

Resource Survey Report
Atlantic Surfclam/Ocean Quahog
Georges Bank - Georges Bank
01 August - 12 August 2019
F/V E.S.S. Pursuit

Submitted to: NOAA, NEFSC

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Atlantic Surfclam(*Spisula solidissima*), left, and an Ocean Quahog (*Arctica islandica*) shown. Pencil included for scale.



Baskets of Ocean Quahog (*Arctica islandica*) await sampling.



Ocean Quahog (*Arctica islandica*) being dissected for scientific sampling.

RESOURCE SURVEY REPORT

Catch Summary

NOAA Fisheries Service
Northeast Fisheries Science Center

Atlantic Surfclam – Ocean Quahog Survey

Georges Bank
1 August – 12 August 2019

The 2019 region-wide survey for Atlantic surfclam, *Spisula solidissima*, and Ocean quahog, *Arctica islandica*, was conducted in continental shelf waters of 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 surfclams 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, data are summarized from audited catch files generated from the Fisheries Scientific Computer System. Clam catch quantity is recorded in numbers of clams, while depth is recorded in fathoms. Percentage estimates of surfclam catches are also reported 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 surfclams and ocean quahogs caught on each tow. For further information, contact:

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- Resource Surveys Reports
- Surfclam and Ocean Quahog Survey RSRs
- Year of interest

Data Collection Software Update

For the 2019 Clam Survey, the Ecosystems Surveys Branch successfully implemented an updated version of our data collection software, which transitioned us from Fisheries Scientific Computer System (FSCS) 1.6 to 2.0. This software update includes, among many features, applications for streamlining the capture and upload of station data; barcoded basket tracking, which both increases efficiency and reduces errors during catch processing; and numerous quality assurance/quality control checks at various points throughout the data collection process. As a result of FSCS 2.0's implementation this year, scientists working on board experienced greater overall productivity when executing fishing events and scientific sampling, and noted a significant decrease in the amount of errors when the data were audited again following the completion of the survey.

All surveys conducted by the Ecosystems Surveys Branch now effectively operate with the FSCS 2.0 software.

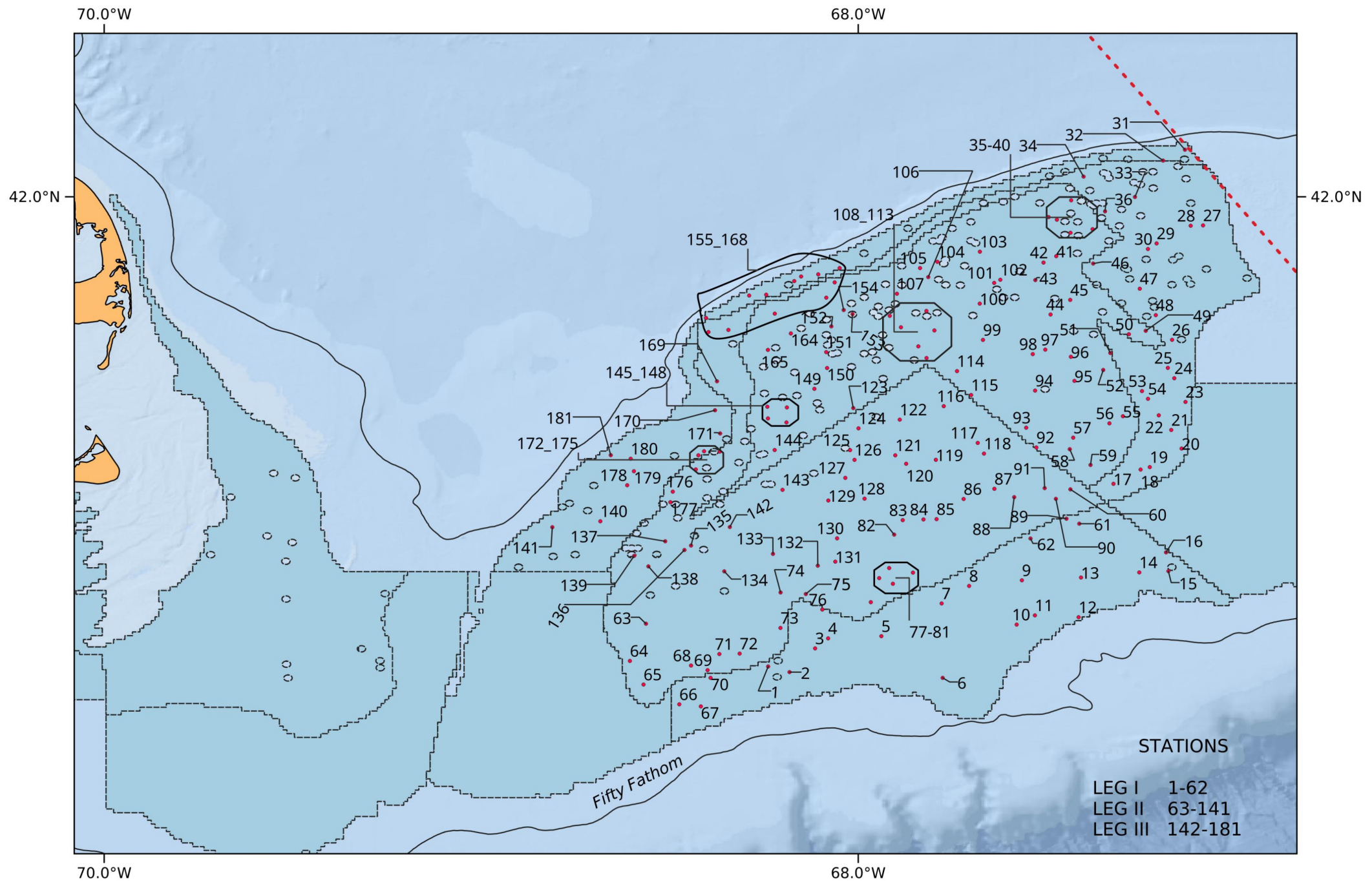


Figure 1. Dredge Hauls made from F/V E.S.S. Pursuit during NOAA Fisheries Service, Northeast Fisheries Science Center's Surfclam/Ocean Quahog Survey, 1 August - 12 August 2019.

**Table 1: Catch summary report from NOAA Fisheries Service, Northeast Fisheries Science Center's Surfclam / Ocean Quahog Survey
1 August - 12 August 2019**

Stratum	Station	Latitude	Longitude	Lorans TD 1	Lorans TD 2	Depth (Fathoms)	Number of Surfclams	% Surfclams 0-4.74"	% Surfclams 4.76-5.00"	% Surfclams 5.01-5.50"	% Surfclams >5.50"	Number of Quahogs
10S	31	4207.4	6707.9	W12876.3	Y43890.2	33.9	0	0	0	0	0	0
10S	32	4205.7	6711.4	W12899.4	Y43885.6	27.9	1	100	0	0	0	0
10S	157	4148.6	6802.9	W13211.5	Y43853.7	30.1	3	33.3	0	0	66.7	17390
10S	158	4147.6	6806.3	W13232.2	Y43852.1	30.6	17	23.5	5.9	64.7	5.9	13697
10S	159	4147.3	6809	W13246.3	Y43853.4	34.4	1	0	0	0	100	5745
10S	160	4146.5	6810.1	W13255.5	Y43850.4	33.9	0	0	0	0	0	3081
10S	161	4144.4	6814.6	W13287.1	Y43844.1	30.1	6	33.3	0	33.3	33.3	2987
10S	162	4144.2	6817.3	W13300.9	Y43846.0	37.2	0	0	0	0	0	2408
10S	167	4140.7	6824.1	W13350.6	Y43834.5	25.7	951	47.5	22.2	26.5	3.8	19995
11S	35	4159.4	6726	W12992.9	Y43869.8	15.3	8	25	12.5	25	37.5	0
11S	37	4154.8	6722.6	W13002.3	Y43843.3	18.6	4	75	0	0	25	0
11S	38	4154.2	6726.1	W13020.1	Y43843.9	28.4	119	25.2	21	47.9	5.9	0
11S	39	4156.3	6728.3	W13018.7	Y43856.7	27.3	334	14.1	19.5	54.2	12.3	0
11S	40	4156.7	6729.6	W13022.2	Y43860.0	24.6	10	50	20	30	0	0
11S	41	4150.5	6728.4	W13048.7	Y43827.5	25.7	19	0	15.8	15.8	68.4	0
11S	42	4149.5	6730.4	W13062.3	Y43824.4	14.8	5	40	0	40	20	0
11S	43	4146.7	6731.7	W13082.0	Y43811.4	22.4	1	0	100	0	0	0
11S	44	4141.2	6729.3	W13099.1	Y43780.8	28.4	417	6.7	6	39.8	47.5	0
11S	45	4143.5	6726.2	W13074.5	Y43789.6	23.5	0	0	0	0	0	0
11S	49	4138.6	6714.1	W13048.2	Y43753.3	27.9	0	0	0	0	0	0
11S	50	4138.1	6716.8	W13061.8	Y43753.2	28.4	0	0	0	0	0	0
11S	51	4135.1	6719.8	W13088.8	Y43740.5	19.7	0	0	0	0	0	0
11S	52	4132.4	6720.9	W13106.5	Y43727.5	25.7	14	7.1	0	0	92.9	0
11S	55	4125	6717.8	W13128.8	Y43686.3	25.2	474	0.6	0.6	5.1	93.7	0
11S	56	4123.9	6719.9	W13142.7	Y43682.3	25.2	57	0	0	5.3	94.7	0
11S	57	4121.6	6725.7	W13177.8	Y43675.1	22.4	9	22.2	0	22.2	55.6	0
11S	58	4119.8	6726.2	W13188.3	Y43665.9	21.9	102	2	3.9	7.8	86.3	0
11S	59	4117.2	6722.9	W13186.5	Y43649.4	24.6	132	1.5	3	6.1	89.4	0
11S	92	4120	6731.5	W13209.9	Y43671.4	19.7	0	0	0	0	0	0
11S	93	4123.2	6733.2	W13202.3	Y43690.0	20.8	6	16.7	0	16.7	66.7	0
11S	94	4129.1	6731.7	W13168.0	Y43719.9	14.2	7	42.9	14.3	14.3	28.6	0
11S	95	4130.6	6725.5	W13134.5	Y43722.2	20.8	23	4.3	0	8.7	87	0
11S	96	4134.5	6726	W13117.8	Y43743.0	19.1	0	0	0	0	0	0
11S	97	4135.6	6730.1	W13129.9	Y43752.5	16.4	3	66.7	0	0	33.3	0
11S	98	4134.9	6732.1	W13141.9	Y43750.7	23	0	0	0	0	0	0
11S	99	4137.2	6740	W13164.9	Y43770.3	18	0	0	0	0	0	0
11S	100	4142.9	6740.6	W13139.5	Y43800.6	24.6	0	0	0	0	0	0
11S	101	4146.2	6738.3	W13113.1	Y43815.4	21.9	0	0	0	0	0	0
11S	102	4146.7	6737.3	W13106.2	Y43817.0	21.9	0	0	0	0	0	0
11S	103	4151.2	6740.5	W13097.5	Y43843.4	19.1	36	0	2.8	38.9	58.3	0
11S	104	4149.6	6747.3	W13135.6	Y43842.3	19.1	0	0	0	0	0	0
11S	105	4148.6	6750.1	W13153.2	Y43840.0	20.8	0	0	0	0	0	0
11S	106	4147.2	6748.7	W13154.0	Y43831.3	18.6	6	16.7	16.7	16.7	50	0
11S	107	4144.5	6753.7	W13189.9	Y43822.3	15.3	0	0	0	0	0	0
11S	108	4141	6754.9	W13212.6	Y43805.1	14.8	0	0	0	0	0	0
11S	109	4139.2	6753.1	W13213.3	Y43793.7	18	346	12.4	10.7	39.6	37.3	2
11S	110	4141.8	6749	W13182.1	Y43803.3	16.4	685	13.9	16.5	43.4	26.3	0

**Table 1(cont): Catch summary report from NOAA Fisheries Service, Northeast Fisheries Science Center's Surfclam / Ocean Quahog Survey
1 August - 12 August, 2019**

Stratum	Station	Latitude	Longitude	Lorans TD 1	Lorans TD 2	Depth (Fathoms)	Number of Surfclams	% Surfclams 0-4.74"	% Surfclams 4.76-5.00"	% Surfclams 5.01-5.50"	% Surfclams >5.50"	Number of Quahogs
11S	111	4138.7	6747.8	W13192.0	Y43785.8	18	140	9.3	12.1	50	28.6	0
11S	112	4136.1	6750.3	W13215.8	Y43774.5	19.1	0	0	0	0	0	0
11S	113	4134.3	6749	W13218.7	Y43763.6	15.3	1	100	0	0	0	0
11S	114	4132.2	6744.2	W13207.5	Y43747.9	20.2	43	18.6	9.3	34.9	37.2	0
11S	115	4128.4	6741.9	W13215.6	Y43725.5	20.2	0	0	0	0	0	0
11S	123	4126.3	6800.7	W13309.6	Y43731.7	19.1	0	0	0	0	0	0
11S	144	4119.6	6813.2	W13398.4	Y43706.5	25.2	0	0	0	0	0	0
11S	145	4124	6811.3	W13369.2	Y43729.3	20.8	4	100	0	0	0	0
11S	146	4124.7	6814.3	W13380.0	Y43736.1	21.3	0	0	0	0	0	0
11S	147	4126.5	6814.4	W13372.1	Y43746.2	21.3	0	0	0	0	0	0
11S	148	4126.4	6811.3	W13358.1	Y43742.5	20.8	0	0	0	0	0	0
11S	149	4129.4	6806.9	W13323.5	Y43754.7	18.6	143	23.8	7	14.7	54.5	0
11S	150	4132.7	6804.9	W13298.6	Y43770.7	16.4	0	0	0	0	0	0
11S	151	4135.2	6805	W13287.0	Y43784.4	18	0	0	0	0	0	0
11S	152	4139.3	6804.2	W13263.5	Y43805.6	17	1	0	0	100	0	0
11S	153	4141.3	6800.8	W13238.0	Y43812.8	18	0	0	0	0	0	0
11S	154	4141.9	6802.2	W13241.5	Y43817.4	18	0	0	0	0	0	0
11S	155	4143.9	6805	W13244.6	Y43831.0	17.5	0	0	0	0	0	0
11S	156	4146.3	6803.7	W13226.7	Y43842.4	20.2	0	0	0	0	0	0
11S	163	4141.3	6813.2	W13295.7	Y43825.9	16.4	0	0	0	0	0	0
11S	164	4138.2	6810.6	W13298.6	Y43806.4	15.3	24	25	0	20.8	54.2	0
11S	165	4135.6	6814.3	W13328.5	Y43796.1	19.7	116	11.2	1.7	10.3	76.7	5
12S	17	4114.2	6719.3	W13185.2	Y43630.6	26.8	27	0	0	3.7	96.3	170
12S	18	4116.5	6714.9	W13156.4	Y43639.3	29	102	7.8	1	5.9	85.3	10036
12S	19	4116.9	6713.5	W13148.8	Y43640.3	29	125	0.8	2.4	2.4	94.4	3618
12S	20	4119.9	6708.4	W13114.1	Y43652.0	29.5	6	16.7	16.7	0	66.7	159
12S	21	4122.8	6710.1	W13107.5	Y43668.4	26.2	0	0	0	0	0	0
12S	22	4125.1	6712.1	W13104.8	Y43682.0	26.8	0	0	0	0	0	0
12S	23	4127.3	6707.8	W13076.9	Y43689.8	29	0	0	0	0	0	7
12S	24	4131.1	6709.6	W13066.1	Y43710.9	27.9	0	0	0	0	0	0
12S	25	4132.7	6710.6	W13062.5	Y43720.0	29.5	0	0	0	0	0	80
12S	26	4137.2	6709.9	W13037.8	Y43742.4	29.5	56	1.8	1.8	1.8	94.6	56
12S	27	4155.4	6705	W12927.1	Y43828.9	33.4	0	0	0	0	0	0
12S	28	4155.3	6707	W12935.6	Y43830.3	30.6	0	0	0	0	0	0
12S	29	4152.5	6712.4	W12971.8	Y43821.7	30.1	2	0	0	0	100	0
12S	30	4151.6	6713.8	W12982.1	Y43818.6	27.9	0	0	0	0	0	0
12S	33	4159.9	6715.8	W12947.8	Y43861.8	24.6	141	12.8	12.1	51.1	24.1	2
12S	34	4203.2	6724	W12964.7	Y43886.5	27.3	5	60	40	0	0	0
12S	36	4157.6	6720.6	W12979.6	Y43855.3	29	0	0	0	0	0	0
12S	46	4149.3	6722.5	W13029.9	Y43815.6	26.8	0	0	0	0	0	0
12S	47	4145.3	6715.1	W13019.2	Y43788.2	28.4	10	0	0	40	60	0
12S	48	4141.1	6712.5	W13029.3	Y43764.5	26.2	8	12.5	0	0	87.5	0
12S	53	4129	6714.7	W13097.0	Y43704.5	24.1	0	0	0	0	0	0
12S	54	4127.8	6713.8	W13099.0	Y43697.5	25.7	0	0	0	0	0	0
7S	140	4108.3	6841	W13581.6	Y43667.8	34.4	0	0	0	0	0	0
7S	141	4107.3	6848.6	W13623.3	Y43669.1	39.9	0	0	0	0	0	0
7S	170	4102.6	6822.7	W13518.3	Y43618.1	31.7	2	100	0	0	0	1010

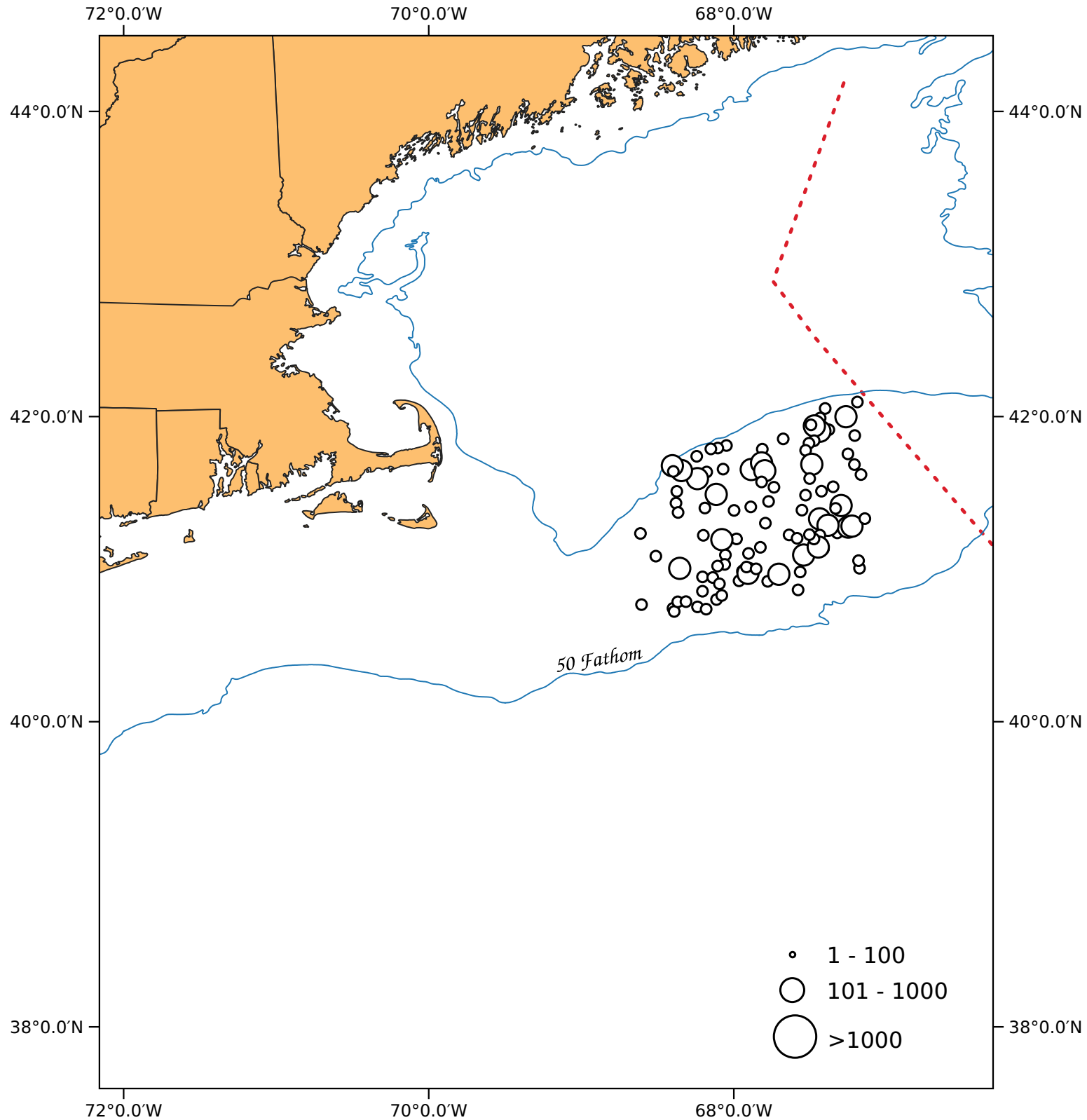
**Table 1(cont): Catch summary report from NOAA Fisheries Service, Northeast Fisheries Science Center's Surfclam / Ocean Quahog Survey
1 August - 12 August, 2019**

Stratum	Station	Latitude	Longitude	Lorans TD 1	Lorans TD 2	Depth (Fathoms)	Number of Surfclams	% Surfclams 0-4.74"	% Surfclams 4.76-5.00"	% Surfclams 5.01-5.50"	% Surfclams >5.50"	Number of Quahogs
7S	171	4122.3	6821.9	W13427.0	Y43730.1	31.2	3	100	0	0	0	143
7S	173	4119.4	6824.4	W13452.2	Y43716.1	31.7	0	0	0	0	0	0
7S	174	4118.8	6825.3	W13459.2	Y43713.6	33.4	0	0	0	0	0	0
7S	178	4114	6836.7	W13535.7	Y43697.1	33.9	4	100	0	0	0	274
7S	179	4116.2	6835.6	W13520.5	Y43708.7	35	0	0	0	0	0	32
7S	180	4118.2	6836.1	W13514.0	Y43720.8	38.8	0	0	0	0	0	83
7S	181	4118.8	6839.3	W13527.0	Y43727.4	41.6	0	0	0	0	0	1866
8S	60	4113.4	6726.1	W13217.3	Y43631.7	24.1	67	3	1.5	3	92.5	0
8S	63	4052	6833.7	W13615.1	Y43564.8	30.1	0	0	0	0	0	0
8S	64	4046	6836.3	W13651.9	Y43530.7	28.4	2	100	0	0	0	43
8S	65	4042.3	6834.1	W13656.2	Y43506.7	33.4	0	0	0	0	0	741
8S	68	4045.3	6826.5	W13608.4	Y43519.2	30.1	0	0	0	0	0	16
8S	69	4044.6	6823.9	W13599.1	Y43513.1	32.3	8	87.5	0	12.5	0	1818
8S	71	4047.1	6822	W13580.0	Y43526.5	27.9	1	100	0	0	0	50
8S	72	4047.2	6818.8	W13564.8	Y43524.8	28.4	1	0	0	100	0	59
8S	73	4051.3	6812.3	W13517.8	Y43544.0	31.7	2	100	0	0	0	122
8S	74	4056.9	6812.3	W13494.3	Y43576.5	31.2	30	23.3	3.3	20	53.3	3210
8S	75	4056.7	6808.2	W13476.3	Y43572.1	21.9	6	33.3	16.7	16.7	33.3	0
8S	77	4055.4	6757.9	W13435.3	Y43556.8	29.5	16	50	6.2	12.5	31.2	948
8S	78	4059.2	6756.6	W13413.1	Y43577.4	29.5	84	11.9	4.8	3.6	79.8	3180
8S	79	4058.3	6754.4	W13407.2	Y43570.6	29.5	214	21.5	3.7	13.1	61.7	6380
8S	80	4100.8	6755	W13399.0	Y43585.2	24.6	2	100	0	0	0	6
8S	81	4100.1	6751.2	W13385.2	Y43578.3	24.6	37	27	2.7	13.5	56.8	204
8S	82	4106.1	6754.2	W13372.2	Y43614.3	25.2	18	16.7	0	5.6	77.8	0
8S	83	4108.5	6752.8	W13355.3	Y43626.5	26.2	0	0	0	0	0	0
8S	84	4108.6	6749.5	W13340.2	Y43624.4	21.3	3	33.3	33.3	0	33.3	0
8S	85	4108.6	6747.4	W13330.9	Y43622.7	23	0	0	0	0	0	0
8S	86	4111.8	6743.1	W13297.7	Y43636.8	24.6	0	0	0	0	0	0
8S	87	4113.4	6738.2	W13269.1	Y43641.5	19.7	4	25	25	0	50	0
8S	88	4112.1	6735.1	W13261.6	Y43631.9	22.4	6	66.7	0	16.7	16.7	0
8S	90	4111.8	6728.4	W13234.3	Y43624.9	24.1	98	3.1	2	3.1	91.8	0
8S	91	4113.5	6730.2	W13234.3	Y43635.5	24.1	83	0	1.2	4.8	94	0
8S	116	4126.6	6746.3	W13243.5	Y43719.9	21.3	4	75	0	0	25	0
8S	117	4120.8	6740.9	W13246.9	Y43683.8	21.3	0	0	0	0	0	0
8S	118	4119	6739.9	W13250.8	Y43673.2	21.3	0	0	0	0	0	0
8S	119	4118.1	6747.5	W13288.4	Y43674.9	18	1	0	0	0	100	0
8S	120	4117.4	6752.3	W13312.9	Y43675.3	19.7	0	0	0	0	0	0
8S	121	4118.8	6754	W13314.1	Y43684.5	17	0	0	0	0	0	0
8S	122	4124.5	6753.3	W13284.5	Y43715.0	18	14	21.4	7.1	14.3	57.1	0
8S	124	4123.1	6759.9	W13320.9	Y43713.5	21.3	6	50	33.3	0	16.7	0
8S	125	4119.6	6801.2	W13343.0	Y43695.4	21.3	0	0	0	0	0	0
8S	126	4118.1	6800.5	W13346.7	Y43686.5	13.7	0	0	0	0	0	0
8S	127	4115.2	6802	W13366.7	Y43671.7	25.2	0	0	0	0	0	0
8S	128	4111.9	6758.9	W13367.5	Y43650.6	21.9	5	0	0	20	80	0
8S	129	4111.6	6804.7	W13395.2	Y43654.0	24.6	106	5.7	0.9	21.7	71.7	0
8S	130	4105.6	6803.3	W13415.5	Y43619.0	24.1	12	0	0	8.3	91.7	0
8S	131	4101.8	6803.6	W13433.4	Y43597.6	25.7	14	21.4	0	7.1	71.4	0

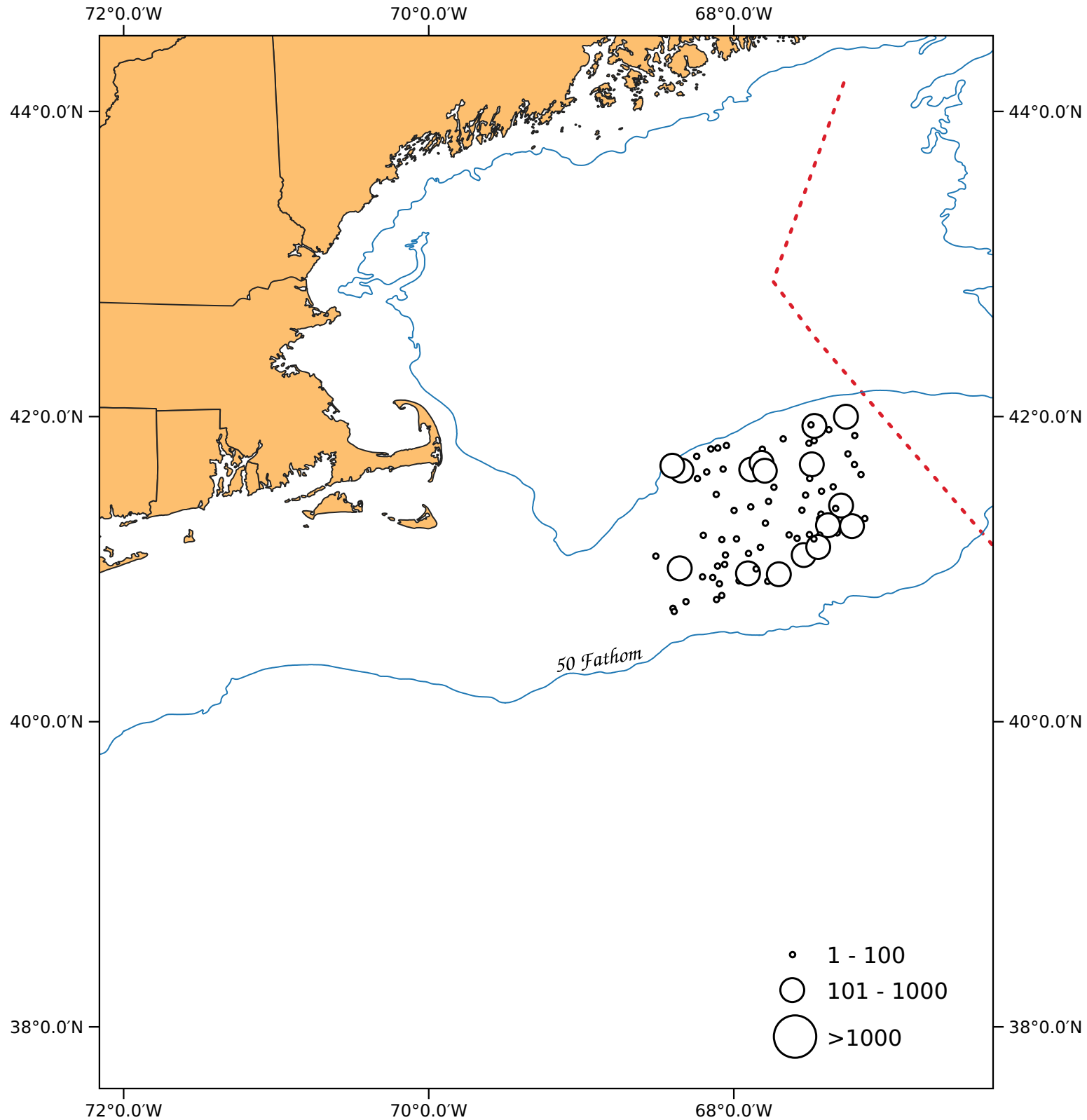
**Table 1(cont): Catch summary report from NOAA Fisheries Service, Northeast Fisheries Science Center's Surfclam / Ocean Quahog Survey
1 August - 12 August, 2019**

Stratum	Station	Latitude	Longitude	Lorans TD 1	Lorans TD 2	Depth (Fathoms)	Number of Surfclams	% Surfclams 0-4.74"	% Surfclams 4.76-5.00"	% Surfclams 5.01-5.50"	% Surfclams >5.50"	Number of Quahogs
8S	132	4101.2	6806.3	W13448.3	Y43596.4	25.2	15	6.7	0	13.3	80	0
8S	133	4103.1	6813.5	W13473.2	Y43613.2	26.8	0	0	0	0	0	0
8S	134	4100.3	6821.2	W13521.1	Y43603.5	26.2	210	10.5	4.8	11.4	73.3	180
8S	135	4104.4	6826.5	W13528.5	Y43631.9	26.2	0	0	0	0	0	0
8S	136	4103.7	6827.6	W13536.8	Y43628.7	24.6	0	0	0	0	0	0
8S	137	4105.1	6830.6	W13545.1	Y43639.6	22.4	7	28.6	14.3	0	57.1	0
8S	138	4101.1	6833.3	W13575.1	Y43618.4	26.8	0	0	0	0	0	0
8S	139	4102.8	6835.6	W13579.0	Y43630.5	29	0	0	0	0	0	0
8S	142	4107.4	6820.3	W13486.2	Y43643.8	23	0	0	0	0	0	0
8S	143	4113.3	6812	W13421.3	Y43670.0	18	54	13	9.3	31.5	46.3	0
8S	166	4138.7	6820.6	W13343.5	Y43819.7	29.5	490	6.3	2.4	29.8	61.4	8
8S	168	4138.4	6823.7	W13359.8	Y43821.4	10.9	9	88.9	11.1	0	0	1
8S	169	4130.6	6822.4	W13390.8	Y43777.0	24.6	4	100	0	0	0	101
8S	172	4119.4	6821.9	W13440.2	Y43713.7	27.9	0	0	0	0	0	0
8S	175	4116.5	6825.8	W13471.9	Y43701.0	29	0	0	0	0	0	0
8S	176	4113	6829.4	W13504.8	Y43684.3	32.3	0	0	0	0	0	0
8S	177	4111.3	6829.8	W13514.2	Y43674.9	29	0	0	0	0	0	0
9S	1	4045.1	6814.2	W13552.2	Y43509.1	33.4	5	80	20	0	0	8882
9S	2	4044.2	6810.8	W13540.3	Y43501.4	37.2	1	100	0	0	0	25080
9S	3	4048	6806.8	W13506.5	Y43520.7	33.4	8	75	12.5	12.5	0	2525
9S	4	4049.6	6804.7	W13490.3	Y43528.5	32.8	5	80	0	20	0	7536
9S	5	4050	6756.2	W13450.5	Y43524.7	35.5	0	0	0	0	0	22960
9S	6	4043.3	6746.5	W13435.7	Y43479.8	38.8	0	0	0	0	0	94
9S	7	4055.2	6746.6	W13386.1	Y43547.3	32.3	28	53.6	3.6	21.4	21.4	5124
9S	8	4058	6742.2	W13354.8	Y43559.8	33.4	238	11.8	2.5	13	72.7	20888
9S	9	4058.9	6733.8	W13314.7	Y43558.6	36.1	1	100	0	0	0	24135
9S	10	4051.8	6734.7	W13349.1	Y43519.9	39.4	2	100	0	0	0	2962
9S	11	4053.3	6731.8	W13330.3	Y43526.3	39.9	0	0	0	0	0	4685
9S	12	4053	6724.8	W13302.1	Y43519.9	43.7	0	0	0	0	0	10123
9S	13	4059.3	6724.4	W13273.1	Y43554.1	38.8	0	0	0	0	0	5796
9S	14	4100.1	6715.2	W13231.4	Y43552.0	39.9	0	0	0	0	0	6857
9S	15	4100.3	6710.5	W13211.3	Y43549.8	39.9	1	100	0	0	0	4158
9S	16	4103.3	6710.9	W13199.7	Y43566.2	35.5	2	100	0	0	0	13867
9S	61	4107.9	6724.7	W13236.3	Y43601.0	31.2	57	7	0	5.3	87.7	8852
9S	62	4105.5	6732.5	W13280.1	Y43593.9	31.2	173	16.2	1.2	6.9	75.7	20817
9S	66	4039.1	6828.4	W13642.1	Y43483.3	35	0	0	0	0	0	5867
9S	67	4038.8	6825	W13627.4	Y43479.1	37.2	0	0	0	0	0	27144
9S	70	4043.3	6823.4	W13602.0	Y43505.0	31.7	7	71.4	14.3	14.3	0	52
9S	76	4054.2	6805.6	W13475.1	Y43555.7	31.2	75	18.7	1.3	6.7	73.3	6972
9S	89	4108.7	6726.7	W13241.1	Y43606.8	30.6	240	5	1.7	7.9	85.4	16732

NEFSC SURFCLAM AND OCEAN QUAHOG SURVEY 2019
NOAA Fisheries Service
ATLANTIC SURFCLAM NUMBER/TOW



NEFSC SURFCLAM AND OCEAN QUAHOG SURVEY 2019
NOAA Fisheries Service
ATLANTIC SURFCLAM- Number / Tow
Greater Than 5 Inches



NEFSC SURFCLAM AND OCEAN QUAHOG SURVEY 2019
NOAA Fisheries Service
OCEAN QUAHOG- Number / Tow

