Offshore Wind Issues

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Council Coordination Committee Mtg
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NATIONAL SNAPSHOT OF OFFSHORE WIND

Renewable Energy Program by the Numbers

- Competitive Lease Sales Completed: 8
- Active Offshore Leases Issued: 16
- Site Assessment Plans (SAPs) Approved: 8
- General Activities Plans Approved: 1
- Construction and Operations Plans (COPs):
  - Under Review: 7
  - Anticipated within Next 12 Months: Up to 8
- Guidance: 10
- Leasing Under Consideration: 5
- Steel in the Water: 2020
Current Wind Lease and Call Areas

Source: BOEM
Vessel Trip Report Fishing Location

Dredge Gear

Bottom Trawl >65’

2011-2015
VMS vs. VTR Data

2011-2014 (VMS) and 2011-2015 (VTR)

VMS Scallop Data

VTR Dredge Data

Source: www.portal.midatlanticcoast.org
Fishing and Transit

AIS Data with VMS Fishing Speed (<4 knots) Overlay
VMS Vessel Direction

Source: BOEM

2014-2019 within the Vineyard Wind Lease Area
Socioeconomic Impact Tables

Table 8: Five Year Total Revenue for Most Impacted FMPs, Ocs A 0501

<table>
<thead>
<tr>
<th>FMP</th>
<th>Five Year Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mackerel Squid Butterfish Midatlantic</td>
<td>$143,000</td>
</tr>
<tr>
<td>No Federal FMP</td>
<td>$39,000</td>
</tr>
<tr>
<td>Sum Flounder Scup Bsb Midatlantic</td>
<td>$38,000</td>
</tr>
<tr>
<td>Sea Scallop Ne</td>
<td>$12,000</td>
</tr>
<tr>
<td>Ne Multi Large</td>
<td>$10,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$242,000</strong></td>
</tr>
</tbody>
</table>

Source: Northeast Ocean Data Portal

Combines Vessel Trip Reports and Dealer Reports
Some caveats!

• VMS not on all fisheries
• Limited time series for some vessels
• VMS data more precise than VTR, but 1-hour ping rates mean much is still lost
• Economic data not haul-by-haul
Interactions of Wind on Fisheries Scientific Enterprise

Marine Mammal Protected Act & Endangered Species Act

- 4 pinnipeds
- 34 cetaceans
- 3 ESA Listed teleosts

Aquaculture

- 5 sea turtles
- 5 crustaceans
- 39 teleosts
- 3 molluscs
- 9 elasmobranchs
- 2 cephalopods

Managed Fisheries

177 Fishing Communities
12 States

~$333M in fisheries (ex vessel) revenue for NY Bight Call Areas

- Stratum 5: 32%
- Stratum 73: 32%
- Stratum 20: 60%

Inshore stratum

Atlantic Mackerel: 2016-02-03 13:00:00 GMT
### Scope of Impacts on Scientific Surveys

317 Years of Combined Survey Effort Support Fisheries that contribute $14 Billion Annually to U.S. GDP

<table>
<thead>
<tr>
<th>Survey</th>
<th>Year Started</th>
<th>Survey Design</th>
<th>Major Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autumn Bottom Trawl Survey</td>
<td>1963</td>
<td>Random Stratified Design North Carolina to Nova Scotia (bottom trawl)</td>
<td>abundance; length, age, sex, weight, diet, maturity samples, distribution, components of Ecosystem Monitoring survey</td>
</tr>
<tr>
<td>Spring Bottom Trawl Survey</td>
<td>1968</td>
<td>Random Stratified Design North Carolina to Nova Scotia (bottom trawl)</td>
<td>abundance; length, age, sex, weight, diet, maturity samples, distribution, components of Ecosystem Monitoring survey</td>
</tr>
<tr>
<td>Scallop Survey</td>
<td>1979</td>
<td>Random Stratified Design (dredge); line transect (HabCam)</td>
<td>biomass, abundance, distribution, size and sex of sea scallops and other benthic fauna</td>
</tr>
<tr>
<td>Atlantic Surfclam and Ocean Quahog Surveys</td>
<td>1980</td>
<td>Random Stratified Design (hydraulic dredge)</td>
<td>biomass, abundance, distribution, size and sex of Atlantic surfclam and ocean quahog</td>
</tr>
<tr>
<td>Northern Shrimp Survey</td>
<td>1983</td>
<td>Random Stratified Design (commercial shrimp trawl)</td>
<td>biomass, abundance, length</td>
</tr>
<tr>
<td>Gulf of Maine Cooperative Bottom Longline Survey</td>
<td>2014</td>
<td>Randomly Stratified Design (bottom longline)</td>
<td>abundance, biomass, length, age, sex, weight, maturity samples, distribution, focused on hard-bottom habitat data</td>
</tr>
<tr>
<td>Ecosystem Monitoring Survey</td>
<td>1977</td>
<td>Random Stratified Design (linked to Trawl Survey Design); fixed stations embedded in design (plankton and oceanographic sampling)</td>
<td>Phyto/nkton, zooplankton, ichthyoplankton, carbonate chemistry, nutrients, marine mammals, sea birds</td>
</tr>
<tr>
<td>North Atlantic Right Whale Aerial Surveys</td>
<td>1998</td>
<td>Aerial line transects</td>
<td>Right Whale population estimates; dynamic area management</td>
</tr>
<tr>
<td>Marine mammal and sea turtle ship-based and aerial surveys</td>
<td>1991</td>
<td>Line transects for ship and aerial surveys. Plus opportunistic biological and physical oceanographic sampling from shipboard surveys</td>
<td>Abundance and spatial distribution of marine mammals, sea turtles, and sea birds</td>
</tr>
</tbody>
</table>
Potential Interactions with NMFS Activities

• Elimination of large areas from long-term survey strata
• Reduction in the accuracy and precision of survey-based information for scientific advice
  • Greater uncertainty in scientific assessments and adverse impacts to fishery participants and communities as well as recovery and conservation programs for protected species
  • Indirect impact on the setting of fishing quotas
• Interactions with research programs & international assessments related to such topics as ocean warming in the Gulf of Maine that rely upon long-term survey data sets

Map overlays of NMFS Survey Areas with Wind Energy Planning and Lease Areas
Thank you for your attention!

Questions?