

RI DEM Division of Marine Fisheries Involvement with BIWF Fish Science

Southern New England Offshore Wind Energy Science Forum

12/11/2017

Julia Livermore

Principal Marine Biologist

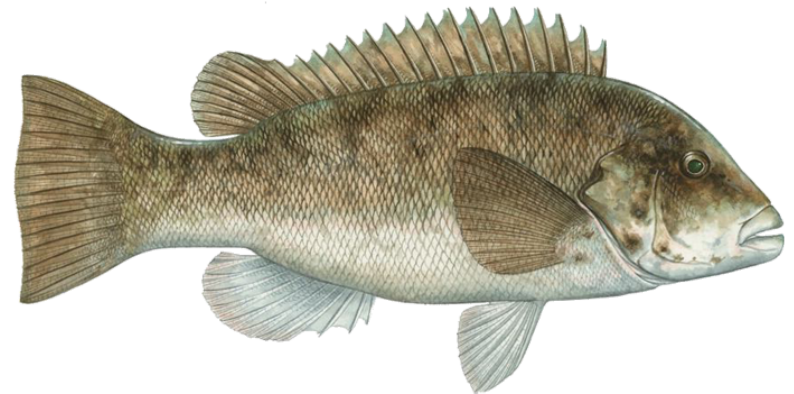
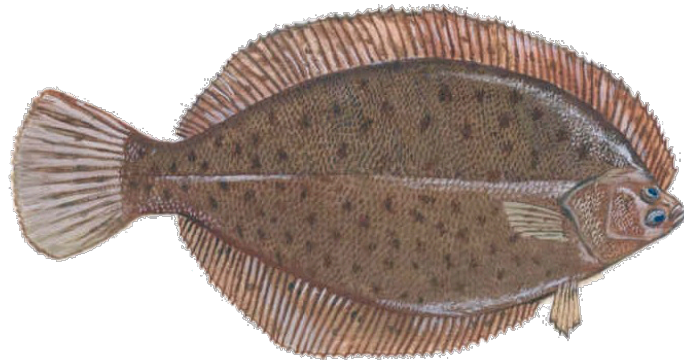
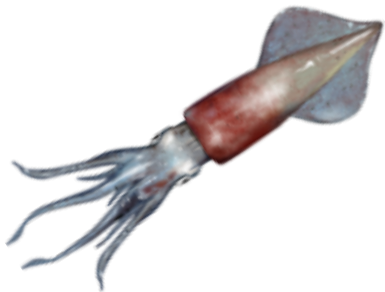
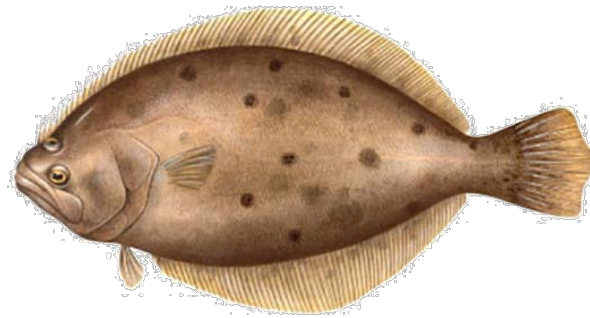


Rhode Island Department of Environmental Management
Division of Marine Fisheries



RI DEM Mission

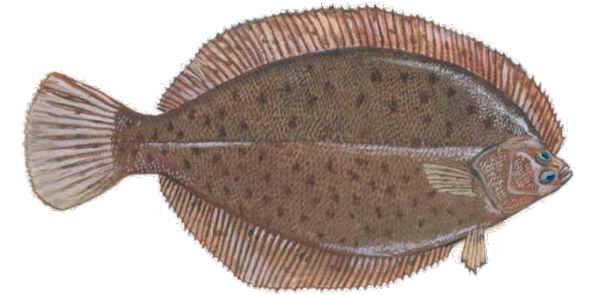
To protect, restore, manage and promote Rhode Island's environment and natural resources to preserve and improve our quality of life





BIWF Permits through RI DEM

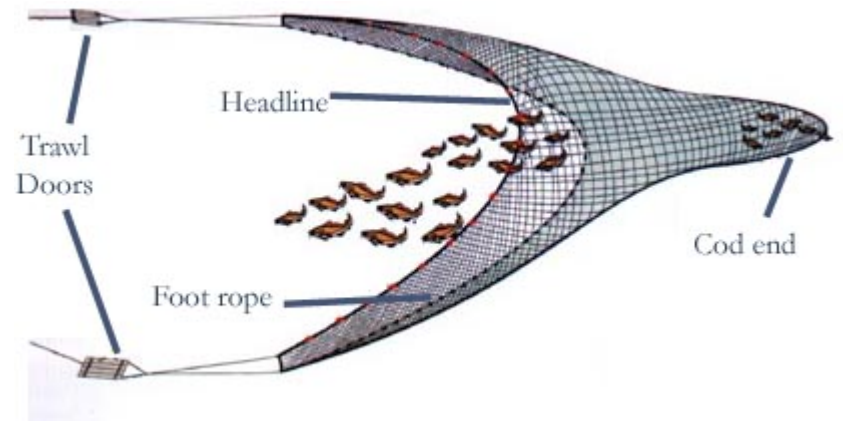
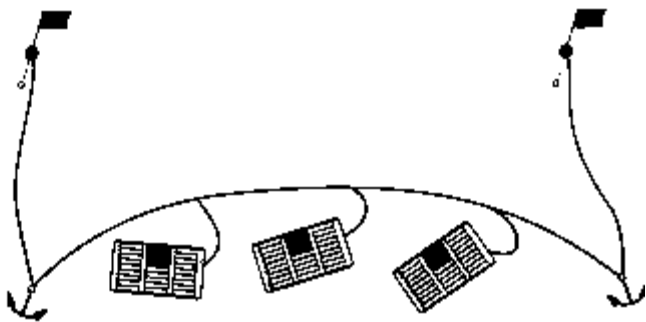
- BIWF - Water Quality Certificate File Number 12-037 conditions:
 - Anchoring plan that minimizes anchoring-related impacts to hard bottom habitat during construction
 - Hard bottom habitat monitoring (if impacts not successfully avoided)
 - Jet plowing timelines that minimize impacts to winter flounder
 - No activity between February 1 and March 31
 - Long-term monitoring of inter-array transmission cables
 - Post-construction survey using multi-beam survey and shallow sub-bottom profiler to ensure that target cable depths were achieved
 - EMF survey to address potential effects on the composition, life cycle functions, uses, processes and activities of fish and wildlife
 - Noise mitigating measures
 - Soft-start procedures to give marine species the opportunity to evacuate the area
 - Noise monitoring to verify the initial acoustic models and provide information on the level of impact





BIWF Permits through RI DEM

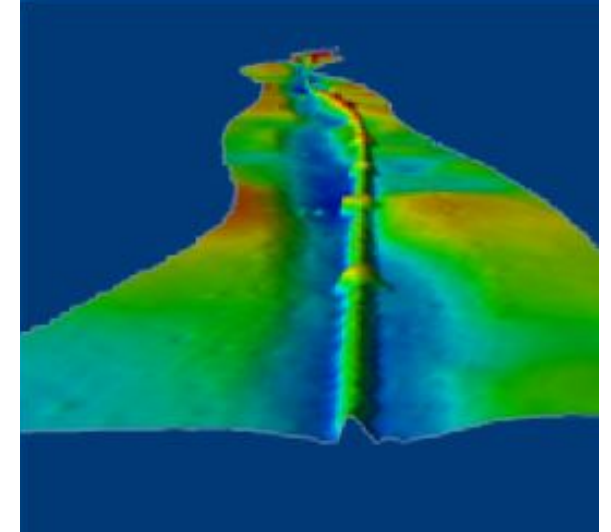
- BIWF - Water Quality Certificate File Number 12-037 conditions:
 - Ventless lobster trap survey (BACI Design)
 - 2 years pre-construction, 1 year during construction, and 2 years post-construction surveys
 - Bottom trawl survey (BACI Design)
 - 2 years pre-construction, 1 year during construction, and 2 years post-construction surveys
 - Mitigation requirements (if necessary)
 - DEM has the authority and shall determine if the construction, operation and maintenance of the wind farm (WTGs and transmission cables) violates the water quality criteria as defined in Rule 8.D of the *State Water Quality Regulations, July 2006, amended December 2010*.





BITS (Sea2Shore) Permits through RI DEM

- Water Quality Certificate File Number 12-039 and Dredge Permit Application Number DP-12-120 conditions:
 - Cofferdam, jet plowing, and pile driving time windows
 - Long-term monitoring transmission cable
 - Post-construction survey using multi-beam survey and shallow sub-bottom profiler to ensure that target cable depths were achieved
 - EMF survey along the full length of the transmission cable to address potential effects on the composition, life cycle functions, uses, processes and activities of fish and wildlife
 - Mitigation requirements (if necessary)
 - DEM has the authority and shall determine if the construction, operation and maintenance of the wind farm (WTGs and transmission cables) violates the water quality criteria as defined in Rule 8.D of the *State Water Quality Regulations, July 2006, amended December 2010*.





Agreement between Deepwater and RI DEM

DWW agreed to “make payments, to support, protect and enhance public resources, including the evaluation of any impacts to marine fisheries and marine habitats associated with the [BIWF and BITS]. The payments shall be made to RIDEM to enable RIDEM to contract services, overseen and supervised by RIDEM, to evaluate and respond to project-related impacts.”

Letter from DWW to DEM, dated August 17, 2014

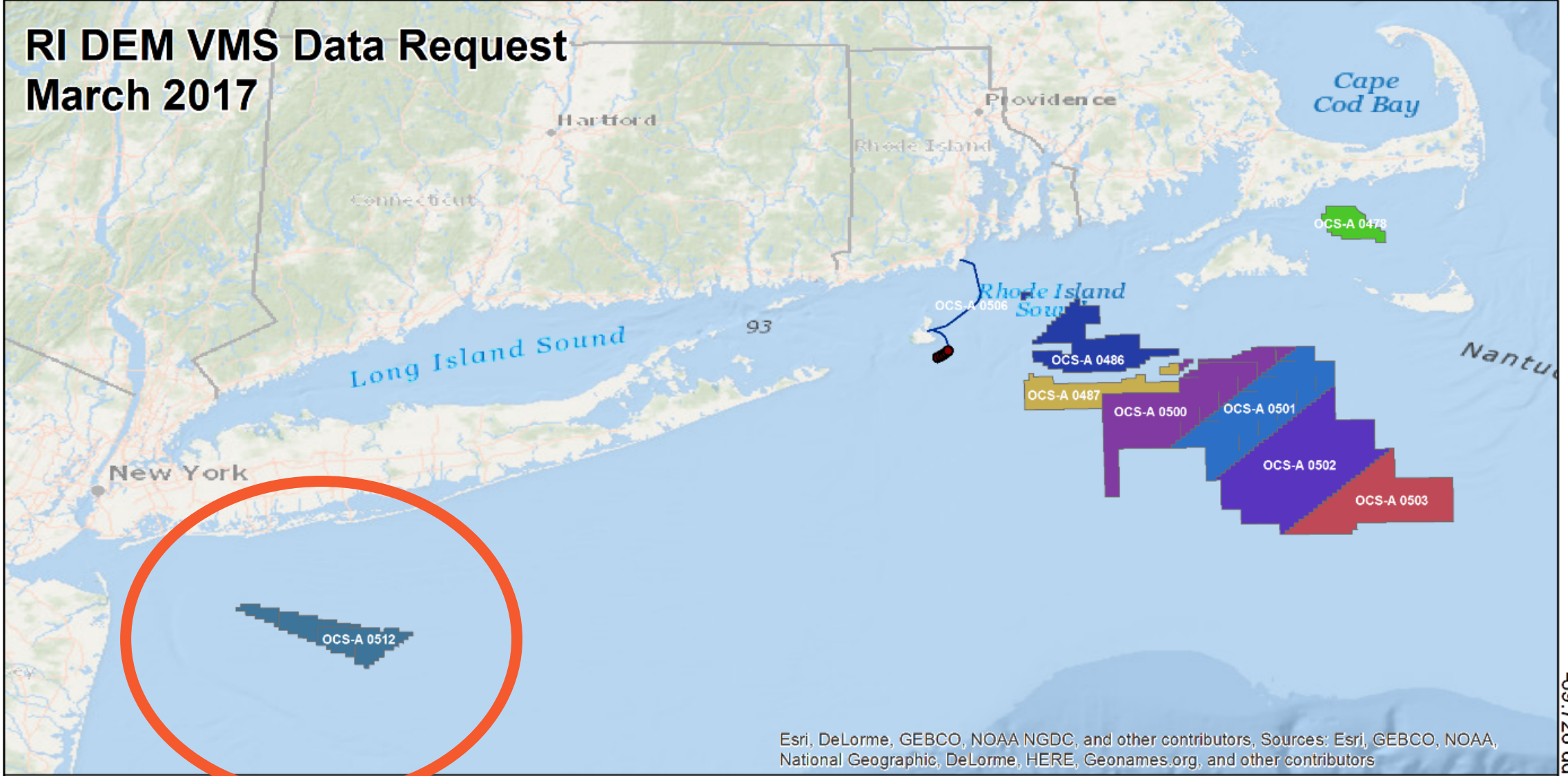


Federal Offshore Wind

42.151 dd

-74.278 dd

RI DEM VMS Data Request March 2017



Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors, Sources: Esri, GEBCO, NOAA, National Geographic, DeLorme, HERE, Geonames.org, and other contributors

-69.726 dd

39.881 dd

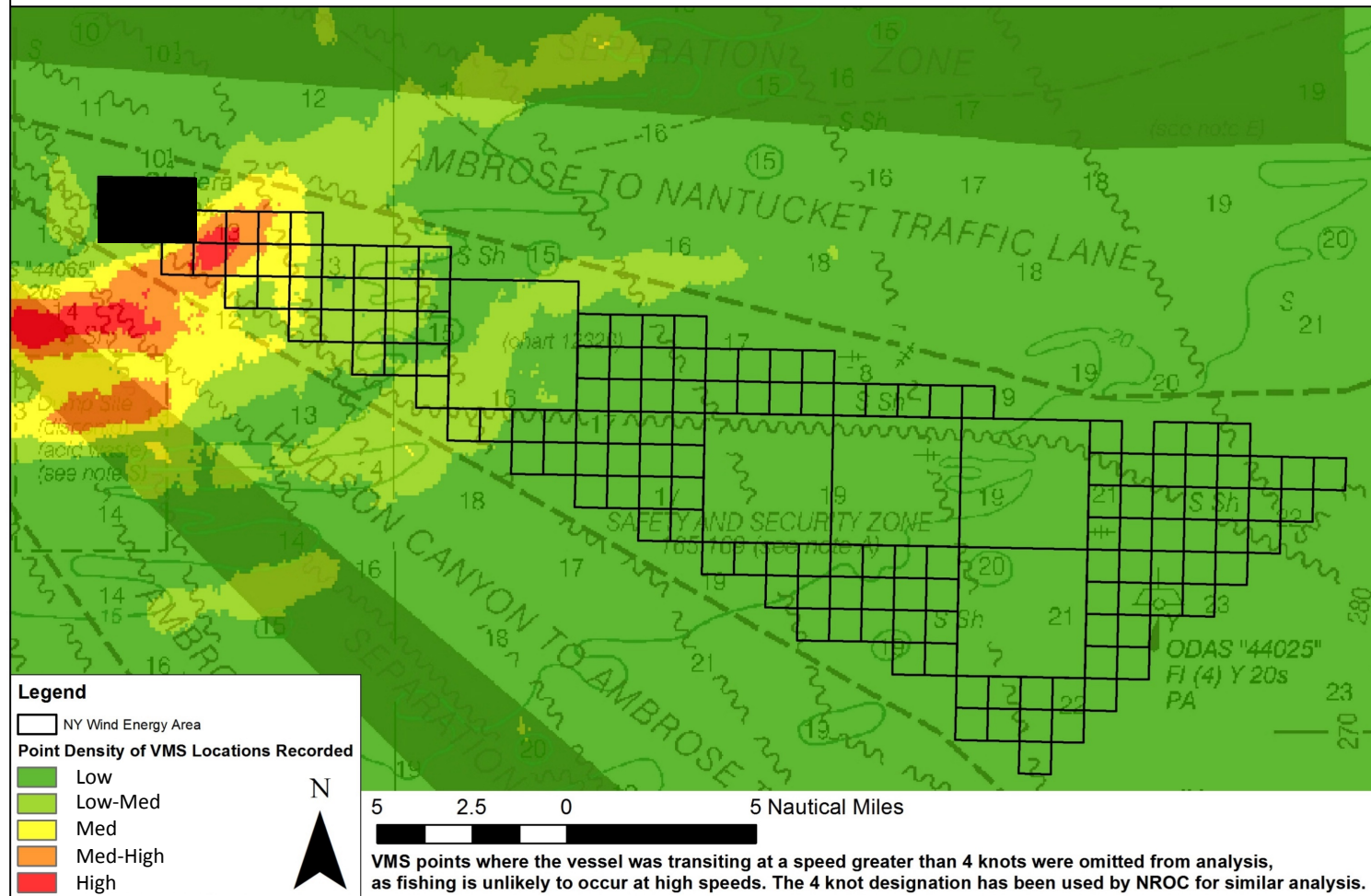


DEM VMS Analysis

2009 - 2015 Squid, Mackerel, Butterfish FMP Fishing Near the NY WEA

Only VMS location data for squid, mackerel & butterfish landed in Rhode Island are shown.

Vessel Monitoring System (VMS) data were obtained from NOAA's Office of Law Enforcement. Maps produced by the Rhode Island Department of Environmental Management, Division of Fish & Wildlife, Marine Fisheries Section on July 12th, 2016.



***Black box covers the aliquots that were removed from the WEA before it was leased to Statoil.



DEM Expanded VMS Analysis

- Covers the Statoil lease area, Deepwater Wind lease area, Bay State Wind lease area, Vineyard Wind lease area, and two WEAs yet to be leased
- Includes landings from NH, MA, RI, CT, NY, & NJ
- Looks at VMS data and landings from 2011-2016
 - Maps produced for all years together and for the individual years within that time period

SPATIOTEMPORAL AND ECONOMIC ANALYSIS OF VESSEL MONITORING SYSTEM DATA WITHIN WIND ENERGY AREAS IN THE GREATER NORTH ATLANTIC



Rhode Island Department of Environmental Management
Division of Marine Fisheries



Top left: <http://seewindlandsailing.com/new-bedford-top-s-in-seafood-landings/>

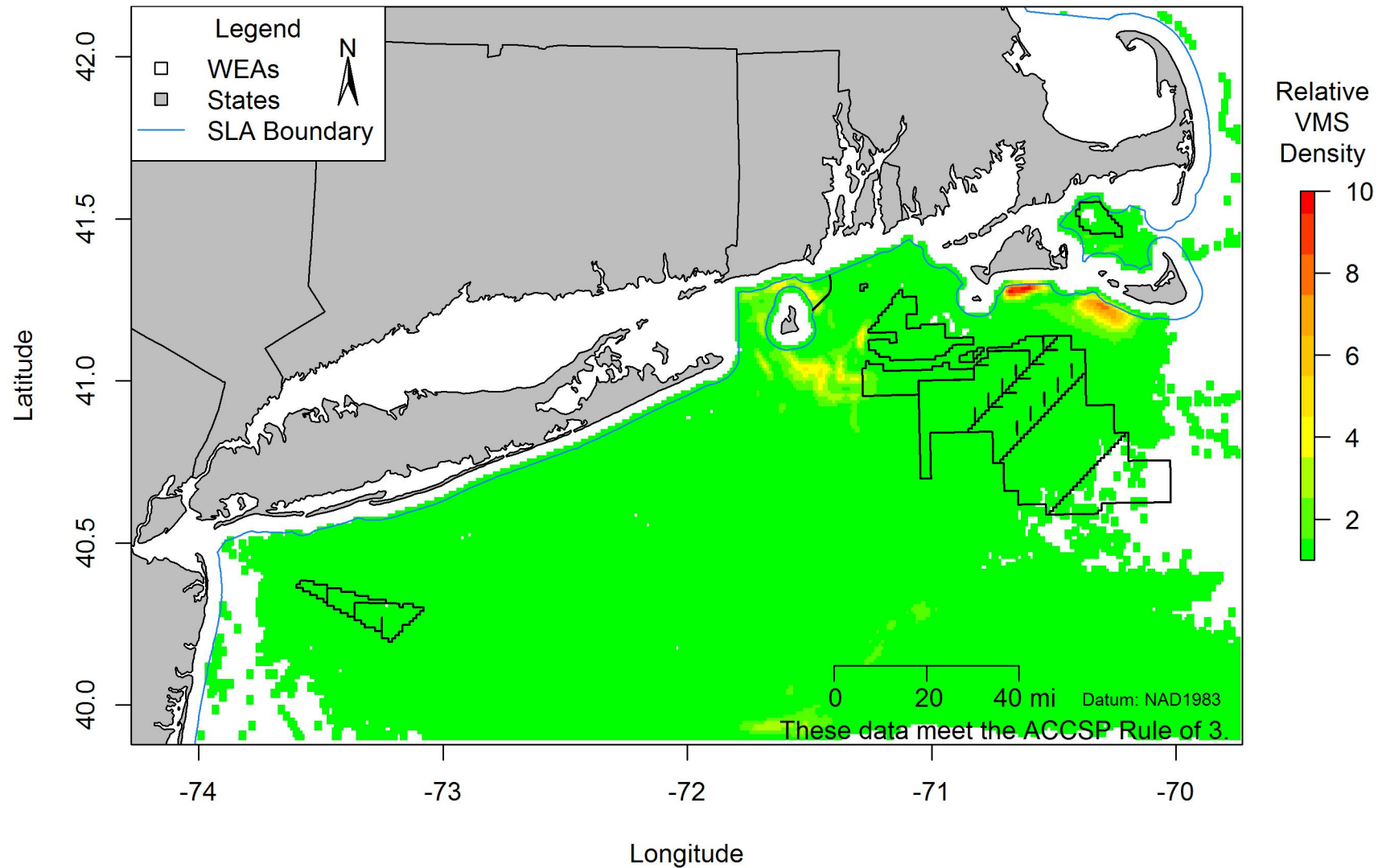
Top right: <http://de.wind.com/project/back-land-wind-farm/>

Bottom: RI DEM



DEM Expanded VMS Analysis

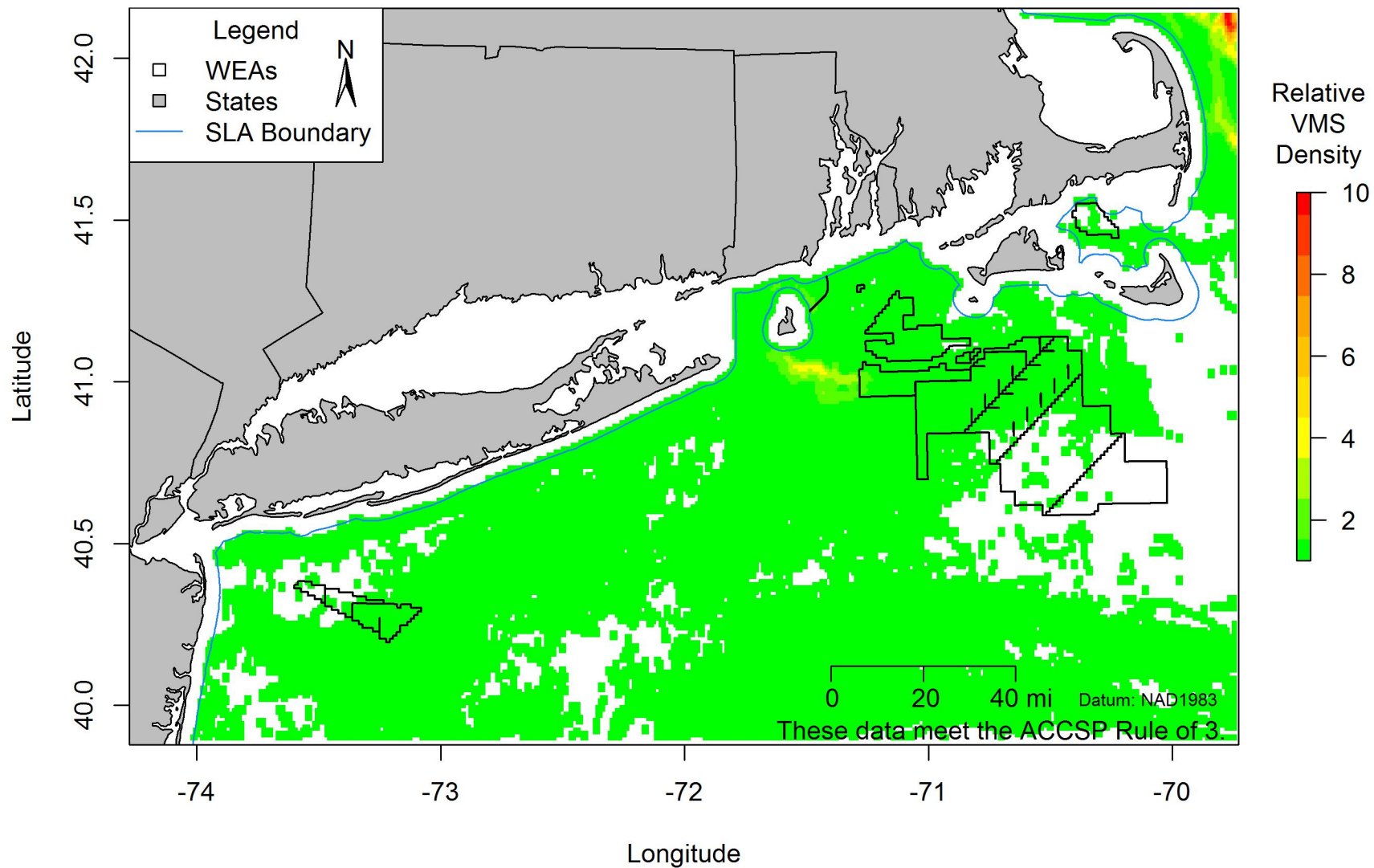
2011-2016 RI Smoothed Fishing Density





DEM Expanded VMS Analysis

2011-2016 Northeast Multispecies FMP Smoothed Fishing Density





DEM Expanded VMS Analysis

2013 OTTER TRAWL, BOTTOM, FISH Smoothed Fishing Density

