

RESOURCE SURVEY REPORT  
Catch Summary  
NOAA Fisheries Service Northeast  
Fisheries Science Center  
Spring Bottom Trawl Survey Cape  
Hatteras - Gulf of Maine 27  
February – 9 May 2009

**Submitted to:** NOAA, NEFSC

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**Date:** 2009

# Resource Survey Report

## Bottom Trawl Survey

Cape Hatteras – Gulf of Maine

February 27 – May 9, 2009

NOAA FSV *Henry B. Bigelow*



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



**FSV *Henry B. Bigelow* has taken over survey responsibilities from the FSV *Albatross IV*.**



**The new 400 x 12, 4 seam bottom trawl survey net.**



**Scientists work up a catch of Yellowtail flounder in the new fish processing lab.**

## Significant Changes to the NEFSC Bottom Trawl Survey

Many significant changes in survey methodology were implemented beginning with the 2009 Spring Multispecies Bottom Trawl Survey that have significant implications for the use of these data. Prior to 2009, multispecies bottom trawl surveys were conducted primarily on the NOAA FSV *Albatross IV* and occasionally on the NOAA FSV *Delaware II*. The 2009 survey was conducted using the NOAA FSV *Henry B. Bigelow* which is equipped with an autotrawl system that balances warp tensions throughout the duration of survey tows.

The bottom trawl system used for sampling has also been changed. Prior to 2009, the survey was conducted with a Yankee 36 bottom trawl and 450-kg euronet polyvalent trawl doors. Beginning in 2009, the survey is being conducted using a 400 x 12, 4-seam bottom trawl designed and extensively tested with the fishing industry, fishery management, and academic stakeholders in conjunction with the Northeast Fisheries Science Center scientists through the mid-Atlantic and New England Trawl Survey Advisory Panel. The net was extensively tested on the FSV *Delaware II* and the FSV *Henry B. Bigelow* prior to being adopted as the standard survey gear. The bottom trawl is fished with 550-kg, 2.2-m Polyice oval trawl doors.

The survey tows speed was decreased from 3.8 knots prior to 2009 to 3.0 knots beginning in 2009. The new tows speed was selected after extensive scope and tows speed trials conducted on both the FSV *Delaware II* and the FSV *Henry B. Bigelow* and consideration of the range of species to be sampled. The tows duration was also changed from 30 minutes (timed from when the winches were locked until they were reengaged) to 20 minutes of actual bottom time (as determined by net monitoring systems). The adjustments to both tows speed and tows duration have resulted in a decrease of average tows distance from 1.9 nautical miles prior to 2009 to an average tows distance of 1.0 nautical miles beginning in 2009. The shorter tows distance allows us to conduct additional tows in areas that are constrained by fixed fishing gear, untrawlable bottom and steep contours along the edge of the continental shelf. While some commercial fishery stakeholders are likely to express concern about the reduction in tows duration, a preliminary analysis of the length frequency data from paired FSV *Albatross IV* and the FSV *Henry B. Bigelow* tows shows few differences in the largest sized fish of each species caught by the vessels.

Station allocation also changed significantly due to an increase in total available vessel time from 48 to 60 sea days and a reduction in inshore sampling by the FSV *Henry B. Bigelow*. At the time that inshore strata in the mid-Atlantic were historically sampled (March), survey results indicate low densities of commercially and recreational species. These areas will continue to be sampled by the Northeast Area Monitoring and Assessment Program (NEAMAP) bottom trawl survey, although later in the year (late April – early May). As a result of station reallocation, station density was increased

significantly in offshore strata that have historically demonstrated higher densities of fish particularly in the mid-Atlantic and southern New England regions.

The Northeast Fisheries Science Center conducted an extensive comparison of the catchability of the FSV *Albatross IV* sampling with the Yankee 36 bottom trawl using historical protocols and the FSV *Henry B. Bigelow* sampling with the 400 x 12, 4 seam bottom trawl with revised protocols. The resulting dataset is one of the most comprehensive ever produced to study the catchability characteristics of a fisheries bottom trawl survey. A preliminary overall result is that the survey conducted by the FSV *Henry B. Bigelow* has significantly higher catch rates for nearly all species except those with very small total body size (e.g. anchovy species). The results of this study were peer reviewed in August 2009 and analytic approaches will be subsequently used to appropriately interpret pre-2009 survey results with 2009 and later results.

**Given the changes in vessel, trawling gear, tow speed, tow duration, sample allocation and towing procedures, straight-forward comparisons of catches in this report with Spring bottom trawl survey catches in previous Resource Survey Reports are not appropriate without employing statistical approaches that are reviewed and endorsed for stock assessment applications through peer review processes.**

Russell W. Brown, Chief  
Ecosystem Surveys Branch

# RESOURCE SURVEY REPORT

## Catch Summary

NOAA Fisheries Service  
Northeast Fisheries Science Center

### **Spring Bottom Trawl Survey**

Cape Hatteras - Gulf of Maine

27 February – 9 May 2009

Attached are field notes, station and catch summaries and a series of geographical plots of commercially and recreationally important species caught during the Northeast Fisheries Science Center's 2009 spring bottom trawl survey aboard the NOAA FSV *Henry B. Bigelow*. Tows were made with a 400 x 12, 4 seam bottom trawl rigged with a rockhopper sweep, 550 kg (1200lbs) 2.2 m Polyice oval doors, and 36.6 m (20 fathom) bridles. The cod end was lined with one-inch mesh to retain juvenile fish.

Because of the 20-minute tow duration, and random selection of station locations, catches can be light compared with commercial tows. Also, vessel operations are on a 24-hour basis and catches have not been adjusted for day/night differences. Nevertheless, these data can provide fishermen with useful information about the distribution and relative abundance of species inhabiting the survey area (Cape Hatteras to the Gulf of Maine).

A new tow evaluation system has been implemented to validate all standard survey tows. These codes are exclusively used with the 400 x 12, 4-seam trawl rigged with the rockhopper sweep, towed by the FSV *Henry B. Bigelow*. Each standard survey tow is now validated based on four codes: Type, Operational, Gear and Acquisition (T.O.G.A.). T.O.G.A. provides a detailed analysis of survey trawl and vessel performance during each tow, utilizing available data from acoustic trawl mensuration equipment and vessel sensors not previously analyzed by the pre-2009 tow evaluation coding system.

These new NEFSC bottom trawl survey station validation codes serve as a guideline for qualifying a survey tow in a standardized manner and aid in the decision process for determining if a survey tow meets strict tolerance limits and optimal values that were originally calculated from data collected during the NEFSC calibration experiments. These tolerance limits are intended to promote consistency of trawl geometry and towing procedures to validate comparison of the collected trawl survey data with results from the calibration experiments.

For further information contact Russell Brown (508-495-2380), NOAA Fisheries Service, Northeast Fisheries Science Center, 166 Water Street, Woods Hole, MA 02543. To view a PDF of this report, go 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

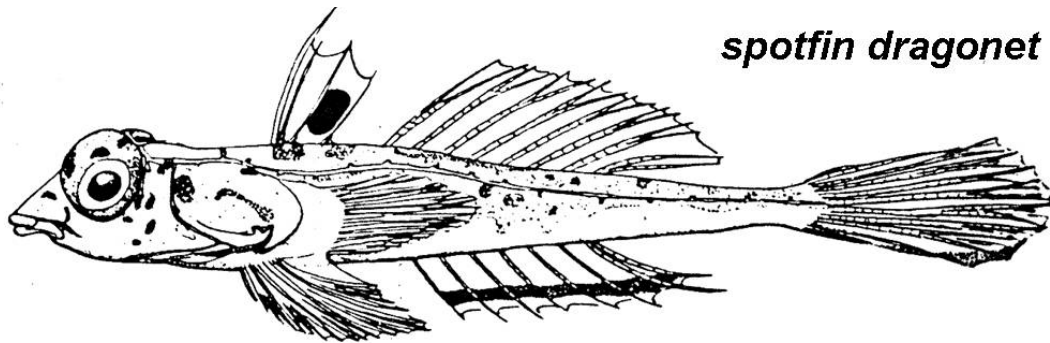
In an effort to share some of the natural history observations made during the bottom trawl survey, we have requested that the Chief Scientists on each part of the cruise comment on some of the more interesting catches that were brought aboard NOAA FSV *Henry B. Bigelow*.

### Bobtail Squid

On leg I of the spring survey, we were surprised to see high numbers of bobtail squid. Bobtail squids captured in the mid-Atlantic Bight area actually comprise three different species of the family *Sepiolidae*: *Rossia megaloptera*, *Rossia palpebrosa*, and *Semirossia tenera*. They are short-mantled, rounded squids with comparatively large fins and short arms. Dissection is usually required to properly identify them, and thus they are lumped together in the general bobtail squid category at sea. A single tow containing 267 specimens of these bobtails may have been the largest the survey has captured at one time to date.

### Dragonet Surprise

During leg II of the survey, two catches were quite surprising. The first was a tow of no less than forty-four dragonets. We normally capture two species of dragonets, *Foetorepus agassizii*, the spotfin dragonet, and *Foetorepus goodenbeani*, the palefin dragonet. Dragonets are small and highly colorful fishes found on the bottom in relatively deep water (greater than 55 fathoms).



**spotfin dragonet**

### Large Smallmouth flounder

Another catch that surprised us was a smallmouth flounder of 6.5 inches. Smallmouth flounder, *Etropus microstomus*, are very small flounders living in waters close to the coast in the Mid-Atlantic Bight. A 4 inch smallmouth flounder can be fully sexually mature. Normally a specimen greater than 4 inches would be considered large, and a 6.5 inch smallmouth would be roughly the equivalent of a doormat fluke.

### International Staffing

The world was well represented on leg IV. We had a visiting scientist from Japan, Dr Keiichi Uchida, who is working on conger eel research. Our own staff included members from Australia and France. The US contingent represented states from all over the Northeast.

### **Strong Year Class of Haddock Continues**

Leg IV also saw the continued growth of the large (2003) haddock (*Melanogrammus aeglefinus*) year class. There were eight stations where more than 150 individuals were caught. The largest catch was 863 individuals that ranged from 12 to 24 inches with an average size of 18 inches.

### **Large Numbers for a Small Fish**

The fifth leg of the survey had a record breaking catch of alligatorfish (*Aspidophoroides monopterygius*) – 304 individuals in one tow at station 410, east of Chatham, MA. Sixteen miles further southeast, at station 264, we captured 129 individuals. Previously the largest catches of alligatorfish occurred in the same general area on two surveys in 2008 – capturing 167 and 92 individuals. Prior to this record, catches were lower and occurred during the 1980s. It is interesting to see this small unusual looking fish collected in numbers large enough to fill small pails.



### **Lobster Nursery**

Another record breaking catch came aboard at station 395, ten miles to the northwest of Matinicus Rock, where a total of 354 lobsters (*Homarus americanus*) were brought onboard. These were small individuals, with more than three-fourths of them having carapace lengths of 3 inches or less. Previously the single tow record was 321 individuals in Rhode Island Sound during fall of 1984.

### **Halibut Upward Trend Continues**

The trend of seeing greater numbers of Atlantic halibut (*Hippoglossus hippoglossus*) continues. The spring survey encountered thirty individuals. During the 80s and 90s average total halibut catches for a cruise was in the single digits. Starting in 2003, we started to see an increase into the teens and then twenties. The majority of individuals are small, less than 20 inches, but it is exciting to see them more regularly.

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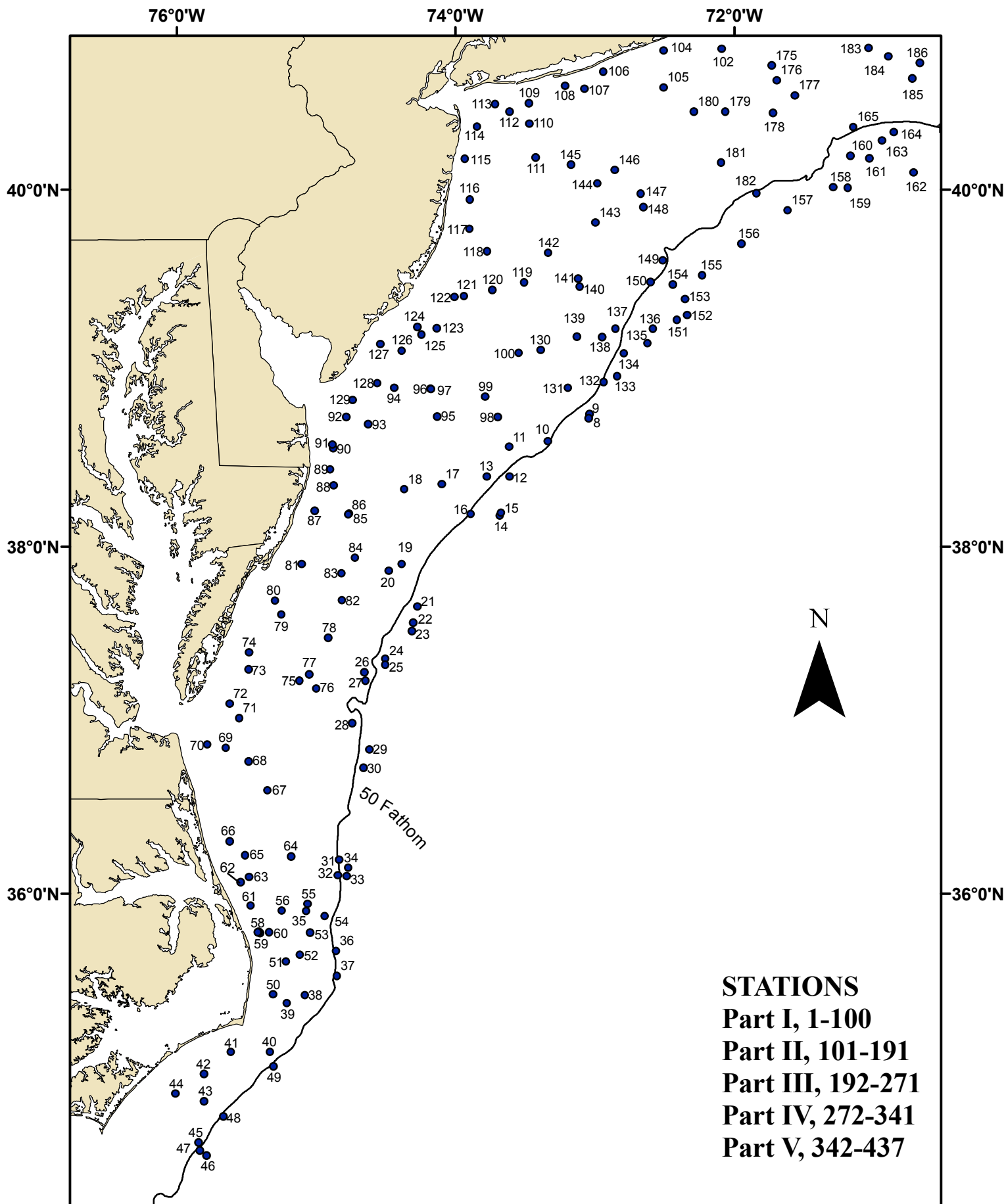


Figure 1. Trawl hauls made from NOAA FSV Henry B. Bigelow (09-01), during NOAA Fisheries Service, Northeast Fisheries Science Center spring bottom trawl survey, 27 February - 9 May 2009.



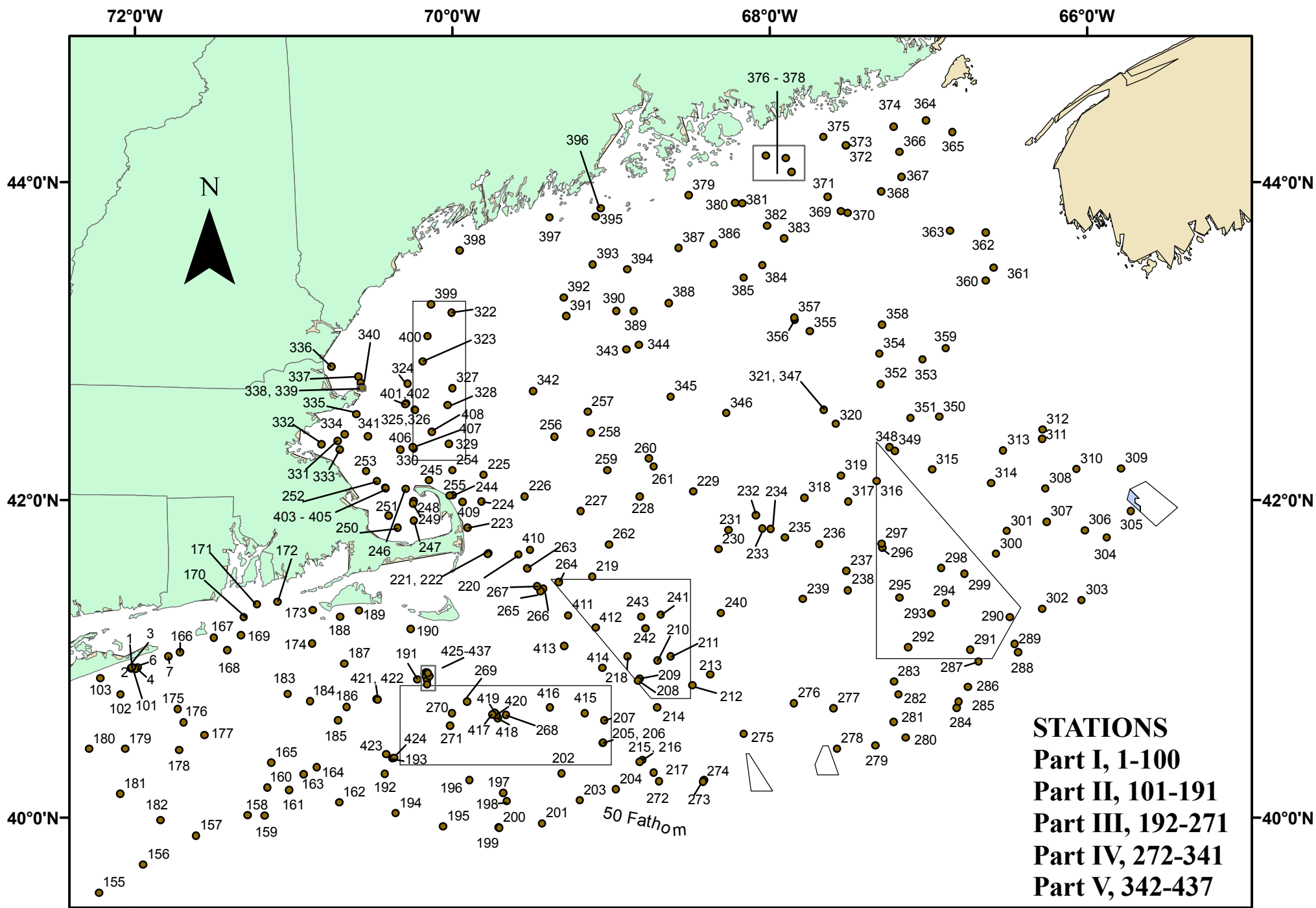


Figure 2. Trawl hauls made from NOAA FSV Henry B. Bigelow (09-01), during NOAA Fisheries Service, Northeast Fisheries Science Center spring bottom trawl survey, 27 February - 9 May 2009.

NOAA Fisheries Service SPRING BOTTOM TRAWL SURVEY  
2009 STATION INFORMATION

Station	Date	Time	Lat	Lon	Loran TD's		Course	Bottom Depth (FM)	Temp (F)
0001	Feb-27	1808	4056.5	7158.9	X26048.9	Y43817.4	270	15.3	38.5
0002	Feb-27	1926	4056.1	7201.2	X26068.0	Y43816.7	196	16.1	
0003	Feb-27	2207	4056.5	7200.7	X26064.3	Y43819.1	174	15.3	38.8
0004**	Feb-28	0142	4056.0	7159.8	X26055.3	Y43813.9	170	15.6	38.9
0006	Feb-28	0849	4056.3	7201.4	X26069.9	Y43818.5	213	14.8	39.6
0007	Feb-28	1143	4100.7	7147.4	X25953.8	Y43833.5	072	16.1	40.1
0008	Mar-04	0558	3844.8	7302.1	X26425.9	Y42671.4		135.1	
0009	Mar-04	1322	3843.4	7302.6	X26427.9	Y42657.4	194	143.0	
0010	Mar-04	1543	3835.7	7320.1	X26527.1	Y42572.4	217	52.5	49.3
0011	Mar-04	1758	3833.7	7336.8	X26622.8	Y42541.9	179	38.0	46.1
0012	Mar-04	1941	3823.7	7336.7	X26612.6	Y42439.6	209	63.2	50.7
0013	Mar-04	2129	3823.8	7346.5	X26667.7	Y42432.5	169	42.7	47.5
0014	Mar-05	0033	3810.4	7340.9	X26623.5	Y42300.8	206	252.4	43.6
0015	Mar-05	0216	3811.4	7340.3	X26621.4	Y42311.7	227	244.4	
0016	Mar-05	0437	3810.9	7353.4	X26692.1	Y42293.8	030	76.0	51.0
0017	Mar-05	0642	3821.2	7405.8	X26773.0	Y42388.9	236	31.2	46.9
0018	Mar-05	0918	3819.3	7422.0	X26859.0	Y42354.5	228	22.4	40.7
0019	Mar-05	1223	3753.9	7423.0	X26827.7	Y42080.9	232	34.4	44.0
0020	Mar-05	1357	3751.6	7428.7	X26853.3	Y42049.1	149	32.0	42.4
0021	Mar-05	1616	3739.4	7416.4	X26776.1	Y41936.2	198	67.8	53.1
0022	Mar-05	1817	3734.0	7418.1	X26778.1	Y41877.2	202	155.0	52.9
0023	Mar-05	2021	3731.1	7418.8	X26778.1	Y41845.8	205	172.5	44.8
0024	Mar-05	2227	3721.5	7430.0	X26820.8	Y41726.6	178	68.4	50.6
0025	Mar-06	0004	3719.4	7430.1	X26819.0	Y41704.5	214	74.1	52.9
0026	Mar-06	0201	3716.9	7439.2	X26857.9	Y41661.2	205	47.6	46.8
0027	Mar-06	0336	3714.0	7438.5	X26851.3	Y41632.2	227	49.8	48.2
0028	Mar-06	0543	3659.3	7444.4	X26859.9	Y41464.9	175	45.9	49.7
0029	Mar-06	0741	3650.2	7437.0	X26817.0	Y41385.8	082	380.6	
0030	Mar-06	1757	3643.8	7439.5	X26821.2	Y41314.9	192	172.0	
0031	Mar-06	2230	3611.9	7450.1	X26832.0	Y40965.4	201	48.9	51.2
0032	Mar-07	0144	3609.0	7446.1	X26813.2	Y40948.1	161	204.0	
0033	Mar-07	0421	3606.0	7446.8	X26813.2	Y40917.2	158	149.3	49.1
0034	Mar-07	0609	3606.4	7450.5	X26828.5	Y40910.1	198	51.4	53.3
0035	Mar-07	0842	3552.1	7456.2	X26836.8	Y40754.3	158	34.7	55.9
0036	Mar-07	1049	3539.8	7451.3	X26806.9	Y40653.5	184	43.2	54.1
0037	Mar-07	1248	3531.2	7450.9	X26798.3	Y40575.2	205	31.4	54.8
0038	Mar-07	1445	3524.3	7504.7	X26842.9	Y40465.3	182	19.1	55.7
0039	Mar-07	1616	3521.5	7512.5	X26868.5	Y40411.8	192	17.5	60.3
0040	Mar-07	1840	3504.2	7519.7	X26877.8	Y40230.6	250	35.8	54.8
0041	Mar-07	2039	3504.2	7536.5	X26935.8	Y40165.3	221	15.6	55.7
0042	Mar-07	2228	3456.4	7548.3	X26967.7	Y40048.6	186	14.5	50.0
0043	Mar-08	0010	3446.8	7548.2	X26957.5	Y39965.8	243	18.3	62.7
0044	Mar-08	0228	3449.4	7600.5	X27001.0	Y39935.8	141	17.0	57.0
0045	Mar-08	0454	3432.0	7550.5	X26950.4	Y39836.4	196	39.1	61.9
0046	Mar-08	0748	3427.3	7547.0	X26935.0	Y39816.6	197	110.5	56.3
0047	Mar-08	0845	3429.3	7550.1	X26946.6	Y39817.3	220	59.1	
0048	Mar-08	1106	3441.3	7539.8	X26924.5	Y39957.1	239	41.0	61.7
0049	Mar-08	1421	3459.1	7518.4	X26868.6	Y40192.5	227	74.6	53.6

NOAA Fisheries Service SPRING BOTTOM TRAWL SURVEY  
2009 STATION INFORMATION

Station	Date	Time	Lat	Lon	Loran TD's		Course	Bottom Depth (FM)	Temp (F)
0050	Mar-08	1750	3524.5	7518.5	X26892.8	Y40418.2	002	14.8	54.0
0051	Mar-08	1931	3536.1	7512.9	X26883.9	Y40547.1	003	17.2	52.0
0052	Mar-08	2045	3538.5	7506.9	X26864.0	Y40589.9	024	20.5	54.2
0053	Mar-08	2219	3546.3	7502.6	X26855.5	Y40677.9	015	25.2	54.2
0054	Mar-08	2353	3553.8	7504.2	X26869.0	Y40745.8	007	20.2	56.2
0055	Mar-09	0109	3556.3	7503.7	X26869.8	Y40771.9	356	18.0	56.0
0056	Mar-09	0303	3554.0	7514.7	X26909.5	Y40715.2	179	18.6	52.4
0057	Mar-09	0504	3546.4	7520.1	X26921.7	Y40623.4	253	13.7	46.9
0058	Mar-09	0616	3546.2	7524.2	X26936.4	Y40608.5	346	12.0	44.3
0059	Mar-09	0706	3546.6	7524.7	X26938.9	Y40610.4	173	8.7	
0060	Mar-09	0836	3546.5	7525.1	X26940.2	Y40608.5	041	10.9	
0061	Mar-09	1030	3555.7	7528.1	X26962.4	Y40692.4	345	11.2	45.9
0062	Mar-09	1206	3604.0	7532.5	X26989.1	Y40765.4	057	14.2	42.9
0063	Mar-09	1313	3605.8	7528.8	X26977.2	Y40794.6	052	13.4	43.4
0064	Mar-09	1552	3613.0	7510.6	X26915.1	Y40920.4	004	20.5	53.4
0065	Mar-09	1754	3613.4	7530.4	X26993.3	Y40871.1	339	14.5	46.0
0066	Mar-09	1939	3618.3	7537.2	X27026.1	Y40905.4	042	13.7	44.0
0067	Mar-09	2221	3635.9	7520.8	X26985.1	Y41135.9	006	17.8	44.0
0068	Mar-10	0015	3646.1	7529.1	X27033.8	Y41227.8	357	10.9	42.7
0069	Mar-10	0147	3650.8	7538.8	X27081.6	Y41258.9	354	10.4	41.7
0070	Mar-10	0326	3651.9	7546.7	X27115.7	Y41255.5	055	10.7	41.5
0071	Mar-10	0540	3701.0	7533.0	X27074.0	Y41385.6	323	11.2	42.0
0072	Mar-10	0653	3706.0	7537.2	X27099.9	Y41433.7	354	10.9	41.6
0073	Mar-10	0902	3717.9	7529.0	X27085.1	Y41582.9	013	12.6	41.7
0074	Mar-10	1050	3723.7	7528.8	X27094.7	Y41649.0	125	12.3	41.5
0075	Mar-10	1325	3713.9	7507.1	X26981.1	Y41577.9	089	18.9	43.5
0076	Mar-10	1458	3711.2	7459.8	X26944.6	Y41562.3	055	21.3	44.6
0077	Mar-10	1626	3716.1	7502.9	X26965.6	Y41609.8	032	20.0	43.7
0078	Mar-10	1831	3728.8	7454.7	X26946.9	Y41762.4	269	18.0	43.7
0079	Mar-10	2056	3736.6	7514.9	X27054.3	Y41817.6	055	16.1	41.3
0080	Mar-10	2211	3741.4	7517.5	X27075.1	Y41867.5	047	11.8	40.7
0081	Mar-11	0019	3753.9	7506.1	X27043.6	Y42024.2	104	12.6	40.8
0082	Mar-11	0246	3741.5	7448.7	X26937.8	Y41911.2	354	22.7	41.8
0083	Mar-11	0444	3750.8	7449.0	X26953.8	Y42012.3	334	17.8	41.1
0084	Mar-11	0613	3756.0	7443.1	X26933.0	Y42078.0	091	20.2	41.6
0085	Mar-11	0838	3811.1	7445.6	X26971.3	Y42240.5	230	18.3	40.4
0086	Mar-11	1017	3810.8	7446.1	X26973.5	Y42236.4	139	18.0	
0087	Mar-11	1217	3812.1	7500.6	X27050.7	Y42235.8	198	11.5	40.2
0088	Mar-11	1433	3820.7	7452.4	X27025.1	Y42340.4	035	10.9	39.9
0089	Mar-11	1600	3826.1	7453.8	X27043.7	Y42400.0	046	12.0	40.0
0090	Mar-11	1745	3833.3	7452.6	X27052.0	Y42481.3	350	12.8	39.1
0091	Mar-11	1833	3834.5	7452.9	X27055.8	Y42494.3	174	13.1	
0092	Mar-11	2029	3843.8	7447.0	X27043.5	Y42603.2	084	9.8	40.0
0093	Mar-11	2153	3841.5	7437.6	X26985.2	Y42583.7	117	16.4	39.4
0094	Mar-12	0020	3853.7	7426.3	X26944.2	Y42723.7	121	16.4	39.8
0095	Mar-12	0223	3844.0	7407.7	X26817.4	Y42630.0	130	25.2	42.5
0096	Mar-12	0557	3853.3	7410.7	X26850.5	Y42727.5	041	21.3	40.2
0097	Mar-12	0649	3853.3	7410.5	X26849.2	Y42727.3	315	21.9	

NOAA Fisheries Service SPRING BOTTOM TRAWL SURVEY  
2009 STATION INFORMATION

Station	Date	Time	Lat	Lon	Loran TD's		Course	Bottom Depth (FM)	Temp (F)
0098	Mar-12	1022	3843.8	7341.6	X26662.3	Y42642.4	284	30.3	44.8
0099	Mar-12	1213	3850.8	7347.2	X26704.3	Y42710.9	027	24.6	43.3
0100	Mar-12	1419	3905.4	7332.6	X26632.3	Y42865.4	008	27.1	45.1
0101	Mar-17	1821	4056.5	7201.1	X26068.1	Y43820.1	189	14.2	39.4
0102	Mar-17	2017	4046.3	7205.3	X26089.8	Y43744.3	307	23.5	40.3
0103	Mar-17	2248	4052.4	7213.0	X26164.5	Y43803.9	041	15.0	39.8
0104	Mar-18	0106	4045.7	7230.3	X26301.2	Y43771.1	270	15.6	40.0
0105	Mar-18	0301	4033.6	7230.2	X26282.5	Y43668.4	288	22.7	41.5
0106	Mar-18	0527	4038.8	7256.3	X26506.9	Y43744.4	239	13.4	39.3
0107	Mar-18	0703	4033.1	7304.4	X26563.0	Y43703.5	277	14.8	39.0
0108	Mar-18	0819	4034.1	7312.7	X26632.5	Y43721.8	266	12.0	39.5
0109	Mar-18	1011	4028.5	7328.3	X26745.6	Y43687.3	203	13.4	39.1
0110	Mar-18	1231	4021.7	7328.1	X26728.8	Y43621.5	175	16.7	38.9
0111	Mar-18	1416	4010.6	7325.5	X26684.9	Y43512.5	212	20.5	40.4
0112	Mar-18	1700	4025.7	7336.7	X26805.0	Y43669.2	263	12.6	39.4
0113	Mar-18	1827	4028.2	7342.8	X26859.9	Y43699.6	190	14.2	39.9
0114	Mar-18	2029	4020.7	7350.6	X26900.9	Y43633.7	199	14.8	39.7
0115	Mar-18	2225	4010.1	7355.8	X26912.8	Y43531.3	151	11.5	39.8
0116	Mar-19	0022	3956.6	7353.7	X26864.7	Y43391.8	162	13.9	40.1
0117	Mar-19	0155	3946.8	7353.8	X26844.3	Y43291.2	189	14.5	41.5
0118	Mar-19	0329	3939.5	7346.3	X26776.5	Y43213.3	223	10.1	42.4
0119	Mar-19	0557	3929.1	7330.3	X26648.9	Y43104.9	218	19.1	44.1
0120	Mar-19	0756	3926.6	7344.0	X26738.1	Y43080.6	195	17.0	42.6
0121	Mar-19	0939	3924.4	7356.2	X26815.4	Y43059.1	234	14.8	42.6
0122	Mar-19	1053	3924.2	7400.4	X26842.5	Y43057.1	224	13.4	42.2
0123	Mar-19	1246	3913.8	7408.0	X26871.5	Y42946.5	185	13.7	41.1
0124	Mar-19	1418	3914.1	7416.3	X26925.0	Y42948.5	217	12.3	40.2
0125	Mar-19	1542	3911.6	7414.5	X26908.1	Y42921.8	024	12.6	40.2
0126	Mar-19	1732	3906.1	7423.0	X26949.8	Y42860.6	003	13.9	39.8
0127	Mar-19	1904	3908.3	7432.3	X27011.5	Y42881.6	005	10.7	40.3
0128	Mar-19	2122	3855.2	7433.5	X26989.6	Y42737.0	223	10.9	40.3
0129	Mar-19	2322	3849.6	7444.2	X27039.7	Y42669.0	157	11.2	40.4
0130	Mar-20	0542	3906.4	7323.2	X26573.6	Y42876.9	154	31.4	44.6
0131	Mar-20	0827	3853.7	7311.4	X26487.9	Y42754.4	024	43.7	45.4
0132	Mar-20	1121	3855.6	7256.0	X26393.5	Y42777.6	050	59.1	51.6
0133	Mar-20	1502	3857.7	7250.2	X26358.7	Y42798.8	317	104.7	54.3
0134	Mar-20	1731	3905.3	7247.3	X26343.0	Y42872.3	005	67.8	53.0
0135	Mar-20	2048	3908.6	7237.2	X26279.3	Y42904.2	048	130.7	
0136	Mar-20	2247	3913.6	7234.8	X26265.1	Y42950.2	349	78.2	53.8
0137	Mar-21	0058	3913.6	7251.0	X26370.9	Y42950.4	000	45.9	44.4
0138	Mar-21	0256	3910.8	7256.7	X26406.3	Y42923.1	072	45.4	44.4
0139	Mar-21	0455	3910.9	7307.6	X26477.3	Y42923.2	076	38.8	44.6
0140	Mar-21	0726	3927.6	7306.4	X26484.1	Y43086.5	009	34.4	43.3
0141	Mar-21	0936	3930.4	7307.2	X26492.0	Y43113.2	017	24.9	43.5
0142	Mar-21	1132	3938.9	7319.9	X26591.0	Y43199.8	017	21.6	44.0
0143	Mar-21	1403	3949.0	7259.6	X26457.9	Y43288.4	117	39.6	43.6
0144	Mar-21	1655	4001.9	7258.8	X26467.3	Y43409.8	113	27.3	42.4
0145	Mar-21	1855	4008.1	7310.2	X26563.1	Y43476.8	328	23.5	41.8

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0146	Mar-21	2118	4006.4	7251.3	X26415.9	Y43446.3	122	27.6	42.4
0147	Mar-21	2310	3958.5	7240.0	X26322.5	Y43366.2	161	31.4	42.9
0148	Mar-22	0112	3954.1	7239.0	X26311.6	Y43325.4	115	31.4	42.7
0149	Mar-22	0348	3936.3	7230.6	X26241.9	Y43159.3	187	49.5	45.2
0150	Mar-22	0555	3929.2	7236.0	X26276.6	Y43095.0	240	50.3	45.5
0151	Mar-22	0854	3916.5	7224.5	X26198.1	Y42977.3	210	93.0	53.9
0152	Mar-22	1122	3918.0	7220.1	X26169.4	Y42990.9	053	116.5	53.9
0153	Mar-22	1313	3923.4	7221.1	X26175.4	Y43039.7	339	76.8	54.2
0154	Mar-22	1453	3928.4	7226.3	X26210.8	Y43085.6	321	64.2	55.1
0155	Mar-22	1723	3931.4	7213.6	X26124.5	Y43110.2	303	80.1	55.2
0156	Mar-22	2032	3942.0	7156.8	X26006.9	Y43196.8	051	141.3	
0157	Mar-22	2349	3953.1	7136.8	X25861.1	Y43281.2	061	144.6	54.1
0158	Mar-23	0237	4000.6	7117.3	X25718.4	Y43331.7	051	106.1	54.6
0159	Mar-23	0514	4000.6	7110.9	X25674.7	Y43327.2	047	141.9	49.2
0160	Mar-23	0728	4011.2	7109.9	X25652.3	Y43409.6	009	67.3	54.4
0161	Mar-23	0931	4010.2	7101.7	X25597.3	Y43396.4	358	74.4	55.6
0162	Mar-23	1212	4005.6	7042.8	X25484.2	Y43348.4	341	72.5	55.3
0163	Mar-23	1428	4018.8	7051.2	X25509.7	Y43454.1	338	58.0	51.1
0164	Mar-23	1558	4016.2	7056.2	X25549.1	Y43437.9	253	64.8	53.0
0165	Mar-23	1753	4020.5	7108.5	X25629.8	Y43481.3	301	49.5	41.4
0166	Mar-24	0710	4102.4	7142.9	X25917.0	Y43840.0	003	21.3	40.8
0167	Mar-24	0919	4107.9	7130.1	X25812.8	Y43863.0	144	15.3	39.3
0168	Mar-24	1108	4103.1	7125.0	X25759.5	Y43820.7	009	21.6	40.1
0169	Mar-24	1255	4108.8	7119.9	X25723.1	Y43855.4	019	23.5	39.7
0170	Mar-24	1458	4115.5	7118.7	X25725.6	Y43901.6	004	20.0	39.6
0171	Mar-24	1654	4120.4	7113.8	X25693.5	Y43929.1	058	16.7	38.7
0172	Mar-24	1843	4121.3	7106.1	X25626.1	Y43923.7	064	14.8	38.5
0173	Mar-24	2103	4118.1	7052.7	X25496.5	Y43882.5	176	17.5	38.1
0174	Mar-24	2250	4105.7	7052.9	X25477.9	Y43796.9	218	20.5	39.1
0175	Mar-25	0420	4040.8	7143.8	X25901.9	Y43674.5	025	34.2	41.0
0176	Mar-25	0609	4035.9	7141.5	X25881.1	Y43632.9	039	39.6	40.5
0177	Mar-25	0826	4031.0	7133.8	X25817.3	Y43586.0	025	41.0	40.2
0178	Mar-25	1052	4025.3	7143.2	X25893.4	Y43550.2	048	41.3	40.7
0179	Mar-25	1333	4025.7	7203.6	X26057.2	Y43573.4	051	34.2	42.2
0180	Mar-25	1533	4025.7	7217.3	X26167.4	Y43587.1	076	32.0	41.9
0181	Mar-25	1809	4008.8	7205.5	X26066.2	Y43432.7	084	36.4	42.2
0182	Mar-25	2041	3958.8	7150.3	X25953.7	Y43336.6	099	53.9	43.2
0183	Mar-26	0248	4046.5	7102.1	X25554.7	Y43670.3	092	31.7	38.6
0184	Mar-26	0424	4043.8	7053.6	X25488.0	Y43641.7	097	34.4	38.7
0185	Mar-26	0614	4036.6	7043.2	X25418.8	Y43578.5	086	36.1	39.7
0186	Mar-26	0802	4041.7	7039.9	X25384.9	Y43611.9	076	33.6	39.6
0187	Mar-26	1042	4057.9	7040.8	X25371.1	Y43727.4	100	26.8	38.3
0188	Mar-26	1319	4115.7	7042.4	X25397.8	Y43851.8	051	14.8	38.5
0189	Mar-26	1434	4118.0	7035.2	X25338.1	Y43857.6	119	13.4	38.4
0190	Mar-26	1652	4111.1	7015.7	X25150.7	Y43787.3	123	15.0	39.1
0191	Mar-26	1924	4051.9	7013.2	X25172.6	Y43655.8	133	21.6	39.3
0192	Mar-31	2150	4023.7	7025.0	X25330.6	Y43469.4	078	44.3	40.7
0193	Mar-31	2346	4016.4	7025.4	X25354.0	Y43416.7	145	55.0	44.7

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0194	Apr-01	0309	4001.4	7021.3	X25374.6	Y43304.9	100	118.1	53.4
0195	Apr-01	0656	3956.4	7003.4	X25304.9	Y43259.3	110	153.1	53.9
0196	Apr-01	1024	4013.9	6953.5	W14152.4	Y43377.7	063	49.5	40.4
0197	Apr-01	1310	4009.2	6940.7	W14102.4	Y43337.0	088	50.9	46.7
0198	Apr-01	1443	4005.9	6939.4	W14105.8	Y43314.1	103	54.7	50.9
0199	Apr-01	1716	3956.2	6942.5	W14151.8	Y43248.0	087	82.8	55.5
0200	Apr-01	1914	3956.0	6942.2	W14150.8	Y43246.8	082	89.9	
0201	Apr-01	2225	3957.6	6926.0	W14065.9	Y43250.4	100	67.3	
0202	Apr-02	0141	4016.6	6918.7	W13968.0	Y43373.9	053	47.0	47.2
0203	Apr-02	0354	4006.3	6911.7	W13968.6	Y43301.9	015	65.6	53.9
0204	Apr-02	0623	4010.6	6858.1	W13888.6	Y43323.2	080	74.1	54.3
0205	Apr-02	0909	4028.0	6903.2	W13851.0	Y43438.6	351	42.7	46.1
0206	Apr-02	0952	4028.2	6903.0	W13849.7	Y43439.3	142	42.9	
0207	Apr-02	1202	4036.7	6902.5	W13815.3	Y43492.7	173	37.7	40.8
0208	Apr-02	1515	4052.4	6849.2	W13688.4	Y43579.7	197	39.4	40.6
0209	Apr-02	1603	4051.6	6849.8	W13694.5	Y43575.3	211	39.4	
0210	Apr-02	1804	4059.1	6842.4	W13627.5	Y43614.6	140	36.9	40.8
0211	Apr-02	1953	4100.7	6837.4	W13596.4	Y43619.9	318	31.4	40.8
0212	Apr-02	2236	4053.8	6822.5	W13554.4	Y43566.8	333	28.7	40.9
0213	Apr-03	0126	4049.8	6829.2	W13602.9	Y43548.2	099	30.6	40.9
0214	Apr-03	0411	4041.5	6842.6	W13699.9	Y43508.0	184	36.4	40.8
0215	Apr-03	0714	4021.6	6848.2	W13801.9	Y43388.0	132	49.8	43.6
0216	Apr-03	0836	4021.0	6849.2	W13809.0	Y43384.8	191	50.6	
0217	Apr-03	1027	4016.9	6843.9	W13798.8	Y43355.9	156	57.7	51.0
0218	Apr-03	1726	4100.8	6853.6	W13675.7	Y43634.9	140	38.0	41.0
0219	Apr-03	2153	4130.9	6907.1	W13612.9	Y43827.8	192	85.6	41.0
0220	Apr-04	0140	4140.9	6930.5	W13691.8	Y43915.4	157	62.6	40.7
0221	Apr-04	0438	4139.7	6946.3	W13784.8	Y43928.9	178	20.8	39.0
0222	Apr-04	0544	4139.3	6946.6	W13788.3	Y43926.9	140	20.8	
0223	Apr-04	0901	4149.4	6954.2	W13784.6	Y43997.9	178	15.0	38.7
0224	Apr-04	1142	4159.3	6949.0	W13707.9	Y44047.5	142	57.7	39.9
0225	Apr-04	1443	4209.4	6948.1	W13652.8	Y44103.3	116	85.6	
0226	Apr-04	1719	4201.2	6932.5	W13605.7	Y44034.3	161	117.3	44.4
0227	Apr-04	2041	4155.7	6911.4	W13517.4	Y43974.3	144	116.7	43.3
0228	Apr-05	0016	4201.1	6849.2	W13373.7	Y43975.0	216	73.3	41.2
0229	Apr-05	0431	4203.0	6828.9	W13262.0	Y43959.4	218	94.9	43.0
0230	Apr-05	0807	4141.2	6819.3	W13325.2	Y43832.1	214	31.4	41.4
0231	Apr-05	1027	4148.4	6815.6	W13272.2	Y43866.7	220	62.3	41.4
0232	Apr-05	1317	4154.1	6805.2	W13194.3	Y43885.1	223	93.8	41.7
0233	Apr-05	1520	4149.0	6802.7	W13208.3	Y43855.8	203	32.8	41.3
0234	Apr-05	1659	4149.0	6759.6	W13194.5	Y43852.0	264	28.7	41.4
0235	Apr-05	1836	4145.6	6754.3	W13187.3	Y43828.8	245	18.9	41.8
0236	Apr-05	2142	4143.2	6741.3	W13141.2	Y43802.7	189	22.4	41.8
0237	Apr-05	2337	4133.0	6731.0	W13146.4	Y43739.7	352	26.0	41.5
0238	Apr-06	0210	4125.7	6730.4	W13178.6	Y43701.0	082	20.8	41.4
0239	Apr-06	0426	4122.4	6747.5	W13268.2	Y43698.3	241	20.5	41.6
0240	Apr-06	0748	4117.1	6818.4	W13434.0	Y43697.5	230	30.6	41.3
0241	Apr-06	1032	4116.4	6841.2	W13547.3	Y43715.3	289	40.5	41.4

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0242	Apr-06	1215	4111.2	6847.0	W13598.2	Y43690.8	319	41.6	41.4
0243	Apr-06	1341	4115.6	6848.5	W13586.7	Y43718.3	027	53.6	41.3
0244	Apr-06	1946	4201.6	6959.7	W13758.7	Y44077.1		53.6	38.9
0245	Apr-06	2158	4207.2	7008.8	X25446.6	Y44123.5	142	23.8	38.7
0246	Apr-07	0551	4203.9	7017.6	X25472.2	Y44118.8	179	32.0	37.8
0247	Apr-07	0725	4159.3	7014.7	X25422.9	Y44087.2	222	22.7	38.2
0248	Apr-07	0839	4158.5	7014.7	X25417.5	Y44082.5	220	21.9	
0249	Apr-07	1012	4152.0	7014.5	X25369.8	Y44043.6	228	16.1	38.2
0250	Apr-07	1247	4149.3	7020.7	X25389.1	Y44036.5	232	13.9	39.8
0251	Apr-07	1433	4153.9	7024.0	X25442.0	Y44069.2	248	17.8	38.4
0252	Apr-07	1659	4206.9	7028.4	X25558.5	Y44153.9	178	27.9	37.8
0253	Apr-07	1851	4210.7	7032.6	X25610.8	Y44183.3	134	26.0	37.9
0254	Apr-07	2248	4211.1	6959.9	W13713.3	Y44131.3	123	74.9	39.5
0255	Apr-08	0031	4201.5	7000.9	X25366.6	Y44078.4	320	13.4	39.6
0256	Apr-08	0557	4223.7	6921.4	W13426.5	Y44140.3	307	132.6	44.7
0257	Apr-08	0830	4233.1	6908.7	W13305.2	Y44169.6	272	117.6	44.3
0258	Apr-08	1123	4225.2	6907.7	W13343.5	Y44127.7	220	119.8	44.7
0259	Apr-08	1416	4211.1	6901.3	W13385.1	Y44044.8	208	82.8	41.6
0260	Apr-08	1747	4215.6	6845.7	W13279.9	Y44046.8	274	111.8	43.3
0261	Apr-08	2012	4212.4	6843.9	W13287.6	Y44027.9	207	111.3	43.6
0262	Apr-09	0018	4143.0	6900.8	W13523.2	Y43889.7	189	92.7	41.0
0263	Apr-09	0343	4134.0	6931.7	W13729.7	Y43875.9	141	29.0	38.9
0264	Apr-09	0545	4128.9	6919.7	W13688.5	Y43830.6	310	45.1	39.5
0265	Apr-09	0729	4126.3	6925.5	W13730.8	Y43822.5	192	23.0	39.6
0266	Apr-09	0805	4125.4	6926.6	W13740.6	Y43818.2	206	21.1	
0267	Apr-09	0955	4127.3	6927.9	W13738.9	Y43831.1	202	22.1	39.9
0268	Apr-09	1559	4038.6	6939.6	W13996.8	Y43534.7	287	29.3	41.8
0269	Apr-09	1747	4043.6	6954.5	W14057.1	Y43581.3	214	23.0	41.4
0270	Apr-09	1914	4039.3	7000.0	X25147.5	Y43557.2	225	27.9	41.3
0271	Apr-09	2047	4034.6	7000.9	X25168.5	Y43525.6	193	32.5	41.1
0272	Apr-15	0316	4013.5	6841.8	W13801.1	Y43333.3	090	67.3	55.1
0273	Apr-15	0554	4014.0	6824.8	W13720.8	Y43328.0	140	88.9	55.1
0274	Apr-15	0719	4013.4	6825.2	W13724.8	Y43324.1	069	90.2	
0275	Apr-15	1302	4031.4	6809.8	W13587.1	Y43425.0	106	58.5	54.5
0276	Apr-15	1556	4043.1	6750.8	W13455.5	Y43481.6	066	40.7	41.6
0277	Apr-15	1815	4041.1	6735.8	W13398.9	Y43460.6	169	48.1	40.7
0278	Apr-15	2123	4025.9	6734.5	W13454.5	Y43373.2	047	79.3	56.2
0279	Apr-16	1835	4027.0	6720.1	W13389.8	Y43372.7	079	136.7	
0280	Apr-16	2223	4030.0	6708.7	W13331.8	Y43383.4	104	173.6	44.1
0281	Apr-17	0044	4036.0	6713.2	W13325.3	Y43419.2	063	62.9	50.9
0282	Apr-17	0242	4046.3	6711.4	W13275.2	Y43474.6	058	53.6	40.5
0283	Apr-17	0417	4051.2	6713.0	W13261.1	Y43502.2	071	49.2	41.5
0284	Apr-17	0749	4041.3	6649.4	W13208.9	Y43435.2	067	160.5	47.0
0285	Apr-17	1000	4043.6	6648.5	W13195.7	Y43447.0	047	126.0	47.4
0286	Apr-17	1202	4049.2	6645.1	W13159.0	Y43474.6	040	70.8	47.9
0287	Apr-17	1352	4058.7	6641.0	W13101.9	Y43522.3	054	48.1	41.3
0288	Apr-17	1657	4102.3	6626.2	W13030.5	Y43531.6	205	114.6	46.0
0289	Apr-17	1918	4105.5	6627.4	W13020.5	Y43548.7	348	59.6	49.3

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0290	Apr-17	2157	4115.6	6629.3	W12982.2	Y43600.8	329	50.0	
0291	Apr-18	0021	4103.2	6644.2	W13094.2	Y43547.7	283	42.1	40.8
0292	Apr-18	0244	4104.2	6707.8	W13182.9	Y43568.8	041	35.5	41.5
0293	Apr-18	0440	4116.9	6658.9	W13089.7	Y43629.2	076	37.2	41.5
0294	Apr-18	0608	4120.8	6653.5	W13050.4	Y43644.9	282	38.3	41.2
0295	Apr-18	0825	4122.9	6711.1	W13110.9	Y43669.7	309	27.6	42.3
0296	Apr-18	1120	4141.7	6717.4	W13046.2	Y43772.2	035	29.3	42.7
0297	Apr-18	1251	4143.2	6717.7	W13040.1	Y43780.3	156	29.0	42.7
0298	Apr-18	1553	4134.1	6655.1	W12993.6	Y43713.9	087	35.5	41.5
0299	Apr-18	1735	4132.0	6646.3	W12969.5	Y43696.2	050	39.1	
0300	Apr-18	1940	4139.5	6634.5	W12888.5	Y43723.6	010	38.8	41.5
0301	Apr-18	2124	4148.1	6630.4	W12831.0	Y43761.8	338	39.4	41.6
0302	Apr-19	0052	4118.7	6617.1	W12923.5	Y43607.8	165	60.1	41.5
0303	Apr-19	0423	4122.0	6602.1	W12855.3	Y43614.0	254	155.8	46.1
0304	Apr-19	0757	4145.6	6552.6	W12711.3	Y43719.6	329	66.2	42.6
0305	Apr-19	1154	4155.7	6543.5	W12632.9	Y43758.9	022	127.7	44.8
0306	Apr-19	1446	4148.3	6600.8	W12725.8	Y43738.7	098	53.3	41.2
0307	Apr-19	1658	4151.6	6615.4	W12759.7	Y43765.9	140	45.4	41.3
0308	Apr-19	1935	4204.1	6615.9	W12698.3	Y43824.8	273	46.8	41.5
0309	Apr-19	2251	4211.7	6547.2	W12564.3	Y43834.1	349	123.6	44.7
0310	Apr-20	0141	4211.5	6604.0	W12620.0	Y43847.9	029	130.4	44.5
0311	Apr-20	0421	4222.9	6617.1	W12604.5	Y43911.5	157	131.8	44.2
0312	Apr-20	0613	4226.4	6616.9	W12584.7	Y43927.2	239	134.2	43.9
0313	Apr-20	1009	4218.5	6631.7	W12679.2	Y43906.1	240	148.5	44.6
0314	Apr-20	1211	4206.2	6636.4	W12761.3	Y43853.2	290	42.9	41.6
0315	Apr-20	1450	4211.3	6658.5	W12818.5	Y43899.3	090	97.3	44.0
0316	Apr-20	1714	4207.0	6719.6	W12926.6	Y43900.4	215	37.2	41.6
0317	Apr-20	1906	4159.3	6730.3	W13012.0	Y43873.6	292	23.8	42.9
0318	Apr-20	2131	4200.7	6747.0	W13077.1	Y43899.0	053	60.4	42.1
0319	Apr-21	0042	4209.0	6733.0	W12972.5	Y43924.9	357	102.0	43.1
0320	Apr-21	0338	4228.5	6735.0	W12874.0	Y44021.3	112	144.9	44.6
0321	Apr-21	0502	4233.9	6739.6	W12863.5	Y44052.4	112	141.6	44.6
0322	Apr-21	1605	4310.6	7000.2	X25816.9	Y44437.4	189	51.7	39.1
0323	Apr-21	1927	4252.1	7011.2	X25757.5	Y44368.2	205	33.1	39.2
0324	Apr-21	2145	4243.9	7016.8	X25734.6	Y44336.7	164	41.0	38.6
0325	Apr-22	0000	4236.2	7017.4	X25688.8	Y44297.9	190	35.5	38.7
0326	Apr-22	0101	4235.9	7017.8	X25689.0	Y44297.0	204	35.0	
0327	Apr-22	0425	4242.1	6959.9	W13548.9	Y44297.9	168	100.1	41.5
0328	Apr-22	0627	4235.7	7001.8	X25607.1	Y44267.9	100	74.4	39.6
0329	Apr-22	0928	4221.0	7001.3	X25506.2	Y44188.7	119	100.6	42.0
0330	Apr-22	1245	4218.8	7019.6	X25586.3	Y44207.3	186	28.4	38.2
0331	Apr-22	1505	4223.8	7031.9	X25691.6	Y44256.5	168	48.1	38.4
0332	Apr-22	1727	4220.9	7049.4	X25786.9	Y44271.5	276	15.9	41.2
0333	Apr-22	2008	4222.1	7043.4	X25754.4	Y44267.8	330	27.6	38.4
0334	Apr-22	2224	4224.6	7040.6	X25751.8	Y44276.7	343	36.9	38.3
0335	Apr-23	0027	4232.2	7036.3	X25771.9	Y44310.4	240	35.3	38.0
0336	Apr-23	0333	4250.2	7045.7	X25938.5	Y44423.2	136	16.4	38.9
0337	Apr-23	0514	4246.4	7035.5	X25855.2	Y44384.6	328	47.3	38.2



NOAA Fisheries Service SPRING BOTTOM TRAWL SURVEY  
2009 STATION INFORMATION

Station	Date	Time	Lat	Lon	Loran		Course	Bottom Depth (FM)	Temp (F)
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0338	Apr-23	0656	4244.0	7034.5	X25834.4	Y44370.2	308	42.7	38.0
0339	Apr-23	0848	4242.3	7034.4	X25823.2	Y44361.0	307	34.4	38.1
0340	Apr-23	0913	4242.3	7034.1	X25821.3	Y44360.3	155	36.1	
0341	Apr-23	1250	4218.9	7042.6	X25728.6	Y44247.8	255	21.3	38.5
0342	Apr-28	1446	4241.0	6929.5	W13375.9	Y44241.8	164	133.4	44.5
0343	Apr-28	1904	4256.7	6854.2	W13089.8	Y44262.0	231	76.8	41.4
0344	Apr-28	2107	4258.4	6849.5	W13054.4	Y44263.1	257	98.7	42.8
0345	Apr-29	0010	4238.8	6837.5	W13108.0	Y44152.4	137	110.5	44.4
0346	Apr-29	0333	4232.7	6816.4	W13039.2	Y44093.3	343	103.9	43.6
0347	Apr-29	0735	4233.8	6739.5	W12863.8	Y44051.8	341	109.6	44.7
0348	Apr-29	1144	4219.8	6714.8	W12837.7	Y43956.7	167	159.1	44.1
0349	Apr-29	1429	4218.5	6712.7	W12836.6	Y43948.3	233	156.4	44.5
0350	Apr-29	1827	4231.2	6656.0	W12700.0	Y43989.4	338	162.7	44.4
0351	Apr-29	2047	4230.8	6706.8	W12744.7	Y43999.5	325	179.4	44.4
0352	Apr-29	2315	4243.7	6718.0	W12716.4	Y44071.3	002	118.7	44.8
0353	Apr-30	0227	4252.9	6702.3	W12599.9	Y44093.6	224	120.0	45.1
0354	Apr-30	0507	4255.0	6718.5	W12651.3	Y44122.6	202	135.9	44.8
0355	Apr-30	0822	4303.5	6744.8	W12710.7	Y44193.7	095	89.4	43.2
0356	Apr-30	1124	4307.9	6750.5	W12708.3	Y44220.8	183	107.2	43.7
0357	Apr-30	1241	4308.8	6750.7	W12703.8	Y44224.8	210	107.7	
0358	Apr-30	1550	4306.1	6717.5	W12580.4	Y44169.4	260	88.6	44.6
0359	Apr-30	1913	4257.2	6653.4	W12541.1	Y44101.6	270	102.0	43.6
0360	Apr-30	2302	4322.7	6638.3	W12333.1	Y44190.5	225	58.8	41.6
0361	May-01	0100	4327.5	6635.3	W12293.3	Y44206.1	190	55.8	40.8
0362	May-01	0402	4340.9	6638.4	W12219.6	Y44262.3	057	68.1	41.3
0363	May-01	0637	4341.5	6651.9	W12261.2	Y44281.4	229	72.2	41.8
0364	May-01	1802	4423.3	6701.0	W12009.4	Y44447.2	176	71.9	40.0
0365	May-01	2054	4418.9	6650.8	W12007.5	Y44418.3	220	99.0	41.7
0366	May-02	0010	4411.3	6710.9	W12127.2	Y44418.2	216	74.6	42.5
0367	May-02	0302	4401.8	6710.3	W12190.4	Y44382.8	194	82.3	43.2
0368	May-02	0458	4356.5	6717.9	W12255.2	Y44373.2	218	117.0	44.7
0369	May-02	0728	4348.3	6730.6	W12360.1	Y44359.5	235	121.1	44.7
0370	May-02	0916	4348.8	6733.1	W12366.9	Y44364.8	209	123.0	44.7
0371	May-02	1151	4354.3	6738.2	W12350.1	Y44393.0	345	109.1	44.7
0372	May-02	1448	4413.6	6731.2	W12186.5	Y44454.7	203	97.6	43.7
0373	May-02	1556	4413.8	6731.2	W12184.6	Y44455.5	209	96.8	
0374	May-02	1831	4420.8	6713.2	W12068.0	Y44455.3	153	97.6	40.9
0375	May-02	2137	4416.9	6739.7	W12196.2	Y44478.7	177	54.1	40.0
0376	May-03	0027	4403.7	6751.7	W12341.5	Y44448.0	252	64.0	40.0
0377	May-03	0333	4408.9	6754.0	W12314.4	Y44470.5	226	53.0	40.0
0378	May-03	0526	4409.9	6801.5	W12340.7	Y44485.3	006	46.8	39.8
0379	May-03	1020	4355.0	6830.7	W12586.0	Y44474.1	039	53.3	39.8
0380	May-03	1326	4352.1	6813.2	W12520.8	Y44435.8	242	96.8	43.1
0381	May-03	1527	4351.8	6810.4	W12509.7	Y44430.7	216	97.9	43.1
0382	May-03	1743	4343.5	6801.0	W12523.9	Y44383.8	179	93.0	44.1
0383	May-03	1936	4338.6	6754.7	W12527.8	Y44355.4	172	128.0	44.7
0384	May-03	2146	4328.5	6802.7	W12631.4	Y44325.6	211	113.5	45.2
0385	May-03	2331	4323.8	6809.8	W12695.7	Y44316.3	243	104.2	45.2

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0386	May-04	0212	4336.7	6821.0	W12664.3	Y44386.3	093	107.2	44.6
0387	May-04	0516	4335.0	6834.4	W12742.1	Y44400.1	246	73.3	42.2
0388	May-04	0843	4314.2	6838.2	W12897.2	Y44317.5	137	93.5	42.5
0389	May-04	1112	4311.2	6851.3	W12984.9	Y44324.1	194	102.3	43.0
0390	May-04	1316	4311.2	6857.9	W13020.1	Y44334.5	090	88.0	41.3
0391	May-04	1554	4309.3	6916.9	W13136.6	Y44356.8	032	107.4	42.0
0392	May-04	1750	4316.3	6917.9	W13098.2	Y44389.9	205	90.5	41.7
0393	May-04	2029	4328.8	6906.8	W12955.7	Y44426.1	220	84.8	40.6
0394	May-04	2239	4327.0	6853.9	W12897.4	Y44397.1	211	57.1	40.0
0395	May-05	0309	4350.0	6903.9	W12797.1	Y44508.0	193	41.0	39.5
0396	May-05	0510	4346.9	6905.8	W12829.5	Y44498.8	042	47.6	39.3
0397	May-05	0743	4346.5	6923.2	W12930.9	Y44526.9	031	45.7	39.4
0398	May-05	1134	4334.1	6957.3	W13219.0	Y44536.1	305	51.9	38.7
0399	May-05	1919	4313.8	7008.1	X25872.2	Y44466.4	356	76.6	39.1
0400	May-05	2202	4301.7	7009.4	X25807.1	Y44411.9	079	99.8	39.2
0401	May-06	0144	4233.9	7014.1	X25656.4	Y44279.8	019	38.5	38.9
0402	May-06	0332	4233.7	7013.9	X25654.4	Y44278.6	358	39.1	
0403	May-06	0754	4204.4	7025.4	X25522.4	Y44134.1	042	32.0	38.3
0404	May-06	0910	4204.2	7025.2	X25519.8	Y44132.6	044	31.7	
0405	May-06	1032	4204.3	7025.1	X25520.1	Y44133.0	050	32.0	
0406	May-06	1345	4219.3	7014.4	X25560.7	Y44201.1	161	21.1	40.3
0407	May-06	1502	4219.8	7015.0	X25566.9	Y44204.7	164	20.2	
0408	May-06	2016	4225.6	7007.8	X25568.8	Y44224.3	033	43.5	38.7
0409	May-07	0125	4159.1	6956.1	W13749.5	Y44057.4	315	22.1	40.2
0410	May-07	0446	4139.1	6934.9	W13724.1	Y43910.5	305	47.3	39.4
0411	May-07	0846	4116.2	6916.1	W13725.3	Y43750.3	116	44.6	40.4
0412	May-07	1038	4111.5	6905.8	W13692.1	Y43711.3	177	61.5	40.7
0413	May-07	1305	4104.7	6917.6	W13781.4	Y43681.9	323	30.3	42.6
0414	May-07	1540	4056.4	6903.4	W13742.4	Y43616.8	311	41.8	43.8
0415	May-07	1903	4039.2	6909.9	W13842.6	Y43514.6	226	37.2	43.9
0416	May-07	2113	4041.5	6923.0	W13900.3	Y43539.9	140	24.1	43.9
0417	May-07	2355	4037.5	6942.8	W14017.2	Y43529.9	333	30.6	
0418	May-08	0048	4038.7	6943.3	W14015.4	Y43538.5	330	28.7	
0419	May-08	0128	4039.5	6943.9	W14016.0	Y43544.3	187	29.3	
0420	May-08	0151	4038.8	6944.8	W14023.2	Y43540.5	294	30.1	
0421	May-08	0547	4044.7	7028.6	X25296.6	Y43621.6	100	29.0	43.1
0422	May-08	0732	4044.4	7028.1	X25293.7	Y43619.3	116	29.0	
0423	May-08	1011	4022.2	7022.6	X25321.2	Y43456.6	100	45.7	
0424	May-08	1050	4022.3	7022.1	X25317.8	Y43456.9	279	44.8	
0425	May-08	1428	4053.6	7010.0	X25147.2	Y43663.7	330	16.1	
0426	May-08	1517	4054.2	7010.4	X25147.5	Y43668.1	213	16.1	
0427	May-08	1812	4053.2	7009.8	X25147.0	Y43661.2	342	16.4	
0428	May-08	1857	4054.7	7010.0	X25143.6	Y43671.2	168	15.6	
0429	May-08	1938	4053.8	7009.7	X25144.6	Y43664.9	015	15.9	
0430	May-08	2013	4054.6	7009.4	X25140.3	Y43670.3	236	15.6	
0431	May-08	2129	4054.2	7009.5	X25142.0	Y43667.4	165	15.9	
0432	May-08	2204	4053.4	7009.0	X25142.2	Y43661.2	011	15.3	
0433	May-08	2300	4053.1	7009.9	X25148.2	Y43660.5	170	16.7	

NOAA Fisheries Service SPRING BOTTOM TRAWL SURVEY  
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Station	Date	Time	Lat	Lon	Loran TD's		Course	Bottom Depth (FM)	Temp (F)
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0434	May-08	2335	4051.6	7009.4	X25150.6	Y43649.7	179	17.5	
0435	May-09	0022	4050.1	7009.5	X25156.4	Y43639.9	197	18.9	
0436	May-09	0217	4053.3	7008.7	X25140.5	Y43660.4	018	15.0	
0437	May-09	0239	4054.4	7009.1	X25138.8	Y43668.3	328	15.6	

\*\* No station #5

NOAA FISHERIES SERVICE-NEFSC SPRING BOTTOM TRAWL SURVEY 2009  
CATCH WEIGHTS (POUNDS) OF IMPORTANT SPECIES BY HAUL

STATION	ATLANTIC COD	HADDOCK	POLLOCK	WHITE HAKE	SILVER HAKE	REDFISH	GOOSEFISH	SPINY DOGFISH	YELLOWTAIL FLOUNDER	WINTER FLOUNDER	AMERICAN PLAICE	WITCH FFLOUNDER	WINDOWPANE FLDR	SUMMER FLOUNDER	SCUP	BLACK SEA BASS	ATLANTIC HERRING	ATLANTIC MACKEREL	WINTER SKATE	LITTLE SKATE	BUTTERFISH	AMERICAN LOBSTER	LOLIGO	ILLEX	TOTAL * OTHER	TOTAL ALL		
1 *****	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	50	0	0	0	0	0	52		
2 *****	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3 *****	0	0	0	0	0	0	0	0	0	7	0	0	1	0	0	0	0	0	27	225	0	0	0	0	0	2	262	
4 **	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	15	314	0	0	0	0	0	2	344	
6	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	4	27	0	0	0	0	0	1	39	
7	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	8	0	0	56	0	0	0	0	0	6	76	
8 ****	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9	0	0	0	0	85	0	14	540	0	0	0	9	0	0	0	0	0	0	0	0	0	1	0	1	0	72	722	
10	0	0	0	0	6	0	0	25	0	0	0	0	0	11	2	40	0	0	0	1	0	0	0	5	0	794	884	
11	0	0	0	0	14	0	0	1031	0	0	0	0	0	8	0	4	0	3	0	47	0	0	8	0	0	58	1173	
12	0	0	0	0	22	0	0	1523	0	0	0	0	0	0	0	0	0	0	0	6	5	0	70	0	0	77	1703	
13	0	0	0	0	9	0	1	1087	0	0	0	1	0	1	0	3	0	2	0	17	0	0	3	0	0	79	1203	
14 *****	0	0	0	17	1	0	6	143	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	22	190	
15 *****	0	0	0	27	17	0	62	230	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	81	423	
16 *****	0	0	0	0	81	0	1	2102	0	0	0	0	0	28	3	16	2	1	0	0	0	0	11	0	0	54	2299	
17	0	0	0	0	1	0	12	5816	0	0	0	0	0	39	0	0	21	155	0	18	2	0	2	0	22	6088		
18	0	0	0	0	0	0	0	51	0	0	0	0	0	5	0	0	0	0	10	15	0	0	0	0	0	28	109	
19	0	0	0	0	1	0	0	423	0	0	0	1	0	3	0	0	132	3	0	22	0	0	1	0	0	31	617	
20	0	0	0	0	0	0	0	316	0	0	0	0	0	12	0	0	155	30	1	20	0	0	1	0	0	26	561	
21	0	0	0	0	1	0	2	973	0	0	0	0	0	21	1	0	0	0	0	1	20	0	69	6	0	71	1165	
22 *****	0	0	0	0	35	0	208	1258	0	0	0	52	0	0	0	0	0	0	0	2	0	5	1	1	0	94	1656	
23	0	0	0	1	49	0	71	477	0	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	88	712	
24	0	0	0	0	10	0	9	769	0	0	0	1	0	0	7	0	0	0	0	0	6	0	125	1	0	46	974	
25	0	0	0	0	9	0	10	436	0	0	0	0	0	0	0	0	0	0	0	0	12	0	86	1	0	27	581	
26	0	0	0	0	1	0	0	596	0	0	0	0	0	3	1	0	0	0	0	0	8	0	10	0	0	28	647	
27	0	0	0	0	1	0	0	338	0	0	0	0	0	3	2	8	0	0	0	0	0	0	29	0	0	40	421	
28	0	0	0	0	1	0	0	1724	0	0	0	0	0	1	0	4	0	0	0	0	0	0	25	0	0	32	1787	
29 ****	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	163	0	168	9504	0	0	0	5	0	21	0	0	0	0	0	0	0	15	1	1	0	760	10638	
31	0	0	0	0	0	0	0	3967	0	0	0	0	0	1	0	0	0	0	0	0	0	0	18	0	0	65	4051	
32	0	0	0	7	2	0	59	148	0	0	0	6	0	0	0	0	0	0	0	0	0	0	1	0	0	172	395	
33	0	0	0	1	24	0	125	207	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	112	470	
34	0	0	0	0	0	0	0	64	0	0	0	0	0	1	0	0	0	0	0	0	0	0	174	2	0	421	662	
35	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	1	0	0	0	0	0	0	14	0	0	88	118	
36	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	0	0	62	106	
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	2257	2262	
38	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	19	0	0	1014	1042	
39	0	0	0	0	0	0	6	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	8	0	0	1435	1450	

NOAA FISHERIES SERVICE-NEFSC SPRING BOTTOM TRAWL SURVEY 2009  
CATCH WEIGHTS (POUNDS) OF IMPORTANT SPECIES BY HAUL

	ATLANTIC COD	HADDOCK	POLLOCK	WHITE HAKE	SILVER HAKE	REDFISH	GOOSEFISH	SPINY DOGFISH	YELLOWTAIL FLOUNDER	WINTER FLOUNDER	AMERICAN PLAICE	WITCH FLOUNDER	WINDOWPANE FLDR	SUMMER FLOUNDER	SCUP	BLACK SEA BASS	ATLANTIC HERRING	ATLANTIC MACKEREL	WINTER SKATE	LITTLE SKATE	BUTTERFISH	AMERICAN LOBSTER	LOLIGO	ILLEX	TOTAL * OTHER	TOTAL ALL		
40	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	26	0	46	73	
41	0	0	0	0	0	0	0	6	0	0	0	0	0	6	0	0	0	0	0	0	0	7	0	3	0	133	155	
42	0	0	0	0	0	0	5	2056	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	13	0	11	2086	
43	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	4	0	687	694	
44	0	0	0	0	0	0	0	0	0	0	0	0	0	13	2	0	0	0	0	0	0	0	0	83	0	194	292	
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	445	445	
46 ****	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	95	197
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	331	333	
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41	0	25	66	
50	0	0	0	0	0	0	0	1053	0	0	0	0	0	5	0	0	0	0	8	0	1	0	0	10	0	14	1091	
51	0	0	0	0	0	0	0	132	0	0	0	0	0	4	0	0	0	0	0	0	1	0	2	0	0	98	237	
52	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	81	0	255	350	
53	0	0	0	0	0	0	8	0	0	0	0	0	0	21	0	0	0	0	0	0	0	0	0	36	0	332	397	
54	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	22	0	701	739	
55	0	0	0	0	0	0	0	16	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	6	0	157	190	
56	0	0	0	0	0	0	22	630	0	0	0	0	2	17	0	0	0	0	8	0	1	0	1	0	0	173	854	
57	0	0	0	0	0	0	0	165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43	208	
58 *****	0	0	0	0	0	0	0	72	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	21	96
59	0	0	0	0	0	0	0	32	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	29	68	
60 *****	0	0	0	0	0	0	0	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	81
61	0	0	0	0	0	0	0	134	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	19	157
62	0	0	0	0	0	0	0	57	0	0	0	0	0	1	0	0	0	0	6	0	0	0	0	0	0	0	72	136
63	0	0	0	0	0	0	0	204	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	19	225
64	0	0	0	0	0	0	0	303	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	4	0	56	366	
65	0	0	0	0	0	0	0	125	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	12	142	
66	0	0	0	0	0	0	0	221	0	0	0	0	0	3	0	0	0	0	29	5	0	0	0	0	0	73	331	
67	0	0	0	0	2	0	0	196	0	0	0	0	1	12	0	0	0	0	21	1	0	0	0	0	0	65	298	
68	0	0	0	0	0	0	0	65	0	0	0	0	0	13	0	0	0	0	28	1	0	0	0	0	0	35	142	
69	0	0	0	0	0	0	0	35	0	0	0	0	2	6	0	0	0	0	17	0	0	0	0	0	0	43	103	
70	0	0	0	0	1	0	0	55	0	0	0	0	2	16	0	0	0	0	16	1	0	0	0	0	0	50	141	
71	0	0	0	0	0	0	0	29	0	0	0	0	4	12	0	0	4	0	21	0	0	0	0	0	0	29	99	
72	0	0	0	0	0	0	0	43	0	0	0	0	1	16	0	0	0	0	17	1	0	0	0	0	0	368	446	
73	0	0	0	0	0	0	0	96	0	0	0	0	3	0	0	0	0	0	22	0	0	0	0	0	0	839	960	
74	0	0	0	0	0	0	0	133	0	0	0	0	0	4	0	0	0	0	21	3	0	0	0	0	0	156	317	
75	0	0	0	0	0	0	0	384	0	0	0	0	0	5	0	0	162	2	11	4	0	0	0	0	0	10	578	
76	0	0	0	0	0	0	0	647	0	0	0	0	0	6	0	0	0	7	0	3	57	0	0	0	0	8	728	
77	0	0	0	0	0	0	0	337	0	0	0	0	0	10	0	0	97	12	35	12	0	0	0	0	0	19	522	
78	0	0	0	0	1	0	0	402	0	0	0	0	1	25	0	0	20	5	0	31	4	0	0	0	0	22	511	

NOAA FISHERIES SERVICE-NEFSC SPRING BOTTOM TRAWL SURVEY 2009  
CATCH WEIGHTS (POUNDS) OF IMPORTANT SPECIES BY HAUL

	ATLANTIC COD	HADDOCK	POLLOCK	WHITE HAKE	SILVER HAKE	REDFISH	GOOSEFISH	SPINY DOGFISH	YELLOWTAIL FLOUNDER	WINTER FLOUNDER	AMERICAN PLAICE	WITCH FLOUNDER	WINDOWPANE FLDR	SUMMER FLOUNDER	SCUP	BLACK SEA BASS	ATLANTIC HERRING	ATLANTIC MACKEREL	WINTER SKATE	LITTLE SKATE	BUTTERFISH	AMERICAN LOBSTER	LOLIGO	ILLEX	TOTAL * OTHER	TOTAL ALL
79	0	0	0	0	3	0	0	23	0	0	0	0	1	9	0	0	40	1	21	4	0	0	0	0	19	121
80	0	0	0	0	0	0	0	25	0	0	0	0	1	0	0	0	3	4	3	23	0	0	0	0	4	63
81	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	0	1	0	0	17	0	0	0	0	2	30
82	0	0	0	0	2	0	0	239	0	0	0	0	2	7	0	0	238	6	7	100	0	0	0	0	24	625
83	0	0	0	0	0	0	0	34	0	0	0	0	4	4	0	0	9	0	53	20	0	0	0	0	3	127
84	0	0	0	0	0	0	30	76	0	0	0	0	0	1	0	0	8	1	9	19	0	0	0	0	13	157
85 *****	0	0	0	0	0	0	0	37	0	0	0	0	1	7	0	0	0	0	10	4	0	0	0	0	1	60
86	0	0	0	0	0	0	0	41	0	0	0	0	0	5	0	0	0	0	0	6	0	0	0	0	901	953
87	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	10	0	0	19	0	0	0	0	1497	1540
88	0	0	0	0	0	0	0	7	0	0	0	0	1	0	0	0	0	0	0	25	0	0	0	0	41	74
89	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	29	0	1	0	0	5	39
90 *****	0	0	0	0	0	0	0	10	0	0	0	0	1	2	0	0	0	0	0	20	0	4	0	0	3	40
91	0	0	0	0	0	0	0	8	0	0	0	0	2	4	0	0	0	0	5	63	0	0	0	0	435	517
92	0	0	0	0	0	0	0	0	0	0	0	0	5	2	0	0	1	0	30	92	0	0	0	0	9	139
93	0	0	0	0	1	0	0	9	0	0	0	0	6	1	0	0	6	0	47	122	0	0	0	0	4	196
94	0	0	0	0	0	0	0	13	0	0	0	0	7	3	0	0	0	0	3	170	0	0	0	0	4	200
95	0	0	0	0	6	0	0	1011	0	0	0	0	0	12	0	0	0	0	0	20	0	0	0	0	36	1085
96 *****	0	0	0	0	0	0	0	18	0	0	0	0	1	4	0	0	15	0	0	29	0	0	0	0	3	70
97 *****	0	0	0	0	0	0	0	153	0	0	0	0	1	3	0	0	123	0	8	57	0	0	0	0	5	350
98	0	0	0	0	2	0	7	1638	0	0	0	0	0	0	0	0	484	140	0	10	1	0	4	0	11	2297
99	0	0	0	0	0	0	0	792	0	0	0	0	0	4	0	0	3	0	0	40	0	0	0	0	35	874
100	0	0	0	0	0	0	0	1792	0	0	0	0	0	14	0	0	88	100	0	2	0	0	3	0	24	2023
101	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	15	155	0	0	0	0	1	175
102	0	0	0	0	3	0	0	8	9	0	0	0	3	1	0	0	1	0	68	253	0	0	0	0	53	399
103	0	0	0	0	0	0	0	0	0	8	0	0	2	0	0	0	0	0	10	167	0	0	0	0	3	190
104	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	9	77	0	0	0	0	7	103
105	0	0	0	0	7	0	0	20	16	3	0	0	7	2	0	0	2	0	40	262	0	0	0	0	58	417
106	0	0	0	0	0	0	0	0	0	24	0	0	1	0	0	0	0	0	9	62	0	0	0	0	1	97
107 *****	0	0	0	0	0	0	0	0	0	4	0	0	1	0	0	0	0	0	12	52	0	0	0	0	28	97
108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	68	0	0	0	0	3	77
109	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	5	63	0	1	0	0	7	77
110	0	0	0	0	0	0	0	0	2	2	0	0	1	0	0	0	0	0	4	66	0	0	0	0	23	98
111	0	0	0	0	0	0	0	28	25	3	0	0	0	0	0	0	0	0	9	27	0	0	0	0	169	261
112	0	0	0	0	0	0	0	4	0	4	0	0	1	0	0	0	0	0	31	57	0	0	0	0	3	100
113	0	0	0	0	1	0	0	0	0	7	0	0	4	0	0	0	3	0	32	531	0	0	0	0	18	596
114	0	0	0	0	2	0	0	0	0	23	0	0	8	0	0	0	10	0	145	234	0	6	0	0	43	471
115	0	0	0	0	0	0	0	0	0	13	0	0	5	0	0	0	2	0	45	169	0	4	0	0	9	247
116	0	0	0	0	0	0	0	5	0	1	0	0	2	0	0	0	11	0	129	93	0	0	0	0	28	269
117	0	0	0	0	1	0	0	18	0	8	0	0	5	0	0	0	28	0	77	194	0	0	0	0	49	380

NOAA FISHERIES SERVICE-NEFSC SPRING BOTTOM TRAWL SURVEY 2009  
 CATCH WEIGHTS (POUNDS) OF IMPORTANT SPECIES BY HAUL

	ATLANTIC COD	HADDOCK	POLLOCK	WHITE HAKE	SILVER HAKE	REDFISH	GOOSEFISH	SPINY DOGFISH	YELLOWTAIL FLOUNDER	WINTER FLOUNDER	AMERICAN PLAICE	WITCH FLOUNDER	WINDOWPANE FLDR	SUMMER FLOUNDER	SCUP	BLACK SEA BASS	ATLANTIC HERRING	ATLANTIC MACKEREL	WINTER SKATE	LITTLE SKATE	BUTTERFISH	AMERICAN LOBSTER	LOLIGO	ILLEX	TOTAL * OTHER	TOTAL ALL
118	0	0	0	0	0	0	0	65	0	0	0	0	5	0	0	0	75	0	91	45	0	0	0	0	2	283
119	0	0	0	0	0	0	0	1169	0	0	0	0	4	2	0	0	3	450	0	0	46	0	0	0	12	1686
120	0	0	0	0	0	0	0	100	2	0	0	0	0	0	0	0	0	1	31	20	0	0	0	0	77	231
121	0	0	0	0	0	0	0	51	0	0	0	0	0	0	0	0	0	0	9	6	0	0	0	0	3	69
122	0	0	0	0	0	0	0	16	0	0	0	0	1	0	0	0	0	0	12	7	0	0	0	0	3	39
123	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	2	11	0	0	0	0	0	22
124	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	11	5	0	0	0	0	1	22
125	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	36	10	0	0	0	0	1	52
126	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	18	20	0	0	0	0	1	41
127	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	17	0	4	26	0	0	0	0	1	55
128	0	0	0	0	0	0	0	5	0	0	0	0	1	0	0	0	0	0	0	78	0	0	0	0	1	85
129	0	0	0	0	0	0	0	0	0	1	0	0	6	0	0	0	5	0	15	133	0	0	0	0	20	180
130	0	0	0	0	9	0	0	291	0	0	0	1	0	14	0	0	104	195	22	50	0	0	3	0	26	715
131	0	0	0	0	17	0	6	514	0	0	0	0	0	4	0	10	111	77	0	10	0	0	5	0	21	775
132	0	0	0	0	11	0	26	1443	0	0	0	0	0	12	21	4	0	1	0	0	25	0	9	0	407	1959
133 *****	0	0	0	0	106	0	26	768	0	0	0	0	0	0	0	0	0	0	0	0	1	0	5	0	24	930
134	0	0	0	0	39	0	0	1483	0	0	0	0	0	5	738	11	0	3	0	0	41	0	7	0	189	2516
135	0	0	0	0	229	0	8	1167	0	0	0	2	0	0	1	0	0	0	0	0	0	3	0	0	57	1467
136	0	0	0	0	29	0	5	330	0	0	0	0	0	3	0	0	0	0	0	0	12	0	18	0	42	439
137	0	0	0	0	13	0	1	958	0	0	0	0	0	12	0	2	18	3	0	41	0	0	1	0	64	1113
138	0	0	0	0	16	0	13	1301	0	0	0	1	0	8	1	0	11	4	0	77	0	1	1	0	64	1498
139	0	0	0	0	26	0	2	925	0	0	0	1	0	5	1	0	33	191	0	133	0	0	1	0	83	1401
140	0	0	0	0	15	0	4	1302	0	0	0	0	0	5	0	0	627	2	0	12	0	0	1	0	35	2003
141	0	0	0	0	0	0	0	1841	0	0	0	0	0	2	0	0	2	16	0	12	0	0	1	0	12	1886
142	0	0	0	0	0	0	0	1173	0	0	0	0	0	1	0	0	250	1198	20	29	0	0	1	0	198	2870
143	0	0	0	0	24	0	11	4414	0	0	0	0	0	0	0	1	2	26	14	227	0	0	0	0	111	4830
144 *****	0	0	0	0	2	0	1	1516	2	0	0	0	0	0	0	0	0	1	37	56	0	0	0	0	10	1625
145	0	0	0	0	0	0	0	1105	5	0	0	0	1	1	0	0	28	24	23	89	0	0	0	0	33	1309
146	0	0	0	0	3	0	8	266	1	0	0	0	0	0	0	0	9	421	9	170	0	0	0	0	19	906
147	0	0	0	0	15	0	1	211	2	0	0	0	0	1	0	0	25	359	18	325	0	0	0	0	78	1035
148	0	0	0	0	32	0	0	273	0	0	0	0	0	2	0	0	23	158	4	115	0	0	1	0	91	699
149	0	0	0	0	87	0	17	137	0	0	0	0	0	21	1	5	9	0	0	12	4	0	2	0	162	457
150	0	0	0	0	56	0	5	1517	0	0	0	0	0	31	37	6	75	86	0	10	3	0	2	0	87	1915
151	0	0	0	0	14	0	0	360	0	0	0	0	0	0	0	0	0	1	0	0	6	0	61	1	65	508
152	0	0	0	0	46	0	24	272	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	38	390
153	0	0	0	0	0	0	22	21	0	0	0	0	0	5	0	0	0	8	0	0	1	0	110	32	20	219
154	0	0	0	0	100	0	32	548	0	0	0	0	0	26	1	0	11	0	0	0	61	0	27	0	90	896
155	0	0	0	0	16	0	10	3	0	0	0	0	0	0	0	0	0	0	0	0	62	1	223	13	67	395
156	0	0	0	0	189	0	20	981	0	0	0	0	0	0	0	0	0	0	0	1	6	0	3	0	117	1317

NOAA FISHERIES SERVICE-NEFSC SPRING BOTTOM TRAWL SURVEY 2009  
 CATCH WEIGHTS (POUNDS) OF IMPORTANT SPECIES BY HAUL

	ATLANTIC COD	HADDOCK	POLLOCK	WHITE HAKE	SILVER HAKE	REDFISH	GOOSEFISH	SPINY DOGFISH	YELLOWTAIL FLOUNDER	WINTER FLOUNDER	AMERICAN PLAICE	WITCH FFLOUNDER	WINDOWPANE FLDR	SUMMER FLOUNDER	SCUP	BLACK SEA BASS	ATLANTIC HERRING	ATLANTIC MACKEREL	WINTER SKATE	LITTLE SKATE	BUTTERFISH	AMERICAN LOBSTER	LOLIGO	ILLEX	TOTAL * OTHER	TOTAL ALL
157	0	0	0	0	55	0	61	224	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	126	469
158	0	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0	15	0	69	120
159	0	0	0	0	113	0	46	0	0	0	0	7	0	0	0	0	0	0	0	0	0	1	4	1	53	225
160	0	0	0	0	51	0	33	17	0	0	0	1	0	67	0	1	0	1	0	0	58	2	17	0	89	337
161	0	0	0	2	17	0	25	82	0	0	0	0	0	21	0	0	0	3	0	0	721	0	27	0	167	1065
162	0	0	0	0	2	0	0	0	0	0	0	0	0	7	0	0	0	4	0	0	674	0	194	12	50	943
163	0	0	0	0	167	0	84	525	0	0	0	0	0	76	0	0	1	0	225	0	18	0	1	1	230	1328
164	0	0	0	10	44	0	33	493	0	0	0	0	0	143	0	1	0	0	0	0	4	1	5	0	142	876
165	0	0	0	0	26	0	34	62	0	0	0	0	0	18	0	0	0	0	40	1	0	1	0	0	114	296
166	0	0	0	0	0	0	6	0	0	14	0	0	1	0	0	0	0	0	47	460	0	0	0	0	66	594
167	0	0	0	0	0	0	0	0	2	33	0	0	0	0	0	0	0	0	13	12	0	0	0	0	19	79
168	5	0	0	0	0	0	0	0	61	57	0	0	1	0	0	0	0	0	3	6	0	2	0	0	11	146
169	0	0	0	0	0	0	0	0	9	8	0	0	0	0	0	0	30	0	361	339	0	2	0	0	89	838
170	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	273	0	173	134	0	4	0	0	12	599
171	0	0	0	0	0	0	0	0	1	6	0	0	0	0	0	0	0	0	8	33	0	0	0	0	25	73
172	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	37
173	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	1	0	12	0	0	5	21
174	0	0	0	0	0	0	0	0	1	8	0	0	2	0	0	0	0	0	43	350	0	0	0	0	7	411
175	0	0	0	0	71	0	8	1020	0	0	0	0	1	10	0	0	187	0	97	376	0	0	0	0	135	1905
176	0	0	0	0	32	0	12	661	8	0	0	2	0	9	0	0	65	0	18	100	0	1	0	0	130	1038
177	0	0	0	1	50	0	24	307	19	0	0	1	1	12	0	1	319	0	109	25	0	0	0	0	66	935
178	0	0	0	0	45	0	28	301	0	0	0	0	0	8	0	0	5	0	13	15	0	0	0	0	41	456
179	0	0	0	0	24	0	5	836	9	0	0	0	0	2	0	0	694	14	10	24	0	0	0	0	13	1631
180	0	0	0	0	25	0	30	267	3	0	0	1	0	0	0	0	193	27	0	77	0	0	0	0	64	687
181 *****	0	0	0	0	33	0	0	309	0	0	0	0	0	20	0	0	580	124	26	13	0	0	0	0	86	1191
182	0	0	0	0	44	0	22	142	0	0	0	0	0	13	1	8	3	0	0	9	1	0	0	0	95	338
183	0	0	0	0	10	0	0	0	2	0	0	0	6	4	0	0	2	0	89	297	0	0	0	0	18	428
184	1	0	0	0	20	0	0	0	4	0	0	2	20	0	0	0	3	0	398	709	0	6	0	0	62	1225
185	3	0	0	0	3	0	0	0	1	0	0	0	7	1	0	0	2	0	755	458	0	0	0	0	76	1306
186	0	0	0	0	1	0	0	0	1	0	0	0	2	0	0	0	1	0	125	221	0	0	0	0	36	387
187	0	0	0	0	2	0	0	0	1	0	0	0	1	1	0	0	3	0	8	27	0	0	0	0	23	66
188	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
189	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	2	0	0	0	0	0	11	22
190	0	0	0	0	0	0	0	0	1	10	0	0	0	0	0	0	1	0	0	2	0	1	0	0	9	24
191	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	1	0	32	346	0	0	0	0	73	458
192	0	0	0	0	16	0	14	9	3	0	0	1	5	3	0	0	5	0	18	6	0	0	0	0	29	109
193	0	0	0	0	61	0	36	26	0	0	0	0	0	10	0	0	3	142	0	0	0	0	0	0	79	357
194	0	0	0	0	27	0	14	3	0	0	0	0	0	0	0	0	0	0	0	0	16	0	9	0	28	97
195	0	0	0	0	54	0	26	96	0	0	0	8	0	0	0	0	0	0	0	0	0	4	21	23	98	330



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 CATCH WEIGHTS (POUNDS) OF IMPORTANT SPECIES BY HAUL

	ATLANTIC COD	HADDOCK	POLLOCK	WHITE HAKE	SILVER HAKE	REDFISH	GOOSEFISH	SPINY DOGFISH	YELLOWTAIL FLOUNDER	WINTER FLOUNDER	AMERICAN PLAICE	WITCH FFLOUNDER	WINDOWPANE FLDR	SUMMER FLOUNDER	SCUP	BLACK SEA BASS	ATLANTIC HERRING	ATLANTIC MACKEREL	WINTER SKATE	LITTLE SKATE	BUTTERFISH	AMERICAN LOBSTER	LOLIGO	ILLEX	TOTAL * OTHER	TOTAL ALL	
196	1	0	0	0	5	0	0	10	0	0	0	2	0	1	0	0	0	0	65	6	0	0	0	0	49	139	
197	0	0	0	0	7	0	0	21	2	0	0	3	0	2	0	0	22	8	9	0	0	0	1	0	36	111	
198	0	0	0	0	11	0	0	3	2	0	0	1	0	20	0	0	0	0	53	1	1	0	1	0	64	157	
199 *****	0	0	0	0	23	0	0	480	0	0	0	1	0	0	0	0	0	1	34	0	81	0	441	58	90	1209	
200	0	0	0	0	92	0	0	1698	0	0	0	10	0	0	0	0	0	4	20	0	56	0	177	3	74	2134	
201	0	0	0	0	24	0	0	2	0	0	0	3	0	14	0	0	0	0	275	5	10	0	16	1	132	482	
202	0	0	0	0	6	0	0	4	4	0	0	2	2	4	0	0	0	0	33	58	0	2	0	0	61	176	
203	0	0	0	0	163	0	46	0	7	0	0	4	9	43	0	0	0	0	402	3	8	0	1	2	245	933	
204	0	0	0	1	74	0	7	1776	5	0	0	2	13	46	0	0	0	0	312	3	17	26	17	0	143	2442	
205 *****	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
206	0	0	0	0	3	0	0	6	1	0	0	0	1	0	0	0	0	0	30	68	0	0	0	0	28	137	
207	0	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	4	2	0	0	0	0	6	19	
208 *****	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
209 *****	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	7	0	0	26	39	
210 *****	0	0	0	0	0	0	0	7	1	2	0	0	2	0	0	0	0	0	22	49	0	4	0	0	11	98	
211	0	0	0	0	0	0	0	0	1	8	0	0	3	0	0	0	1	0	23	67	0	0	0	0	8	111	
212	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	1	0	60	257	0	1	0	0	44	366	
213	0	0	0	0	0	0	0	0	0	0	1	0	3	0	0	0	0	0	30	169	0	0	0	0	8	211	
214	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	27	98	0	1	0	0	18	145	
215 *****	0	0	0	0	2	0	0	20	36	0	0	4	2	0	0	0	0	0	246	27	0	0	0	0	20	357	
216	0	0	0	0	3	0	0	17	70	0	0	2	5	1	0	0	0	0	354	23	0	0	0	0	37	512	
217 *****	0	0	0	1	21	0	0	1	6	0	0	1	1	2	0	0	0	11	31	1	41	0	0	0	19	136	
218	11	1	0	0	0	0	0	11	2	4	0	0	0	0	0	0	1	1	5	33	0	0	0	0	158	227	
219	40	57	0	0	1	20	0	0	0	0	1	0	1	0	0	0	0	0	0	3	0	0	0	0	19	142	
220	1	0	0	0	0	13	0	3	0	0	0	0	0	0	0	0	0	4	1	0	0	8	0	0	1191	1221	
221 *****	6	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	85	0	0	86	179	
222 *****	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
223	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
224	10	7	0	0	0	0	0	0	4	0	2	0	0	0	0	0	5	0	2	0	0	21	0	0	82	133	
225	14	0	9	0	89	74	0	16	1	0	3	1	0	0	0	0	8	0	0	0	0	9	0	0	46	270	
226	0	8	0	8	22	127	33	43	0	0	11	9	0	0	0	0	0	0	32	0	0	6	0	0	66	365	
227	6	0	0	17	2	5	23	3	0	0	10	4	0	0	0	0	0	0	283	0	0	0	0	0	32	385	
228	4	0	0	1	13	15	11	0	0	0	3	1	0	0	0	0	0	0	3	0	0	0	0	0	68	119	
229	0	0	0	8	12	2	0	17	0	0	6	5	0	0	0	0	0	0	12	0	0	0	0	0	31	93	
230	4	3	0	0	0	0	0	10	0	0	2	0	1	0	0	0	0	0	6	44	0	0	0	0	27	113	
231	10	0	0	3	34	1	0	0	0	0	29	0	0	0	0	0	717	1	11	54	0	3	0	0	90	953	
232	6	4	0	2	26	0	0	29	1	0	8	3	0	0	0	0	3	0	26	3	0	0	0	0	65	176	
233	0	2	0	0	0	0	0	0	1	2	1	0	0	0	0	0	2	1	18	32	0	0	0	0	77	136	
234	0	0	0	0	0	0	0	0	2	2	2	0	2	0	0	0	0	0	8	45	0	0	0	0	35	96	



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CATCH WEIGHTS (POUNDS) OF IMPORTANT SPECIES BY HAUL

	ATLANTIC COD	HADDOCK	POLLOCK	WHITE HAKE	SILVER HAKE	REDFISH	GOOSEFISH	SPINY DOGFISH	YELLOWTAIL FLOUNDER	WINTER FLOUNDER	AMERICAN PLAICE	WITCH FLOUNDER	WINDOWPANE FLDR	SUMMER FLOUNDER	SCUP	BLACK SEA BASS	ATLANTIC HERRING	ATLANTIC MACKEREL	WINTER SKATE	LITTLE SKATE	BUTTERFISH	AMERICAN LOBSTER	LOLIGO	ILLEX	TOTAL * OTHER	TOTAL ALL
274 *****	0	0	0	0	15	0	0	0	0	0	0	0	0	6	0	0	0	0	33	0	0	0	1	59	21	135
275	2	0	0	2	54	0	0	54	0	0	0	0	0	4	0	0	0	2	137	5	14	1	3	1	162	441
276	0	0	0	0	3	0	0	0	2	0	0	1	0	0	0	0	0	0	34	6	0	0	0	0	27	73
277	0	0	0	1	8	0	0	0	1	0	0	0	1	0	0	0	0	0	101	35	0	0	0	0	137	284
278	0	0	0	1	99	0	0	0	0	0	0	0	0	0	0	0	0	17	21	18	13	0	8	0	139	316
279	0	2	0	13	229	0	71	0	0	0	0	3	0	0	0	0	0	1	32	1	0	22	0	0	529	903
280	0	0	0	91	297	6	91	0	0	0	0	2	0	0	0	0	0	0	0	0	0	159	0	0	818	1464
281	0	0	0	5	244	0	0	0	0	0	0	0	0	1	0	0	0	4	70	9	1	0	6	0	286	626
282 *****	0	1	0	1	3	0	7	0	0	0	0	2	2	0	0	0	0	0	111	10	0	0	0	0	77	214
283	0	61	0	2	8	0	0	0	1	0	0	0	2	0	0	0	0	0	259	37	0	0	0	0	131	501
284 *****	0	0	0	11	114	0	21	0	0	0	0	0	0	0	0	0	0	0	3	5	0	5	0	1	135	295
285	0	0	0	51	1114	0	0	0	0	0	0	2	0	0	0	0	0	0	11	0	0	7	0	2	506	1693
286	0	0	0	6	55	0	0	0	0	0	0	0	0	0	0	0	0	257	53	1	0	0	1	1	190	564
287	0	219	0	0	1	0	0	0	3	0	2	0	1	0	0	0	0	1	3	3	0	0	0	0	61	294
288	0	0	0	6	219	0	56	0	0	0	0	43	0	0	0	0	0	0	1408	0	0	0	0	1	499	2232
289	4	51	0	1	363	0	0	3	35	0	0	6	5	0	0	0	2	0	470	2	0	24	0	0	1159	2125
290	24	48	0	0	2	0	0	0	161	0	7	4	14	0	0	0	0	0	497	134	0	0	0	0	192	1083
291	16	167	0	0	2	0	0	0	28	0	4	2	6	0	0	0	0	0	791	42	0	0	0	0	106	1164
292	6	569	0	1	4	0	0	4	9	0	1	0	6	0	0	0	0	0	173	90	0	0	0	0	19	882
293	26	352	0	0	0	0	0	0	109	11	3	1	3	0	0	0	0	0	436	36	0	0	0	0	25	1002
294	25	412	0	0	0	0	0	0	58	3	1	0	1	0	0	0	0	0	236	8	0	0	0	0	11	755
295	0	80	0	0	1	0	0	0	5	5	5	0	7	0	0	0	12	0	5	12	0	0	0	0	20	152
296	7	11	0	0	1	0	0	3	16	38	0	0	1	0	0	0	1	0	0	23	0	4	0	0	28	133
297	48	19	0	0	0	0	0	0	4	136	0	0	6	0	0	0	2	0	45	68	0	4	0	0	70	402
298	18	447	0	0	0	0	0	0	28	16	7	0	1	0	0	0	0	0	98	9	0	0	0	0	14	638
299	11	599	0	0	0	0	0	0	136	6	4	0	3	0	0	0	0	0	101	18	0	0	0	0	7	885
300	44	125	0	0	0	0	0	3	216	19	7	0	6	0	0	0	1	0	328	59	0	0	0	0	4	812
301	45	26	0	0	0	0	0	0	52	7	9	0	2	0	0	0	0	0	590	55	0	3	0	0	10	799
302	12	108	0	0	5	0	4	0	122	0	0	0	12	0	0	0	0	0	1984	56	0	0	0	0	249	2552
303	3	10	0	170	0	204	0	0	0	0	0	0	0	0	0	0	0	0	8	2	0	328	0	2	192	919
304	0	19	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	1214	42	0	9	0	0	27	1320
305	31	2	341	8	0	2	0	0	0	0	0	0	0	0	0	0	0	0	66	0	0	0	0	0	49	499
306	51	14	0	0	0	0	0	6	24	0	0	0	0	0	0	0	0	0	167	0	0	0	0	0	7	269
307	12	33	0	0	0	0	0	3	60	4	4	0	0	0	0	0	0	0	234	1	0	4	0	0	4	359
308	64	88	0	0	0	0	0	8	0	0	1	0	0	0	0	0	1	0	15	4	0	0	0	0	34	215
309	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	13	23
310	84	18	6	27	5	0	0	31	0	0	0	0	0	0	0	0	0	0	12	2	0	13	0	0	29	227
311	6	4	21	16	1	0	0	134	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	15	199
312 *****	16	0	26	8	2	0	0	149	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	20	233

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CATCH WEIGHTS (POUNDS) OF IMPORTANT SPECIES BY HAUL

	ATLANTIC COD	HADDOCK	POLLOCK	WHITE HAKE	SILVER HAKE	REDFISH	GOOSEFISH	SPINY DOGFISH	YELLOWTAIL FLOUNDER	WINTER FLOUNDER	AMERICAN PLAICE	WITCH FFLOUNDER	WINDOWPANE FLDR	SUMMER FLOUNDER	SCUP	BLACK SEA BASS	ATLANTIC HERRING	ATLANTIC MACKEREL	WINTER SKATE	LITTLE SKATE	BUTTERFISH	AMERICAN LOBSTER	LOLIGO	ILLEX	TOTAL * OTHER	TOTAL ALL	
313	3	0	0	7	1	19	0	78	0	0	0	2	0	0	0	0	0	0	209	0	0	6	0	0	111	436	
314	320	653	2	0	0	0	0	0	11	0	3	0	1	0	0	0	0	0	40	4	0	0	0	0	103	1137	
315	0	3	0	12	14	0	2	0	0	0	7	2	0	0	0	0	4	1	56	0	0	33	0	0	112	246	
316	72	1850	0	0	0	0	0	0	20	15	2	0	0	0	0	0	18	0	36	13	0	0	0	0	200	2226	
317	3	99	0	0	0	0	0	0	0	14	0	0	0	0	0	0	7	0	13	62	0	0	0	0	34	232	
318	11	7	0	1	29	0	0	0	0	0	40	0	0	0	0	0	1	0	49	2	0	0	0	0	61	201	
319	8	0	0	12	10	13	0	16	0	0	1	2	0	0	0	0	0	0	0	0	0	10	0	0	43	115	
320	0	3	0	35	79	0	26	0	0	0	1	0	0	0	0	0	2	2	0	0	0	1	0	0	12	161	
321 ****	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
322	12	0	1	0	10	153	0	0	0	0	4	1	0	0	0	0	4	0	0	0	0	5	0	0	50	240	
323	87	82	10	0	1	8	0	0	52	6	2	0	0	0	0	0	0	0	0	0	0	6	0	0	106	360	
324	336	170	8	0	0	38	0	0	1	0	1	0	0	0	0	0	4	0	0	0	0	2	0	0	61	621	
325 *****	67	7	13	0	0	6	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	6	0	0	16	116	
326 *****	168	11	7	0	0	8	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	21	217	
327	0	0	28	14	18	0	35	10	0	0	15	13	0	0	0	0	6	0	0	0	0	3	0	0	117	259	
328	119	0	0	0	35	67	13	0	0	0	27	3	0	0	0	0	3	0	0	0	0	3	0	0	64	334	
329	333	21	25	0	34	2	25	24	0	0	12	18	0	0	0	0	1	0	59	0	0	18	0	0	107	679	
330	4	10	0	0	2	0	0	13	216	137	13	2	0	0	0	0	390	0	37	40	0	11	0	0	211	1086	
331	31	0	0	0	13	20	1	0	17	26	55	6	0	0	0	0	3	0	0	0	0	7	0	0	86	265	
332	26	0	0	0	8	0	0	0	111	108	2	0	1	0	0	0	11	0	1	15	0	108	0	0	57	448	
333	184	11	0	0	8	8	0	0	13	42	17	0	1	0	0	0	1	0	0	5	0	56	0	0	76	422	
334	330	27	1	0	16	15	0	0	16	40	57	0	1	0	0	0	1	0	0	3	0	42	0	0	48	597	
335	34	111	0	0	17	1	0	0	104	28	149	6	0	0	0	0	0	0	1	19	0	23	0	0	46	539	
336	1	0	0	0	2	0	0	0	34	11	2	0	2	0	0	0	1	0	2	20	0	2	0	0	46	123	
337	0	0	0	3	66	0	1	0	28	11	44	1	0	1	0	0	0	0	22	60	0	14	0	0	72	323	
338	2	14	0	0	63	0	0	0	20	8	22	1	0	0	0	0	3	0	4	140	0	18	0	0	55	350	
339 ****	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
340	5	0	0	0	26	1	0	0	13	9	18	1	1	0	0	0	70	0	2	50	0	43	0	0	98	337	
341	174	0	0	0	1	0	0	0	305	82	16	0	1	0	0	0	205	0	0	6	0	17	0	0	46	853	
342	0	0	6	29	23	11	14	331	0	0	8	0	0	0	0	0	2	0	0	0	0	0	0	0	32	456	
343	0	14	0	1	29	1	1	0	0	0	12	5	0	0	0	0	1	0	0	0	0	9	0	0	99	172	
344	0	0	0	13	45	57	4	66	0	0	3	19	0	0	0	0	0	0	0	0	0	2	0	0	42	251	
345	0	0	13	18	54	0	38	38	0	0	1	1	0	0	0	0	1	0	6	0	0	0	0	0	58	228	
346	0	0	0	23	17	762	16	33	0	0	1	3	0	0	0	0	1	0	0	0	0	0	0	0	27	883	
347	1	0	0	29	53	338	0	180	0	0	0	2	0	0	0	0	1	0	0	0	0	2	0	0	83	689	
348	0	0	0	303	10	37	11	6	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0	0	64	435	
349	0	0	62	101	5	21	3	162	0	0	2	0	0	0	0	0	0	0	4	0	0	7	0	0	98	465	
350	0	0	0	28	0	0	4	8	0	0	0	5	0	0	0	0	0	0	0	0	0	30	0	0	44	119	
351	0	0	0	48	14	1	105	3	0	0	2	7	0	0	0	0	0	0	0	0	0	15	0	0	108	303	

NOAA FISHERIES SERVICE-NEFSC SPRING BOTTOM TRAWL SURVEY 2009  
CATCH WEIGHTS (POUNDS) OF IMPORTANT SPECIES BY HAUL

	ATLANTIC COD	HADDOCK	POLLOCK	WHITE HAKE	SILVER HAKE	REDFISH	GOOSEFISH	SPINY DOGFISH	YELLOWTAIL FLOUNDER	WINTER FLOUNDER	AMERICAN PLAICE	WITCH FFLOUNDER	WINDOWPANE FLDR	SUMMER FLOUNDER	SCUP	BLACK SEA BASS	ATLANTIC HERRING	ATLANTIC MACKEREL	WINTER SKATE	LITTLE SKATE	BUTTERFISH	AMERICAN LOBSTER	LOLIGO	ILLEX	TOTAL * OTHER	TOTAL ALL
352	0	0	0	42	18	25	16	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	21	127
353	0	1	0	34	13	71	0	17	0	0	0	0	0	0	0	0	1	0	0	0	0	22	0	0	43	202
354	0	0	0	279	13	3	20	19	0	0	1	8	0	0	0	0	4	0	0	0	0	17	0	0	23	387
355 *****	9	13	10	5	1	6803	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	21	6883
356 *****	0	1	0	3	16	11	5	21	0	0	3	2	0	0	0	0	1	0	0	0	0	12	0	0	8	83
357	0	0	10	16	22	8	2	28	0	0	1	8	0	0	0	0	1	0	0	0	0	25	0	0	26	147
358	5	0	12	5	9	7	0	92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	155
359	0	9	0	1	9	1	2	25	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	7	57
360	11	10	0	4	0	0	0	0	0	32	14	1	0	0	0	0	20	205	0	15	0	22	0	0	45	379
361	7	11	0	1	0	0	0	0	0	42	7	1	0	0	0	0	13	14	1	7	0	8	0	0	112	224
362	0	15	0	3	1	0	0	0	0	57	4	4	0	0	0	0	34	3	12	4	0	9	0	0	29	175
363	5	63	0	3	1	1	13	0	0	108	1	1	0	0	0	0	25	0	0	1	0	79	0	0	66	367
364	0	0	0	6	36	0	1	0	0	12	4	5	0	0	0	0	5	0	0	3	0	3	0	0	40	115
365	3	0	1	11	4	0	0	0	0	5	0	0	0	0	0	0	1	0	0	0	0	16	0	0	57	98
366	0	0	0	8	7	0	0	0	0	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	24	46
367	0	0	0	16	26	1	5	0	0	0	1	5	0	0	0	0	0	0	0	0	0	4	0	0	38	96
368	0	0	0	84	21	127	3	11	0	0	1	2	0	0	0	0	1	13	0	0	0	4	0	0	19	286
369	0	0	0	29	45	39	2	49	0	0	1	2	0	0	0	0	3	1	0	0	0	12	0	0	19	202
370	0	0	0	28	38	11	4	52	0	0	1	2	0	0	0	0	8	1	0	0	0	5	0	0	20	170
371	0	0	0	41	23	422	58	12	0	0	3	9	0	0	0	0	0	0	0	0	0	20	0	0	25	613
372 *****	0	0	0	3	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	8	25
373	0	0	0	7	18	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	10	0	0	15	55
374	0	0	0	5	12	0	3	4	0	5	1	4	0	0	0	0	1	0	0	0	0	0	0	0	51	86
375	0	0	0	3	25	0	0	0	0	4	15	0	2	0	0	0	3	0	0	5	0	13	0	0	30	100
376	0	0	0	1	27	1	0	0	0	0	19	0	0	0	0	0	15	0	0	0	0	15	0	0	118	196
377	0	0	0	1	14	0	0	0	0	0	10	0	1	0	0	0	14	0	0	0	0	19	0	0	191	250
378	0	0	0	0	2	0	0	0	0	2	7	0	0	0	0	0	48	0	0	0	0	63	0	0	36	158
379	0	0	0	0	13	0	0	0	0	1	6	0	1	0	0	0	11	0	0	0	0	26	0	0	26	84
380	0	0	0	8	12	9	0	0	0	1	3	3	0	0	0	0	3	0	0	0	0	10	0	0	13	62
381	3	0	0	6	25	1	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	7	47
382	0	0	0	8	95	0	1	2	0	0	4	2	0	0	0	0	54	7	0	0	0	9	0	0	40	222
383	0	0	0	43	24	2	4	1	0	0	15	10	0	0	0	0	12	5	0	0	0	17	0	0	34	167
384	0	4	10	94	62	31	10	41	0	0	12	2	0	0	0	0	13	1	0	0	0	10	0	0	44	334
385	0	0	71	36	144	62	33	6	0	0	7	1	0	0	0	0	16	1	0	0	0	12	0	0	47	436
386	0	0	0	12	53	3	2	0	0	0	7	2	0	0	0	0	3	0	0	0	0	5	0	0	41	128
387	1	2	0	1	77	10	0	0	0	0	7	0	0	0	0	0	3	0	0	0	0	4	0	0	1148	1253
388	12	0	0	8	105	1	21	10	0	0	7	20	0	0	0	0	3	0	0	0	0	0	0	0	50	237
389	0	0	0	13	209	2	36	0	0	0	3	15	0	0	0	0	7	0	0	0	0	5	0	0	96	386
390	8	0	0	0	115	17	21	0	0	0	3	8	0	0	0	0	2	0	0	0	0	11	0	0	300	485



NOAA FISHERIES SERVICE-NEFSC SPRING BOTTOM TRAWL SURVEY 2009  
 CATCH WEIGHTS (POUNDS) OF IMPORTANT SPECIES BY HAUL

	ATLANTIC COD	HADDOCK	POLLOCK	WHITE HAKE	SILVER HAKE	REDFISH	GOSEFISH	SPINY DOGFISH	YELLOWTAIL FLOUNDER	WINTER FLOUNDER	AMERICAN PLAICE	WITCH FFLOUNDER	WINDOWPANE FLDR	SUMMER FLOUNDER	SCUP	BLACK SEA BASS	ATLANTIC HERRING	ATLANTIC MACKEREL	WINTER SKATE	LITTLE SKATE	BUTTERFISH	AMERICAN LOBSTER	LOLIGO	ILLEX	TOTAL * OTHER	TOTAL ALL	
430 ***	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
431 ***	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
432 ***	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
433 ***	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
434 ***	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
435 ***	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
436 ***	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
437 ***	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	6221	7044	819	2211	9203	10174	2739	85931	2714	1865	1170	592	374	1259	820	126	8804	4583	18449	14703	2100	2578	2641	233	47030	234383	

\* "Total other" are comprised primarily of smooth dogfish and river herring.

\*\* No station # 5

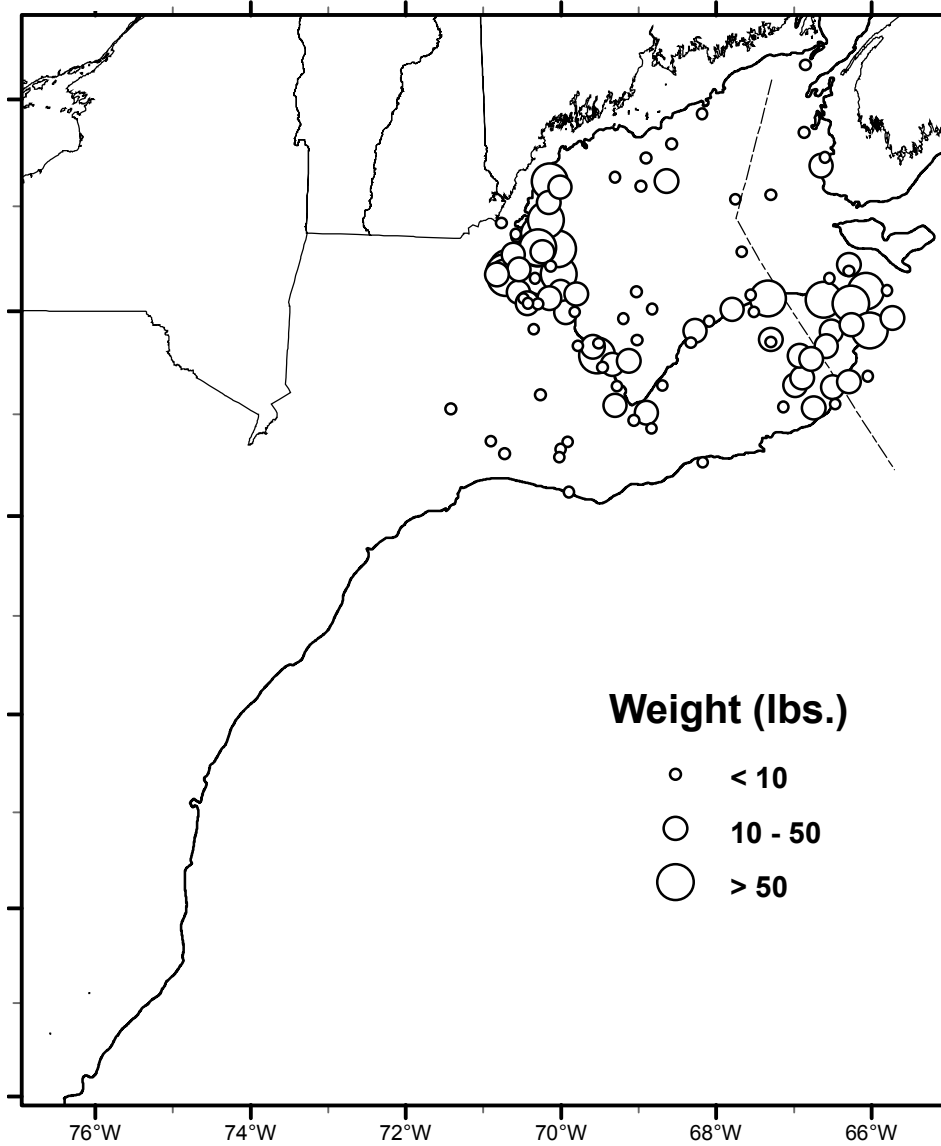
\*\*\* Stations 402-405, 407, 417-420 & 422 - 437 were experimental or comparison tows. Some experimental tows for gear testing purposes are conducted with intentionally open codends to avoid unnecessary mortality to fishery resources.

\*\*\*\* CTD or bongo only station

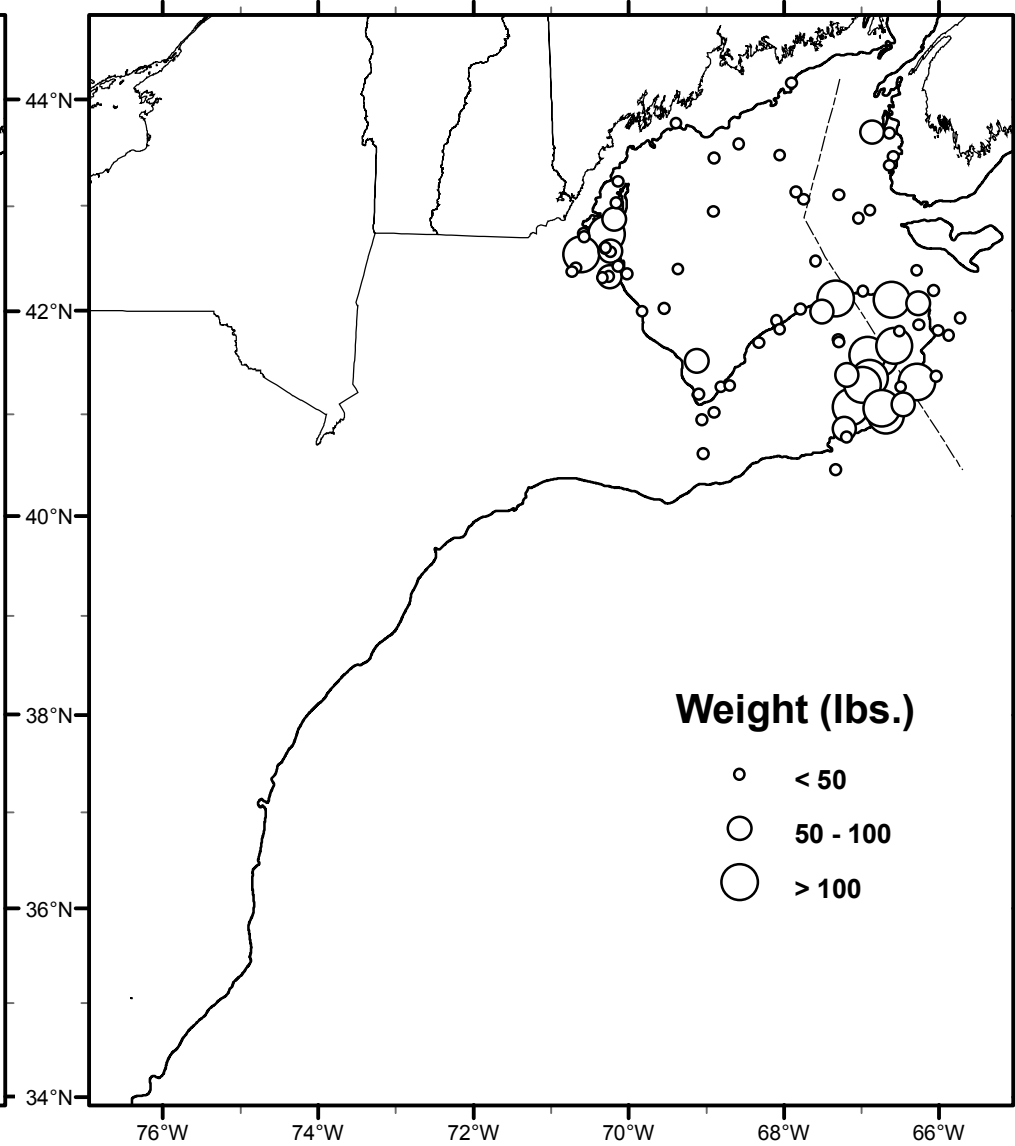
\*\*\*\*\* Excluded from stock assessment due to unacceptable tow evaluation code. See Catch Summary page for tow evaluation code explanation.

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ATLANTIC COD



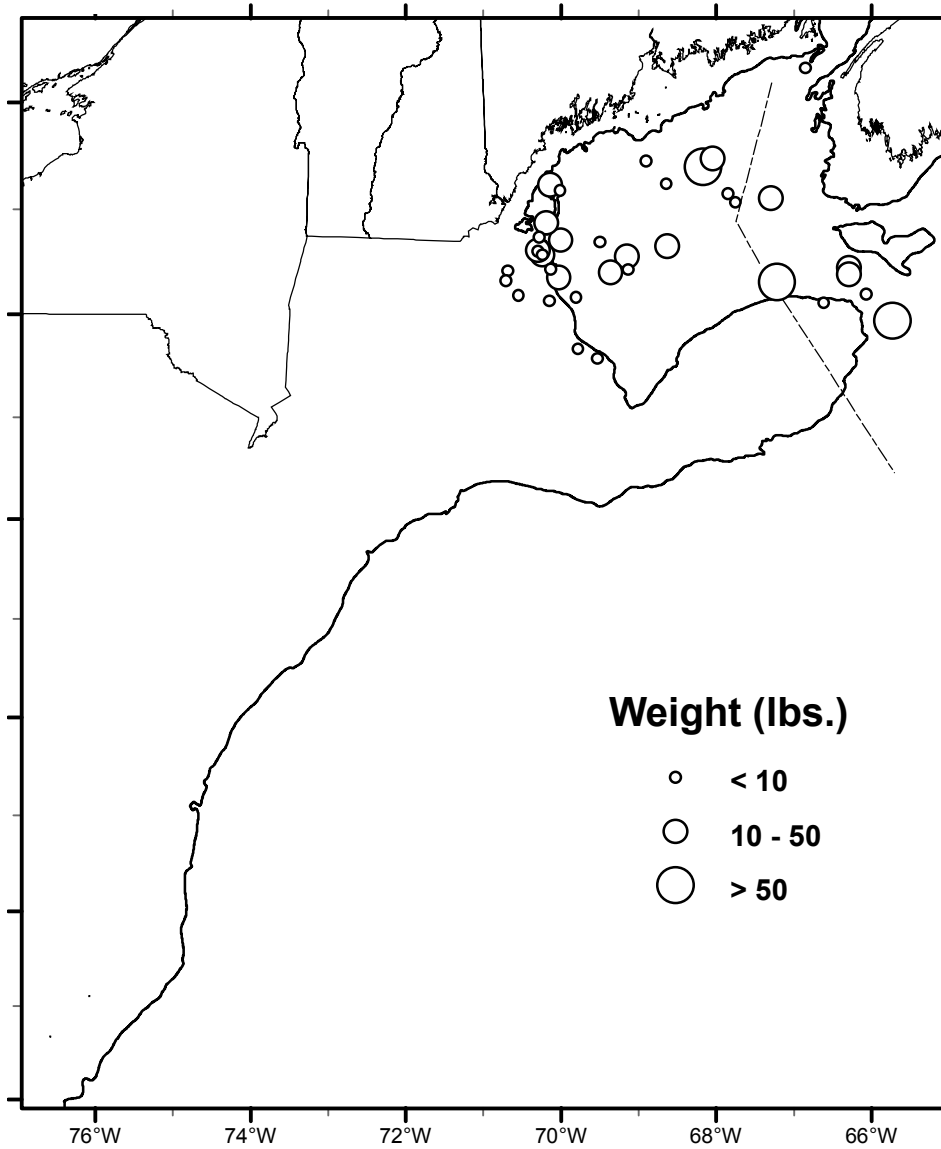
HADDOCK



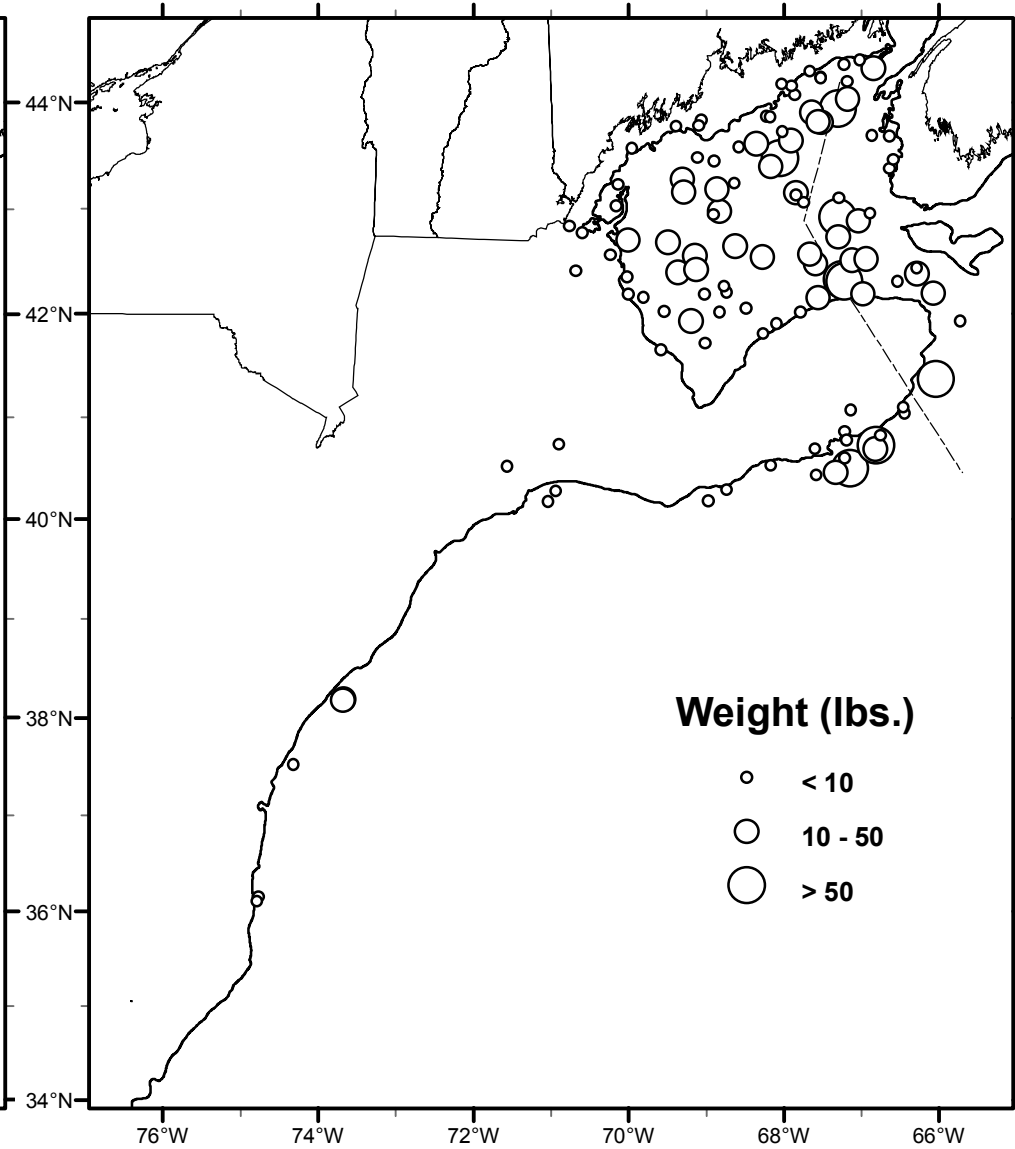


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**POLLOCK**

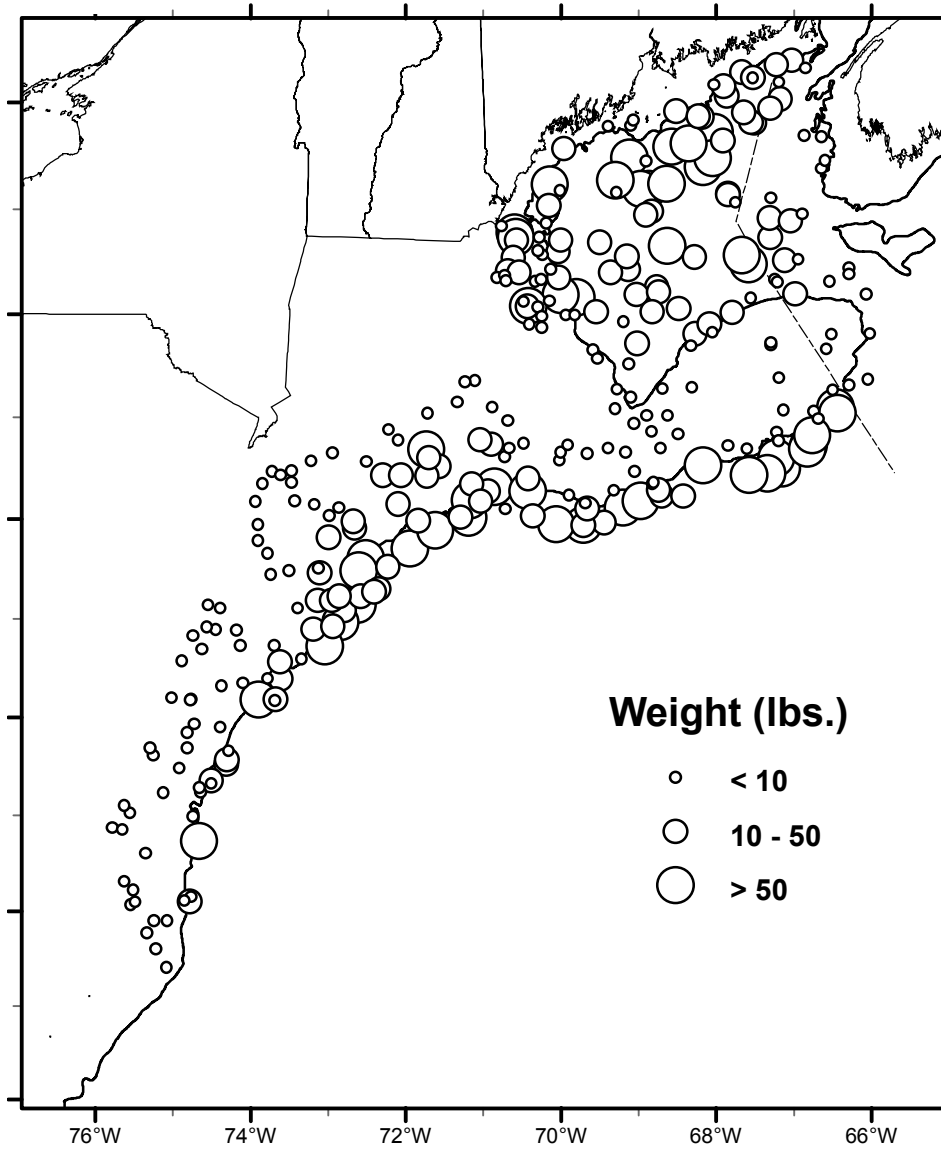


**WHITE HAKE**

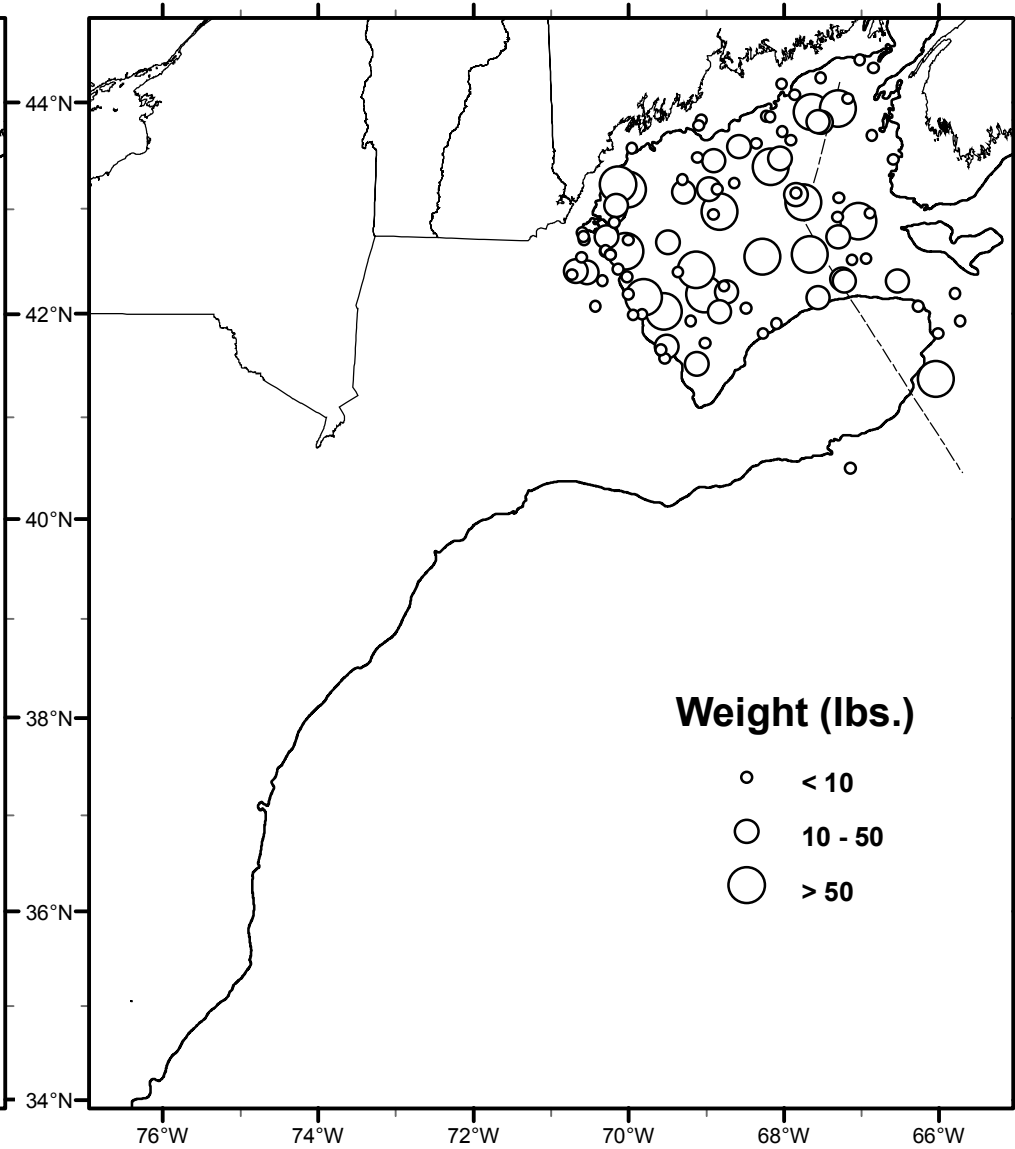


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SILVER HAKE

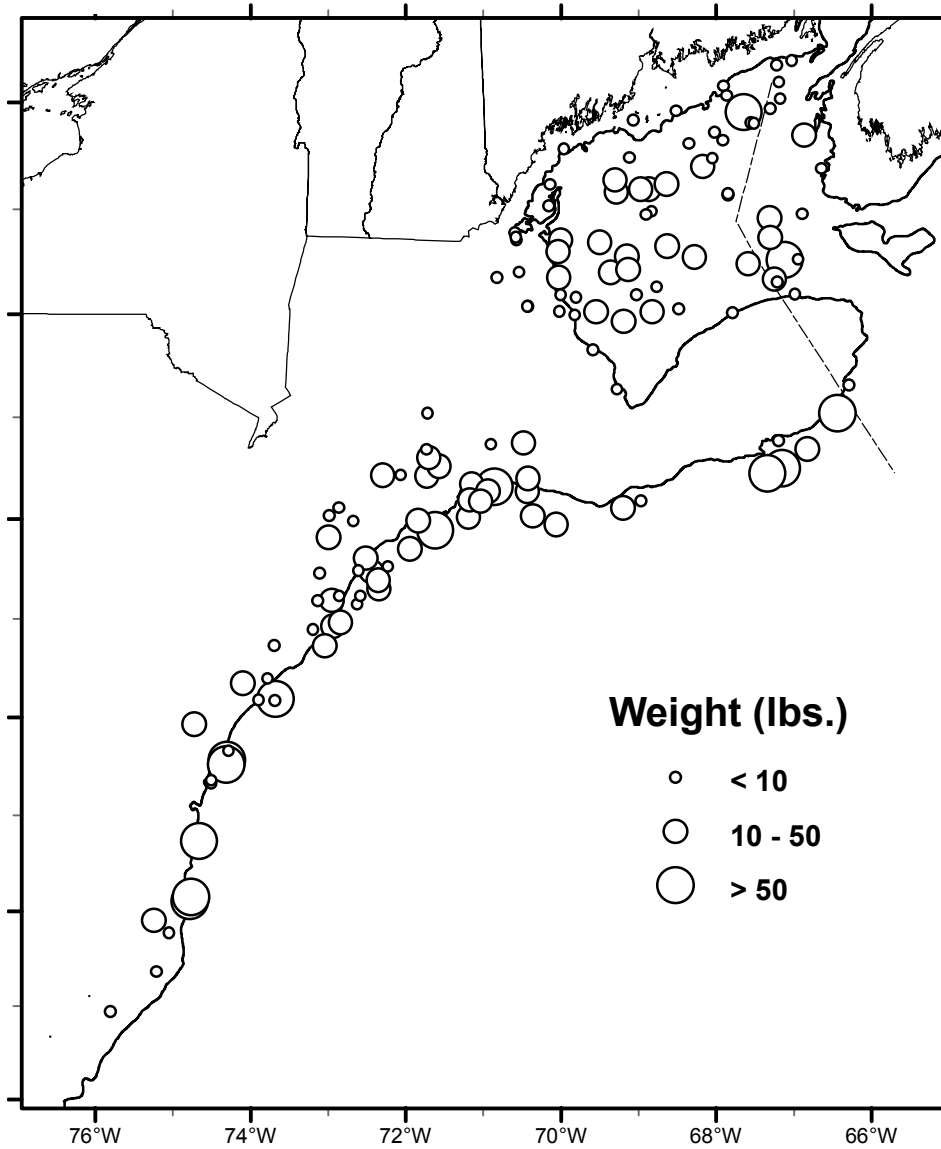


ACADIAN REDFISH

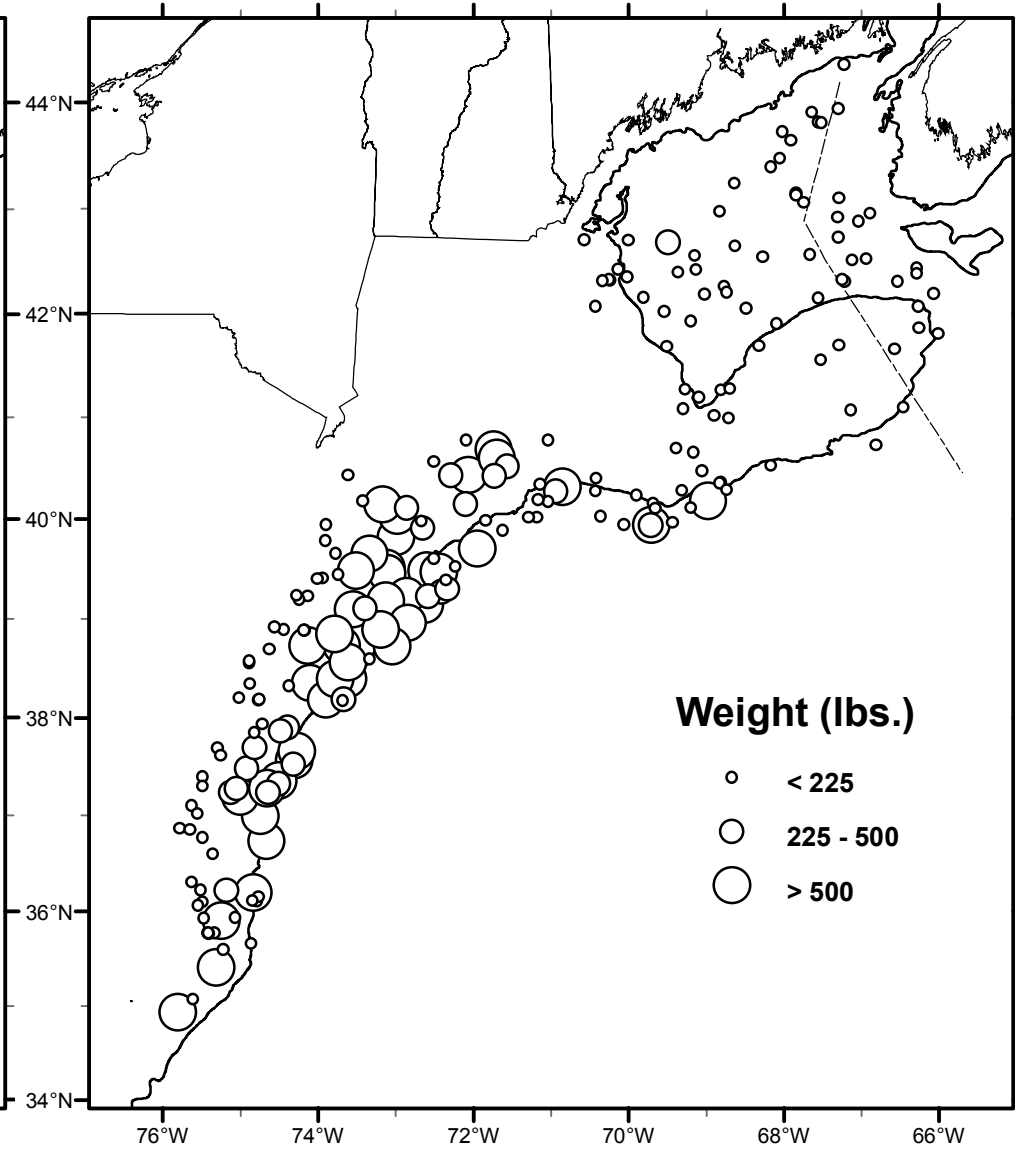


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GOOSEFISH

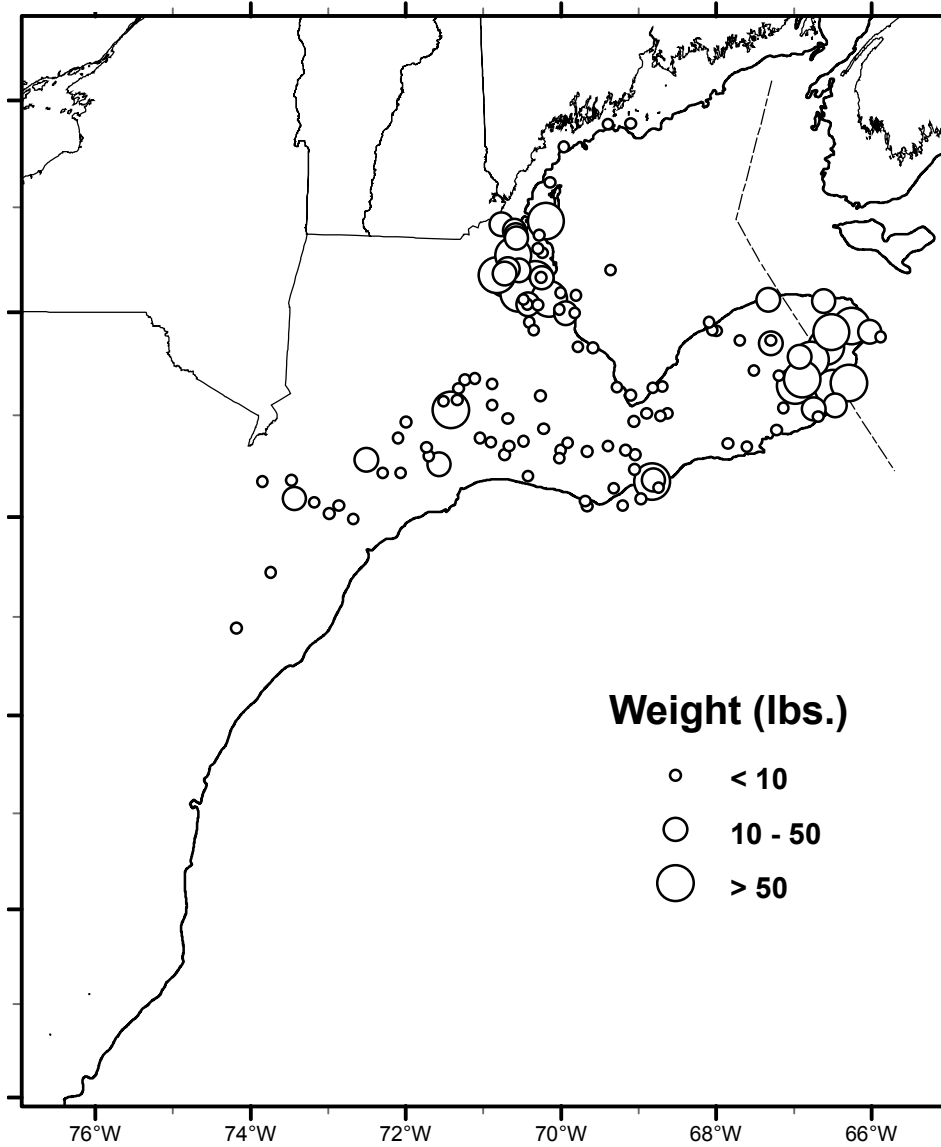


SPINY DOGFISH

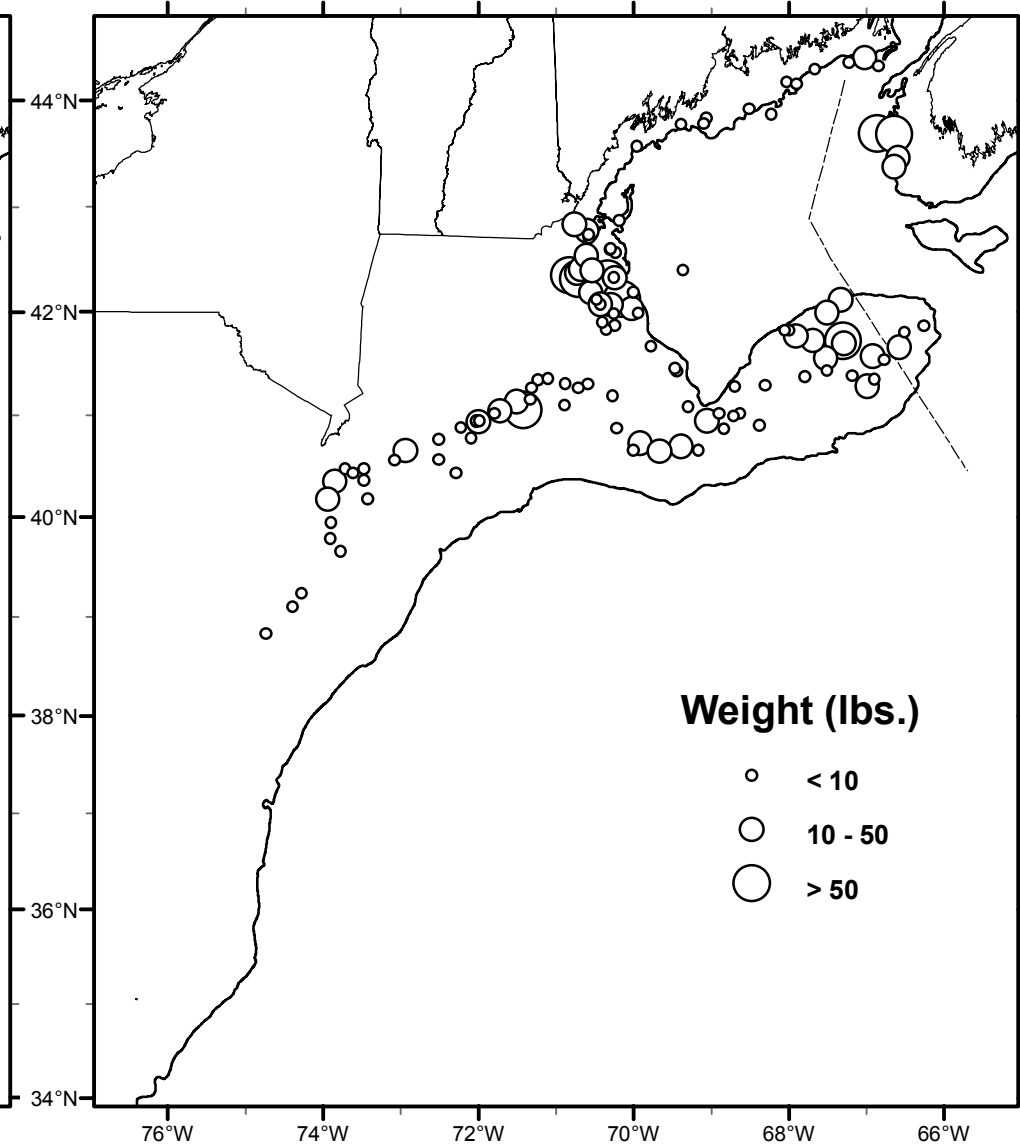


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YELLOWTAIL FLOUNDER

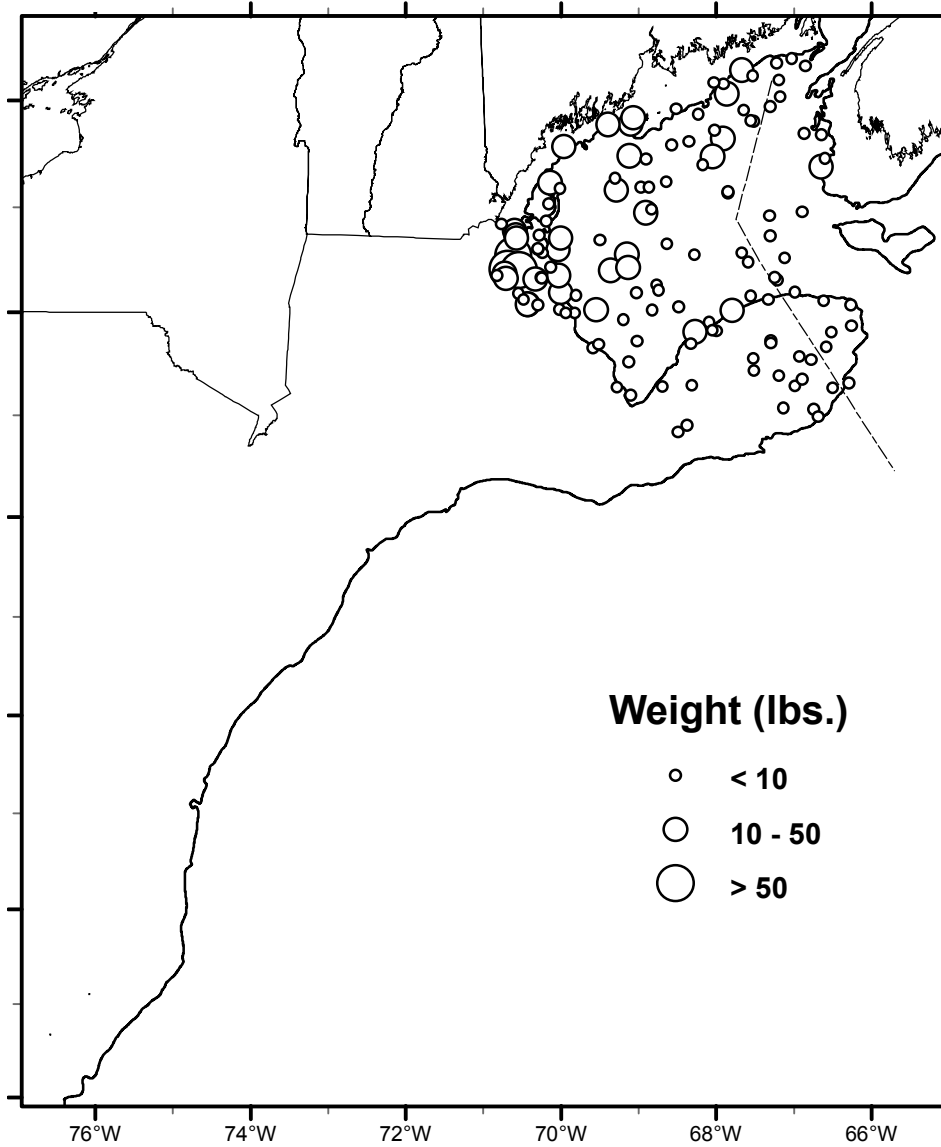


WINTER FLOUNDER

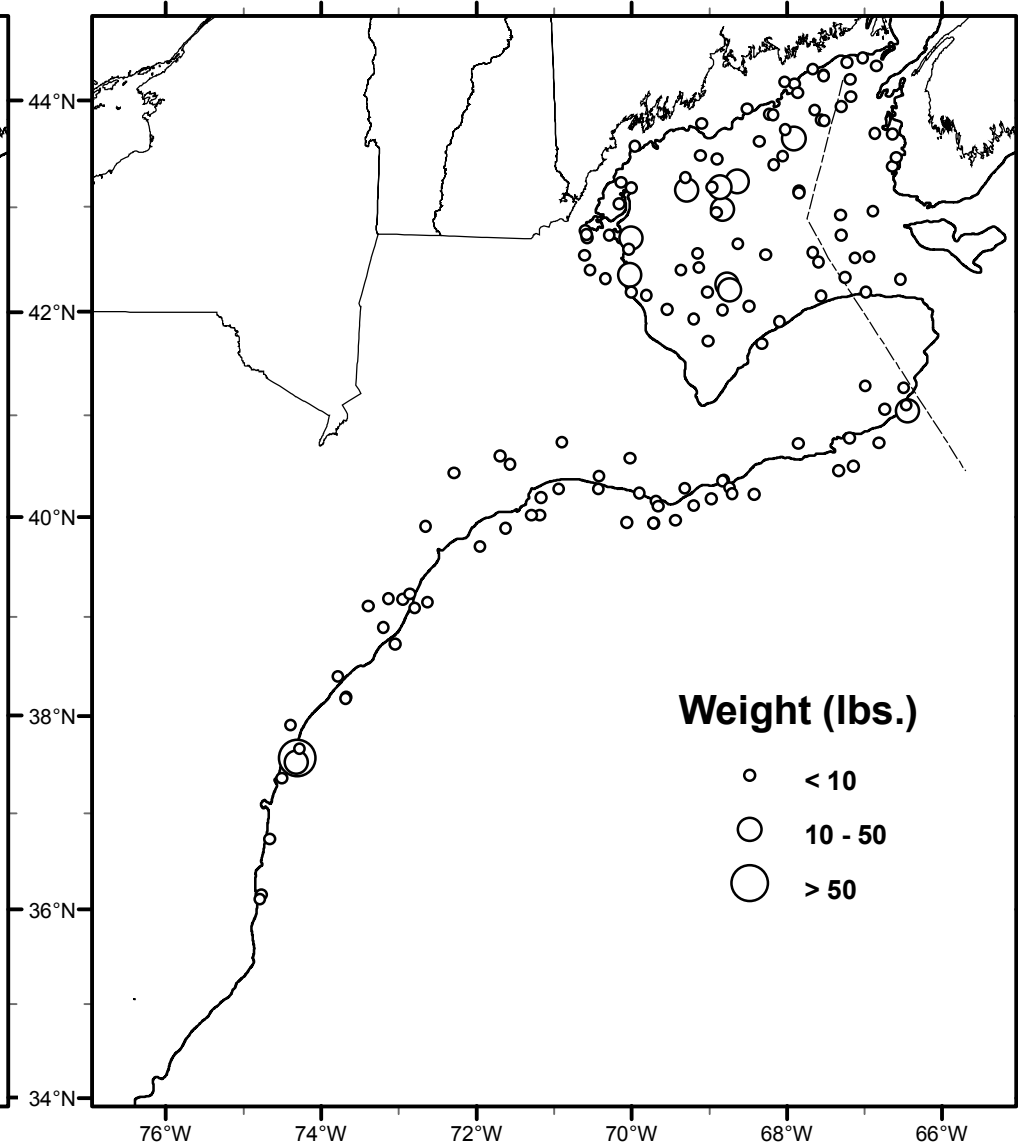


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AMERICAN PLAICE

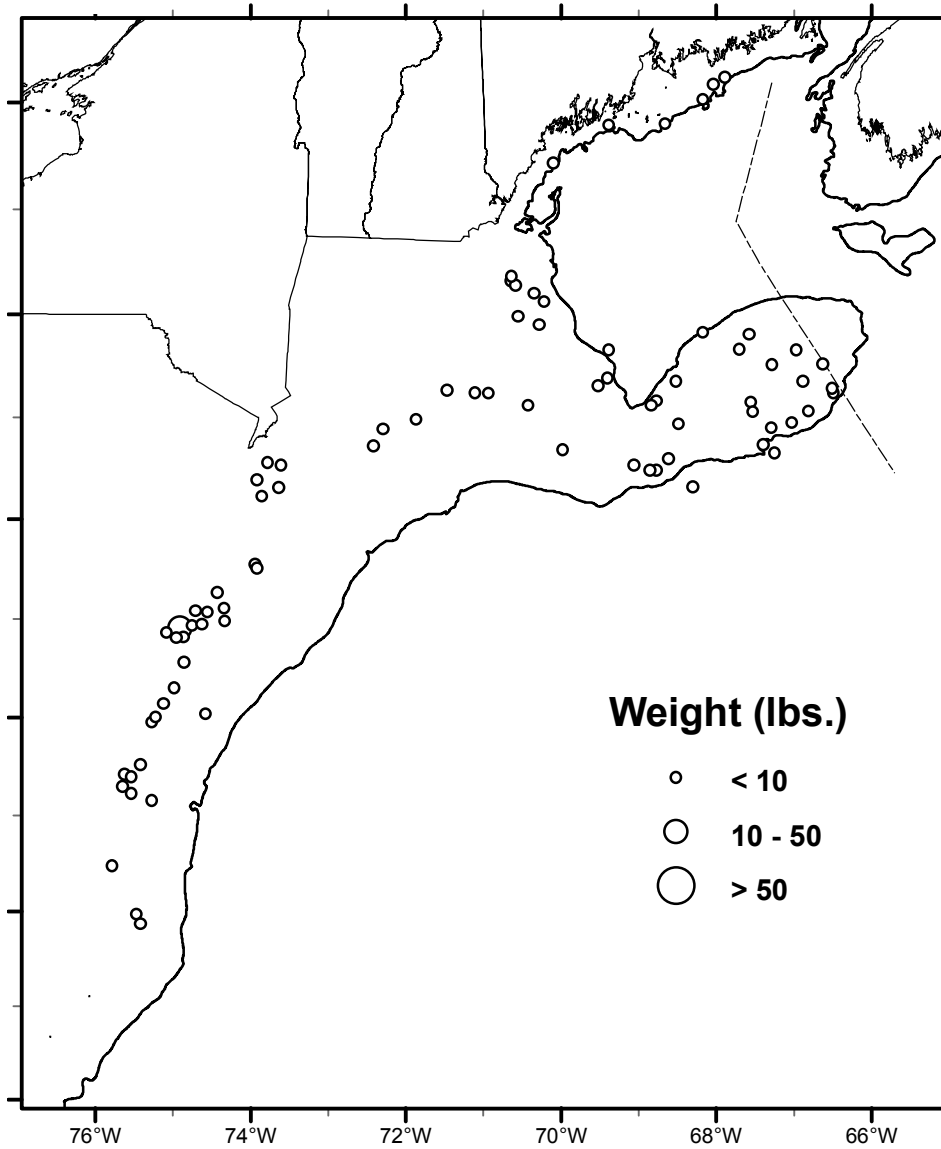


WITCH FLOUNDER

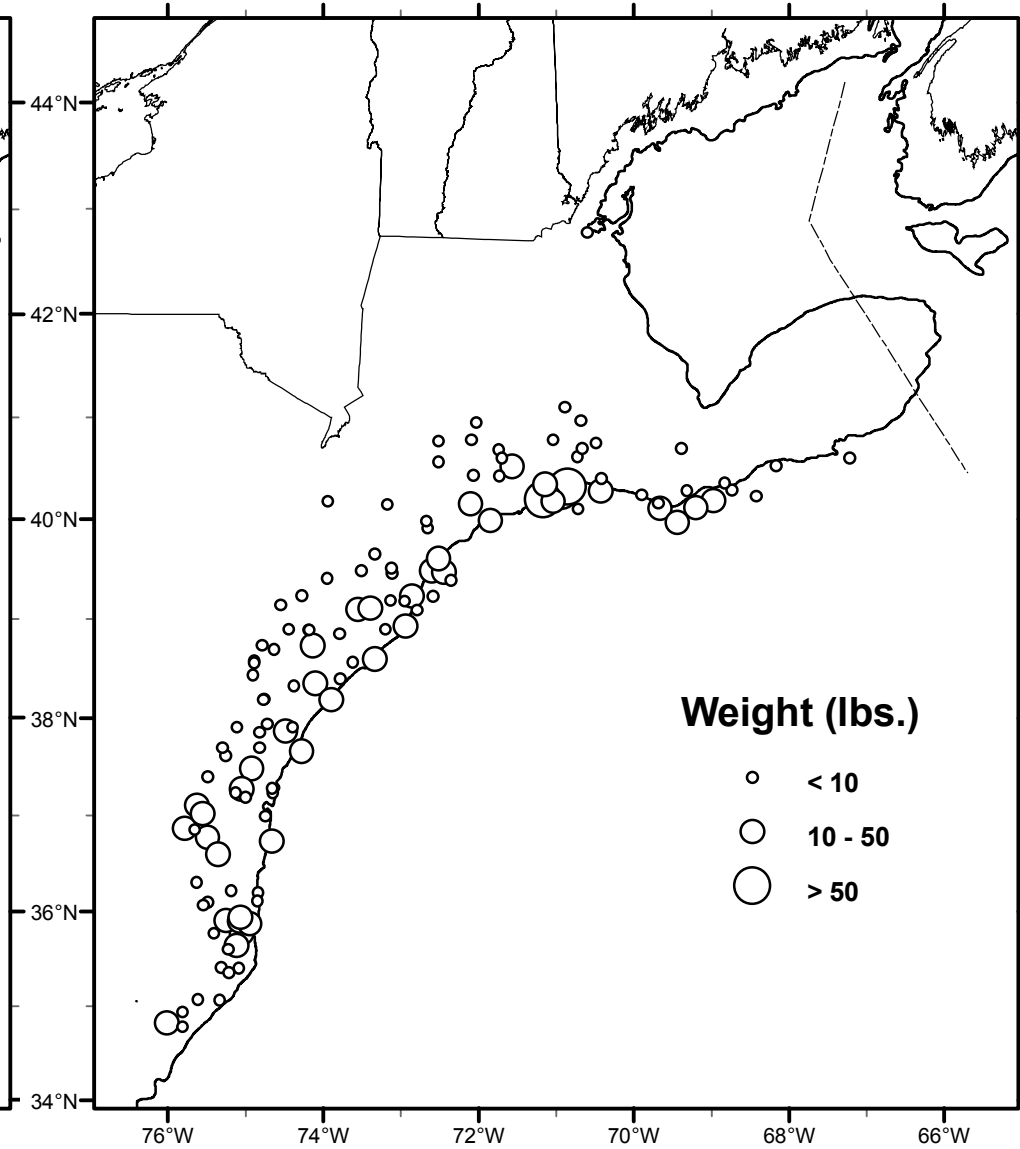


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**WINDOWPANE**

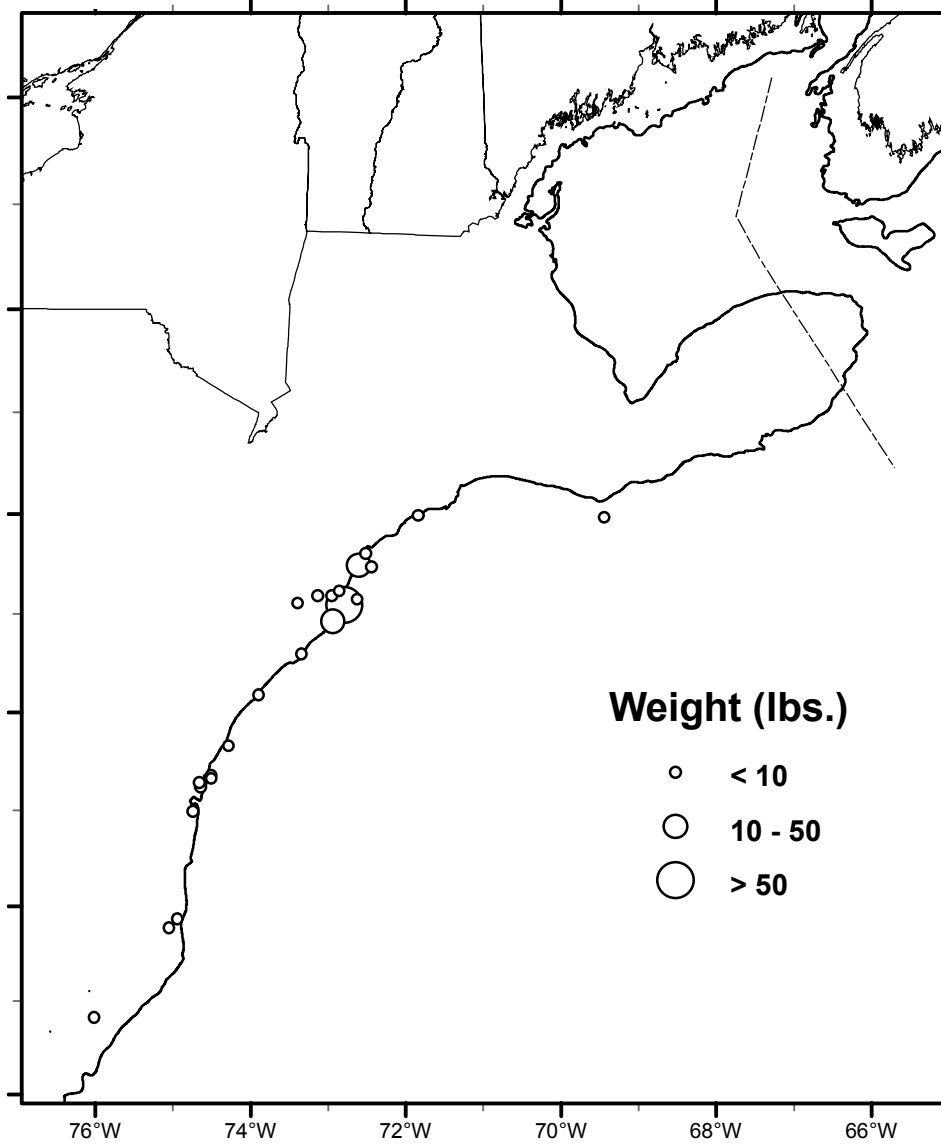


**SUMMER FLOUNDER**

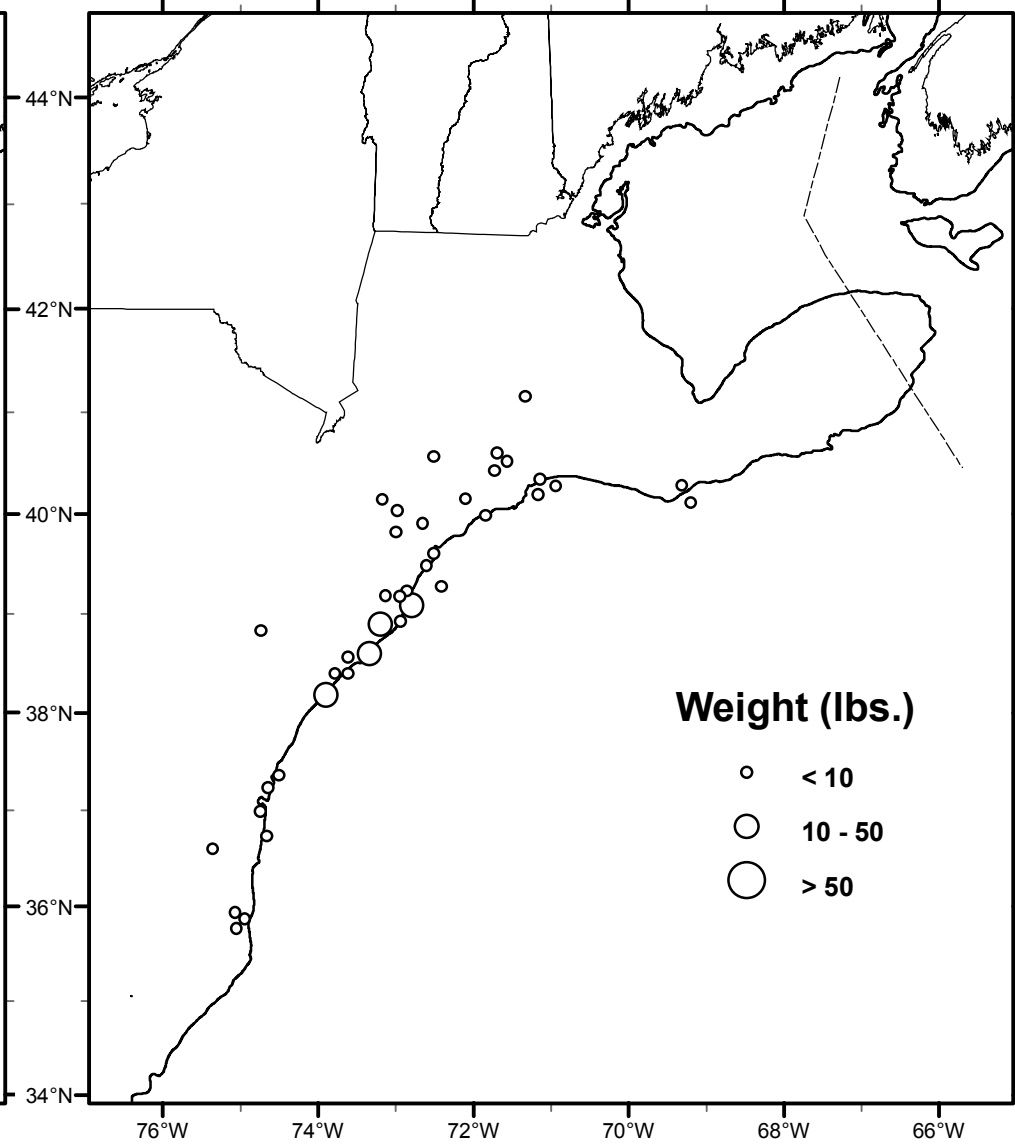


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SCUP

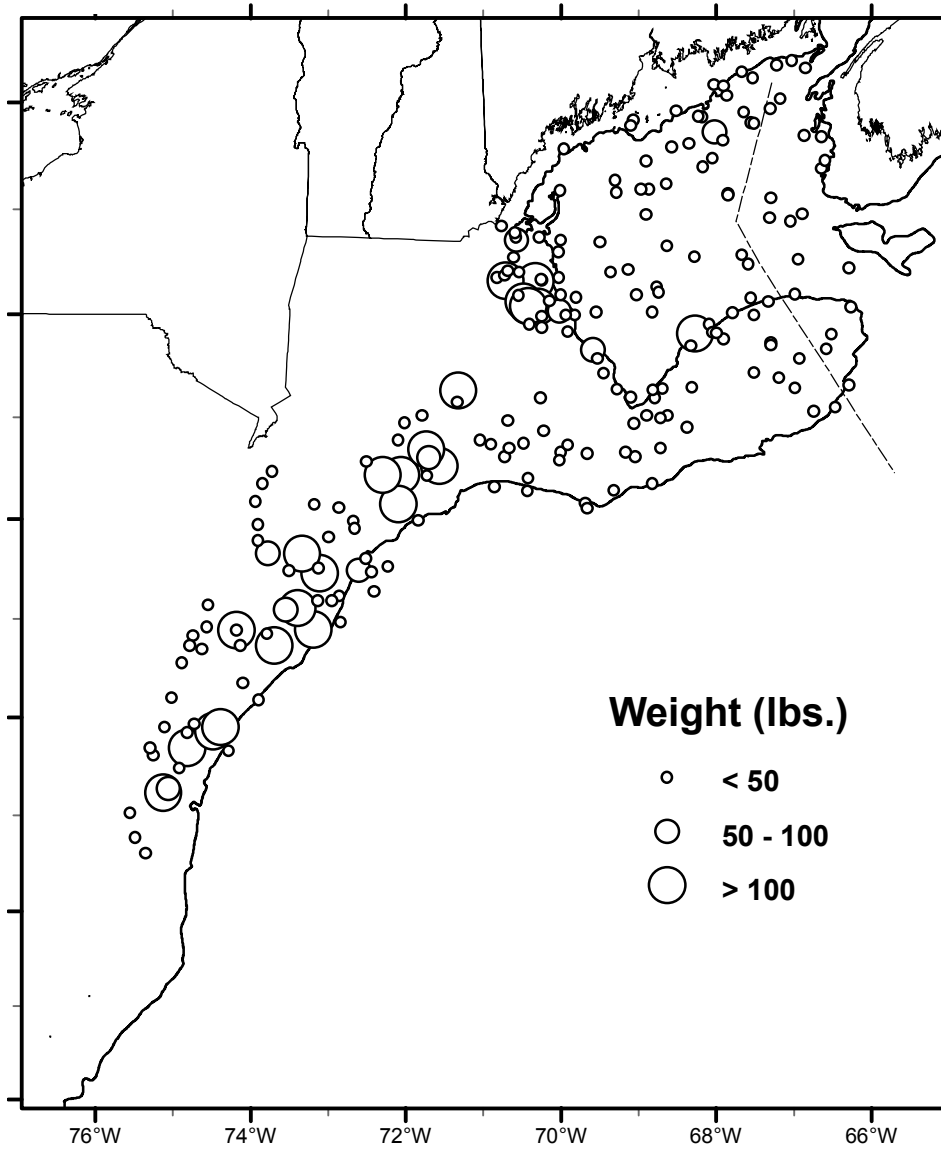


BLACK SEA BASS

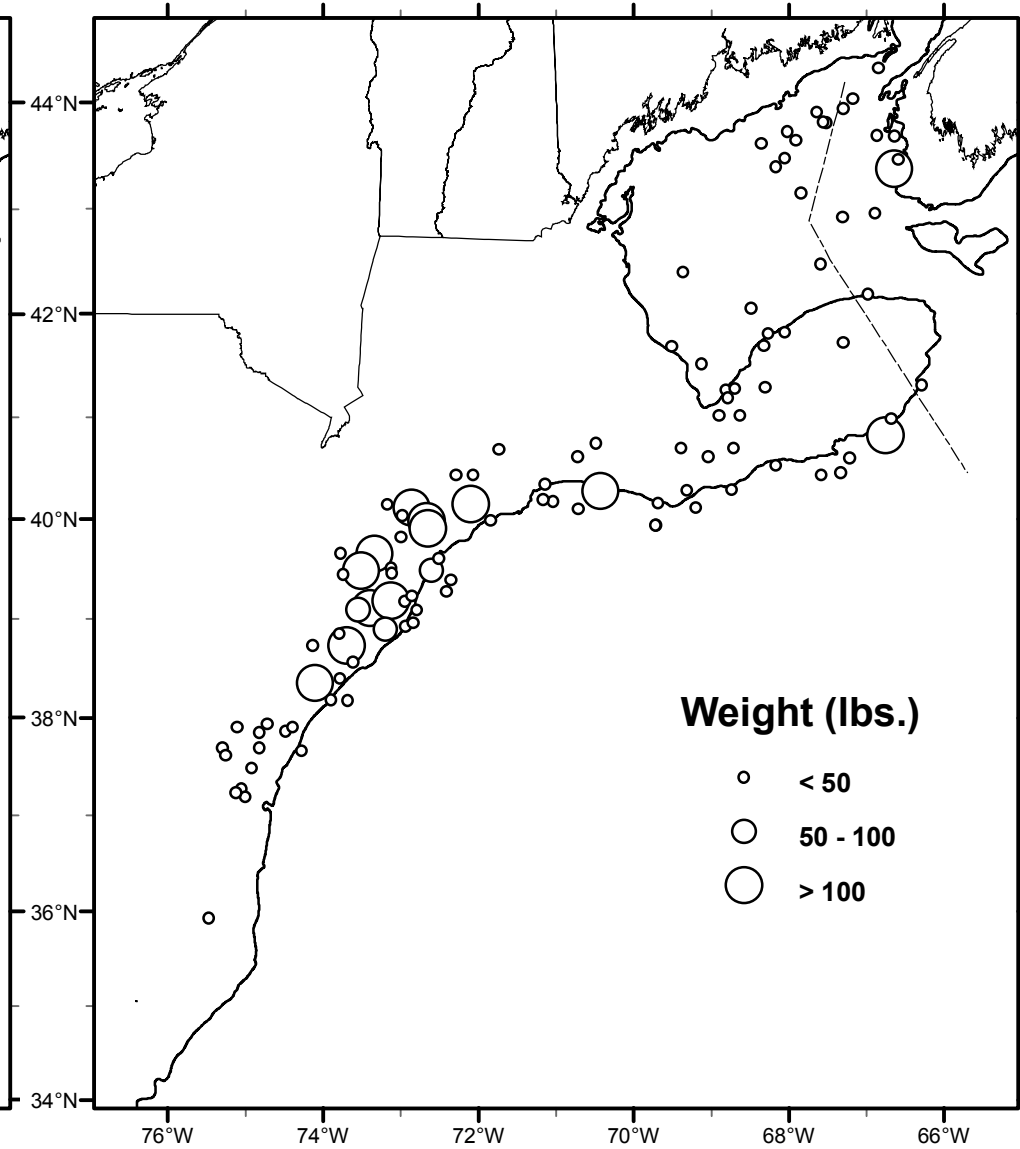


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ATLANTIC HERRING



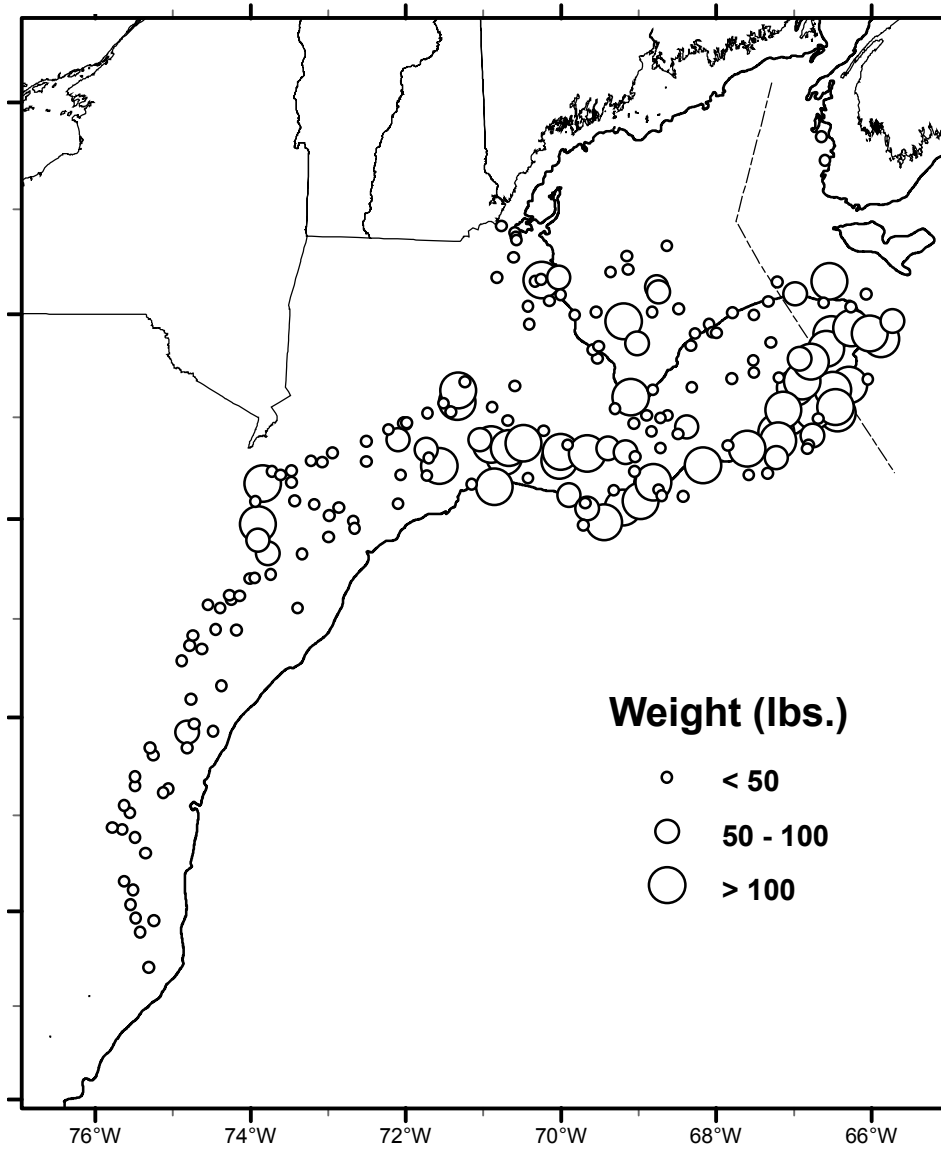
ATLANTIC MACKEREL



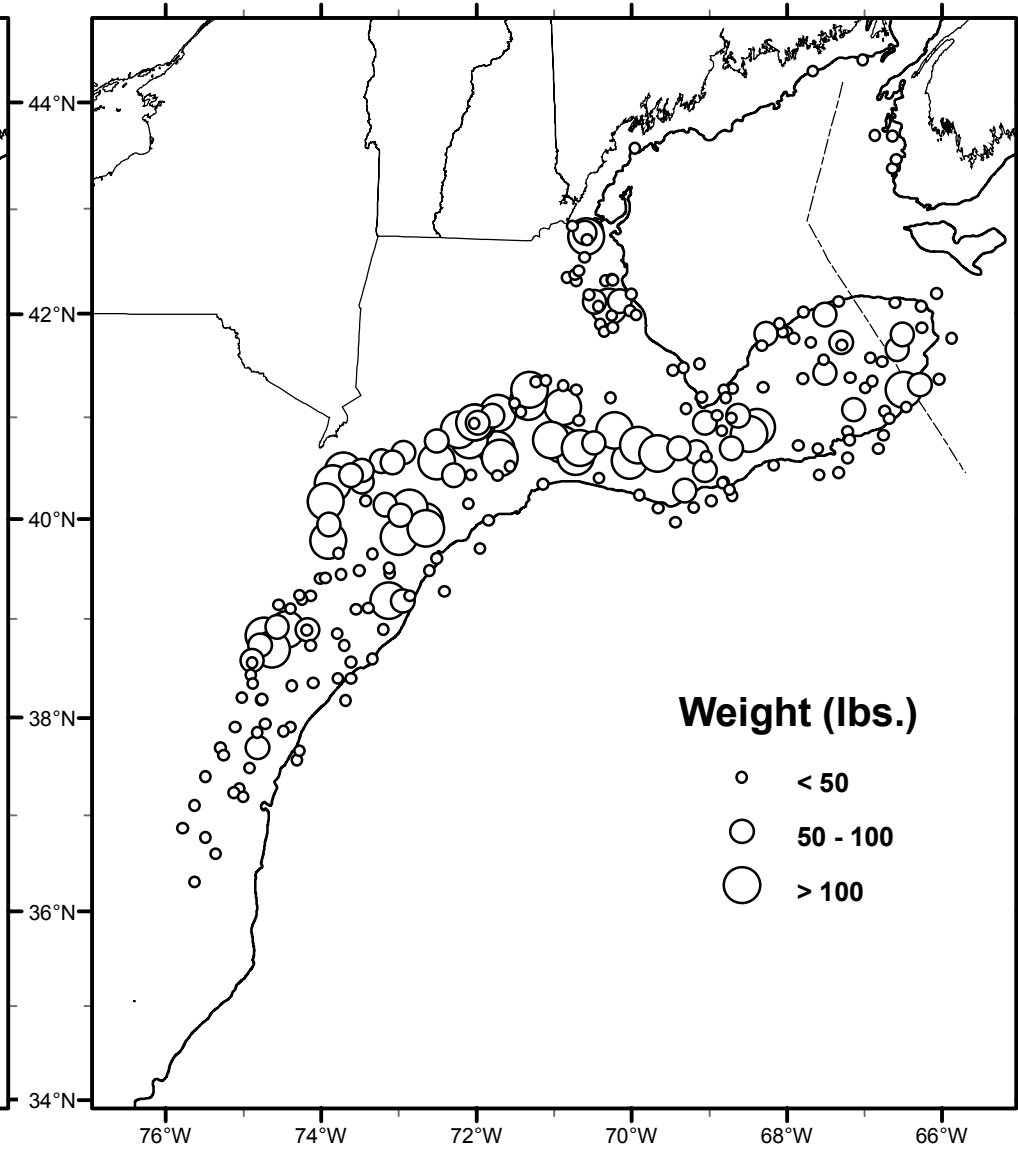


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WINTER SKATE

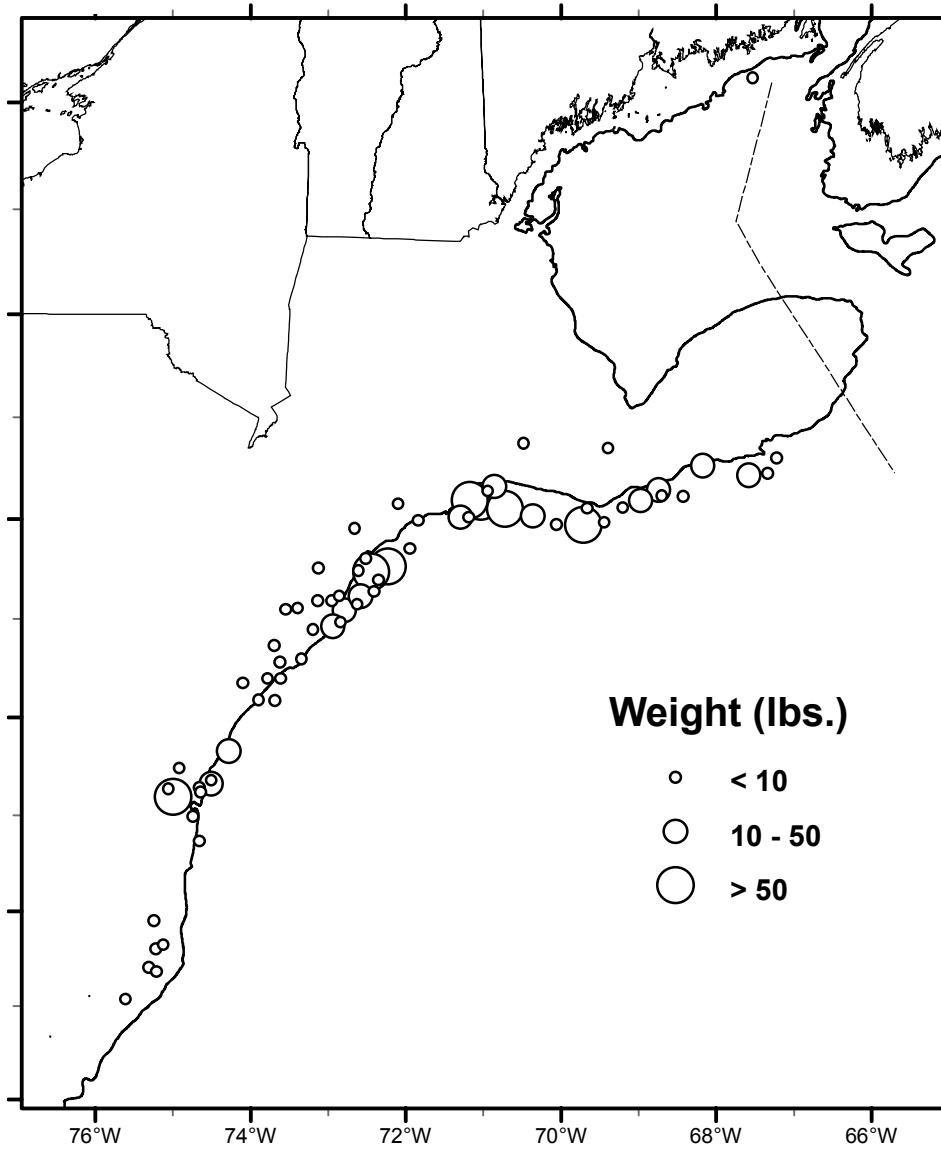


LITTLE SKATE

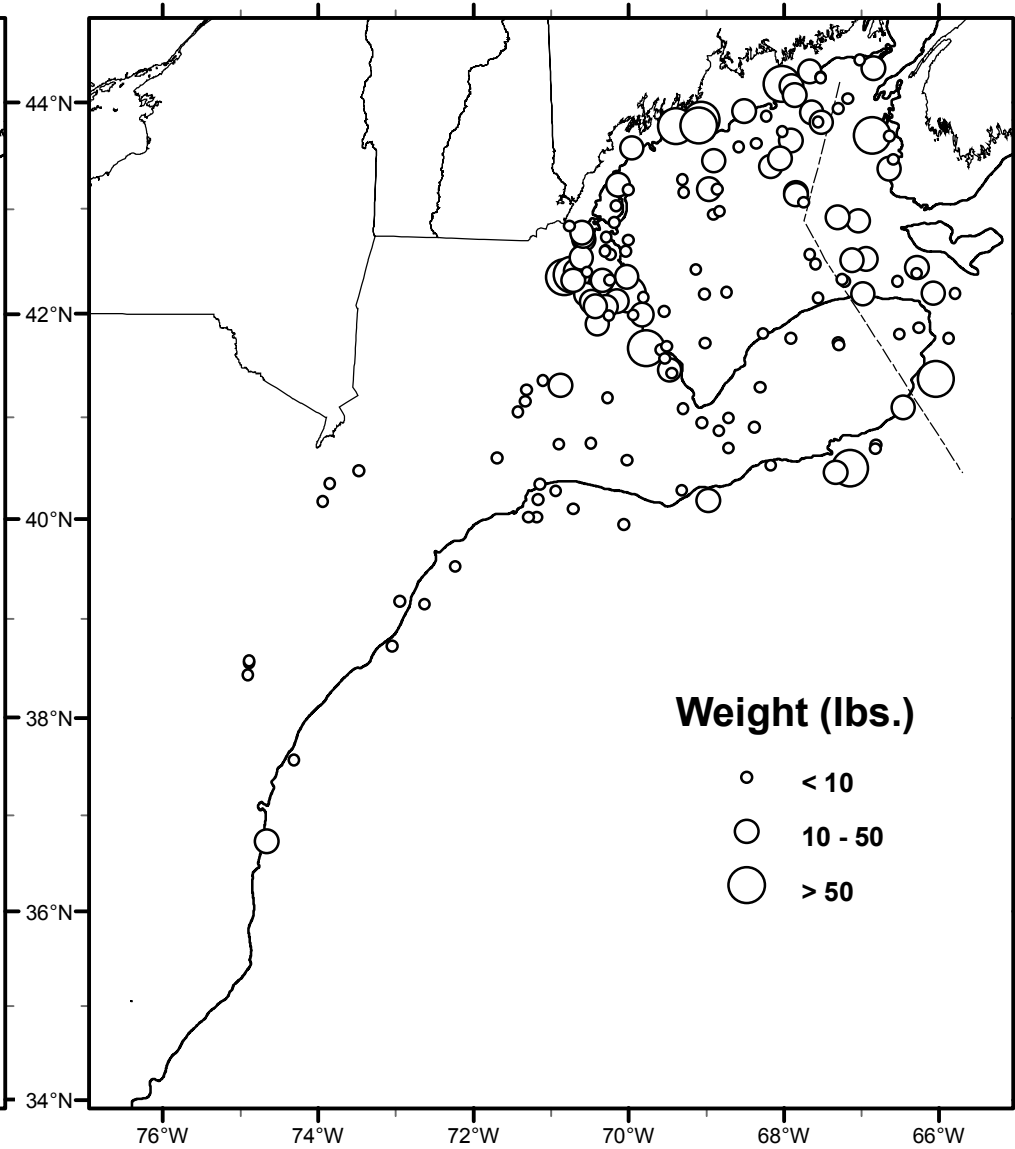


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**BUTTERFISH**

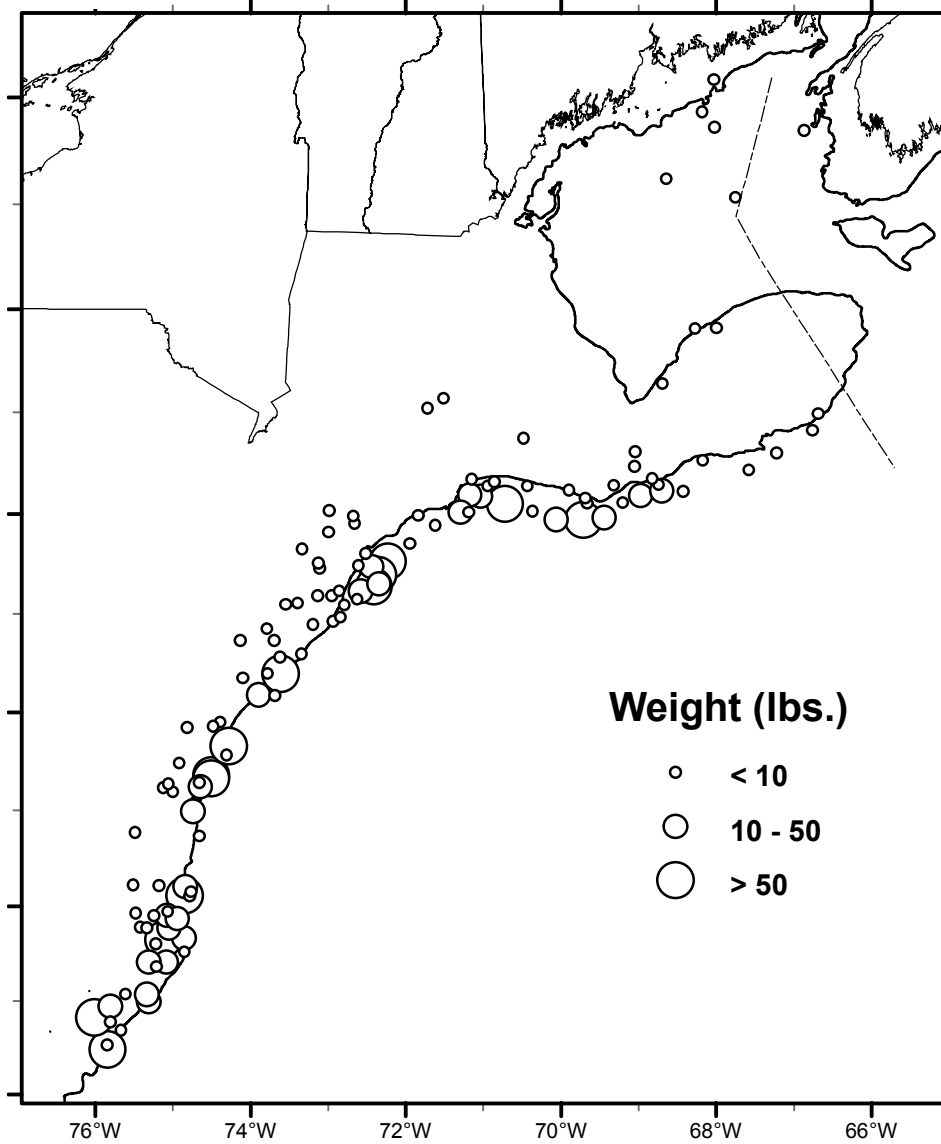


**AMERICAN LOBSTER**



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**LOLIGO**



**ILLEX**

