



# OFFSHORE WIND ACCELERATOR PROJECT WEBINAR SERIES



## Wind Farm Siting and Maritime Traffic – Challenges and Opportunities



Dana Goward, U.S. Coast Guard

July 11, 2012



**OffshoreWind**

**Accelerator Project**

Managed by **Clean Energy States Alliance**



# Housekeeping

- **All participants will be placed in “listen-only” mode when joining the webinar.** You will be connected to audio using your computer’s microphone and speakers (VoIP). Or you may select *Use Telephone* after joining the Webinar: Make sure to enter your phone Audio PIN, shown in the webinar control panel, if you choose the option to join by telephone.
- You are encouraged to type in questions regarding today’s presentations at any time during the webinar by entering your question in the **Question Box** on the webinar console. Questions will be answered as time allows following all of today’s presentations.
- This webinar is being recorded and will be made available after the call at [www.cleanenergystates.org](http://www.cleanenergystates.org) under **Events**. Previous webinar recordings are also posted.



# Today's Agenda

- Introduction by Mark Sinclair, CESA Executive Director
- Presentation by Dana Goward, U.S. Coast Guard
- Time for questions

# Please Submit Questions

Questions submitted from webinar participants will be addressed following the presentation. Please type your questions in the webinar console's Question box at any time during the broadcast.

# Clean Energy States Alliance

CESA is a non-profit organization working with states, federal agencies, and municipalities to advance the renewable energy sector through:

- Information Exchange & Analysis
- Partnership Development
- Networking and Collaboration

[www.cleanenergystates.org](http://www.cleanenergystates.org)

# Offshore Wind Accelerator Project

OWAP Objective: Address key challenges facing offshore wind in five focus areas

1. Ensure cooperation and communication among stakeholders and government leaders on priority problem-solving.
2. Improve regulatory approaches to support smart siting while reducing review costs & timelines.
3. Advance investment through power procurement collaborative networks and use of new financing mechanisms.
4. Advance opportunities, strategies, and collaboration to build a domestic OSW industry (**USOWC leads the supply chain effort**).
5. Implement a communication effort to ensure public education and stakeholder access to objective information.



# Stay connected to OWAP!

- Offshore Wind WORKS campaign website:  
**<http://www.offshorewindworks.org>**
- Like us on Facebook:  
**<http://www.facebook.com/offshorewindworks>**
- Follow us on Twitter:  
**<http://www.twitter.com/OSWindWorks>**

# Offshore Renewable Energy Installations: Potential Impacts on Navigation

- Marine hydrokinetic, offshore wind and other ocean renewable installations have the *potential* to affect marine navigation and safety.
- Possible impacts from facility's:
  - location
  - spacing
  - visibility
- The good news: impacts are manageable

# Purpose of Today's Webinar

To understand:

- Role of US Coast Guard in review of leasing/permit applications to build/operate offshore wind energy installation in U.S. navigable waters
- Provisions of MOU between Coast Guard and DOI
- Coast Guard guidance on conducting navigational safety risk assessment
- How to ensure early consideration of navigation issues in planning of project
- How to mitigate potential impacts
- Tools being developed to inform assessment of navigational issues related to offshore wind



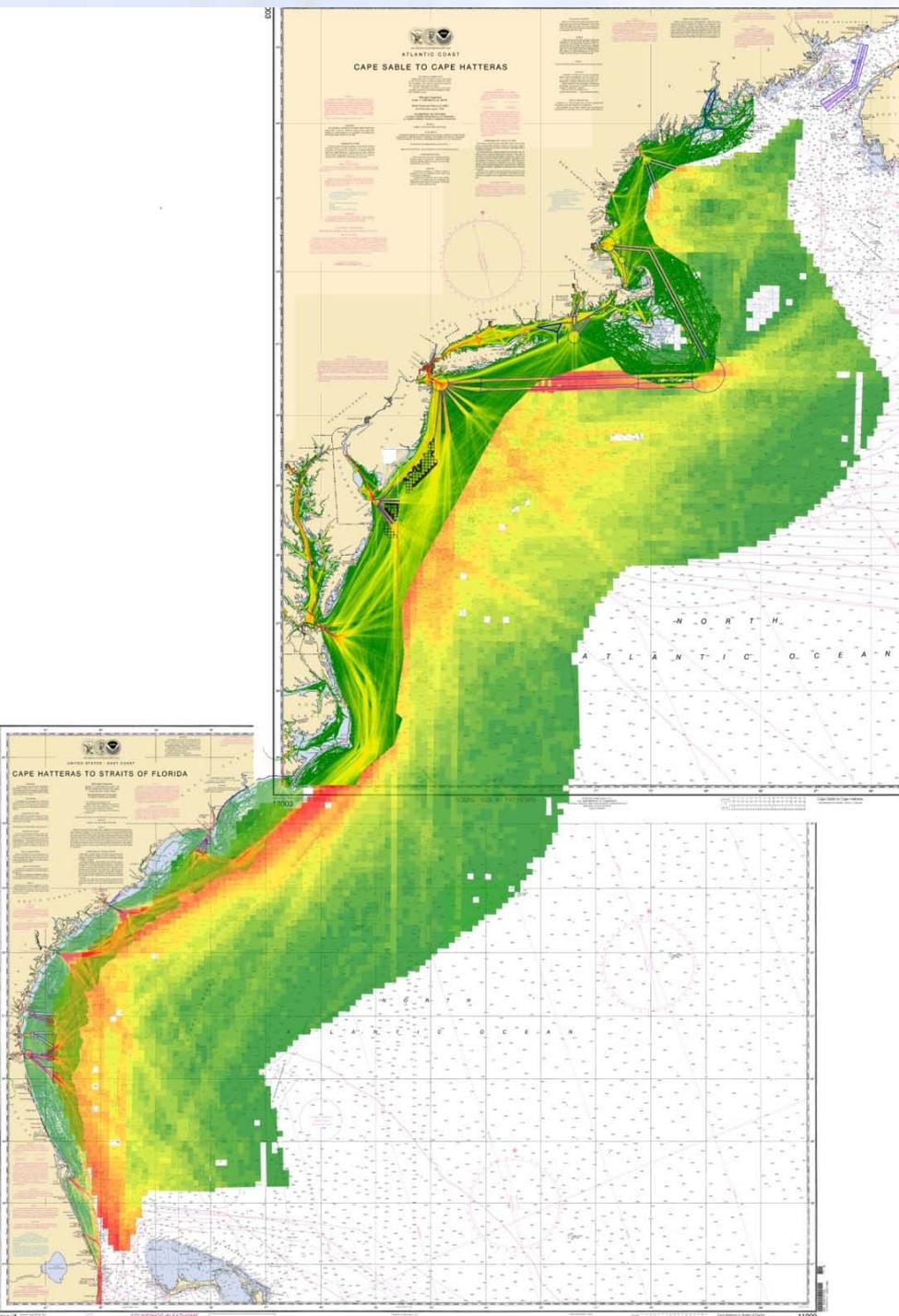
# Speaker Bio: Dana Goward



**As Director of Marine Transportation Systems, Mr. Dana Goward oversees a wide variety of navigation safety and security functions, including aids to navigation, waterways management, and coastal and marine spatial planning. He formerly served as the Coast Guard's Director of Assessment, Integration and Risk Management, among other positions.**

Mr. Goward served as an active duty Coast Guard officer for 29 years, during which time he received the Air Medal and Helicopter Association International's Igor Sikorsky Award for Humanitarian Service for the rescue of two fishermen during a hurricane. He has also been recognized for his creation of the Coast Guard's Helicopter Rescue Swimmer program. Mr. Goward is a 1974 graduate of the U.S. Coast Guard Academy in New London, CT. He holds a Master's Degree from the Naval Post Graduate School.

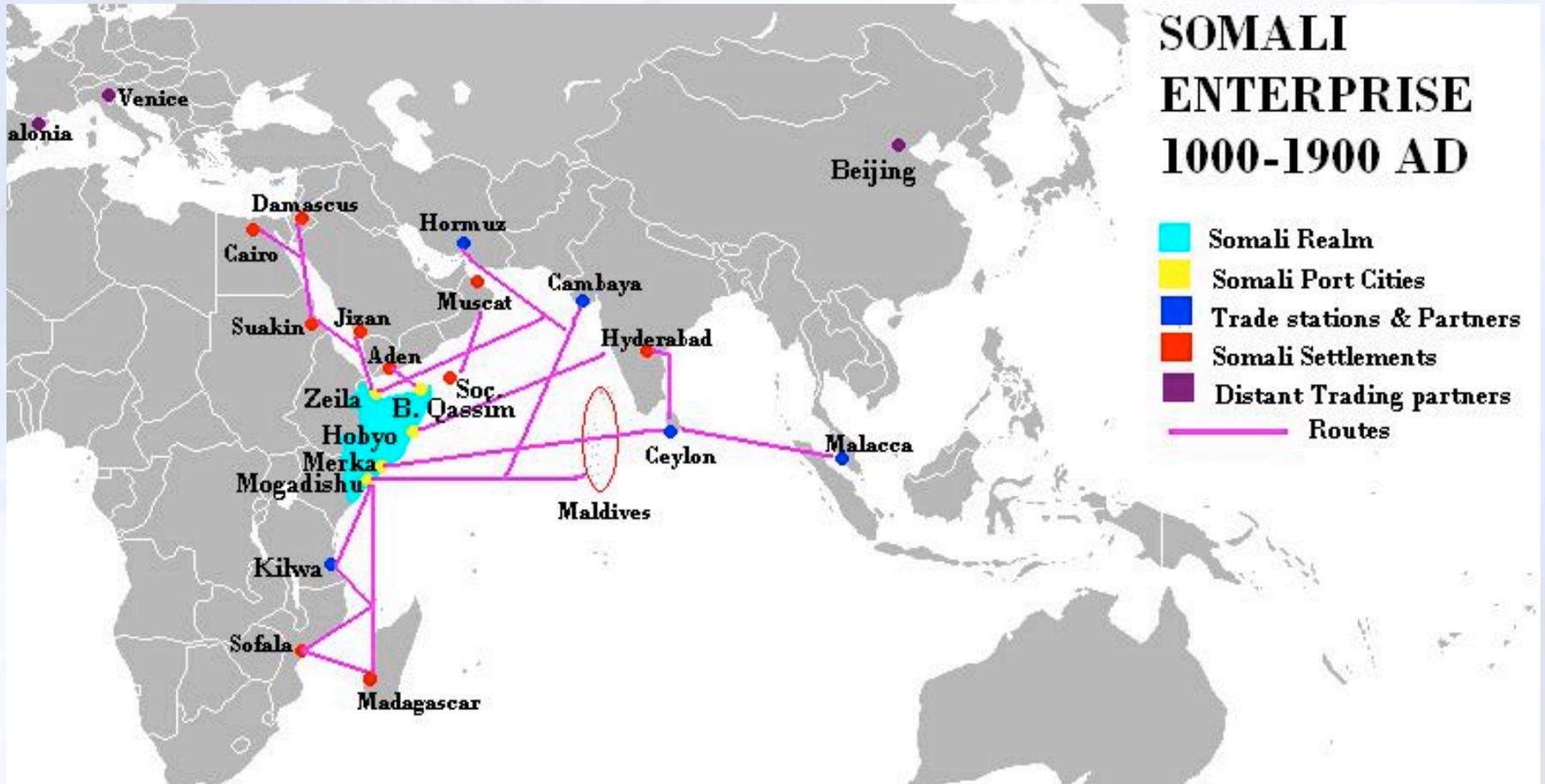
**<http://www.uscg.mil/lantarea/acpars/>**



# US Coast Guard

## Wind Farm Siting & Maritime Traffic

**OWAP**  
**Webinar**  
11 July 2012

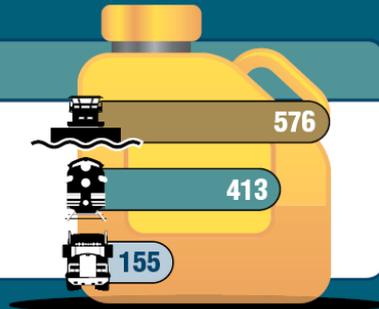




# Maritime = Low Carbon

## Saving Energy

Barges can move one ton of cargo 576 miles per gallon of fuel. A rail car would move the same ton of cargo 413 miles, and a truck only 155 miles.

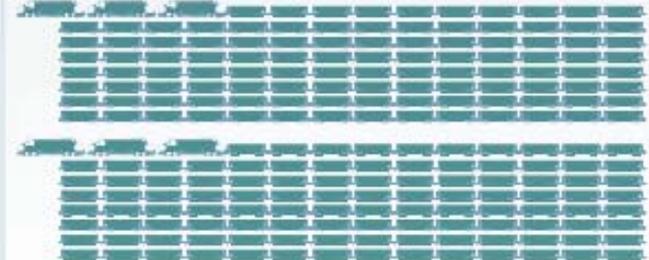


Ton-miles Traveled per Gallon of Fuel

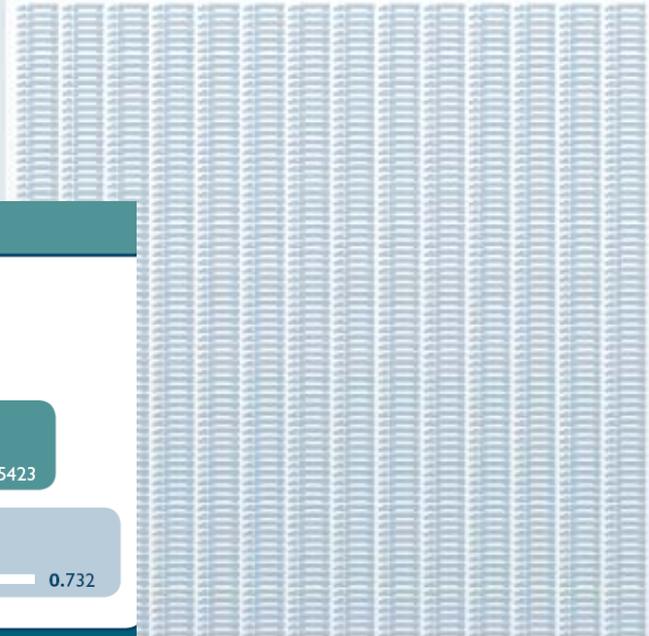
One 15-Barge Tow



216 Rail Cars + 6 Locomotives



1,050 Large Semi Tractor-Trailers



## Ensuring Cleaner Air

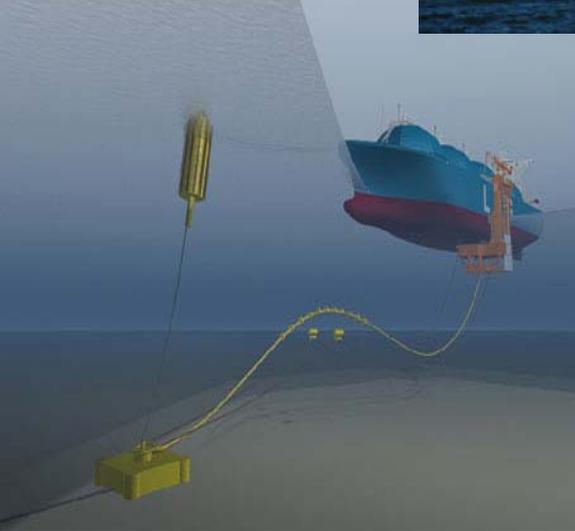
### Emissions (Grams/Ton-mile)



PM = Particulate matter HC = Hydrocarbons CO = Carbon monoxide NO<sub>x</sub> = Nitrogen oxides



# CMSP In Action





# USCG Role

- Cooperating Agency
- 1972 Ports & Waterways Safety Act
  - Navigation, vsl safety, marine environment are issues of national importance
  - Sec DHS (USCG) designate fairways and TSS
  - Right of navigation is paramount in these areas
  - Must do PARS when contemplating changed or new routing measures



# Atlantic Coast Port Access Route Study

- Phase 1- Data Gathering
- Phase 2- Historic Traffic Patterns

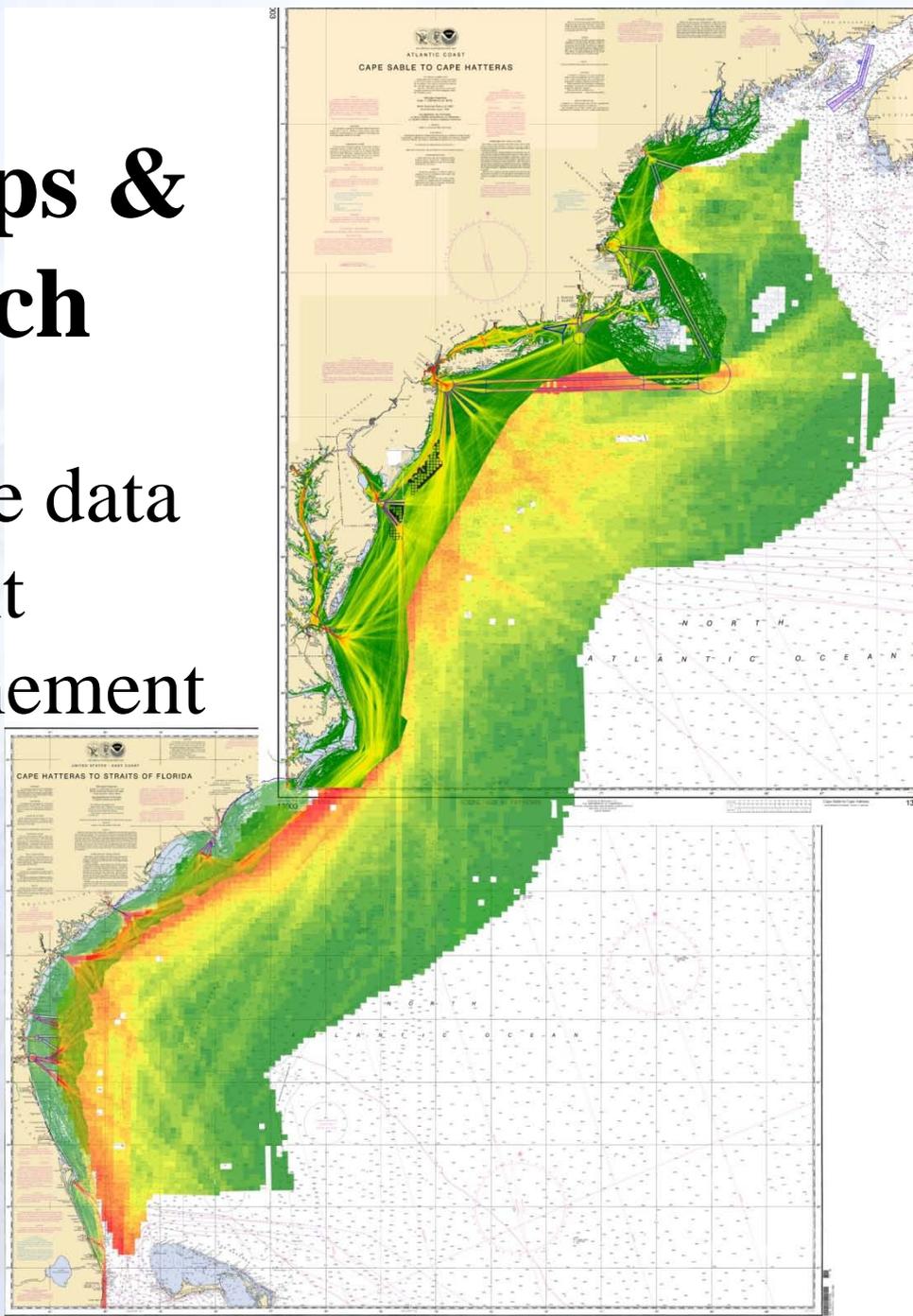
“Rough Draft” Advice

- Phase 3- Modeling and Analysis
- Phase 4- Implementation of Study Recommendations



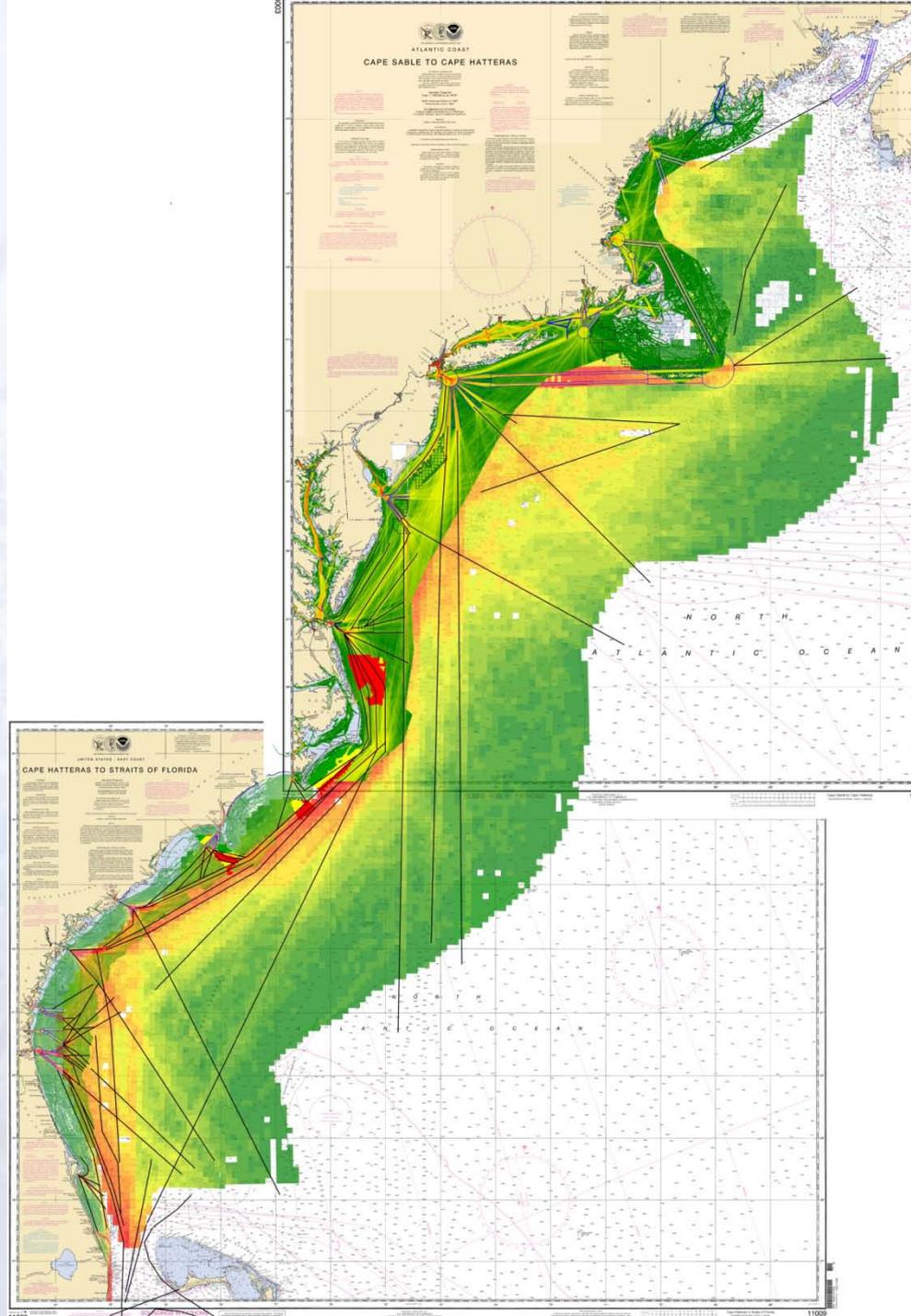
# Workshops & Outreach

- Assess available data
- Public comment
- Continued refinement





# Historical Routes

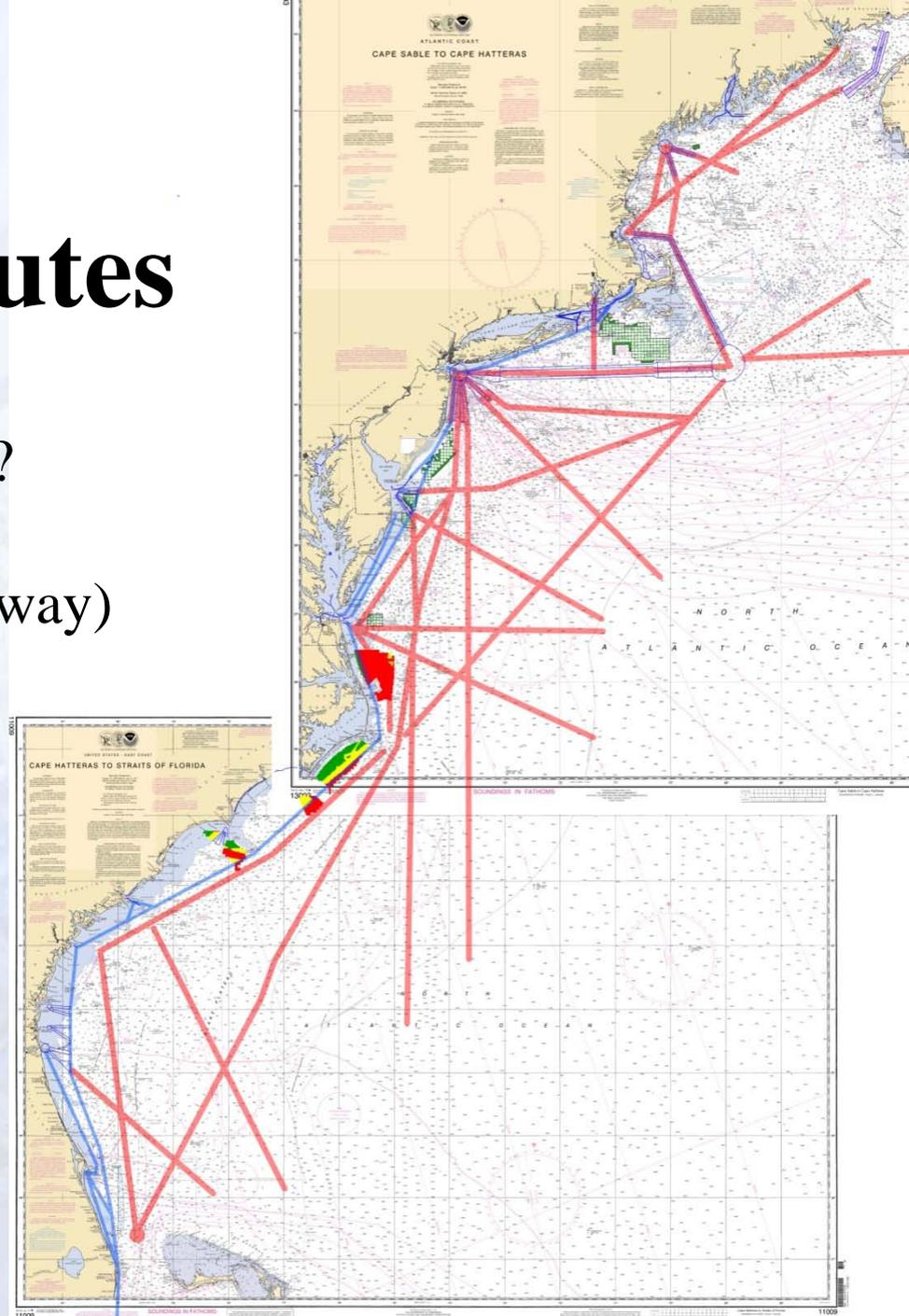




# Major Routes

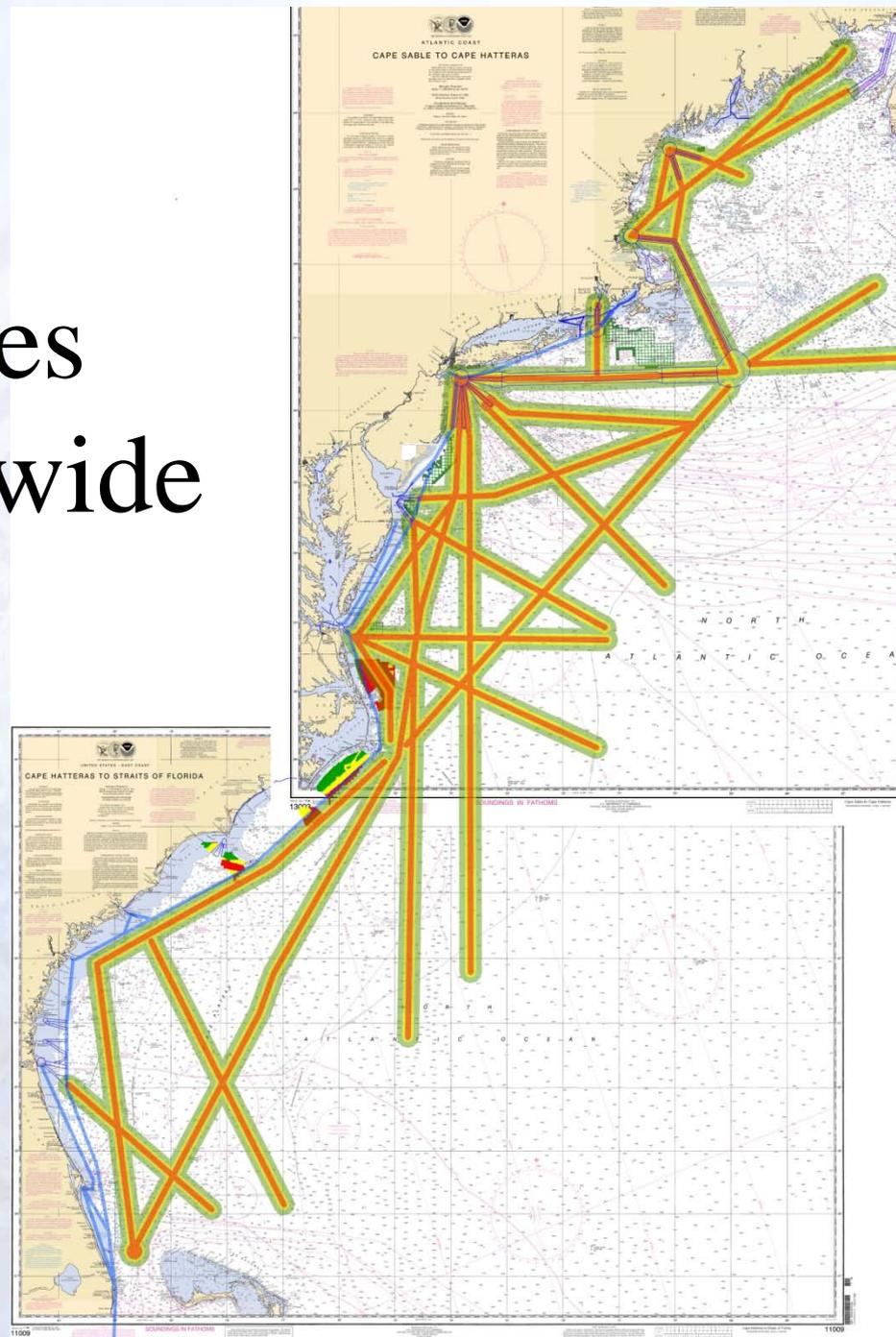
How do we determine?

- Number
- Type (TSS, Fairway)
- Width, Length
- Orientation
- $\Delta$  Density
- $\Delta$  Risk





# Major Routes 5, 10, 20 NM wide





# Results So Far

- Any new structure in water will impact traffic
- Potential Routing System
  - Complex
  - Need better tools to refine
  - Conservative quickly eats up all the “real estate”
- Gaps
  - DoD Operational Areas
  - AIS = all traffic?
  - **Impact of traffic diversion**



# Traffic Diversion Qs

## Safety

- $\Delta$  Vessel Density



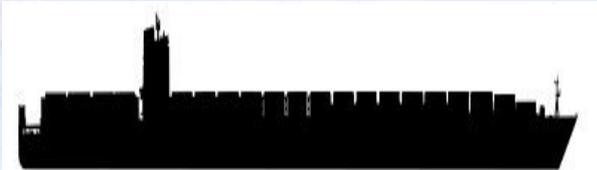


# Traffic Diversion Qs

## Safety

- $\Delta$  Vessel Density
- $\Delta$  Mixing Vessel Types

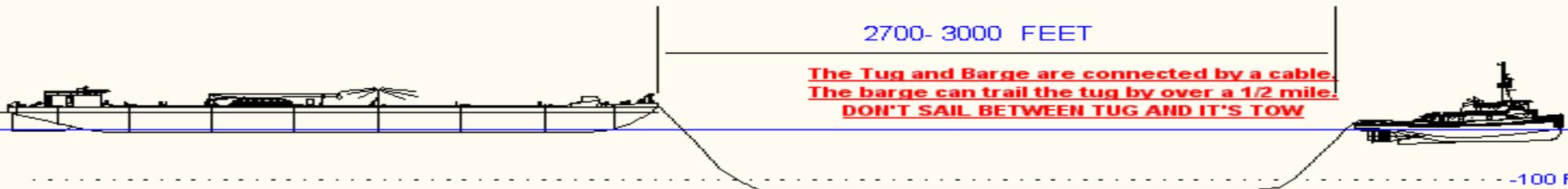
25 - 28 kts



10 - 15 kts



7 - 10 kts





# Traffic Diversion Qs

## Safety

- $\Delta$  Vessel Density
- $\Delta$  Mixing Vessel Types
- $\Delta$  **Allisions**





# Traffic Diversion Qs

## Safety

- $\Delta$  Vessel Density
- $\Delta$  Mixing Vessel Types
- $\Delta$  Allisions
- $\Delta$  Weather & Enviro



©Bergthor Gunnlaugsson



# Traffic Diversion Qs

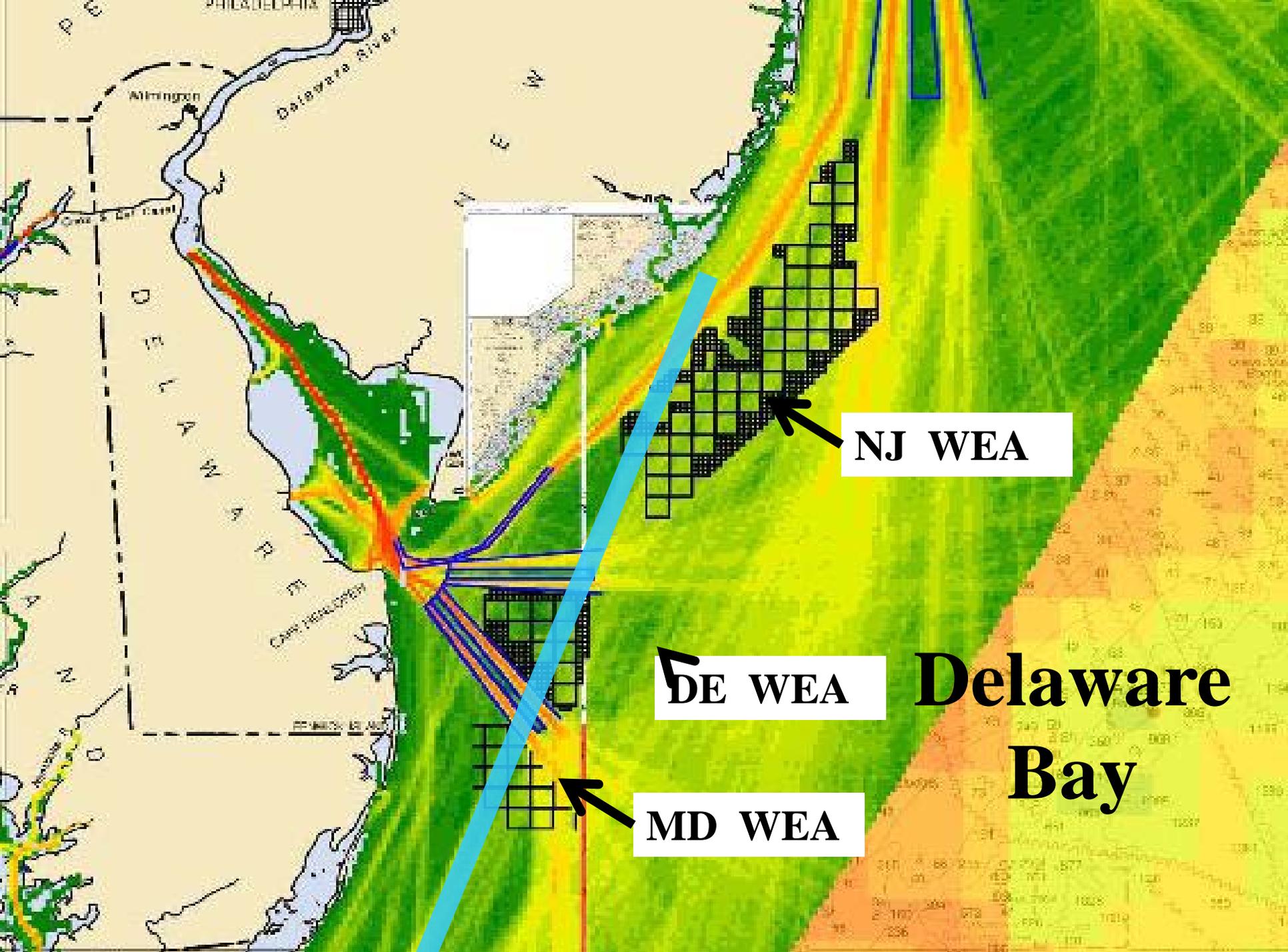
## Economic

- Time, Distance = Greater Expense

## Environmental

- Greater Fuel Burn
  - Carbon Footprint
- Greater Risk of Spills



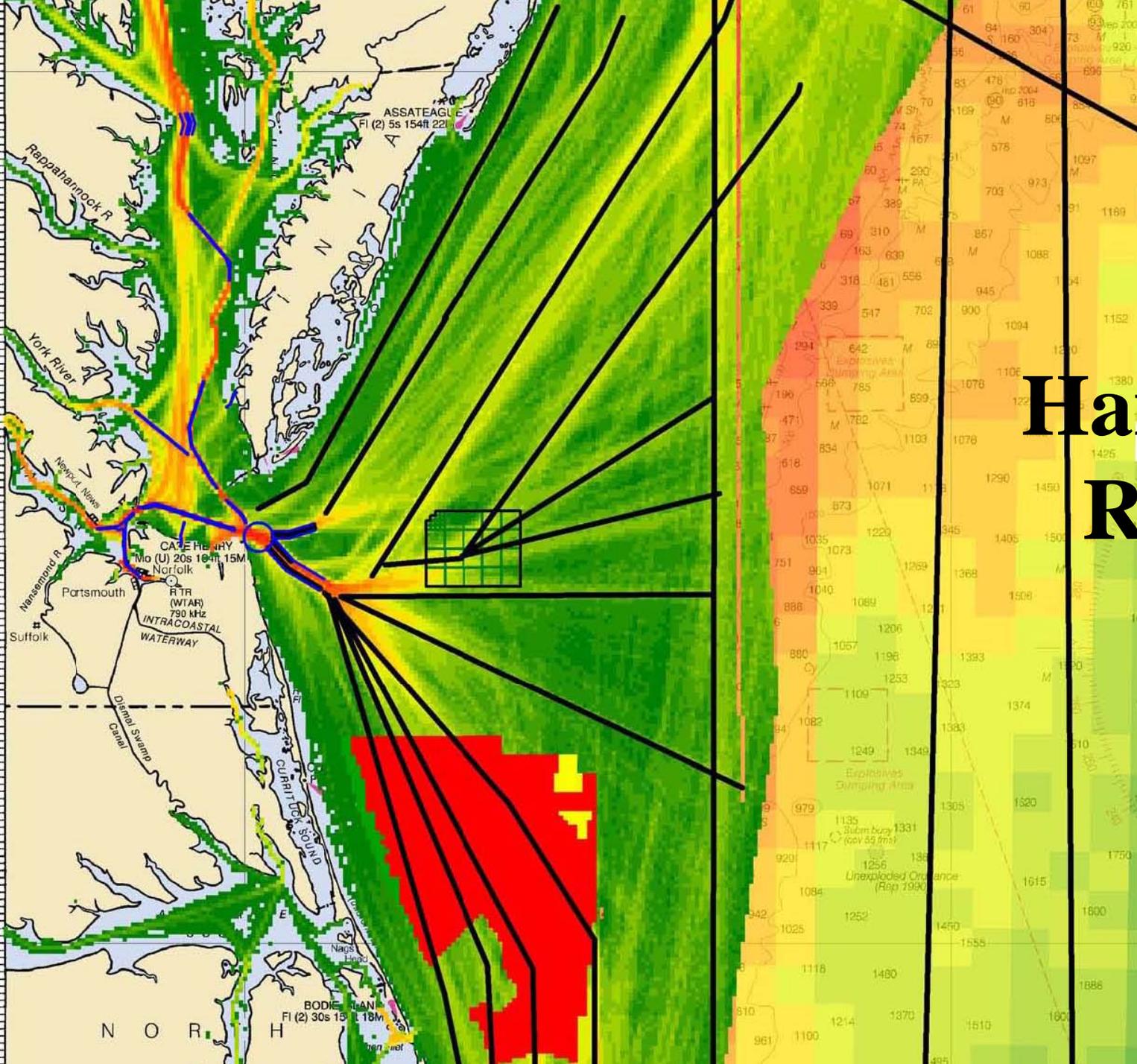


NJ WEA

DE WEA

MD WEA

Delaware Bay



# Hampton Roads

# Way Forward

- Renewed outreach
  - Preliminary Report
- 
- Phase 3- Modeling and Analysis
  - Recommendations
  - Implement Routing Measures

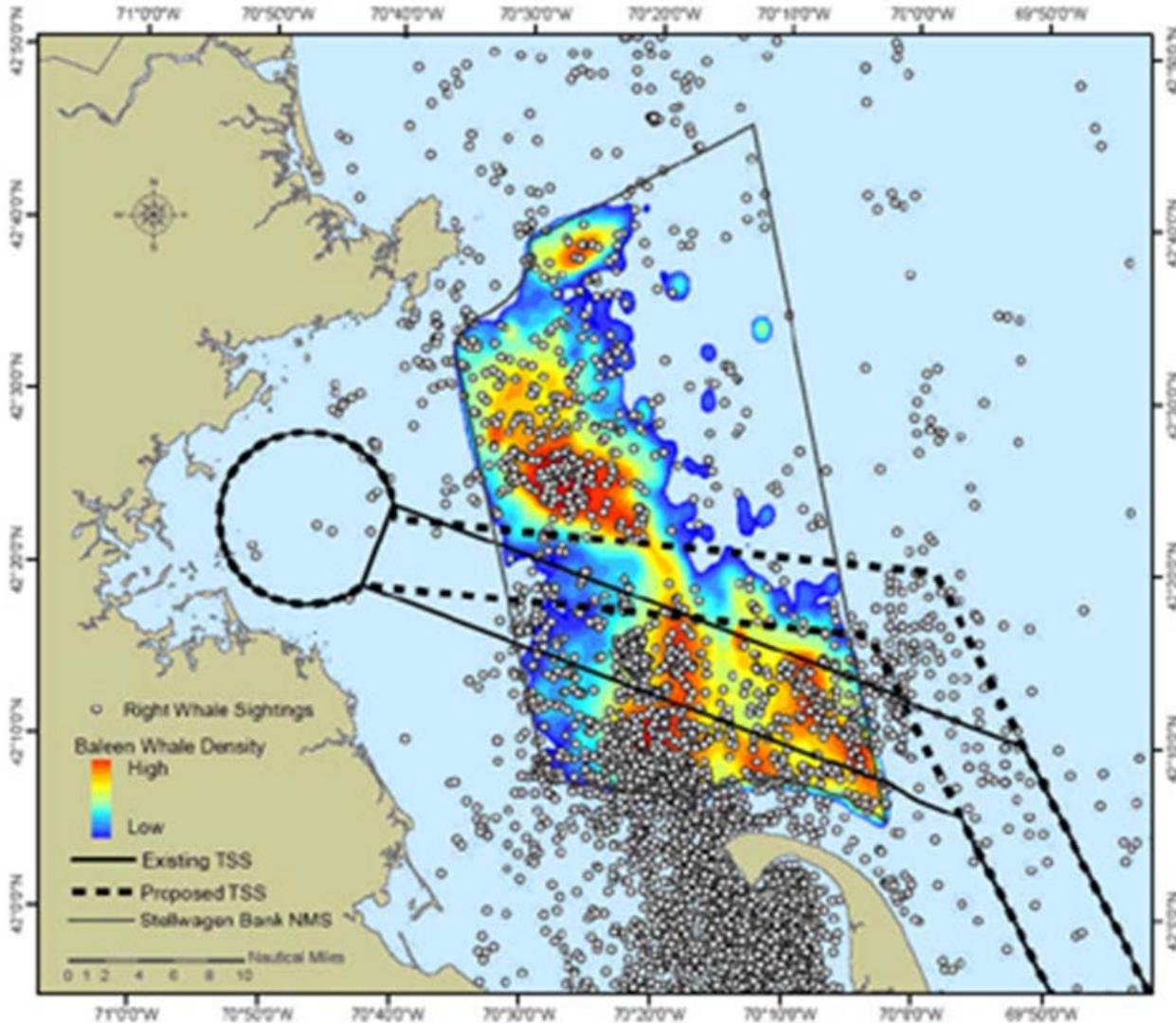
# Recommendations

- **Consider traffic early in process & often**
- **Understand:**
  - **Cumulative Voyage Impacts**
    - (time, fuel, costs, emissions)
  - **Changes in Risk**
    - **Collision**
    - **Allision**
    - **New Routes (wx, shoals, pirates, etc)**



# A Success Story

## Stellwagen Bank/ Boston



**Risk Reduction**  
**Right Whales: 51%**  
**All Whales: 81%**



# Questions?



# Thank you!



**Business Coalition for  
Maryland Offshore Wind**  
Offshore Wind = Onshore Jobs



[www.cleanenergystates.org](http://www.cleanenergystates.org)