

RESOURCE SURVEY REPORT
Catch Summary
NOAA Fisheries Service Northeast
Fisheries Science Center
Fall Bottom Trawl Survey
Cape Hatteras -Gulf of Maine
9 September – 15 November
2011

Submitted to: NOAA, NEFSC

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Date: 2011

Resource Survey Report

Bottom Trawl Survey



Cape Hatteras – Gulf of Maine

9 September – 15 November 2011

NOAA FSV *Henry B Bigelow*

NOAA Fisheries Service

Northeast Fisheries Science Center

Woods Hole, MA 02543



Scientists releasing a large roughtail stingray (*Dasyatis centroura*)



A gag grouper
(*Mycteroperca microlepis*) caught on
Leg I of the fall survey



Big roughies (*Gephyroberyx darwini*)
waiting to be processed

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 towing speed was decreased from 3.8 knots prior to 2009 to 3.0 knots beginning in 2009. The new towing speed was selected after extensive scope and tow 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 tow 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 tow speed and tow duration have resulted in a decrease of average tow distance from 1.9 nautical miles prior to 2009 to an average tow distance of 1.0 nautical miles beginning in 2009. The shorter tow 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 tow 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 (September to early October), 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 September through early October). 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 fall 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 Brown, Former Chief
Ecosystems Survey Branch

RESOURCE SURVEY REPORT

Catch Summary

NOAA Fisheries Service
Northeast Fisheries Science Center

Fall Bottom Trawl Survey
Cape Hatteras - Gulf of Maine
9 September – 15 November 2011

This report consists of 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 2011 Fall Bottom Trawl Survey conducted by the NOAA FSV *Henry B Bigelow*. Tows were made with a NEFSC standardized 4 seam, 3 bridle otter trawl rigged with a rockhopper sweep, 550kg (1200lbs) Poly Ice Oval doors, and 36.6m (20 fathoms) bridles. The cod end and upper belly were lined with 1/2-inch mesh to retain young-of-the-year 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).

The data are now summarized from audited catch files generated from the Fisheries Scientific Computer System (FSCS).

For further information contact Robert Johnston (508-495-2061), NOAA Fisheries Service, Northeast Fisheries Science Center, 166 Water Street, Woods Hole, MA 02543. To view this report in PDF go 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

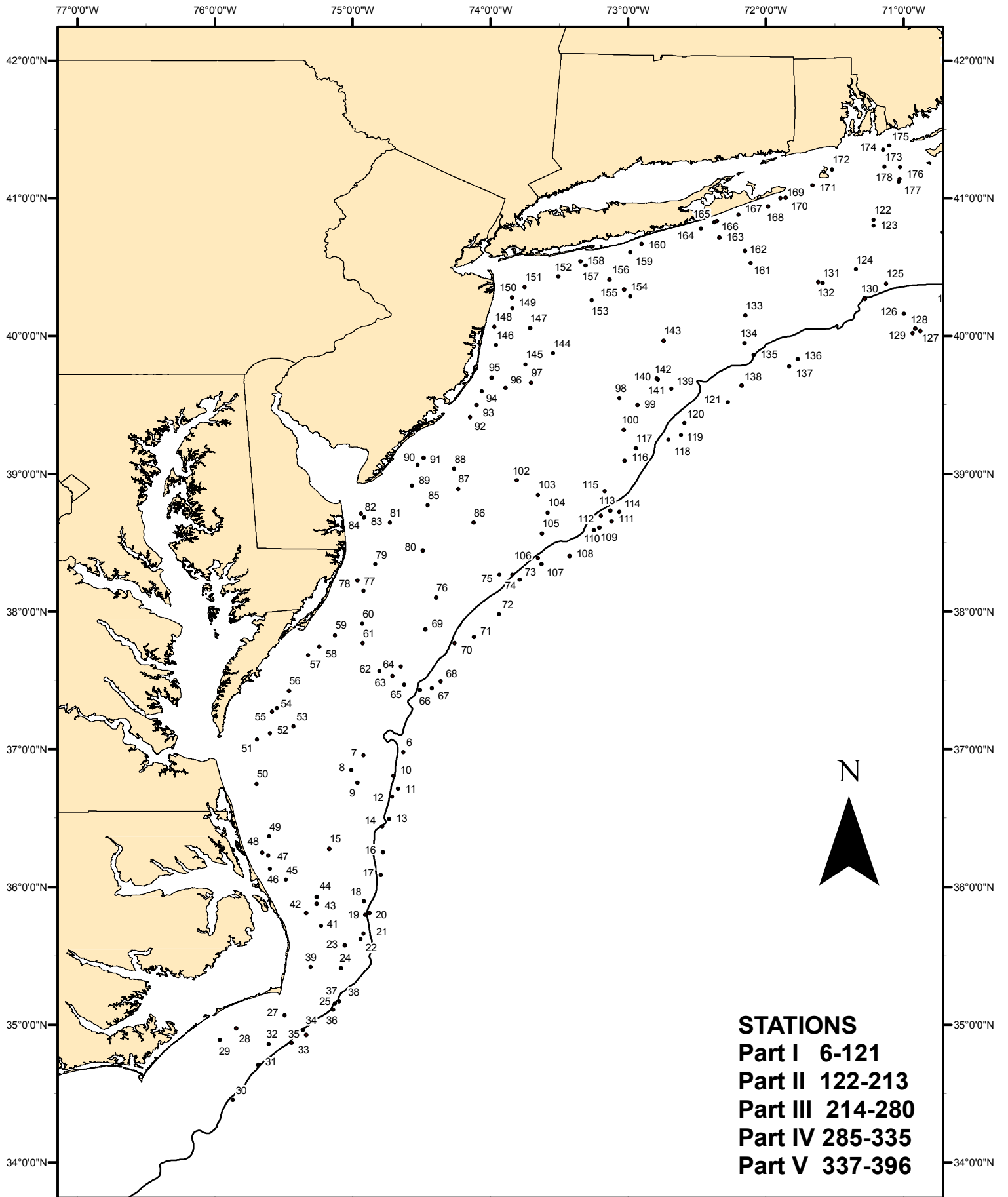


Figure 1 - Trawl hauls made from NOAA FSV *Henry B. Bigelow* (11-05), during NOAA Fisheries Service, Northeast Fisheries Center autumn bottom trawl survey, 9 September - 15 November 2011

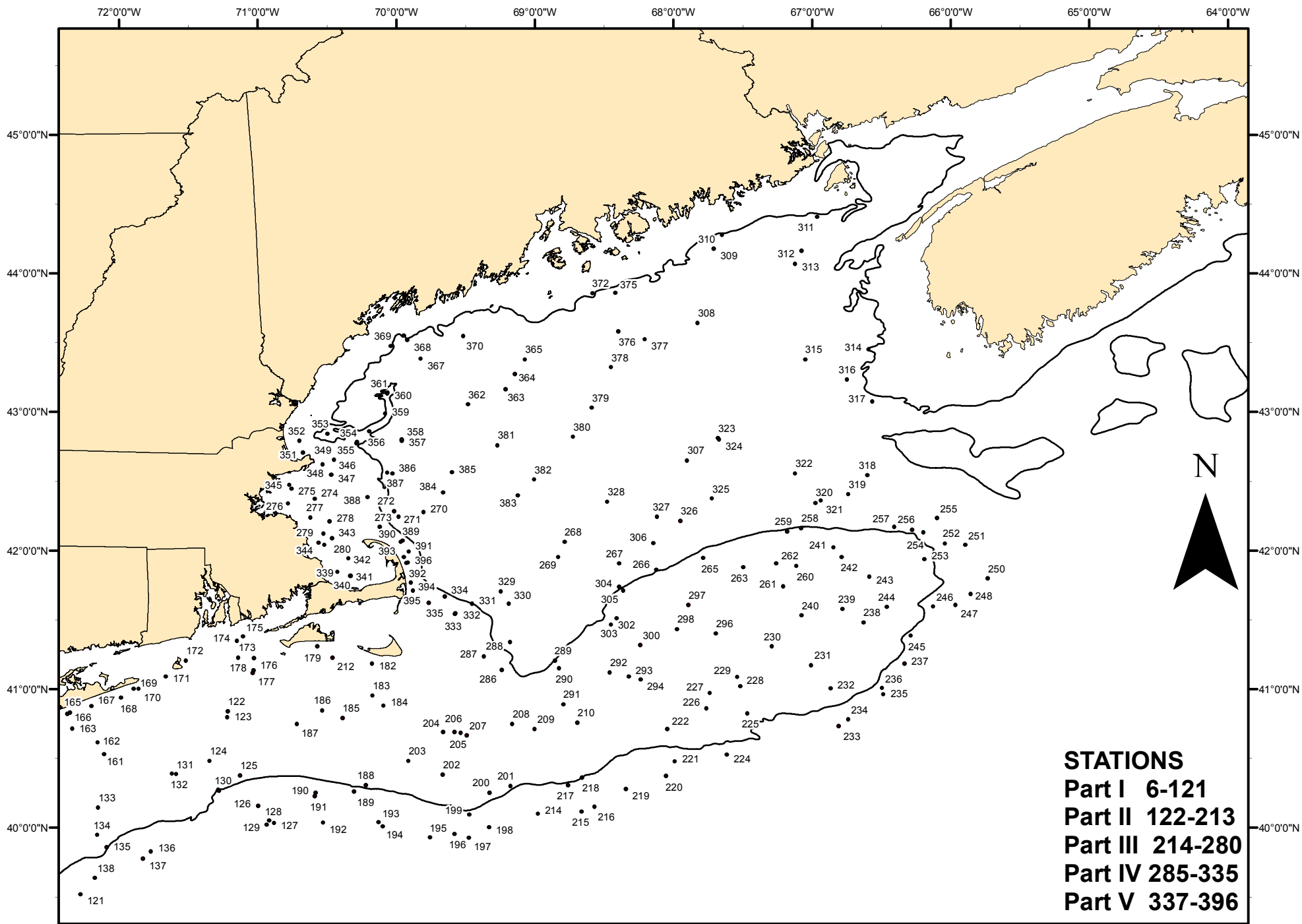


Figure 2 - Trawl hauls made from NOAA FSV *Henry B. Bigelow* (11-05), during NOAA Fisheries Service, Northeast Fisheries Center autumn bottom trawl survey, 9 September - 15 November 2011

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 FSV *Henry B. Bigelow*.

Deck Load of Butterfish

On Leg I of the Autumn Bottom Trawl Survey, we tested and switched to a new version of our automated data entry system. This new system enters data directly to our Oracle database, and is a vast improvement over the earlier version.

Our most interesting catch was a deck tow of butterfish (*Peprilus triacanthus*). Approximately 10,000 lbs of butterfish were captured east of Chesapeake Bay in the vicinity of Norfolk Canyon on the hottest day of the survey. Although it was tough work under the hot sun, most people were glad to see the good numbers of this important prey species. It is amazing how bright these fish can really be under the full light of the sun. It was as if there were thousands of tiny mirrors covering the deck; with the intense reflection they were actually hard to look at.



Supersized Shark

A good portion of Leg II was spent working the inshore stations off of New Jersey and Long Island. As is typical for this time of year, the inshore stations were dominated by species such as butterfish (*Peprilus triacanthus*), scup (*Stenotomus chrysops*), round herring (*Etrumeus teres*), and longfin (*Loligo pealeii*) squid. Of note, we did bring up a few decent sized tautog (*Tautoga onitis*) with one approaching 20 inches, as well as a 6.5 inch gag grouper (*Mycteroperca microlepis*) and a 8,800 lb basking shark (*Cetorhinus maximus*).

Bad Weather on Georges

Leg III had to deal with strong winds and rough seas while sampling Georges Bank this year. Juvenile haddock were captured consistently throughout this leg.

Strong Showing of Mid-water and Bottom Dwelling Species

Leg IV of the survey fished the eastern Gulf of Maine, on both the United States and Canada sides of the Hague line, as well as in a small area along the northern edge of Georges Bank. Total catch for this leg was dominated by spiny dogfish (*Squalus acanthias*), weighing in at over

10,000 lbs. Haddock (*Melanogrammus aeglefinus*) and Acadian redfish (*Sebastes fasciatus*) also made a strong showing by being present at nearly half of the total stations fished, respectively weighing in at 3,700 lbs and 1,600 lbs for the trip. A single tow at one of our northernmost stations, just south of the Bay of Fundy, yielded a catch of over 3,800 lbs of Atlantic herring (*Clupea harengus*).



Mission Accomplished

Rough weather and poor bottom proved to be persistent challenges towards the end of Leg V. However, complete coverage of the Gulf of Maine was still accomplished through just over 40 representative tows. Catches were fairly large and diverse throughout the stations located off Cape Cod Bay, Mass Bay, and Cape Ann. Spiny dogfish (*Squalus acanthias*) were the most dominant species captured, totaling over 30,000 lbs on Leg V alone, while Acadian redfish (*Sebastes fasciatus*), silver hake (*Merluccius bilinearis*), Atlantic herring (*Clupea harengus*) and American lobster (*Homarus americanus*) rounded out rest of the top five species caught on this leg of the survey.

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NOAA Fisheries Service FALL BOTTOM TRAWL SURVEY
2011 STATION INFORMATION

Station*	Date	Time	Lat	Lon	Loran		Course	Bottom	
					TD's			Depth (FM)	Temp (F)
0006	Sep-10	1714	3658.6	7437.8	X26830.0	Y41472.0	019	82.3	54.3
0007	Sep-10	1951	3657.3	7455.2	X26905.2	Y41422.1	146	25.4	52.6
0008	Sep-10	2136	3650.9	7500.5	X26919.8	Y41342.6	162	20.5	52.6
0009	Sep-10	2306	3645.2	7457.9	X26901.7	Y41287.8	070	19.4	56.0
0010	Sep-11	0113	3648.2	7442.1	X26837.0	Y41354.9	199	51.1	51.2
0011	Sep-11	0345	3642.6	7440.1	X26822.2	Y41301.5	012	137.2	47.9
0012	Sep-11	0715	3639.2	7442.7	X26829.7	Y41260.5	011	67.0	53.8
0013	Sep-11	1203	3629.6	7444.1	X26825.4	Y41158.9	179	116.7	51.6
0014	Sep-11	1410	3626.2	7447.0	X26834.2	Y41116.8	352	70.3	54.8
0015	Sep-11	1757	3616.6	7510.2	X26917.5	Y40958.7	177	19.1	58.0
0016	Sep-11	2124	3615.0	7446.8	X26821.8	Y41005.7	342	120.8	49.9
0017	Sep-12	0058	3605.0	7447.7	X26815.9	Y40904.7	356	97.1	54.3
0018	Sep-12	0325	3553.7	7454.9	X26833.3	Y40773.0	184	46.8	50.4
0019	Sep-12	0453	3547.7	7454.5	X26826.2	Y40717.2	164	44.3	54.6
0020	Sep-12	0658	3548.4	7452.6	X26819.5	Y40730.1	164	63.2	53.8
0021	Sep-12	0839	3539.6	7455.2	X26821.4	Y40638.6	154	31.2	66.9
0022	Sep-12	1020	3537.2	7456.5	X26824.2	Y40612.2	242	28.7	70.8
0023	Sep-12	1149	3534.5	7503.4	X26847.5	Y40563.7	194	22.7	71.5
0024	Sep-12	1325	3524.5	7505.1	X26844.3	Y40465.8	195	18.0	78.3
0025	Sep-12	1539	3509.2	7507.5	X26839.5	Y40320.9	209	67.5	64.9
0027	Sep-12	1757	3504.1	7529.4	X26911.3	Y40191.7	266	14.5	81.0
0028	Sep-12	2029	3458.3	7550.7	X26978.0	Y40055.7	120	13.4	79.7
0029	Sep-12	2230	3453.2	7557.8	X26996.1	Y39981.1	170	15.6	78.0
0030	Sep-13	0148	3427.1	7552.2	X26951.2	Y39791.9	024	59.6	62.0
0031	Sep-13	0359	3442.5	7541.1	X26929.9	Y39961.1	037	31.7	74.7
0032	Sep-13	0534	3451.5	7536.3	X26922.7	Y40054.9	033	26.2	77.0
0033	Sep-13	0807	3452.0	7526.6	X26890.4	Y40099.1	048	76.3	57.1
0034	Sep-13	0936	3457.6	7521.6	X26878.3	Y40166.8	058	62.6	62.1
0035	Sep-13	1113	3455.4	7520.2	X26871.5	Y40153.8	038	123.3	52.0
0036	Sep-13	1400	3506.4	7508.4	X26840.5	Y40293.3	226	120.0	52.3
0037	Sep-13	1540	3510.0	7505.7	X26833.9	Y40334.4	027	95.7	
0038	Sep-13	1725	3510.0	7505.7	X26833.9	Y40334.7	225	96.8	53.8
0039	Sep-13	2014	3525.0	7518.1	X26891.8	Y40423.8	358	14.8	72.2
0040	Sep-13	2224	3541.2	7518.1	X26908.6	Y40578.6		14.2	69.0
0041	Sep-13	2348	3542.9	7513.6	X26893.6	Y40609.4	354	20.5	68.0
0042	Sep-14	0119	3548.3	7520.2	X26924.2	Y40642.1	312	17.0	64.9
0043	Sep-14	0248	3552.6	7515.6	X26911.5	Y40698.7	354	16.7	64.6
0044	Sep-14	0350	3555.5	7515.7	X26914.9	Y40727.8	003	16.1	64.3
0045	Sep-14	0542	3603.0	7528.9	X26974.2	Y40765.0	335	13.7	69.9
0046	Sep-14	0712	3607.9	7535.8	X27006.9	Y40797.2	350	12.3	70.2
0047	Sep-14	0834	3613.6	7536.5	X27017.3	Y40856.1	328	14.2	69.6
0048	Sep-14	0940	3614.8	7539.3	X27029.7	Y40862.4	359	13.4	71.0
0049	Sep-14	1105	3621.8	7536.2	X27027.1	Y40945.5	001	13.4	68.1
0050	Sep-14	1341	3644.8	7541.7	X27083.6	Y41185.8	004	11.5	71.3
0051	Sep-14	1644	3704.1	7541.6	X27115.5	Y41404.1	068	8.5	67.9
0052	Sep-14	1747	3706.7	7536.0	X27096.0	Y41444.2	051	10.9	66.3
0053	Sep-14	1931	3709.9	7525.6	X27056.9	Y41499.5	018	15.9	58.3
0054	Sep-14	2133	3716.3	7534.9	X27108.3	Y41555.0	071	10.9	66.7
0055	Sep-14	2238	3717.8	7532.9	X27102.0	Y41575.3	351	9.6	66.5
0056	Sep-15	0007	3725.3	7527.6	X27092.1	Y41669.3	059	11.8	63.8
0057	Sep-15	0229	3740.7	7519.3	X27082.4	Y41856.8	047	10.9	68.9

NOAA Fisheries Service FALL BOTTOM TRAWL SURVEY
2011 STATION INFORMATION

Station*	Date	Time	Lat	Lon	Loran		Course	Bottom	
					TD's			Depth (FM)	Temp (F)
0058	Sep-15	0346	3744.4	7514.6	X27066.8	Y41905.3	064	12.8	66.1
0059	Sep-15	0514	3749.6	7507.5	X27042.7	Y41973.6	037	13.4	67.4
0060	Sep-15	0706	3754.5	7455.7	X26993.3	Y42044.2	018	14.2	58.6
0061	Sep-15	0906	3746.0	7455.5	X26978.1	Y41951.1	065	17.8	57.9
0062	Sep-15	1119	3734.0	7448.2	X26923.8	Y41830.5	129	23.2	53.0
0063	Sep-15	1241	3731.8	7442.6	X26893.9	Y41815.0	026	30.3	52.3
0064	Sep-15	1355	3735.9	7438.9	X26881.8	Y41865.3	087	32.0	50.6
0065	Sep-15	1536	3728.0	7437.4	X26863.8	Y41782.8	183	34.7	51.3
0066	Sep-15	1721	3725.6	7430.6	X26828.6	Y41768.4	349	65.3	55.9
0067	Sep-16	0920	3726.5	7425.3	X26804.2	Y41786.7	027	115.1	53.8
0068	Sep-16	1116	3729.4	7421.6	X26789.9	Y41823.5	312	121.7	51.3
0069	Sep-16	1455	3752.0	7428.3	X26852.1	Y42053.5	028	31.4	48.8
0070	Sep-16	1730	3746.1	7415.5	X26779.5	Y42007.9	047	57.4	55.7
0071	Sep-16	1947	3748.7	7407.2	X26740.4	Y42047.2	005	111.8	52.5
0072	Sep-16	2219	3758.6	7356.1	X26693.9	Y42163.7	062	110.2	53.2
0073	Sep-17	0117	3813.6	7347.1	X26660.6	Y42328.0	309	63.7	55.7
0074	Sep-17	0232	3815.8	7350.3	X26680.7	Y42346.8	225	54.4	54.5
0075	Sep-17	0404	3815.8	7356.0	X26712.1	Y42342.0	044	39.4	49.4
0076	Sep-17	0708	3806.1	7423.5	X26847.3	Y42210.2	244	24.3	51.6
0077	Sep-17	1000	3808.9	7455.1	X27016.3	Y42205.1	342	13.9	69.1
0078	Sep-17	1202	3813.2	7457.9	X27039.3	Y42251.3	053	12.6	69.9
0079	Sep-17	1413	3820.4	7450.0	X27011.5	Y42338.9	024	9.8	68.9
0080	Sep-17	1656	3826.4	7429.3	X26910.8	Y42424.2	020	20.2	55.8
0081	Sep-17	1939	3838.6	7443.7	X27013.9	Y42546.8	091	13.7	67.8
0082	Sep-17	2140	3840.9	7454.8	X27080.2	Y42565.1	337	12.3	68.5
0083	Sep-17	2307	3840.6	7455.0	X27081.0	Y42561.5	349	12.0	68.8
0084	Sep-18	0027	3842.6	7456.3	X27092.3	Y42582.5	322	10.4	69.2
0085	Sep-18	0459	3846.1	7427.1	X26934.3	Y42640.9	118	17.0	67.9
0086	Sep-18	0906	3838.4	7407.2	X26805.8	Y42570.6	139	29.0	49.5
0087	Sep-18	1313	3853.1	7413.9	X26869.7	Y42723.8	006	22.4	56.7
0088	Sep-18	1544	3902.0	7415.6	X26896.3	Y42818.1	098	14.8	66.5
0089	Sep-18	1815	3854.5	7434.1	X26991.8	Y42729.1	076	10.9	68.8
0090	Sep-18	2011	3903.7	7431.6	X26996.9	Y42831.2	054	11.2	67.9
0091	Sep-18	2122	3906.8	7429.1	X26988.4	Y42865.8	089	12.3	68.0
0092	Sep-19	0046	3924.5	7408.8	X26898.3	Y43060.2	036	11.8	68.3
0093	Sep-19	0206	3929.6	7406.0	X26890.6	Y43114.1	071	12.3	67.9
0094	Sep-19	0338	3935.6	7403.6	X26887.5	Y43177.5	077	11.8	67.7
0095	Sep-19	0509	3941.8	7359.4	X26871.9	Y43240.5	035	12.6	67.4
0096	Sep-19	0655	3937.2	7353.3	X26820.7	Y43192.0	043	15.3	62.7
0097	Sep-19	0845	3939.5	7342.2	X26748.3	Y43212.5	074	16.4	60.7
0098	Sep-19	1237	3932.7	7303.7	X26469.9	Y43134.7	036	36.9	48.5
0099	Sep-19	1428	3929.7	7255.9	X26413.6	Y43104.5	085	33.4	48.0
0100	Sep-19	1655	3918.9	7301.9	X26446.2	Y43001.5	052	39.6	48.1
0101	Sep-19	2017	3908.6	7330.5	X26622.8	Y42898.4		27.6	52.6
0102	Sep-19	2245	3856.9	7348.5	X26720.9	Y42774.1	240	23.5	52.8
0103	Sep-20	0029	3850.6	7339.2	X26655.5	Y42713.1	149	32.3	49.1
0104	Sep-20	0205	3842.9	7335.0	X26621.6	Y42636.0	123	35.8	47.7
0105	Sep-20	0348	3833.8	7337.5	X26626.7	Y42541.8	156	38.0	50.1
0106	Sep-20	0539	3823.2	7339.1	X26625.9	Y42433.3	110	63.7	58.7
0107	Sep-20	0727	3820.5	7337.6	X26614.7	Y42406.2	209	72.2	58.8
0108	Sep-20	1045	3824.1	7325.5	X26549.3	Y42452.9	060	114.0	57.3

NOAA Fisheries Service FALL BOTTOM TRAWL SURVEY
2011 STATION INFORMATION

Station*	Date	Time	Lat	Lon	Loran		Course	Bottom	
					TD's			Depth (FM)	Temp (F)
0109	Sep-20	1323	3835.2	7314.8	X26495.8	Y42570.3	051	79.6	58.4
0110	Sep-20	1517	3836.2	7312.4	X26482.0	Y42582.4	338	116.5	54.1
0111	Sep-20	1745	3839.1	7307.2	X26453.4	Y42613.5	035	138.9	49.7
0112	Sep-20	1951	3841.6	7311.8	X26481.8	Y42634.9	031	64.5	60.0
0113	Sep-20	2126	3843.8	7307.6	X26458.5	Y42659.0	032	71.4	59.7
0114	Sep-20	2323	3843.3	7303.8	X26435.1	Y42656.1	021	106.9	57.9
0115	Sep-21	0129	3852.3	7310.1	X26478.9	Y42741.0	065	43.7	51.1
0116	Sep-21	0337	3905.5	7301.4	X26433.3	Y42871.7	068	44.8	48.0
0117	Sep-21	0457	3910.9	7256.5	X26404.8	Y42924.0	035	45.7	48.0
0118	Sep-21	0722	3914.8	7242.3	X26314.3	Y42961.4	019	67.3	54.6
0119	Sep-21	0854	3916.7	7236.9	X26279.2	Y42979.1	038	73.5	55.7
0120	Sep-21	1019	3922.0	7235.4	X26270.8	Y43028.2	025	69.2	55.6
0121	Sep-21	1414	3931.0	7216.5	X26144.7	Y43107.1	294	120.6	53.7
0122	Sep-26	1755	4050.5	7112.9	X25644.8	Y43712.0	133	34.2	51.4
0123	Sep-26	1922	4047.8	7113.0	X25645.0	Y43692.4	217	33.6	49.8
0124	Sep-26	2202	4028.8	7120.7	X25714.6	Y43556.1	136	39.4	47.9
0125	Sep-27	0003	4022.6	7107.5	X25620.0	Y43496.0	130	48.4	53.2
0126	Sep-27	0221	4009.4	7059.8	X25585.5	Y43389.0	110	78.2	55.1
0127	Sep-27	0440	4002.0	7052.7	X25554.0	Y43326.9	286	126.3	52.7
0128	Sep-27	0644	4001.1	7056.0	X25576.6	Y43322.4	055	142.2	54.4
0129	Sep-27	0909	4003.0	7054.9	X25565.4	Y43336.6	263	89.7	55.0
0130	Sep-27	1130	4016.1	7116.8	X25695.7	Y43453.2	264	49.5	54.1
0131	Sep-27	1346	4023.1	7135.2	X25830.6	Y43524.8	271	44.3	
0132	Sep-27	1455	4023.3	7137.1	X25845.2	Y43528.0	068	44.3	47.7
0133	Sep-27	1836	4008.7	7208.9	X26092.0	Y43434.3	159	38.3	47.9
0134	Sep-27	2050	3956.8	7209.2	X26092.6	Y43331.2	200	46.2	52.2
0135	Sep-27	2217	3951.6	7205.3	X26064.1	Y43284.2	196	51.4	53.5
0136	Sep-28	0132	3949.7	7146.0	X25928.0	Y43258.1	048	169.0	48.0
0137	Sep-28	0345	3946.6	7149.7	X25955.0	Y43233.4	058	144.4	50.3
0138	Sep-28	0757	3938.2	7210.5	X26102.5	Y43169.3		71.4	56.1
0139	Sep-28	1115	3936.7	7241.0	X26314.7	Y43166.0		39.9	48.8
0140	Sep-28	1246	3941.0	7247.0	X26359.6	Y43208.5	293	38.8	
0141	Sep-28	1353	3941.4	7247.3	X26362.7	Y43212.2	278	39.1	48.0
0142	Sep-28	1505	3942.3	7252.1	X26397.5	Y43222.0	316	39.9	48.1
0143	Sep-28	1723	3957.8	7244.5	X26355.2	Y43362.4	300	31.4	48.5
0144	Sep-28	2125	3952.2	7332.6	X26703.1	Y43336.8	193	20.0	58.7
0145	Sep-28	2358	3947.5	7344.7	X26780.6	Y43294.2	355	15.9	62.4
0146	Sep-29	0202	3955.8	7357.5	X26890.2	Y43385.7	042	12.0	62.5
0147	Sep-29	0408	4003.2	7342.7	X26799.2	Y43452.1	286	18.3	61.5
0148	Sep-29	0602	4003.8	7358.2	X26914.3	Y43467.6	179	12.6	64.6
0149	Sep-29	0751	4011.8	7350.2	X26875.5	Y43543.9	001	15.3	63.1
0150	Sep-29	0904	4016.6	7350.5	X26889.2	Y43592.2	006	15.6	63.2
0151	Sep-29	1031	4021.3	7344.9	X26858.4	Y43633.7	019	14.5	64.0
0152	Sep-29	1219	4025.7	7330.3	X26755.2	Y43662.7	087	13.7	66.1
0153	Sep-29	1431	4015.5	7315.8	X26619.5	Y43551.0	196	21.1	60.3
0154	Sep-29	1703	4017.1	7259.0	X26490.8	Y43550.9	187	24.3	58.3
0155	Sep-29	1825	4020.0	7301.7	X26516.8	Y43580.5	168	22.7	54.6
0156	Sep-29	2007	4024.5	7308.2	X26576.4	Y43628.5	279	19.4	59.4
0157	Sep-29	2155	4030.5	7318.6	X26672.0	Y43694.9	263	13.9	66.3
0158	Sep-29	2324	4032.3	7320.7	X26693.6	Y43714.9	095	12.6	67.0
0159	Sep-30	0140	4036.4	7258.9	X26523.8	Y43726.2	088	12.6	66.4

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0160	Sep-30	0257	4040.0	7254.1	X26491.3	Y43752.5	076	13.1	67.8
0161	Sep-30	0701	4031.6	7206.5	X26084.3	Y43625.4	188	31.4	50.0
0162	Sep-30	0854	4036.8	7209.1	X26110.5	Y43671.2	238	28.7	52.5
0163	Sep-30	1044	4042.8	7220.1	X26210.7	Y43734.0	231	22.7	58.3
0164	Sep-30	1222	4046.6	7228.3	X26286.3	Y43776.6	055	16.1	63.1
0165	Sep-30	1341	4049.2	7222.4	X26239.9	Y43790.2	061	14.8	65.0
0166	Sep-30	1723	4049.8	7221.3	X26231.3	Y43793.7	187	15.0	65.5
0167	Sep-30	1906	4052.6	7211.9	X26154.9	Y43803.8	057	16.7	63.2
0168	Sep-30	2049	4056.2	7159.0	X26049.2	Y43814.7	061	15.9	64.6
0169	Sep-30	2205	4100.0	7153.6	X26007.7	Y43836.8	076	12.0	
0170	Sep-30	2325	4059.6	7153.6	X26007.0	Y43833.7		12.6	65.6
0171	Oct-01	0150	4105.4	7139.7	X25893.3	Y43857.9	090	19.7	62.3
0172	Oct-01	0349	4112.3	7131.0	X25829.0	Y43896.6	178	21.6	64.7
0173	Oct-01	0702	4113.6	7108.2	X25626.7	Y43872.9	208	20.5	57.8
0174	Oct-01	0902	4121.0	7108.8	X25649.3	Y43925.3	221	17.0	64.9
0175	Oct-01	1038	4122.7	7106.3	X25631.6	Y43933.5	218	14.2	65.9
0176	Oct-01	1241	4113.4	7101.5	X25566.1	Y43862.6	277	19.4	62.3
0177	Oct-01	1418	4107.0	7102.1	X25560.8	Y43818.2	095	19.1	
0178	Oct-01	1526	4108.1	7101.7	X25559.2	Y43825.4	073	19.1	61.2
0179	Oct-01	2042	4118.5	7034.1	X25329.6	Y43859.7	151	11.2	65.4
0182	Oct-01	2345	4111.0	7010.4	X25104.4	Y43780.1	282	12.8	63.9
0183	Oct-02	0211	4057.1	7010.1	X25136.1	Y43687.6	301	14.2	62.3
0184	Oct-02	0421	4052.7	7005.3	X25123.7	Y43653.0	178	13.4	61.9
0185	Oct-02	0705	4047.3	7023.2	X25252.5	Y43634.8	158	27.9	61.8
0186	Oct-02	0911	4050.7	7032.0	X25308.5	Y43667.4	173	30.6	57.7
0187	Oct-02	1135	4045.0	7042.9	X25402.1	Y43638.4	206	34.2	53.6
0188	Oct-02	1522	4018.3	7013.2	X25282.3	Y43421.7	224	49.8	54.4
0189	Oct-02	1705	4015.7	7018.2	X25316.5	Y43406.3	213	53.9	55.0
0190	Oct-02	1948	4015.0	7034.8	X25413.0	Y43413.6	202	63.7	54.8
0191	Oct-02	2102	4013.5	7035.1	X25418.6	Y43402.7	157	65.9	55.1
0192	Oct-02	2356	4002.0	7031.6	X25427.9	Y43315.1	216	126.9	
0193	Oct-03	0312	4002.3	7007.7	X25305.8	Y43303.5	309	96.5	55.8
0194	Oct-03	0513	4000.4	7005.8	X25303.1	Y43289.2	335	95.4	56.4
0195	Oct-03	0854	3955.7	6945.4	W14167.5	Y43245.6	251	110.5	56.3
0196	Oct-03	1248	3957.2	6934.6	W14109.5	Y43251.8	157	106.4	49.9
0197	Oct-03	1530	3955.5	6928.5	W14084.5	Y43237.4	274	167.9	47.0
0198	Oct-03	1754	4000.1	6919.8	W14027.6	Y43264.8	228	62.9	55.9
0199	Oct-03	1954	4005.6	6928.2	W14051.6	Y43305.8	294	53.3	56.5
0200	Oct-03	2210	4015.1	6919.6	W13977.4	Y43364.9	022	47.8	55.9
0201	Oct-04	0001	4018.1	6910.5	W13922.3	Y43378.7	052	50.3	55.5
0202	Oct-04	0305	4022.9	6939.7	W14052.3	Y43429.7	272	38.5	58.2
0203	Oct-04	0511	4028.9	6954.7	W14109.5	Y43481.6	336	39.1	60.7
0204	Oct-04	0738	4041.4	6939.6	W13986.2	Y43553.4	078	27.1	62.9
0205	Oct-04	0905	4041.1	6932.0	W13947.8	Y43544.8	162	26.2	61.3
0206	Oct-04	1451	4041.5	6934.7	W13960.6	Y43549.5	085	27.3	62.4
0207	Oct-04	1658	4040.0	6929.5	W13939.1	Y43535.7	271	26.8	61.2
0208	Oct-04	2038	4044.8	6909.6	W13819.9	Y43549.8	179	40.5	63.4
0209	Oct-04	2325	4042.7	6900.0	W13780.1	Y43529.1	016	39.6	62.3
0210	Oct-05	0444	4045.4	6841.5	W13679.2	Y43530.9	271	35.0	59.6
0212	Oct-05	1820	4113.6	7027.6	X25260.0	Y43818.7	288	18.6	63.5
0214	Oct-12	0251	4005.9	6858.6	W13907.0	Y43292.8	257	88.9	54.0

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0215	Oct-12	0715	4006.9	6839.8	W13814.9	Y43290.4	090	113.2	53.7
0216	Oct-12	0928	4009.1	6834.0	W13780.2	Y43302.1	233	105.5	53.6
0217	Oct-12	1218	4018.5	6845.5	W13800.5	Y43366.7	068	52.8	56.7
0218	Oct-12	1427	4021.7	6839.6	W13760.8	Y43383.8	066	50.9	54.9
0219	Oct-12	1738	4016.7	6820.6	W13691.7	Y43342.2	061	88.6	57.2
0220	Oct-12	2129	4022.3	6803.2	W13592.4	Y43367.4	081	81.5	55.3
0221	Oct-12	2347	4028.5	6759.2	W13551.0	Y43401.9	137	71.6	55.9
0222	Oct-13	0238	4042.7	6802.7	W13509.7	Y43487.1	090	43.5	57.3
0224	Oct-13	0746	4031.6	6736.9	W13442.2	Y43407.1	160	73.3	57.5
0225	Oct-13	1041	4049.5	6727.9	W13330.0	Y43502.5	198	46.5	51.6
0226	Oct-13	1319	4051.6	6745.6	W13397.2	Y43526.3	129	36.6	57.4
0227	Oct-13	1523	4058.2	6744.1	W13361.9	Y43562.4	122	34.4	58.7
0228	Oct-13	1736	4101.1	6731.0	W13293.3	Y43568.6	152	36.1	58.7
0229	Oct-13	1930	4105.2	6732.3	W13280.5	Y43592.2	115	33.4	58.9
0230	Oct-13	2309	4118.5	6717.4	W13157.5	Y43651.6	261	26.8	58.8
0231	Oct-14	0216	4110.3	6700.3	W13125.3	Y43595.8	138	36.6	56.4
0232	Oct-14	0430	4100.3	6652.0	W13137.2	Y43537.5	173	40.5	53.8
0233	Oct-14	0833	4044.0	6648.5	W13194.2	Y43448.8	196	123.9	50.9
0234	Oct-14	1148	4046.8	6644.3	W13165.8	Y43461.7	216	164.9	49.9
0235	Oct-14	1523	4057.6	6629.0	W13061.4	Y43509.3	247	146.5	45.9
0236	Oct-14	1750	4100.4	6629.6	W13051.6	Y43523.8	208	67.8	47.9
0237	Oct-14	2327	4111.0	6619.9	W12968.6	Y43571.4	244	70.0	48.4
0238	Oct-15	0419	4128.7	6637.7	W12952.4	Y43672.9	207	44.0	55.2
0239	Oct-15	0919	4134.5	6646.8	W12959.5	Y43709.1	197	40.5	57.9
0240	Oct-15	1309	4131.8	6704.4	W13041.7	Y43710.1	184	32.3	60.0
0241	Oct-15	1739	4201.3	6650.7	W12840.4	Y43843.8	169	39.1	56.4
0242	Oct-15	1941	4157.1	6647.1	W12848.1	Y43820.3	166	35.5	57.1
0243	Oct-15	2320	4148.7	6635.1	W12845.3	Y43769.0	180	40.7	54.4
0244	Oct-16	0242	4135.4	6627.6	W12883.1	Y43698.1	190	47.0	49.9
0245	Oct-16	0642	4123.0	6617.1	W12903.4	Y43629.4	251	57.1	46.8
0246	Oct-16	1002	4135.6	6607.5	W12810.2	Y43683.4	219	54.1	46.2
0247	Oct-16	1210	4136.4	6557.8	W12773.2	Y43680.1	252	65.6	50.3
0248	Oct-16	1427	4141.2	6551.3	W12728.4	Y43697.9	217	72.5	49.8
0249	Oct-16		4148.1	6543.7	W12670.4	Y43724.1	210	156.4	
0250	Oct-16	1917	4147.9	6543.9	W12672.3	Y43723.4	190	134.2	
0251	Oct-16	2316	4202.3	6553.6	W12632.3	Y43797.3	187	113.2	47.3
0252	Oct-17	0216	4203.0	6602.4	W12658.2	Y43807.7	201	53.3	49.4
0253	Oct-17	0533	4156.2	6611.2	W12722.4	Y43784.0	303	48.4	48.0
0254	Oct-17	0832	4207.8	6611.7	W12665.0	Y43838.1	149	57.1	46.4
0255	Oct-17	1127	4214.0	6605.8	W12613.0	Y43861.1	246	144.4	48.2
0256	Oct-17	1500	4208.9	6616.7	W12676.4	Y43847.8	270	100.3	47.5
0257	Oct-17	1742	4210.2	6624.2	W12696.3	Y43860.5	247	106.1	47.1
0258	Oct-17	2136	4209.7	6704.7	W12851.6	Y43898.0	108	52.2	45.9
0259	Oct-18	0000	4208.3	6710.7	W12883.0	Y43897.5	271	46.2	53.0
0260	Oct-18	0313	4153.3	6706.7	W12944.5	Y43820.1	280	30.1	60.5
0261	Oct-18	0717	4144.5	6712.3	W13011.8	Y43781.3	255	30.9	60.5
0262	Oct-18	1028	4154.4	6715.4	W12974.5	Y43834.1	358	30.3	60.1
0263	Oct-18	1250	4152.7	6729.7	W13043.4	Y43839.8	097	28.7	59.9
0265	Oct-18	1606	4156.8	6747.1	W13097.9	Y43879.0	056	30.9	59.0
0266	Oct-18	1854	4151.5	6807.4	W13217.4	Y43874.1	033	82.6	45.2
0267	Oct-18	2320	4154.3	6823.5	W13280.2	Y43907.2	322	113.2	46.7

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0268	Oct-19	0211	4203.7	6847.1	W13349.8	Y43986.1	150	84.8	45.0
0269	Oct-19	0409	4157.1	6849.7	W13396.9	Y43953.9	344	72.2	45.0
0270	Oct-19	0933	4216.7	6948.1	W13615.6	Y44143.8	191	129.3	46.8
0271	Oct-19	1145	4214.6	6958.8	W13688.5	Y44149.5	057	59.3	46.4
0272	Oct-19	1423	4217.0	7000.9	X25476.4	Y44165.9	055	102.8	46.4
0273	Oct-19	1703	4210.2	7007.0	X25458.3	Y44137.5	068	29.3	50.2
0274	Oct-19	2058	4222.3	7035.2	X25702.5	Y44254.0	147	45.9	48.5
0275	Oct-19	2322	4226.6	7045.3	X25794.4	Y44296.3	133	27.3	50.3
0276	Oct-20	0410	4220.2	7046.8	X25765.4	Y44263.2	317	16.1	52.6
0277	Oct-20	0656	4214.2	7037.1	X25662.9	Y44211.4	278	18.6	52.3
0278	Oct-20	0906	4212.6	7028.8	X25598.7	Y44187.4	345	34.2	49.2
0279	Oct-20	1114	4207.3	7031.3	X25579.7	Y44160.9	016	20.5	54.1
0280	Oct-20	1329	4202.4	7031.0	X25545.7	Y44131.6	356	23.0	50.9
0286	Oct-26	0200	4108.2	6914.3	W13749.3	Y43700.0	323	30.9	49.8
0287	Oct-26	0506	4114.1	6921.8	W13763.9	Y43744.2		29.0	49.9
0288	Oct-26	0747	4120.3	6910.6	W13678.6	Y43769.4	303	76.6	46.1
0289	Oct-26	1200	4112.3	6851.3	W13615.0	Y43701.3	240	52.2	50.2
0290	Oct-26	1400	4109.0	6849.4	W13620.2	Y43679.9	236	45.1	52.0
0291	Oct-26	1735	4053.3	6847.7	W13677.1	Y43584.3	211	39.6	60.5
0292	Oct-26	2138	4107.1	6827.5	W13521.4	Y43648.7	161	29.3	60.9
0293	Oct-26	2351	4105.4	6819.2	W13489.5	Y43631.4	165	23.8	61.1
0294	Oct-27	0144	4104.1	6814.1	W13471.8	Y43619.6	151	26.2	61.2
0296	Oct-27	0818	4124.0	6741.5	W13234.6	Y43701.7	286	22.7	61.3
0297	Oct-27	1049	4136.4	6753.4	W13228.6	Y43779.1	166	22.1	60.7
0298	Oct-27	1325	4125.9	6758.3	W13300.8	Y43727.1	008	21.9	61.3
0299	Oct-27	1603	4118.7	6814.7	W13409.6	Y43703.0	034	26.8	
0300	Oct-27	1731	4119.1	6814.4	W13406.2	Y43704.7	028	26.8	60.8
0302	Oct-28	0650	4127.8	6826.9	W13425.6	Y43766.1	009	42.7	53.3
0303	Oct-28	0911	4130.5	6824.5	W13401.2	Y43778.7	006	26.2	55.9
0304	Oct-28	1250	4144.2	6823.4	W13329.9	Y43852.8	038	87.8	45.6
0305	Oct-28	1439	4142.7	6821.6	W13329.0	Y43842.4	061	40.2	48.3
0306	Oct-28	1837	4203.0	6808.6	W13163.9	Y43935.3	355	123.0	46.9
0307	Oct-28	2350	4239.0	6753.9	W12897.9	Y44094.3	288	109.9	48.0
0308	Oct-29	0719	4338.5	6749.5	W12505.7	Y44347.5	054	132.9	47.1
0309	Oct-29	1201	4410.6	6742.4	W12253.0	Y44459.9	172	116.7	49.1
0310	Oct-31	0757	4416.4	6738.9	W12196.4	Y44475.8	334	52.8	50.6
0311	Oct-31	1134	4424.3	6657.7	W11991.2	Y44446.4	073	62.6	48.8
0312	Oct-31	1418	4409.8	6704.5	W12114.8	Y44404.2	167	55.2	48.7
0313	Oct-31	1608	4404.0	6707.3	W12164.7	Y44386.7	147	53.0	50.1
0314	Oct-31	2035	4327.0	6635.4	W12296.8	Y44204.1		55.5	49.3
0315	Nov-01	0026	4322.6	6702.9	W12421.3	Y44220.3	032	119.8	47.5
0316	Nov-01	0325	4314.0	6644.7	W12408.9	Y44162.3	233	61.0	49.4
0317	Nov-01	0611	4304.6	6633.8	W12427.4	Y44110.4	165	68.1	49.7
0318	Nov-01	1108	4232.5	6635.9	W12618.2	Y43973.8	266	132.1	48.8
0319	Nov-01	1413	4224.3	6644.2	W12693.3	Y43945.3	272	190.6	46.8
0320	Nov-01	1704	4220.5	6658.5	W12768.7	Y43942.8	095	173.9	46.7
0322	Nov-01	2015	4233.2	6707.2	W12732.3	Y44011.1	081	171.7	47.4
0323	Nov-02	0017	4248.6	6740.6	W12782.6	Y44121.4	147	121.9	
0324	Nov-02	0143	4248.1	6740.1	W12783.3	Y44118.8	328	123.0	47.1
0325	Nov-02	0539	4222.4	6743.2	W12944.2	Y44001.9	014	120.0	47.8
0326	Nov-02	0841	4212.8	6756.9	W13058.1	Y43970.8	020	128.2	47.5

NOAA Fisheries Service FALL BOTTOM TRAWL SURVEY
2011 STATION INFORMATION

Station*	Date	Time	Lat	Lon	Loran		Course	Bottom	
					TD's			Depth (FM)	Temp (F)
0327	Nov-02	1234	4214.6	6807.1	W13095.3	Y43992.3	035	102.5	46.5
0328	Nov-02	1558	4221.0	6828.6	W13163.9	Y44052.0	019	110.2	46.4
0329	Nov-02	2327	4142.3	6914.6	W13599.2	Y43902.7	068	106.9	46.1
0330	Nov-03	0157	4137.0	6911.1	W13605.8	Y43868.1	357	95.7	45.9
0331	Nov-03	0425	4137.0	6927.1	W13691.1	Y43887.8	095	55.0	48.0
0332	Nov-03	0654	4132.4	6934.6	W13752.9	Y43869.7	201	24.1	
0333	Nov-03	0814	4132.7	6934.3	W13749.9	Y43871.6	225	24.6	52.5
0334	Nov-03	1152	4140.1	6938.9	W13741.6	Y43921.7	115	45.4	48.1
0335	Nov-03	1359	4137.4	6945.9	W13792.7	Y43914.6	109	18.9	
0339	Nov-07	1508	4150.8	7025.4	X25430.5	Y44052.6	195	13.9	53.2
0340	Nov-07	1641	4149.0	7019.5	X25378.8	Y44032.5	200	13.7	
0341	Nov-07	1810	4149.1	7019.9	X25382.4	Y44033.9	203	14.5	51.9
0342	Nov-07	2008	4156.6	7020.6	X25439.5	Y44080.4	204	22.1	53.3
0343	Nov-07	2233	4205.3	7027.7	X25543.5	Y44143.3	168	29.3	
0344	Nov-08	0044	4203.3	7033.6	X25568.4	Y44141.1	354	17.8	53.2
0345	Nov-08	0410	4228.2	7046.1	X25809.9	Y44306.9	235	24.1	49.9
0346	Nov-08	0709	4232.8	7028.2	X25726.8	Y44298.8	003	51.4	
0347	Nov-08	0825	4232.7	7028.1	X25726.1	Y44298.5	175	51.9	49.5
0348	Nov-08	1041	4237.3	7031.7	X25775.9	Y44329.3	201	38.5	50.0
0349	Nov-08	1245	4239.3	7026.7	X25759.8	Y44330.8	249	25.4	51.5
0351	Nov-08	1504	4242.4	7040.3	X25859.0	Y44372.5	093	17.2	50.8
0352	Nov-08	1838	4247.4	7041.7	X25898.0	Y44401.5	142	23.5	50.3
0353	Nov-08	2104	4250.5	7029.7	X25845.7	Y44394.1	249	63.7	46.0
0354	Nov-09	0017	4246.5	7017.1	X25752.9	Y44350.7	028	33.1	49.8
0355	Nov-09	0118	4247.0	7016.9	X25755.2	Y44353.1	201	32.5	
0356	Nov-09	0329	4251.5	7011.7	X25756.4	Y44366.3	236	31.4	50.9
0357	Nov-09	0901	4247.5	6957.5	W13503.8	Y44320.9	169	122.8	46.7
0358	Nov-09	1107	4248.0	6957.5	W13501.0	Y44323.9	003	121.1	46.7
0359	Nov-09	1341	4259.1	7004.7	X25769.4	Y44391.2	302	72.5	46.6
0360	Nov-09	1603	4308.4	7003.6	X25819.7	Y44433.3	170	27.6	50.5
0361	Nov-09	1707	4307.9	7003.7	X25817.3	Y44431.2	002	27.9	
0362	Nov-09	2347	4303.2	6928.9	W13242.7	Y44348.3	152	88.6	46.5
0363	Nov-10	0229	4309.8	6912.7	W13110.2	Y44351.8	273	106.6	46.5
0364	Nov-10	0520	4316.4	6908.6	W13045.4	Y44374.8	211	88.9	48.0
0365	Nov-10	0807	4322.6	6904.2	W12981.3	Y44395.0	040	93.2	48.3
0367	Nov-10	1319	4323.0	6949.3	W13240.7	Y44473.6	065	79.6	46.0
0368	Nov-10	1614	4330.9	6955.1	W13225.9	Y44518.7	072	60.1	49.6
0369	Nov-10	1810	4328.4	7002.2	X25927.3	Y44520.9	075	63.4	48.3
0370	Nov-10	2204	4332.9	6930.8	W13066.4	Y44484.0	165	78.7	48.1
0372	Nov-11	0349	4351.3	6835.0	W12633.7	Y44466.5	152	58.5	50.8
0375	Nov-11	1141	4351.5	6825.2	W12583.0	Y44451.9	208	70.8	49.8
0376	Nov-11	1433	4334.9	6823.8	W12690.0	Y44383.2	346	100.6	46.7
0377	Nov-11	1703	4331.4	6812.4	W12657.4	Y44351.8	309	94.6	46.5
0378	Nov-12	0952	4319.2	6827.0	W12808.2	Y44322.2	261	103.3	46.6
0379	Nov-12	1416	4301.7	6835.4	W12960.9	Y44257.0	159	101.2	46.6
0380	Nov-12	1808	4249.2	6843.3	W13077.1	Y44210.7	194	111.0	46.6
0381	Nov-13		4245.5	6916.0	W13274.6	Y44242.6	023	40.5	
0382	Nov-13	0335	4230.6	6900.2	W13272.8	Y44144.4	243	117.6	46.6
0383	Nov-13	0600	4223.7	6907.3	W13349.7	Y44119.1	155	122.8	46.6
0384	Nov-13	0926	4225.0	6939.7	W13523.1	Y44175.0	283	138.9	46.8
0385	Nov-13	1204	4233.8	6935.8	W13452.8	Y44215.3	183	146.3	46.7

NOAA Fisheries Service FALL BOTTOM TRAWL SURVEY
2011 STATION INFORMATION

Station*	Date	Time	Lat	Lon	Loran		Course	Bottom	
					TD's			Depth (FM)	Temp (F)
0386	Nov-13	1523	4233.2	7001.5	X25589.4	Y44254.4		80.1	46.4
0387	Nov-13	1824	4233.7	7003.8	X25603.4	Y44260.9	216	67.3	46.6
0388	Nov-13	2050	4223.1	7012.3	X25575.3	Y44218.5	157	36.9	50.5
0389	Nov-14	0019	4204.2	6957.3	W13732.1	Y44088.0	141	43.2	
0390	Nov-14	0141	4203.6	6958.0	W13739.2	Y44086.0	137	38.3	48.5
0391	Nov-14	0501	4159.3	6954.5	W13739.5	Y44056.3	165	30.3	48.7
0392	Nov-14	0644	4154.5	6955.6	W13769.2	Y44029.4	075	14.8	
0393	Nov-14	0826	4157.0	6956.7	W13763.7	Y44046.0	175	15.0	
0394	Nov-14	1056	4146.1	6953.5	W13796.1	Y43977.3	176	12.8	51.0
0395	Nov-14	1303	4142.6	6952.6	W13807.4	Y43954.9	175	12.0	51.9
0395	Nov-14	1303	4142.6	6952.6	W13807.4	Y43954.9	175	12.0	51.2
0396	Nov-14	1521	4154.6	6954.9	W13764.3	Y44029.5	128	18.6	51.0

*Missing sequential numbers indicate either a test-tow or no-trawl-was-attempted.

NOAA FISHERIES SERVICE-NEFSC FALL BOTTOM TRAWL SURVEY 2011
CATCH WEIGHTS (POUNDS) OF IMPORTANT SPECIES BY HAUL

STATION	ATLANTIC COD	HADDOCK	POLLOCK	WHITE HAKE	SILVER HAKE	REDFISH	GOOSEFISH	SPINY DOGFISH	YELLOWTAIL FLOUNI	WINTER FLOUNDER	AMERICAN PLAICE	WITCH FLOUNDER	WINDOWPANE FLDR	SUMMER FLOUNDER	BLUEFISH	WEAKFISH	SCUP	BLACK SEA BASS	SPOT	CROAKER	BUTTERFISH	AMERICAN LOBSTER	LOLIGO	ILLEX	TOTAL OTHER ^[1]	TOTAL ALL	
6	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59	85	80	227	
7	0	0	0	0	3	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	3	0	15	1	85	114	
8	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	1	0	3	0	9	17	
9	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	5	0	60	69	
10	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0	15	3	4	0	40	84	
11	0	0	0	0	2	0	8	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	26	40	78	
12	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1286	0	152	110	57	1606	
13	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	3	99	154	266	
14	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	10066	0	27	31	426	10554	
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56	1	7	64	
16	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	32	45	
17	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	10	67	98	
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0	24	1	180	224	
19	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	479	0	129	0	174	783	
20	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	282	0	278	25	655	1245	
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	41	0	55	2	355	0	55	1	449	961	
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	2	85	0	59	39	318	0	29	0	104	644	
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	58	0	4	5	41	0	18	0	67	200	
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	10	0	7	8	6	0	2	0	28	65	
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	216	217	
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	91	0	0	0	0	0	5	0	46	142	
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	144	0	67	8	1	0	0	0	325	545	
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	101	0	21	11	0	0	0	0	65	200	
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	46	0	37	84	
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0	31	52	
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	0	1	0	0	0	4	0	64	105	
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	77	77	
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	0	0	0	0	0	0	0	15	39	
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	253	33	319	
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	5	23	46	
37 ^[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	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	8	28	49	
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	13	20	8	0	0	0	96	140	
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	0	14	12	14	0	1	0	62	140	
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	26	0	40	109	35	0	1	0	100	313	
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	12	49	0	465	598	12	0	1	0	151	1289	
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	32	0	40	75	5	0	0	0	24	177	
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	65	0	7	5	4	0	1	0	45	127	
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	1	179	0	44	17	16	0	5	0	210	487	

NOAA FISHERIES SERVICE-NEFSC FALL BOTTOM TRAWL SURVEY 2011
CATCH WEIGHTS (POUNDS) OF IMPORTANT SPECIES BY HAUL

STATION	ATLANTIC COD	HADDOCK	POLLOCK	WHITE HAKE	SILVER HAKE	REDFISH	GOOSEFISH	SPINY DOGFISH	YELLOWTAIL FLOUNCI	WINTER FLOUNDER	AMERICAN PLAICE	WITCH FLOUNDER	WINDOWPANE FLDR	SUMMER FLOUNDER	BLUEFISH	WEAKFISH	SCUP	BLACK SEA BASS	SPOT	CROAKER	BUTTERFISH	AMERICAN LOBSTER	LOLIGO	ILLEX	TOTAL OTHER ^[1]	TOTAL ALL
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	69	0	73	4	1	0	2	0	72	223
47	0	0	0	0	0	0	0	0	0	0	0	0	0	2	20	10	31	0	60	123	27	0	1	0	276	550
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	18	2	0	87	129	14	0	1	0	270	525
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	9	126	0	80	15	6	0	7	0	96	355
50	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	16	12	0	52	119	7	0	1	0	381	590
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	0	8	2	2	0	2	0	153	172
52	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	6	0	2	1	14	0	5	0	134	164
53	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	30	0	1	0	116	150
54	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	36	0	0	15	56	12	0	0	0	231	352
55	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	31	0	0	19	23	1	0	1	0	200	278
56	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	9	0	0	1	4	1	0	0	0	177	195
57	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	148	0	0	3	45	2	0	1	0	164	367
58	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	242	0	1	538	1699	15	0	0	0	340	2841
59	0	0	0	0	0	0	0	0	0	0	0	0	1	2	4	148	0	0	19	244	7	0	1	0	136	562
60	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2	0	0	13	1	2	0	0	5	0	201	228
61	0	0	0	0	0	0	0	0	0	0	0	0	1	1	6	0	0	0	0	0	0	0	22	0	26	56
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	9	23
63	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0	36	69
64	0	0	0	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0	252	281
65	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	42	0	51	99
66	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	137	71	51	261
67	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	9	32	70
68	0	0	0	0	1	0	4	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	20	14	17	60
69	0	0	0	0	2	0	4	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	41	0	37	87
70	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64	1	30	98
71	0	0	0	0	1	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	6	21	33
72	0	0	0	0	1	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	6	17	31
73	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	21	24
74	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	1	0	89	100
75	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	113	0	12	0	191	328
76	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	42	0	26	71
77	0	0	0	0	0	0	0	0	0	0	0	0	0	6	19	8	17	0	31	134	18	0	4	0	335	572
78	0	0	0	0	0	0	0	0	0	0	0	0	1	9	6	90	13	1	18	293	6	0	1	0	509	947
79	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	1	0	10	17
80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0	0	3	0	15	0	211	252
81	0	0	0	0	0	0	0	0	0	0	0	0	4	9	0	16	50	6	13	653	3	1	2	0	331	1088
82	0	0	0	0	0	0	0	0	0	0	0	0	4	3	0	84	1	1	45	331	3	0	1	0	252	725
83	0	0	0	0	0	0	0	0	0	0	0	0	4	8	1	56	1	0	17	258	12	0	0	0	504	861
84	0	0	0	0	0	0	0	0	0	0	0	0	4	14	0	312	0	0	27	415	26	0	0	0	436	1234
85	0	0	0	0	0	0	0	0	0	0	0	0	13	34	1	3	1	2	1	76	0	0	4	0	230	365

NOAA FISHERIES SERVICE-NEFSC FALL BOTTOM TRAWL SURVEY 2011
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 FLOUNDER	WINDOWPANE FLDR	SUMMER FLOUNDER	BLUEFISH	WEAKFISH	SCUP	BLACK SEA BASS	SPOT	CROAKER	BUTTERFISH	AMERICAN LOBSTER	LOLIGO	ILLEX	TOTAL OTHER ^[1]	TOTAL ALL
86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	32	0	34	68
87	0	0	0	0	3	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	51	0	4	0	138	198
88	0	0	0	0	0	0	0	0	0	0	0	0	1	11	7	0	2	1	0	1	22	0	3	0	15	63
89	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	2	5	2	0	3	0	96	114
90	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1	10	15	0	0	10	3	0	2	0	278	323
91	0	0	0	0	0	0	0	0	0	0	0	0	6	0	1	24	1	3	1	89	1	0	0	0	119	245
92	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	32	0	1	0	6	1	0	0	0	112	156
93	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	64	1	1	0	3	0	2	0	0	192	269
94	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	47	0	1	1	33	1	0	0	0	207	298
95	0	0	0	0	0	0	0	0	0	0	0	0	3	2	2	35	1	6	0	12	11	0	1	0	453	526
96	0	0	0	0	0	0	0	0	0	0	0	0	5	7	3	1	0	0	0	1	22	2	2	0	147	190
97	0	0	0	0	0	0	0	0	0	0	0	0	5	6	3	0	0	0	0	4	36	0	4	0	307	365
98	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	3	20	0	85	171
99	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	15	0	18	44
100	0	0	0	0	6	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	21	0	12	0	208	248
101	0	0	0	0	12	0	7	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	460	482
102	0	0	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2	0	531	538
103	0	0	0	0	4	0	1	0	4	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	334	345
104	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	130	140
105	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	12	0	61	87
106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	26	8	26	71
107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	28	5	50	84
108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	3	8
109	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46	8	30	89
110	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	15	31
111	0	0	0	0	0	0	3	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	6	16	32	60
112	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	178	0	9	2	25	215
113	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	7	7	30	58
114	0	0	0	0	2	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	13	28	61
115	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	12	2	106	124
116	0	0	0	0	11	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	38	0	105	175
117	0	0	0	0	10	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	3	4	24	1	73	125
118	0	0	0	0	6	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	46	0	13	0	49	117
119	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	44	2	96	148
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1	74	1	26	108
121	0	0	0	9	2	0	63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56	30	4	218	382
122	0	0	1	0	155	0	12	178	91	12	0	0	0	0	0	0	0	0	0	0	8	1	7	0	211	676
123	0	0	0	0	120	0	16	173	5	3	0	1	0	6	0	0	0	0	0	0	1	0	0	0	563	888
124	0	0	0	0	18	0	27	17	0	0	0	2	0	0	0	0	0	0	0	0	4	1	1	0	198	268
125	0	0	0	0	7	0	25	20	0	0	0	0	0	0	0	0	0	0	0	0	128	2	7	0	124	313

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CATCH WEIGHTS (POUNDS) OF IMPORTANT SPECIES BY HAUL

STATION	ATLANTIC COD	HADDOCK	POLLOCK	WHITE HAKE	SILVER HAKE	REDFISH	GOOSEFISH	SPINY DOGFISH	YELLOWTAIL FLOUNI	WINTER FLOUNDER	AMERICAN PLAICE	WITCH FLOUNDER	WINDOWPANE FLDR	SUMMER FLOUNDER	BLUEFISH	WEAKFISH	SCUP	BLACK SEA BASS	SPOT	CROAKER	BUTTERFISH	AMERICAN LOBSTER	LOLIGO	ILLEX	TOTAL OTHER ^[1]	TOTAL ALL	
126	0	0	0	0	1	0	10	11	0	0	0	0	0	0	0	0	0	0	0	0	13	1	3	0	50	89	
127	0	0	0	0	1	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	14	12	18	67	
128	0	0	0	0	3	0	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	80	46	30	227	
129	0	0	0	0	0	0	16	3	0	0	0	0	0	0	0	0	0	0	0	0	3	1	25	12	34	94	
130	0	0	0	0	6	0	10	13	0	0	0	0	0	0	0	0	0	0	0	0	165	5	177	5	10	391	
131 ^[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	8818	8818
132	0	0	0	0	16	0	6	101	0	0	0	0	0	0	0	0	0	0	0	0	52	2	115	1	22	315	
133	0	1	0	0	32	0	8	10	0	0	0	0	0	0	0	0	0	0	0	0	26	0	2	0	180	259	
134	0	0	0	0	3	0	28	9	0	0	0	1	0	0	0	0	0	0	0	0	31	3	0	0	158	233	
135	0	0	0	0	1	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	8	1	0	0	101	116	
136	0	0	0	5	0	0	57	0	0	0	0	2	0	0	0	0	0	0	0	0	0	15	0	41	36	156	
137	0	0	0	0	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	47	34	115	
138	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	148	23	105	284	
139	0	0	0	0	3	0	6	0	1	0	0	0	0	0	0	0	0	0	0	0	29	2	13	0	247	301	
140 ^[2]	0	1	0	0	2	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	59	1	13	0	39	123	
141	0	0	0	0	5	0	10	15	0	0	0	0	0	0	0	0	0	0	0	0	65	1	19	0	53	168	
142	0	0	0	0	34	0	15	138	0	0	0	0	0	0	0	0	0	0	0	0	56	1	46	0	70	360	
143	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	28	0	97	133	
144	0	0	0	0	1	0	0	313	0	6	0	0	10	57	0	0	2	2	0	0	0	1	4	0	176	572	
145	0	0	0	0	1	0	0	10	0	0	0	0	10	47	0	0	11	23	0	1	0	0	11	0	842	956	
146	0	0	0	0	0	0	0	0	0	0	0	0	2	7	1	20	8	18	0	1	0	5	0	0	146	208	
147	0	0	0	0	2	0	0	0	0	4	0	0	52	41	0	0	2	3	0	0	25	1	5	0	156	291	
148	0	0	0	0	0	0	0	0	0	2	0	0	4	3	4	2	1	1	0	2	3	0	2	0	101	125	
149	0	0	0	0	0	0	0	0	0	0	0	0	2	6	20	0	0	0	0	0	1	0	13	0	160	202	
150	0	0	0	0	0	0	0	0	0	44	0	0	0	7	4	0	4	5	0	0	63	11	29	0	60	227	
151	0	0	0	0	0	0	0	0	0	15	0	0	3	24	2	0	21	4	0	0	13	2	13	0	29	126	
152	0	0	0	0	0	0	0	0	0	1	0	0	0	0	5	2	16	1	0	0	48	0	10	0	31	114	
153	0	0	0	0	0	0	0	6	0	4	0	0	0	5	0	0	1	0	0	0	1	2	14	0	94	127	
154	0	1	0	0	5	0	0	132	0	6	0	0	0	1	0	0	0	0	0	0	2	0	9	0	67	223	
155	0	1	0	0	33	0	0	119	0	1	0	0	4	38	0	0	0	0	0	0	0	0	2	0	278	476	
156	0	0	0	0	2	0	0	76	0	0	0	0	9	34	0	0	46	0	0	0	1	0	9	0	131	308	
157	0	0	0	0	2	0	0	0	0	0	0	0	2	24	0	0	17	0	0	0	11	0	7	0	74	137	
158	0	0	0	0	3	0	0	0	0	2	0	0	0	11	3	1	38	0	0	1	11	0	8	0	114	192	
159	0	0	0	0	1	0	0	0	0	0	0	0	6	23	6	0	98	0	0	0	3	0	20	0	56	213	
160	0	0	0	0	7	0	0	0	0	0	0	0	15	47	0	0	17	0	0	0	11	0	17	0	106	220	
161	0	1	0	0	152	0	0	58	9	2	0	0	0	0	0	0	0	0	0	0	25	2	9	0	94	352	
162	0	0	0	0	7	0	0	51	2	2	0	0	0	4	0	0	0	0	0	0	43	0	17	0	202	328	
163	0	0	0	0	1	0	0	10	0	3	0	0	0	20	0	0	0	0	0	0	0	0	9	0	48	91	
164	0	0	0	0	1	0	0	0	0	0	0	0	5	4	5	0	2	0	0	0	46	0	23	0	97	183	

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CATCH WEIGHTS (POUNDS) OF IMPORTANT SPECIES BY HAUL

STATION	ATLANTIC COD	HADDOCK	POLLOCK	WHITE HAKE	SILVER HAKE	REDFISH	GOOSEFISH	SPINY DOGFISH	YELLOWTAIL FLOUNCI	WINTER FLOUNDER	AMERICAN PLAICE	WITCH FLOUNDER	WINDOWPANE FLDR	SUMMER FLOUNDER	BLUEFISH	WEAKFISH	SCUP	BLACK SEA BASS	SPOT	CROAKER	BUTTERFISH	AMERICAN LOBSTER	LOLIGO	ILLEX	TOTAL OTHER ^[1]	TOTAL ALL
206	0	0	0	0	1	0	0	0	1	1	0	0	1	2	0	0	2	0	0	0	0	0	43	0	98	149
207	0	0	0	0	1	0	0	24	0	0	0	0	4	2	0	0	0	0	0	0	1	0	52	0	76	160
208	0	0	0	0	6	0	0	0	2	0	0	0	3	16	0	0	0	0	0	0	1	2	51	0	453	534
209	0	3	0	0	38	0	7	0	2	4	0	0	0	2	0	0	0	0	0	0	1	18	64	1	477	617
210	0	0	0	0	15	0	0	56	8	0	0	0	3	0	0	0	0	0	0	0	2	27	37	3	580	731
212	0	0	0	0	22	0	0	0	0	12	0	0	7	14	0	0	20	6	0	0	4	10	12	0	444	551
214	0	0	0	0	36	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	40	83
215	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	15
216	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	9	16
217	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70	1	7	80
218	0	2	0	0	7	0	1	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64	0	32	130
219	0	0	0	0	75	0	0	2651	0	0	0	0	0	0	0	0	0	0	0	0	28	0	4	1	129	2888
220	0	1	0	0	48	0	0	95	0	0	0	0	0	0	0	0	0	0	0	0	1	11	0	0	46	202
221	0	0	0	0	48	0	6	712	0	0	0	0	0	0	0	0	0	0	0	0	37	12	0	1	78	894
222	0	1	0	0	65	0	27	27	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	1	388	513
224	0	1	0	0	11	0	4	21	0	0	0	0	0	0	0	0	0	0	0	0	10	17	72	14	36	186
225	0	7	0	0	16	0	4	699	7	0	0	0	0	8	0	0	0	0	0	0	0	7	6	1	113	868
226	0	2	0	0	1	0	0	418	1	0	0	0	0	3	0	0	0	0	0	0	0	31	10	0	138	604
227	0	17	0	0	1	0	12	80	38	13	0	0	0	12	0	0	0	0	0	0	0	7	3	0	205	388
228	0	18	0	0	67	0	22	29	84	12	0	0	3	0	0	0	0	0	0	0	0	9	23	1	397	665
229	0	12	0	4	36	0	7	47	41	19	0	0	9	13	0	0	0	0	0	0	0	18	5	0	359	570
230	0	0	0	0	0	0	0	38	0	0	0	0	31	3	0	0	0	0	0	0	0	12	3	0	67	154
231	0	2	0	0	50	0	5	86	90	5	0	0	4	8	0	0	0	0	0	0	0	40	3	0	380	673
232	0	21	0	0	92	0	3	376	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	480	1033
233	0	1908	0	5	298	0	8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	42	0	30	230	2522
234	0	1	0	7	60	0	13	0	0	0	0	2	0	0	0	0	0	0	0	0	0	52	0	8	127	270
235	0	0	0	6	184	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	232	0	46	251	719
236	0	845	0	0	303	0	0	7	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	361	1517
237	0	87	0	0	12	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	346	453
238	0	269	0	0	101	0	9	20	36	0	0	0	0	0	0	0	0	0	0	0	3	59	0	0	254	751
239	0	404	0	0	1	0	0	101	2	6	0	0	0	12	14	0	0	0	0	0	7	198	4	1	158	908
240	0	9	0	0	8	0	0	22	6	0	0	0	2	0	10	0	0	0	0	0	19	3	1	0	64	144
241	7	1044	0	7	94	0	8	120	21	22	0	0	1	0	0	0	0	0	0	0	2	41	3	1	320	1691
242	209	623	0	0	30	0	5	436	6	75	0	0	0	0	0	0	0	0	0	0	1	35	0	1	917	2338
243	23	373	0	0	10	0	2	30	15	34	0	0	1	0	0	0	0	0	0	0	0	28	0	1	253	770
244	3	196	0	0	3	0	1	0	29	4	0	0	0	0	0	0	0	0	0	0	0	33	0	0	501	770
245	0	138	0	0	0	0	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	63	211
246	0	142	0	0	5	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	178	329
247	0	198	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	38	248
248	12	198	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	25	239

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CATCH WEIGHTS (POUNDS) OF IMPORTANT SPECIES BY HAUL

STATION	ATLANTIC COD	HADDOCK	POLLOCK	WHITE HAKE	SILVER HAKE	REDFISH	GOOSEFISH	SPINY DOGFISH	YELLOWTAIL FLOUNCI	WINTER FLOUNDER	AMERICAN PLAICE	WITCH FLOUNDER	WINDOWPANE FLDR	SUMMER FLOUNDER	BLUEFISH	WEAKFISH	SCUP	BLACK SEA BASS	SPOT	CROAKER	BUTTERFISH	AMERICAN LOBSTER	LOLIGO	ILLEX	TOTAL OTHER ^[1]	TOTAL ALL		
249 ^[2]	11	9	0	6	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	33	
250	10	641	0	13	1	18	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	43	0	0	0	27	754	
251	45	177	4	10	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	10	0	1	0	63	311	
252	40	139	54	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	95	330	
253 ^[2]	150	380	4	7	0	0	0	0	0	46	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	156	746	
254	3	60	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	1	0	37	108	
255	40	477	4	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	16	549	
256	0	134	0	6	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	11	0	2	0	21	177	
257	0	22	0	7	76	0	24	0	0	0	0	1	0	0	0	0	0	0	0	0	0	10	0	1	0	60	201	
258	16	171	0	0	3	0	9	0	177	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1177	1554	
259	32	333	1	0	5	0	0	0	2	17	0	0	0	0	0	0	0	0	0	0	2	7	0	3	0	845	1247	
260 ^[2]	0	0	0	0	1	0	0	0	3	11	0	0	1	0	0	0	0	0	0	0	0	7	0	0	0	85	108	
261	0	7	0	1	1	0	0	76	3	52	0	0	1	0	0	0	0	0	0	0	1	18	26	1	0	135	322	
262	0	3	0	1	0	0	0	269	0	9	0	0	0	0	0	0	0	0	0	0	44	24	4	1	0	459	814	
263	0	0	0	0	0	0	0	439	0	9	0	0	0	0	0	0	0	0	0	0	1	9	7	0	0	302	767	
265	0	1	0	5	9	0	0	3	0	12	0	0	5	0	0	0	0	0	0	0	126	9	12	7	0	119	308	
266	0	49	0	35	463	0	5	0	2	0	43	64	0	0	0	0	0	0	0	0	2	0	0	2	0	666	1331	
267	0	28	0	51	156	91	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	359	
268	0	3	0	43	61	69	2	5	0	0	9	12	0	0	0	0	0	0	0	0	0	0	0	4	0	48	256	
269	10	15	1	27	24	42	0	0	0	0	15	5	0	0	0	0	0	0	0	0	0	0	0	4	0	59	202	
270	0	0	11	21	231	30	5	2472	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	1	0	114	2914	
271	13	11	8	0	1	19	0	152	0	0	15	9	0	0	0	0	0	0	0	0	0	1	0	1	0	197	427	
272	0	0	0	3	15	480	0	25	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	77	605	
273	82	5	0	0	92	0	0	144	67	9	0	0	1	0	0	0	0	0	0	0	8	0	5	2	0	1248	1663	
274	67	0	0	3	226	4	11	248	3	17	91	18	0	0	0	0	0	0	0	0	1	14	0	1	0	62	766	
275 ^[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	0	0
276	29	0	4	2	24	0	0	79	12	104	0	0	11	0	0	0	1	1	0	0	0	228	0	0	0	188	683	
277 ^[2]	24	0	1	0	0	0	0	565	0	51	0	0	0	0	0	0	0	0	0	0	1	59	25	0	0	50	776	
278	9	0	0	0	11	0	0	2155	25	106	47	1	0	0	0	0	0	0	0	0	117	8	65	0	0	317	2861	
279	71	0	0	0	2	0	0	3049	8	345	1	0	0	2	0	0	0	0	0	0	2	113	5	0	0	217	3815	
280	34	0	0	0	35	0	0	3526	4	115	0	0	0	2	0	0	0	2	0	0	20	91	5	3	0	243	4080	
286	176	301	1	9	320	0	20	287	25	327	0	0	0	0	0	0	0	0	0	0	1	56	0	1	0	1176	2700	
287	49	6	0	0	0	0	29	2420	6	22	0	0	0	0	0	0	0	0	0	0	0	14	1	0	0	402	2949	
288	4	367	3	37	60	1	0	5	0	0	8	0	0	0	0	0	0	0	0	0	0	5	0	4	0	96	590	
289	0	260	0	2	5	0	36	673	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	320	1312	
290	12	327	0	2	8	0	13	4234	4	369	0	0	0	0	0	0	0	0	0	0	4	0	2	0	0	256	5231	
291 ^[2]	0	0	0	0	1	0	0	98	0	0	0	0	1	0	0	0	0	0	0	0	25	3	3	2	0	115	248	
292	0	0	0	0	1	0	0	222	0	14	0	0	9	0	11	0	0	0	0	0	0	1	2	0	0	495	755	
293	0	0	0	0	0	0	9	7	0	1	0	0	13	0	0	0	0	0	0	0	0	0	1	0	0	486	517	

NOAA FISHERIES SERVICE-NEFSC FALL BOTTOM TRAWL SURVEY 2011
CATCH WEIGHTS (POUNDS) OF IMPORTANT SPECIES BY HAUL

STATION	ATLANTIC COD	HADDOCK	POLLOCK	WHITE HAKE	SILVER HAKE	REDFISH	GOOSEFISH	SPINY DOGFISH	YELLOWTAIL FLOUNCI	WINTER FLOUNDER	AMERICAN PLAICE	WITCH FLOUNDER	WINDOWPANE FLDR	SUMMER FLOUNDER	BLUEFISH	WEAKFISH	SCUP	BLACK SEA BASS	SPOT	CROAKER	BUTTERFISH	AMERICAN LOBSTER	LOLIGO	ILLEX	TOTAL OTHER ^[1]	TOTAL ALL	
294	0	0	0	0	1	0	0	17	0	42	0	0	56	3	0	0	0	0	0	0	0	2	5	0	1628	1754	
296	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	61	77	
297	0	0	0	0	0	0	0	532	0	34	0	0	1	4	0	0	0	0	0	0	0	0	3	0	376	950	
298	0	0	0	0	0	0	0	62	0	0	0	0	2	0	6	0	0	0	0	0	0	1	2	0	55	128	
300	0	0	0	0	1	0	0	93	0	40	0	0	21	8	0	0	0	0	0	0	0	1	1	16	2395	2576	
302	17	6	0	0	284	0	5	12	7	248	0	0	1	9	0	0	0	0	0	0	0	16	101	25	2277	3008	
303	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	30	
304	0	0	0	5	501	0	5	0	0	0	84	1	0	0	0	0	0	0	0	0	0	0	9	2	579	1186	
305	0	34	0	2	150	0	12	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	5	1347	1556	
306	0	34	0	34	111	47	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	43	277	
307	0	0	0	18	30	277	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	52	380	
308	0	0	0	37	46	9	12	2	0	0	26	2	0	0	0	0	0	0	0	0	0	0	4	0	16	154	
309 ^[2]	14	0	0	39	5	4	4	2	0	1	3	18	0	0	0	0	0	0	0	0	0	0	0	0	0	92	182
310	0	0	0	4	20	0	0	0	0	5	4	1	0	0	0	0	0	0	0	0	0	1	142	0	20	197	
311	0	0	0	4	29	0	0	0	0	49	1	17	0	0	0	0	0	0	0	0	0	0	182	0	108	391	
312	8	173	76	0	77	19	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	1	19	0	4035	4432	
313	1	46	4	0	51	4	0	8	0	19	0	0	0	0	0	0	0	0	0	0	0	1	4	0	276	417	
314	7	94	1	3	21	0	2	0	1	192	2	6	0	0	0	0	0	0	0	0	0	0	148	0	216	697	
315	0	27	1	49	16	12	49	0	0	1	3	5	0	0	0	0	0	0	0	0	0	0	3	0	42	209	
316	3	137	8	4	1	0	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	57	0	89	317	
317	2	76	2	2	7	0	16	0	0	11	13	3	0	0	0	0	0	0	0	0	0	3	50	0	42	230	
318	2	251	3	21	12	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	16	0	35	344	
319	0	82	0	21	3	16	17	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	297	440	
320	0	138	0	74	4	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	95	315
322	11	35	0	29	20	0	19	0	0	0	4	1	0	0	0	0	0	0	0	0	0	0	20	0	181	320	
323	0	0	0	15	23	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	69	166	
324	0	0	0	76	142	88	11	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	80	400	
325	0	57	16	131	71	196	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	119	596	
326	0	3	3	50	388	374	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	852	
327	7	9	1	23	104	286	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	44	477
328	3	0	0	33	48	100	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	1	33	222
329	0	0	0	69	140	18	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	4	0	1	37	271
330	0	10	0	47	572	55	30	0	0	0	1	11	0	0	0	0	0	0	0	0	0	0	2	0	1	91	820
331	11	485	117	7	28	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	4	0	2	127	784
332 ^[2]	1	0	1	0	0	0	0	463	0	3	0	0	0	0	0	0	0	0	0	0	0	3	0	0	11	482	
333 ^[2]	7	0	0	0	0	0	0	1076	5	26	0	0	0	0	0	0	0	0	0	0	0	20	0	0	61	1195	
334	24	743	1	14	18	0	3	28	23	3	0	0	0	0	0	0	0	0	0	0	0	11	19	20	201	1108	
335 ^[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	0
339	0	0	0	2	15	0	0	11	0	19	0	0	1	0	0	0	2	0	0	0	0	33	19	11	0	680	793

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CATCH WEIGHTS (POUNDS) OF IMPORTANT SPECIES BY HAUL

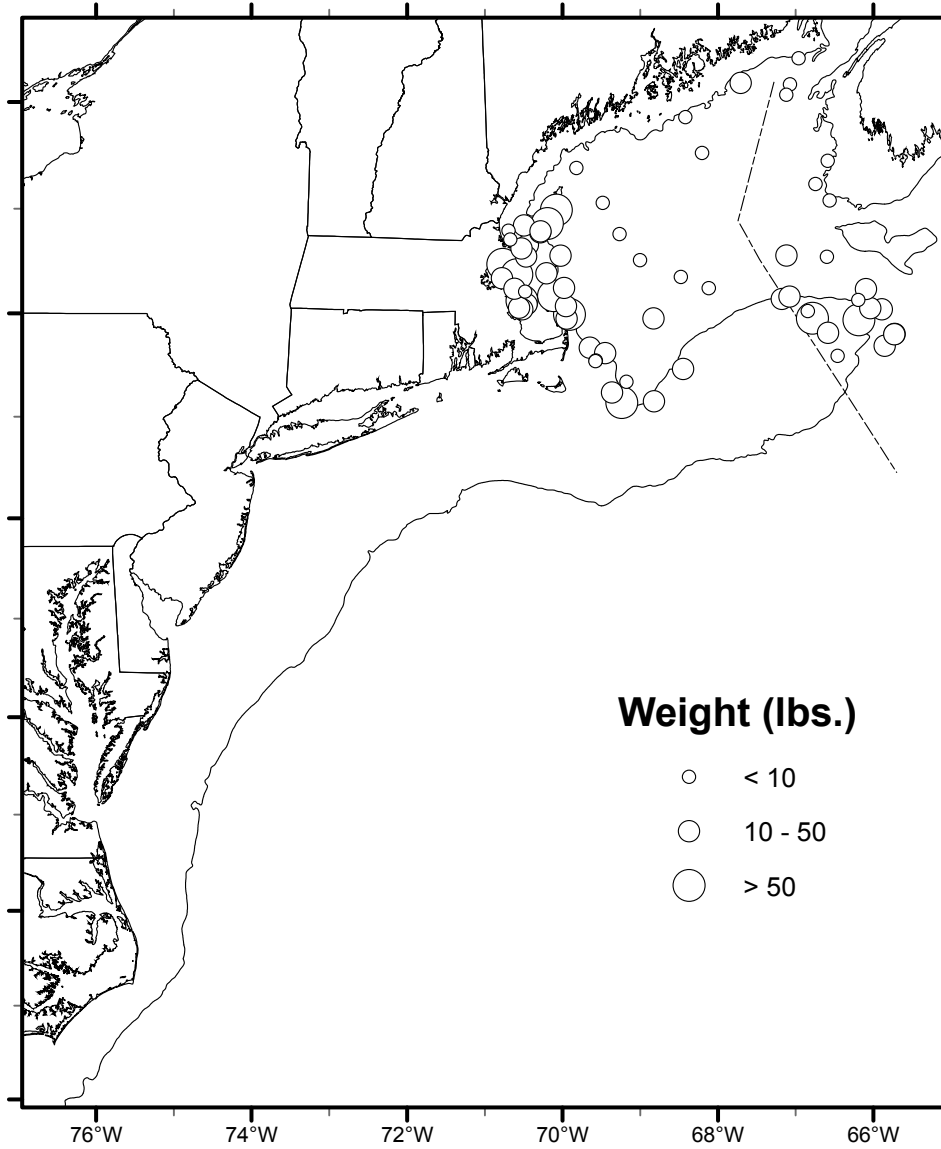
STATION	ATLANTIC COD	HADDOCK	POLLOCK	WHITE HAKE	SILVER HAKE	REDFISH	GOOSEFISH	SPINY DOGFISH	YELLOWTAIL FLOUNDER	WINTER FLOUNDER	AMERICAN PLAICE	WITCH FLOUNDER	WINDOWPANE FLDR	SUMMER FLOUNDER	BLUEFISH	WEAKFISH	SCUP	BLACK SEA BASS	SPOT	CROAKER	BUTTERFISH	AMERICAN LOBSTER	LOLIGO	ILLEX	TOTAL OTHER ^[1]	TOTAL ALL	
384	0	0	0	41	185	50	12	0	0	0	43	0	0	0	0	0	0	0	0	0	0	0	0	3	29	363	
385	0	4	0	31	145	12	0	0	0	0	44	0	0	0	0	0	0	0	0	0	0	3	0	1	38	278	
386	30	0	0	156	233	309	8	124	0	0	39	8	0	0	0	0	0	0	0	0	4	6	16	5	152	1090	
387	0	33	0	113	26	55	0	251	0	0	13	7	0	0	0	0	0	0	0	0	0	0	1	6	101	606	
388	50	238	0	1	49	0	11	498	28	69	4	0	0	0	0	0	0	0	0	0	1	0	4	1	117	1071	
389	13	189	20	6	107	0	13	21	42	9	2	0	0	0	0	0	0	0	0	0	3	112	2	2	188	729	
390	0	7	0	4	146	0	16	12	420	5	1	0	0	0	0	0	0	0	0	0	5	94	1	0	160	871	
391	202	0	1	0	245	0	0	5	3	154	0	0	0	0	0	0	0	0	0	0	1	87	3	0	441	1142	
392 ^[2]	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	1	0	3	0	15	24	
393 ^[2]	14	0	0	0	0	0	0	0	9	6	0	0	1	2	0	0	0	0	0	0	0	2	2	0	22	58	
394	0	0	0	0	0	0	0	19	0	5	0	0	0	0	0	0	0	0	0	0	0	3	6	0	108	141	
395	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	471	474	
396 ^[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	0
TOTAL	2431	13869	1103	2683	12682	8263	1867	41021	1801	3529	1146	398	595	1652	504	1509	3222	328	1951	5704	17960	5299	4782	1358	84967	220624	

^[1] Total other in southern areas are comprised primarily of rays, large sharks and spotted hake.

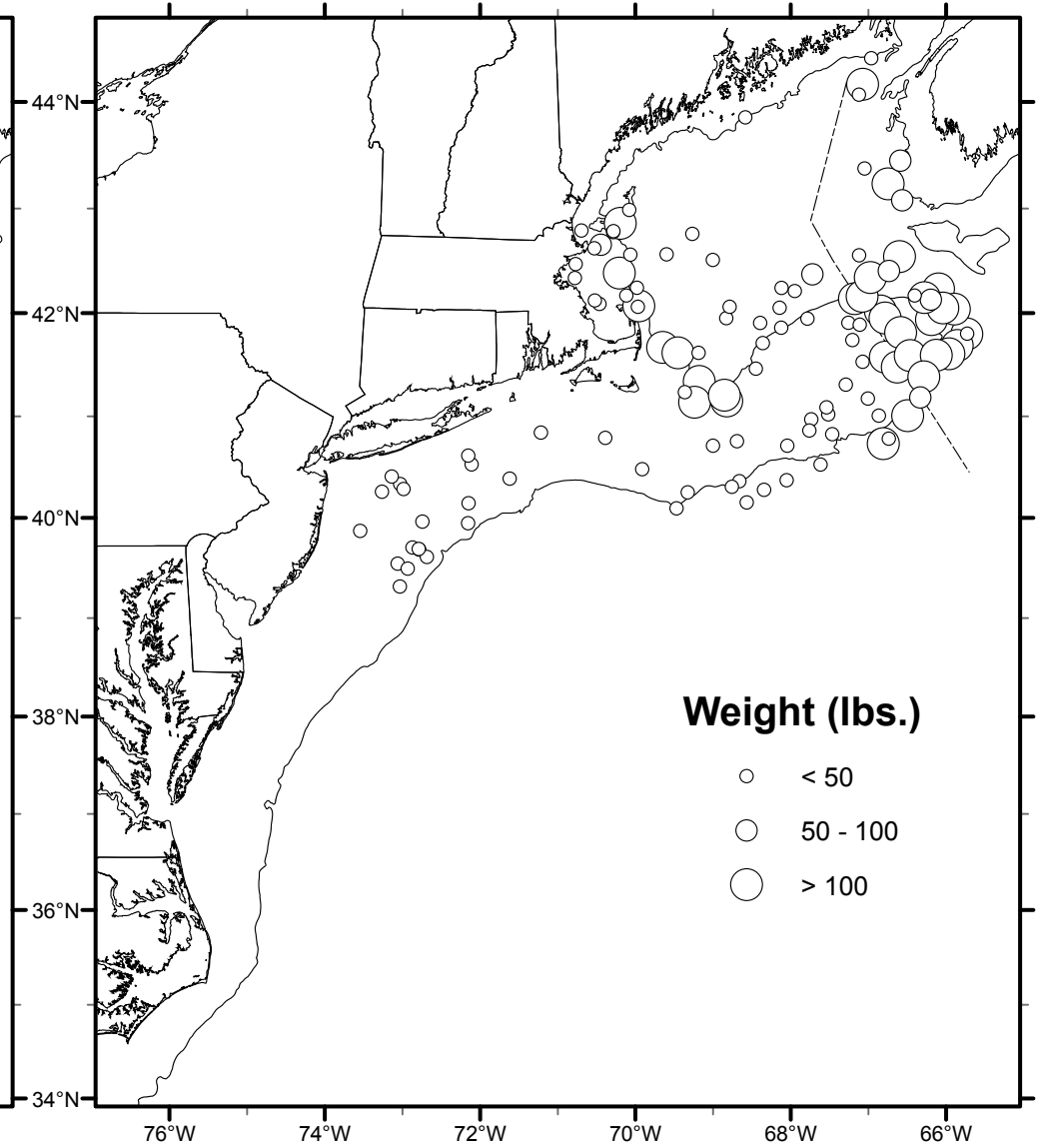
^[2] Excluded from stock assessment due to unacceptable tow evaluation code.

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ATLANTIC COD

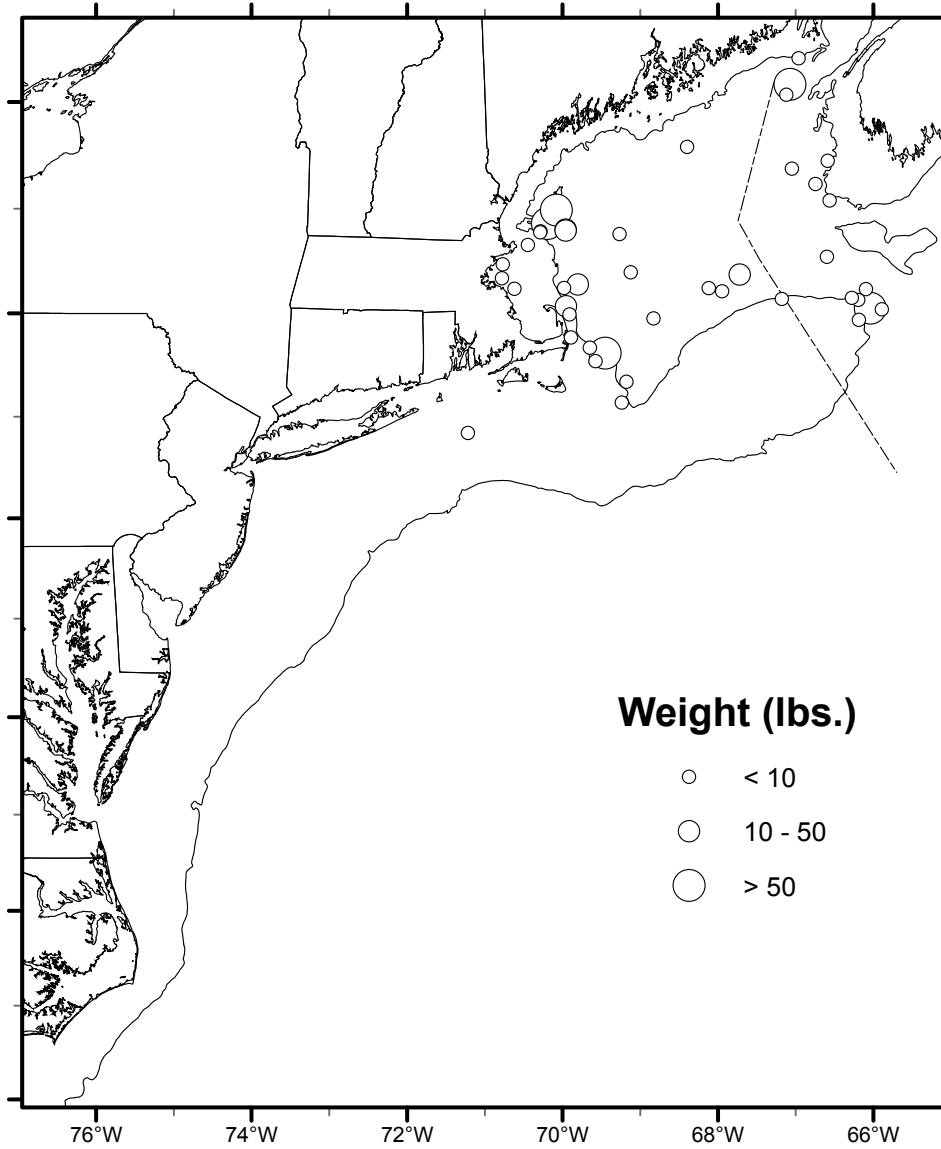


HADDOCK

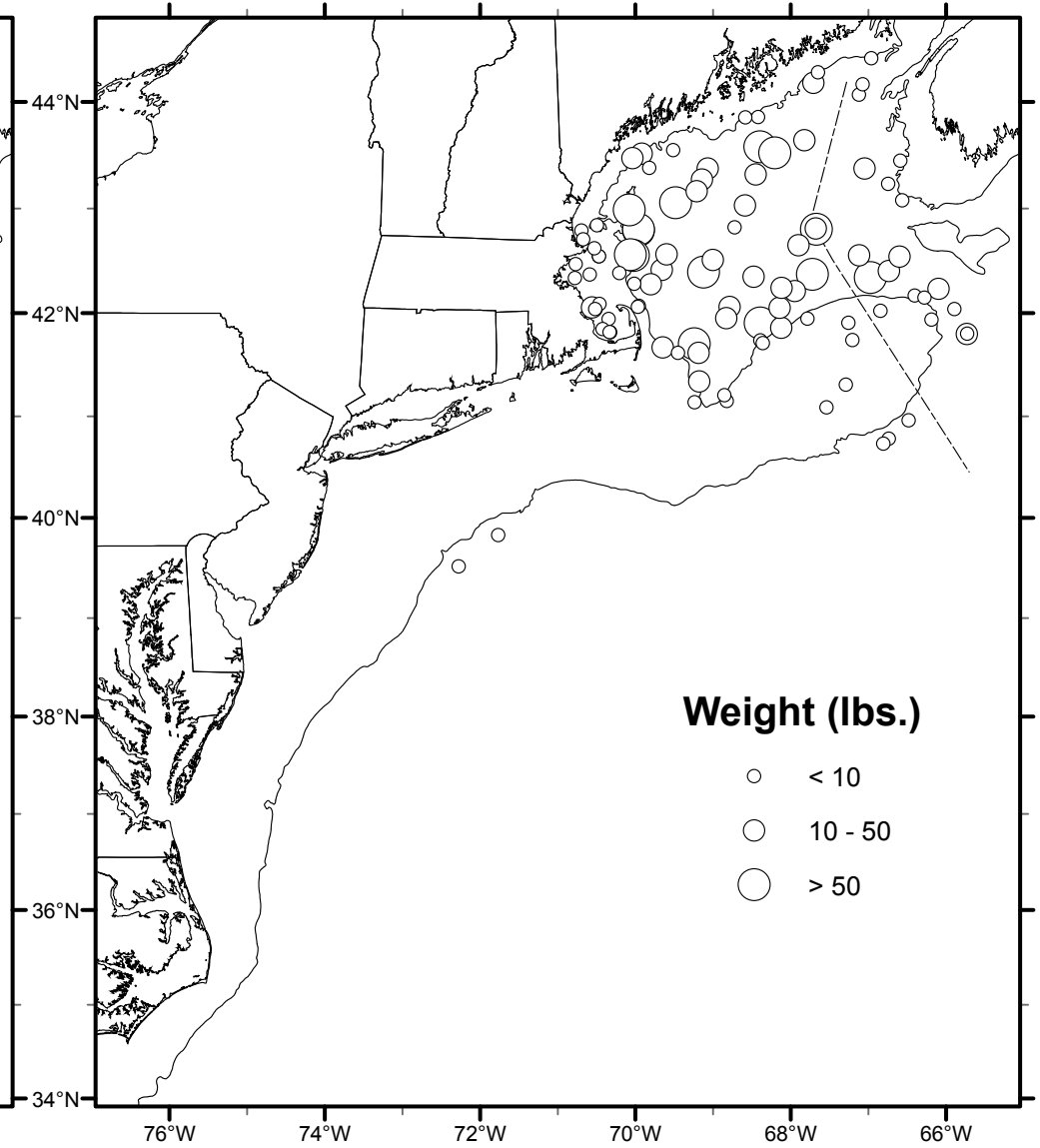


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POLLOCK

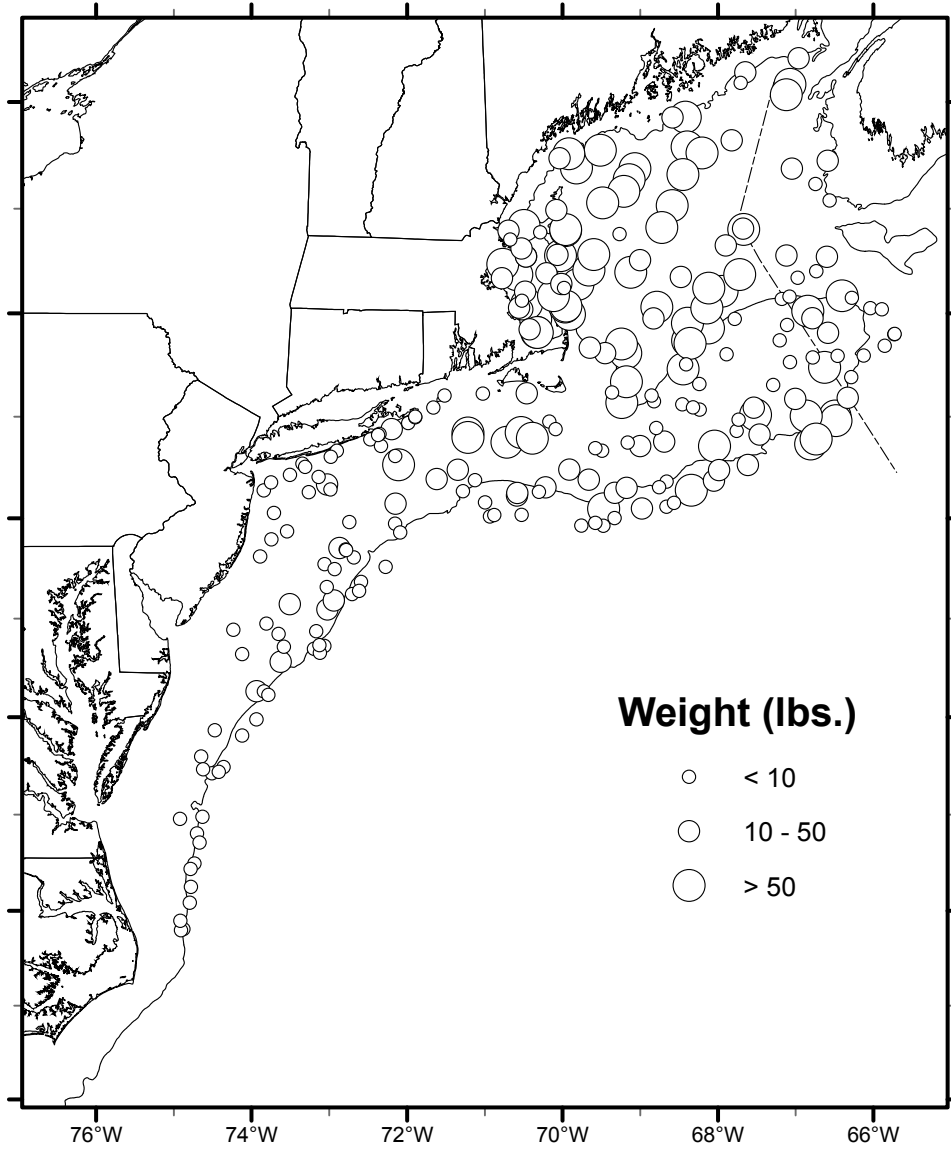


WHITE HAKE

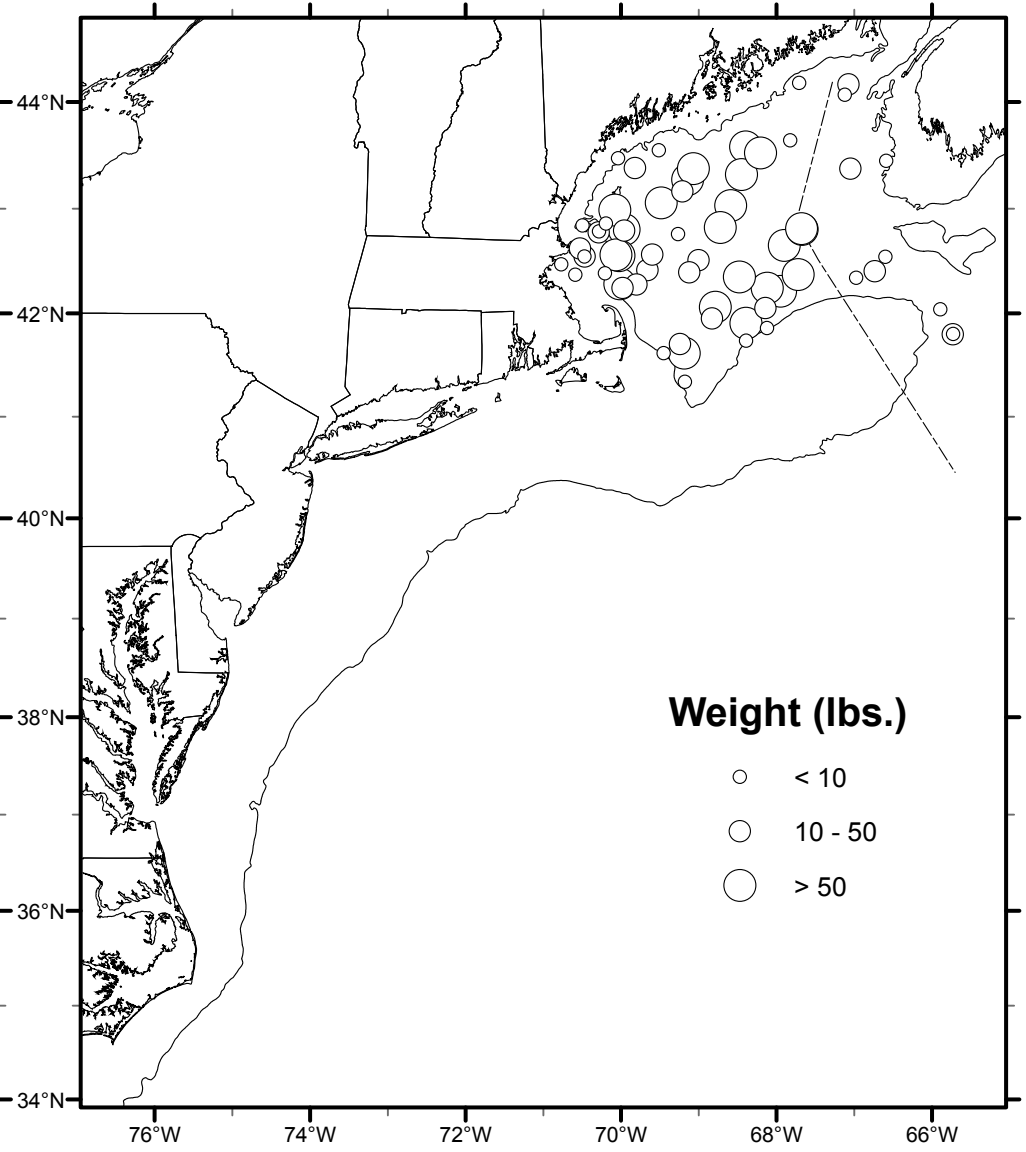


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SILVER HAKE

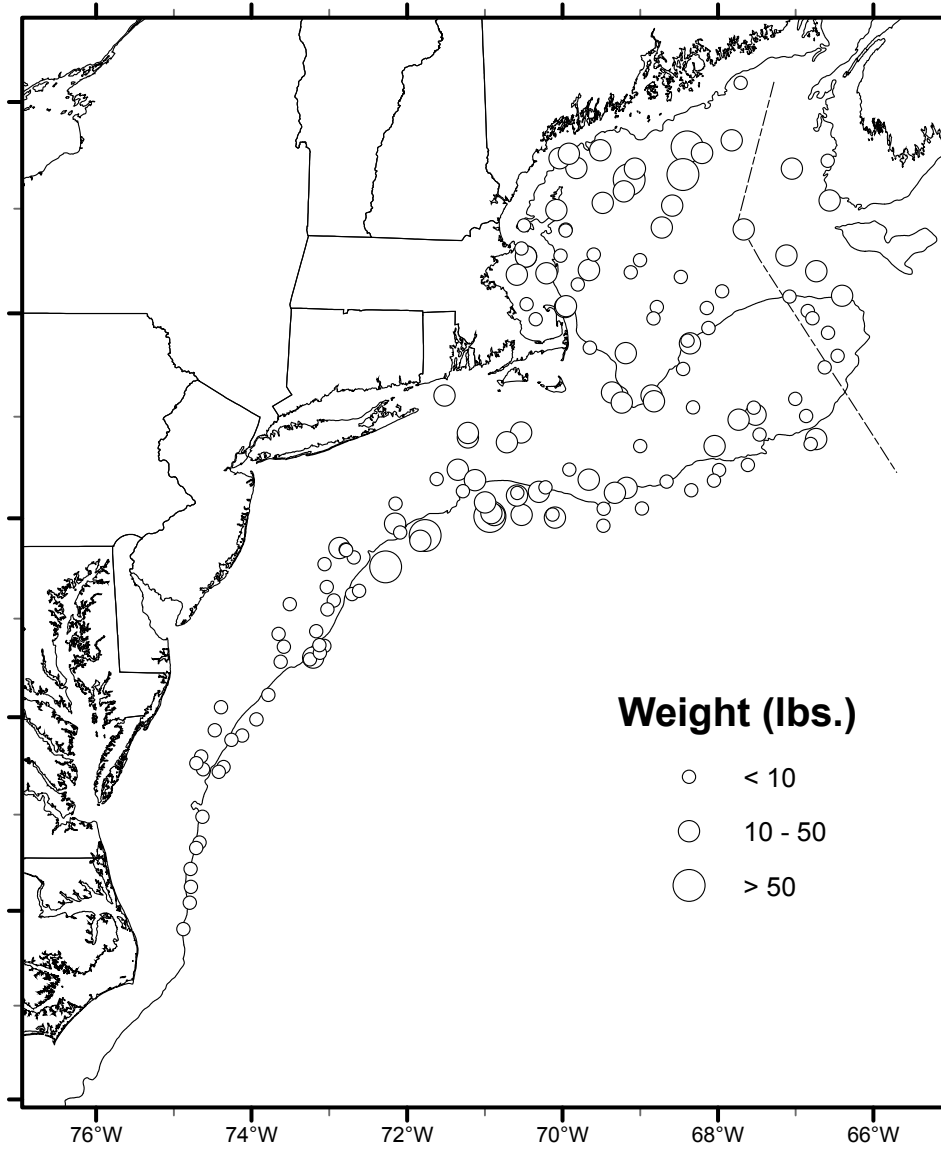


ACADIAN REDFISH

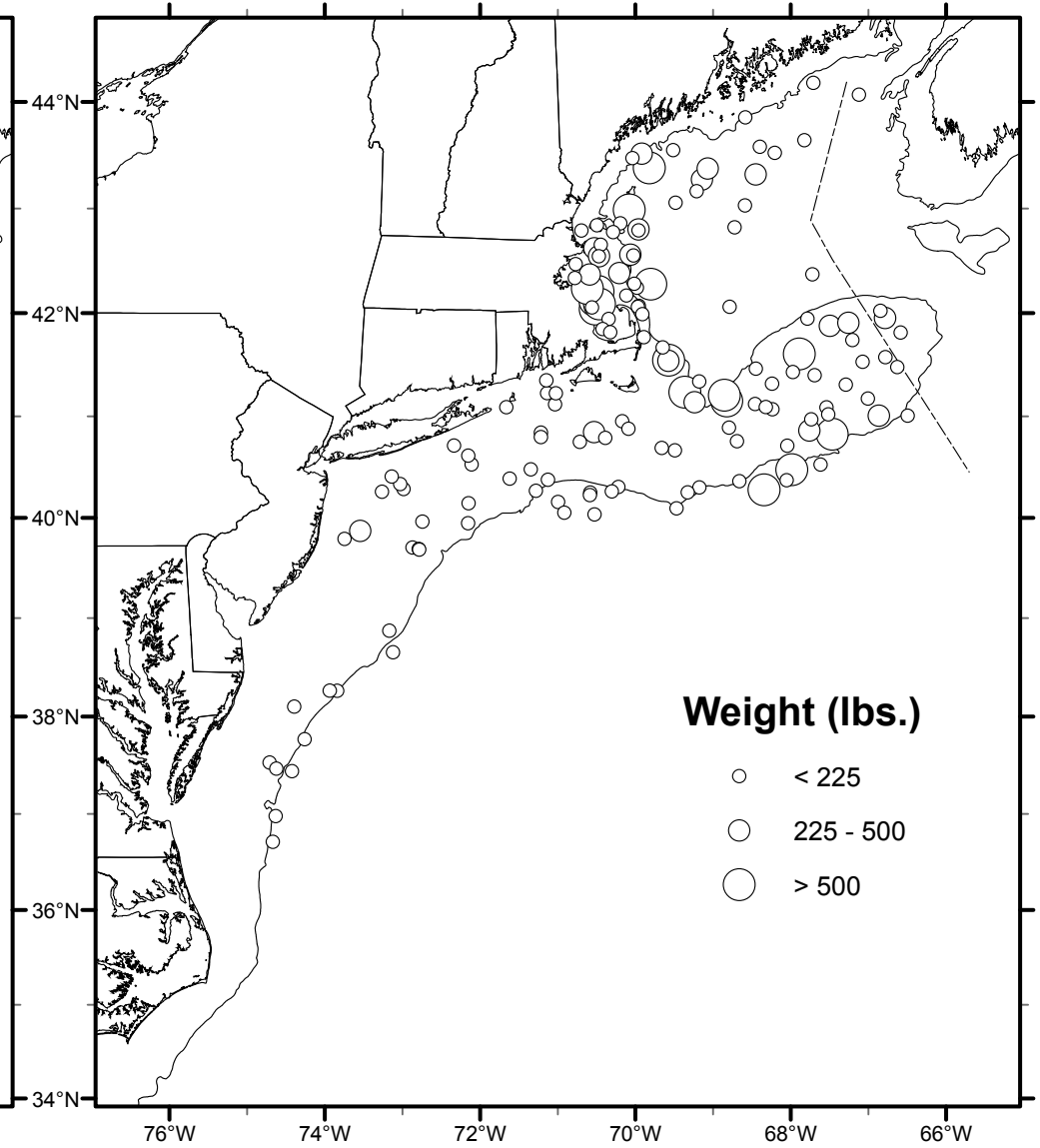


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GOOSEFISH

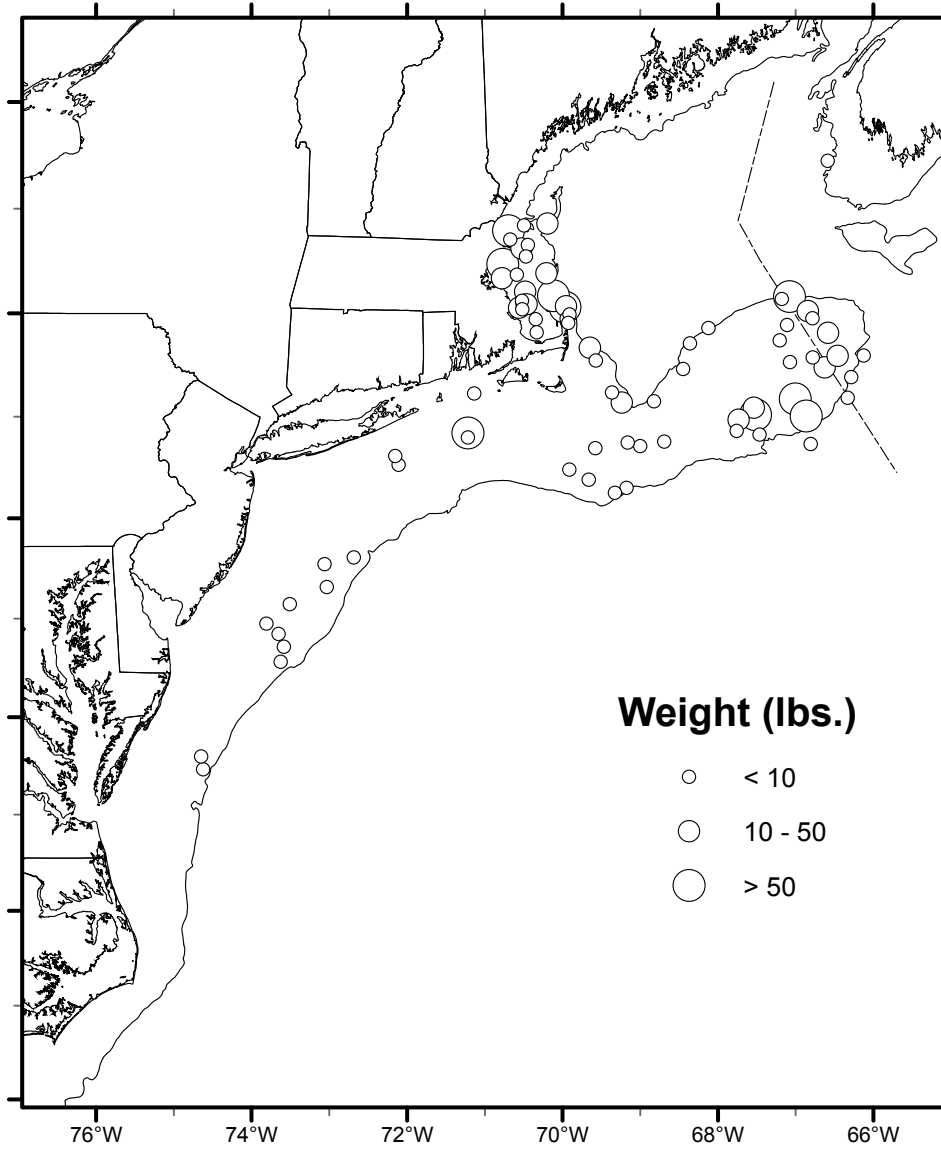


SPINY DOGFISH

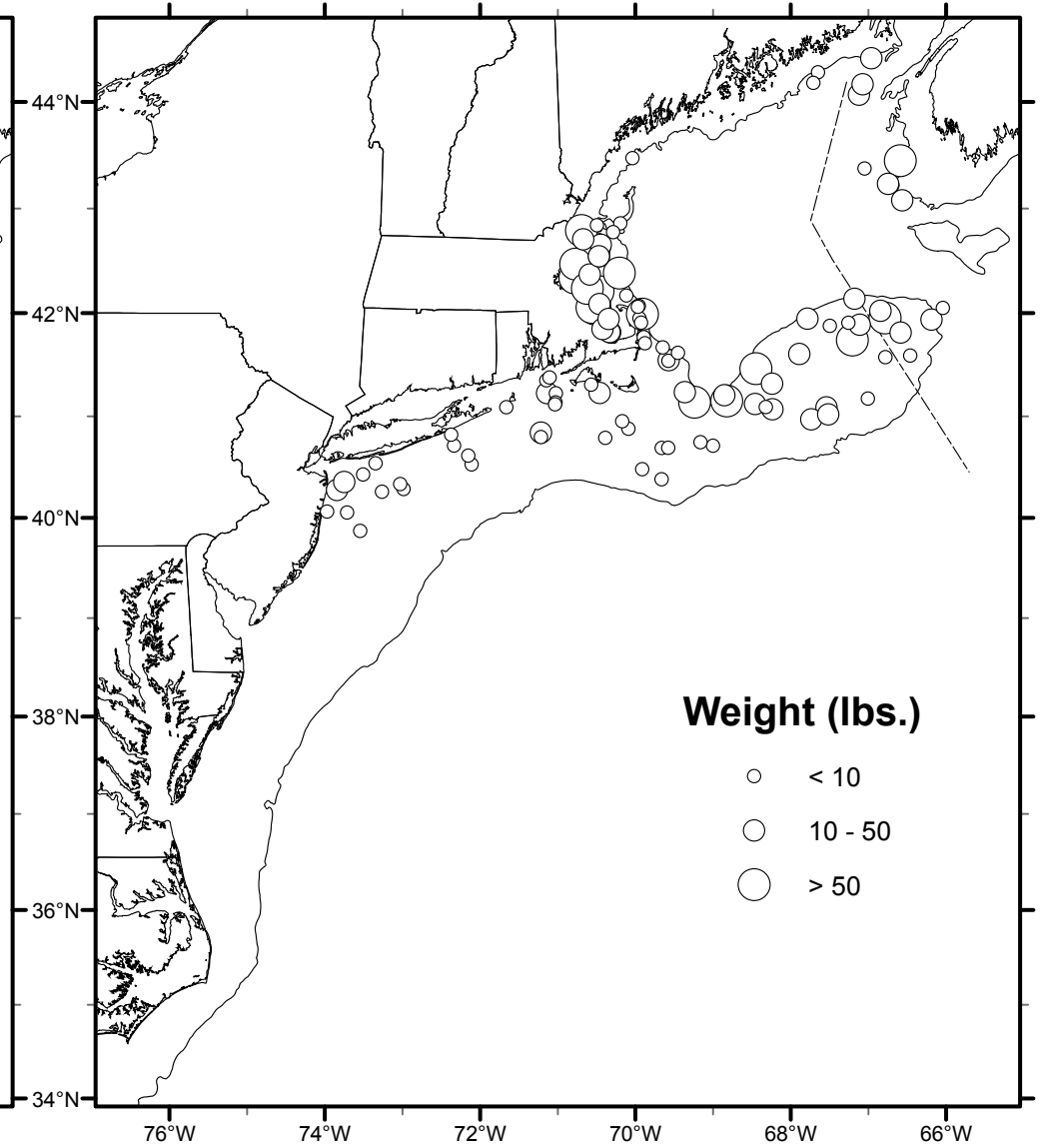


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YELLOWTAIL FLOUNDER

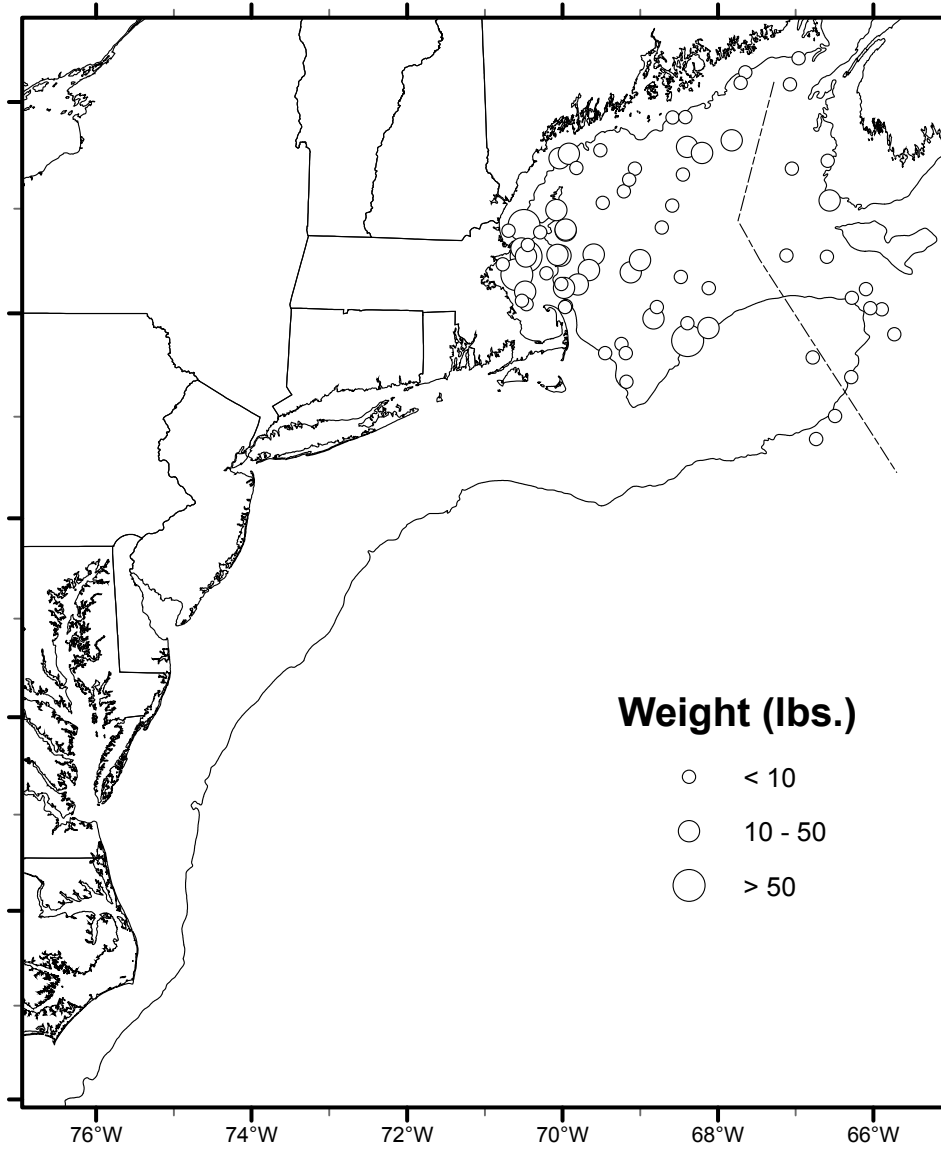


WINTER FLOUNDER

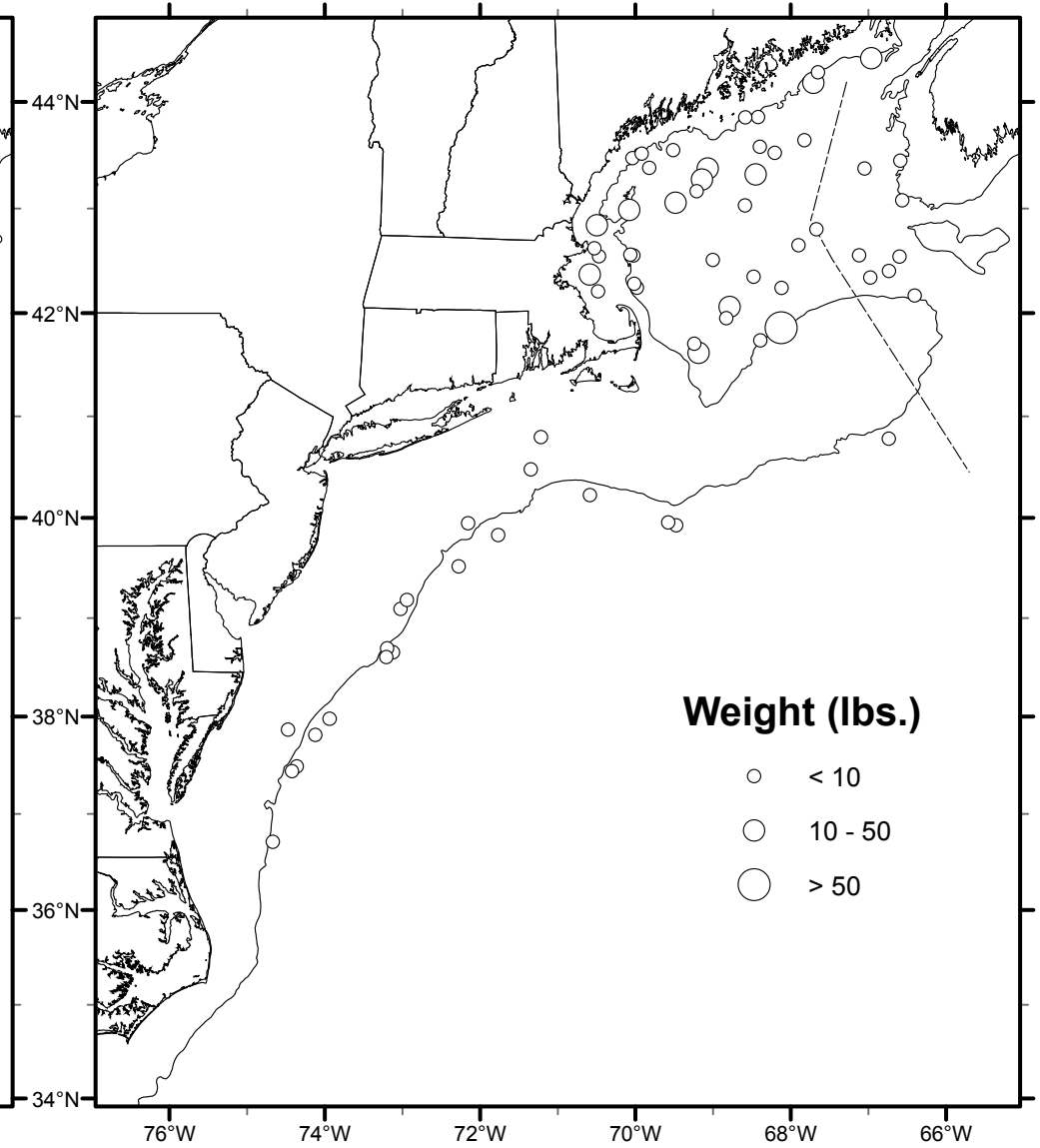


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AMERICAN PLAICE

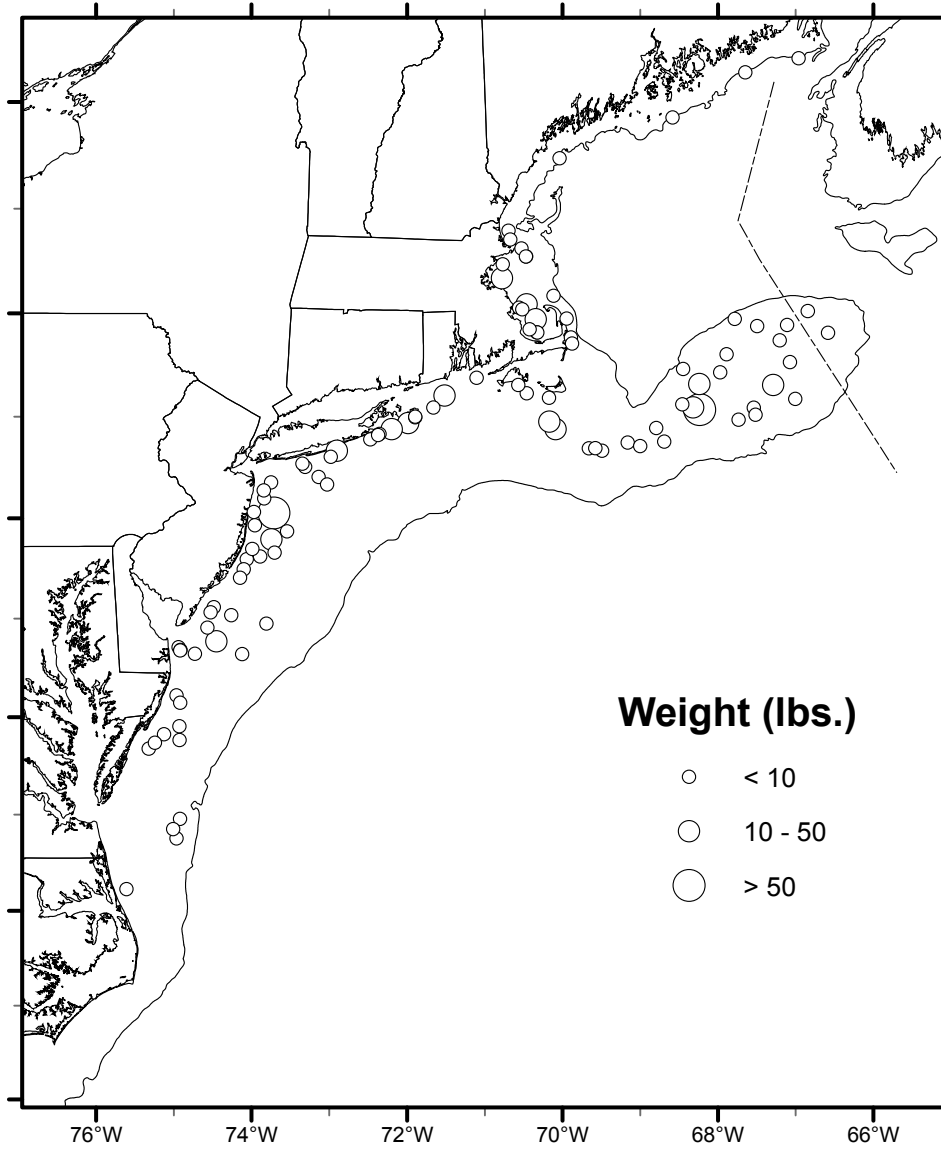


WITCH FLOUNDER

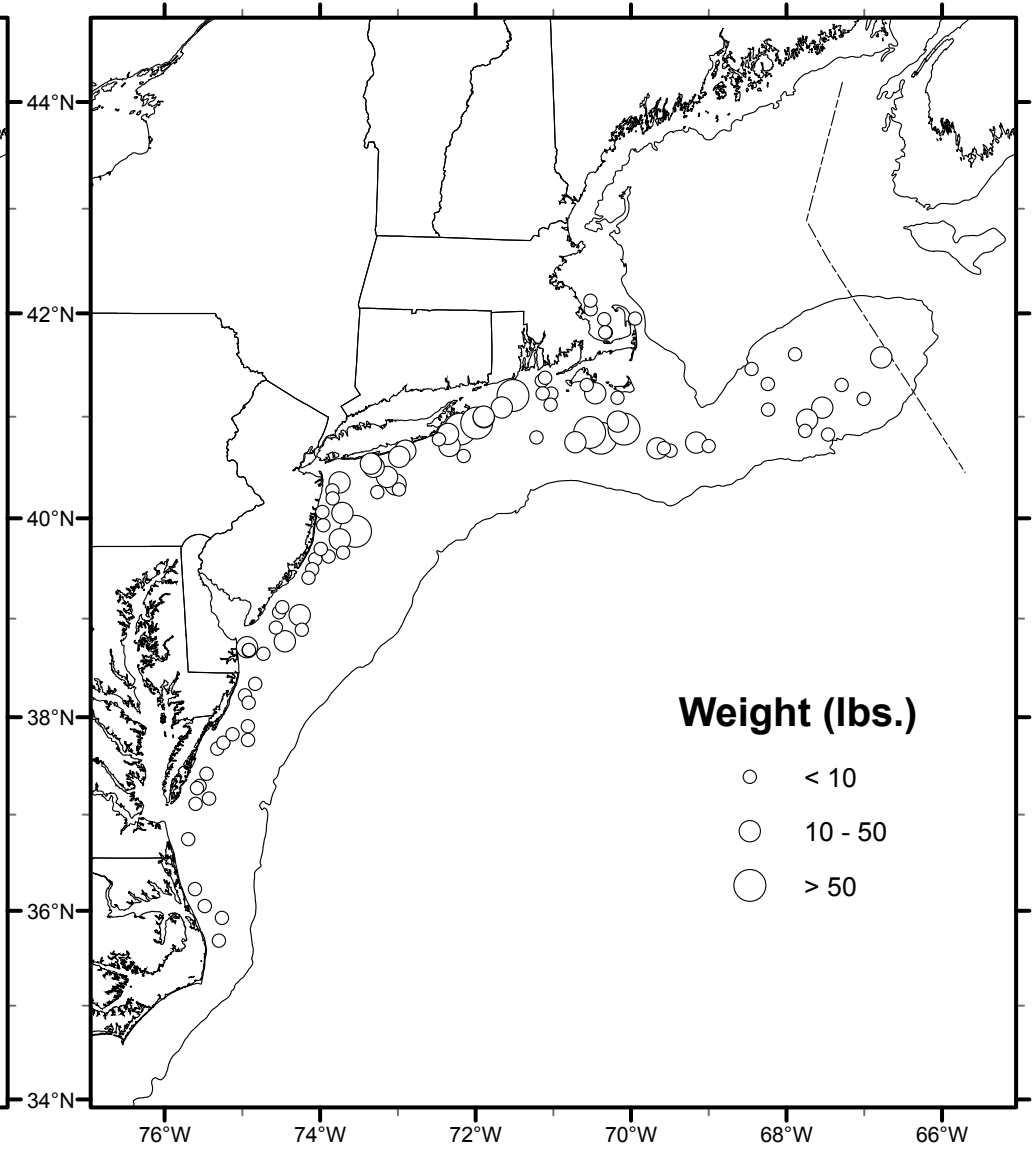


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WINDOWPANE

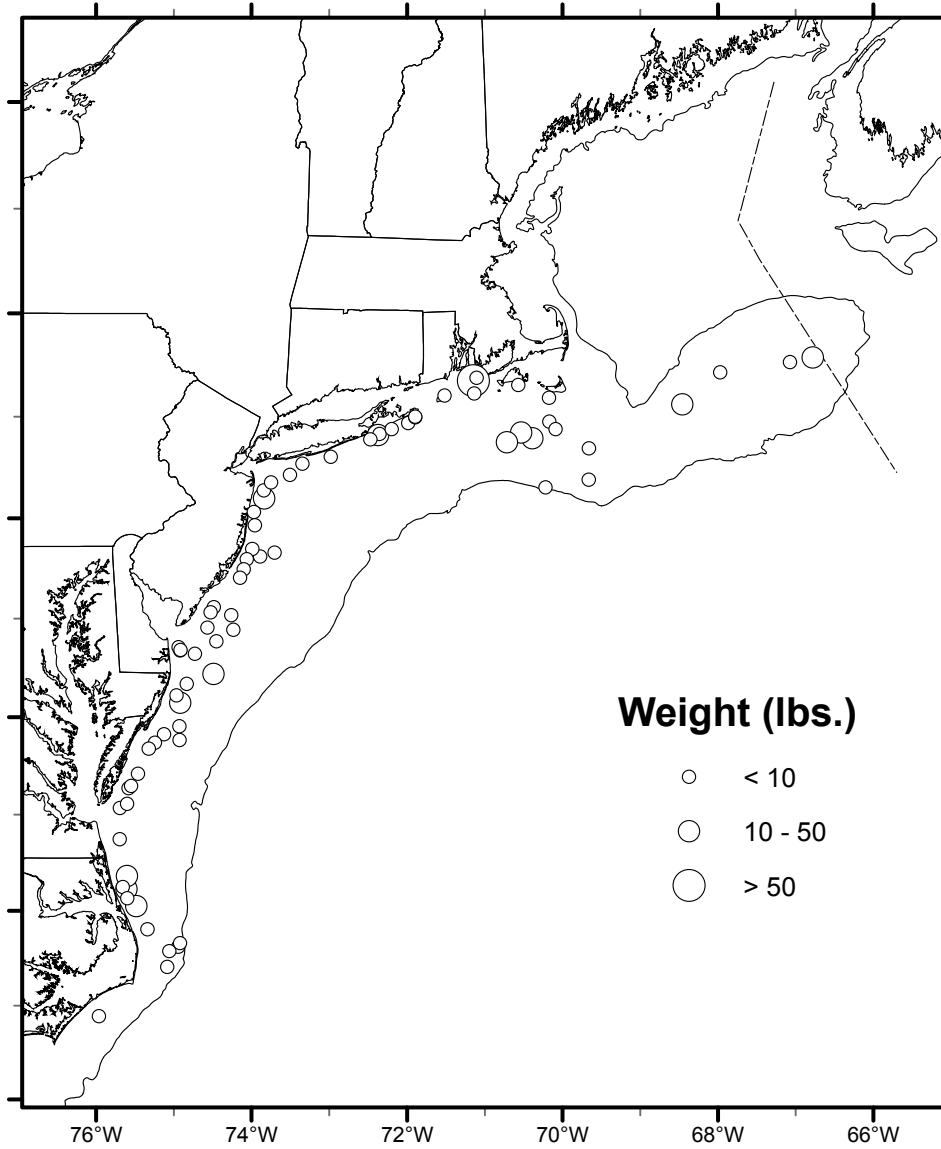


SUMMER FLOUNDER

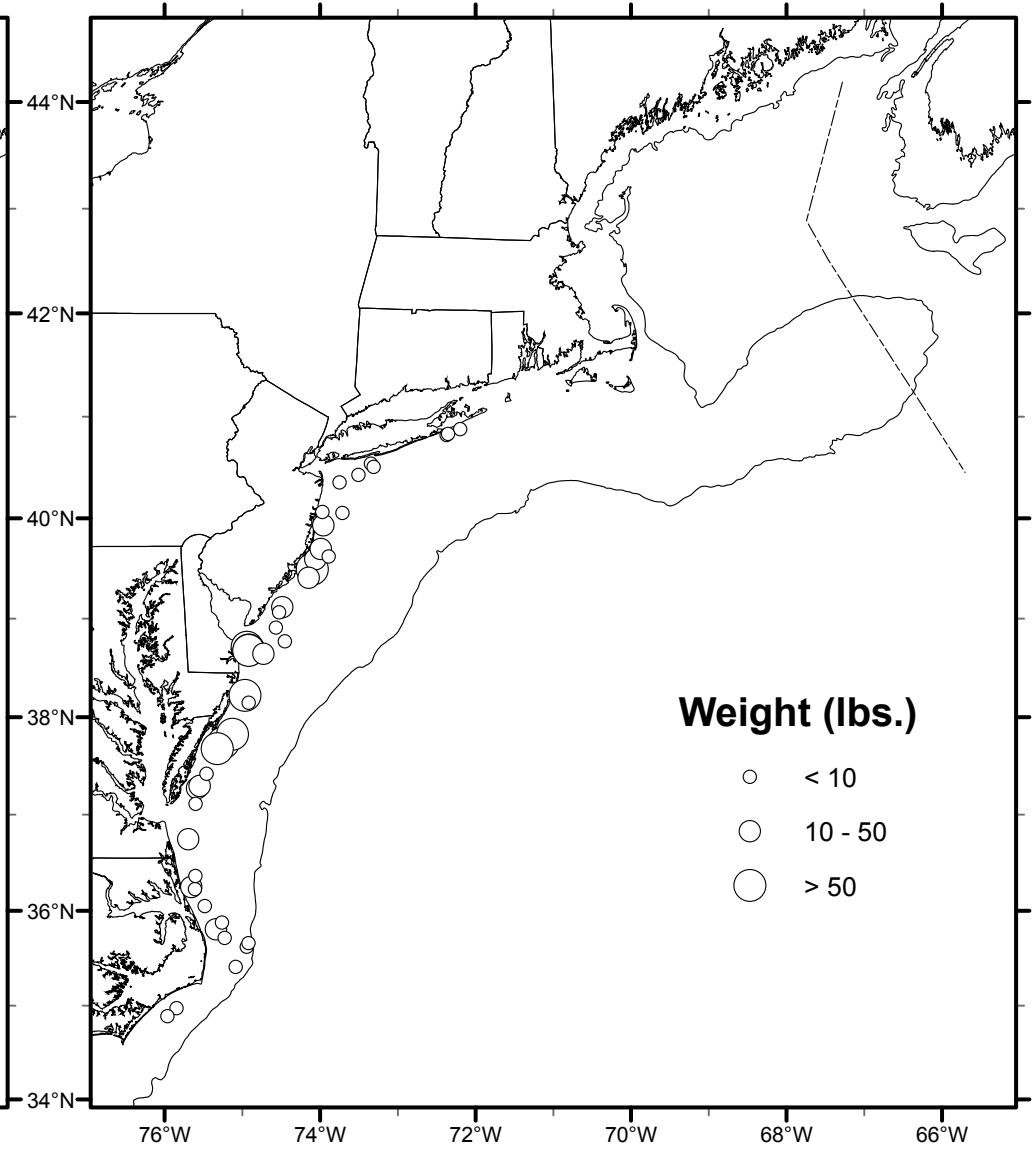


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BLUEFISH

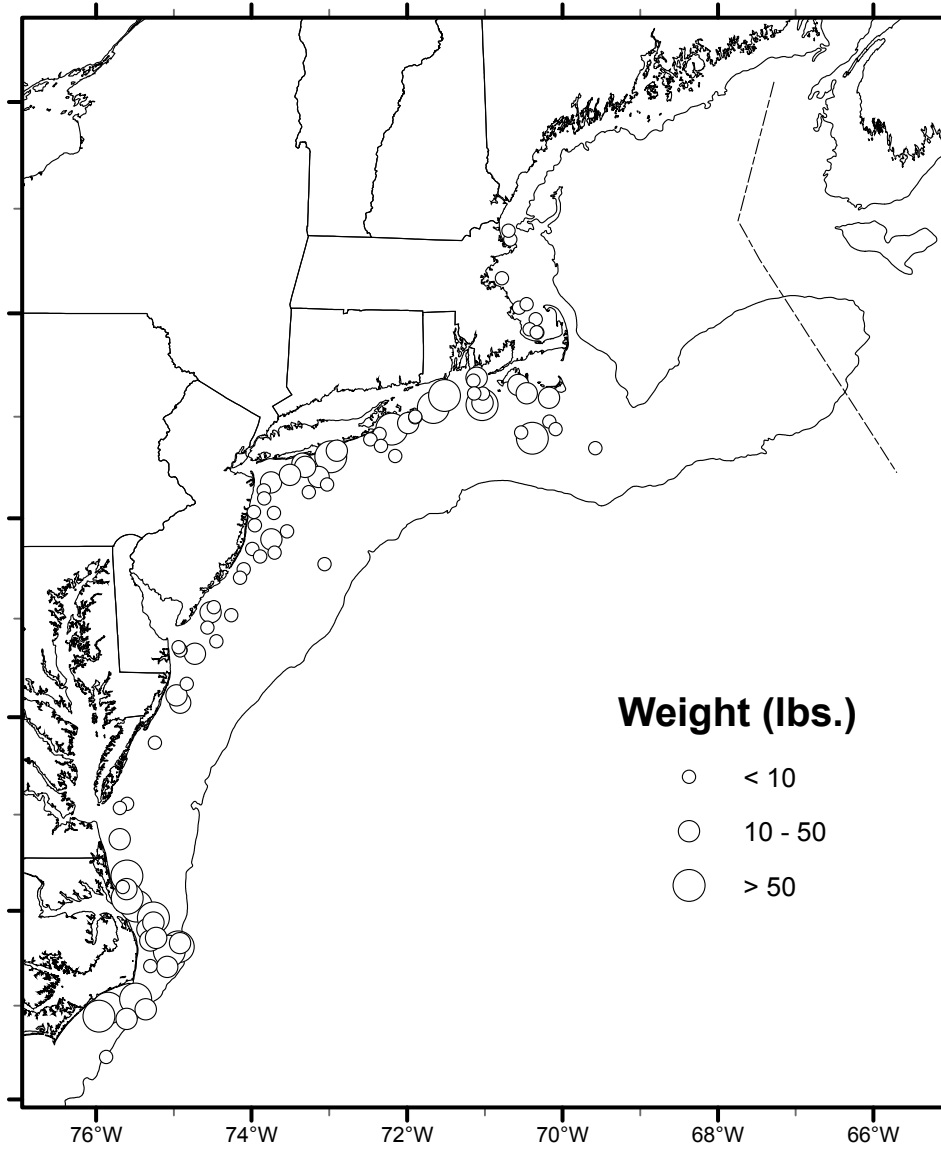


WEAKFISH

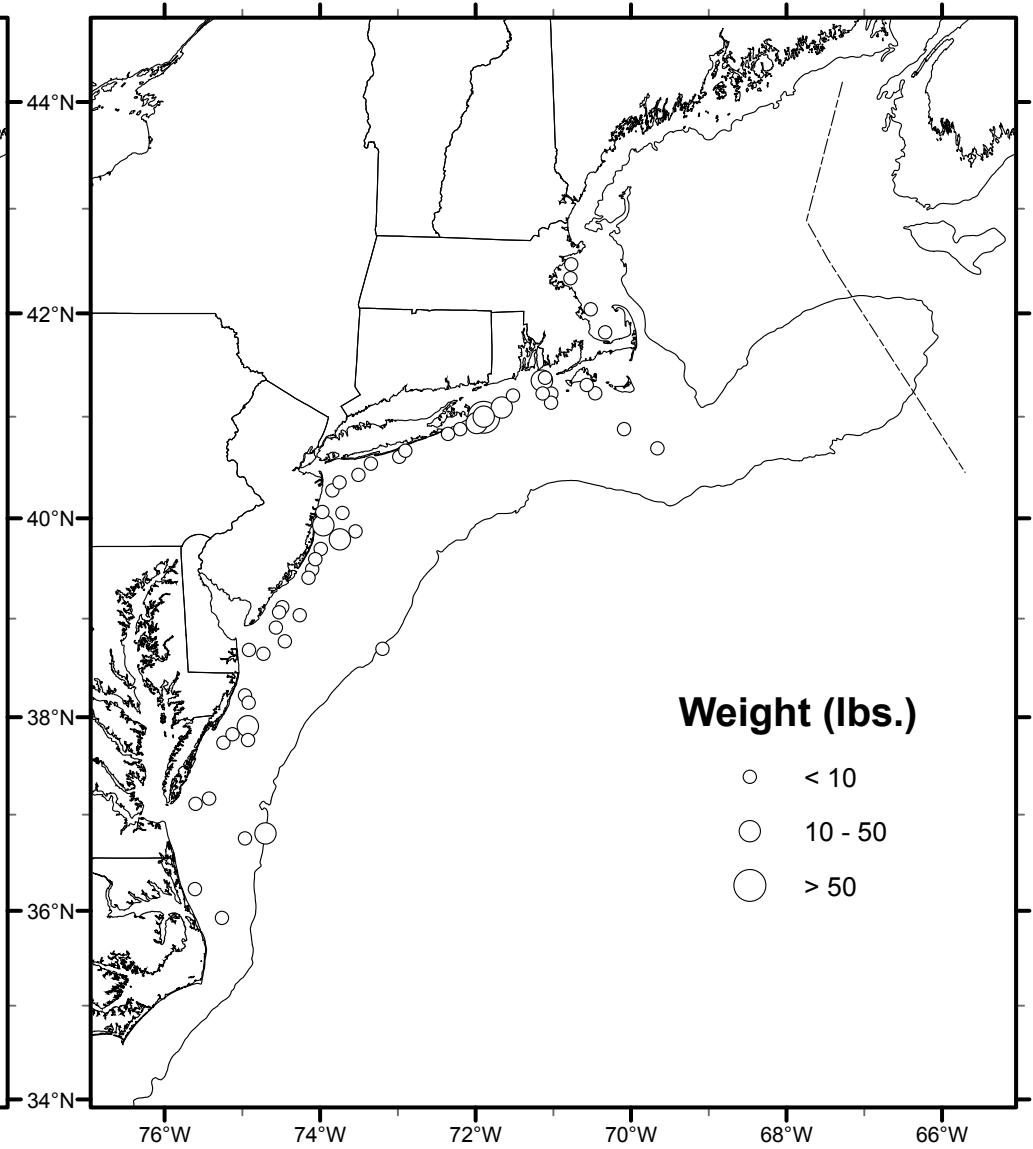


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SCUP

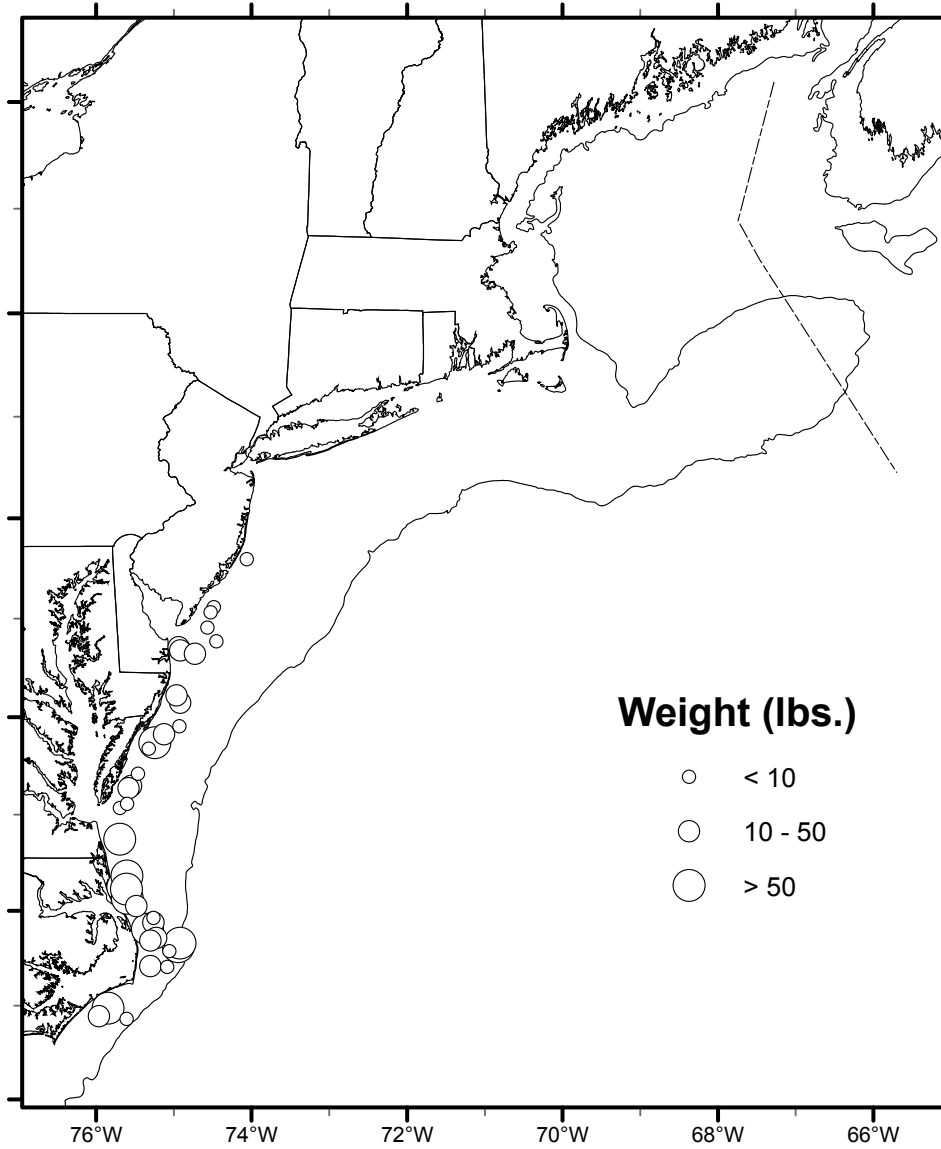


BLACK SEA BASS

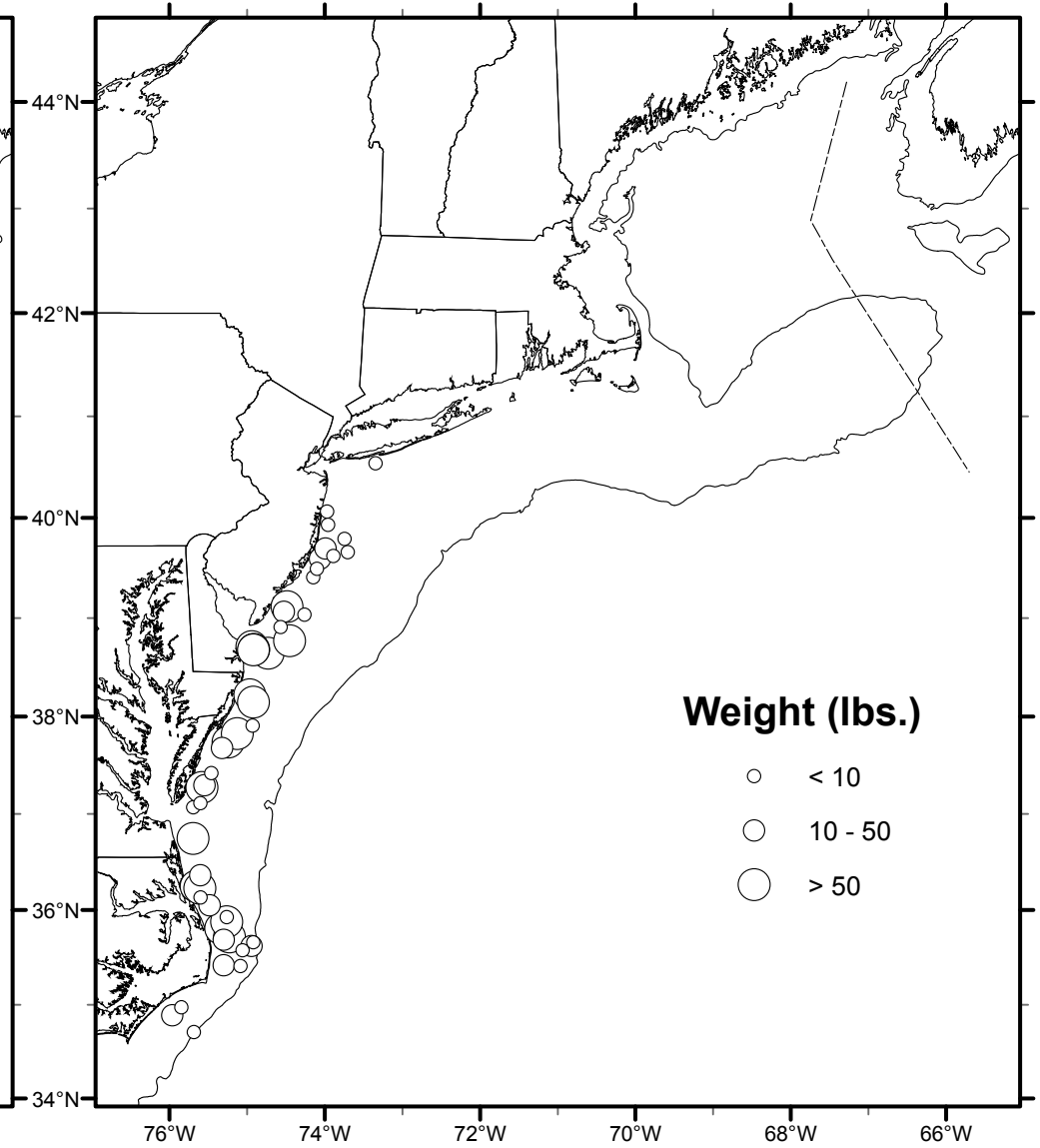


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SPOT

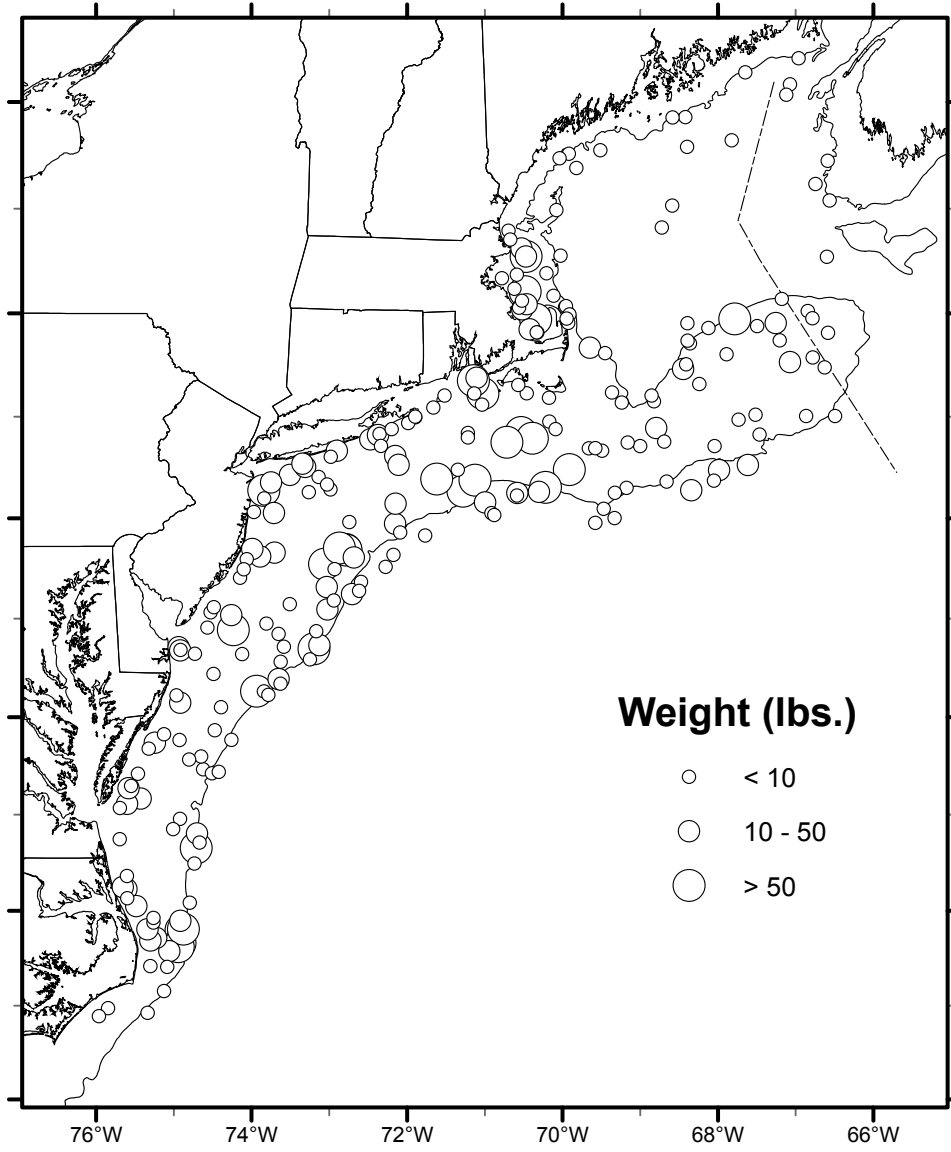


ATLANTIC CROAKER

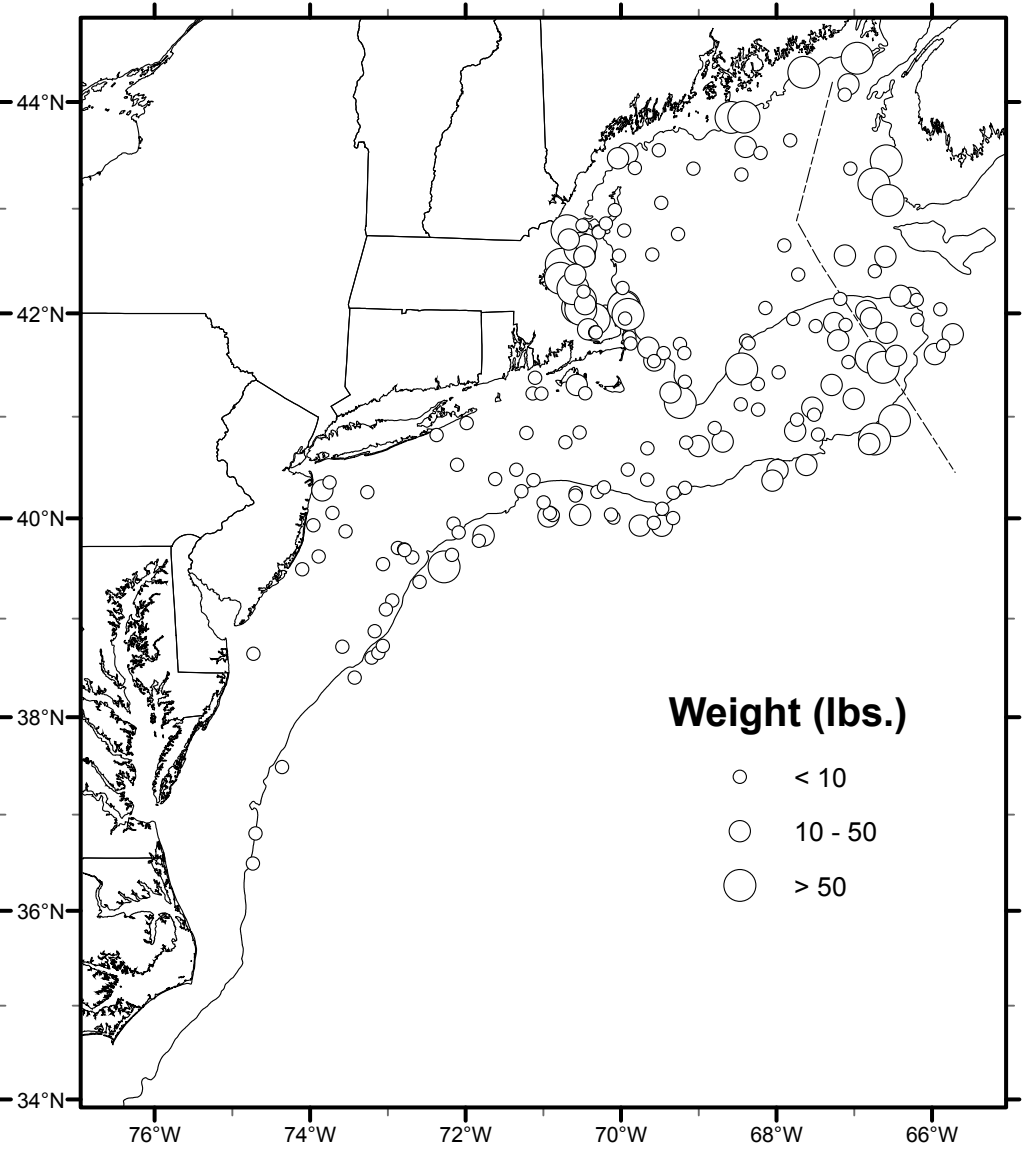


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BUTTERFISH

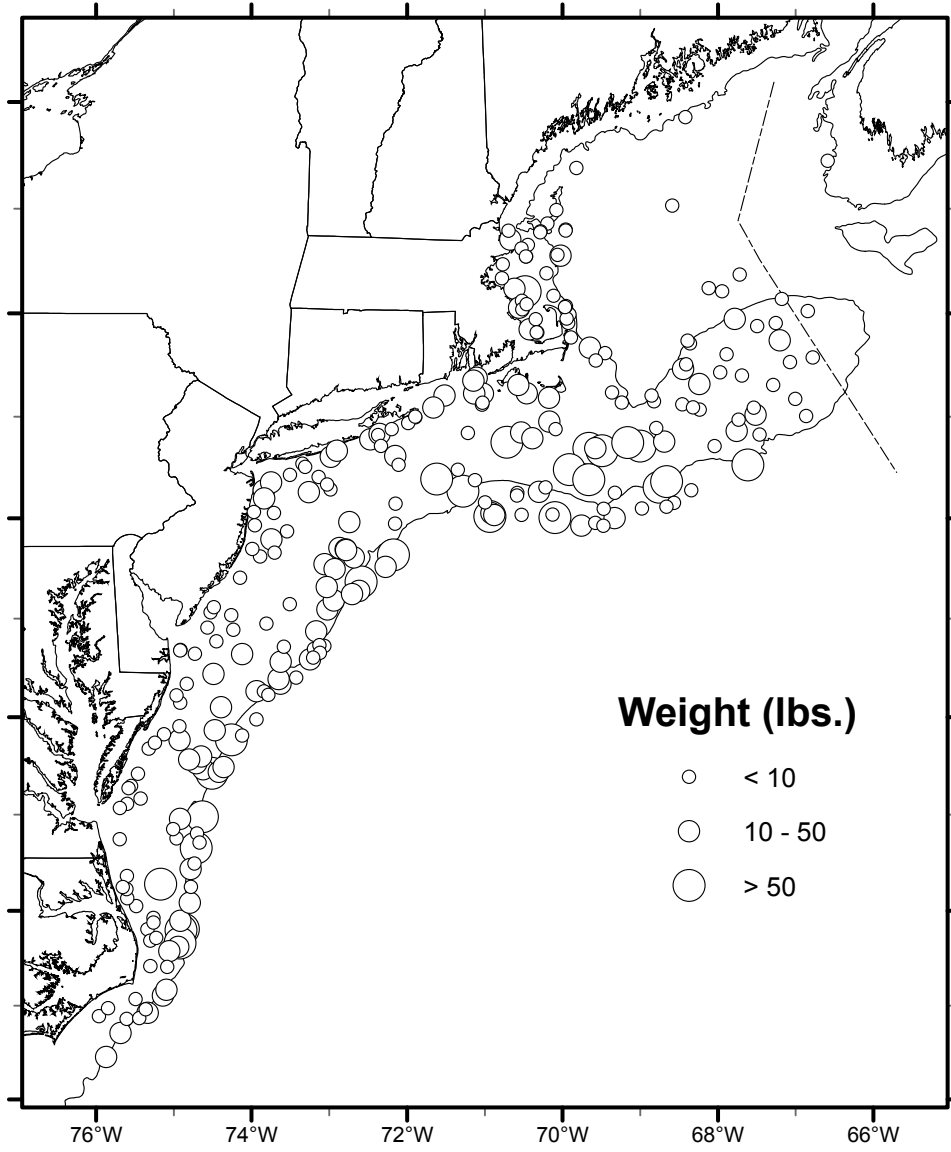


AMERICAN LOBSTER



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LOLIGO



ILLEX

