APPENDIX F

National Marine Fisheries Service (NMFS) Vessel Monitoring System (VMS) Data
Northern New York Bight VMS Traffic per Calendar Year
November 2021

This report summarizes traffic by VMS-equipped vessels in and through the Northern New York Bight Study Area in recent years. The information requested by the First Coast Guard District Waterways Management Division was for counts of VMS vessel transits per year from calendar year 2010 through 2020. Information provided by the Northeast VMS Team, NMFS Office of Law Enforcement.

Data Description:

*Note: Due to masking of cell values with less than 3 contributing permits, all vessel activity may NOT be shown in some cases.

• Sources:
  • Vessel Monitoring System (VMS) positions
    • Only includes positions with STATUS: TPREP, PWRDN, PWRUP, and QASPR
  • GARFO AMS database (defines trip duration and declaration)

• Temporal Resolution:
  • 2010-2020

• Spatial Resolution
  • VMS positions
  • All speeds
  • Inside and outside VMS demarcation line
  • Bounding box: -75.0585, -68.8809, 37.74533, 42.51533
  • Trip must have reported >=2 positions inside the NNYB PARS

• Included Fishery Management Plans (as defined by first 3 VMS declaration characters)
  • DOF: Declared out of Fishery
  • HER: Herring
  • MNK: Monkfish
  • NMS: Northeast Multispecies
  • SCO: Surf Clam/Ocean Quahog
  • SES: Atlantic Sea Scallop
• SMB: Squid-Mackerel-Butterfish

• Analysis
  • VMS positions grouped by sail and land dates from AMS system
  • Grouped by year for each transit map
  • Outlier VMS positions that were > 2.5 hours since last poll were removed (~0.04% of positions)
  • Poll locations where binned into a raster grid with a cell size of 3 nautical miles, which approximates the spatial uncertainty of polls with an upper speed bound of 3 knots
  • Grid cells with < 3 permits contributing to the cell value were masked to preserve confidentiality
  • Counts of trips in each non-confidential cell value were then summed to generate the transit heat maps

Results:
Table 1 below gives the counts of VMS vessel transits of the Northern New York Bight Study Area by calendar year from 2010-2020.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>TRANSITS</th>
<th>PERMITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>8,365</td>
<td>613</td>
</tr>
<tr>
<td>2011</td>
<td>11,735</td>
<td>644</td>
</tr>
<tr>
<td>2012</td>
<td>10,795</td>
<td>614</td>
</tr>
<tr>
<td>2013</td>
<td>10,520</td>
<td>582</td>
</tr>
<tr>
<td>2014</td>
<td>9,972</td>
<td>614</td>
</tr>
<tr>
<td>2015</td>
<td>10,418</td>
<td>638</td>
</tr>
<tr>
<td>2016</td>
<td>12,082</td>
<td>648</td>
</tr>
<tr>
<td>2017</td>
<td>11,076</td>
<td>627</td>
</tr>
<tr>
<td>2018</td>
<td>9,791</td>
<td>595</td>
</tr>
<tr>
<td>2019</td>
<td>8,812</td>
<td>577</td>
</tr>
<tr>
<td>2020</td>
<td>8,916</td>
<td>592</td>
</tr>
</tbody>
</table>

Table 1. Counts of Transits and Permits by Year
APPENDIX G

NNYBPARS Vessel Activity in Wind Energy Areas
Northern New York Bight (NNYB) Wind Areas’ Vessel Activity

Vessel activity is examined in the lease areas shown in Figure 1. Number of AIS vessel tracks intersecting each of the five areas is tallied, as well as the number of unique vessels that created these tracks.

Additionally, histograms are presented based on the lengths of the vessels associated with these track lines. This means that the same vessel may be counted more than one time if this vessel created more than one track in area of interest. Not all vessels have length values, as this is a user-entered field and sometimes left blank. All lengths were recorded in meters and converted to feet in this document.

![Figure 1: NNYB Wind Areas](image-url)
Empire Offshore Wind Lease Area

Vessel Tracks Intersecting Empire Wind by Year and Type

Unique Vessels Intersecting Empire Wind by Year and Type
Vessel Lengths by Tracks in Empire Wind, 2017

Maximum Length Observed: 1204 Feet
(GERDA MAERSK, 220598000)

Vessel Lengths by Tracks in Empire Wind, 2018

Maximum Length Observed: 1201 Feet
(EDISON, 235082896)
Vessel Lengths by Tracks in Empire Wind, 2019

Maximum Length Observed: 1102 Feet (MSC JOANNA, 372050000)

Vessel Tracks Intersecting Hudson North by Year and Type

Hudson North Wind Energy Area
Unique Vessels Intersecting Hudson North by Year and Type

Vessel Lengths by Tracks in Hudson Wind, 2017

Maximum Length Observed: 1139 Feet
(APL SALALAH, 566410000)
Vessel Lengths by Tracks in Hudson Wind, 2018

Maximum Length Observed: 1204 Feet
(GRETE MAERKSK, 220397000)

Vessel Lengths by Tracks in Hudson Wind, 2019

Maximum Length Observed: 1201 Feet
(GEORG MAERSK, 220416000)
Vessel Lengths by Tracks in Fairways South, 2017

Maximum Length Observed: 1157 Feet
(ALBERT MAERSK, 220263000)
(ADRIAN MAERSK, 220245000)
(ARTHUR MAERSK, 220221000)

Vessel Lengths by Tracks in Fairways South, 2018

Maximum Length Observed: 1201 Feet
(GERDA MAERSK, 220598000)
(ANTWERPEN EXPRESS, 218791000)
Vessel Lengths by Tracks in Fairways South, 2019

Maximum Length Observed: 1201 Feet (ANTWERPEN EXPRESS, 218791000)

Vessel Tracks Intersecting Fairways North by Year and Type

- **Fishing**: 1556
- **Pleasure Craft/Sailing**: 891
- **Other**: 891
- **Cargo**: 723
- **TugTow**: 515
- **Not Available**: 358
- **Passenger**: 277
- **Tanker**: 19

**Frequency**

Bin:

50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 More

- Frequency: 269, 100, 11, 19, 11, 8, 4, 3, 0, 2, 6, 5
- Vessel Lengths by Tracks in Fairways South, 2019
Unique Vessels Intersecting Fairways North by Year and Type

<table>
<thead>
<tr>
<th>Vessel Type</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pleasure Craft/Sailing</td>
<td>315</td>
<td>389</td>
<td>456</td>
</tr>
<tr>
<td>Fishing</td>
<td>262</td>
<td>291</td>
<td></td>
</tr>
<tr>
<td>Cargo</td>
<td>69</td>
<td>52</td>
<td>33</td>
</tr>
<tr>
<td>Other</td>
<td>49</td>
<td>43</td>
<td>38</td>
</tr>
<tr>
<td>Not Available</td>
<td>123</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tanker</td>
<td>30</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>TugTow</td>
<td>27</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Passenger</td>
<td>22</td>
<td>19</td>
<td></td>
</tr>
</tbody>
</table>

Vessel Lengths by Tracks in Fairways North, 2017

Maximum Length Observed: 1132 Feet (QUEEN MARY 2, 310627000)
Vessel Lengths by Tracks in Fairways North, 2018

Maximum Length Observed: 1201 Feet
(GEORG MAERSK, 220416000)

Vessel Lengths by Tracks in Fairways North, 2019

Maximum Length Observed: 1132 Feet
(QUEEN MARY 2, 310627000)
Vessel Lengths by Tracks in Central Bight, 2017

Maximum Length Observed: Feet 1157
(ARNOLD MAERSK, 220206000)
(ANNA MAERSK, 220199000)

Vessel Lengths by Tracks in Central Bight, 2018

Maximum Length Observed: 1201 Feet
(OOCL KOREA, 477293100)
(MALIK AL ASHTAR, 229006000)
Vessel Lengths by Tracks in Central Bight, 2019

Maximum Length Observed: 1201 Feet
(GUNDE MAERSK, 220594000)
(MALIK AL ASHTAR, 229006000)
(GJERTRUD MAERSK, 220414000)
APPENDIX H

Weather Data