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Submitted to: NOAA, NEFSC

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Water Street, Woods Hole, MA 02543.

Date: 201

Resource Survey Report

Atlantic Surfclam/Ocean Quahog



Delmarva Peninsula – Georges Bank

29 July – 14 August 2015

F/V *E.S.S. Pursuit*

NOAA Fisheries Service

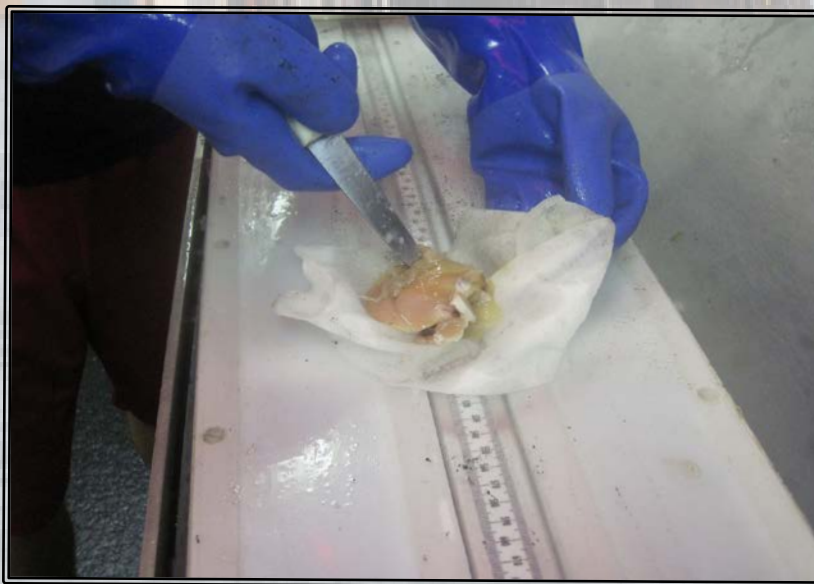
Northeast Fisheries Science Center

Woods Hole, MA 02543



Ocean quahogs (*Arctica islandica*)

Mixed catch of ocean quahogs (*Arctica islandica*) and Atlantic surf clams (*Spisula solidissima*)



Ocean quahog (*Arctica islandica*)
shucked for meat weight sampling.

RESOURCE SURVEY REPORT

Catch Summary

NOAA Fisheries Service
Northeast Fisheries Science Center

Atlantic Surfclam - Ocean Quahog Survey

Delmarva Peninsula – Georges Bank

29 July – 14 August 2015

The 2015 region-wide survey for Atlantic surfclam, *Spisula solidissima*; and ocean quahog, *Arctica islandica*, was conducted in continental shelf waters from Delmarva Peninsula to Georges Bank aboard the F/V *E.S.S. Pursuit*. The survey, conducted by the Northeast Fisheries Science Center, provides indices of abundance and recruitment for both species.

The following charts and station data describe the distribution of surf clams and ocean quahogs during the survey. Five-minute tows were made at the speed of 3.0 knots, scope of 2:1, and with a commercial style hydraulic dredge equipped with a 13-foot wide cutting blade and a surface supplied manifold positioned on the forward end of the dredge. Survey stations were randomly selected to provide unbiased abundance measurements. Therefore, these stations were not always on or near known locations of clam concentrations.

In this report, catch quantity is recorded in numbers of clams, while depth is recorded in fathoms. Percent estimates of surf clams are also given by four categories of shell height: between 0” to 4.75”, 4.76” to 5.00”, 5.01” to 5.50”, and greater than 5.50”. Distribution plots indicate relative numbers of surf clams and ocean quahogs caught on each tow.

The data are now summarized from audited catch files generated from the Fisheries Scientific Computer System (FSCS).

For further information, contact Robert Johnston (508-495-2061), NOAA Fisheries Service, Northeast Fisheries Science Center, 166 Water Street, Woods Hole, MA 02543. To view this report in PDF, go to the Ecosystems Surveys Branch website at:

<http://www.nefsc.noaa.gov/femad/ecosurvey/mainpage/>

Choose:

- Resource Surveys Reports
- Surfclam – Ocean Quahog Survey
- Year of interest

Field Notes

In an effort to share some of the natural history observations made during the clam survey, we have requested that the Chief Scientists on each part of the cruise comment on some of the more interesting catches that were brought aboard the F/V *E.S.S. Pursuit*.

Legs I, II, and III: New Beginnings

In 2014, the Northeast Fisheries Science Center completed the planned, three-region survey cycle from the Delmarva Peninsula to Georges Bank. The 2015 Clam Survey was the start of a new survey cycle, therefore, and began operations in the south. However, due to the excellent weather and combined diligence of Legs I, II, and III, we not only obtained excellent coverage of the Delmarva Peninsula, but all the way up the coast to Southern New England. Georges Bank will be completed in the two subsequent years.

As expected, clam catch numbers of both ocean quahogs and surfclams were low in the south, with several tows containing no clams. However, biomass certainly increased as we progressed northward. Our largest catch, which occurred at Station 126, yielded an impressive 714.35kg of ocean quahogs in one, five-minute tow; Station 65 was our second largest catch, with 671.616kg of Atlantic surfclams. We also executed two selectivity tows using the new, industry-built dredge, which we initially tested last year. Once again, the new dredge performed very well, allowing us to retain small clams while sorting through very little sediment; we look forward to utilizing this selectivity dredge again on Georges Bank, next year.

Nicole Charriere
Chief Scientist
Survey Legs I, II, and III
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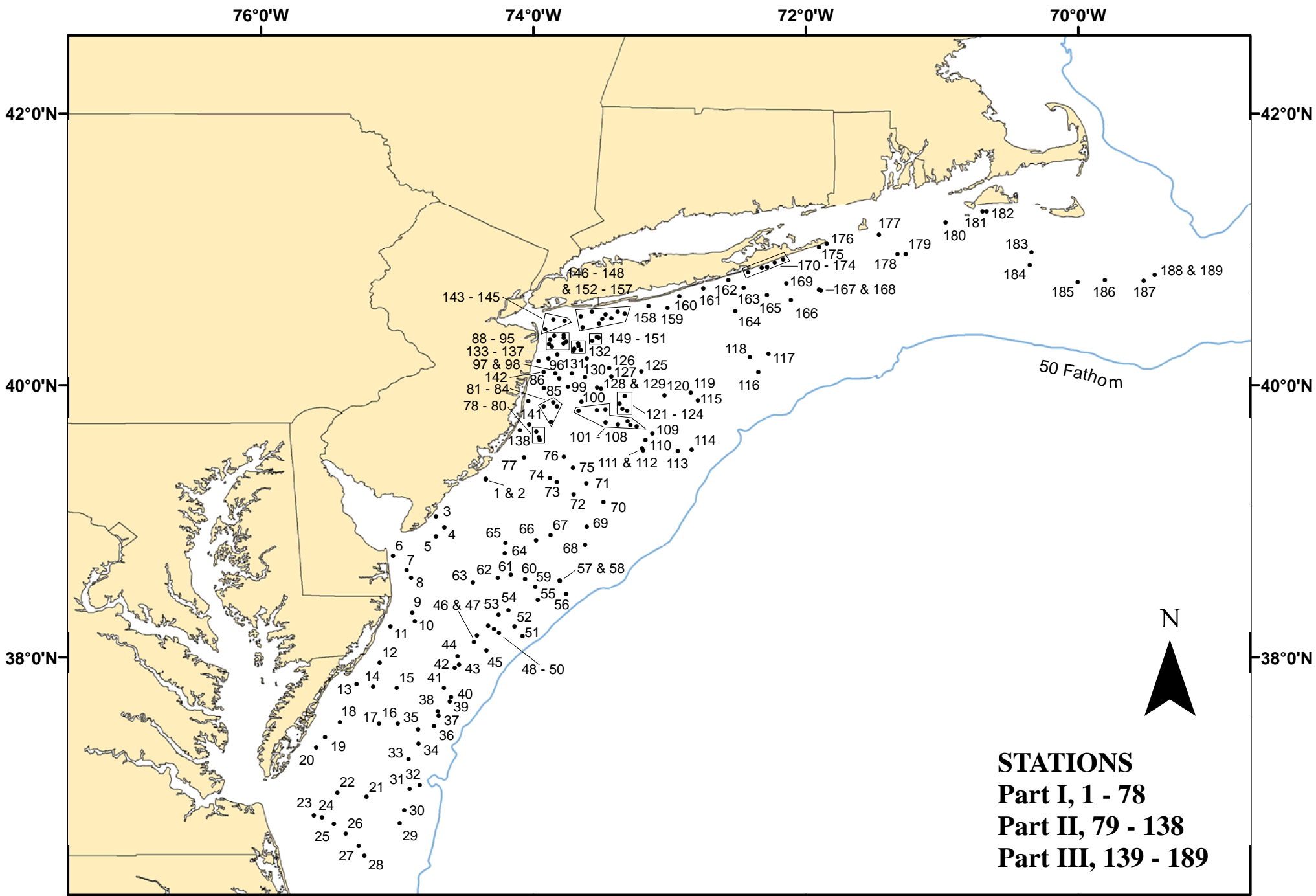


Figure 1. Dredge hauls made from F/V *E.S.S. Pursuit* during NOAA Fisheries Service, Northeast Fisheries Science Center's Surfclam / Ocean Quahog Survey, 29 July - 14 August 2015

2015 NOAA Fisheries Service Surf Clam -- Ocean Quahog Survey
R/V ESS PURSUIT July 29 - August 14

| Station Data | | | | | | | | Surf Clams | | | | Ocean Quahogs | | |
|-------------------|-------------------|----------|-----------|----------|----------|---------------|-----------------|-------------------------|---------|------------|------------|---------------|--------|------|
| Survey Stratum | Station Number | Position | | Loran | | Depth (FM) | Catch Number | Percent of Survey Catch | | | | Catch Number | | |
| | | Latitude | Longitude | Time | Delays | | | Heading | 0-4.74" | 4.76-5.00" | 5.01-5.50" | | >5.50" | |
| 05 | 0023 | 3650.2 | 7536.7 | X27071.8 | Y41257.3 | 0 | 9.3 | 15 | 100.0 | 0.0 | 0.0 | 0.0 | 0 | |
| 05 | 0025 | 3649.3 | 7533.1 | X27055.4 | Y41254.8 | 0 | 12.0 | 12 | 100.0 | 0.0 | 0.0 | 0.0 | 0 | |
| 05 | 0026 | 3646.4 | 7527.8 | X27029.0 | Y41234.1 | 0 | 12.0 | 38 | 100.0 | 0.0 | 0.0 | 0.0 | 0 | |
| 05 | 0027 | 3642.0 | 7522.6 | X27001.0 | Y41197.5 | 0 | 10.4 | 225 | 100.0 | 0.0 | 0.0 | 0.0 | 0 | |
| 05 | 0028 | 3636.8 | 7516.9 | X26970.2 | Y41154.4 | 0 | 14.2 | 43 | 100.0 | 0.0 | 0.0 | 0.0 | 0 | |
| 05 | 0029 | 3632.5 | 7514.4 | X26954.3 | Y41114.4 | 0 | 14.8 | 60 | 96.7 | 3.3 | 0.0 | 0.0 | 0 | |
| 09 | 0015 | 3746.5 | 7500.1 | X27001.2 | Y41949.8 | 0 | 14.2 | 6 | 100.0 | 0.0 | 0.0 | 0.0 | 0 | |
| 09 | 0016 | 3730.8 | 7459.7 | X26973.4 | Y41776.7 | 0 | 14.2 | 297 | 5.4 | 14.8 | 53.5 | 26.3 | 0 | |
| 09 | 0017 | 3730.6 | 7508.0 | X27011.8 | Y41761.0 | 0 | 17.0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | |
| 09 | 0021 | 3658.4 | 7513.4 | X26985.8 | Y41396.1 | 0 | 18.0 | 3 | 100.0 | 0.0 | 0.0 | 0.0 | 0 | |
| 09 | 0022 | 3700.3 | 7526.3 | X27044.1 | Y41391.0 | 0 | 12.0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | |
| 09 | 0030 | 3646.6 | 7458.8 | X26907.0 | Y41300.4 | 0 | 17.5 | 184 | 100.0 | 0.0 | 0.0 | 0.0 | 0 | |
| 09 | 0031 | 3652.6 | 7456.8 | X26906.0 | Y41368.4 | 0 | 18.6 | 51 | 100.0 | 0.0 | 0.0 | 0.0 | 0 | |
| 09 | 0034 | 3714.9 | 7454.9 | X26927.5 | Y41611.4 | 0 | 22.4 | 120 | 86.7 | 9.2 | 4.2 | 0.0 | 1 | |
| 09 | 0035 | 3721.9 | 7450.6 | X26917.6 | Y41694.8 | 0 | 23.0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | |
| 09 | 0036 | 3728.2 | 7450.8 | X26927.6 | Y41762.8 | 0 | 23.5 | 16 | 31.2 | 18.8 | 25.0 | 25.0 | 0 | |
| 10 | 0032 | 3701.8 | 7454.5 | X26907.9 | Y41471.2 | 0 | 25.2 | 11 | 100.0 | 0.0 | 0.0 | 0.0 | 0 | |
| 10 | 0037 | 3729.6 | 7443.6 | X26895.6 | Y41789.8 | 0 | 28.4 | 45 | 93.3 | 6.7 | 0.0 | 0.0 | 33 | |
| 10 | 0038 | 3734.2 | 7441.7 | X26893.0 | Y41842.5 | 0 | 26.8 | 72 | 93.1 | 6.9 | 0.0 | 0.0 | 216 | |
| 10 | 0039 | 3736.2 | 7442.1 | X26897.8 | Y41863.4 | 0 | 29.5 | 13 | 76.9 | 15.4 | 7.7 | 0.0 | 996 | |
| 11 | 0033 | 3703.7 | 7450.0 | X26890.3 | Y41500.5 | 0 | 29.5 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 67 | |
| 11 | 0040 | 3740.6 | 7436.8 | X26878.3 | Y41919.0 | 0 | 31.2 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 834 | |
| 13 | 0045 | 3800.4 | 7433.3 | X26889.8 | Y42137.7 | 0 | 22.4 | 530 | 65.3 | 12.1 | 16.2 | 6.4 | 23 | |
| 13 | 0047 | 3806.7 | 7426.1 | X26861.9 | Y42214.2 | 0 | 23.0 | 834 | 80.6 | 11.2 | 7.9 | 0.4 | 62 | |
| 13 | 0048 | 3809.6 | 7424.8 | X26859.4 | Y42246.8 | 0 | 23.5 | 296 | 79.4 | 10.5 | 9.5 | 0.7 | 66 | |
| 13 | 0049 | 3813.8 | 7419.9 | X26839.4 | Y42297.1 | 0 | 25.2 | 1324 | 88.5 | 6.3 | 4.8 | 0.3 | 67 | |
| 14 | 0042 | 3746.5 | 7439.4 | X26899.6 | Y41979.0 | 0 | 27.3 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 584 | |
| 14 | 0043 | 3755.2 | 7434.7 | X26889.1 | Y42079.6 | 0 | 25.2 | 35 | 51.4 | 17.1 | 28.6 | 2.9 | 301 | |
| 14 | 0044 | 3756.8 | 7432.7 | X26881.3 | Y42099.4 | 0 | 25.7 | 33 | 75.8 | 12.1 | 12.1 | 0.0 | 401 | |
| 14 | 0046 | 3803.1 | 7420.6 | X26827.8 | Y42181.9 | 0 | 26.8 | 459 | 93.9 | 5.0 | 1.1 | 0.0 | 286 | |
| 14 | 0050 | 3812.6 | 7417.2 | X26823.1 | Y42287.0 | 0 | 25.7 | 2196 | 74.6 | 17.6 | 6.6 | 1.2 | 864 | |
| 14 | 0051 | 3810.7 | 7415.1 | X26809.2 | Y42269.0 | 0 | 23.5 | 936 | 84.6 | 7.4 | 7.4 | 0.6 | 22 | |
| 14 | 0054 | 3818.8 | 7415.3 | X26821.8 | Y42355.1 | 0 | 30.6 | 4 | 100.0 | 0.0 | 0.0 | 0.0 | 915 | |
| 14 | 0055 | 3820.9 | 7410.9 | X26800.6 | Y42381.5 | 0 | 27.9 | 402 | 96.5 | 3.0 | 0.5 | 0.0 | 184 | |
| 15 | 0041 | 3742.4 | 7436.3 | X26878.4 | Y41939.1 | 0 | 29.5 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 584 | |
| 15 | 0052 | 3809.3 | 7404.8 | X26752.0 | Y42265.1 | 0 | 34.4 | 37 | 86.5 | 10.8 | 2.7 | 0.0 | 20 | |
| 15 | 0053 | 3813.5 | 7408.3 | X26776.3 | Y42305.7 | 0 | 36.1 | 2 | 100.0 | 0.0 | 0.0 | 0.0 | 43 | |
| 17 | 0063 | 3835.1 | 7415.6 | X26848.6 | Y42529.3 | 0 | 0.0 | 4 | 100.0 | 0.0 | 0.0 | 0.0 | 752 | |
| 17 | 0064 | 3833.0 | 7426.7 | X26907.9 | Y42498.4 | 0 | 22.4 | 16 | 75.0 | 12.5 | 12.5 | 0.0 | 133 | |
| 17 | 0065 | 3846.0 | 7412.5 | X26848.7 | Y42648.1 | 0 | 23.5 | 3744 | 64.4 | 13.9 | 15.9 | 5.8 | 474 | |
| 17 | 0066 | 3850.4 | 7412.3 | X26855.0 | Y42695.3 | 0 | 21.3 | 73 | 50.7 | 16.4 | 17.8 | 15.1 | 250 | |
| 18 | 0060 | 3830.9 | 7359.1 | X26748.1 | Y42496.8 | 0 | 31.7 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 3340 | |
| 18 | 0061 | 3834.5 | 7403.7 | X26779.5 | Y42531.4 | 0 | 29.5 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 1132 | |
| 18 | 0062 | 3836.4 | 7409.9 | X26818.0 | Y42547.2 | 0 | 27.3 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 1180 | |
| 19 | 0056 | 3825.4 | 7358.0 | X26734.7 | Y42440.1 | 0 | 31.2 | 19 | 100.0 | 0.0 | 0.0 | 0.0 | 178 | |
| 19 | 0057 | 3828.0 | 7345.6 | X26667.5 | Y42476.9 | 0 | 36.1 | 3 | 100.0 | 0.0 | 0.0 | 0.0 | 2460 | |
| * | 19 | 0058 | 3833.6 | 7348.3 | X26689.4 | Y42532.7 | 0 | 30.6 | 6 | 100.0 | 0.0 | 0.0 | 0.0 | 1170 |

2015 NOAA Fisheries Service Surf Clam -- Ocean Quahog Survey
R/V ESS PURSUIT July 29 - August 14

| Station Data | | | | | | | | Surf Clams | | | | | Ocean Quahogs | |
|-------------------|-------------------|----------|-----------|--------|----------|---------------|-----------------|-------------------------|---------|------------|------------|--------------|---------------|------|
| Survey Stratum | Station Number | Position | | Loran | | Depth (FM) | Catch Number | Percent of Survey Catch | | | | Catch Number | | |
| | | Latitude | Longitude | Time | Delays | | | Heading | 0-4.74" | 4.76-5.00" | 5.01-5.50" | | >5.50" | |
| * | 19 | 0059 | 3833.8 | 7348.4 | X26690.2 | Y42534.7 | 0 | 30.6 | 30 | 100.0 | 0.0 | 0.0 | 0.0 | 923 |
| | 21 | 0067 | 3851.6 | 7358.8 | X26776.0 | Y42714.4 | 0 | 21.9 | 860 | 57.7 | 14.9 | 20.5 | 7.0 | 669 |
| | 21 | 0068 | 3853.9 | 7352.4 | X26740.6 | Y42741.3 | 0 | 19.1 | 856 | 50.0 | 21.0 | 21.5 | 7.5 | 412 |
| | 21 | 0072 | 3916.7 | 7336.7 | X26674.0 | Y42979.7 | 0 | 24.6 | 37 | 70.3 | 16.2 | 13.5 | 0.0 | 129 |
| | 21 | 0073 | 3911.8 | 7342.2 | X26702.7 | Y42929.2 | 0 | 19.7 | 597 | 37.7 | 16.6 | 23.6 | 22.1 | 140 |
| | 21 | 0074 | 3917.4 | 7349.6 | X26759.5 | Y42986.2 | 0 | 19.1 | 263 | 35.0 | 9.9 | 28.5 | 26.6 | 24 |
| | 21 | 0075 | 3919.2 | 7352.7 | X26782.8 | Y43004.8 | 0 | 19.7 | 29 | 34.5 | 24.1 | 24.1 | 17.2 | 411 |
| | 21 | 0076 | 3923.7 | 7342.5 | X26723.0 | Y43051.2 | 0 | 17.5 | 388 | 20.6 | 8.2 | 21.1 | 50.0 | 7 |
| | 21 | 0077 | 3928.4 | 7346.5 | X26757.8 | Y43099.7 | 0 | 15.3 | 292 | 18.5 | 7.5 | 19.9 | 54.1 | 4 |
| | 21 | 0102 | 3948.8 | 7340.1 | X26750.7 | Y43305.8 | 0 | 14.2 | 482 | 12.9 | 5.0 | 18.3 | 63.9 | 7 |
| | 22 | 0069 | 3849.5 | 7337.2 | X26642.2 | Y42702.3 | 0 | 30.6 | 30 | 70.0 | 13.3 | 3.3 | 13.3 | 2448 |
| | 22 | 0070 | 3857.5 | 7336.5 | X26647.4 | Y42784.2 | 0 | 26.8 | 246 | 92.7 | 6.5 | 0.8 | 0.0 | 954 |
| | 22 | 0071 | 3908.5 | 7329.1 | X26613.8 | Y42897.4 | 0 | 26.8 | 97 | 96.9 | 3.1 | 0.0 | 0.0 | 970 |
| | 25 | 0094 | 4021.1 | 7346.6 | X26871.0 | Y43633.7 | 0 | 16.4 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 16 |
| | 25 | 0095 | 4019.3 | 7345.4 | X26857.2 | Y43614.8 | 0 | 14.8 | 1 | 100.0 | 0.0 | 0.0 | 0.0 | 208 |
| | 25 | 0099 | 4003.1 | 7348.6 | X26842.6 | Y43454.9 | 0 | 14.8 | 130 | 43.8 | 7.7 | 13.8 | 34.6 | 0 |
| | 25 | 0100 | 3959.2 | 7344.7 | X26805.2 | Y43413.1 | 0 | 15.9 | 328 | 39.0 | 5.5 | 19.5 | 36.0 | 0 |
| | 25 | 0101 | 3952.7 | 7338.8 | X26748.9 | Y43344.5 | 0 | 13.7 | 320 | 15.0 | 9.4 | 21.2 | 54.4 | 0 |
| | 25 | 0103 | 3949.1 | 7332.0 | X26693.2 | Y43305.2 | 0 | 17.5 | 650 | 46.5 | 20.0 | 21.8 | 11.7 | 36 |
| | 25 | 0104 | 3949.4 | 7328.2 | X26666.3 | Y43306.5 | 0 | 18.0 | 1228 | 49.2 | 17.9 | 23.8 | 9.1 | 122 |
| | 25 | 0106 | 3942.7 | 7322.8 | X26616.9 | Y43238.0 | 0 | 18.6 | 351 | 49.9 | 18.2 | 22.8 | 9.1 | 6 |
| | 25 | 0107 | 3944.1 | 7318.5 | X26588.3 | Y43250.1 | 0 | 21.3 | 1263 | 57.7 | 17.8 | 20.2 | 4.3 | 204 |
| | 25 | 0108 | 3942.4 | 7317.2 | X26576.6 | Y43233.0 | 0 | 21.3 | 806 | 65.0 | 14.1 | 15.6 | 5.2 | 118 |
| | 25 | 0109 | 3941.9 | 7314.4 | X26556.0 | Y43227.0 | 0 | 23.0 | 188 | 73.9 | 12.2 | 11.7 | 2.1 | 97 |
| | 25 | 0110 | 3938.6 | 7307.5 | X26503.1 | Y43192.6 | 0 | 21.9 | 374 | 41.7 | 16.0 | 24.1 | 18.2 | 73 |
| | 25 | 0111 | 3935.8 | 7310.6 | X26521.7 | Y43166.5 | 0 | 23.0 | 462 | 57.6 | 14.3 | 22.5 | 5.6 | 256 |
| | 25 | 0112 | 3932.1 | 7312.1 | X26527.9 | Y43130.9 | 0 | 21.3 | 430 | 42.3 | 14.4 | 20.9 | 22.3 | 252 |
| * | 25 | 0113 | 3931.2 | 7311.6 | X26523.4 | Y43122.0 | 0 | 21.9 | 414 | 68.8 | 7.5 | 16.4 | 7.2 | 295 |
| | 25 | 0122 | 3948.7 | 7318.7 | X26596.4 | Y43295.1 | 0 | 22.4 | 93 | 76.3 | 14.0 | 8.6 | 1.1 | 26 |
| | 25 | 0123 | 3949.6 | 7320.8 | X26613.0 | Y43304.9 | 0 | 23.5 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 6 |
| | 25 | 0124 | 3952.0 | 7322.0 | X26625.6 | Y43329.0 | 0 | 22.4 | 525 | 80.8 | 10.9 | 8.0 | 0.4 | 60 |
| | 25 | 0127 | 4007.6 | 7326.6 | X26687.6 | Y43484.2 | 0 | 22.4 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 2808 |
| | 25 | 0129 | 3958.5 | 7330.2 | X26697.1 | Y43397.5 | 0 | 22.4 | 813 | 80.1 | 12.5 | 7.4 | 0.0 | 338 |
| | 25 | 0130 | 3959.0 | 7331.9 | X26710.6 | Y43403.4 | 0 | 20.8 | 1148 | 54.9 | 21.3 | 19.5 | 4.3 | 370 |
| | 25 | 0131 | 4003.7 | 7337.1 | X26758.6 | Y43453.4 | 0 | 19.7 | 624 | 30.8 | 13.5 | 34.6 | 21.2 | 158 |
| | 25 | 0132 | 4005.3 | 7343.0 | X26806.1 | Y43473.3 | 0 | 17.5 | 400 | 8.5 | 3.5 | 39.0 | 49.0 | 109 |
| | 25 | 0133 | 4011.8 | 7336.5 | X26771.5 | Y43533.0 | 0 | 18.6 | 21 | 14.3 | 0.0 | 28.6 | 57.1 | 903 |
| | 25 | 0135 | 4015.4 | 7342.3 | X26824.0 | Y43573.4 | 0 | 15.3 | 2 | 0.0 | 50.0 | 50.0 | 0.0 | 427 |
| | 26 | 0096 | 4018.5 | 7346.7 | X26865.2 | Y43608.0 | 0 | 19.7 | 4 | 100.0 | 0.0 | 0.0 | 0.0 | 175 |
| | 26 | 0125 | 3955.4 | 7319.7 | X26614.2 | Y43360.9 | 0 | 26.8 | 3 | 100.0 | 0.0 | 0.0 | 0.0 | 1 |
| | 26 | 0128 | 4003.8 | 7325.6 | X26672.8 | Y43446.5 | 0 | 27.9 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 1375 |
| | 27 | 0114 | 3931.0 | 7256.3 | X26417.5 | Y43116.7 | 0 | 31.7 | 13 | 61.5 | 23.1 | 15.4 | 0.0 | 362 |
| | 27 | 0115 | 3931.5 | 7250.3 | X26376.4 | Y43120.0 | 0 | 34.4 | 5 | 100.0 | 0.0 | 0.0 | 0.0 | 462 |
| | 29 | 0126 | 4006.1 | 7312.4 | X26576.9 | Y43459.1 | 0 | 24.6 | 22 | 90.9 | 4.5 | 4.5 | 0.0 | 4032 |
| | 29 | 0165 | 4032.8 | 7231.0 | X26287.7 | Y43662.3 | 0 | 22.4 | 45 | 91.1 | 2.2 | 6.7 | 0.0 | 980 |
| | 30 | 0116 | 3953.4 | 7247.5 | X26373.6 | Y43323.6 | 0 | 29.5 | 8 | 87.5 | 0.0 | 12.5 | 0.0 | 3003 |
| | 30 | 0120 | 3956.6 | 7250.6 | X26399.7 | Y43355.1 | 0 | 28.4 | 2 | 100.0 | 0.0 | 0.0 | 0.0 | 1610 |

2015 NOAA Fisheries Service Surf Clam -- Ocean Quahog Survey
R/V ESS PURSUIT July 29 - August 14

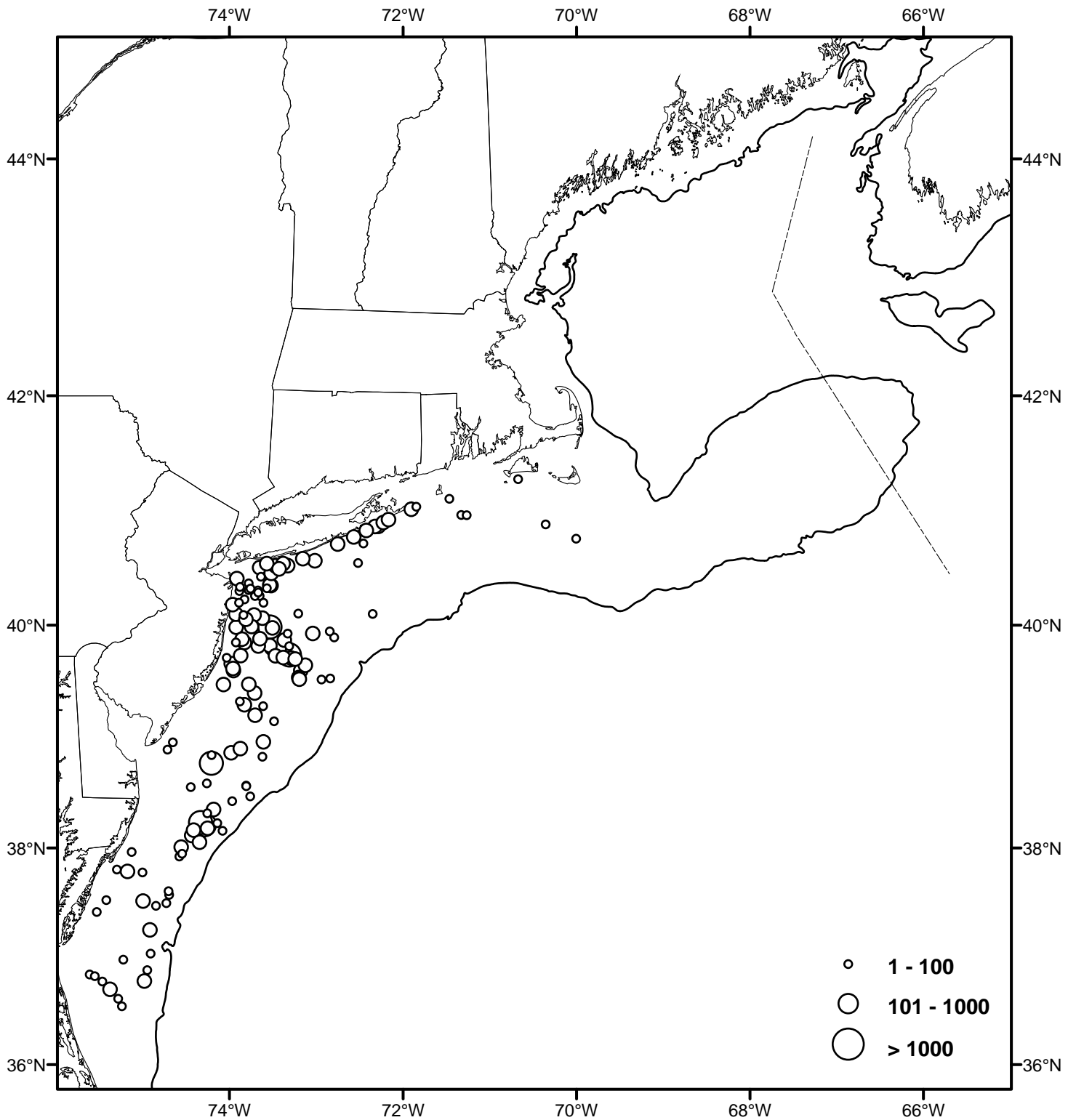
| Survey Stratum | Station Data | | | | | | Surf Clams | | | | | Ocean Quahogs | |
|-------------------|-------------------|----------|-----------|----------|----------|---------------|-----------------|-------------------------|---------|------------|------------|---------------|--------|
| | Station Number | Position | | Loran | | Depth (FM) | Catch Number | Percent of Survey Catch | | | | Catch Number | |
| | | Latitude | Longitude | Time | Delays | | | Heading | 0-4.74" | 4.76-5.00" | 5.01-5.50" | | >5.50" |
| 30 | 0121 | 3955.5 | 7302.3 | X26485.5 | Y43351.8 | 0 | 27.3 | 276 | 90.9 | 7.2 | 1.8 | 0.0 | 2170 |
| 31 | 0117 | 4005.9 | 7220.9 | X26182.6 | Y43418.8 | 0 | 37.7 | 2 | 50.0 | 0.0 | 50.0 | 0.0 | 39 |
| 31 | 0118 | 4013.9 | 7216.4 | X26152.1 | Y43484.9 | 0 | 32.8 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 4875 |
| 31 | 0119 | 4012.3 | 7224.6 | X26215.1 | Y43477.8 | 0 | 32.8 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 2331 |
| 33 | 0164 | 4043.1 | 7227.3 | X26271.8 | Y43745.5 | 0 | 17.0 | 24 | 37.5 | 8.3 | 4.2 | 50.0 | 105 |
| 33 | 0166 | 4039.8 | 7217.1 | X26181.2 | Y43705.3 | 0 | 25.2 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 2220 |
| 33 | 0170 | 4045.0 | 7208.5 | X26115.0 | Y43737.6 | 0 | 23.5 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 2790 |
| 34 | 0167 | 4037.6 | 7206.5 | X26089.8 | Y43674.7 | 0 | 26.8 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 1260 |
| 34 | 0168 | 4041.9 | 7153.3 | X25982.9 | Y43694.1 | 0 | 26.8 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 1215 |
| 34 | 0169 | 4042.0 | 7154.2 | X25990.6 | Y43696.0 | 0 | 26.2 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 729 |
| 37 | 0178 | 4106.5 | 7127.8 | X25789.7 | Y43849.6 | 0 | 13.7 | 67 | 38.8 | 6.0 | 23.9 | 31.3 | 66 |
| 37 | 0181 | 4111.8 | 7058.3 | X25534.2 | Y43846.8 | 0 | 18.0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 1125 |
| 38 | 0179 | 4058.0 | 7119.6 | X25706.5 | Y43776.1 | 0 | 24.6 | 2 | 100.0 | 0.0 | 0.0 | 0.0 | 302 |
| 38 | 0180 | 4057.9 | 7115.9 | X25674.1 | Y43770.6 | 0 | 27.9 | 1 | 0.0 | 0.0 | 0.0 | 100.0 | 3204 |
| 41 | 0184 | 4058.6 | 7020.6 | X25206.3 | Y43709.2 | 0 | 21.9 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 197 |
| 41 | 0185 | 4053.1 | 7021.3 | X25224.1 | Y43672.5 | 0 | 23.5 | 1 | 0.0 | 0.0 | 0.0 | 100.0 | 2 |
| 41 | 0186 | 4045.6 | 7000.2 | X25125.1 | Y43600.1 | 0 | 17.5 | 58 | 5.2 | 0.0 | 6.9 | 87.9 | 7 |
| 45 | 0187 | 4046.3 | 6948.2 | W14013.8 | Y43593.5 | 0 | 20.2 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| 45 | 0188 | 4046.1 | 6931.1 | W13924.7 | Y43576.6 | 0 | 21.9 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| 45 | 0189 | 4048.8 | 6926.2 | W13889.0 | Y43589.6 | 0 | 24.6 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| 50 | 0105 | 3943.6 | 7328.2 | X26656.7 | Y43248.9 | 0 | 18.0 | 452 | 48.7 | 22.6 | 20.4 | 8.4 | 4 |
| 83 | 0018 | 3731.4 | 7525.2 | X27092.3 | Y41742.5 | 0 | 11.5 | 26 | 15.4 | 11.5 | 34.6 | 38.5 | 0 |
| 83 | 0019 | 3724.8 | 7531.7 | X27109.5 | Y41657.1 | 0 | 9.8 | 1 | 100.0 | 0.0 | 0.0 | 0.0 | 0 |
| 83 | 0020 | 3720.2 | 7535.6 | X27118.3 | Y41598.1 | 0 | 7.7 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| 84 | 0012 | 3757.7 | 7507.6 | X27058.1 | Y42065.1 | 0 | 7.7 | 15 | 100.0 | 0.0 | 0.0 | 0.0 | 0 |
| 84 | 0013 | 3748.1 | 7517.8 | X27089.2 | Y41943.0 | 0 | 6.6 | 2 | 100.0 | 0.0 | 0.0 | 0.0 | 0 |
| 84 | 0014 | 3747.1 | 7510.5 | X27052.4 | Y41941.9 | 0 | 9.8 | 234 | 100.0 | 0.0 | 0.0 | 0.0 | 0 |
| 85 | 0009 | 3819.7 | 7453.3 | X27027.9 | Y42328.3 | 0 | 8.7 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| 85 | 0010 | 3815.8 | 7452.2 | X27014.5 | Y42285.8 | 0 | 10.9 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| 85 | 0011 | 3813.7 | 7502.9 | X27065.9 | Y42251.0 | 0 | 8.7 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| 86 | 0006 | 3844.8 | 7501.8 | X27128.1 | Y42604.0 | 0 | 8.2 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| 86 | 0007 | 3838.5 | 7455.8 | X27080.6 | Y42537.1 | 0 | 9.3 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| 86 | 0008 | 3835.1 | 7453.8 | X27062.2 | Y42500.4 | 0 | 10.9 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| 87 | 0003 | 3902.1 | 7442.9 | X27060.8 | Y42809.0 | 0 | 7.7 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| 87 | 0004 | 3857.3 | 7439.1 | X27027.4 | Y42757.4 | 0 | 4.9 | 8 | 100.0 | 0.0 | 0.0 | 0.0 | 0 |
| 87 | 0005 | 3853.3 | 7442.8 | X27040.1 | Y42711.2 | 0 | 8.2 | 14 | 100.0 | 0.0 | 0.0 | 0.0 | 0 |
| 88 | 0001 | 3918.6 | 7420.9 | X26963.5 | Y42996.1 | 0 | 7.1 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| 88 | 0002 | 3918.7 | 7420.9 | X26963.8 | Y42997.2 | 0 | 7.7 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| 88 | 0078 | 3928.3 | 7404.1 | X26875.3 | Y43100.3 | 0 | 11.5 | 168 | 20.8 | 8.3 | 6.0 | 64.9 | 1 |
| 88 | 0079 | 3935.8 | 7357.2 | X26844.3 | Y43178.0 | 0 | 13.1 | 489 | 17.8 | 6.1 | 16.6 | 59.5 | 0 |
| 88 | 0080 | 3936.9 | 7357.5 | X26848.7 | Y43189.5 | 0 | 12.0 | 191 | 32.5 | 8.9 | 16.2 | 42.4 | 0 |
| 89 | 0081 | 3939.5 | 7358.7 | X26862.3 | Y43216.9 | 0 | 11.5 | 298 | 14.1 | 4.7 | 10.1 | 71.1 | 0 |
| 89 | 0082 | 3943.8 | 7352.2 | X26826.3 | Y43259.5 | 0 | 14.2 | 246 | 16.3 | 8.9 | 17.9 | 56.9 | 0 |
| 89 | 0083 | 3950.7 | 7355.5 | X26864.4 | Y43331.9 | 0 | 12.0 | 75 | 13.3 | 6.7 | 14.7 | 65.3 | 0 |
| 89 | 0084 | 3950.7 | 7349.6 | X26822.4 | Y43329.3 | 0 | 12.6 | 419 | 16.5 | 7.6 | 21.7 | 54.2 | 0 |
| 89 | 0085 | 3952.5 | 7351.2 | X26837.8 | Y43348.5 | 0 | 12.6 | 178 | 47.8 | 10.7 | 6.7 | 34.8 | 0 |
| 89 | 0086 | 3958.9 | 7355.3 | X26881.8 | Y43416.2 | 0 | 12.0 | 285 | 57.5 | 1.8 | 4.9 | 35.8 | 1 |

2015 NOAA Fisheries Service Surf Clam -- Ocean Quahog Survey
R/V ESS PURSUIT July 29 - August 14

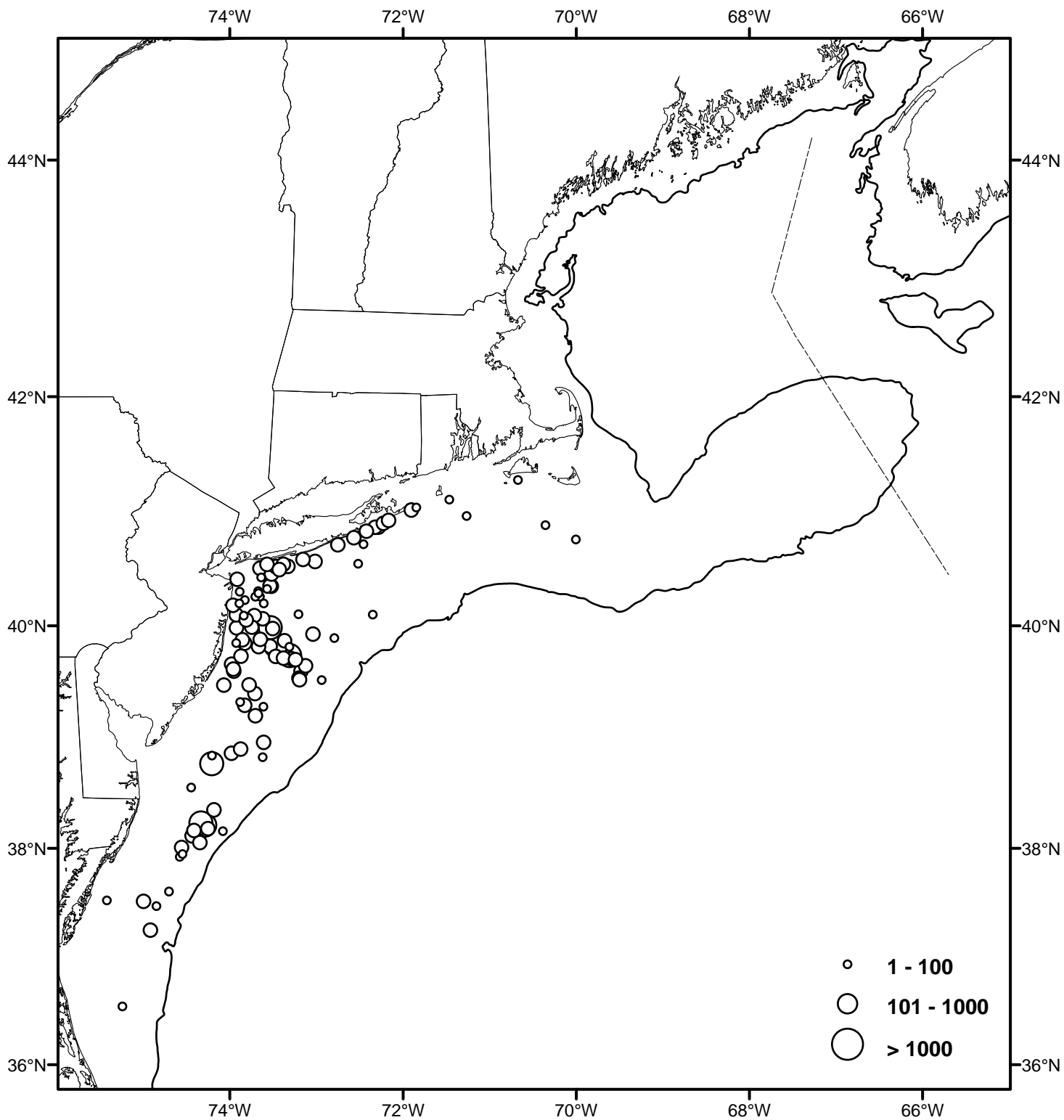
| Station Data | | | | | | | | Surf Clams | | | | Ocean Quahogs | |
|----------------|----------------|----------|-----------|----------|----------|------------|--------------|-------------------------|---------|------------|------------|---------------|--------|
| Survey Stratum | Station Number | Position | | Loran | | Depth (FM) | Catch Number | Percent of Survey Catch | | | | Catch Number | |
| | | Latitude | Longitude | Time | Delays | | | Heading | 0-4.74" | 4.76-5.00" | 5.01-5.50" | | >5.50" |
| 89 | 0087 | 4005.8 | 7355.4 | X26899.1 | Y43486.8 | 0 | 12.0 | 265 | 14.0 | 3.4 | 10.9 | 71.7 | 0 |
| 89 | 0098 | 4005.3 | 7350.3 | X26860.2 | Y43478.3 | 0 | 14.2 | 15 | 26.7 | 0.0 | 6.7 | 66.7 | 0 |
| 89 | 0139 | 3940.2 | 7405.9 | X26913.2 | Y43225.9 | 0 | 8.2 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| 89 | 0140 | 3940.3 | 000.0 | W11055.1 | Y43993.9 | 0 | 8.7 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| 89 | 0141 | 3942.6 | 7401.8 | X26890.4 | Y43250.0 | 0 | 8.7 | 20 | 100.0 | 0.0 | 0.0 | 0.0 | 0 |
| 89 | 0142 | 3953.1 | 7402.2 | X26917.5 | Y43359.7 | 0 | 9.3 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| 90 | 0088 | 4011.8 | 7353.3 | X26898.4 | Y43546.3 | 0 | 9.3 | 39 | 74.4 | 5.1 | 5.1 | 15.4 | 0 |
| 90 | 0089 | 4016.9 | 7351.8 | X26900.1 | Y43596.5 | 0 | 11.5 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| 90 | 0090 | 4018.0 | 7353.1 | X26912.8 | Y43608.6 | 0 | 10.9 | 27 | 92.6 | 0.0 | 0.0 | 7.4 | 1 |
| 90 | 0091 | 4020.2 | 7352.6 | X26914.7 | Y43630.3 | 0 | 10.9 | 26 | 100.0 | 0.0 | 0.0 | 0.0 | 0 |
| 90 | 0092 | 4021.8 | 7350.8 | X26905.1 | Y43644.6 | 0 | 12.0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| 90 | 0093 | 4022.1 | 7346.6 | X26873.5 | Y43643.6 | 0 | 18.0 | 1 | 100.0 | 0.0 | 0.0 | 0.0 | 1 |
| 90 | 0097 | 4013.6 | 7349.5 | X26874.3 | Y43561.4 | 0 | 13.7 | 95 | 48.4 | 1.1 | 5.3 | 45.3 | 2 |
| 90 | 0134 | 4015.5 | 7339.1 | X26799.7 | Y43571.6 | 0 | 14.2 | 4 | 0.0 | 0.0 | 25.0 | 75.0 | 504 |
| 90 | 0136 | 4016.1 | 7341.9 | X26822.6 | Y43580.0 | 0 | 14.2 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 367 |
| 90 | 0137 | 4017.2 | 7340.0 | X26810.6 | Y43589.2 | 0 | 0.0 | 1 | 0.0 | 0.0 | 0.0 | 100.0 | 317 |
| 90 | 0138 | 4018.4 | 7340.3 | X26815.8 | Y43601.2 | 0 | 13.1 | 2 | 50.0 | 0.0 | 0.0 | 50.0 | 113 |
| 90 | 0143 | 4010.8 | 7357.7 | X26928.7 | Y43539.5 | 0 | 9.3 | 128 | 15.6 | 3.1 | 9.4 | 71.9 | 0 |
| 90 | 0144 | 4024.6 | 7354.8 | X26943.5 | Y43676.4 | 0 | 9.8 | 171 | 53.2 | 28.1 | 17.0 | 1.8 | 0 |
| 91 | 0145 | 4028.9 | 7351.1 | X26926.5 | Y43715.5 | 0 | 9.3 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| 91 | 0146 | 4028.4 | 7346.2 | X26886.8 | Y43705.3 | 0 | 14.2 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 106 |
| 91 | 0147 | 4030.4 | 7339.1 | X26836.0 | Y43717.2 | 0 | 9.3 | 498 | 17.3 | 4.4 | 22.9 | 55.4 | 23 |
| 91 | 0148 | 4032.5 | 7334.2 | X26802.3 | Y43731.9 | 0 | 7.7 | 214 | 3.7 | 1.4 | 16.8 | 78.0 | 13 |
| 91 | 0149 | 4025.6 | 7338.2 | X26816.9 | Y43669.6 | 0 | 11.5 | 74 | 66.2 | 8.1 | 4.1 | 21.6 | 1 |
| 91 | 0150 | 4019.5 | 7334.1 | X26770.4 | Y43606.3 | 0 | 14.2 | 6 | 33.3 | 0.0 | 33.3 | 33.3 | 380 |
| 91 | 0151 | 4021.0 | 7331.2 | X26751.2 | Y43618.1 | 0 | 13.7 | 618 | 20.7 | 4.9 | 12.9 | 61.5 | 1 |
| 91 | 0152 | 4021.2 | 7332.1 | X26758.7 | Y43620.9 | 0 | 13.1 | 294 | 34.7 | 5.4 | 16.7 | 43.2 | 0 |
| 91 | 0153 | 4027.4 | 7331.1 | X26765.2 | Y43679.6 | 0 | 12.0 | 229 | 21.4 | 7.0 | 13.5 | 58.1 | 1 |
| 91 | 0154 | 4029.2 | 7329.6 | X26757.5 | Y43695.2 | 0 | 11.5 | 402 | 12.7 | 2.0 | 10.4 | 74.9 | 0 |
| 91 | 0155 | 4031.3 | 7328.2 | X26751.3 | Y43713.6 | 0 | 8.7 | 229 | 1.7 | 0.9 | 7.4 | 90.0 | 0 |
| 91 | 0156 | 4029.7 | 7325.6 | X26726.8 | Y43695.6 | 0 | 10.9 | 154 | 22.7 | 3.9 | 9.1 | 64.3 | 0 |
| 91 | 0157 | 4032.5 | 7322.9 | X26711.5 | Y43718.9 | 0 | 8.7 | 170 | 23.5 | 4.7 | 5.9 | 65.9 | 0 |
| 91 | 0158 | 4031.4 | 7319.7 | X26683.2 | Y43705.0 | 0 | 12.6 | 338 | 24.9 | 3.6 | 12.4 | 59.2 | 8 |
| 92 | 0159 | 4035.0 | 7309.3 | X26606.6 | Y43726.2 | 0 | 12.6 | 222 | 9.0 | 5.0 | 14.9 | 71.2 | 7 |
| 92 | 0160 | 4034.0 | 7300.8 | X26535.0 | Y43707.1 | 0 | 13.1 | 305 | 26.2 | 11.1 | 18.4 | 44.3 | 0 |
| 92 | 0161 | 4039.4 | 7255.6 | X26502.6 | Y43749.1 | 0 | 12.6 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| 92 | 0162 | 4042.8 | 7245.1 | X26421.4 | Y43765.7 | 0 | 12.0 | 103 | 6.8 | 6.8 | 16.5 | 69.9 | 1038 |
| 92 | 0163 | 4046.5 | 7234.0 | X26334.3 | Y43782.9 | 0 | 11.5 | 169 | 4.1 | 0.6 | 11.2 | 84.0 | 15 |
| 93 | 0171 | 4049.9 | 7225.4 | X26266.9 | Y43799.8 | 0 | 9.3 | 223 | 11.2 | 7.2 | 6.7 | 74.9 | 6 |
| 93 | 0172 | 4052.0 | 7219.3 | X26218.1 | Y43808.8 | 0 | 9.8 | 367 | 4.1 | 3.5 | 13.1 | 79.3 | 8 |
| 93 | 0173 | 4052.1 | 7217.0 | X26198.4 | Y43806.5 | 0 | 11.5 | 436 | 8.7 | 3.7 | 12.8 | 74.8 | 78 |
| 93 | 0174 | 4054.1 | 7213.6 | X26172.4 | Y43818.1 | 0 | 9.8 | 308 | 9.1 | 5.5 | 18.8 | 66.6 | 107 |
| 93 | 0175 | 4055.6 | 7210.0 | X26143.7 | Y43825.1 | 0 | 8.7 | 181 | 10.5 | 6.6 | 12.7 | 70.2 | 47 |
| 93 | 0176 | 4101.0 | 7154.2 | X26014.5 | Y43845.4 | 0 | 9.3 | 107 | 9.3 | 1.9 | 15.9 | 72.9 | 5 |
| 93 | 0177 | 4102.3 | 7150.8 | X25986.8 | Y43850.6 | 0 | 8.2 | 23 | 21.7 | 8.7 | 17.4 | 52.2 | 1 |
| 95 | 0182 | 4116.6 | 7042.2 | X25398.2 | Y43857.9 | 0 | 13.1 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 1477 |
| 95 | 0183 | 4116.7 | 7040.3 | X25381.2 | Y43856.0 | 0 | 13.1 | 5 | 0.0 | 0.0 | 0.0 | 100.0 | 585 |

* Denotes a non-random / selectivity station

NEFSC SURFCLAM AND OCEAN QUAHOG SURVEY 2015
NOAA Fisheries Service
SURF CLAMS - Number/Tow
Total Number



NEFSC SURFCLAM AND OCEAN QUAHOG SURVEY 2015
NOAA Fisheries Service
SURF CLAMS - Number/Tow
Greater Than 5 Inches



NEFSC SURFCLAM AND OCEAN QUAHOG SURVEY 2015
NOAA Fisheries Service
QUAHOGS - Number/Tow
Total Number

