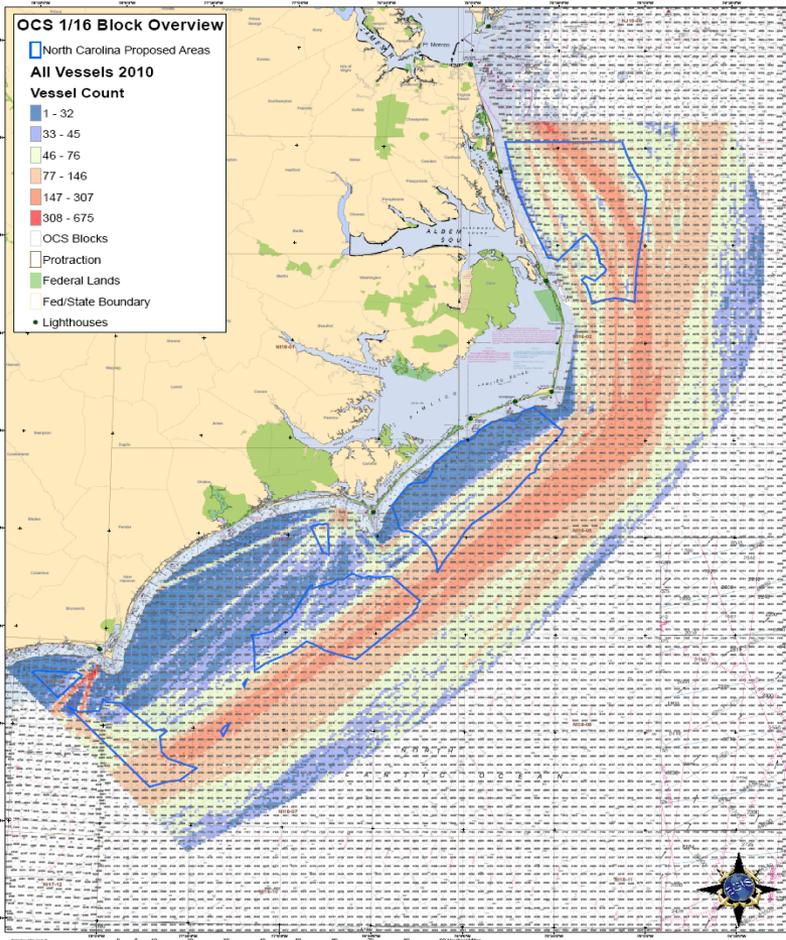




U.S. Coast Guard Evaluation of North Carolina Areas Under Consideration for Wind Development



**BOEM North Carolina
Renewable Energy Task
Force Meeting
02 August 2012**



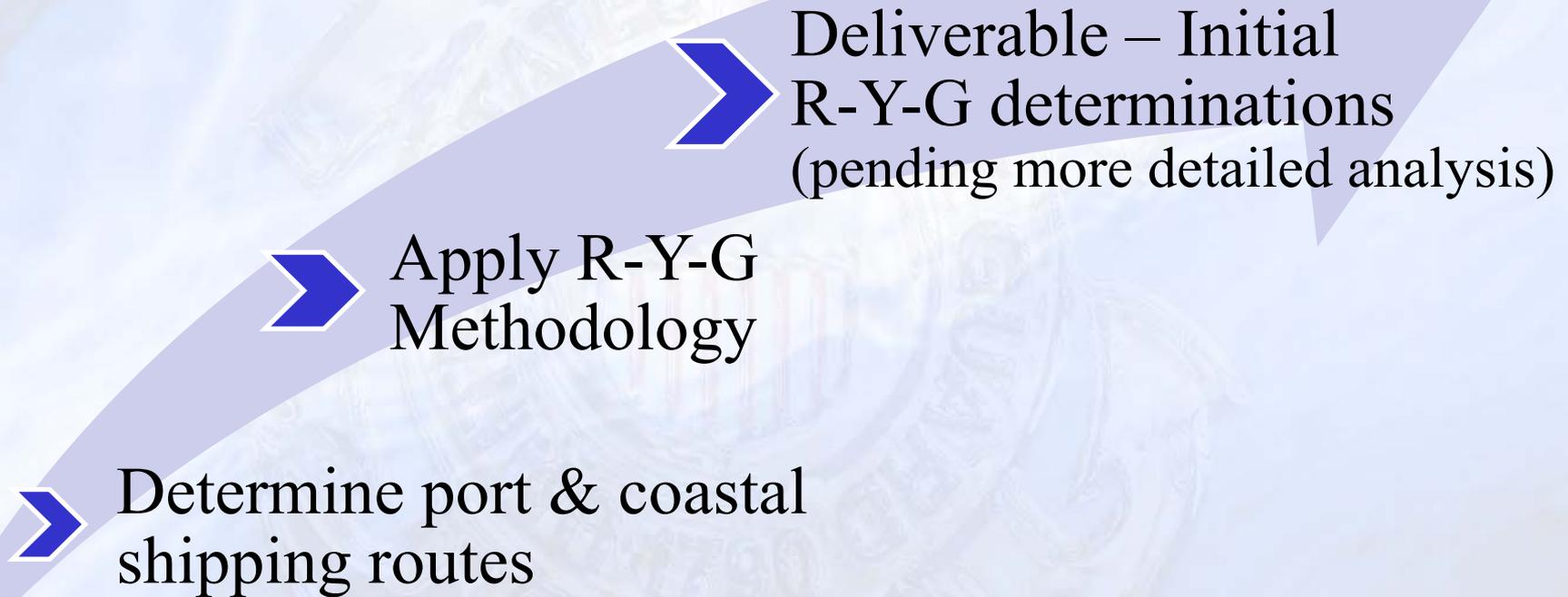
Coast Guard as a Cooperating Agency



- CG responsible to waterways users for safe and efficient operation of the Marine Transportation System (MTS)
- BOEM consultation w/ Coast Guard
 - Safety of Navigation
 - Traditional uses
 - Impact to CG missions
- Applicant/Developer- required to conduct a Navigational Safety Risk Assessment

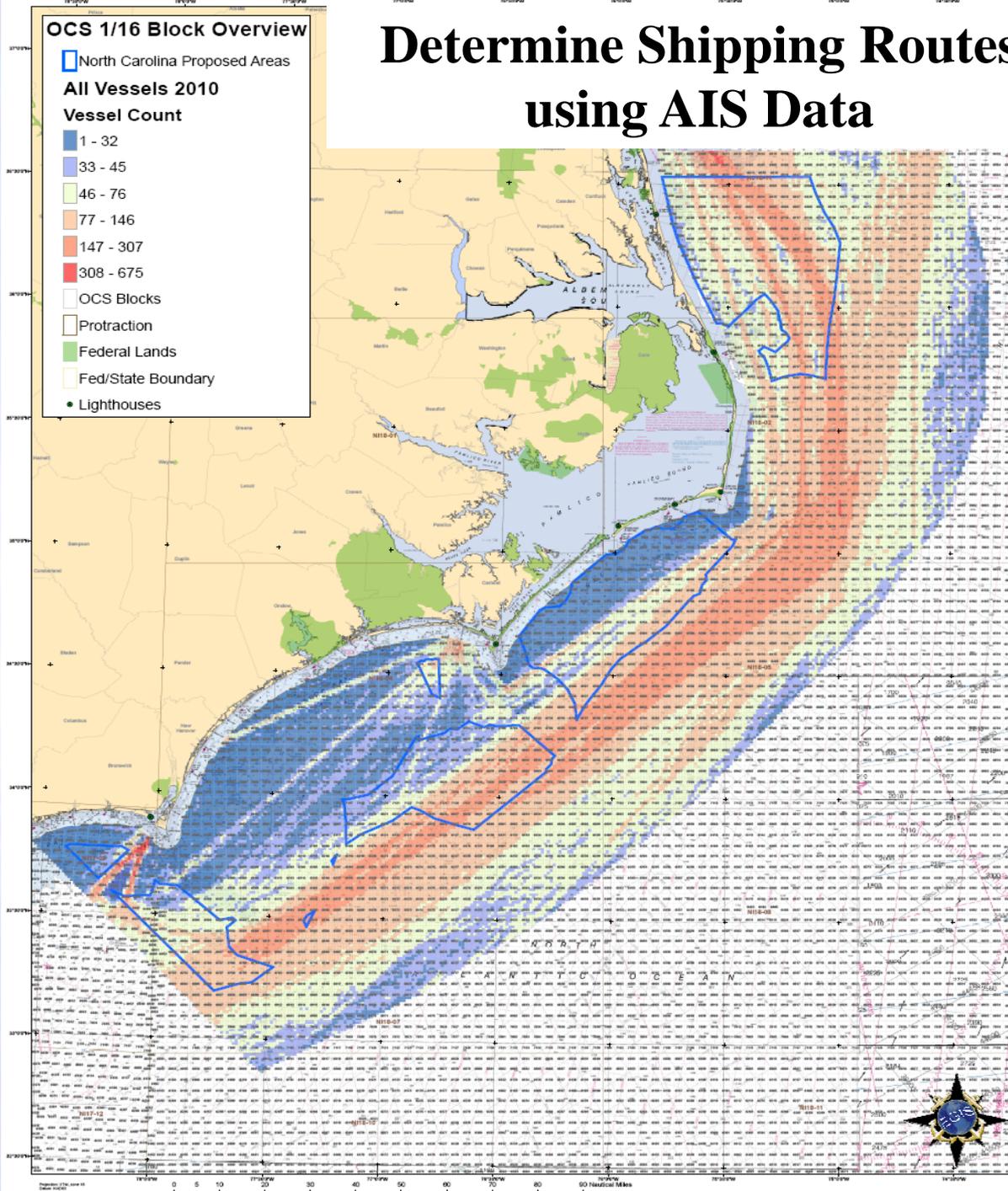


Evaluate Suitability of Proposed WEAs



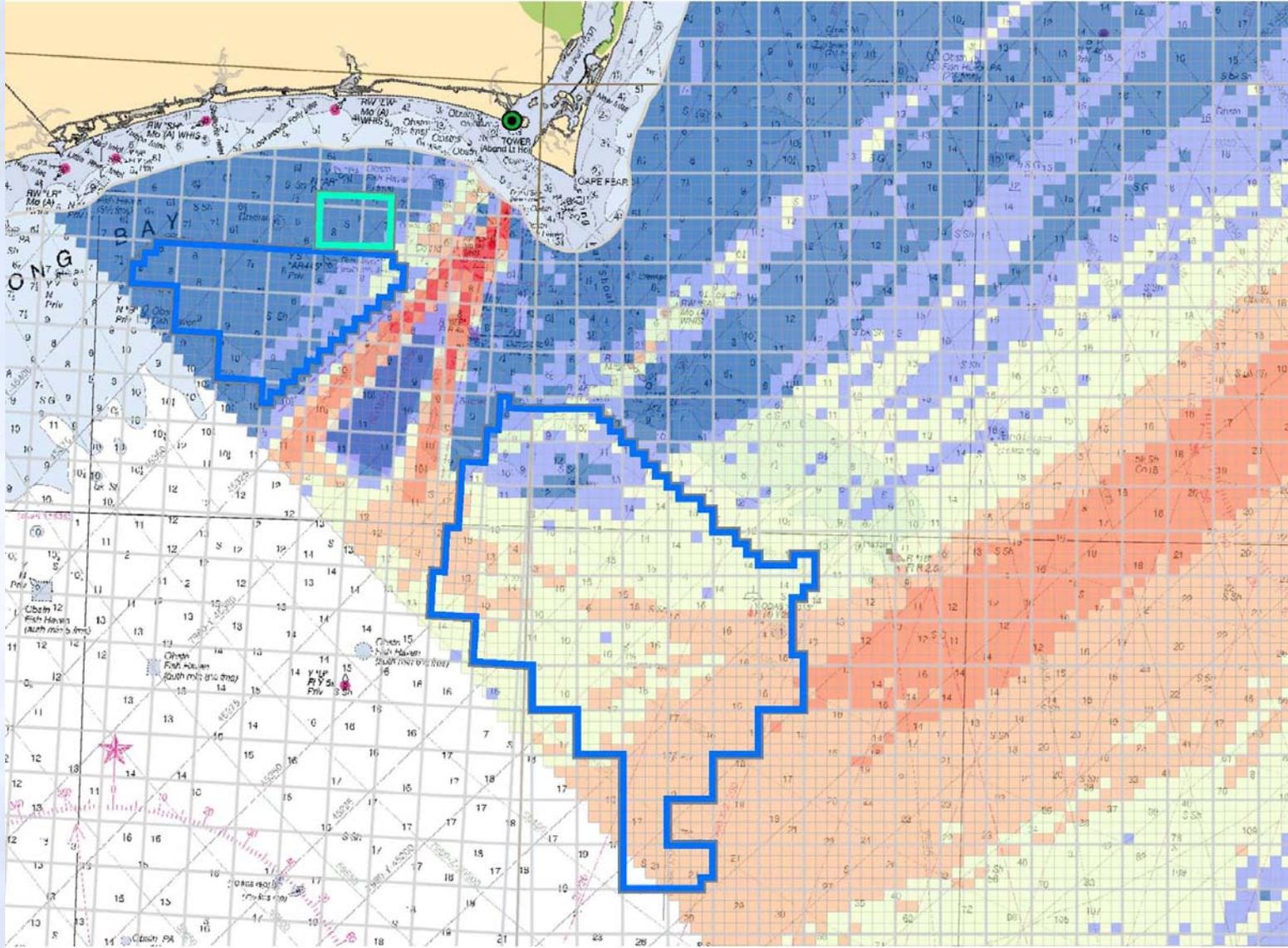


Determine Shipping Routes using AIS Data



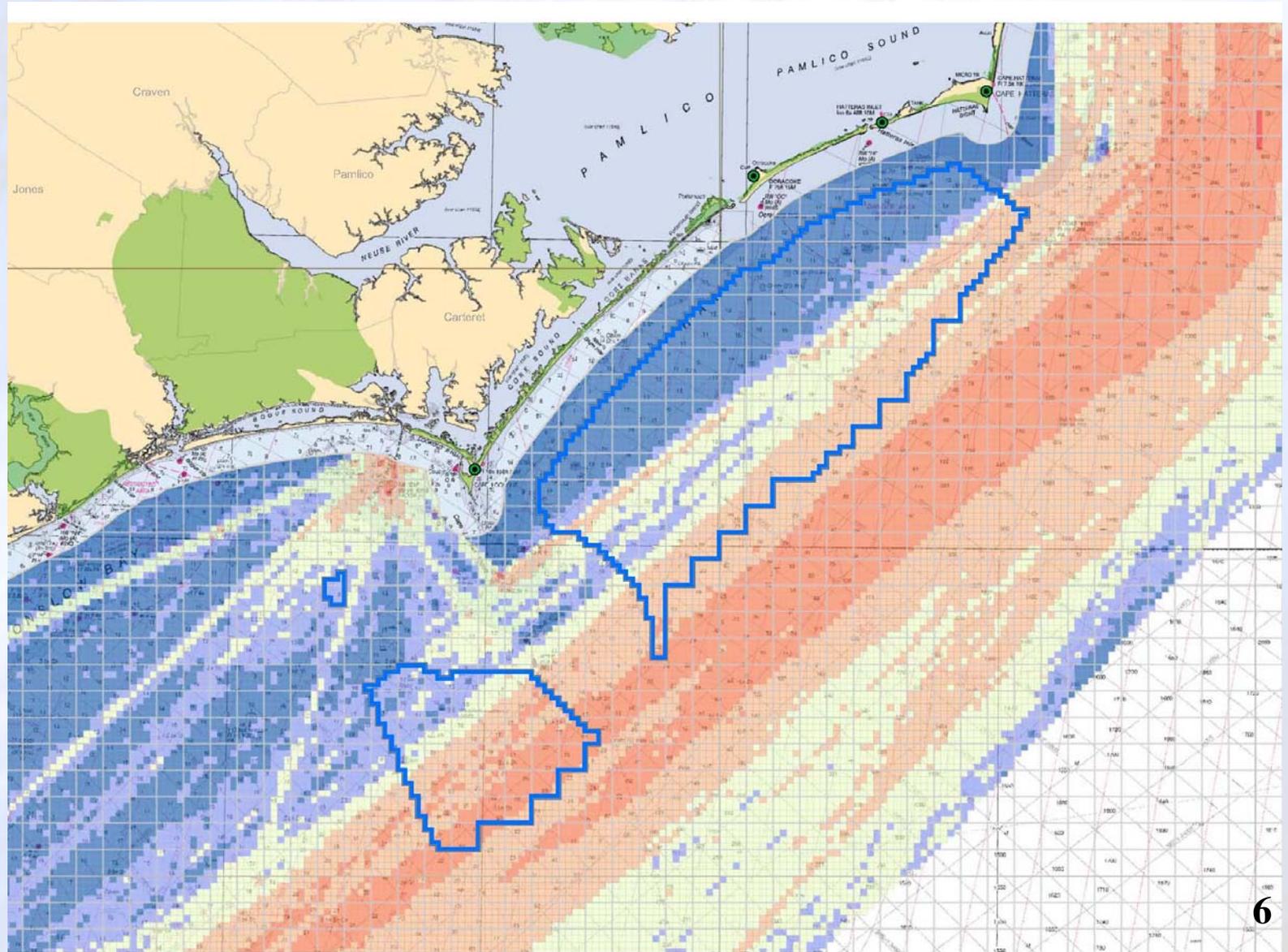


NC Areas 1 and 2





NC Areas 3 and 4





Apply Risk Criteria

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	

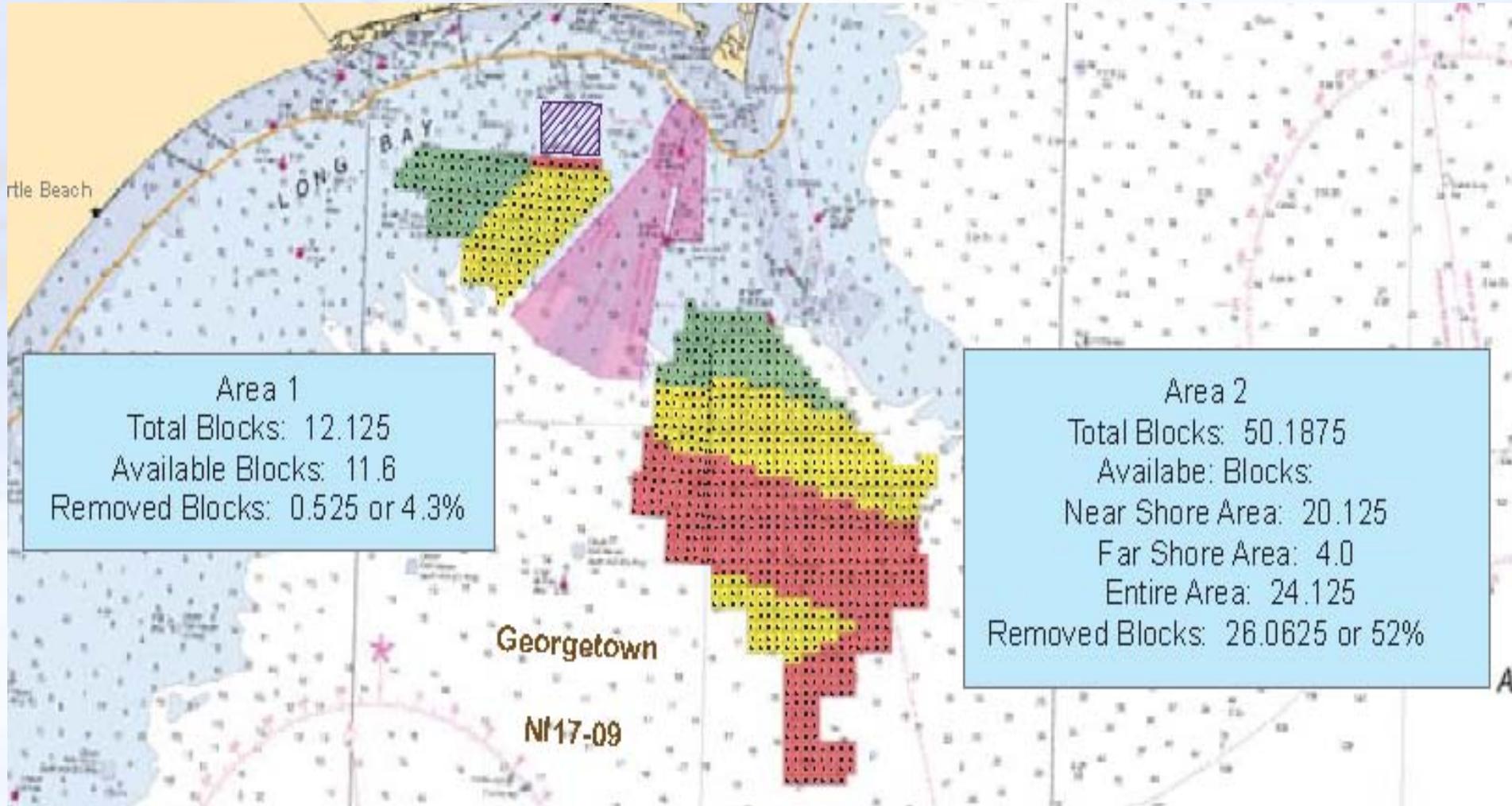


R-Y-G- Methodology

- Apply MGN-371 Risk Criteria
- Used for initial risk determination and recommendations to BOEM
- Consider potential modifications to existing routing measures and the creation of new routing measures
- Opinions/advice of USCG Waterways Management Subject Matter Experts (SME)

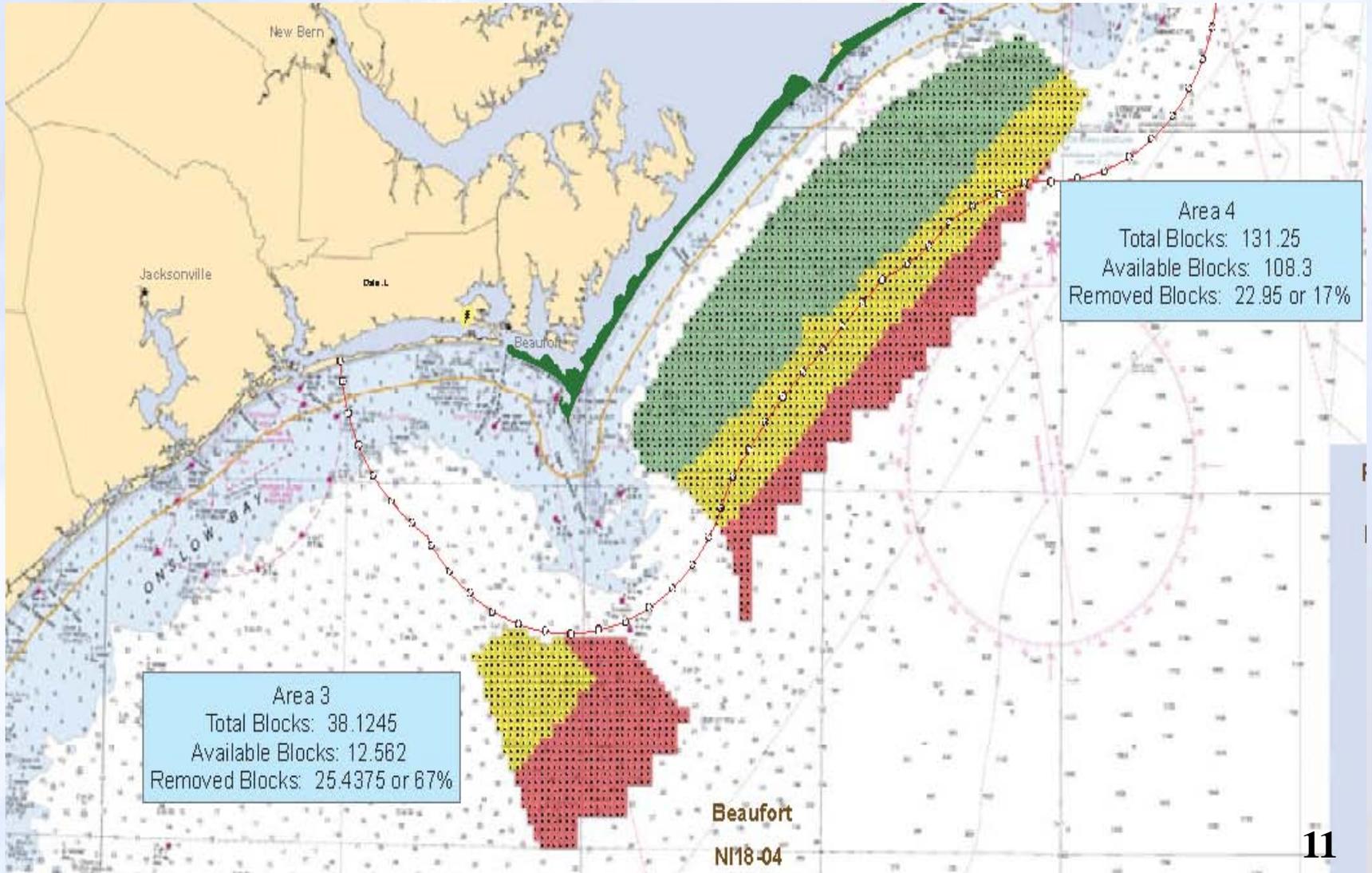


R-Y-G Determination for NC Areas 1 and 2



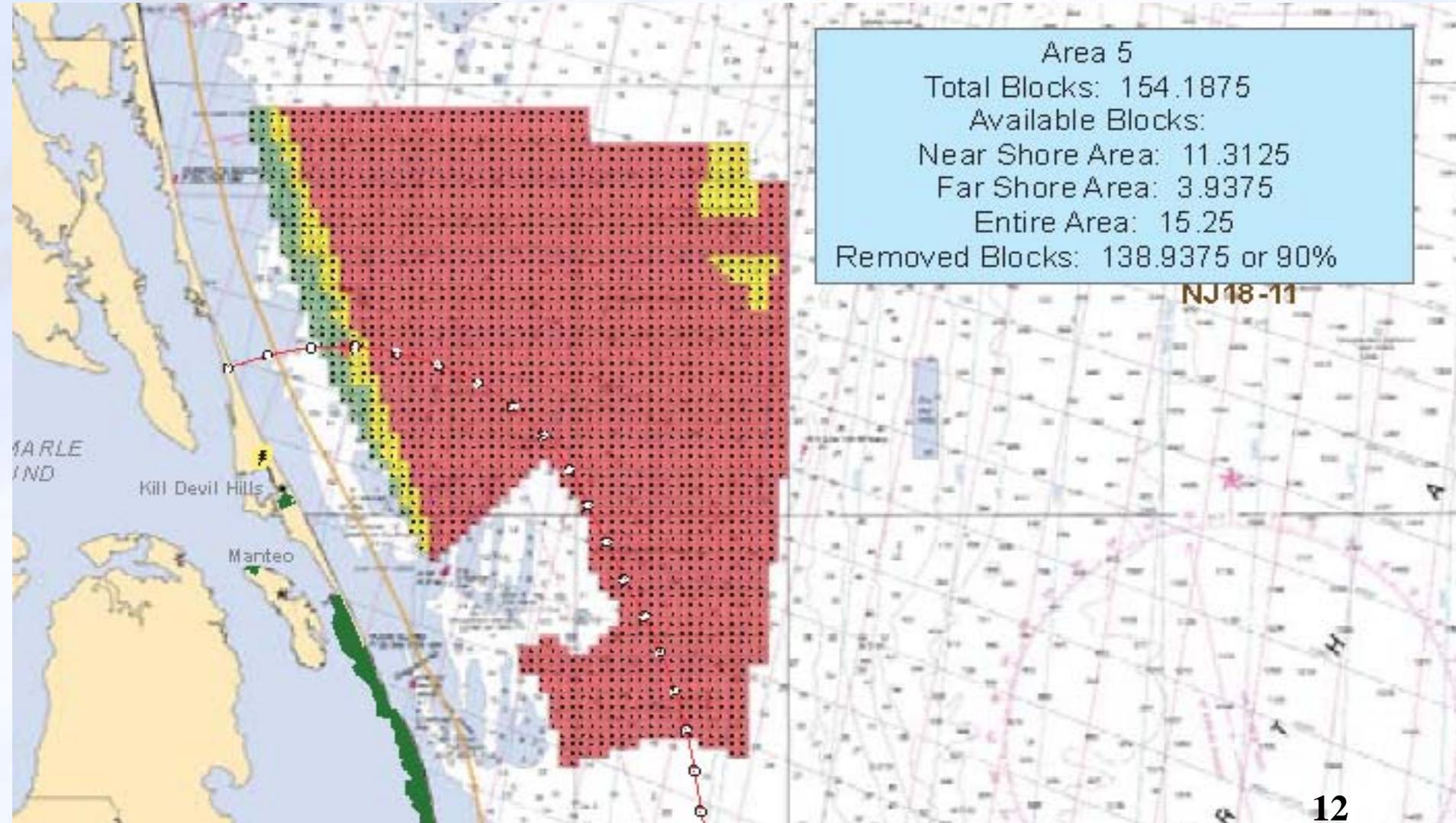


R-Y-G Determination for NC Areas 3 and 4





R-Y-G Determination for NC Area 5





General Observations

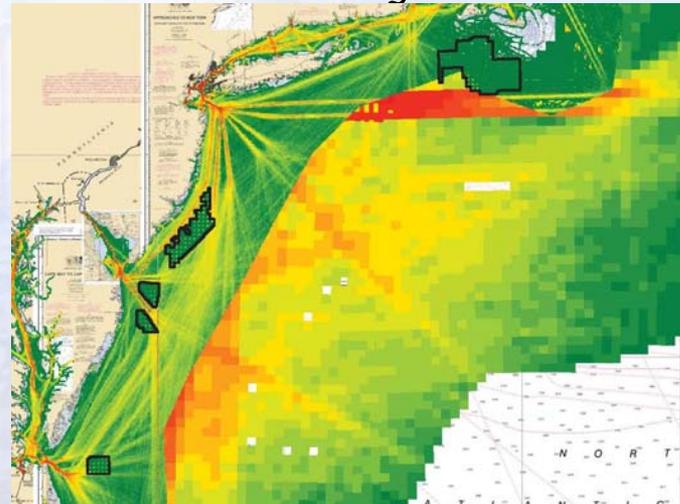
- Significant conflicts exist between WEAs and existing navigational routes
- Current traffic patterns
 - multiple individual routes
 - segregation
 - Fan out at harbor entrance/exit
- No obvious quick fixes
- Navigational Risk Concerns
 - mixing of vessels types,
 - increased vessel density
 - higher sea states



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
 - Risk of allision
 - Risk of collision
- Identify mitigation (routing) measures to enable WEAs and shipping to co-exist





Recommendations

- Focus the efforts on the areas of lower conflict for the Call
- Initiate a Maritime Working Group to begin looking at potential routing measures offshore of NC
- Further evaluate impacts to navigation to refine the proposed areas prior to releasing Call for higher conflict areas
- RFI vs CFI?



Questions?



John Walters

Fifth District Waterways Management

John.R.Walters@uscg.mil

ACPARS@USCG.MIL

www.uscg.mil/LANTAREA/ACPARS