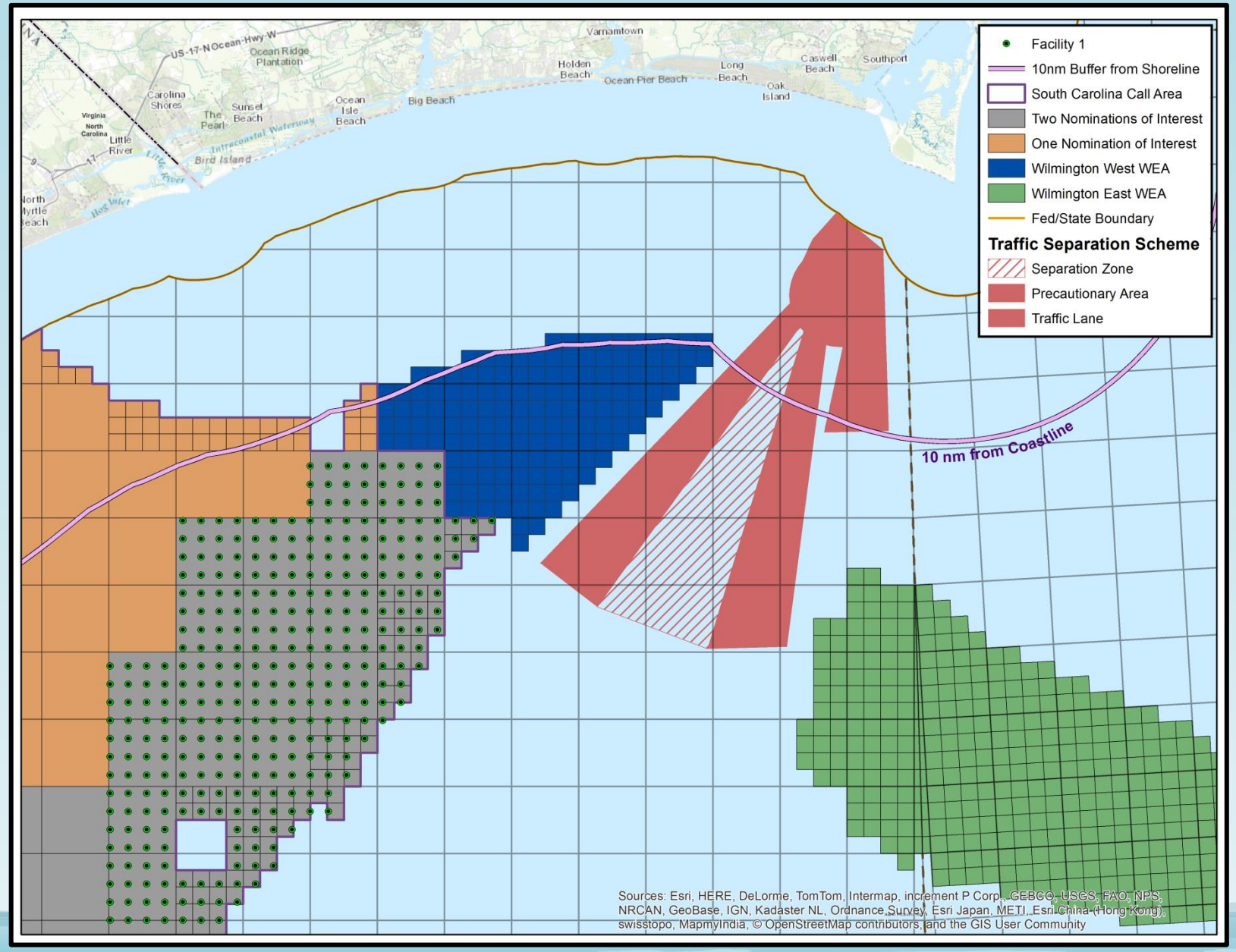






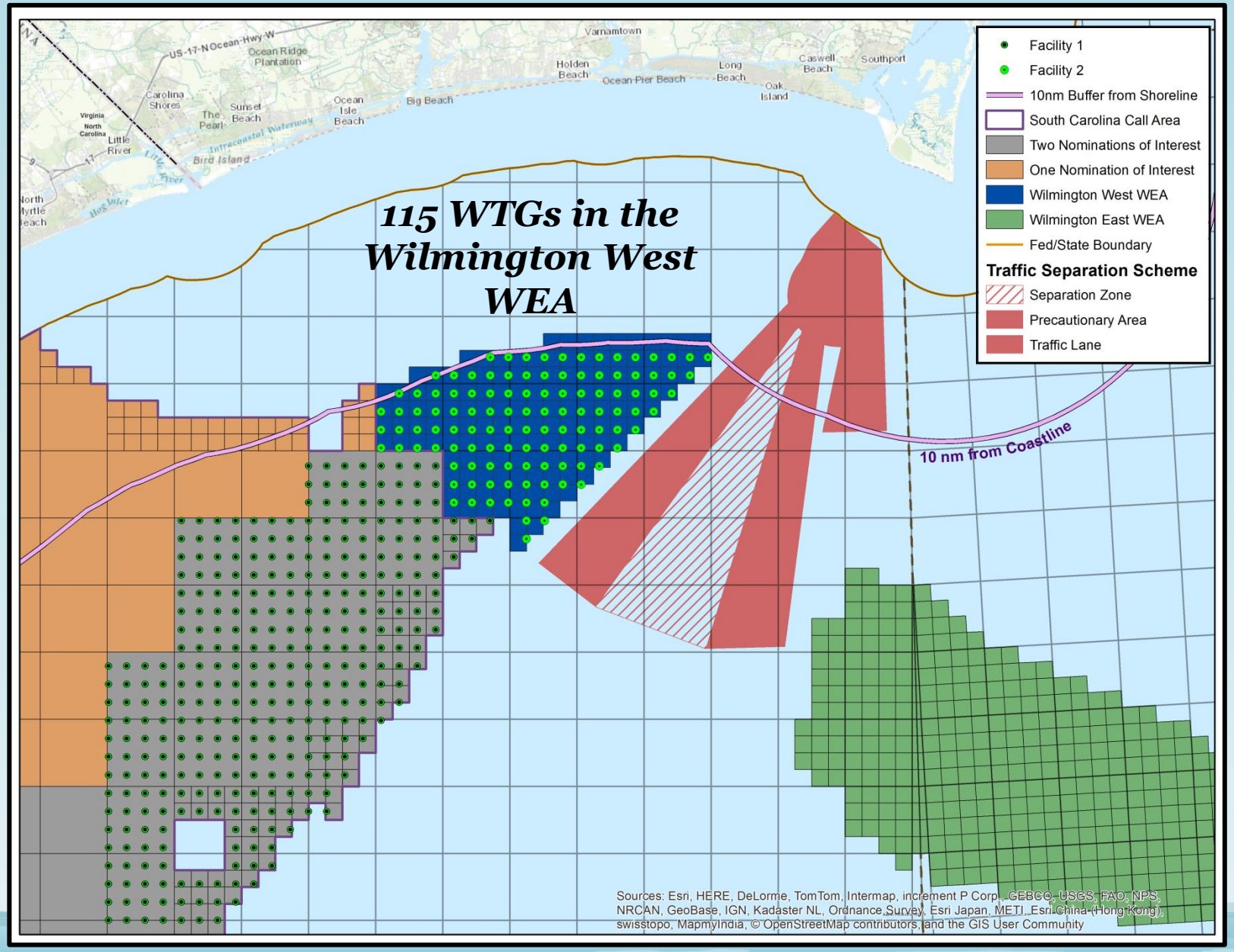






Hypothetical Scenario:

- Siemens SWT-4.0-130 Wind Turbine Generator (WTG)
  - Rotor Diameter (RD) 130 meter
  - 4MW Capacity
  - Blade Length 63.45 meters
  - Gearbox Drive Train
  - 3-5 m/s Cut-in Speed
- Spacing of 10D (1300 meters)
- All Turbines within an area of overlapping developer interest.
- No Offshore Substation



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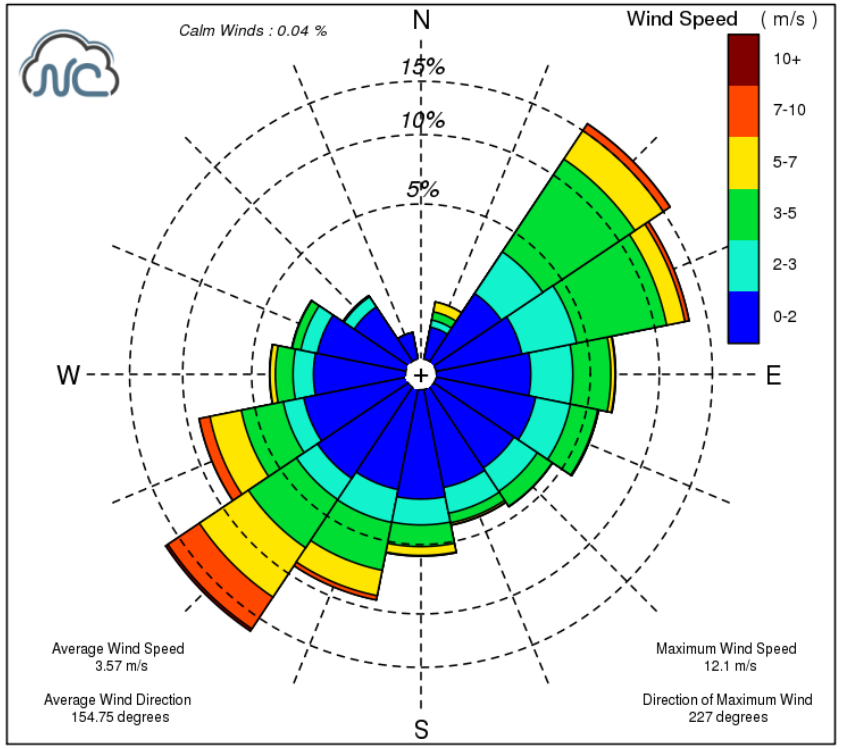
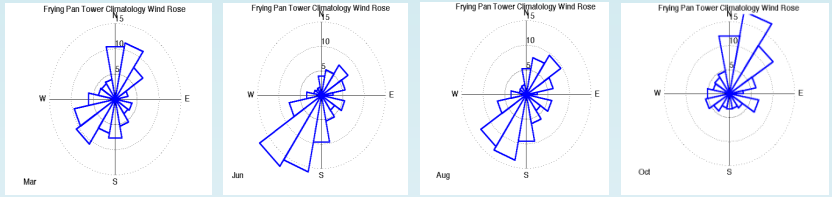
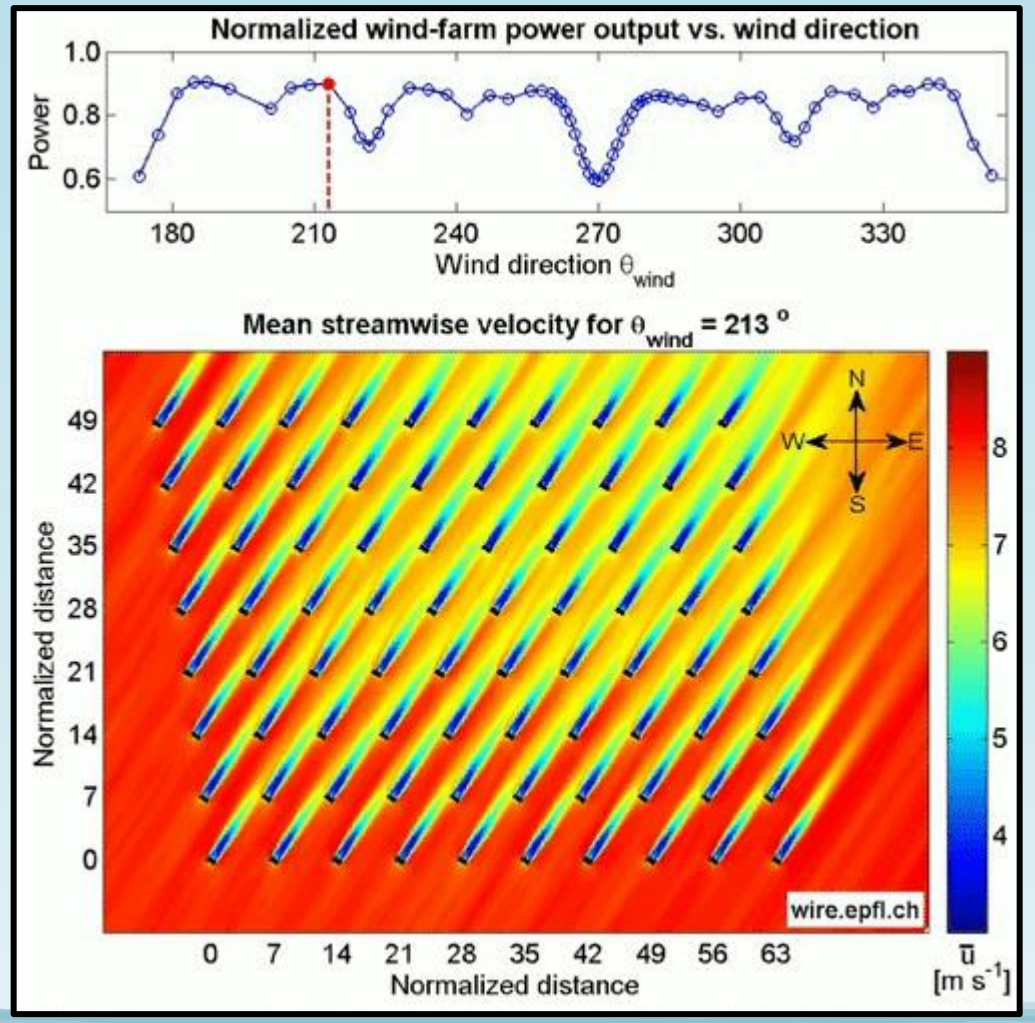


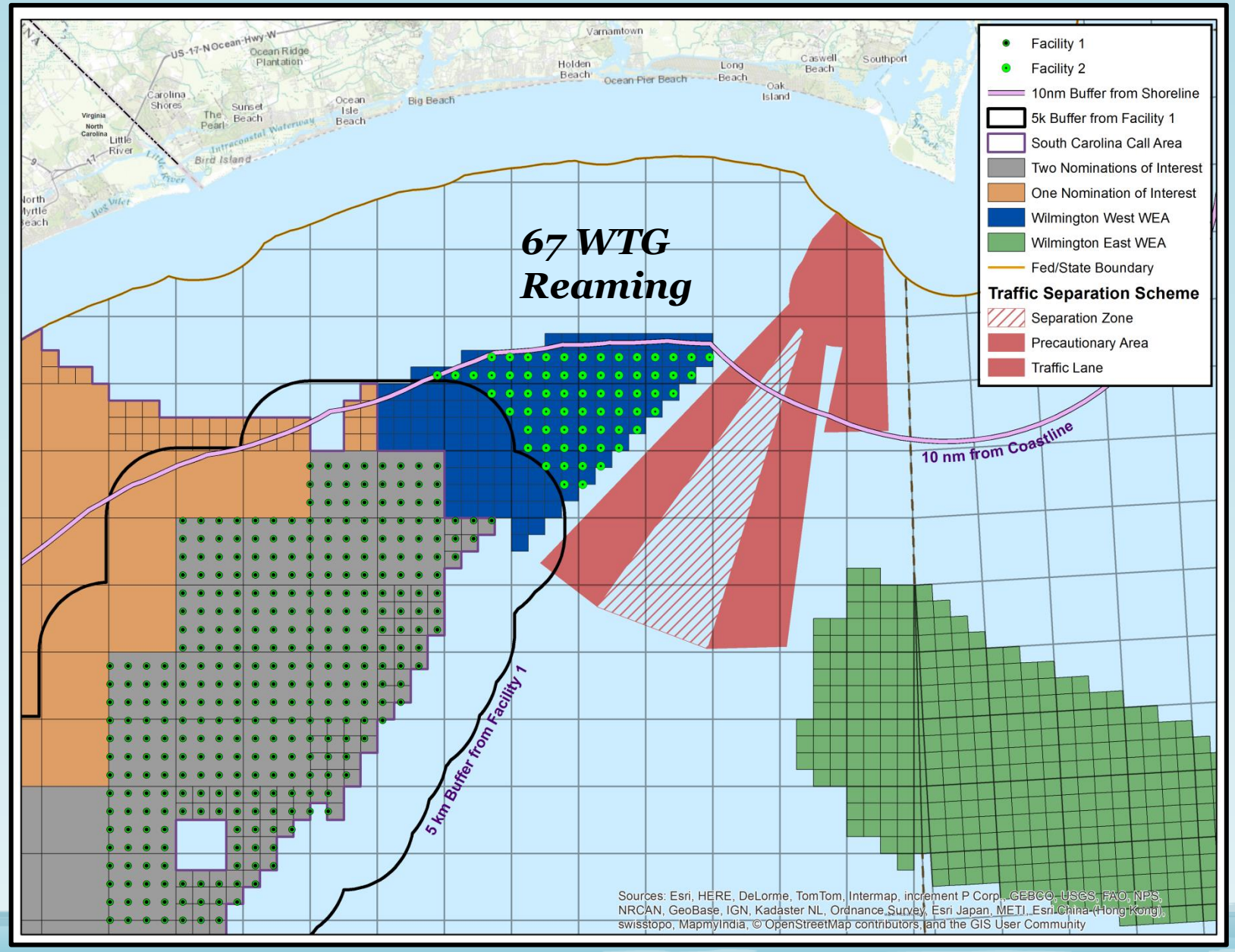


Wake Effects Between WTGs and Neighboring Wind Facilities



Mitigation Options

- Layout Optimization
  - Increase Spacing
  - Offset Spacing
  - Offset Layouts (Staggered)



Wind Rose for Bald Head Island Conservancy (BALD)
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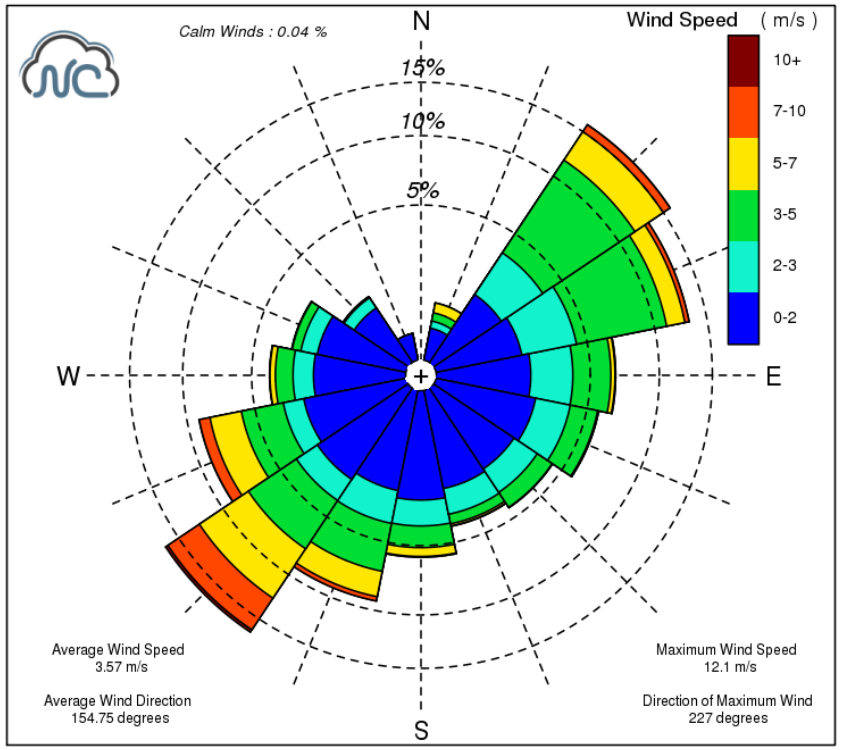
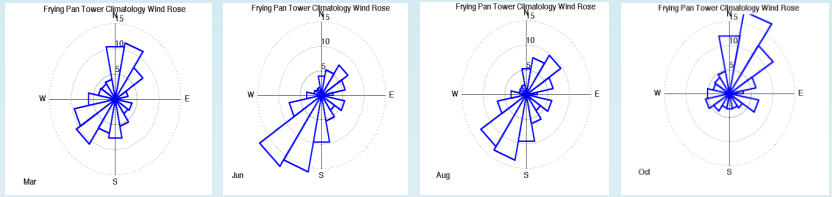
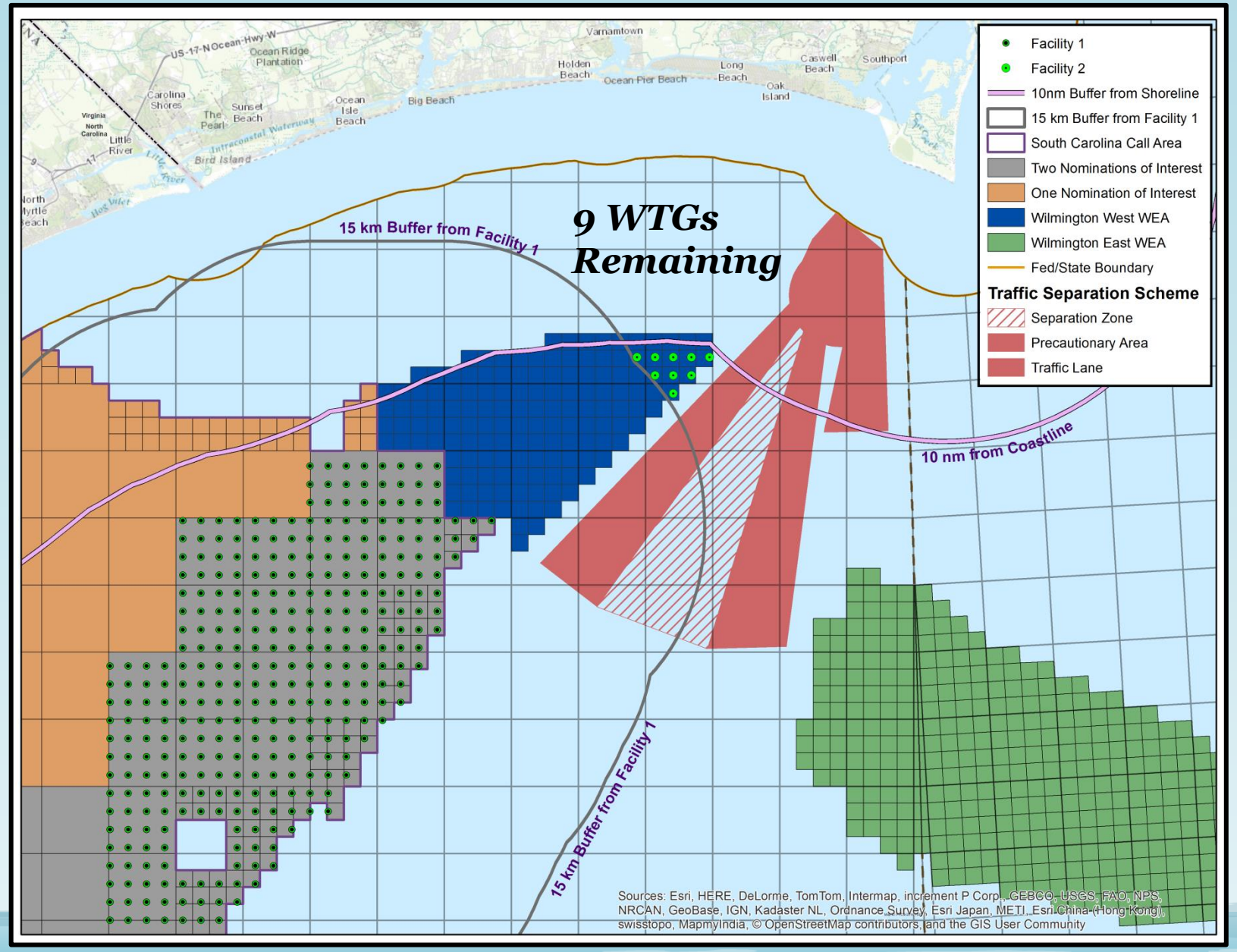
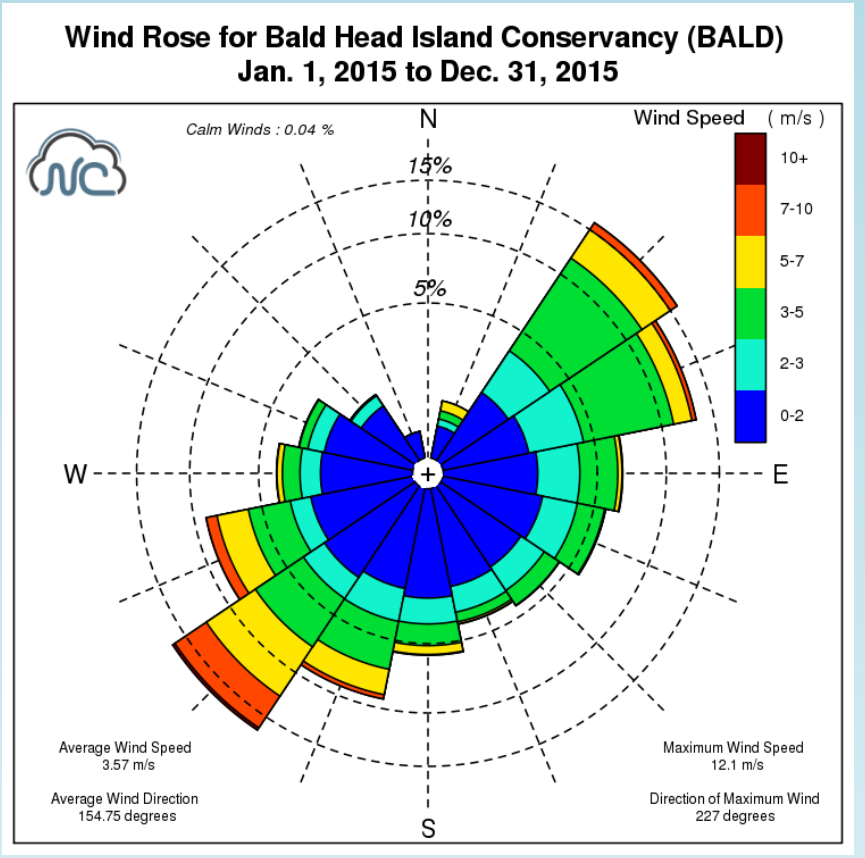
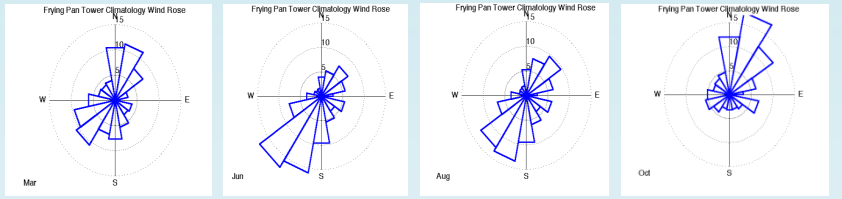





9 WTGs Remaining
15 km Buffer from Facility 1
10 nm from Coastline
15 km Buffer from Facility 1
Facility 1
Facility 2
10nm Buffer from Shoreline
15 km Buffer from Facility 1
South Carolina Call Area
Two Nominations of Interest
One Nomination of Interest
Wilmington West WEA
Wilmington East WEA
Fed/State Boundary
Traffic Separation Scheme
Separation Zone
Precautionary Area
Traffic Lane
Varnamtown
Holden Beach
Ocean Pier Beach
Long Beach
Caswell Beach
Southport
Oak Island
Ocean Ridge Plantation
Carolina Shores
The Pearl
Sunset Beach
Ocean Isle Beach
Big Beach
Little River
Bird Island
Intracoastal Waterway
Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community


Wind Rose for Bald Head Island Conservancy (BALD)
Jan. 1, 2015 to Dec. 31, 2015
Calm Winds : 0.04 %
Wind Speed (m/s)
10+
7-10
5-7
3-5
2-3
0-2
N
E
S
W
15%
10%
5%
Average Wind Speed
3.57 m/s
Average Wind Direction
154.75 degrees
Maximum Wind Speed
12.1 m/s
Direction of Maximum Wind
227 degrees

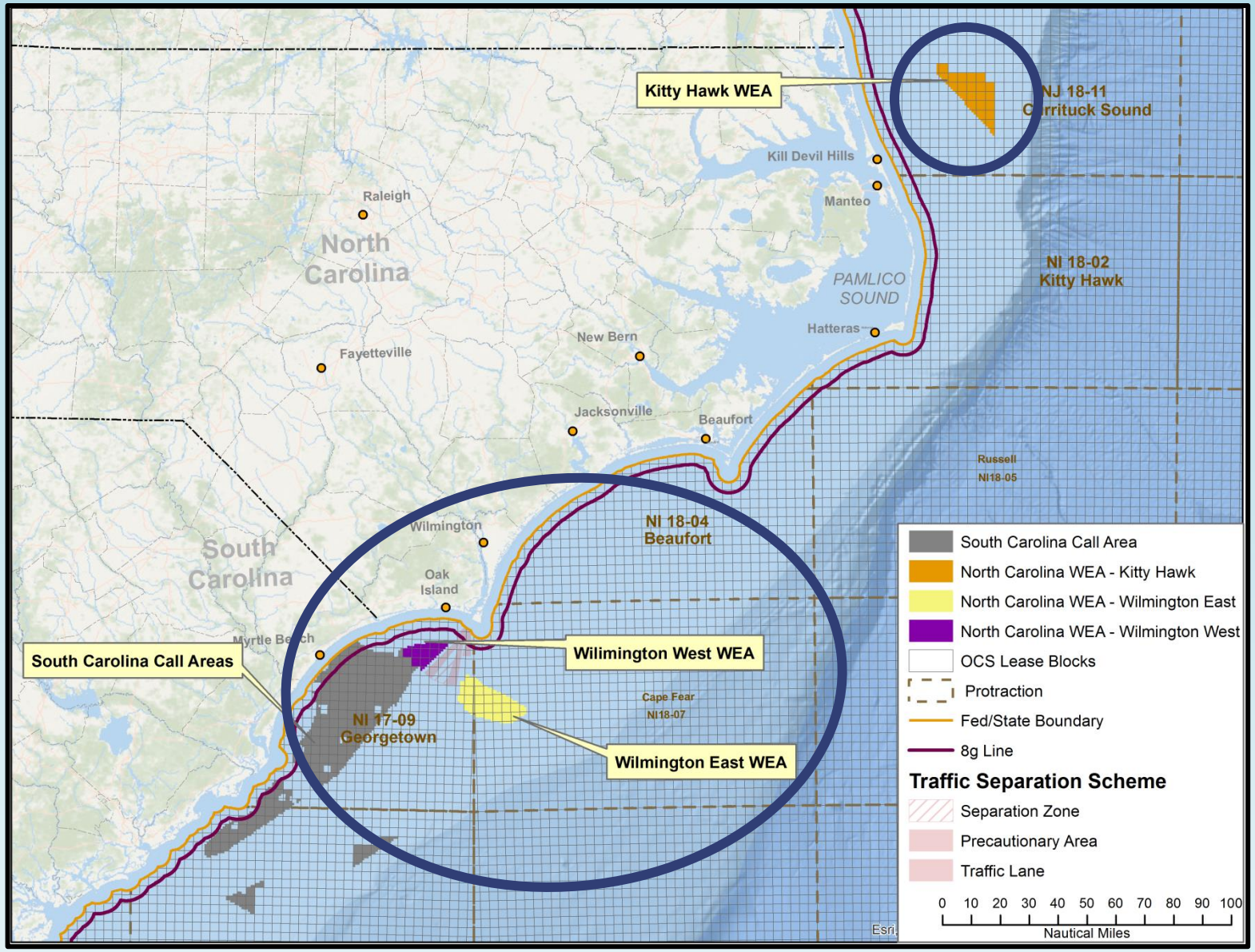

Frying Pan Tower Climatology Wind Rose
Mar
Jun
Aug
Oct

Best Addressed In A Regional and Holistic Manner

North Atlantic Right Whale Critical Habitat

Wake Effects from A Contagious Area

Viewshed Concerns



Kitty Hawk WEA

- Included in a Proposed Sale Notice and Request for Interest

Wilmington East & Wilmington West WEAs

- Integrated into the South Carolina Leasing Process
  - Stage 1: Analysis and Planning
  - Integration of South Carolina and North Carolina Task Forces

Stage 1: Planning and Analysis for South Carolina

Establish Intergovernmental Task Force

- March 2012: Charleston, SC
- May 2014: Charleston, SC
- September 2014: Charleston, SC
- September 2015: Pawleys Island, SC

Area Identification

- **South Carolina Call Areas**
- **Wilmington East**
- **Wilmington West**

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 November 25, 2015
- Comment Period Closed January 25, 2016

Conduct Environmental Compliance Reviews

- Published NOI Environmental Assessment Nov. 25 2015
- 60 day Comment Period

Stage 2: Leasing for North Carolina

Circulate Draft PSN to NC Task Force

- Task Force Comment Period

Hold Task Force Webinar

- April 19, 2106

Consider Task Force Feedback

- Task Force Comments Due April 28th

Publish PSN

- 60 day comment period
- Last Chance for developers to submit qualifications material

Hold Auction Seminar

- Open to the Public
- Targeted toward Bidders

Check RFI Feedback & Finalize any New Company Qualifications

Legal, Technical & Financial Qualifications

Consider Feedback in Response to the PSN

Publish FSN If needed

Questions?