

# Resource Survey Report

## Atlantic Surfclam / Ocean Quahog

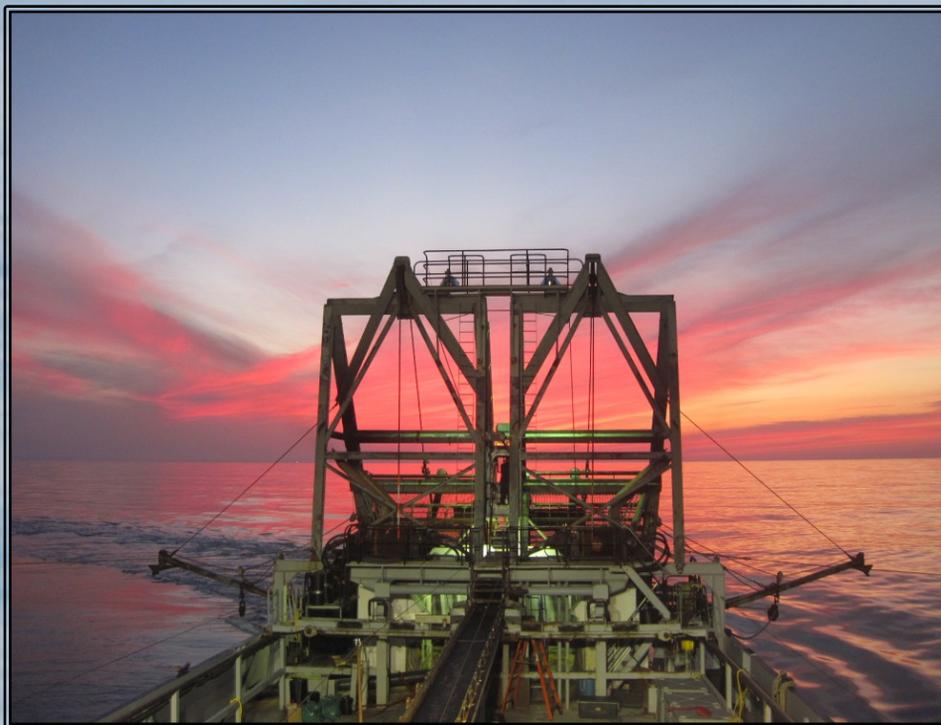


Long Island – Georges Bank

6 August – 15 August 2014

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

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



The back deck of the F/V *E.S.S. Pursuit*



Scientists help sort a mixed catch of both ocean quahogs (*Arctica islandica*) and Atlantic surf clams (*Spisula solidissima*)



Baskets of ocean quahogs (*Arctica islandica*) ready to be weighed and measured

# RESOURCE SURVEY REPORT

## Catch Summary

NOAA Fisheries Service  
Northeast Fisheries Science Center

### **Atlantic Surfclam - Ocean Quahog Survey**

Long Island – Georges Bank  
6 August – 15 August 2014

The 2014 region-wide survey for Atlantic surfclam, *Spisula solidissima*; and ocean quahog, *Arctica islandica*, 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/femad/ecosurvey/mainpage/>

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- 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 and II: Survey Completion and a New Selectivity Dredge**

Leg I of the 2014 Clam Survey successfully completed the remaining dredge stations on Georges Bank to finish up the three-year survey cycle, which also included the Mid-Atlantic Bight (2012) and Southern New England (2012/2013) areas. Catch weights at random, standard stations were very low, for the most part; the exception was Station 15, which yielded almost 403 kg of Atlantic surf clams – the highest of the trip.

The true highlight of this year, though, was the availability of a new selectivity dredge that was expertly designed and built by members of the clam industry for NEFSC's use on this survey. Since 2012, NEFSC has utilized two dredges on the F/V *E.S.S. Pursuit*: 1) a standard industry dredge for use on our random stations and 2) a standard industry dredge lined with chicken wire for use on selectivity tows. The purpose of selectivity tows is to capture small clams, which are one of the important indicators of recruitment, stock health, and productivity. However, due to the wide bar spacing, small clams often do not appear in the standard dredge catches, and so a chicken-wire liner was installed in another standard dredge to retain those organisms.

Though the lined dredge was somewhat satisfactory for executing selectivity tows, the high volumes of retained substrate – as well as the cumbersome installation process – were motivating factors to modify a standard dredge's bar spacing in order to help streamline the selectivity experiments. The purpose of Leg II, therefore, was to test the performance of this newly modified dredge against that of the lined dredge.

After several experimental tows, all on board the vessel were very pleased with the catch results, as the modified selectivity dredge appeared to have similar size frequency distributions in comparison to the lined dredge; less substrate was observed in the new dredge, as well, which allowed for the science party to efficiently sort all tows. Much to our excitement, future implementation of the new selectivity dredge is expected to occur in time for the 2015 Clam Survey.

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Survey Legs I and II  
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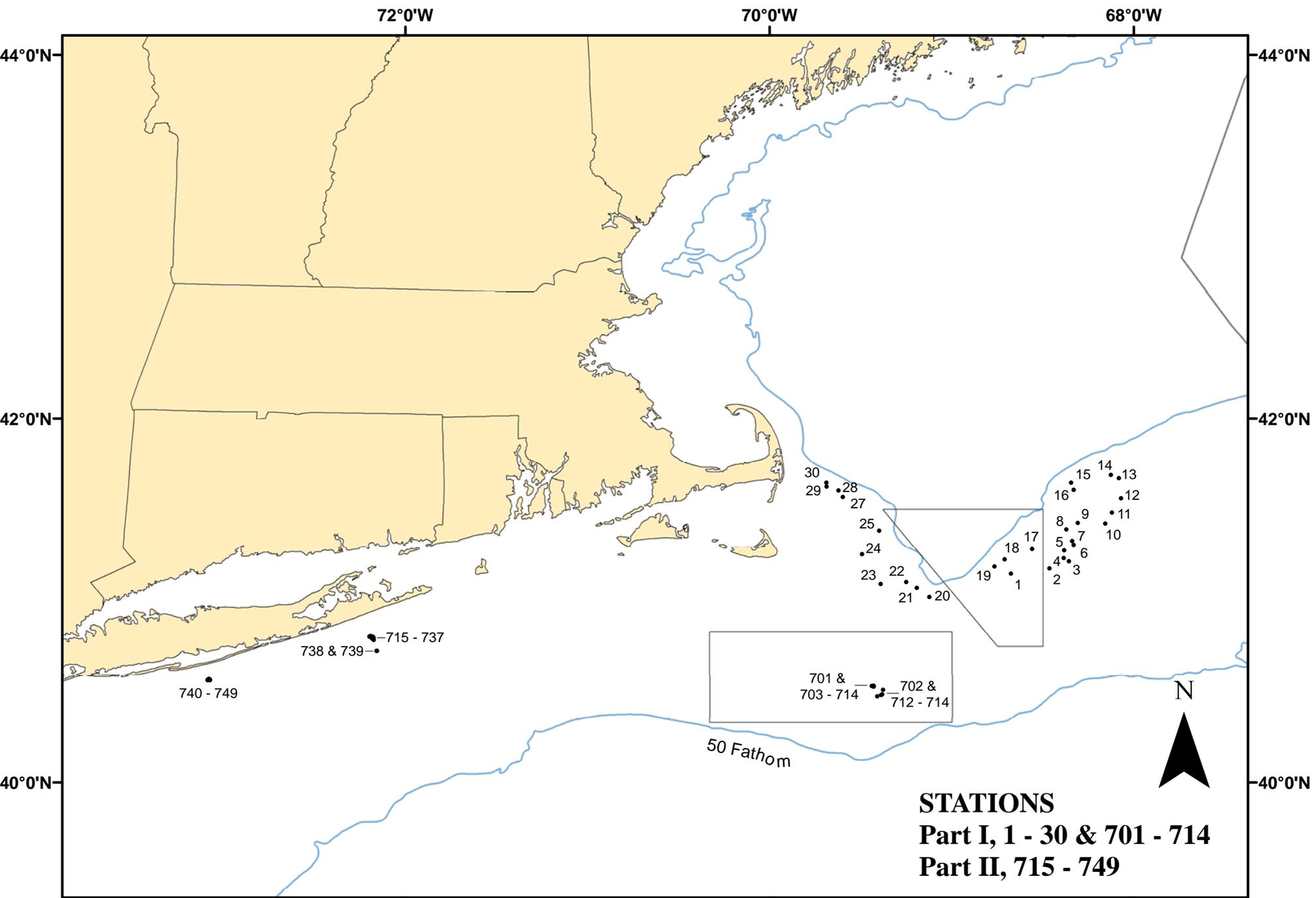


Figure 1. Dredge hauls made from F/V *E.S.S. Pursuit* during NOAA Fisheries Service, Northeast Fisheries Science Center's Surfclam / Ocean Quahog Survey, 6 August - 15 August 2014

2014 NOAA Fisheries Service Surf Clam -- Ocean Quahog Survey  
R/V ESS PURSUIT August 06 - August 15

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"
* 29	0740	4033.9	7305.0	X26569.2	Y43711.1	0	14.2	257	29.2	7.4	13.2	50.2	18
* 29	0741	4033.8	7305.1	X26569.8	Y43710.3	0	12.6	148	29.7	9.5	13.5	47.3	10
* 29	0742	4033.8	7304.4	X26564.0	Y43709.5	0	13.7	334	22.8	6.6	18.0	52.7	6
* 29	0743	4033.9	7304.5	X26565.1	Y43710.5	0	13.7	322	30.4	5.0	16.1	48.4	3
* 29	0744	4033.7	7304.6	X26565.5	Y43708.8	0	13.1	231	28.1	8.2	18.2	45.5	3
* 29	0745	4034.2	7304.7	X26567.3	Y43713.5	0	13.7	255	27.8	5.1	15.3	51.8	0
* 29	0746	4033.8	7304.3	X26563.2	Y43709.4	0	13.7	357	36.4	7.3	12.6	43.7	0
* 29	0747	4033.8	7304.5	X26564.9	Y43709.6	0	14.2	471	21.7	10.0	20.6	47.8	0
* 29	0748	4033.7	7304.7	X26566.3	Y43708.9	0	13.1	220	24.1	7.3	19.5	49.1	1
* 29	0749	4033.7	7304.7	X26566.3	Y43708.9	0	13.7	229	26.6	10.0	21.4	41.9	1
* 29	0750	4034.0	7304.9	X26568.5	Y43711.9	0	14.8	110	36.4	5.5	11.8	46.4	0
* 29	0751	4033.9	7305.2	X26570.8	Y43711.3	0	14.2	152	15.8	7.2	24.3	52.6	0
* 29	0752	4033.7	7305.5	X26572.8	Y43709.9	0	12.6	77	27.3	7.8	16.9	48.1	0
* 29	0753	4034.0	7304.9	X26568.5	Y43711.9	0	14.2	99	44.4	4.0	10.1	41.4	10
* 29	0754	4034.0	7304.0	X26561.2	Y43710.8	0	13.1	49	12.2	0.0	22.4	65.3	2
* 29	0755	4034.0	7305.4	X26572.6	Y43712.5	0	13.1	205	12.2	11.2	15.1	61.5	5
* 29	0756	4033.9	7305.4	X26572.4	Y43711.6	0	13.1	215	32.1	4.2	11.2	52.6	4
* 29	0757	4034.0	7305.5	X26573.4	Y43712.6	0	13.7	176	15.3	13.1	12.5	59.1	14
* 29	0758	4033.8	7305.9	X26576.3	Y43711.2	0	12.6	136	21.3	5.9	13.2	59.6	0
* 29	0759	4034.4	7305.4	X26573.4	Y43716.1	0	13.7	176	29.0	8.0	18.2	44.9	77
* 33	0715	4048.1	7211.8	X26147.4	Y43767.0	0	21.3	1	100.0	0.0	0.0	0.0	1203
* 33	0716	4048.2	7211.5	X26145.0	Y43767.5	0	21.3	1	100.0	0.0	0.0	0.0	2042
* 33	0717	4048.1	7211.4	X26144.0	Y43766.5	0	20.8	1	100.0	0.0	0.0	0.0	1999
* 33	0718	4048.1	7211.4	X26144.0	Y43766.5	0	20.8	0	0.0	0.0	0.0	0.0	1881
* 33	0719	4048.0	7211.1	X26141.3	Y43765.3	0	21.9	1	100.0	0.0	0.0	0.0	1641
* 33	0720	4047.7	7210.7	X26137.5	Y43762.4	0	21.9	0	0.0	0.0	0.0	0.0	3341
* 33	0721	4047.7	7210.7	X26137.5	Y43762.4	0	21.9	0	0.0	0.0	0.0	0.0	0
* 33	0722	4047.7	7210.6	X26136.6	Y43762.2	0	21.9	0	0.0	0.0	0.0	0.0	0
* 33	0723	4047.7	7210.5	X26135.7	Y43762.1	0	21.9	0	0.0	0.0	0.0	0.0	0
* 33	0724	4047.7	7210.8	X26138.3	Y43762.5	0	21.9	1	100.0	0.0	0.0	0.0	2264
* 33	0725	4047.7	7210.8	X26138.3	Y43762.5	0	21.3	0	0.0	0.0	0.0	0.0	2238
* 33	0726	4047.8	7210.6	X26136.7	Y43763.1	0	21.3	1	0.0	0.0	0.0	100.0	1152
* 33	0727	4047.9	7211.0	X26140.3	Y43764.4	0	21.3	0	0.0	0.0	0.0	0.0	1162
* 33	0728	4048.0	7210.8	X26138.7	Y43764.9	0	21.3	0	0.0	0.0	0.0	0.0	1193
* 33	0729	4047.8	7210.8	X26138.5	Y43763.3	0	21.9	0	0.0	0.0	0.0	0.0	1833
* 33	0730	4047.8	7210.8	X26138.5	Y43763.3	0	21.9	1	100.0	0.0	0.0	0.0	2020
* 33	0731	4047.9	7211.2	X26142.0	Y43764.6	0	21.3	0	0.0	0.0	0.0	0.0	1384
* 33	0732	4046.9	7210.3	X26132.9	Y43755.4	0	21.9	0	0.0	0.0	0.0	0.0	1576
* 33	0733	4047.2	7210.6	X26135.9	Y43758.2	0	21.9	1	100.0	0.0	0.0	0.0	1613
* 33	0734	4047.6	7211.0	X26139.9	Y43761.9	0	20.8	0	0.0	0.0	0.0	0.0	1498
* 33	0735	4047.7	7211.1	X26140.9	Y43762.9	0	21.3	0	0.0	0.0	0.0	0.0	1698
* 33	0736	4047.8	7210.8	X26138.5	Y43763.3	0	21.9	1	100.0	0.0	0.0	0.0	1974
* 33	0737	4048.1	7211.1	X26141.5	Y43766.1	0	21.3	0	0.0	0.0	0.0	0.0	1334
* 33	0738	4043.3	7209.4	X26120.5	Y43724.9	0	25.2	0	0.0	0.0	0.0	0.0	0

2014 NOAA Fisheries Service Surf Clam -- Ocean Quahog Survey  
R/V ESS PURSUIT August 06 - August 15

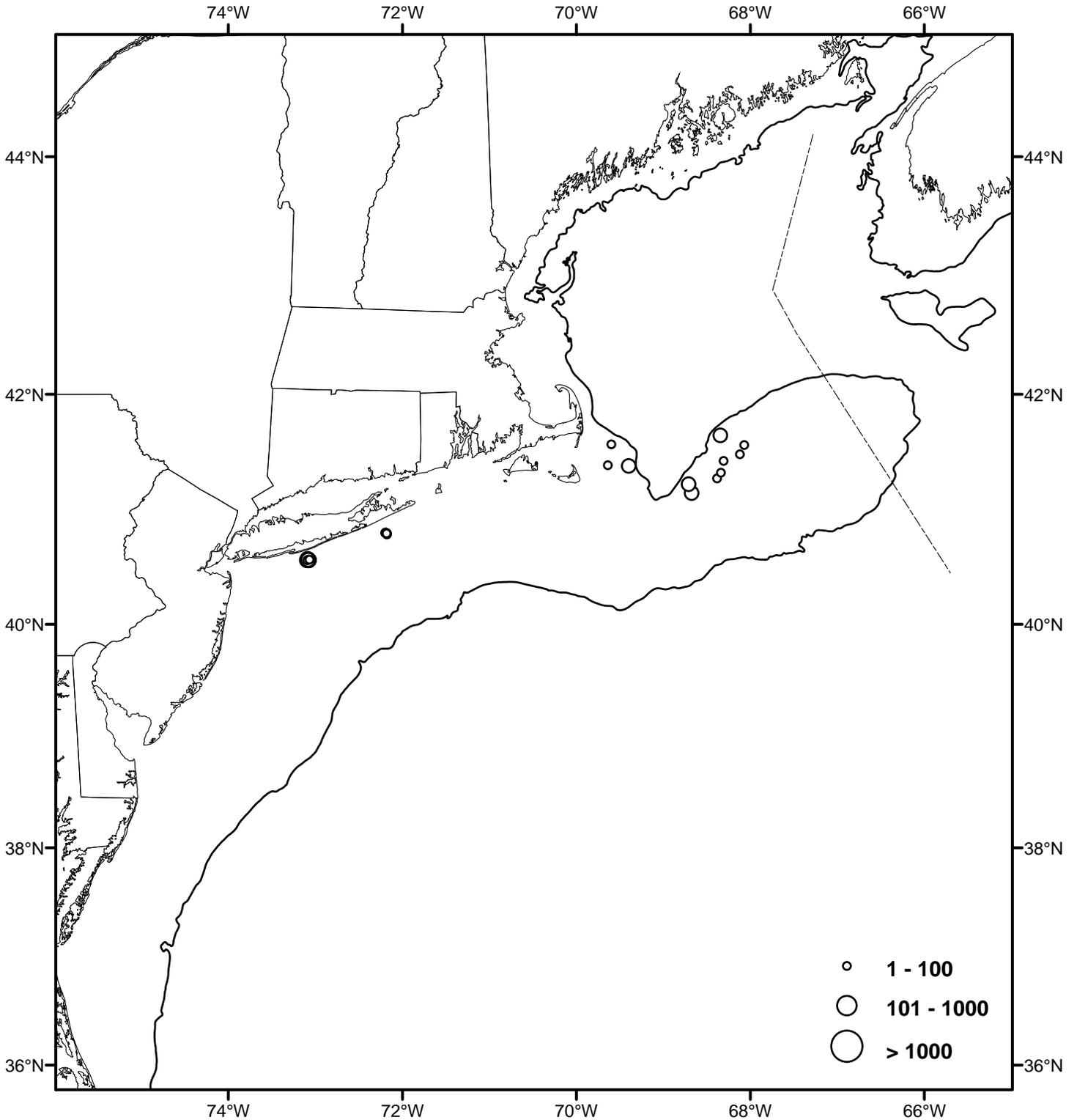
Station Data							Surf Clams				Ocean Quahogs			
Survey Stratum	Station Number	Position		Loran		Depth (FM)	Catch Number	Percent of Survey Catch				Catch Number		
		Latitude	Longitude	Time	Delays			Heading	0-4.74"	4.76-5.00"	5.01-5.50"		>5.50"	
*	33	0739	4043.3	7209.3	X26119.7	Y43724.7	0	25.2	0	0.0	0.0	0.0	0.0	0
*	47	0701	4031.8	6925.7	W13949.6	Y43478.9	0	31.2	0	0.0	0.0	0.0	0.0	2574
*	47	0702	4028.4	6924.5	W13955.6	Y43455.7	0	35.0	0	0.0	0.0	0.0	0.0	44160
*	47	0703	4031.8	6925.8	W13950.1	Y43479.0	0	30.6	0	0.0	0.0	0.0	0.0	2904
*	47	0704	4031.9	6925.8	W13949.7	Y43479.6	0	30.6	0	0.0	0.0	0.0	0.0	0
*	47	0705	4031.7	6925.7	W13949.9	Y43478.3	0	0.0	0	0.0	0.0	0.0	0.0	387
*	47	0706	4031.6	6925.7	W13950.3	Y43477.6	0	30.6	0	0.0	0.0	0.0	0.0	815
*	47	0707	4031.7	6925.9	W13950.9	Y43478.4	0	30.6	0	0.0	0.0	0.0	0.0	1790
*	47	0708	4031.8	6925.8	W13950.1	Y43479.0	0	30.6	0	0.0	0.0	0.0	0.0	1776
*	47	0710	4031.7	6925.7	W13949.9	Y43478.3	0	31.2	0	0.0	0.0	0.0	0.0	973
*	47	0711	4031.9	6926.3	W13952.2	Y43480.0	0	31.2	0	0.0	0.0	0.0	0.0	498
*	47	0712	4030.5	6922.6	W13938.5	Y43468.1	0	31.7	0	0.0	0.0	0.0	0.0	0
*	47	0713	4028.8	6923.2	W13947.6	Y43457.4	0	35.0	0	0.0	0.0	0.0	0.0	39330
*	47	0714	4029.0	6922.9	W13945.4	Y43458.5	0	34.4	0	0.0	0.0	0.0	0.0	24900
	49	0023	4105.5	6923.4	W13808.2	Y43692.5	0	21.3	0	0.0	0.0	0.0	0.0	0
	49	0025	4122.9	6923.9	W13737.1	Y43799.8	0	20.2	133	100.0	0.0	0.0	0.0	5
	49	0029	4137.5	6941.1	W13765.7	Y43908.9	0	28.4	0	0.0	0.0	0.0	0.0	0
	50	0021	4104.1	6911.4	W13751.7	Y43671.8	0	30.1	0	0.0	0.0	0.0	0.0	0
	50	0022	4106.1	6914.9	W13761.5	Y43687.6	0	30.6	0	0.0	0.0	0.0	0.0	0
	50	0027	4134.1	6935.8	W13751.8	Y43881.7	0	26.8	2	100.0	0.0	0.0	0.0	0
*	50	0709	4031.8	6925.9	W13950.6	Y43479.1	0	30.6	0	0.0	0.0	0.0	0.0	1670
	51	0020	4101.1	6907.3	W13743.2	Y43649.4	0	38.3	0	0.0	0.0	0.0	0.0	0
	51	0028	4136.3	6937.3	W13750.1	Y43896.8	0	32.3	0	0.0	0.0	0.0	0.0	0
	51	0030	4138.8	6941.2	W13760.4	Y43916.8	0	33.4	0	0.0	0.0	0.0	0.0	0
	54	0001	4108.8	6840.4	W13576.5	Y43670.2	0	35.0	612	4.9	3.4	21.1	70.6	3
	54	0008	4123.3	6822.2	W13423.8	Y43736.0	0	32.8	0	0.0	0.0	0.0	0.0	108
	54	0017	4117.0	6833.4	W13506.3	Y43711.2	0	32.3	0	0.0	0.0	0.0	0.0	19
	54	0018	4113.5	6842.5	W13566.3	Y43699.8	0	33.4	154	31.8	13.0	32.5	22.7	84
	54	0019	4111.1	6845.9	W13593.5	Y43689.0	0	34.4	0	0.0	0.0	0.0	0.0	41
	67	0002	4110.5	6827.8	W13508.2	Y43668.4	0	30.1	0	0.0	0.0	0.0	0.0	0
	67	0003	4112.9	6821.4	W13467.1	Y43676.3	0	26.2	0	0.0	0.0	0.0	0.0	0
	67	0004	4114.0	6823.1	W13470.3	Y43684.1	0	30.1	0	0.0	0.0	0.0	0.0	0
	67	0005	4116.5	6822.9	W13458.1	Y43698.2	0	31.2	1	100.0	0.0	0.0	0.0	21
	67	0006	4118.2	6819.8	W13435.7	Y43704.9	0	27.9	0	0.0	0.0	0.0	0.0	0
	67	0007	4119.5	6820.3	W13432.2	Y43712.7	0	30.6	1	100.0	0.0	0.0	0.0	212
	67	0009	4125.5	6818.4	W13395.6	Y43744.6	0	27.3	3	100.0	0.0	0.0	0.0	386
	67	0015	4138.8	6820.6	W13343.0	Y43820.3	0	29.0	960	5.2	9.9	57.3	27.6	0
	67	0016	4136.5	6819.8	W13350.3	Y43806.8	0	26.2	0	0.0	0.0	0.0	0.0	0
	68	0010	4125.4	6809.4	W13353.9	Y43735.2	0	24.6	0	0.0	0.0	0.0	0.0	0
	68	0011	4129.0	6807.2	W13326.8	Y43752.8	0	13.1	25	88.0	4.0	4.0	4.0	0
	68	0012	4133.8	6804.2	W13290.1	Y43776.0	0	15.3	62	4.8	8.1	53.2	33.9	0
	68	0013	4140.4	6804.9	W13261.3	Y43812.2	0	18.6	0	0.0	0.0	0.0	0.0	0
	68	0014	4141.3	6807.5	W13269.0	Y43819.8	0	18.6	0	0.0	0.0	0.0	0.0	0
	96	0024	4115.2	6929.5	W13800.1	Y43759.2	0	14.2	0	0.0	0.0	0.0	0.0	0

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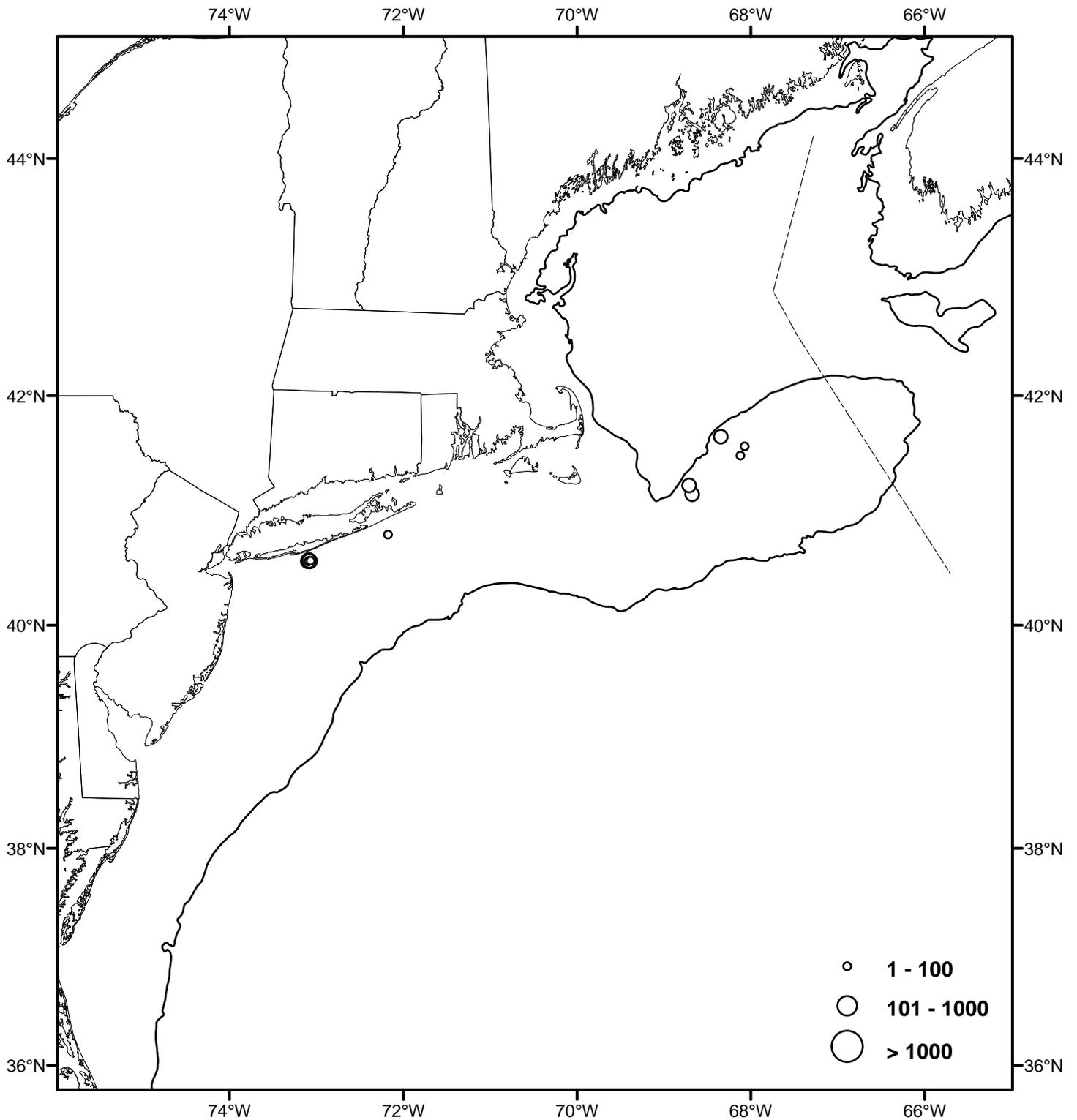
Station Data								Surf Clams				Ocean Quahogs	
Survey Stratum	Station Number	Position		Loran		Depth (FM)	Catch Number	Percent of Survey Catch				Catch Number	
		Latitude	Longitude	Time	Delays			0-4.74"	4.76-5.00"	5.01-5.50"	>5.50"		
96	0026	4123.3	6938.2	W13812.5	Y43819.2	0	7.7	11	100.0	0.0	0.0	0.0	0

\* Denotes a non-random station

**NEFSC SURFCLAM AND OCEAN QUAHOG SURVEY 2014**  
**NOAA Fisheries Service**  
**SURF CLAMS - Number / Tow**  
**Total Number**



**NEFSC SURFCLAM AND OCEAN QUAHOG SURVEY 2014**  
**NOAA Fisheries Service**  
**SURF CLAMS - Number / Tow**  
**Greater Than 5 Inches**



**NEFSC SURFCLAM AND OCEAN QUAHOG SURVEY 2014**  
**NOAA Fisheries Service**  
**QUAHOGS - Number / Tow**  
**Total Number**

