

RESOURCE SURVEY REPORT Catch  
Summary  
NOAA Fisheries Service  
Northeast Fisheries Science Center  
Atlantic Surfclam – Ocean Quahog Survey  
Delmarva Peninsula – Nantucket Shoals  
August – 15 August 2018

**Submitted to:** NOAA, NEFSC

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**Date:** 2016

# Resource Survey Report

## Atlantic Surfclam/Ocean Quahog

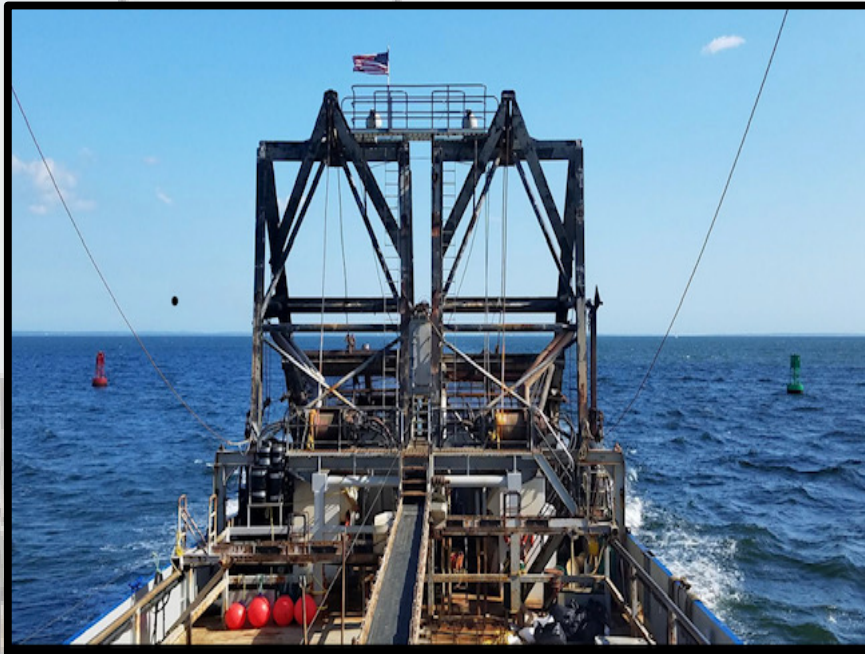


Delmarva Peninsula – Nantucket Shoals

3 August – 15 August 2018

F/V E.S.S. Pursuit

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



The F/V E.S.S. Pursuit returns to  
New Bedford harbor



A catch of Ocean quahogs (*Arctica islandica*)  
to be weighed and measured



Ocean quahog (*Arctica islandica*)  
(left) and Atlantic surfclam  
(*Spisula solidissima*) waiting to be  
measured

# RESOURCE SURVEY REPORT

## Catch Summary

NOAA Fisheries Service  
Northeast Fisheries Science Center

**Atlantic Surfclam – Ocean Quahog Survey**  
Delmarva Peninsula – Nantucket Shoals  
3 August – 15 August 2018

The 2018 region-wide survey for Atlantic surfclam, *Spisula solidissima*; and ocean quahog, *Arctica islandica*, was conducted in continental shelf waters from the Delmarva Peninsula to Nantucket Shoals 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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## **Appendix 1**

A working group (WG) consisting of Northeast Fisheries Science Center (NEFSC) and Mid-Atlantic Fishery Management Council (MAFMC) staff, academic partners and interested persons met during 2017 to develop ideas for improving the NEFSC clam survey. The goals were to improve the precision and utility of survey data used in stock assessments and to use survey resources more efficiently. Several changes recommended by the working group were adopted for the 2018 NEFSC Atlantic Surfclam and Ocean Quahog Survey; among these were changes to the survey strata. Strata were separated by species (Atlantic surfclam and ocean quahog) and the total area covered by the survey was reduced. The new strata are individually larger and focus the survey on the areas where each species occurs. These changes allow for more tows within each stratum and put fewer tows in areas where there are no clams.

## 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:

In 2018, the Northeast Fisheries Science Center primarily targeted Atlantic surfclams (*Spisula solidissima*) at random stations in newly stratified depth regions throughout the Mid-Atlantic and Southern New England. Leg I began from New Bedford, MA and, with the help of excellent weather, worked continuously south and offshore until completing operations in Atlantic City, NJ. Subsequently, Leg II then departed from Atlantic City and successfully executed a large offshore-to-inshore cruise track loop that included the southernmost survey strata (off Virginia Beach) before returning once again to Atlantic City. Surfclam catches were particularly sparse throughout Leg II, with approximately 26 stations having zero individuals. However, the largest surfclam tow that leg, yielded an expanded total of 727.092kg and 1737 individuals.

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### Leg III:

Leg III of the Atlantic surfclam survey departed from Atlantic City, New Jersey and headed north to complete the remaining inshore strata off of New Jersey, New York and Nantucket shoals. There were 8 stations in total on Leg III that had zero clams, while stations with surfclams present yielded only small numbers of individuals ranging between 9 and 400. The largest surfclam catch on Leg III yielded an expanded weight of 214.945kg containing 600 individuals.

After completing the last station off the eastern end of Long Island, the vessel steamed east to finish the final stations of the survey on Nantucket Shoals where catches were expected to be minimal. Once working our way through the rocky bottom of the shoals, we were able to complete 9 stations. To the surprise of the captain and scientists, our largest tow yielded 273 individual surfclams and weighed 123.48kg.

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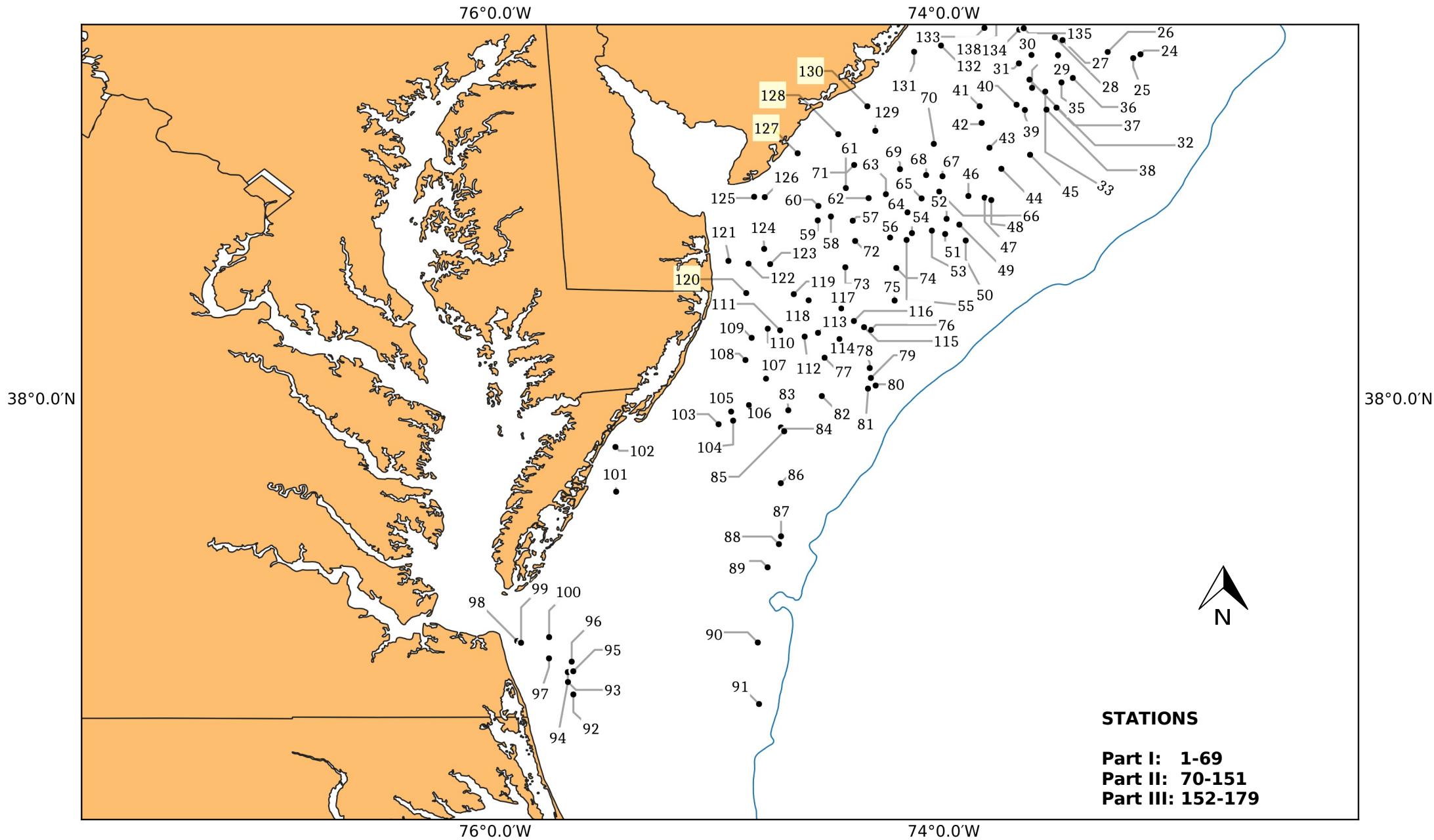


Figure 1. Dredge Hauls made from F/V *E.S.S. Pursuit* during NOAA Fisheries Service, Northeast Fisheries Science Center's Surfclam/Ocean Quahog Survey, 3 August - 15 August 2018.

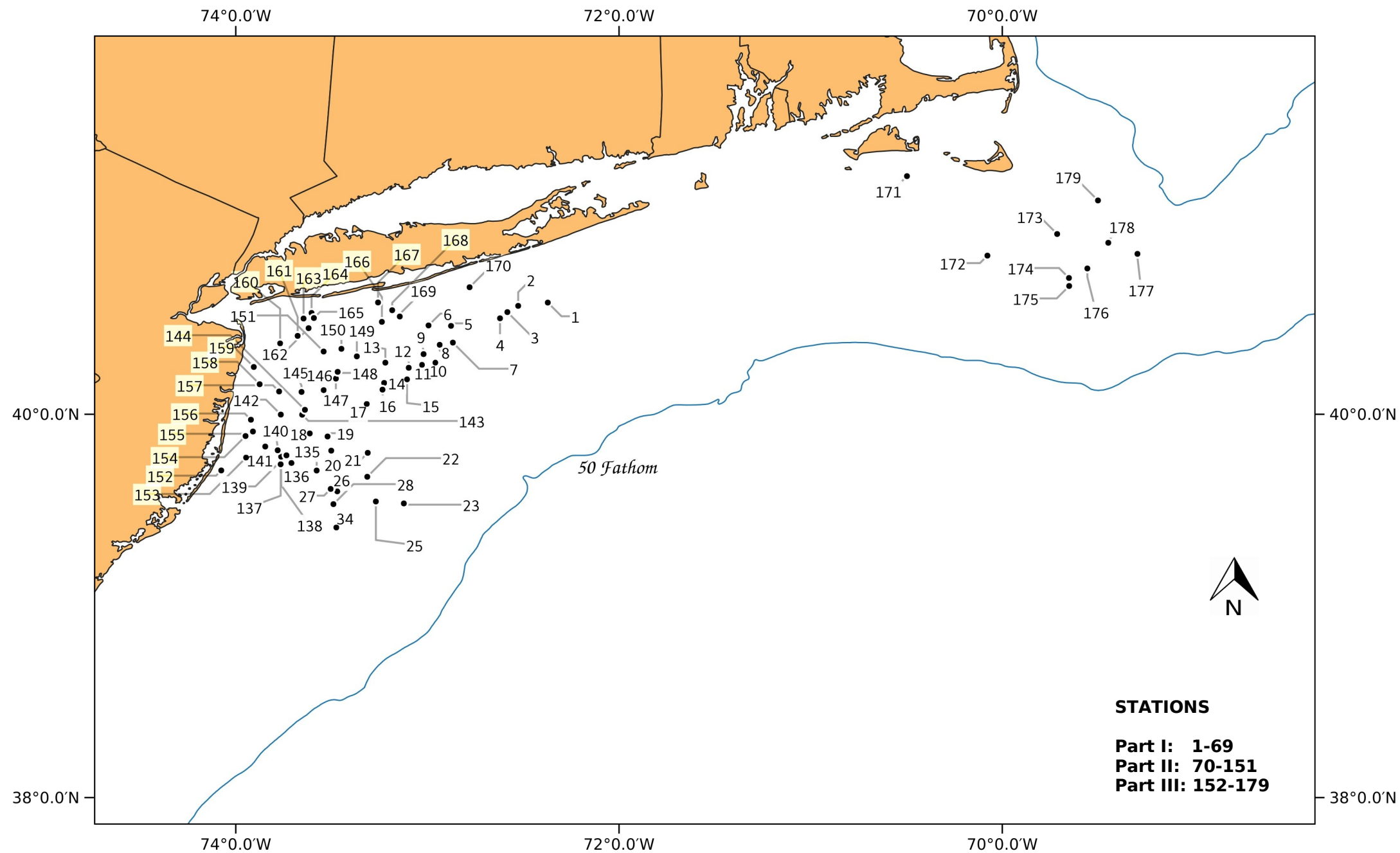


Figure 2. Dredge hauls made from F/V *E.S.S. Pursuit* during NOAA Fisheries Service, Northeast Fisheries Science Center's Surfclam/Ocean Quahog survey, 3 August - 15 August 2018.

**Table 1: Catch summary report from NOAA Fisheries Service, Northeast Fisheries Science Center's Surfclam / Ocean Quahog Survey  
3 August - 15 August 2018**

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
1S	91	3640.8	7539.1	X27066.9	Y41147.4	9.3	135	100	0	0	0	0
1S	92	3644.1	7540.5	X27077.7	Y41181.1	9.8	3	100	0	0	0	0
1S	93	3646.8	7540.5	X27082.0	Y41211.2	9.3	0	0	0	0	0	0
1S	94	3647	7539.1	X27076.6	Y41216.5	10.4	0	0	0	0	0	0
1S	95	3649.6	7539.5	X27082.4	Y41244.7	8.7	0	0	0	0	0	0
1S	96	3650.4	7545.6	X27108.8	Y41241.1	8.7	3	100	0	0	0	0
1S	97	3655.1	7554.1	X27151.6	Y41277.6	7.1	0	0	0	0	0	0
1S	98	3654.6	7553	X27146.2	Y41274.1	5.5	0	0	0	0	0	0
1S	99	3656.1	7545.5	X27118.0	Y41305.9	7.7	1	100	0	0	0	0
2S	100	3735	7527.6	X27110.0	Y41779.7	8.7	1	100	0	0	0	0
2S	101	3747	7527.8	X27134.2	Y41916.6	5.5	0	0	0	0	0	0
2S	108	3816.2	7451.4	X27011.1	Y42291.1	7.1	0	0	0	0	0	0
2S	119	3828.2	7452.8	X27042.3	Y42423.8	9.3	2	100	0	0	0	0
2S	120	3836.8	7457.6	X27086.7	Y42516.5	8.2	0	0	0	0	0	0
2S	121	3836	7452.2	X27055.4	Y42511.8	11.5	0	0	0	0	0	0
2S	124	3853.9	7450.7	X27087.0	Y42713.6	4.9	0	0	0	0	0	0
2S	125	3853.8	7447.9	X27070.7	Y42714.0	6	0	0	0	0	0	0
2S	126	3905.5	7439.1	X27046.1	Y42848.2	6.6	0	0	0	0	0	0
3S	1	4034.9	7222.3	X26218.4	Y43670.3	23	0	0	0	0	0	748
3S	2	4033.9	7231.5	X26293.4	Y43672.3	21.3	3	100	0	0	0	510
3S	3	4031.9	7234.9	X26318.6	Y43658.9	21.3	0	0	0	0	0	560
3S	4	4030	7237.2	X26334.8	Y43644.9	23.5	2	100	0	0	0	634
3S	5	4027.6	7252.6	X26456.6	Y43640.3	22.4	9	100	0	0	0	341
3S	6	4027.7	7259.6	X26513.4	Y43648.7	18	107	95.3	2.8	1.9	0	153
3S	7	4022.4	7252	X26443.4	Y43592.8	23.5	3	100	0	0	0	378
3S	8	4021.7	7256.1	X26475.1	Y43590.5	23	24	83.3	8.3	8.3	0	171
3S	9	4018.8	7301.2	X26510.9	Y43568.8	20.8	93	87.1	6.5	4.3	2.2	114
3S	10	4016.1	7257.5	X26477.4	Y43540.5	23	322	85.4	7.5	5.9	1.2	358
3S	11	4015.4	7301.7	X26509.3	Y43537.8	22.4	265	83	9.8	6	1.1	500
3S	12	4014.5	7305.8	X26539.9	Y43533.0	22.4	46	95.7	2.2	2.2	0	816
3S	13	4016.1	7313.1	X26599.7	Y43554.5	19.7	420	82.9	9.5	6.2	1.4	366
3S	14	4009.7	7313.5	X26591.4	Y43494.2	21.9	88	61.4	19.3	15.9	3.4	64
3S	15	4010.9	7306.4	X26538.7	Y43499.8	24.1	1	100	0	0	0	756
3S	16	4007.6	7314	X26591.6	Y43474.6	21.9	126	72.2	15.1	10.3	2.4	82
3S	17	4003.2	7319	X26622.0	Y43436.1	22.4	392	86.7	6.1	7.1	0	676
3S	18	3953.9	7336.8	X26736.8	Y43355.5	15.3	860	28.4	16.3	31.2	24.2	8
3S	19	3953	7331.2	X26694.3	Y43343.6	19.7	2088	47.7	16.7	23	12.6	376
3S	20	3948.5	7330.1	X26678.4	Y43298.4	17	564	47.5	22	25.5	5	267
3S	21	3947.9	7318.6	X26594.5	Y43287.3	22.4	585	77.9	12.8	7.2	2.1	28
3S	22	3940.4	7318.8	X26585.2	Y43214.0	20.8	588	55.1	17.3	20.4	7.1	42
3S	23	3932	7307.3	X26494.5	Y43128.8	23.5	321	67.9	13.4	13.1	5.6	132
3S	24	3931	7309.3	X26507.3	Y43119.5	21.9	412	72.3	8.7	14.1	4.9	182
3S	25	3932.6	7316.1	X26556.1	Y43136.7	18.6	130	71.5	11.5	7.7	9.2	27
3S	26	3935.8	7328.2	X26644.5	Y43171.3	17	131	30.5	15.3	29.8	24.4	24
3S	27	3936.6	7330.2	X26659.7	Y43179.8	19.1	516	37.2	12.2	38.4	12.2	24
3S	28	3931.8	7329.4	X26646.9	Y43131.6	18	193	27.5	19.7	36.8	16.1	11
3S	29	3931.9	7336.5	X26695.7	Y43133.9	18	369	35.8	9.8	28.5	26	0



**Table 1(cont): Catch summary report from NOAA Fisheries Service, Northeast Fisheries Science Center's Surfclam / Ocean Quahog Survey  
3 August - 15 August, 2018**

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
3S	30	3929.6	7339.9	X26715.2	Y43111.2	18	417	27.3	12.2	28.8	31.7	2
3S	31	3925.3	7337	X26688.7	Y43067.1	18.6	119	16.8	9.2	26.1	47.9	222
3S	32	3923	7336.3	X26680.5	Y43043.7	23	291	24.7	5.2	35.1	35.1	5
3S	33	3922	7332.8	X26655.7	Y43033.4	25.2	8	37.5	37.5	12.5	12.5	4025
3S	34	3924.5	7328.5	X26630.4	Y43058.3	23	242	57.4	12	25.2	5.4	1310
3S	35	3925.7	7325.4	X26611.0	Y43070.0	17	736	46.2	16.3	20.1	17.4	21
3S	36	3917.7	7329.8	X26629.9	Y42990.0	24.6	222	86.9	7.2	5.4	0.5	931
3S	37	3917.2	7332.5	X26647.1	Y42984.9	25.7	96	80.2	11.5	6.2	2.1	738
3S	38	3917.1	7338.3	X26685.1	Y42983.7	21.9	144	57.6	14.6	17.4	10.4	57
3S	39	3918.5	7340.5	X26701.6	Y42997.9	20.2	274	28.5	6.6	23.4	41.6	70
3S	40	3918.1	7350.4	X26765.9	Y42993.5	19.1	294	44.9	12.2	20.4	22.4	96
3S	41	3913.7	7349.8	X26754.7	Y42947.9	18	501	40.7	9.6	24.6	25.1	19
3S	42	3907	7347.7	X26730.7	Y42878.8	20.8	372	48.9	15.6	22.6	12.9	50
3S	43	3901.4	7344.6	X26703.0	Y42821.7	21.9	1011	75.7	11	9.8	3.6	287
3S	44	3905.1	7336.9	X26659.4	Y42861.6	23.5	2052	84.2	9.4	5.6	0.9	192
3S	45	3854.1	7353.4	X26746.9	Y42743.0	23.5	71	47.9	28.2	18.3	5.6	1413
3S	46	3853.7	7349	X26719.5	Y42740.6	21.9	226	93.4	3.1	3.5	0	2048
3S	47	3853	7347.3	X26708.1	Y42734.0	21.3	2873	53.4	20.8	21.7	4.1	405
3S	48	3846.5	7355.8	X26750.4	Y42662.4	24.1	200	92	2	5	1	1708
3S	49	3842.2	7354.1	X26734.3	Y42618.4	24.6	44	100	0	0	0	2688
3S	50	3844	7359.6	X26769.4	Y42634.1	25.2	8	100	0	0	0	756
3S	51	3848	7359.2	X26772.9	Y42676.4	24.6	7	100	0	0	0	1062
3S	52	3844.9	7403.1	X26791.4	Y42641.6	26.2	0	0	0	0	0	1953
3S	53	3844.2	7408.5	X26822.2	Y42631.1	23	2431	64.7	20.3	13.9	1.1	242
3S	54	3842.4	7409.9	X26827.5	Y42611.1	23.5	1152	63	18.8	15.6	2.6	51
3S	55	3843	7414.3	X26854.1	Y42614.9	21.3	3094	47.3	21.4	23.6	7.7	340
3S	56	3847.5	7424.3	X26920.5	Y42657.6	17.5	324	20.4	7.4	17.3	54.9	0
3S	57	3848.6	7430.2	X26957.1	Y42666.2	9.8	50	12	4	2	82	0
3S	58	3847.6	7433.7	X26975.4	Y42653.2	12	6	33.3	0	0	66.7	0
3S	59	3851.5	7433.5	X26982.2	Y42696.2	12.6	0	0	0	0	0	0
3S	60	3856.2	7426.2	X26948.7	Y42751.3	12.6	68	7.4	2.9	20.6	69.1	0
3S	61	3853.5	7420.1	X26907.1	Y42724.8	17	243	34.6	11.5	24.7	29.2	0
3S	62	3854.6	7415.4	X26881.0	Y42738.9	20.8	42	28.6	4.8	28.6	38.1	28
3S	63	3849.7	7409.7	X26838.3	Y42689.1	22.4	930	39.8	10.2	28.5	21.5	206
3S	64	3853.5	7405.9	X26821.9	Y42731.3	22.4	21	47.6	19	19	14.3	126
3S	65	3855.3	7401.2	X26796.4	Y42752.4	18.6	72	22.2	16.7	5.6	55.6	168
3S	66	3859.4	7400.3	X26797.5	Y42795.9	21.3	707	6.9	10.9	25.7	56.4	202
3S	67	3859.7	7404.7	X26825.1	Y42797.6	19.1	30	60	3.3	23.3	13.3	262
3S	68	3901.3	7411.7	X26870.9	Y42812.2	15.9	684	15.8	10.5	14.9	58.8	110
3S	69	3908.1	7402.6	X26826.8	Y42887.1	17	32	31.2	12.5	15.6	40.6	42
3S	70	3902.4	7423.9	X26947.5	Y42819.7	12	102	11.8	7.8	16.7	63.7	1
3S	71	3842.1	7423.7	X26907.1	Y42599.3	16.4	414	15.2	3.6	24.6	56.5	0
3S	72	3835.1	7426.3	X26909.3	Y42521.5	21.3	0	0	0	0	0	4
3S	76	3810.9	7431.9	X26899.0	Y42253.3	18.6	848	44.3	20.8	25.9	9	1
3S	77	3808.1	7419.8	X26830.6	Y42236.2	22.4	1285	81.7	12.8	5.1	0.4	184
3S	78	3805.4	7419.5	X26825.2	Y42207.7	24.1	445	91.7	6.1	2.2	0	18
3S	81	3800.6	7432.6	X26886.5	Y42140.7	23.5	480	45.4	32.1	20.4	2.1	4

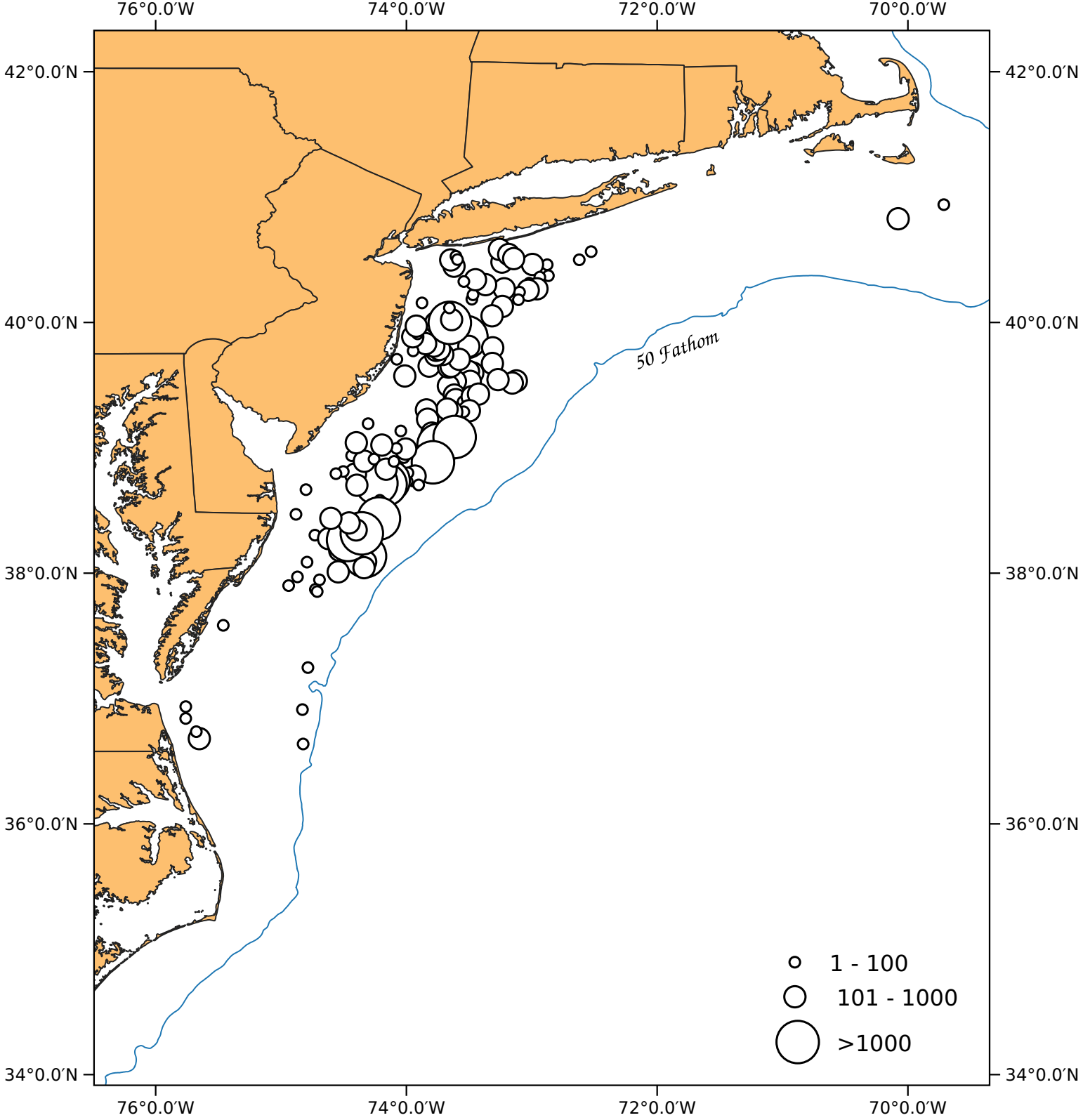
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3S	82	3756.8	7441.6	X26926.6	Y42088.2	18.6	21	33.3	4.8	28.6	33.3	0
3S	83	3752.2	7443.5	X26928.8	Y42035.4	21.9	1	100	0	0	0	0
3S	84	3751.2	7442.6	X26922.7	Y42025.7	21.9	6	100	0	0	0	1
3S	102	3753.1	7500.2	X27013.2	Y42023.1	12	0	0	0	0	0	0
3S	103	3754	7456.3	X26995.5	Y42038.3	13.7	1	100	0	0	0	0
3S	104	3756.5	7456.8	X27002.4	Y42065.4	14.8	0	0	0	0	0	0
3S	105	3758.2	7452.1	X26981.9	Y42090.3	12.6	7	57.1	28.6	14.3	0	0
3S	106	3805.3	7447.5	X26970.9	Y42174.4	9.8	28	53.6	28.6	17.9	0	0
3S	107	3810.2	7453	X27008.1	Y42222.5	9.8	0	0	0	0	0	0
3S	109	3818.6	7447	X26992.4	Y42322.2	13.1	0	0	0	0	0	0
3S	110	3818.2	7443.7	X26974.2	Y42321.1	14.2	36	69.4	16.7	11.1	2.8	0
3S	111	3816.5	7437.2	X26936.5	Y42308.9	17	788	5.1	13.7	47.7	33.5	0
3S	112	3817.5	7433.6	X26919.0	Y42323.4	22.4	5	60	20	20	0	0
3S	113	3815.9	7427.9	X26885.7	Y42311.7	19.7	1737	56	24.9	14.5	4.7	2
3S	114	3819	7421.3	X26854.9	Y42351.6	21.3	2065	84.7	8.8	6.1	0.3	24
3S	115	3820.7	7424	X26872.3	Y42367.4	18.6	808	42.6	24.3	25.7	7.4	4
3S	116	3824	7427.4	X26896.3	Y42400.0	19.1	591	53.8	19.3	21.8	5.1	2
3S	117	3826.2	7436.1	X26947.8	Y42416.3	17	372	8.1	4	29	58.9	0
3S	118	3827.9	7440.1	X26972.8	Y42431.6	15.9	0	0	0	0	0	0
3S	122	3835.9	7446.4	X27023.2	Y42515.1	12.6	0	0	0	0	0	0
3S	123	3840	7448	X27040.7	Y42559.7	8.2	11	90.9	9.1	0	0	0
3S	132	3939.1	7349.1	X26795.3	Y43210.2	13.1	195	22.1	3.6	7.7	66.7	0
3S	133	3938.6	7339.8	X26729.8	Y43202.6	18.6	312	39.4	15.7	26	18.9	2
3S	134	3939	7338.6	X26722.2	Y43206.3	18.6	268	22.8	10.1	30.2	36.9	6
3S	135	3942.3	7334.6	X26699.8	Y43238.3	19.1	270	40.7	12.6	23.7	23	82
3S	136	3944.7	7342.5	X26760.0	Y43265.3	13.7	548	21.2	8	21.2	49.6	0
3S	137	3944.3	7345.9	X26783.2	Y43262.5	12	392	24	10.2	24	41.8	0
3S	138	3946.7	7345.8	X26787.2	Y43286.9	13.1	218	23.9	10.6	18.8	46.8	0
3S	139	3947.1	7344.1	X26775.9	Y43290.3	12.6	382	17.3	6.8	12.6	63.4	1
3S	142	3959.8	7345.9	X26815.3	Y43419.9	15.3	186	13.4	10.2	21	55.4	9
3S	143	3959.8	7339.2	X26766.1	Y43415.8	17	1011	62	12.2	12.2	13.6	42
3S	144	4001.3	7338.3	X26762.6	Y43430.3	18	322	58.4	12.4	18	11.2	45
3S	145	4006.9	7339.4	X26782.7	Y43486.8	21.9	5	60	0	20	20	1728
3S	146	4007.5	7332.4	X26731.3	Y43487.6	21.9	0	0	0	0	0	2004
3S	147	4011.1	7328.6	X26709.8	Y43519.8	19.7	2	100	0	0	0	928
3S	148	4013.2	7328.1	X26710.3	Y43539.8	18.6	75	65.3	9.3	18.7	6.7	464
3S	149	4018.1	7322.1	X26673.9	Y43581.7	16.4	516	38	18.2	30.6	13.2	17
3S	150	4020.4	7326.9	X26716.2	Y43608.2	15.3	268	25.4	9.7	22.4	42.5	51
3S	157	4007.1	7346.4	X26835.5	Y43493.8	16.4	0	0	0	0	0	0
3S	166	4028.9	7314.2	X26633.5	Y43675.5	14.2	399	12.8	9.8	21.8	55.6	17
3S	169	4030.5	7308.6	X26591.6	Y43684.1	15.3	158	15.2	9.5	25.3	50	444
3S	170	4039.7	7246.8	X26429.9	Y43740.8	15.9	0	0	0	0	0	1330
4S	73	3834.9	7412.7	X26831.7	Y42529.2	25.2	1	0	0	0	100	618
4S	74	3826.2	7413.1	X26820.6	Y42436.0	25.2	1638	87.2	7	5.9	0	414
4S	75	3818.3	7419.5	X26844.0	Y42345.8	24.6	632	82.9	12	5.1	0	73
4S	79	3803.4	7418.2	X26815.6	Y42187.8	30.6	8	100	0	0	0	215
4S	80	3802.6	7420.2	X26825.0	Y42177.0	28.4	152	99.3	0.7	0	0	774

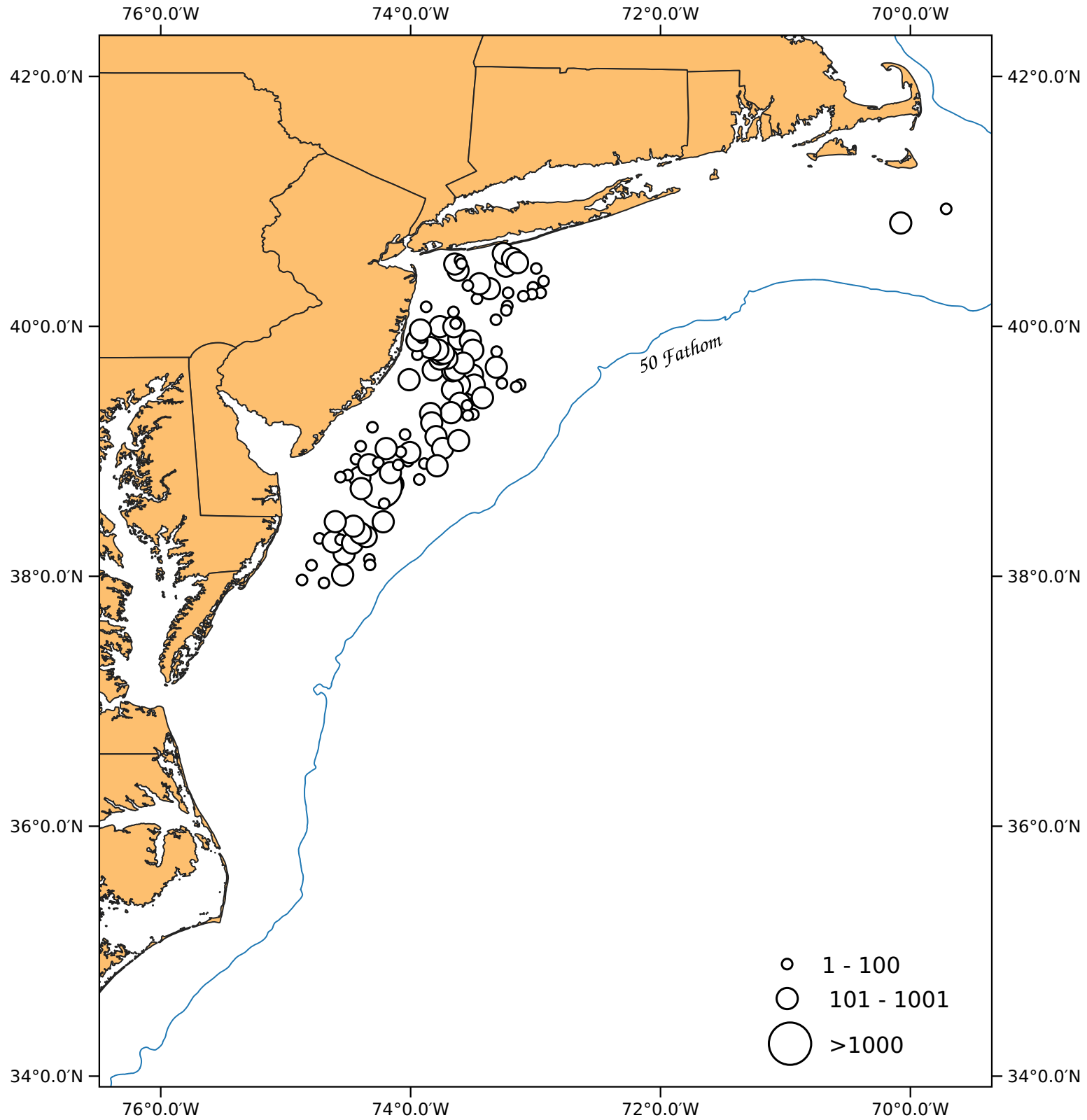
**Table 1(cont): Catch summary report from NOAA Fisheries Service, Northeast Fisheries Science Center's Surfclam / Ocean Quahog Survey  
3 August - 15 August, 2018**

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
4S	85	3737.3	7443.6	X26906.6	Y41873.0	26.8	0	0	0	0	0	2
4S	86	3723.1	7443.5	X26886.2	Y41720.0	29.5	0	0	0	0	0	2
4S	87	3721	7444.1	X26886.2	Y41696.4	27.9	0	0	0	0	0	0
4S	88	3714.8	7447.1	X26891.7	Y41624.6	27.9	12	100	0	0	0	2
4S	89	3654.7	7449.7	X26877.7	Y41405.8	30.1	4	100	0	0	0	9
4S	90	3638.2	7449.4	X26857.1	Y41234.2	27.3	67	100	0	0	0	4
5S	127	3910.6	7428.2	X26991.4	Y42907.8	9.8	0	0	0	0	0	0
5S	128	3911.5	7418.3	X26931.9	Y42919.9	9.8	5	80	0	20	0	0
5S	129	3918.1	7420.4	X26959.2	Y42990.8	7.1	0	0	0	0	0	0
5S	130	3932.7	7407.9	X26910.0	Y43147.1	8.7	0	0	0	0	0	0
5S	131	3934.4	7400.7	X26865.2	Y43164.0	12.6	155	31	2.6	12.3	54.2	0
5S	140	3948.7	7346.8	X26798.3	Y43307.7	14.8	368	25	3.8	21.7	49.5	2
5S	141	3949.8	7350.7	X26828.4	Y43320.6	12.6	332	32.5	6	18.1	43.4	4
5S	151	4019.6	7332.5	X26758.1	Y43605.8	13.7	24	4.2	12.5	12.5	70.8	122
5S	152	3942.4	7404.5	X26908.6	Y43248.7	7.1	12	100	0	0	0	1
5S	153	3946.4	7356.7	X26863.4	Y43287.9	10.9	59	18.6	1.7	5.1	74.6	0
5S	154	3953.1	7356.9	X26879.8	Y43357.3	10.4	158	13.3	2.5	8.9	75.3	0
5S	155	3954.5	7354.6	X26866.6	Y43370.6	12	86	18.6	5.8	10.5	65.1	2
5S	156	3958.2	7355.2	X26879.4	Y43408.9	12	199	28.1	18.1	19.1	34.7	3
5S	158	4009.3	7352.5	X26886.2	Y43520.4	11.5	42	78.6	0	0	21.4	0
5S	159	4014.7	7354.3	X26913.3	Y43576.4	10.4	0	0	0	0	0	0
5S	160	4022.1	7346.1	X26869.7	Y43643.1	14.8	0	0	0	0	0	0
5S	161	4024.5	7340.6	X26833.0	Y43661.4	12.6	0	0	0	0	0	0
5S	162	4026.9	7337.2	X26812.2	Y43681.2	9.8	520	22.3	5.4	10.8	61.5	0
5S	163	4029.9	7338.8	X26832.4	Y43712.0	9.8	600	5	5	28.3	61.7	0
5S	164	4031.7	7336.2	X26816.3	Y43726.5	8.7	59	6.8	5.1	15.3	72.9	0
5S	165	4030.1	7335.5	X26806.7	Y43710.3	9.8	20	0	0	20	80	0
5S	167	4034.9	7315.4	X26656.2	Y43732.5	10.9	378	3.2	1.6	11.6	83.6	0
5S	168	4032.5	7311	X26615.2	Y43705.3	13.1	396	8.6	10.1	23.7	57.6	34
6S	171	4114.5	7029.8	X25281.5	Y43827.4	15.9	0	0	0	0	0	3
6S	172	4049.6	7004.6	X25131.3	Y43631.4	11.5	273	6.2	4	7.7	82.1	1
6S	173	4056.4	6942.8	W13947.0	Y43654.4	18.6	9	0	0	11.1	88.9	1
6S	174	4042.6	6939.1	W13979.4	Y43560.8	24.6	0	0	0	0	0	0
6S	175	4040.1	6939	W13988.0	Y43544.2	22.4	0	0	0	0	0	35
6S	176	4045.6	6933.3	W13938.0	Y43575.3	23	0	0	0	0	0	4
6S	177	4050.2	6917.6	W13839.4	Y43590.9	27.9	0	0	0	0	0	0
6S	178	4053.6	6926.8	W13873.5	Y43620.9	24.1	0	0	0	0	0	0
6S	179	4106.9	6930	W13837.2	Y43708.1	15.3	0	0	0	0	0	0

**NEFSC SURFCLAM AND OCEAN QUAHOG SURVEY 2018**  
**NOAA Fisheries Service**  
**ATLANTIC SURFCLAM- Number / Tow**  
**Total Number**



**NEFSC SURFLAM AND OCEAN QUAHOG SURVEY 2018**  
**NOAA Fisheries Service**  
**ATLANTIC SURFLAM- Number / Tow**  
**Greater Than 5 Inches**



**NEFSC SURFCLAM AND OCEAN QUAHOG SURVEY 2018**  
**NOAA Fisheries Service**  
**OCEAN QUAHOG- Number / Tow**  
**Total Number**

