

RESOURCE SURVEY REPORT

Catch Summary NOAA Fisheries

Northeast Fisheries Science Center

Atlantic Surfclam - Ocean Quahog

Georges Bank

09 August - 23 August 2023

F/V E.S.S. Pursuit

Submitted to: NOAA, NEFSC

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Resource Survey Report

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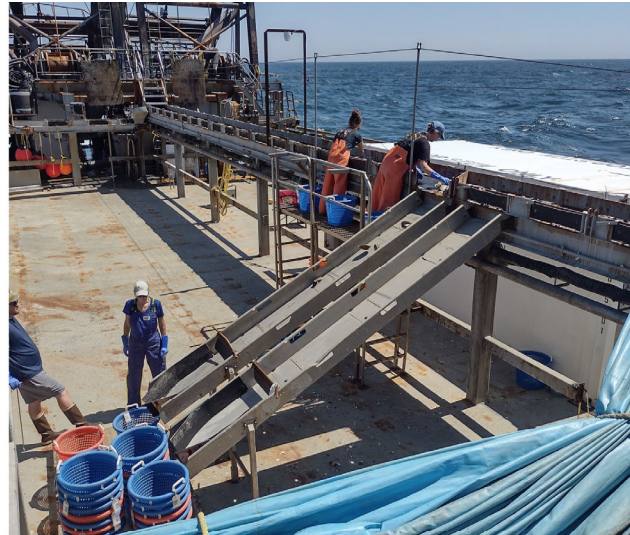
Georges Bank

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F/V E.S.S. Pursuit



The F/V E.S.S. Pursuit in New Bedford Harbor
Credit: NOAA Fisheries/Zachary Fyke



Scientific staff sorting the catch
Credit: NOAA Fisheries/Sandy Sutherland



An Atlantic surfclam, *Spisula solidissima*
Credit: NOAA Fisheries/Sandy Sutherland

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

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Atlantic Surfclam - Ocean Quahog Survey

Georges Bank
09 August - 23 August 2023

The 2023 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 (NEFSC), provides indices of abundance and recruitment for both species.

The following charts and station data describe the distribution of Atlantic 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. Both species were counted at all stations, even if a station was not within the strata for that species.

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 meters. 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". Representative tows met criteria for tow duration and gear performance. Non-representative tows were those with significant issues with gear performance and/or tow duration. Distribution plots indicate relative numbers of surfclams and ocean quahogs caught on each tow. For further information, contact:

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To view this report online, go to the [NOAA Institutional Repository](#) and select the Resource Survey Report for the year of interest.

Appendix 1

A working group consisting of NEFSC and Mid-Atlantic Fishery Management Council 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 - 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.

Also note that for years 2022 and 2023, ocean quahog data was collected using a stratification scheme designed for Atlantic surfclams, so those data should not be used for population abundance estimation of ocean quahogs.

Field Notes

In an effort to share some of the 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.

- 1) Not enough wire to do stations in the deepest parts of strata 9S. Some of the deeper stations were moved to shallower portions within the strata, the rest were dropped.
- 2) Tested new starmon tilt angle sensors and verified utility for determining clam dredge bottom contact.
- 3) Dropped 31 stations due to gear conflicts with fishing gear or depth.

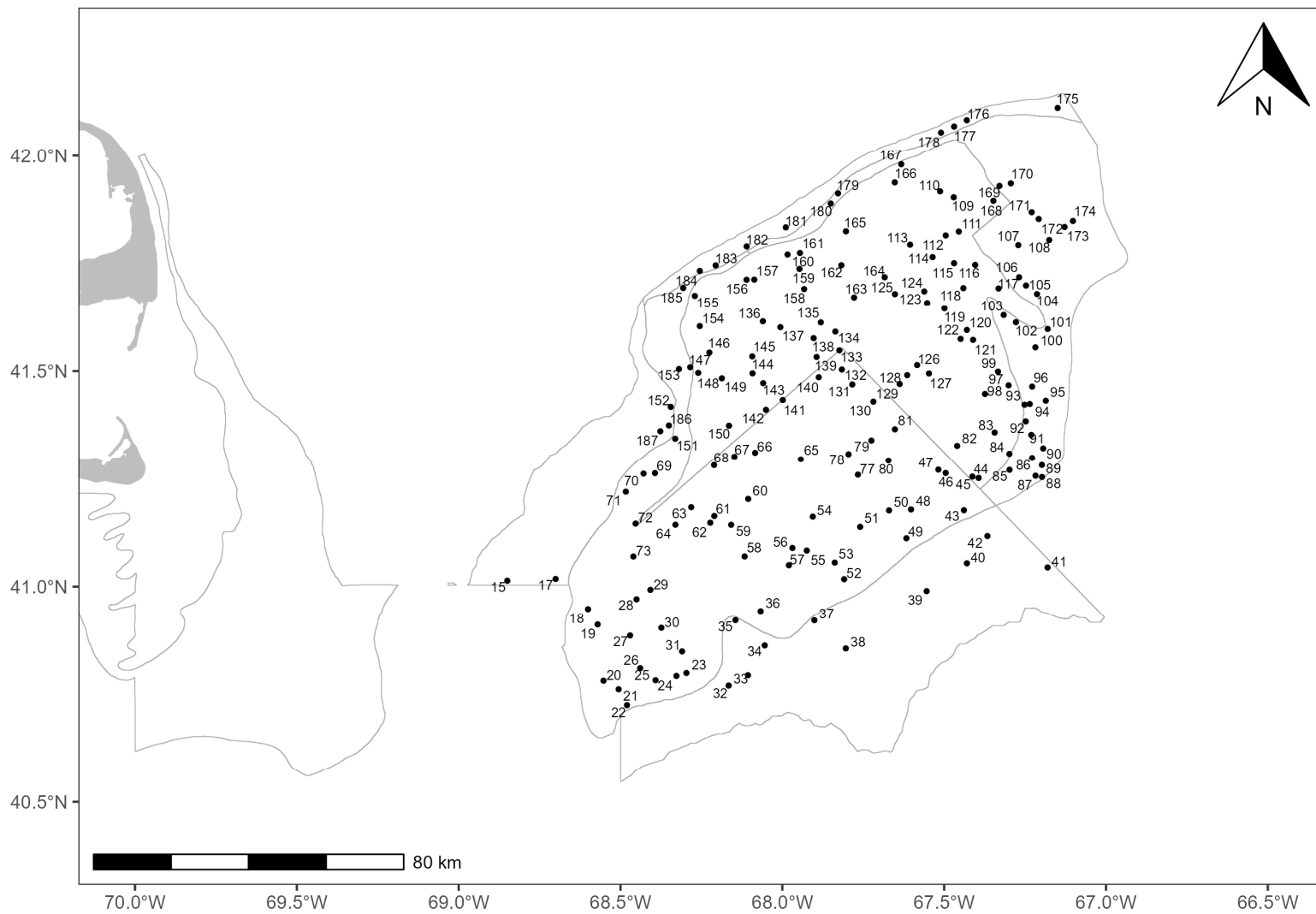


Figure 1: Representative dredge tows made from F/V E.S.S. Pursuit on Georges Bank during Northeast Fisheries Science Center's Atlantic Surfclam – Ocean Quahog Survey, 09 August– 23 August 2023.

Table 1. Station report of representative dredge tows from the Northeast Fisheries Science Center's Atlantic Surfclam – Ocean Quahog Survey, 09 August - 23 August 2023.

Stratum	Station	Date (YYYY-MM-DD)	Start Time	Begin Latitude	Begin Longitude	End Latitude	End Longitude	Mean Depth (m)	Tow Duration (min)
067S0	15	2023-08-09	23:37:25	41.014	-68.850	41.016	-68.845	67	5.10
067S0	17	2023-08-10	01:46:29	41.018	-68.700	41.022	-68.698	65	5.05
068S0	18	2023-08-10	03:18:28	40.948	-68.600	40.944	-68.602	44	5.03
068S0	19	2023-08-10	03:56:42	40.911	-68.571	40.907	-68.569	53	5.25
068S0	20	2023-08-10	06:28:11	40.781	-68.553	40.777	-68.553	52	5.10
068S0	21	2023-08-10	07:08:42	40.762	-68.506	40.764	-68.501	54	5.17
068S0	22	2023-08-10	07:41:51	40.725	-68.480	40.726	-68.474	56	5.07
068S0	23	2023-08-10	09:54:09	40.799	-68.296	40.801	-68.291	55	5.13
068S0	24	2023-08-10	10:25:42	40.792	-68.327	40.789	-68.331	52	5.15
068S0	25	2023-08-10	11:02:46	40.783	-68.392	40.782	-68.397	50	5.13
068S0	26	2023-08-10	11:57:25	40.810	-68.439	40.813	-68.435	55	5.07
068S0	27	2023-08-10	12:57:15	40.886	-68.470	40.889	-68.466	49	5.42
068S0	29	2023-08-10	15:27:20	40.993	-68.408	40.989	-68.407	45	5.07
068S0	30	2023-08-10	16:28:37	40.904	-68.374	40.900	-68.373	51	5.08
068S0	31	2023-08-10	17:41:16	40.849	-68.310	40.847	-68.305	44	5.37

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Stratum	Station	Date (YYYY-MM-DD)	Start Time	Begin Latitude	Begin Longitude	End Latitude	End Longitude	Mean Depth (m)	Tow Duration (min)
069S0	32	2023-08-10	18:48:56	40.770	-68.166	40.770	-68.160	61	5.07
069S0	33	2023-08-10	19:36:39	40.794	-68.106	40.798	-68.105	62	5.10
069S0	34	2023-08-10	20:25:22	40.863	-68.054	40.867	-68.052	59	5.12
069S0	35	2023-08-10	21:44:27	40.921	-68.145	40.925	-68.143	57	5.12
068S0	36	2023-08-10	22:38:01	40.943	-68.067	40.945	-68.063	47	5.12
069S0	37	2023-08-10	23:48:42	40.921	-67.901	40.920	-67.896	57	5.15
069S0	38	2023-08-11	01:02:38	40.856	-67.804	40.854	-67.799	64	5.12
069S0	39	2023-08-11	03:41:50	40.990	-67.554	40.987	-67.558	65	5.13
069S0	40	2023-08-11	06:11:44	41.054	-67.430	41.050	-67.428	62	5.12
069S0	41	2023-08-11	07:44:40	41.044	-67.180	41.040	-67.178	67	5.15
069S0	42	2023-08-11	09:27:41	41.117	-67.366	41.118	-67.372	59	5.18
068S0	43	2023-08-11	10:29:48	41.176	-67.439	41.180	-67.443	48	5.15
0611S	44	2023-08-11	11:24:56	41.251	-67.394	41.254	-67.389	45	5.07
0611S	45	2023-08-11	11:59:49	41.254	-67.413	41.253	-67.408	43	5.08
068S0	46	2023-08-11	12:47:52	41.262	-67.495	41.261	-67.501	44	5.10

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Stratum	Station	Date (YYYY-MM-DD)	Start Time	Begin Latitude	Begin Longitude	End Latitude	End Longitude	Mean Depth (m)	Tow Duration (min)
068S0	47	2023-08-11	13:12:07	41.270	-67.518	41.270	-67.524	41	5.07
068S0	48	2023-08-11	14:17:28	41.178	-67.602	41.180	-67.598	47	5.28
068S0	49	2023-08-11	15:02:13	41.112	-67.617	41.109	-67.621	54	5.05
068S0	50	2023-08-11	15:55:34	41.176	-67.670	41.178	-67.666	50	5.07
068S0	51	2023-08-11	16:50:48	41.138	-67.760	41.141	-67.756	42	5.15
068S0	52	2023-08-11	18:27:05	41.017	-67.809	41.014	-67.812	50	5.10
068S0	53	2023-08-11	19:00:14	41.055	-67.838	41.059	-67.835	48	5.15
068S0	54	2023-08-11	20:11:09	41.161	-67.906	41.159	-67.901	50	5.08
068S0	55	2023-08-11	20:59:48	41.083	-67.924	41.079	-67.923	43	5.10
068S0	56	2023-08-11	21:38:57	41.089	-67.969	41.086	-67.973	38	5.13
068S0	57	2023-08-11	22:11:36	41.049	-67.980	41.051	-67.975	49	5.10
068S0	58	2023-08-12	00:01:34	41.070	-68.117	41.073	-68.119	43	5.15
068S0	59	2023-08-12	00:51:26	41.143	-68.158	41.146	-68.154	39	5.15
068S0	60	2023-08-12	01:40:17	41.202	-68.105	41.205	-68.101	46	5.20
068S0	61	2023-08-12	02:39:23	41.163	-68.210	41.162	-68.216	45	5.18

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Stratum	Station	Date (YYYY-MM-DD)	Start Time	Begin Latitude	Begin Longitude	End Latitude	End Longitude	Mean Depth (m)	Tow Duration (min)
068S0	62	2023-08-12	02:58:30	41.147	-68.223	41.143	-68.224	44	5.17
068S0	63	2023-08-12	03:36:44	41.183	-68.281	41.187	-68.285	55	5.13
068S0	64	2023-08-12	05:19:09	41.143	-68.330	41.139	-68.333	42	5.13
068S0	65	2023-08-12	08:51:39	41.295	-67.943	41.299	-67.943	38	5.17
068S0	66	2023-08-12	09:56:14	41.310	-68.084	41.308	-68.088	36	5.10
068S0	67	2023-08-12	10:34:26	41.301	-68.148	41.299	-68.152	46	5.10
068S0	68	2023-08-12	11:28:09	41.281	-68.211	41.280	-68.216	42	5.08
068S0	69	2023-08-12	12:48:01	41.262	-68.394	41.261	-68.399	51	5.12
068S0	70	2023-08-12	13:19:57	41.261	-68.429	41.261	-68.434	52	5.08
068S0	71	2023-08-12	13:58:53	41.219	-68.484	41.216	-68.488	56	5.10
068S0	72	2023-08-12	14:47:29	41.145	-68.453	41.142	-68.456	56	5.10
068S0	73	2023-08-12	15:37:18	41.070	-68.460	41.066	-68.462	47	5.10
068S0	77	2023-08-14	17:34:52	41.258	-67.766	41.255	-67.770	39	5.08
068S0	78	2023-08-14	18:07:29	41.307	-67.795	41.312	-67.798	36	5.10
068S0	79	2023-08-14	18:46:21	41.339	-67.725	41.342	-67.722	39	5.07

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Stratum	Station	Date (YYYY-MM-DD)	Start Time	Begin Latitude	Begin Longitude	End Latitude	End Longitude	Mean Depth (m)	Tow Duration (min)
068S0	80	2023-08-14	19:35:52	41.292	-67.672	41.290	-67.667	37	5.05
068S0	81	2023-08-14	20:15:01	41.365	-67.652	41.369	-67.651	38	5.05
0611S	82	2023-08-14	21:32:43	41.326	-67.460	41.326	-67.454	39	5.08
0611S	83	2023-08-14	22:22:18	41.357	-67.344	41.358	-67.338	46	5.07
0611S	84	2023-08-14	23:33:38	41.308	-67.298	41.306	-67.303	46	5.17
0612S	85	2023-08-15	00:23:22	41.270	-67.298	41.273	-67.295	46	5.15
0612S	86	2023-08-15	01:10:16	41.298	-67.228	41.299	-67.223	45	5.13
0612S	87	2023-08-15	01:39:23	41.256	-67.218	41.252	-67.218	53	5.17
0612S	88	2023-08-15	02:32:03	41.253	-67.198	41.256	-67.195	54	5.12
0612S	89	2023-08-15	03:07:07	41.281	-67.198	41.285	-67.197	53	5.12
0612S	90	2023-08-15	03:43:24	41.320	-67.194	41.325	-67.194	49	6.33
0612S	91	2023-08-15	05:10:18	41.352	-67.231	41.351	-67.226	49	5.10
0612S	92	2023-08-15	05:47:41	41.383	-67.248	41.385	-67.243	44	5.18
0612S	93	2023-08-15	06:14:51	41.422	-67.252	41.426	-67.255	42	5.18
0612S	94	2023-08-15	06:40:23	41.424	-67.236	41.424	-67.230	47	5.17

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Stratum	Station	Date (YYYY-MM-DD)	Start Time	Begin Latitude	Begin Longitude	End Latitude	End Longitude	Mean Depth (m)	Tow Duration (min)
0612S	95	2023-08-15	07:11:26	41.431	-67.186	41.434	-67.182	50	5.18
0612S	96	2023-08-15	07:40:06	41.464	-67.228	41.468	-67.233	47	5.15
0611S	97	2023-08-15	08:16:15	41.467	-67.301	41.470	-67.305	42	5.17
0611S	98	2023-08-15	09:02:25	41.447	-67.374	41.448	-67.379	44	5.15
0611S	99	2023-08-15	09:41:06	41.499	-67.334	41.501	-67.329	48	5.18
0612S	100	2023-08-15	10:33:59	41.555	-67.218	41.559	-67.216	52	5.15
0612S	101	2023-08-15	11:14:11	41.598	-67.180	41.596	-67.175	46	5.13
0612S	102	2023-08-15	12:12:08	41.613	-67.278	41.613	-67.284	52	5.08
0612S	103	2023-08-15	12:41:52	41.630	-67.316	41.634	-67.318	51	5.10
0612S	104	2023-08-15	14:12:20	41.680	-67.213	41.683	-67.217	52	5.12
0612S	105	2023-08-15	15:10:22	41.700	-67.247	41.703	-67.252	56	6.20
0612S	106	2023-08-15	15:35:57	41.719	-67.269	41.723	-67.271	53	5.12
0612S	107	2023-08-15	17:37:01	41.793	-67.271	41.794	-67.267	51	5.10
0612S	108	2023-08-15	18:31:16	41.805	-67.175	41.807	-67.170	53	5.10
0611S	109	2023-08-15	22:27:36	41.903	-67.470	41.902	-67.476	61	5.08

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Stratum	Station	Date (YYYY-MM-DD)	Start Time	Begin Latitude	Begin Longitude	End Latitude	End Longitude	Mean Depth (m)	Tow Duration (min)
0611S	110	2023-08-15	23:37:11	41.917	-67.513	41.913	-67.510	48	5.18
0611S	111	2023-08-16	00:44:54	41.824	-67.455	41.824	-67.450	46	5.12
0611S	112	2023-08-16	01:43:16	41.815	-67.495	41.813	-67.500	33	5.13
0611S	113	2023-08-16	02:33:21	41.794	-67.605	41.791	-67.610	38	5.17
0611S	114	2023-08-16	03:11:57	41.765	-67.536	41.761	-67.534	51	5.52
0611S	115	2023-08-16	03:53:14	41.751	-67.469	41.748	-67.470	44	5.15
0611S	116	2023-08-16	04:46:53	41.747	-67.404	41.747	-67.399	32	5.12
0611S	117	2023-08-16	06:35:49	41.693	-67.332	41.689	-67.332	42	5.17
0611S	118	2023-08-16	07:25:33	41.694	-67.441	41.695	-67.446	49	5.15
0611S	119	2023-08-16	08:16:08	41.646	-67.499	41.646	-67.504	43	5.18
0611S	120	2023-08-16	09:16:07	41.596	-67.430	41.594	-67.425	39	5.15
0611S	121	2023-08-16	09:51:54	41.572	-67.411	41.569	-67.408	45	5.15
0611S	122	2023-08-16	10:23:39	41.575	-67.449	41.578	-67.453	42	5.17
0611S	123	2023-08-16	11:36:39	41.659	-67.552	41.657	-67.558	37	5.07
0611S	124	2023-08-16	12:11:25	41.686	-67.561	41.688	-67.566	38	5.07

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Stratum	Station	Date (YYYY-MM-DD)	Start Time	Begin Latitude	Begin Longitude	End Latitude	End Longitude	Mean Depth (m)	Tow Duration (min)
0611S	125	2023-08-16	13:13:20	41.680	-67.652	41.677	-67.656	47	5.07
0611S	126	2023-08-16	14:48:36	41.514	-67.584	41.509	-67.583	37	5.10
0611S	127	2023-08-16	15:16:58	41.494	-67.547	41.490	-67.546	35	5.13
0611S	128	2023-08-16	15:57:19	41.491	-67.614	41.493	-67.620	37	5.08
0611S	129	2023-08-16	16:23:00	41.470	-67.638	41.467	-67.642	33	5.12
068S0	130	2023-08-16	17:10:05	41.429	-67.719	41.427	-67.724	38	5.12
068S0	131	2023-08-16	18:05:02	41.469	-67.784	41.472	-67.789	36	5.13
068S0	132	2023-08-16	18:43:41	41.504	-67.816	41.507	-67.820	35	5.08
0611S	133	2023-08-16	19:28:07	41.548	-67.824	41.552	-67.827	37	5.07
0611S	134	2023-08-16	20:06:52	41.592	-67.836	41.595	-67.838	34	5.12
0611S	135	2023-08-16	20:45:40	41.613	-67.881	41.616	-67.884	34	5.10
0611S	136	2023-08-16	23:05:48	41.616	-68.060	41.616	-68.066	36	5.15
0611S	137	2023-08-17	00:22:21	41.602	-68.006	41.600	-68.002	28	5.18
0611S	138	2023-08-17	01:21:52	41.576	-67.903	41.575	-67.899	34	5.17
0611S	139	2023-08-17	02:06:32	41.533	-67.894	41.532	-67.890	32	5.10

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Stratum	Station	Date (YYYY-MM-DD)	Start Time	Begin Latitude	Begin Longitude	End Latitude	End Longitude	Mean Depth (m)	Tow Duration (min)
068S0	140	2023-08-17	02:50:53	41.486	-67.888	41.481	-67.887	39	5.15
068S0	141	2023-08-17	04:40:11	41.433	-67.999	41.429	-67.999	36	5.10
0611S	142	2023-08-17	05:20:39	41.410	-68.050	41.409	-68.056	37	5.13
0611S	143	2023-08-17	06:39:31	41.472	-68.059	41.475	-68.063	35	5.17
0611S	144	2023-08-17	07:05:45	41.495	-68.092	41.498	-68.097	33	5.17
0611S	145	2023-08-17	07:58:06	41.534	-68.093	41.538	-68.092	24	5.17
0611S	146	2023-08-17	09:51:07	41.543	-68.225	41.546	-68.230	32	5.12
068S0	147	2023-08-17	11:05:20	41.509	-68.285	41.507	-68.289	52	5.10
0611S	148	2023-08-17	12:06:05	41.496	-68.260	41.491	-68.260	49	5.10
0611S	149	2023-08-17	13:02:58	41.483	-68.187	41.483	-68.181	44	5.13
0611S	150	2023-08-17	14:54:18	41.373	-68.165	41.373	-68.159	38	5.12
068S0	151	2023-08-20	09:53:18	41.343	-68.331	41.346	-68.329	56	3.95
067S0	152	2023-08-20	12:33:04	41.417	-68.345	41.413	-68.347	54	5.10
068S0	153	2023-08-20	13:35:23	41.505	-68.319	41.509	-68.317	51	5.60
0611S	154	2023-08-20	14:47:40	41.604	-68.255	41.605	-68.249	29	5.15

Table 1. Station report of representative dredge tows from the Northeast Fisheries Science Center's Atlantic Surfclam – Ocean Quahog Survey, 09 August - 23 August 2023.

Stratum	Station	Date (YYYY-MM-DD)	Start Time	Begin Latitude	Begin Longitude	End Latitude	End Longitude	Mean Depth (m)	Tow Duration (min)
0611S	155	2023-08-20	16:02:59	41.676	-68.270	41.679	-68.267	22	5.22
0611S	156	2023-08-20	17:31:48	41.713	-68.111	41.711	-68.106	37	5.28
0611S	157	2023-08-20	17:53:19	41.713	-68.087	41.714	-68.081	35	5.23
0611S	158	2023-08-20	19:28:56	41.692	-67.933	41.689	-67.928	31	5.23
0611S	159	2023-08-20	20:42:59	41.738	-67.947	41.735	-67.949	30	5.10
0611S	160	2023-08-20	21:42:37	41.771	-67.984	41.772	-67.978	34	5.15
0611S	162	2023-08-20	23:56:30	41.747	-67.818	41.749	-67.813	29	5.17
0611S	163	2023-08-21	01:33:42	41.672	-67.778	41.674	-67.782	34	5.23
0611S	164	2023-08-21	03:33:15	41.719	-67.684	41.715	-67.682	40	5.18
0611S	165	2023-08-21	06:11:30	41.825	-67.803	41.826	-67.810	35	7.62
0611S	166	2023-08-21	08:11:52	41.938	-67.653	41.940	-67.648	38	5.22
0611S	167	2023-08-21	08:57:47	41.980	-67.633	41.983	-67.629	45	5.03
0611S	168	2023-08-21	11:47:04	41.895	-67.348	41.891	-67.349	40	5.10
0612S	169	2023-08-21	12:19:15	41.930	-67.329	41.933	-67.327	47	5.12
0612S	170	2023-08-21	13:20:59	41.936	-67.294	41.939	-67.294	52	5.10

Table 1. Station report of representative dredge tows from the Northeast Fisheries Science Center's Atlantic Surfclam – Ocean Quahog Survey, 09 August - 23 August 2023.

Stratum	Station	Date (YYYY-MM-DD)	Start Time	Begin Latitude	Begin Longitude	End Latitude	End Longitude	Mean Depth (m)	Tow Duration (min)
0612S	171	2023-08-21	14:44:15	41.869	-67.230	41.865	-67.231	54	5.13
0612S	172	2023-08-21	15:28:40	41.853	-67.208	41.850	-67.203	52	5.15
0612S	173	2023-08-21	16:11:02	41.835	-67.128	41.832	-67.121	52	5.93
0612S	174	2023-08-21	16:52:32	41.849	-67.102	41.853	-67.100	55	5.08
0610S	175	2023-08-22	05:46:38	42.111	-67.149	42.113	-67.154	54	5.12
0610S	176	2023-08-22	08:26:26	42.083	-67.430	42.079	-67.431	59	5.02
0610S	177	2023-08-22	09:11:27	42.068	-67.469	42.064	-67.471	59	5.15
0610S	178	2023-08-22	09:54:22	42.054	-67.510	42.051	-67.513	51	5.15
0612S	179	2023-08-22	12:27:40	41.912	-67.828	41.912	-67.833	48	5.07
0612S	180	2023-08-22	13:13:39	41.889	-67.850	41.886	-67.854	47	5.17
0610S	181	2023-08-22	14:33:26	41.834	-67.989	41.830	-67.993	58	5.27
0610S	182	2023-08-22	15:35:23	41.790	-68.110	41.787	-68.114	53	5.10
0610S	183	2023-08-22	16:22:16	41.746	-68.206	41.743	-68.210	56	5.12
0610S	184	2023-08-22	17:05:56	41.734	-68.255	41.731	-68.259	53	5.12
068S0	185	2023-08-22	17:50:05	41.694	-68.306	41.690	-68.308	50	5.13

Table 1. Station report of representative dredge tows from the Northeast Fisheries Science Center's Atlantic Surfclam – Ocean Quahog Survey, 09 August - 23 August 2023.

Stratum	Station	Date (YYYY-MM-DD)	Start Time	Begin Latitude	Begin Longitude	End Latitude	End Longitude	Mean Depth (m)	Tow Duration (min)
067S0	186	2023-08-22	19:55:46	41.374	-68.350	41.370	-68.351	58	5.13
067S0	187	2023-08-22	20:22:57	41.360	-68.377	41.358	-68.382	60	5.12

Table 2. Catch summary report from all dredge tows, Northeast Fisheries Science Center's Atlantic Surfclam – Ocean Quahog Survey, 09 August - 23 August 2023. Non-representative tows are indicated by *.

Station	Begin Latitude	Begin Longitude	Mean Depth (m)	Total Surfclams	% of Surfclams 0-4.75"	% of Surfclams 4.76-5"	% of Surfclams 5.01-5.50"	% of Surfclams >5.5"	Total Quahogs
14*	-	-	-	-	-	-	-	-	-
15	41.014	-68.850	67	0	0.00	0.00	0.00	0.00	0
17	41.018	-68.700	65	0	0.00	0.00	0.00	0.00	960
18	40.948	-68.600	44	0	0.00	0.00	0.00	0.00	111
19	40.911	-68.571	53	0	0.00	0.00	0.00	0.00	0
20	40.781	-68.553	52	3	66.67	0.00	33.33	0.00	62
21	40.762	-68.506	54	0	0.00	0.00	0.00	0.00	0
22	40.725	-68.480	56	4	50.00	0.00	50.00	0.00	48
23	40.799	-68.296	55	0	0.00	0.00	0.00	0.00	0
24	40.792	-68.327	52	17	41.18	11.76	17.65	29.41	65
25	40.783	-68.392	50	11	45.45	9.09	9.09	36.36	101
26	40.810	-68.439	55	316	7.91	1.90	6.96	83.23	543
27	40.886	-68.470	49	6	33.33	0.00	33.33	33.33	34
28*	40.971	-68.450	48	0	0.00	0.00	0.00	0.00	0
29	40.993	-68.408	45	136	8.09	2.21	9.56	80.15	0

Table 2. Catch summary report from all dredge tows, Northeast Fisheries Science Center's Atlantic Surfclam – Ocean Quahog Survey, 09 August - 23 August 2023. Non-representative tows are indicated by *.

Station	Begin Latitude	Begin Longitude	Mean Depth (m)	Total Surfclams	% of Surfclams 0-4.75"	% of Surfclams 4.76-5"	% of Surfclams 5.01-5.50"	% of Surfclams >5.5"	Total Quahogs
30	40.904	-68.374	51	10	10.00	20.00	20.00	50.00	33
31	40.849	-68.310	44	14	50.00	7.14	7.14	35.71	14
32	40.770	-68.166	61	15	40.00	13.33	6.67	40.00	238
33	40.794	-68.106	62	5	60.00	20.00	20.00	0.00	100
34	40.863	-68.054	59	156	21.15	8.33	16.03	54.49	1980
35	40.921	-68.145	57	22	63.64	13.64	13.64	9.09	276
36	40.943	-68.067	47	25	28.00	4.00	24.00	44.00	53
37	40.921	-67.901	57	102	15.69	13.73	21.57	49.02	920
38	40.856	-67.804	64	6	50.00	0.00	50.00	0.00	1387
39	40.990	-67.554	65	5	100.00	0.00	0.00	0.00	8871
40	41.054	-67.430	62	95	12.63	6.32	33.68	47.37	1726
41	41.044	-67.180	67	8	62.50	0.00	37.50	0.00	4666
42	41.117	-67.366	59	39	2.56	0.00	5.13	92.31	2540
43	41.176	-67.439	48	156	5.13	1.92	7.05	85.90	109
44	41.251	-67.394	45	78	17.95	1.28	3.85	76.92	39

Table 2. Catch summary report from all dredge tows, Northeast Fisheries Science Center's Atlantic Surfclam – Ocean Quahog Survey, 09 August - 23 August 2023. Non-representative tows are indicated by *.

Station	Begin Latitude	Begin Longitude	Mean Depth (m)	Total Surfclams	% of Surfclams 0-4.75"	% of Surfclams 4.76-5"	% of Surfclams 5.01-5.50"	% of Surfclams >5.5"	Total Quahogs
45	41.254	-67.413	43	40	7.50	5.00	2.50	85.00	10
46	41.262	-67.495	44	45	8.89	2.22	6.67	82.22	5
47	41.270	-67.518	41	25	20.00	0.00	8.00	72.00	1
48	41.178	-67.602	47	28	17.86	17.86	3.57	60.71	0
49	41.112	-67.617	54	131	12.98	5.34	7.63	74.05	388
50	41.176	-67.670	50	17	0.00	0.00	17.65	82.35	38
51	41.138	-67.760	42	0	0.00	0.00	0.00	0.00	0
52	41.017	-67.809	50	0	0.00	0.00	0.00	0.00	0
53	41.055	-67.838	48	56	8.93	7.14	19.64	64.29	19
54	41.161	-67.906	50	0	0.00	0.00	0.00	0.00	0
55	41.083	-67.924	43	0	0.00	0.00	0.00	0.00	0
56	41.089	-67.969	38	33	9.09	9.09	30.30	51.52	2
57	41.049	-67.980	49	0	0.00	0.00	0.00	0.00	0
58	41.070	-68.117	43	15	6.67	6.67	6.67	80.00	1
59	41.143	-68.158	39	10	10.00	0.00	20.00	70.00	0

Table 2. Catch summary report from all dredge tows, Northeast Fisheries Science Center's Atlantic Surfclam – Ocean Quahog Survey, 09 August - 23 August 2023. Non-representative tows are indicated by *.

Station	Begin Latitude	Begin Longitude	Mean Depth (m)	Total Surfclams	% of Surfclams 0-4.75"	% of Surfclams 4.76-5"	% of Surfclams 5.01-5.50"	% of Surfclams >5.5"	Total Quahogs
60	41.202	-68.105	46	17	5.88	5.88	11.76	76.47	0
61	41.163	-68.210	45	0	0.00	0.00	0.00	0.00	0
62	41.147	-68.223	44	0	0.00	0.00	0.00	0.00	0
63	41.183	-68.281	55	0	0.00	0.00	0.00	0.00	0
64	41.143	-68.330	42	0	0.00	0.00	0.00	0.00	0
65	41.295	-67.943	38	0	0.00	0.00	0.00	0.00	0
66	41.310	-68.084	36	19	15.79	5.26	21.05	57.89	0
67	41.301	-68.148	46	42	4.76	0.00	14.29	80.95	0
68	41.281	-68.211	42	0	0.00	0.00	0.00	0.00	0
69	41.262	-68.394	51	1	0.00	0.00	100.00	0.00	0
70	41.261	-68.429	52	1	0.00	0.00	0.00	100.00	0
71	41.219	-68.484	56	0	0.00	0.00	0.00	0.00	0
72	41.145	-68.453	56	0	0.00	0.00	0.00	0.00	0
73	41.070	-68.460	47	0	0.00	0.00	0.00	0.00	0
77	41.258	-67.766	39	0	0.00	0.00	0.00	0.00	0

Table 2. Catch summary report from all dredge tows, Northeast Fisheries Science Center's Atlantic Surfclam – Ocean Quahog Survey, 09 August - 23 August 2023. Non-representative tows are indicated by *.

Station	Begin Latitude	Begin Longitude	Mean Depth (m)	Total Surfclams	% of Surfclams 0-4.75"	% of Surfclams 4.76-5"	% of Surfclams 5.01-5.50"	% of Surfclams >5.5"	Total Quahogs
78	41.307	-67.795	36	0	0.00	0.00	0.00	0.00	0
79	41.339	-67.725	39	39	17.95	7.69	28.21	46.15	0
80	41.292	-67.672	37	0	0.00	0.00	0.00	0.00	0
81	41.365	-67.652	38	0	0.00	0.00	0.00	0.00	0
82	41.326	-67.460	39	36	5.56	8.33	22.22	63.89	0
83	41.357	-67.344	46	219	10.96	3.20	15.07	70.78	0
84	41.308	-67.298	46	23	17.39	8.70	13.04	60.87	5
85	41.270	-67.298	46	9	11.11	11.11	33.33	44.44	7
86	41.298	-67.228	45	13	53.85	7.69	23.08	15.38	13
87	41.256	-67.218	53	93	10.75	2.15	12.90	74.19	115
88	41.253	-67.198	54	25	28.00	8.00	20.00	44.00	102
89	41.281	-67.198	53	43	9.30	4.65	30.23	55.81	85
90	41.320	-67.194	49	18	22.22	0.00	11.11	66.67	35
91	41.352	-67.231	49	26	34.62	7.69	19.23	38.46	91
92	41.383	-67.248	44	8	12.50	0.00	37.50	50.00	27

Table 2. Catch summary report from all dredge tows, Northeast Fisheries Science Center's Atlantic Surfclam – Ocean Quahog Survey, 09 August - 23 August 2023. Non-representative tows are indicated by *.

Station	Begin Latitude	Begin Longitude	Mean Depth (m)	Total Surfclams	% of Surfclams 0-4.75"	% of Surfclams 4.76-5"	% of Surfclams 5.01-5.50"	% of Surfclams >5.5"	Total Quahogs
93	41.422	-67.252	42	4	25.00	0.00	25.00	50.00	11
94	41.424	-67.236	47	0	0.00	0.00	0.00	0.00	7
95	41.431	-67.186	50	1	100.00	0.00	0.00	0.00	0
96	41.464	-67.228	47	4	100.00	0.00	0.00	0.00	1
97	41.467	-67.301	42	3	33.33	0.00	0.00	66.67	0
98	41.447	-67.374	44	12	25.00	0.00	16.67	58.33	0
99	41.499	-67.334	48	542	1.11	1.85	11.81	85.24	0
100	41.555	-67.218	52	22	4.55	0.00	27.27	68.18	32
101	41.598	-67.180	46	1	100.00	0.00	0.00	0.00	1
102	41.613	-67.278	52	0	0.00	0.00	0.00	0.00	0
103	41.630	-67.316	51	0	0.00	0.00	0.00	0.00	0
104	41.680	-67.213	52	141	1.42	0.71	7.09	90.78	0
105	41.700	-67.247	56	0	0.00	0.00	0.00	0.00	0
106	41.719	-67.269	53	105	4.76	6.67	29.52	59.05	0
107	41.793	-67.271	51	97	18.56	15.46	22.68	43.30	0

Table 2. Catch summary report from all dredge tows, Northeast Fisheries Science Center's Atlantic Surfclam – Ocean Quahog Survey, 09 August - 23 August 2023. Non-representative tows are indicated by *.

Station	Begin Latitude	Begin Longitude	Mean Depth (m)	Total Surfclams	% of Surfclams 0-4.75"	% of Surfclams 4.76-5"	% of Surfclams 5.01-5.50"	% of Surfclams >5.5"	Total Quahogs
108	41.805	-67.175	53	6	0.00	0.00	50.00	50.00	0
109	41.903	-67.470	61	578	24.39	25.43	44.98	5.19	1
110	41.917	-67.513	48	159	28.93	28.30	30.82	11.95	1
111	41.824	-67.455	46	22	36.36	13.64	36.36	13.64	0
112	41.815	-67.495	33	106	17.92	6.60	34.91	40.57	1
113	41.794	-67.605	38	0	0.00	0.00	0.00	0.00	0
114	41.765	-67.536	51	0	0.00	0.00	0.00	0.00	0
115	41.751	-67.469	44	165	14.55	6.06	43.64	35.76	0
116	41.747	-67.404	32	7	14.29	28.57	28.57	28.57	0
117	41.693	-67.332	42	129	7.75	2.33	23.26	66.67	0
118	41.694	-67.441	49	272	4.41	5.88	40.81	48.90	0
119	41.646	-67.499	43	238	7.98	8.82	32.35	50.84	0
120	41.596	-67.430	39	70	8.57	10.00	41.43	40.00	0
121	41.572	-67.411	45	9	11.11	11.11	55.56	22.22	0
122	41.575	-67.449	42	37	13.51	2.70	10.81	72.97	0

Table 2. Catch summary report from all dredge tows, Northeast Fisheries Science Center's Atlantic Surfclam – Ocean Quahog Survey, 09 August - 23 August 2023. Non-representative tows are indicated by *.

Station	Begin Latitude	Begin Longitude	Mean Depth (m)	Total Surfclams	% of Surfclams 0-4.75"	% of Surfclams 4.76-5"	% of Surfclams 5.01-5.50"	% of Surfclams >5.5"	Total Quahogs
123	41.659	-67.552	37	40	7.50	7.50	22.50	62.50	0
124	41.686	-67.561	38	98	14.29	9.18	29.59	46.94	0
125	41.680	-67.652	47	528	7.95	5.68	39.77	46.59	0
126	41.514	-67.584	37	39	5.13	5.13	28.21	61.54	0
127	41.494	-67.547	35	126	6.35	2.38	15.08	76.19	0
128	41.491	-67.614	37	30	16.67	3.33	13.33	66.67	0
129	41.470	-67.638	33	64	15.62	6.25	21.88	56.25	0
130	41.429	-67.719	38	64	7.81	15.62	20.31	56.25	0
131	41.469	-67.784	36	35	20.00	5.71	14.29	60.00	0
132	41.504	-67.816	35	71	1.41	5.63	19.72	73.24	0
133	41.548	-67.824	37	51	5.88	9.80	19.61	64.71	0
134	41.592	-67.836	34	204	10.78	6.86	37.75	44.61	0
135	41.613	-67.881	34	7	0.00	14.29	28.57	57.14	0
136	41.616	-68.060	36	499	15.23	17.23	45.89	21.64	0
137	41.602	-68.006	28	165	24.24	12.12	43.64	20.00	0

Table 2. Catch summary report from all dredge tows, Northeast Fisheries Science Center's Atlantic Surfclam – Ocean Quahog Survey, 09 August - 23 August 2023. Non-representative tows are indicated by *.

Station	Begin Latitude	Begin Longitude	Mean Depth (m)	Total Surfclams	% of Surfclams 0-4.75"	% of Surfclams 4.76-5"	% of Surfclams 5.01-5.50"	% of Surfclams >5.5"	Total Quahogs
138	41.576	-67.903	34	783	12.64	11.88	47.51	27.97	0
139	41.533	-67.894	32	54	14.81	11.11	50.00	24.07	0
140	41.486	-67.888	39	137	5.84	8.03	30.66	55.47	0
141	41.433	-67.999	36	435	3.68	4.60	14.48	77.24	0
142	41.410	-68.050	37	58	1.72	6.90	18.97	72.41	0
143	41.472	-68.059	35	0	0.00	0.00	0.00	0.00	0
144	41.495	-68.092	33	144	11.11	5.56	20.14	63.19	0
145	41.534	-68.093	24	43	16.28	6.98	27.91	48.84	0
146	41.543	-68.225	32	170	3.53	4.12	11.18	81.18	0
147	41.509	-68.285	52	13	7.69	0.00	23.08	69.23	369
148	41.496	-68.260	49	2	0.00	50.00	50.00	0.00	40
149	41.483	-68.187	44	0	0.00	0.00	0.00	0.00	0
150	41.373	-68.165	38	3	33.33	0.00	33.33	33.33	0
151	41.343	-68.331	56	7	14.29	14.29	14.29	57.14	1
152	41.417	-68.345	54	1	100.00	0.00	0.00	0.00	10

Table 2. Catch summary report from all dredge tows, Northeast Fisheries Science Center's Atlantic Surfclam – Ocean Quahog Survey, 09 August - 23 August 2023. Non-representative tows are indicated by *.

Station	Begin Latitude	Begin Longitude	Mean Depth (m)	Total Surfclams	% of Surfclams 0-4.75"	% of Surfclams 4.76-5"	% of Surfclams 5.01-5.50"	% of Surfclams >5.5"	Total Quahogs
153	41.505	-68.319	51	387	10.08	6.20	17.57	66.15	2070
154	41.604	-68.255	29	169	18.34	4.14	17.75	59.76	55
155	41.676	-68.270	22	16	6.25	25.00	12.50	56.25	7
156	41.713	-68.111	37	0	0.00	0.00	0.00	0.00	0
157	41.713	-68.087	35	0	0.00	0.00	0.00	0.00	0
158	41.692	-67.933	31	475	13.26	16.42	46.32	24.00	1
159	41.738	-67.947	30	87	32.18	14.94	40.23	12.64	2
160	41.771	-67.984	34	0	0.00	0.00	0.00	0.00	0
161*	41.775	-67.946	33	0	0.00	0.00	0.00	0.00	0
162	41.747	-67.818	29	17	17.65	5.88	70.59	5.88	1
163	41.672	-67.778	34	1320	15.68	20.98	48.56	14.77	0
164	41.719	-67.684	40	0	0.00	0.00	0.00	0.00	0
165	41.825	-67.803	35	0	0.00	0.00	0.00	0.00	0
166	41.938	-67.653	38	132	3.03	0.76	7.58	88.64	0
167	41.980	-67.633	45	0	0.00	0.00	0.00	0.00	0

Table 2. Catch summary report from all dredge tows, Northeast Fisheries Science Center's Atlantic Surfclam – Ocean Quahog Survey, 09 August - 23 August 2023. Non-representative tows are indicated by *.

Station	Begin Latitude	Begin Longitude	Mean Depth (m)	Total Surfclams	% of Surfclams 0-4.75"	% of Surfclams 4.76-5"	% of Surfclams 5.01-5.50"	% of Surfclams >5.5"	Total Quahogs
168	41.895	-67.348	40	7	14.29	0.00	14.29	71.43	1
169	41.930	-67.329	47	198	5.56	8.59	49.49	36.36	0
170	41.936	-67.294	52	15	40.00	13.33	46.67	0.00	0
171	41.869	-67.230	54	7	14.29	28.57	28.57	28.57	0
172	41.853	-67.208	52	0	0.00	0.00	0.00	0.00	0
173	41.835	-67.128	52	0	0.00	0.00	0.00	0.00	0
174	41.849	-67.102	55	0	0.00	0.00	0.00	0.00	0
175	42.111	-67.149	54	0	0.00	0.00	0.00	0.00	0
176	42.083	-67.430	59	0	0.00	0.00	0.00	0.00	0
177	42.068	-67.469	59	7	85.71	0.00	14.29	0.00	38
178	42.054	-67.510	51	37	97.30	2.70	0.00	0.00	10
179	41.912	-67.828	48	2	100.00	0.00	0.00	0.00	70
180	41.889	-67.850	47	1	100.00	0.00	0.00	0.00	25
181	41.834	-67.989	58	4	100.00	0.00	0.00	0.00	672
182	41.790	-68.110	53	191	32.98	6.81	20.94	39.27	164

Table 2. Catch summary report from all dredge tows, Northeast Fisheries Science Center's Atlantic Surfclam – Ocean Quahog Survey, 09 August - 23 August 2023. Non-representative tows are indicated by *.

Station	Begin Latitude	Begin Longitude	Mean Depth (m)	Total Surfclams	% of Surfclams 0-4.75"	% of Surfclams 4.76-5"	% of Surfclams 5.01-5.50"	% of Surfclams >5.5"	Total Quahogs
183	41.746	-68.206	56	18	50.00	5.56	27.78	16.67	1794
184	41.734	-68.255	53	9	55.56	11.11	11.11	22.22	1070
185	41.694	-68.306	50	231	4.76	3.03	22.94	69.26	113
186	41.374	-68.350	58	0	0.00	0.00	0.00	0.00	0
187	41.360	-68.377	60	20	5.00	10.00	30.00	55.00	168

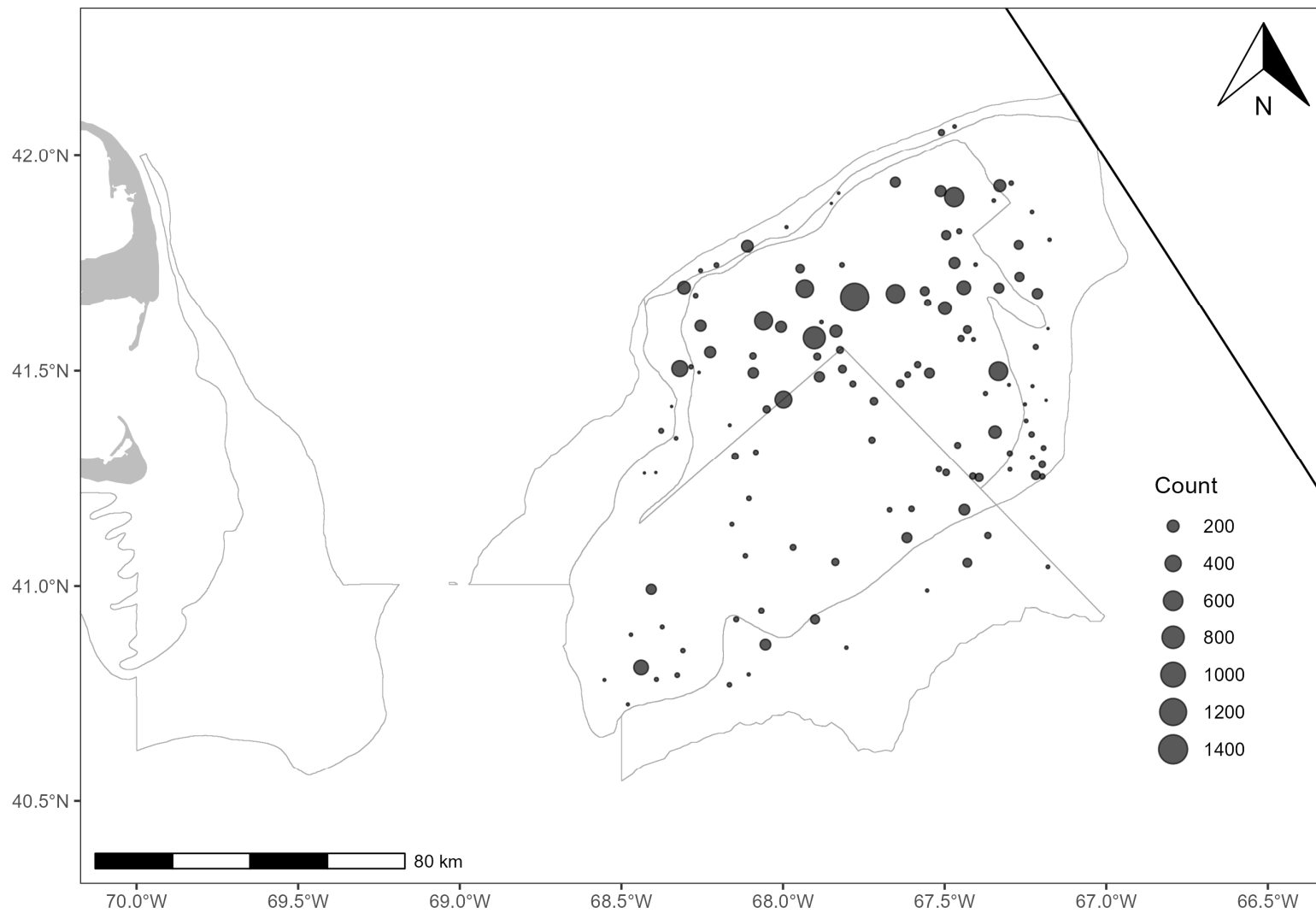


Figure 2: Total number of surfclams per tow from Northeast Fisheries Science Center's Atlantic Surfclam Ocean Quahog Survey, 09 August- 23 August 2023. Circle size is scaled to number of surfclams per tow; tows with zero surfclams not shown.

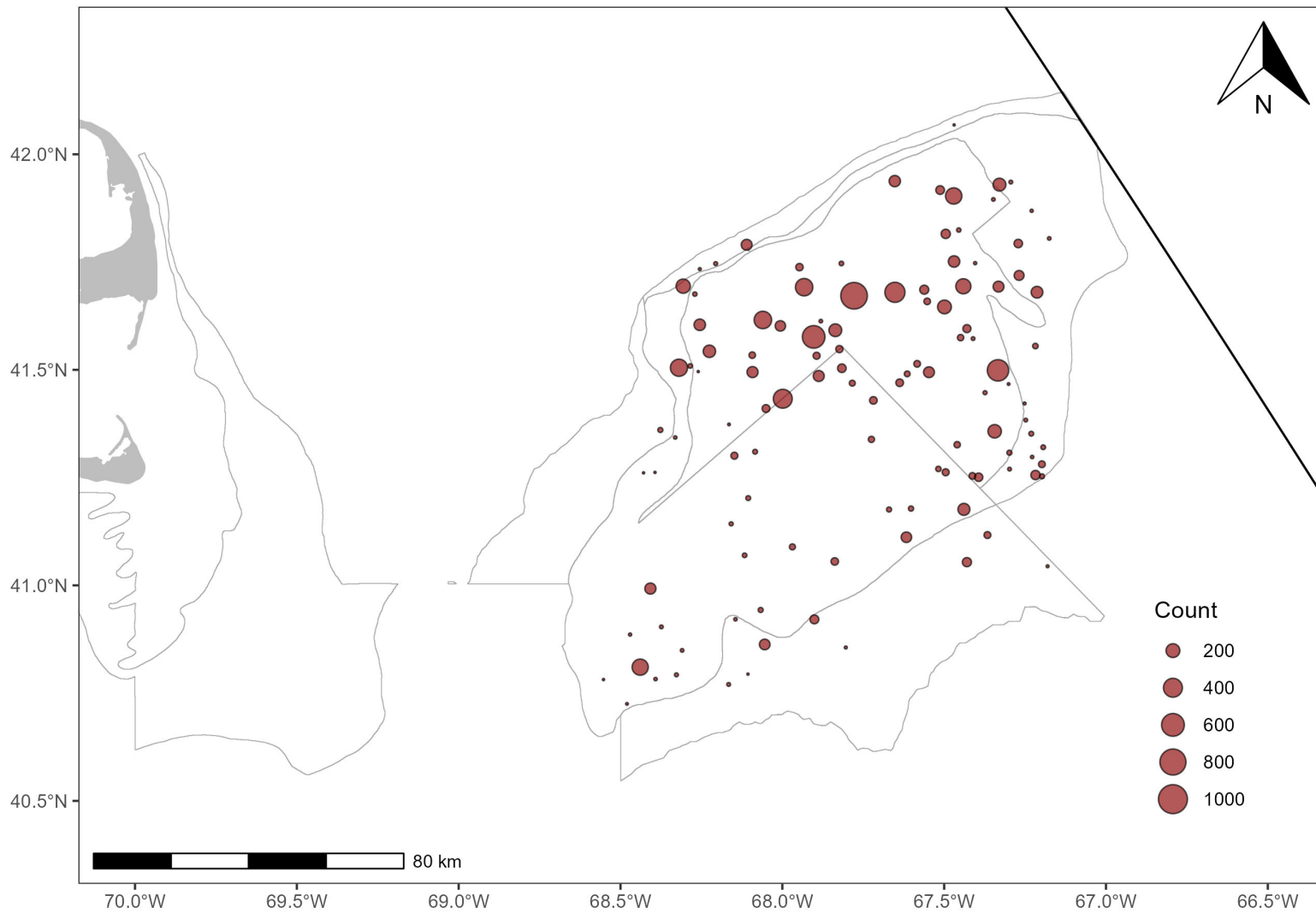


Figure 3: Total number of surfclams greater than 5 inches wide per tow from Northeast Fisheries Science Center's Atlantic Surfclam, Ocean Quahog Survey, 09 August - 23 August 2023. Circle size is scaled to number of surfclams greater than 5 inches wide per tow; tows with zero surfclams in this size class not shown.

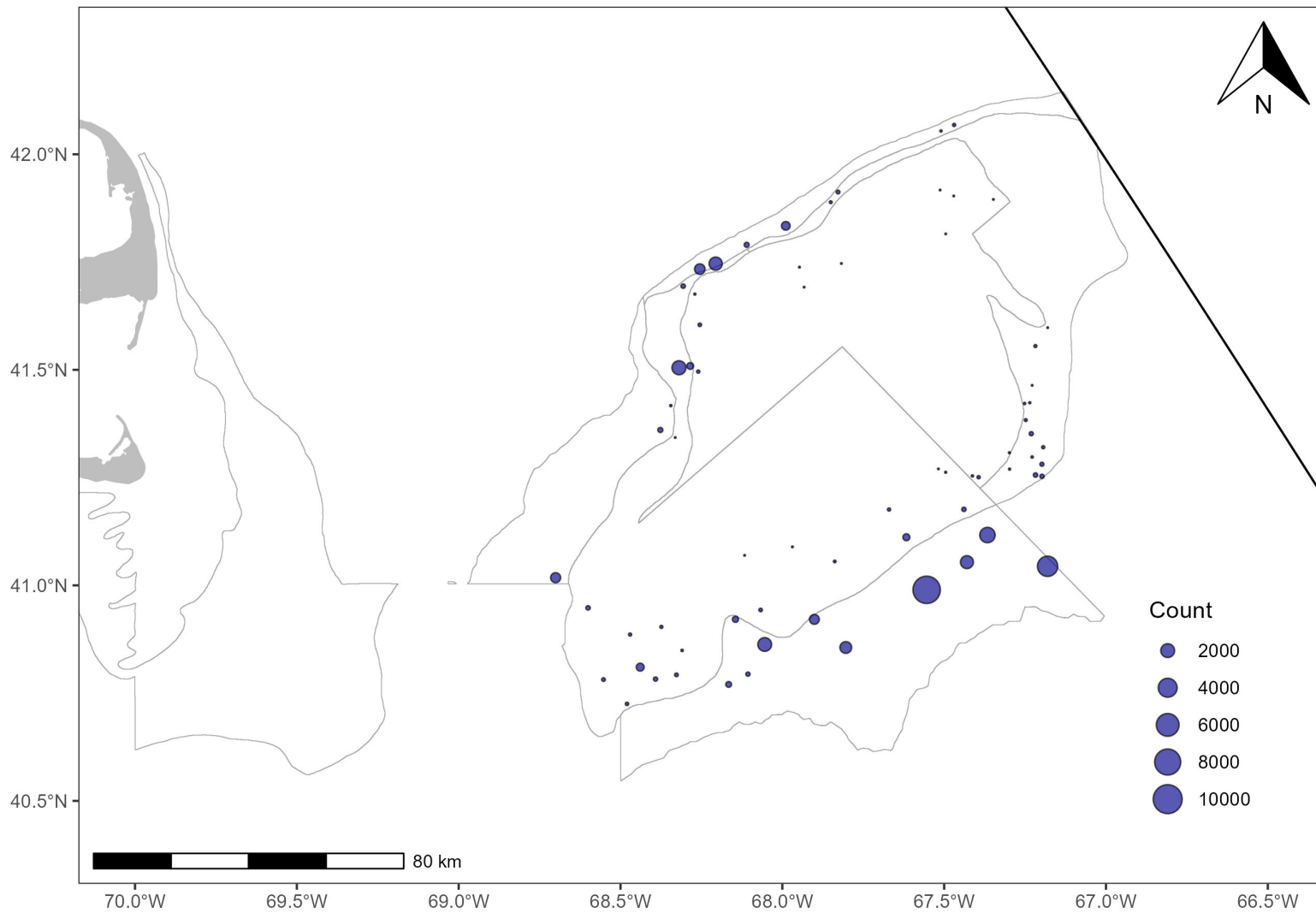


Figure 4: Total number of Quahogs per tow from Northeast Fisheries Science Center's Atlantic Surfclam. Ocean Quahog Survey, 09 August. 23 August 2023. Circle size is scaled to number of quahogs per tow; tows with zero quahogs not shown. Note that Ocean Quahog data was collected using a stratification scheme designed for surfclams.