

Picture by Ms. Brittney Baker



ARM3-5.1

# Atlantic Coast Port Access Route Study (ACPARS) and Coastal Marine Spatial Planning – An Update

IALA ARM-3 Meeting  
11-23-2015



# PORT ACCESS ROUTE STUDY (PARS)

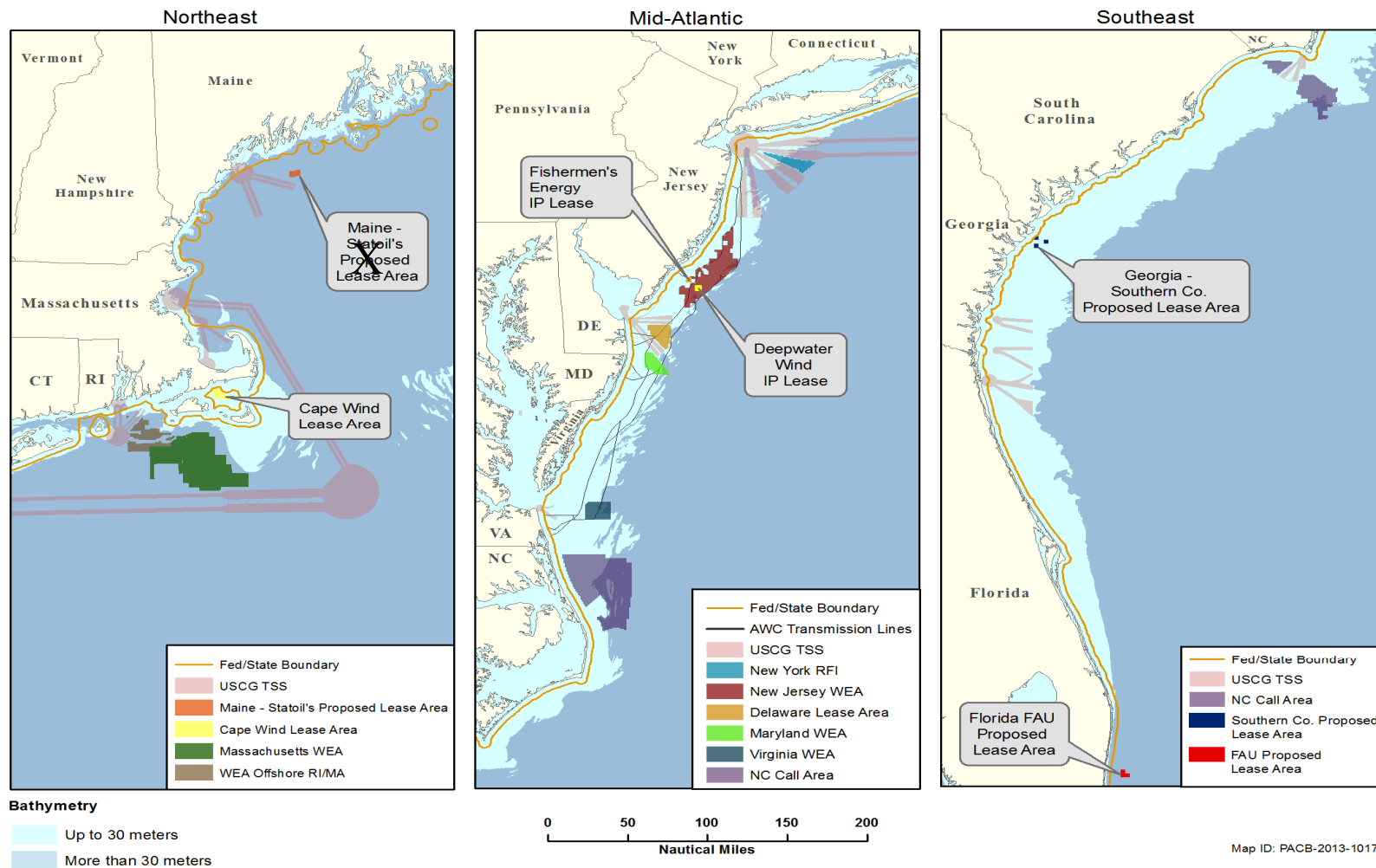


- Coast Guard is required (by law) to conduct a PARS before establishing new or adjusting existing fairways or TSS's.
- Consult/coordinate with Federal, State, and foreign state agencies (as appropriate) and maritime community representatives, environmental groups, and other interested stakeholders.
- Primary purpose of this coordination is, to the extent practicable, to reconcile the need for safe access routes with other reasonable waterway uses.
- PARS process (complete or modified) may be used to determine and justify if safety zones, security zones, recommended routes, regulated navigation areas and other routing measures should be created.



# WHY THE ACPARS

## Atlantic OCS Wind Energy Program - Maine to Florida





# UK MARITIME GUIDANCE NOTE MGN-371



Distance	Factors	Risk	
< 0.25 NM	Inter-turbine spacing = only small craft recommended	Very High	RED
0.5 NM	Mariner's high traffic density domain	High	
1.0 NM	Minimum distance to parallel boundary of TSS	Medium	YELLOW
1.5 NM	S band radar interference - ARPA affected	Medium	
2.0 NM	Compliance with COLREGS becomes less challenging	Medium	
> 2.0 NM	But not near a TSS	Low	
5.0 NM	Adjacent wind farm introduces cumulative effect. Distance from TSS entry/exit	Very Low	GREEN
10.0 NM	No other wind farms	Very Low	



# R-Y-G METHODOLOGY



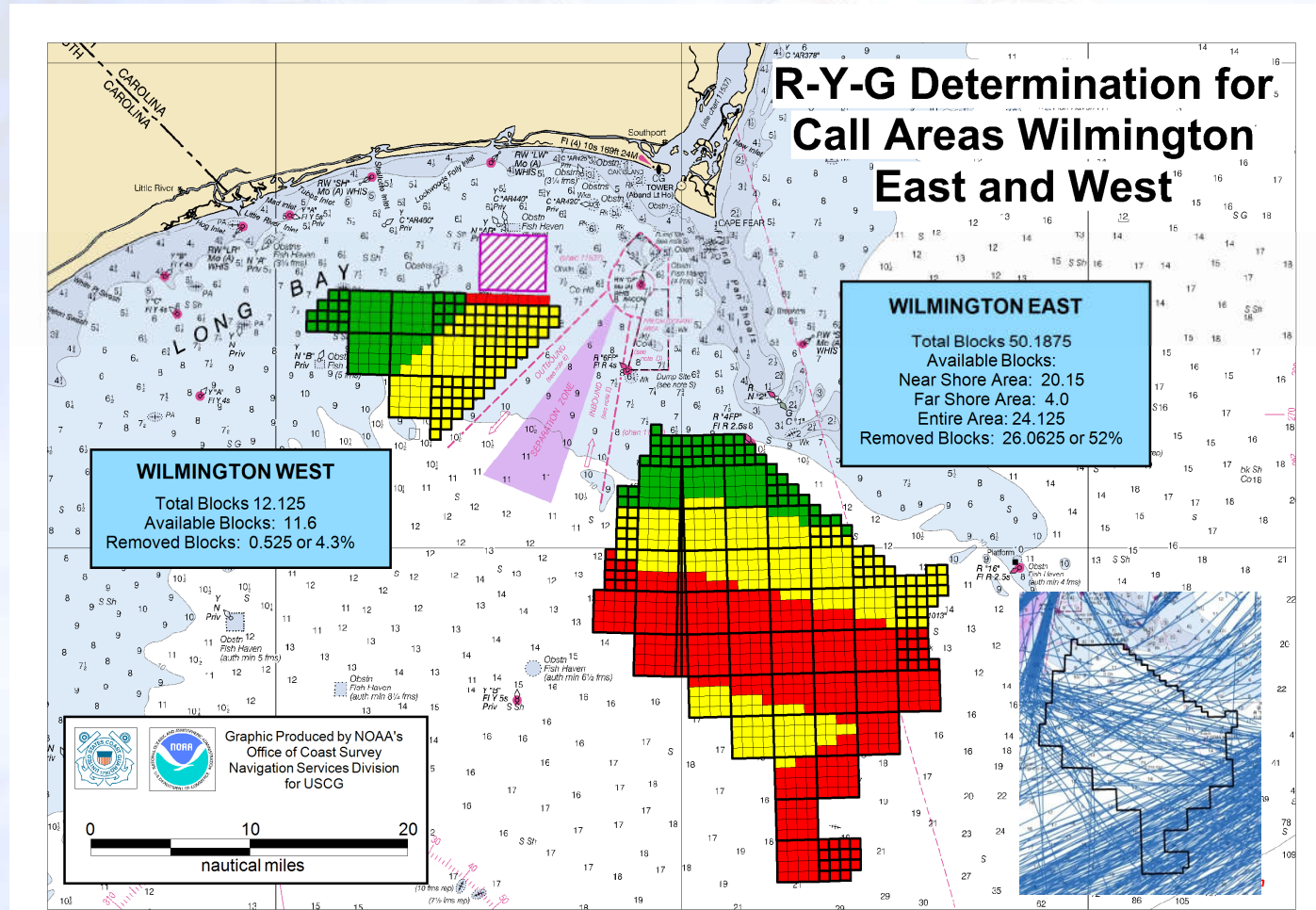
Within 1 NM → **RED** → Not suitable for development

Between 1 – 5 NM → **YELLOW** → May be suitable w/ mitigation  
Requires further analysis

> 5 NM → **GREEN** → minimal impact



# R-Y-G DETERMINATION FOR NORTH CAROLINA - WILMINGTON

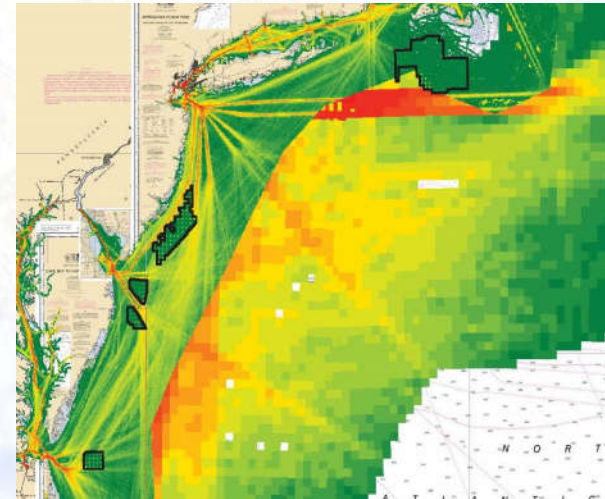




# MODELING AND ANALYSIS



- Develop a GIS based model to predict traffic density and traffic patterns given alternative siting scenarios
- Determine the resultant nav safety risk
  - Increased density
  - Mixing of vessel types
  - Risk of allision
  - Risk of collision
  - Evaluate mitigation measures
- Pacific Northwest National Lab (PNNL) contracted

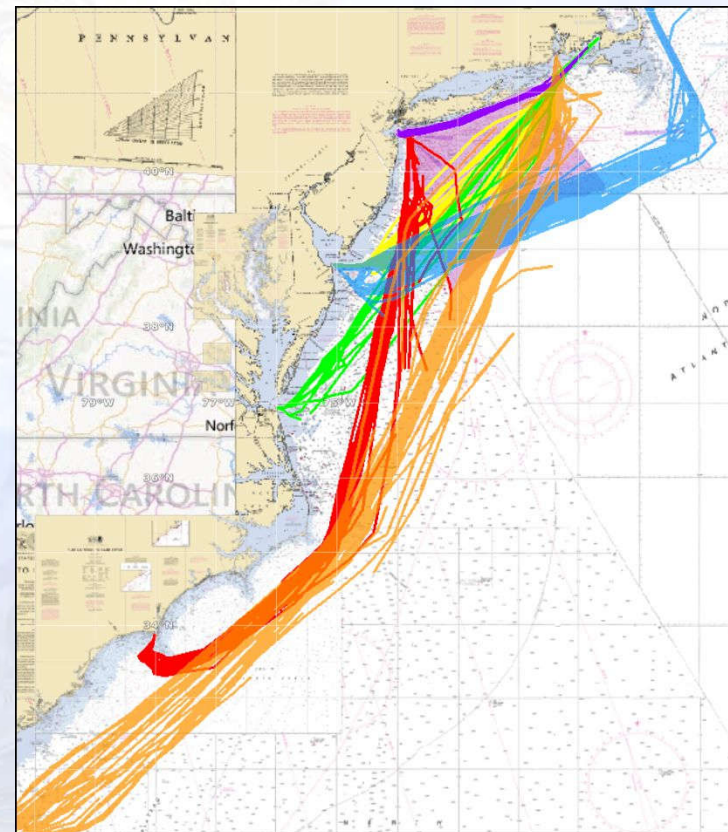




# PNNL DELIVERABLES

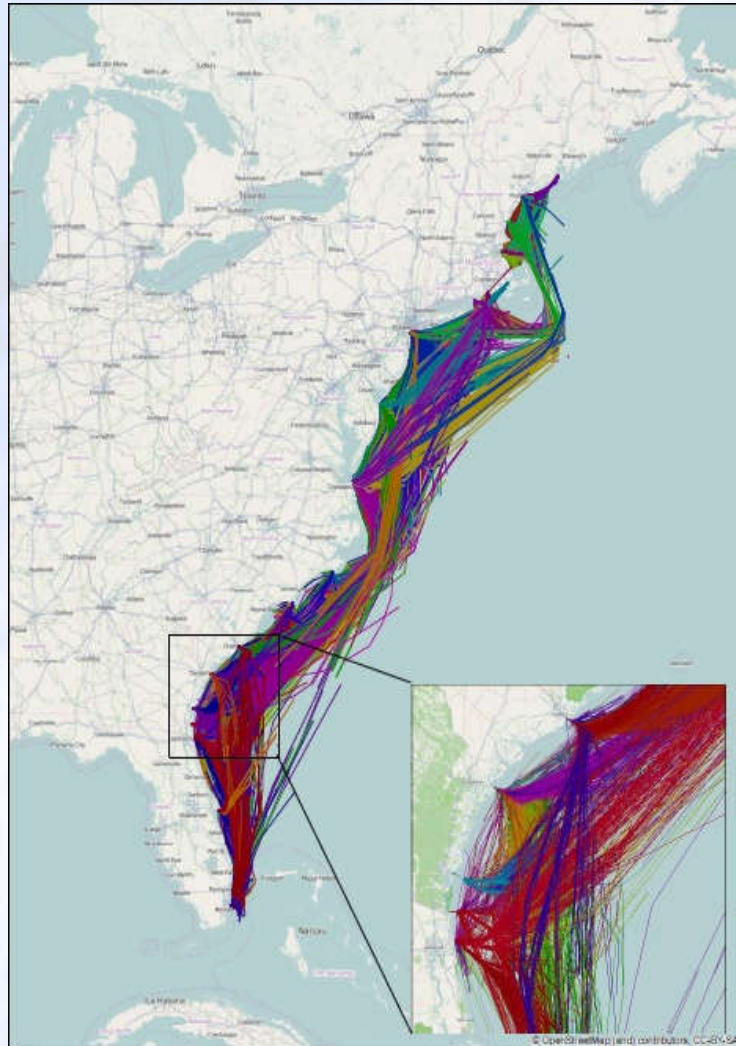


- **Data Analysis**
- **Model Setup**
- **Decision Tree**  
**and Scenario Development**
- **Deliverables**
  - Processed AIS Data
  - Visual displays of existing shipping routes and operational areas, with BOEM lease blocks
  - Numerical model in executable form
  - Final report
  - Model not completely successful





## PNNL DELIVERABLE



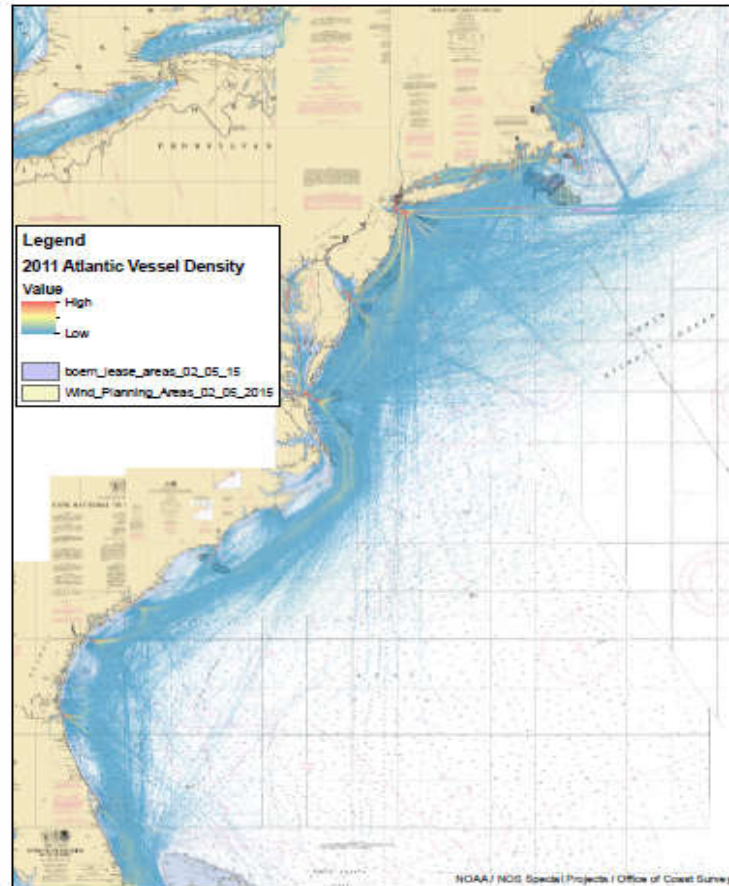
As part of the AIS analysis, PNNL produced a geo-database of vessel port-to-port routes that were further subdivided into the broad “vessel type” categories of cargo, tanker, and towing vessels. When all of the routes were layered together, the result essentially covered all of the offshore waters, which was not conducive to completing an R-Y-G assessment for the Atlantic Coast.



# ANALYSIS OF AIS

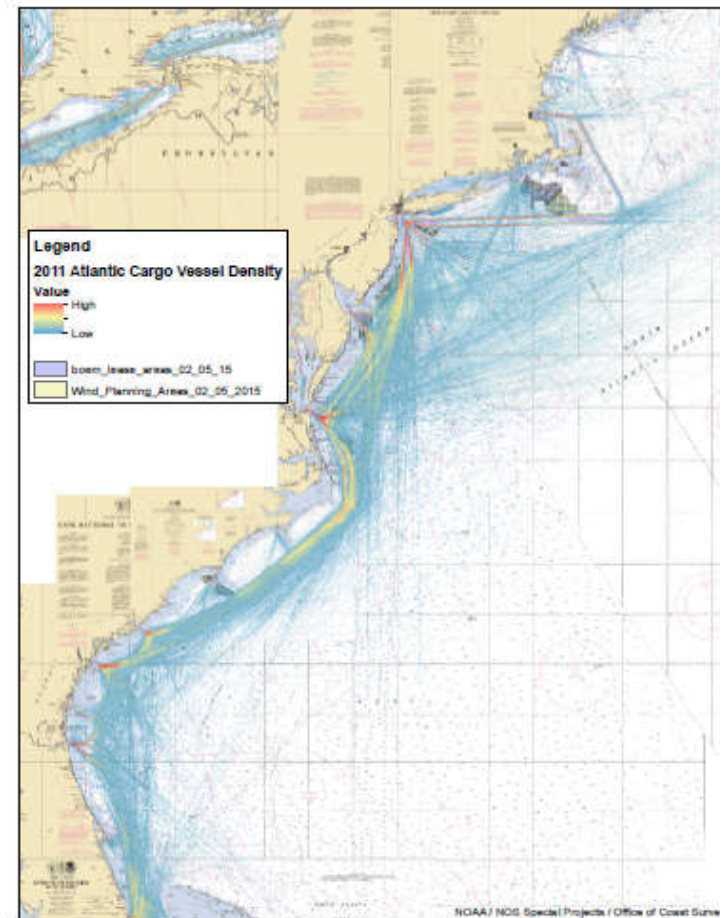


Atlantic Coast 2011 Vessel Density



Appendix III

Atlantic Coast 2011 Cargo Vessel Density



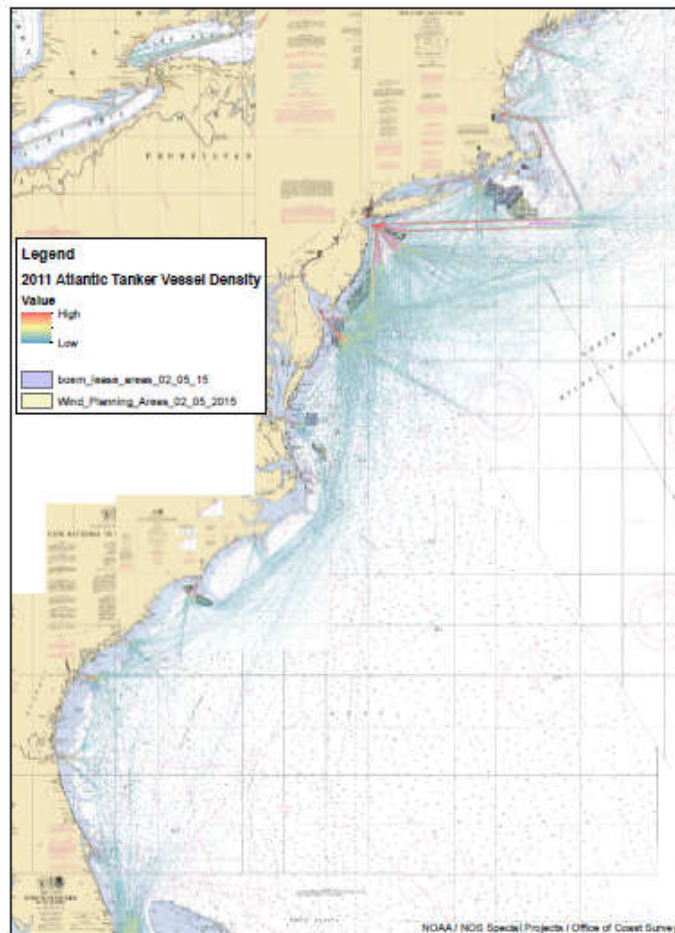
Appendix III



# ANALYSIS OF AIS



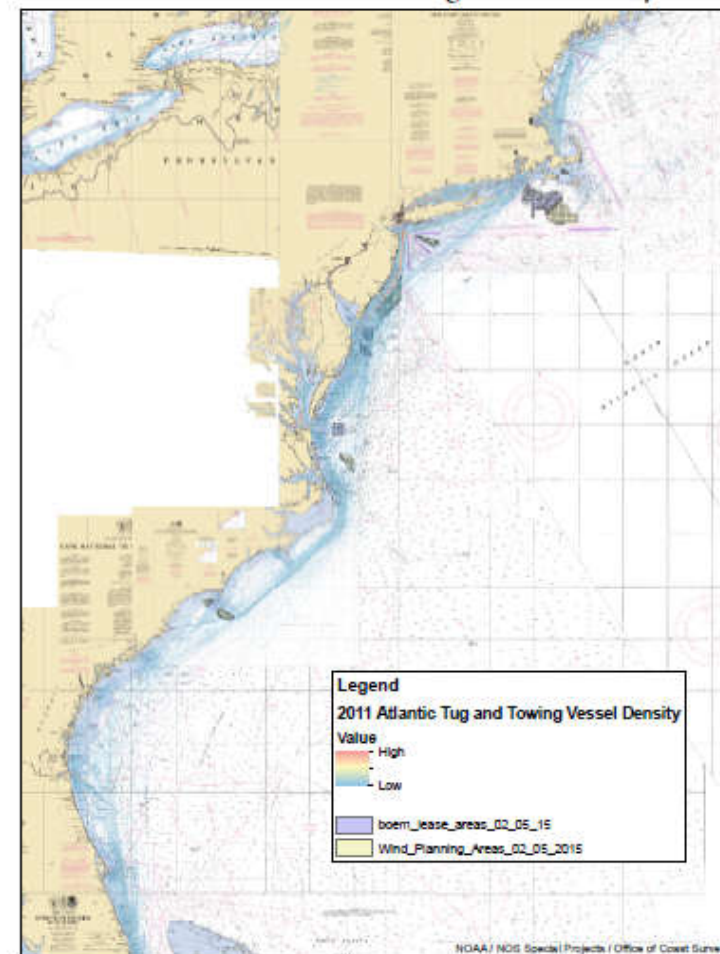
Atlantic Coast 2011 Tanker Vessel Density



3

Appendix III

Atlantic Coast 2011 Towing Vessel Density



4

Appendix III



# MOST SIGNIFICANT OUTCOMES



- Marine Planning Guidelines (MPGs) (Enclosure 2)
- Identification of Alongshore Towing Vessel Routes (Appendix VII)
- Major Deep Draft Routes (Appendix VII)



# MARINE PLANNING GUIDELINES (ENCLOSURE 2)



- Developed using input from:
  - Confed. of European Shipmasters' Assoc. (CESMA)
  - World Shipping Council (WSC)
  - UK Maritime Coastguard Agency (MCA) MGN-371
  - German Waterways and Shipping Directorates
- Major topics:
  - Port Approaches and Traffic Separation Schemes (TSSs)
  - Along Shore Routes
  - Offshore Deep Draft Routes
  - Navigational Safety Corridors
  - Other Considerations
    - Contributions to Risk
    - Mitigations



# Uses of Marine Planning Guidelines



- Will assist in initial Area Identification
- Assist offshore developers/marine planners in evaluating navigational impacts of their project
- Navigation Safety Risk Assessments (NSRA) – development and review
- Consider sea space to safe maneuvers
- Appropriate separation distances
- Non-regulatory
- TSSs, alongshore routes and offshore deep draft routes
- Evaluation any other type projects



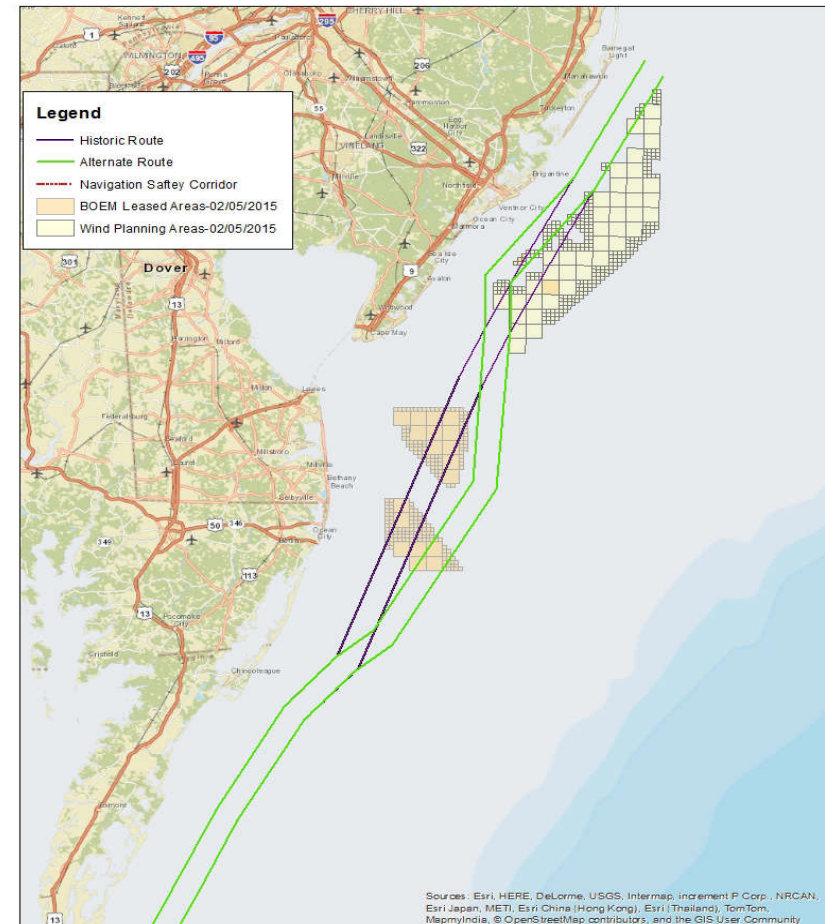
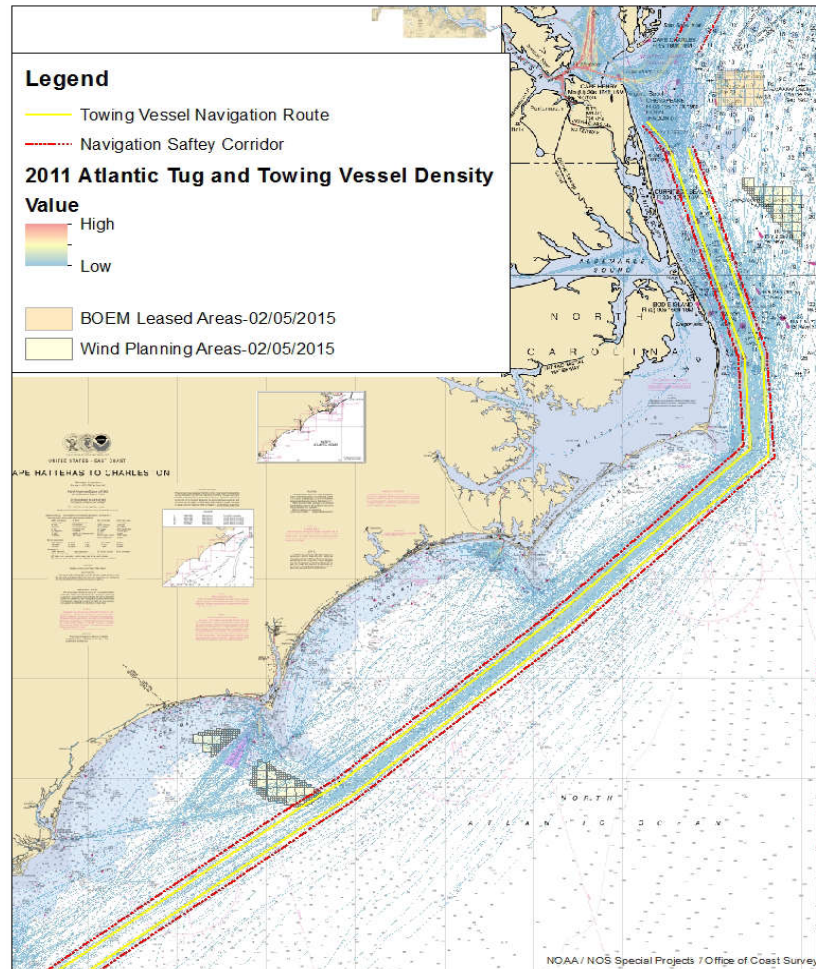
# Identification of Alongshore Towing Vessel Routes (Appendix VII)



- Identified traditional tug and barge routes
  - Applied MPGs to routes to identify Navigation (Safety) Corridors
  - 9 NM for tug and barges



# NAVIGATIONS SAFETY CORRIDORS



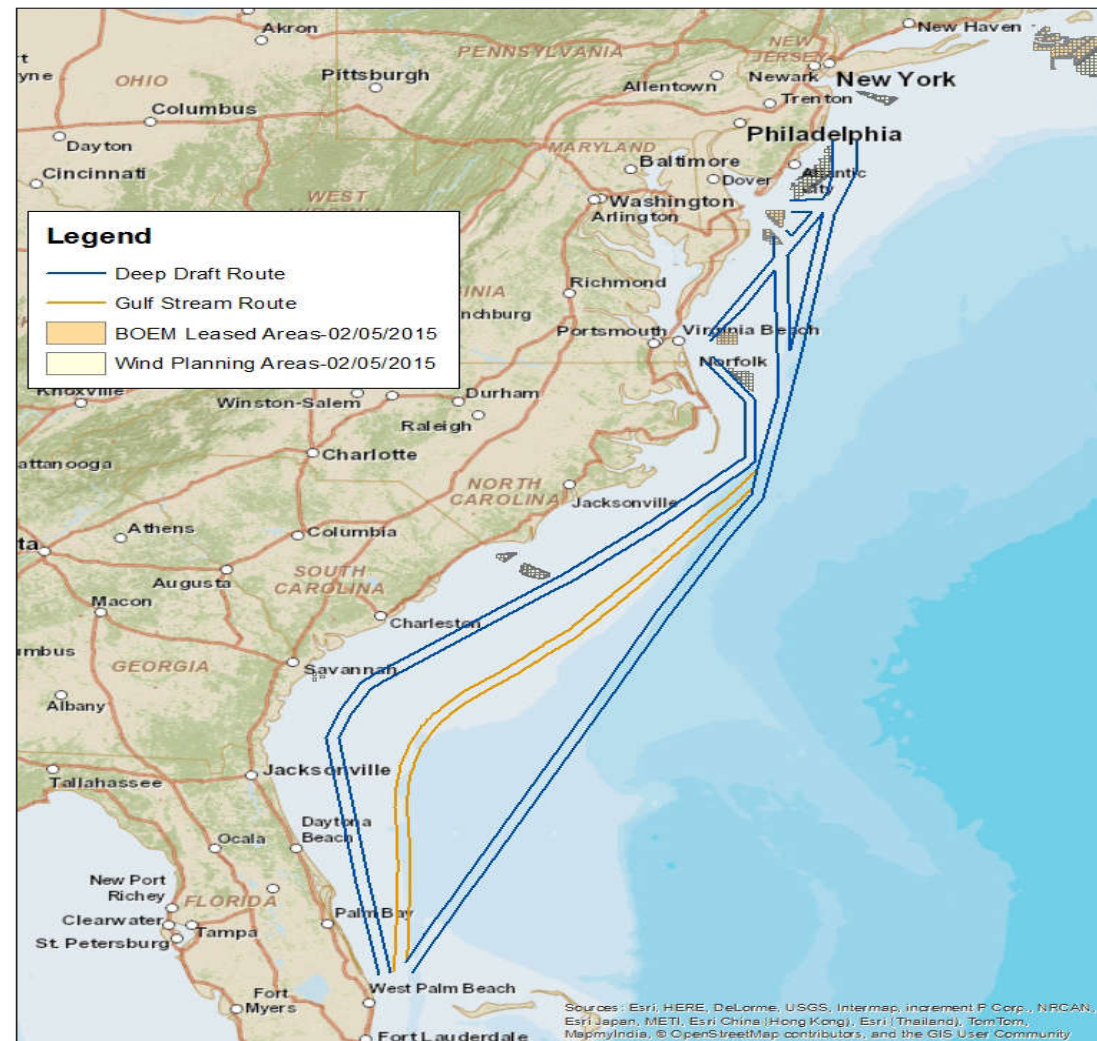


## Identification of Major Deep Draft Routes (Appendix VII)

- Identified major deep draft routes
  - Applied MPGs to a lesser degree due to deep draft traffic location and wind farm interaction
  - 10 NM for deep draft vessels

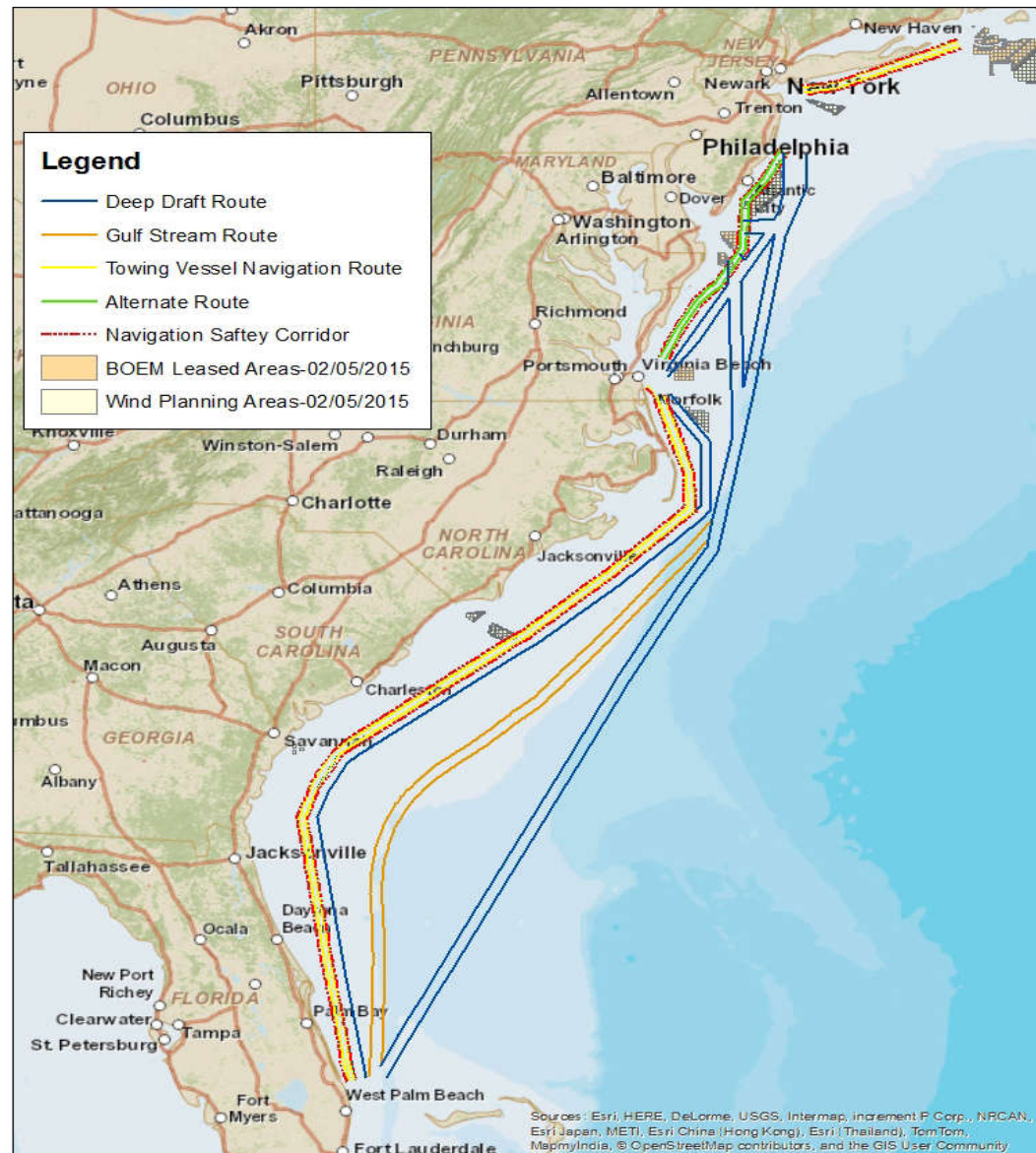


# DEEP DRAFT ROUTES





# ALL TOGETHER





# WAY AHEAD

- Final Report is complete. Finish internal routing/approval
- Will be published in Federal Register with comment period
- Will be posted on [www.uscg.mil/LANTAREA/ACPARS](http://www.uscg.mil/LANTAREA/ACPARS)
- Apply navigation corridors during marine planning activities
- Develop Navigation corridors into shipping safety fairways or other routing measures (U.S. Regulations and IMO submissions)
- Incorporate MPGs in future Coast Guard documents



# QUESTIONS

- George Detweiler
- [George.H.Detweiler@uscg.mil](mailto:George.H.Detweiler@uscg.mil)
- +1 202 372 1566

Report to be published at

- [www.uscg.mil/LANTAREA/ACPARS](http://www.uscg.mil/LANTAREA/ACPARS)