RESOURCE SURVEY REPORT
Catch Summary
NOAA Fisheries Service
Northeast Fisheries Science Center
Atlantic Surfclam - Ocean Quahog Survey
Long Island – Georges Bank
11 August – 20 August 2013

Submitted to: NOAA, NEFSC

For further information, contact Robert Johnston (508-495-2061), NOAA Fisheries Service, Northeast Fisheries Science Center, 166 Water Street, Woods Hole, MA 02543.

Date: 2013

Resource Survey Report

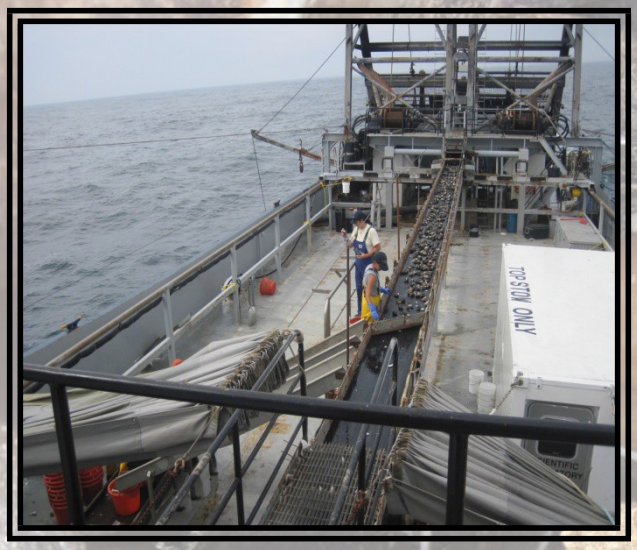
Atlantic Surfclam/Ocean Quahog

Long Island – Georges Bank

11 August - 20 August 2013

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

NOAA Fisheries Service
Northeast Fisheries Science Center
Woods Hole, MA 02543



A sizeable catch of quahogs

Scientists collecting quahogs into baskets

Close-up view of ocean quahogs (*Artica islandica)*

Sorting the catch

RESOURCE SURVEY REPORT
Catch Summary

NOAA Fisheries Service
Northeast Fisheries Science Center

Atlantic Surfclam - Ocean Quahog Survey
Long Island – Georges Bank
11 August – 20 August 2013

NOTE: Beginning in 2012, the NEFSC Atlantic surfclam, *Spisula solidissima*; and ocean quahog, *Arctica islandica* survey was moved to an industry vessel. This change required that a subset of the survey area be completed annually, with the entire survey area being accomplished every three years. This is in contrast to the traditional approach of completing the entire survey every third year. The following report describes the results from the second year in the three year cycle and covers much of the northern and eastern portion of the survey area.

The 2013 survey for Atlantic surfclam and ocean quahog was conducted in continental shelf waters from Long Island 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/esb** and choose:

- Resource Survey Reports
  - Available RSR
    - Select season and 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 and II: Good Weather, High Station Productivity, and Large Catches

The NEFSC's 2013 Clam Survey primarily focused on dredging all of our Georges Bank strata. Fortunately, the weather and seas were extremely cooperative for the entire survey, which helped us to accomplish nearly 150 stations in only two, five-day legs.

Due to us working offshore and in deep water, we mostly observed ocean quahogs in the dredges and, at several stations, came across thousands of "mahogany" clams. Of particular note are Stations 54 (55-1) and Station 94 (59-10), which were the survey's largest ocean quahog catches for this year. Station 94, however, yielded the most impressive numbers, with an expanded catch weight of 3011.72kg (6639.71lbs) and nearly 21,500 individuals in one, five-minute tow; several thousand mahogany clams were also present at this station.

Nicole Charriere
Chief Scientist
Survey Legs I and II
(508) 495- 2072
nicole.charriere@noaa.gov

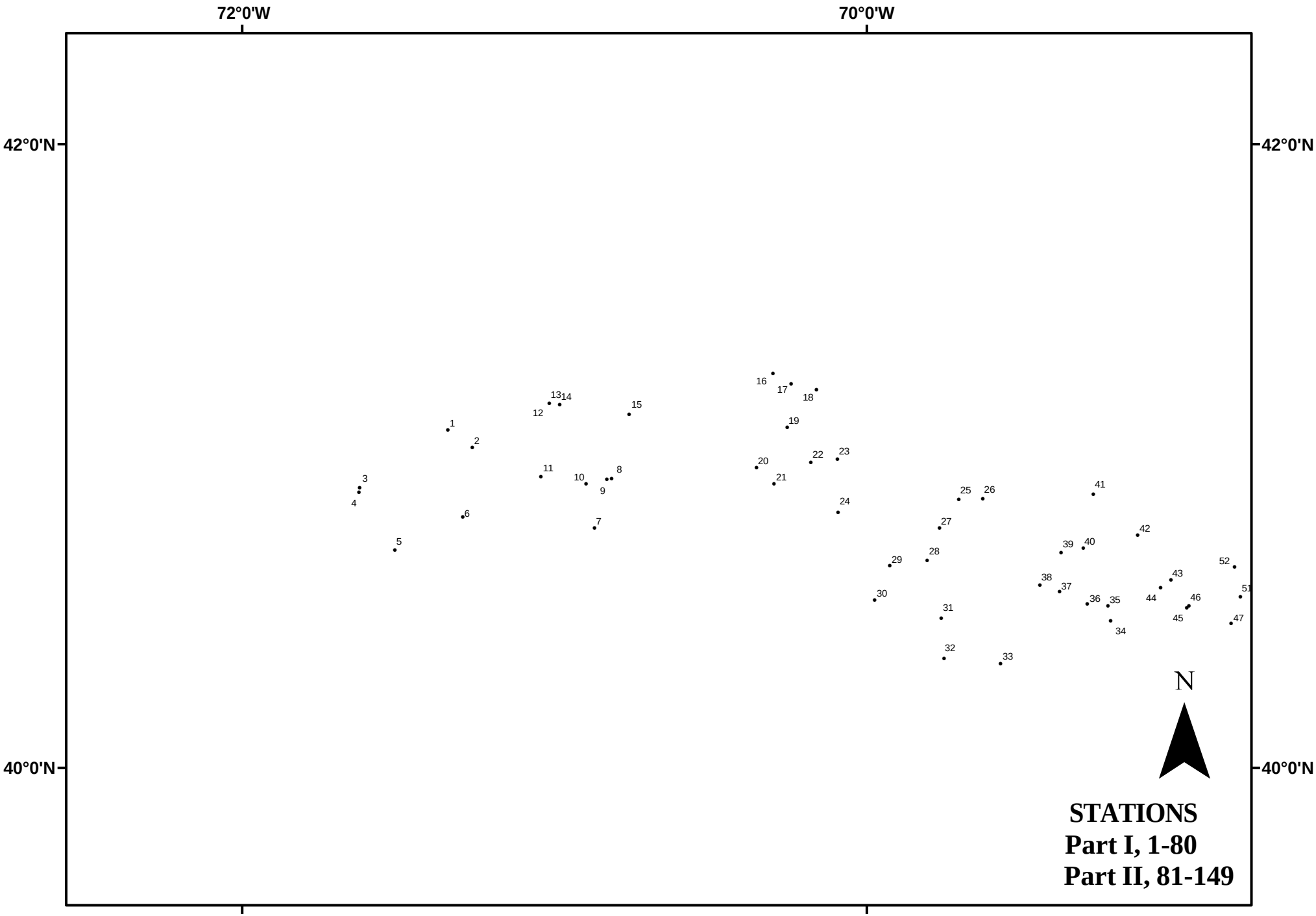


Figure 1. Dredge hauls made from F/V *E.S.S. Pursuit* during NOAA Fisheries Service, Northeast Fisheries Science Center Surfclam/Ocean Quahog survey, 11 August - 20 August 2013

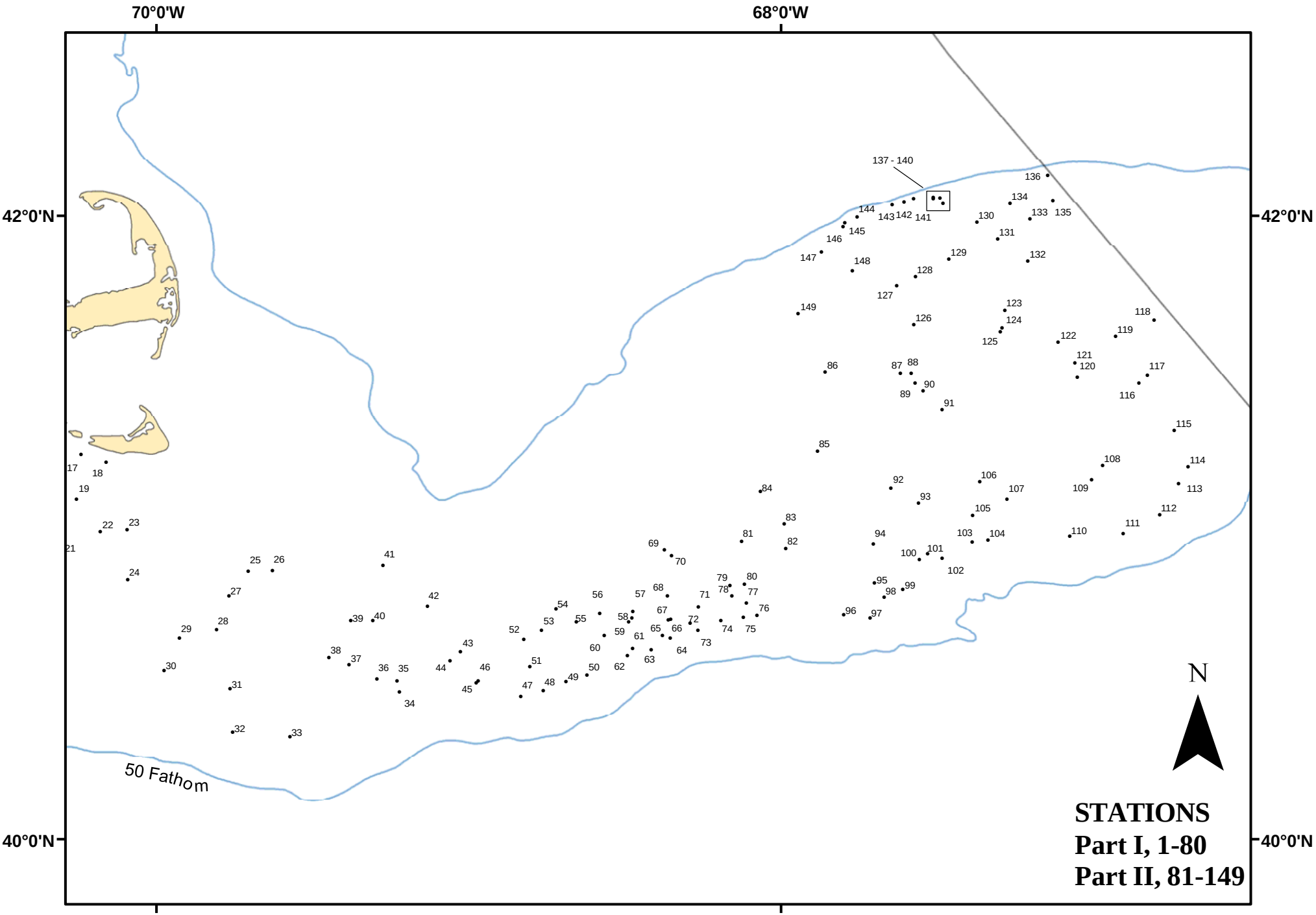


Figure 1. Dredge hauls made from F/V *E.S.S. Pursuit* during NOAA Fisheries Service, Northeast Fisheries Science Center Surfclam/Ocean Quahog survey, 11 August - 20 August 2013

2013 NOAA Fisheries Service Surf Clam -- Ocean Quahog Survey
R/V ESS PURSUIT August 11 - August 20

	Station Data							Surf Clams					Ocean Quahogs
	Survey Stratum	Station Number	Position Latitude	Position Longitude	Loran Time Delays		Heading	Depth (FM)	Catch Number	Percent of Survey Catch 0-4.74"	4.76-5.00"	5.01-5.50"	>5.50"	Catch Number
	37	0001	4104.8	7120.4	X25721.3	Y43827.0	0	21.3	0	0.0	0.0	0.0	0.0	0
	37	0012	4109.7	7101.1	X25555.9	Y43835.9	0	18.0	0	0.0	0.0	0.0	0.0	1659
*	37	0013	4109.7	7101.1	X25555.9	Y43835.9	0	18.0	0	0.0	0.0	0.0	0.0	250
	37	0014	4109.4	7059.1	X25537.5	Y43831.1	0	17.5	0	0.0	0.0	0.0	0.0	554
	38	0002	4101.4	7115.7	X25675.5	Y43796.0	0	24.6	0	0.0	0.0	0.0	0.0	1348
	38	0003	4053.8	7137.3	X25856.8	Y43767.3	0	27.9	0	0.0	0.0	0.0	0.0	4903
	38	0008	4055.6	7049.0	X25441.4	Y43721.1	0	27.3	0	0.0	0.0	0.0	0.0	1920
	38	0009	4055.4	7049.9	X25449.1	Y43720.7	0	27.3	0	0.0	0.0	0.0	0.0	714
	38	0010	4054.2	7053.9	X25483.3	Y43716.9	0	29.5	0	0.0	0.0	0.0	0.0	44
	38	0011	4055.8	7102.5	X25556.7	Y43738.6	0	26.2	0	0.0	0.0	0.0	0.0	1033
	39	0004	4053.0	7137.5	X25857.7	Y43761.5	0	29.0	0	0.0	0.0	0.0	0.0	1398
	39	0005	4041.8	7130.6	X25792.1	Y43667.1	0	35.5	0	0.0	0.0	0.0	0.0	0
	39	0006	4048.1	7117.5	X25683.3	Y43699.9	0	31.7	0	0.0	0.0	0.0	0.0	7646
	39	0007	4046.0	7052.2	X25474.5	Y43655.9	0	31.2	0	0.0	0.0	0.0	0.0	18
	41	0015	4108.1	7045.6	X25415.0	Y43804.4	0	18.6	0	0.0	0.0	0.0	0.0	1184
	41	0019	4105.3	7015.3	X25152.0	Y43748.2	0	14.8	4	25.0	0.0	0.0	75.0	1060
	41	0020	4057.6	7021.1	X25212.2	Y43703.0	0	21.9	0	0.0	0.0	0.0	0.0	171
	41	0021	4054.5	7017.8	X25195.6	Y43678.3	0	21.3	0	0.0	0.0	0.0	0.0	1368
	45	0025	4051.4	6942.3	W13963.4	Y43621.4	0	20.8	0	0.0	0.0	0.0	0.0	2
	45	0026	4051.5	6937.6	W13938.2	Y43617.6	0	19.7	0	0.0	0.0	0.0	0.0	0
	45	0027	4046.0	6946.0	W14003.2	Y43589.4	0	20.2	0	0.0	0.0	0.0	0.0	0
	45	0039	4041.2	6922.6	W13899.3	Y43537.6	0	23.5	0	0.0	0.0	0.0	0.0	6
	46	0028	4039.9	6948.4	W14038.0	Y43551.0	0	28.4	0	0.0	0.0	0.0	0.0	840
	46	0029	4038.7	6955.5	W14079.9	Y43549.2	0	28.4	0	0.0	0.0	0.0	0.0	3039
	46	0038	4035.0	6926.8	W13943.6	Y43500.7	0	27.3	0	0.0	0.0	0.0	0.0	456
	46	0040	4042.0	6918.4	W13874.9	Y43539.3	0	29.0	0	0.0	0.0	0.0	0.0	50
	46	0041	4052.5	6916.4	W13824.2	Y43604.3	0	28.4	0	0.0	0.0	0.0	0.0	0
	47	0030	4032.1	6958.4	W14118.1	Y43506.7	0	34.4	0	0.0	0.0	0.0	0.0	59
	47	0031	4028.9	6945.7	W14062.4	Y43474.8	0	38.3	0	0.0	0.0	0.0	0.0	7
	47	0033	4019.8	6934.3	W14035.0	Y43405.3	0	38.8	0	0.0	0.0	0.0	0.0	1260
	47	0035	4031.0	6913.7	W13892.1	Y43464.9	0	38.8	0	0.0	0.0	0.0	0.0	142
	47	0036	4031.4	6917.6	W13910.1	Y43470.3	0	34.4	0	0.0	0.0	0.0	0.0	604
	47	0037	4033.5	6922.9	W13929.2	Y43487.9	0	31.2	0	0.0	0.0	0.0	0.0	127
	47	0042	4044.6	6907.9	W13812.0	Y43547.2	0	36.6	1	100.0	0.0	0.0	0.0	1170
	47	0043	4036.0	6901.5	W13813.1	Y43487.9	0	34.4	0	0.0	0.0	0.0	0.0	362
	47	0044	4034.3	6903.5	W13829.3	Y43478.6	0	38.3	0	0.0	0.0	0.0	0.0	642
	47	0045	4030.7	6858.5	W13818.2	Y43452.2	0	39.9	0	0.0	0.0	0.0	0.0	1288
*	47	0046	4031.0	6858.4	W13816.6	Y43454.1	0	39.9	0	0.0	0.0	0.0	0.0	328
	48	0032	4020.7	6945.2	W14087.6	Y43418.7	0	39.9	0	0.0	0.0	0.0	0.0	1664
	48	0034	4028.2	6913.2	W13899.8	Y43446.4	0	39.9	0	0.0	0.0	0.0	0.0	664
	55	0047	4027.6	6849.9	W13788.2	Y43426.9	0	41.0	0	0.0	0.0	0.0	0.0	2232
	55	0051	4033.0	6848.2	W13759.7	Y43459.6	0	36.6	0	0.0	0.0	0.0	0.0	4762
	55	0052	4038.3	6849.3	W13744.7	Y43493.3	0	35.0	0	0.0	0.0	0.0	0.0	458
	55	0053	4039.5	6846.0	W13724.1	Y43498.3	0	34.4	1	100.0	0.0	0.0	0.0	342
	55	0054	4043.8	6843.2	W13693.7	Y43522.6	0	36.1	0	0.0	0.0	0.0	0.0	13919
	55	0055	4040.7	6839.4	W13687.8	Y43500.9	0	31.7	0	0.0	0.0	0.0	0.0	1228
	55	0060	4038.6	6833.9	W13669.9	Y43484.1	0	32.3	1	100.0	0.0	0.0	0.0	328

2013 NOAA Fisheries Service Surf Clam -- Ocean Quahog Survey
R/V ESS PURSUIT August 11 - August 20

	Station Data								Surf Clams					Ocean Quahogs
	Survey Stratum	Station Number	Position Latitude	Position Longitude	Loran Time Delays		Heading	Depth (FM)	Catch Number	Percent of Survey Catch 0-4.74"	4.76-5.00"	5.01-5.50"	>5.50"	Catch Number
	56	0048	4028.5	6845.6	W13764.2	Y43429.8	0	40.5	0	0.0	0.0	0.0	0.0	3240
	56	0049	4029.9	6841.2	W13738.0	Y43435.6	0	39.9	0	0.0	0.0	0.0	0.0	5216
	56	0050	4031.8	6837.2	W13711.9	Y43444.8	0	39.4	0	0.0	0.0	0.0	0.0	4732
	57	0058	4041.5	6828.6	W13633.5	Y43497.9	0	32.8	0	0.0	0.0	0.0	0.0	1865
*	57	0059	4040.7	6829.4	W13640.4	Y43493.7	0	33.9	1	100.0	0.0	0.0	0.0	1596
	57	0061	4037.3	6828.5	W13649.7	Y43472.5	0	37.2	0	0.0	0.0	0.0	0.0	36108
	57	0065	4038.7	6822.7	W13617.1	Y43477.0	0	39.4	0	0.0	0.0	0.0	0.0	5117
	57	0066	4042.0	6821.6	W13598.8	Y43495.9	0	33.9	0	0.0	0.0	0.0	0.0	1517
*	57	0067	4042.3	6821.3	W13596.2	Y43497.5	0	33.4	3	100.0	0.0	0.0	0.0	630
	57	0071	4044.5	6815.9	W13562.4	Y43506.7	0	33.4	0	0.0	0.0	0.0	0.0	6408
	57	0072	4040.9	6817.4	W13583.9	Y43486.5	0	37.7	0	0.0	0.0	0.0	0.0	3874
	57	0074	4042.0	6811.5	W13552.4	Y43488.9	0	40.5	0	0.0	0.0	0.0	0.0	4092
	57	0077	4045.0	6806.6	W13517.9	Y43503.1	0	37.7	0	0.0	0.0	0.0	0.0	2660
	57	0078	4045.5	6809.3	W13528.1	Y43507.9	0	35.0	0	0.0	0.0	0.0	0.0	8120
	57	0079	4048.4	6809.7	W13518.0	Y43525.2	0	31.2	0	0.0	0.0	0.0	0.0	0
	57	0080	4049.0	6806.9	W13502.8	Y43526.6	0	32.8	5	60.0	40.0	0.0	0.0	610
	58	0062	4035.3	6829.4	W13661.7	Y43461.0	0	39.4	0	0.0	0.0	0.0	0.0	17797
	58	0063	4036.8	6824.9	W13634.8	Y43467.0	0	41.0	0	0.0	0.0	0.0	0.0	6251
	58	0064	4038.1	6821.2	W13612.6	Y43472.4	0	41.0	0	0.0	0.0	0.0	0.0	4214
	58	0073	4039.8	6815.9	W13581.4	Y43478.9	0	41.0	0	0.0	0.0	0.0	0.0	5236
	58	0075	4042.6	6807.2	W13530.5	Y43489.5	0	41.0	0	0.0	0.0	0.0	0.0	6256
	58	0076	4043.0	6804.6	W13517.1	Y43490.1	0	41.6	0	0.0	0.0	0.0	0.0	8760
	59	0093	4104.3	6733.5	W13289.7	Y43588.1	0	32.3	0	0.0	0.0	0.0	0.0	6024
	59	0094	4056.8	6742.2	W13360.0	Y43553.1	0	33.4	614	5.2	15.3	63.5	16.0	21497
	59	0095	4049.1	6742.0	W13392.0	Y43509.7	0	37.7	5	0.0	100.0	0.0	0.0	1143
	59	0096	4043.1	6747.9	W13442.6	Y43479.6	0	39.4	0	0.0	0.0	0.0	0.0	1204
	59	0098	4046.3	6740.2	W13395.9	Y43492.8	0	38.3	0	0.0	0.0	0.0	0.0	700
	59	0100	4053.6	6733.4	W13335.9	Y43529.0	0	39.4	0	0.0	0.0	0.0	0.0	3269
	59	0101	4054.6	6731.8	W13324.8	Y43533.5	0	39.4	0	0.0	0.0	0.0	0.0	4910
	59	0105	4102.2	6723.1	W13254.9	Y43569.0	0	35.5	372	7.5	31.2	58.1	3.2	5934
	59	0106	4108.7	6721.8	W13220.6	Y43603.1	0	31.2	657	0.0	9.6	35.6	54.8	2457
	59	0107	4105.2	6716.5	W13214.2	Y43580.4	0	33.9	4	0.0	0.0	50.0	50.0	3822
	60	0097	4042.4	6742.9	W13423.8	Y43472.4	0	38.8	0	0.0	0.0	0.0	0.0	250
	60	0099	4047.9	6736.6	W13373.8	Y43499.4	0	40.5	0	0.0	0.0	0.0	0.0	5640
	60	0102	4053.9	6729.0	W13315.9	Y43527.7	0	40.5	0	0.0	0.0	0.0	0.0	437
	60	0103	4056.6	6723.3	W13280.3	Y43538.6	0	41.0	0	0.0	0.0	0.0	0.0	6525
	60	0104	4056.9	6720.2	W13266.1	Y43538.1	0	41.6	0	0.0	0.0	0.0	0.0	196
	60	0110	4057.7	6704.5	W13198.4	Y43531.9	0	42.1	0	0.0	0.0	0.0	0.0	4313
	61	0108	4111.7	6658.2	W13110.9	Y43601.4	0	36.6	0	0.0	0.0	0.0	0.0	2412
	61	0109	4109.1	6700.3	W13131.0	Y43589.3	0	36.6	0	0.0	0.0	0.0	0.0	2302
	61	0116	4127.5	6651.2	W13010.0	Y43677.3	0	37.7	0	0.0	0.0	0.0	0.0	2142
	61	0117	4129.2	6649.5	W12995.3	Y43684.5	0	38.3	0	0.0	0.0	0.0	0.0	4030
	61	0120	4128.7	6703.0	W13050.9	Y43693.0	0	34.4	0	0.0	0.0	0.0	0.0	1893
	62	0111	4058.6	6654.3	W13153.9	Y43530.0	0	39.9	0	0.0	0.0	0.0	0.0	1149
	62	0112	4102.2	6647.2	W13110.4	Y43544.3	0	39.9	0	0.0	0.0	0.0	0.0	594
	62	0113	4108.1	6643.6	W13070.2	Y43572.5	0	40.5	0	0.0	0.0	0.0	0.0	953
	62	0114	4111.5	6641.8	W13047.9	Y43588.7	0	40.5	0	0.0	0.0	0.0	0.0	196

2013 NOAA Fisheries Service Surf Clam -- Ocean Quahog Survey
R/V ESS PURSUIT August 11 - August 20

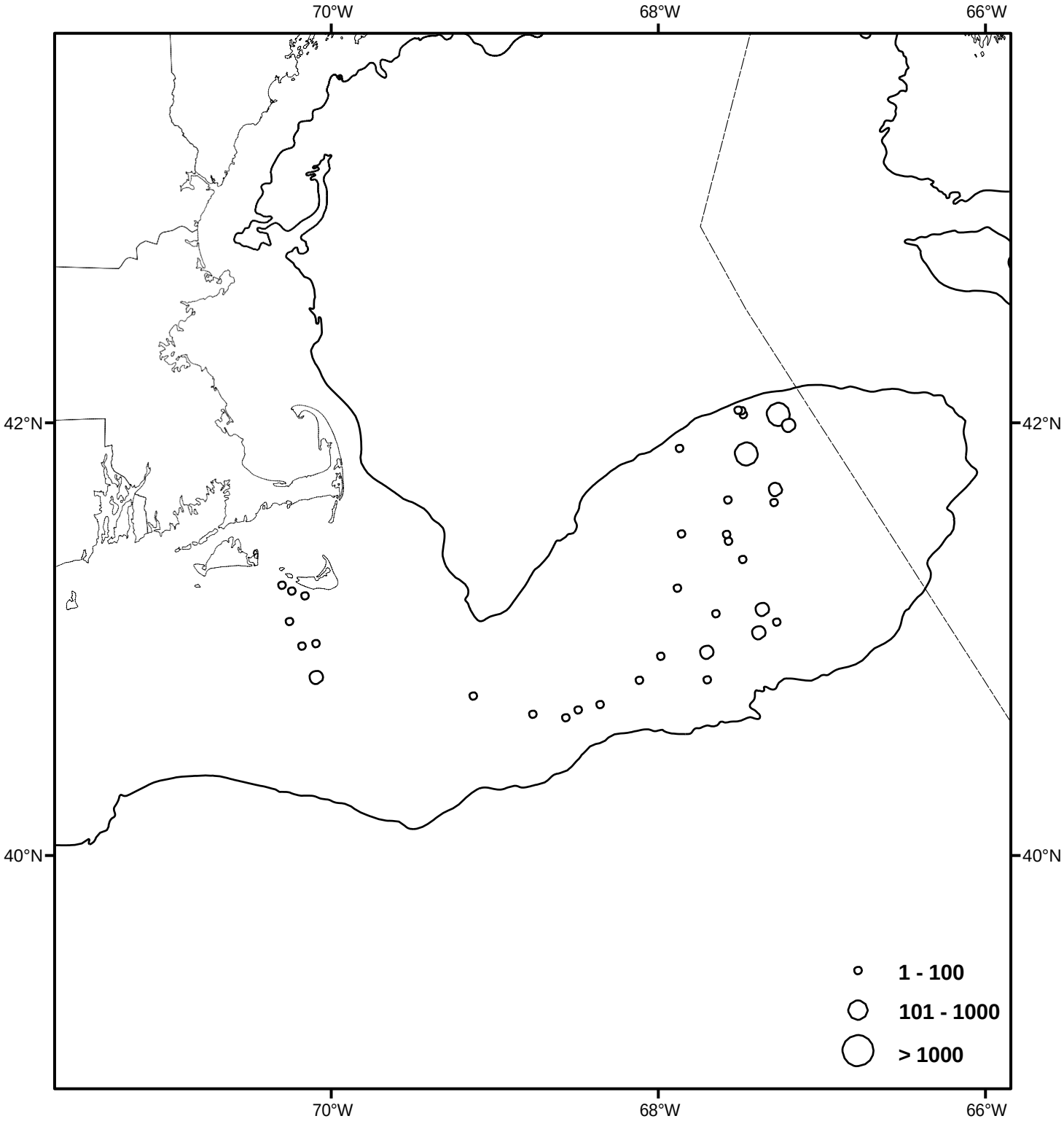
Station Data								Surf Clams					Ocean Quahogs
Survey Stratum	Station Number	Position Latitude	Position Longitude	Loran Time Delays		Heading	Depth (FM)	Catch Number	Percent of Survey Catch 0-4.74"	4.76-5.00"	5.01-5.50"	>5.50"	Catch Number
62	0115	4118.5	6644.4	W13025.8	Y43626.4	0	40.5	0	0.0	0.0	0.0	0.0	222
63	0118	4139.8	6648.3	W12939.5	Y43736.6	0	37.2	0	0.0	0.0	0.0	0.0	0
63	0119	4136.6	6655.7	W12983.9	Y43726.9	0	33.9	0	0.0	0.0	0.0	0.0	452
63	0121	4131.5	6703.5	W13039.5	Y43707.8	0	32.3	0	0.0	0.0	0.0	0.0	54
65	0137	4203.3	6729.4	W12987.0	Y43892.7	0	32.3	29	75.9	17.2	6.9	0.0	0
65	0139	4203.0	6730.7	W12994.1	Y43892.6	0	29.0	0	0.0	0.0	0.0	0.0	0
65	0140	4203.4	6730.7	W12992.1	Y43894.6	0	33.4	6	100.0	0.0	0.0	0.0	0
65	0146	4157.7	6748.0	W13097.4	Y43884.6	0	35.5	0	0.0	0.0	0.0	0.0	1226
66	0136	4207.8	6708.7	W12877.4	Y43893.0	0	35.0	0	0.0	0.0	0.0	0.0	0
66	0141	4202.9	6734.5	W13011.0	Y43896.2	0	41.0	0	0.0	0.0	0.0	0.0	79
66	0142	4202.4	6736.3	W13021.4	Y43895.7	0	40.5	0	0.0	0.0	0.0	0.0	28
66	0143	4201.7	6738.5	W13034.7	Y43894.5	0	39.4	0	0.0	0.0	0.0	0.0	352
66	0144	4159.7	6745.3	W13075.0	Y43891.9	0	42.1	0	0.0	0.0	0.0	0.0	424
66	0145	4158.5	6747.7	W13091.9	Y43888.4	0	40.5	0	0.0	0.0	0.0	0.0	813
69	0084	4106.2	6803.9	W13415.6	Y43622.8	0	23.5	0	0.0	0.0	0.0	0.0	0
69	0085	4114.6	6752.9	W13328.4	Y43660.4	0	18.6	9	66.7	11.1	11.1	11.1	0
69	0086	4129.5	6751.5	W13252.9	Y43740.3	0	16.4	27	55.6	3.7	14.8	25.9	0
70	0056	4043.3	6834.8	W13655.6	Y43513.3	0	31.2	0	0.0	0.0	0.0	0.0	299
70	0057	4043.8	6828.4	W13623.3	Y43511.6	0	30.6	0	0.0	0.0	0.0	0.0	172
70	0068	4045.4	6821.7	W13585.6	Y43516.2	0	29.0	0	0.0	0.0	0.0	0.0	154
70	0069	4055.4	6822.3	W13547.0	Y43575.7	0	29.5	0	0.0	0.0	0.0	0.0	11
70	0070	4054.4	6821.0	W13545.2	Y43568.8	0	27.3	0	0.0	0.0	0.0	0.0	61
70	0081	4056.8	6807.6	W13473.1	Y43572.2	0	21.3	0	0.0	0.0	0.0	0.0	0
70	0082	4055.7	6759.1	W13439.4	Y43559.4	0	27.9	6	66.7	0.0	16.7	16.7	294
70	0083	4100.5	6759.3	W13419.6	Y43586.8	0	26.2	0	0.0	0.0	0.0	0.0	218
70	0092	4107.5	6738.8	W13298.3	Y43609.7	0	27.3	12	75.0	8.3	0.0	16.7	1316
71	0130	4158.6	6722.3	W12981.5	Y43862.0	0	27.9	0	0.0	0.0	0.0	0.0	0
71	0131	4155.3	6718.3	W12981.8	Y43841.5	0	26.2	0	0.0	0.0	0.0	0.0	0
71	0133	4159.2	6712.2	W12936.6	Y43854.7	0	27.9	239	19.7	31.4	43.1	5.9	0
71	0134	4202.3	6716.0	W12936.1	Y43873.8	0	24.1	1225	60.0	26.5	13.5	0.0	0
71	0135	4202.8	6707.7	W12899.7	Y43867.8	0	22.4	0	0.0	0.0	0.0	0.0	0
71	0138	4202.2	6728.8	W12990.2	Y43886.6	0	23.0	42	47.6	33.3	19.0	0.0	0
71	0147	4153.0	6752.2	W13140.4	Y43865.1	0	26.8	5	100.0	0.0	0.0	0.0	104
72	0127	4146.4	6737.7	W13109.4	Y43815.9	0	21.3	0	0.0	0.0	0.0	0.0	0
72	0128	4148.1	6734.1	W13085.3	Y43821.0	0	29.5	0	0.0	0.0	0.0	0.0	0
72	0129	4151.4	6727.7	W13041.2	Y43831.3	0	26.2	1716	17.9	23.1	50.6	8.3	2
72	0148	4149.3	6746.2	W13132.3	Y43839.6	0	18.0	0	0.0	0.0	0.0	0.0	0
72	0149	4140.9	6756.7	W13221.3	Y43806.4	0	18.0	0	0.0	0.0	0.0	0.0	0
73	0087	4129.5	6737.0	W13189.0	Y43726.8	0	22.4	0	0.0	0.0	0.0	0.0	0
73	0088	4129.4	6734.9	W13180.3	Y43724.4	0	21.3	2	50.0	0.0	50.0	0.0	0
73	0089	4127.5	6734.2	W13186.4	Y43713.7	0	21.3	3	66.7	0.0	33.3	0.0	0
73	0090	4125.9	6732.7	W13187.5	Y43703.9	0	19.7	0	0.0	0.0	0.0	0.0	0
73	0091	4122.5	6729.0	W13187.6	Y43682.6	0	21.9	4	75.0	0.0	25.0	0.0	0
73	0124	4138.1	6717.5	W13064.7	Y43753.8	0	26.8	4	75.0	25.0	0.0	0.0	0
73	0126	4138.8	6734.4	W13132.8	Y43773.3	0	23.5	10	20.0	10.0	0.0	70.0	0
74	0122	4135.5	6706.8	W13033.5	Y43731.0	0	29.5	0	0.0	0.0	0.0	0.0	0
74	0123	4141.7	6717.0	W13044.9	Y43771.7	0	26.8	121	1.7	2.5	9.1	86.8	0

2013 NOAA Fisheries Service Surf Clam -- Ocean Quahog Survey
R/V ESS PURSUIT August 11 - August 20

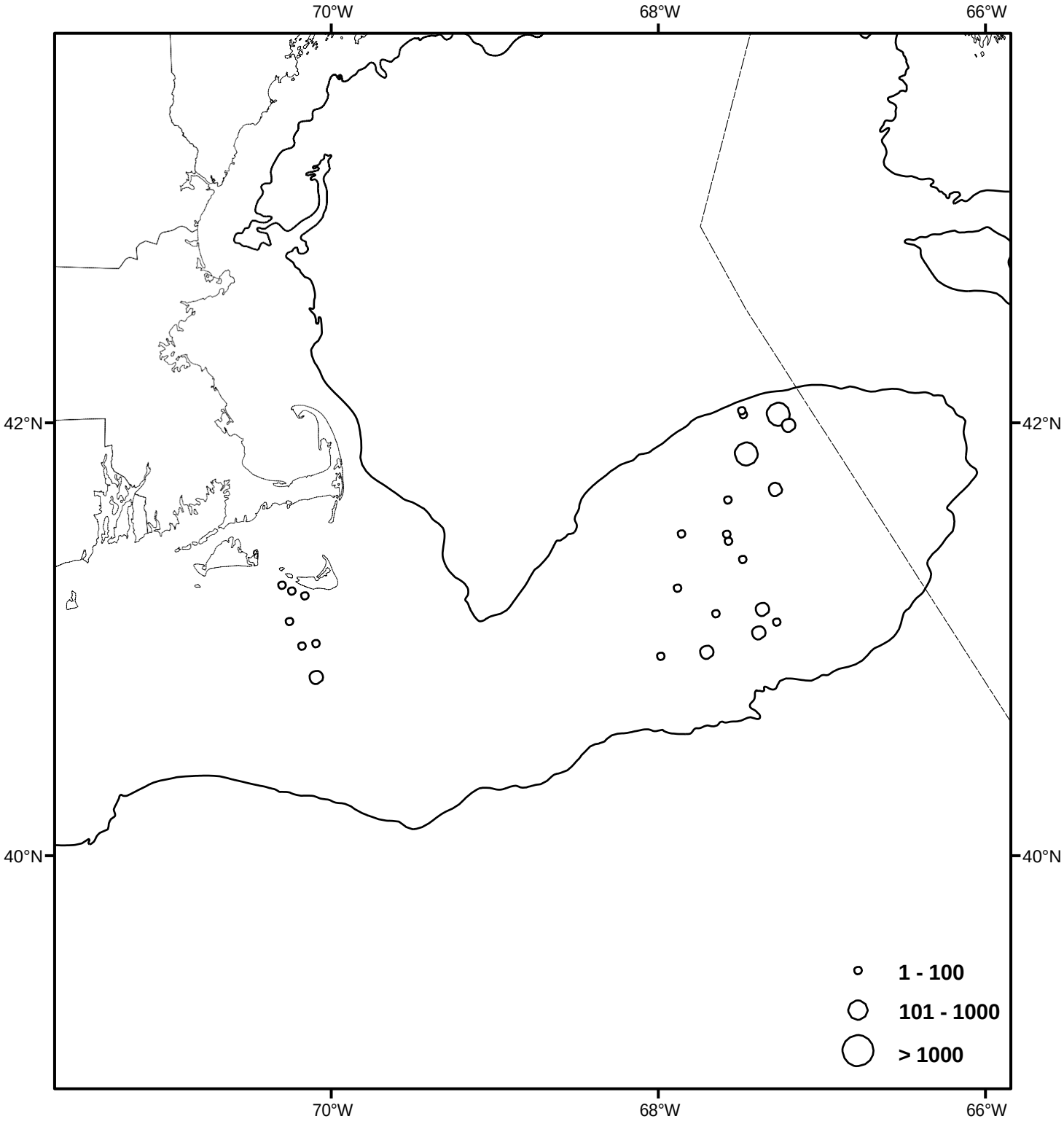
Station Data								Surf Clams					Ocean Quahogs
Survey Stratum	Station Number	Position Latitude	Position Longitude	Loran Time Delays		Heading	Depth (FM)	Catch Number	Percent of Survey Catch 0-4.74"	Percent of Survey Catch 4.76-5.00"	Percent of Survey Catch 5.01-5.50"	Percent of Survey Catch >5.50"	Catch Number
74	0125	4137.4	6717.8	W13069.3	Y43750.5	0	30.6	0	0.0	0.0	0.0	0.0	0
74	0132	4151.1	6712.6	W12979.7	Y43814.9	0	28.4	0	0.0	0.0	0.0	0.0	0
95	0016	4115.4	7018.0	X25176.2	Y43818.2	0	8.7	21	4.8	0.0	0.0	95.2	44
95	0017	4113.8	7014.4	X25140.8	Y43803.2	0	9.8	20	0.0	0.0	0.0	100.0	16
95	0018	4112.4	7009.6	X25096.8	Y43788.2	0	11.5	61	1.6	0.0	0.0	98.4	9
95	0022	4058.5	7010.7	X25135.5	Y43697.6	0	13.1	18	0.0	0.0	0.0	100.0	181
95	0023	4059.2	7005.6	X25101.3	Y43696.7	0	13.1	71	14.1	4.2	4.2	77.5	6
95	0024	4049.8	7005.4	X25134.7	Y43633.5	0	13.1	114	0.9	0.9	0.9	97.4	206

* non-random station

NEFSC SURFCLAM AND OCEAN QUAHOG SURVEY 2013
NOAA Fisheries Service
SURF CLAMS - Number/Tow
Total Number



NEFSC SURFCLAM AND OCEAN QUAHOG SURVEY 2013
NOAA Fisheries Service
SURF CLAMS - Number/Tow
Greater Than 5 Inches



NEFSC SURFCLAM AND OCEAN QUAHOG SURVEY 2013
NOAA Fisheries Service
QUAHOGS - Number/Tow
Total Number