

# Resource Survey Report

## Bottom Trawl Survey

Cape Hatteras - Gulf of Maine  
September 7 - November 1, 2003  
*FRV Albatross IV*



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

*40th Anniversary*  
*NEFSC Bottom Trawl Survey*



*FRV Albatross IV, launched April 1962*



*FRV Delaware II, launched December 1967*

# RESOURCE SURVEY REPORT

## Preliminary Catch Summary

National Marine Fisheries Service  
Northeast Fisheries Science Center

**Fall Bottom Trawl Survey**  
Cape Hatteras - Gulf of Maine  
September 7 - November 1, 2003

This report consists of field notes, station and catch summaries and a series of geographical plots of commercial and recreational important species caught during the Northeast Fisheries Science Center's 2003 fall bottom trawl survey aboard the *FRV ALBATROSS IV*. Tows were made with a #36 Yankee otter trawl rigged with rollers, 5 fathom legs and 1000 pound polyvalent doors. The cod end and upper belly were lined with 1/2-inch mesh to retain young-of-the-year fish.

Because of the 30-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 Russell Brown (508-495-2380) or Linda Despres (508-495-2346), National Marine Fisheries Service, Northeast Fisheries Science Center, 166 Water Street, Woods Hole, MA 02543. To view this report on the Ecosystems Surveys Branch website, go to: [http://www.nefsc.noaa.gov/esb/Resource\\_Survey\\_Reports.htm](http://www.nefsc.noaa.gov/esb/Resource_Survey_Reports.htm)

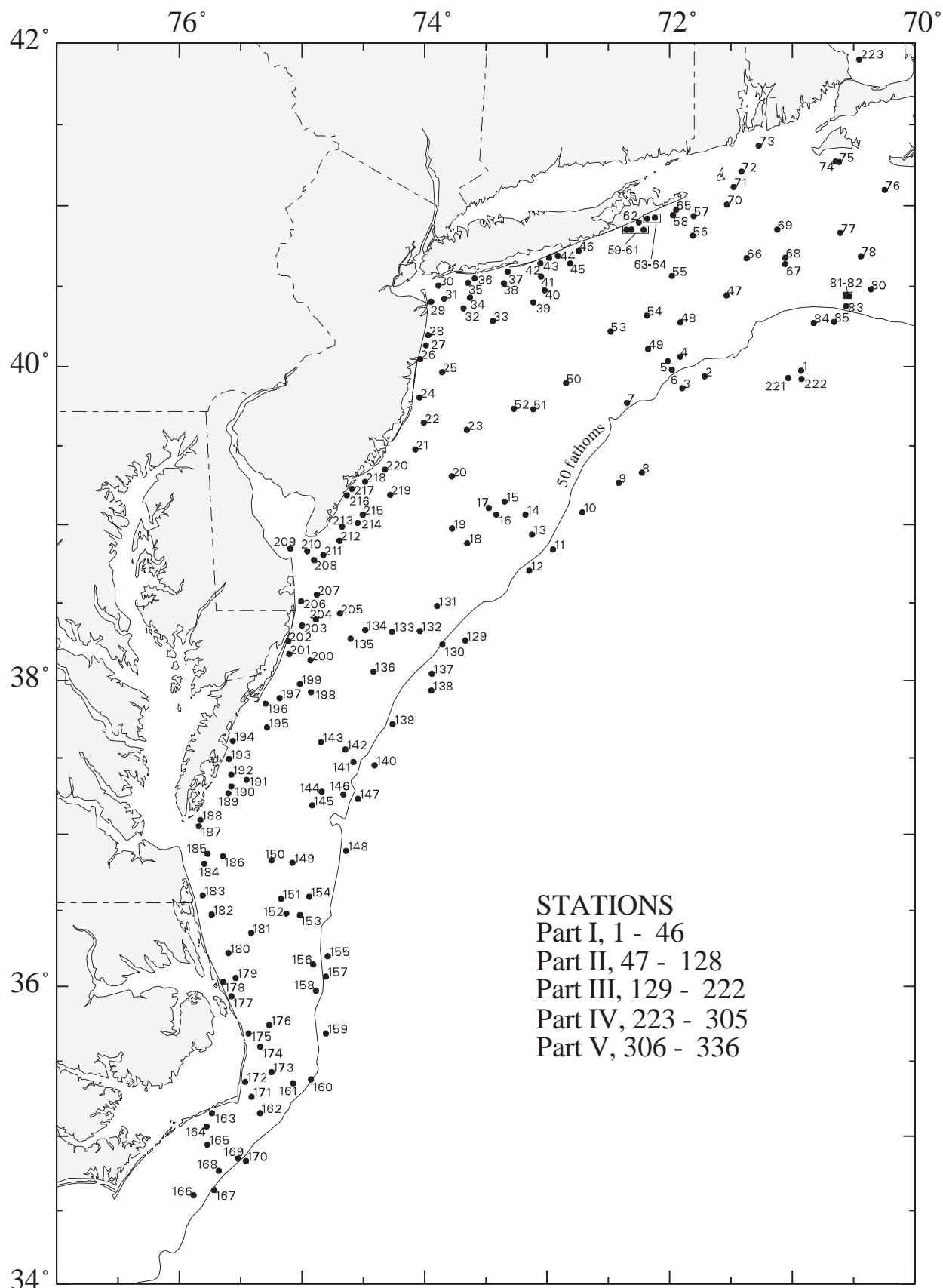


Figure 1. Trawl hauls made from R/V ALBATROSS IV (03 - 05), during National Marine Fisheries Service, Northeast Fisheries Science Center fall bottom trawl survey, September 7 - November 1, 2003.

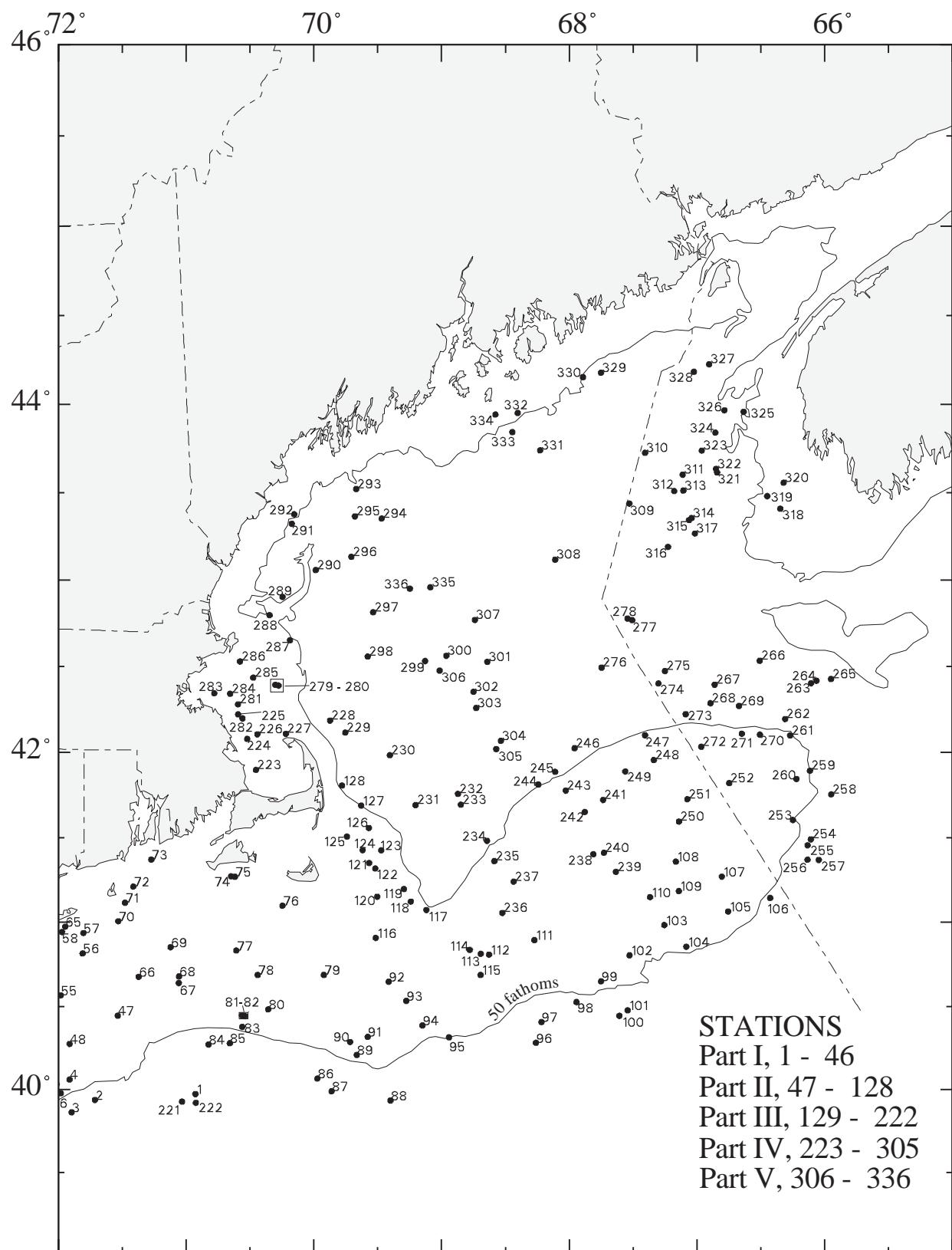


Figure 2. Trawl hauls made from R/V ALBATROSS IV (03 - 05), during National Marine Fisheries Service, Northeast Fisheries Science Center fall bottom trawl survey, September 7 - November 1, 2003  
Map 2 of 2

## Field Notes

In an effort to share some of the natural history observations made during the fall 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 the *FRV ALBATROSS IV*.

### Rare Boarfish Capture:

An exciting capture this year occurred off of North Carolina. Normally, the main representative of the boarfishes, the family Caproidae, on our surveys is the deepbody boarfish, *Antigonia capros* (Lowe, 1843). These are bright red, spiny skinned fishes that have the unusual feature of a wider body depth than length. Visually, they are quite striking with the combination of beautiful red color and eye-catching shape. In our catches, they vary in size from 5 to 20 cm, and are usually caught in depths between 50 and 100 fathoms. Another, more diminutive member of the family on our Atlantic coast is the shortspine boarfish, *Antigonia combatia*, described relatively recently (in 1958) by Berry and Rathjen. This fish is very similar in appearance to the deepbody boarfish, but the body depth does not exceed the length. This fall a shortspine boarfish was captured on station 155. This represents the first capture in over 40 years of trawling on the northeast coast of the U.S. The specimen was 6 cm total length. Shortspine boarfish can be distinguished from deepbody boarfish by the number of spines in the dorsal fin, the shortspine having between 9-10 and the deepbody having between 7-9 spines. What happens when you get a fish with 9 spines is the question that usually comes to mind and in this case that is answered by counting the number of dorsal soft rays following the spines. The shortspine will have between 26-30 soft rays in the dorsal fin and the deepbody will have 31-37. In general the shortspine boarfish is a smaller fish than its cousin, with a maximum length of 118 mm SL reported in Fishes of the Gulf of Mexico (McEachern and Fechhelm, 1998). For this reason a closer look at the smaller size ranges of *Antigonia capros* in any trawl catches off our northeast coast is warranted. It might just pay off someday with a rare capture of a fascinating fish! Don't hold your breath waiting to see one though - this rare fish took us 40 years to capture.

### Fish Outside their Normal Range:

Other occurrences of fish that appeared to be out of their normal distribution range for this time of year were the capture of eight bigeye, *Priacanthus arenatus* (Cuvier, 1829), four mackerel scad, *Decapterus macerellus*, (Cuvier, 1833) and a 3 cm bulleye, *Cookeolus boops* (Schneider, 1801). These fish were caught on stations 239-242 which were clustered in the Cultivator Shoals/Little Georges area and had bottom temperatures in the 60 degree range as compared to the surrounding 40-50 degree bottom temperatures on the rest of the Bank. This is the first time in our 40 year time series that a bulleye has been caught on Georges even though its stated range is from Nova Scotia to Buenos Aires, Argentina (Atlantic Fishes of Canada, Scott and Scott, 1988).

Haddock Recruitment:

The big news of the fall season was the extremely high abundance of young haddock, possibly indicating an extremely large 2003 year class. The NEFSC autumn bottom trawl survey captured an average of 153 age zero haddock per tow on Georges Bank. That's the highest ever recorded in the 41 years of the survey's operations. The large catch rate for the 2003 year class was nearly twice as high as the previous record in 1963, and about 30 times the average since 1963. The 1963 year class eventually became the largest group of one-year-old haddock ever observed - 486 million fish. Further survey work to be conducted by the Northeast Fisheries Science Center and the Canadian Department of Fisheries and Oceans in 2004 will allow us to refine the estimated size of this year class.

Research also indicates that the haddock stock may have passed an important milestone. Historically, when the haddock spawning biomass is above 75,000 metric tons, the odds of an above-average year-class are 30 times greater than when the spawning biomass is below that level. There are 120,000 metric tons of spawners out there now, the most since 1967, and about ten times more than there was in 1993, before groundfish rebuilding began in earnest.

The stock may also be benefiting from optimum conditions for good survival of eggs and larvae. Wind driven currents during the spring of 2003 appear to have been quite different from other years, and may have resulted in increased retention of eggs on Georges Bank. Thus, favorable environmental conditions may have also contributed to a high survival rate from spawning to the early juvenile stage for the 2003 year class.

One of the key sources of information produced by research vessel surveys are estimates of incoming year classes of fish in advance of their recruitment to the fishery. In this case, indications of the successful recruitment of haddock represent outstanding news for fishers and fishery managers.

John Galbraith  
Chief Scientist  
Survey Parts I,II, & III  
508-495-2392  
[John.Galbraith@noaa.gov](mailto:John.Galbraith@noaa.gov)

Linda Despres  
Chief Scientist  
Survey Part IV  
508-495-2346  
[Linda.Despres@noaa.gov](mailto:Linda.Despres@noaa.gov)

Victor Nordahl  
Chief Scientist  
Survey Part V  
508-495-2334  
[Victor.Nordahl@noaa.gov](mailto:Victor.Nordahl@noaa.gov)

NMFS-NEFSC FALL BOTTOM TRAWL SURVEY  
2003 STATION INFORMATION

Station	Date	Time	Lat	Lon	Loran			Bottom Depth (FM)	Temp (F)
					TD's	Course	-----		
0001	SEP-07	1827	3958.4	7055.6	X25579.4	Y43301.2	264	191.7	44.4
0002	SEP-07	2256	3956.3	7142.9	X25901.5	Y43311.2	082	62.3	54.1
0003	SEP-08	0115	3951.8	7153.8	X25981.6	Y43279.8	223	74.1	53.8
0004	SEP-08	0345	4003.7	7154.8	X25985.2	Y43380.8	240	42.7	53.0
0005	SEP-08	0510	4001.9	7200.9	X26030.8	Y43370.4	145	44.8	52.0
0006	SEP-08	0630	3958.7	7158.9	X26016.4	Y43341.5	226	48.1	53.3
0007	SEP-08	0930	3946.2	7220.9	X26175.6	Y43244.6	165	48.1	52.9
0008	SEP-08	1330	3919.8	7213.6	X26126.6	Y43006.1	197	179.6	46.0
0009	SEP-08	1541	3915.9	7224.9	X26200.9	Y42971.7	230	97.3	53.8
0010	SEP-08	1822	3904.7	7242.7	X26313.9	Y42866.7	203	141.6	48.8
0011	SEP-08	2102	3850.5	7257.1	X26398.4	Y42728.1	222	100.6	54.3
0012	SEP-08	2303	3842.4	7308.7	X26464.3	Y42644.6	230	69.2	54.5
0013	SEP-09	0133	3856.2	7307.4	X26464.9	Y42780.1	318	42.4	52.9
0014	SEP-09	0305	3903.8	7310.6	X26490.7	Y42853.3	307	38.3	50.8
0015	SEP-09	0455	3908.8	7320.8	X26560.5	Y42901.6	215	30.6	49.3
0016	SEP-09	0623	3903.8	7324.9	X26581.4	Y42851.3	315	30.6	49.0
0017	SEP-09	0750	3906.3	7328.5	X26607.6	Y42875.4	203	30.1	47.6
0018	SEP-09	0957	3852.8	7339.1	X26657.6	Y42735.5	242	24.9	48.7
0019	SEP-09	1241	3858.5	7346.5	X26710.9	Y42791.6	058	23.0	47.3
0020	SEP-09	1946	3918.4	7346.7	X26742.0	Y42996.8	057	19.4	49.7
0021	SEP-09	2306	3928.6	7404.5	X26878.3	Y43103.7	073	11.8	66.6
0022	SEP-10	0138	3938.7	7400.4	X26872.1	Y43209.2	081	12.6	67.9
0023	SEP-10	0436	3936.0	7339.3	X26721.8	Y43176.3	048	17.2	49.8
0024	SEP-10	0740	3948.2	7402.5	X26907.9	Y43309.3	051	10.1	68.9
0025	SEP-10	0953	3957.8	7351.4	X26850.8	Y43402.8	035	13.7	65.4
0026	SEP-10	1154	4002.7	7402.1	X26940.2	Y43459.0	358	7.9	65.8
0027	SEP-10	1330	4007.9	7359.3	X26932.9	Y43510.8	002	9.8	67.4
0028	SEP-10	1452	4011.7	7358.2	X26934.9	Y43549.3	019	9.3	66.3
0029	SEP-10	1649	4024.3	7356.8	X26958.0	Y43675.2	018	7.7	67.6
0030	SEP-10	1819	4030.3	7353.2	X26947.2	Y43731.6	359	6.8	68.5
0031	SEP-10	2015	4025.4	7350.4	X26911.6	Y43679.9	168	13.7	67.1
0032	SEP-10	2259	4021.8	7341.0	X26829.1	Y43635.4	166	13.4	68.3
0033	SEP-11	0114	4017.0	7326.6	X26706.6	Y43575.6	296	16.1	60.7
0034	SEP-11	0313	4025.8	7337.8	X26814.0	Y43671.3	079	11.2	68.3
0035	SEP-11	0443	4031.3	7338.7	X26835.2	Y43725.2	076	9.6	67.3
0036	SEP-11	0551	4033.0	7335.5	X26813.8	Y43737.9	077	7.7	68.0
0037	SEP-11	0806	4035.5	7319.3	X26688.9	Y43742.4	218	9.6	67.7
0038	SEP-11	0935	4031.1	7321.1	X26694.0	Y43703.6	064	12.3	67.3
0039	SEP-11	1138	4024.0	7306.8	X26564.5	Y43622.6	042	18.6	59.1
0040	SEP-11	1304	4028.5	7301.2	X26527.8	Y43658.0	281	17.0	62.3
0041	SEP-11	1425	4033.7	7303.0	X26551.9	Y43706.5	003	13.7	66.7
0042	SEP-11	1543	4038.6	7303.2	X26564.4	Y43751.6	074	9.0	67.3
0043	SEP-11	1649	4040.7	7259.0	X26533.2	Y43764.5	053	6.6	67.5
0044	SEP-11	1756	4041.4	7254.7	X26499.3	Y43765.6	059	10.7	67.0
0045	SEP-11	1917	4038.5	7248.7	X26443.6	Y43733.1	056	17.8	64.5
0046	SEP-11	2038	4043.2	7244.5	X26417.6	Y43768.7	067	11.8	65.7
0047	SEP-15	2249	4026.6	7132.1	X25805.4	Y43549.8	237	42.1	51.0
0048	SEP-16	0131	4016.5	7154.8	X25984.1	Y43488.3	223	35.8	51.3

NMFS-NEFSC FALL BOTTOM TRAWL SURVEY  
2003 STATION INFORMATION

Station	Date	Time	Lat	Lon	Loran			Bottom Depth (FM)	Temp (F)
					TD's	Course	-----		
0049	SEP-16	0347	4006.6	7210.5	X26103.8	Y43416.9	261	38.8	51.5
0050	SEP-16	0742	3953.7	7250.7	X26397.6	Y43328.5	232	29.5	51.5
0051	SEP-16	0952	3943.8	7306.8	X26503.8	Y43242.9	158	27.1	49.0
0052	SEP-16	1145	3944.0	7316.2	X26571.6	Y43248.3	141	23.2	50.6
0053	SEP-16	1654	4013.1	7228.9	X26249.2	Y43488.6	060	31.7	51.5
0054	SEP-16	1856	4019.1	7211.1	X26113.5	Y43524.4	047	33.4	51.6
0055	SEP-16	2111	4033.9	7158.9	X26023.5	Y43636.1	036	30.9	52.1
0056	SEP-16	2328	4048.9	7148.7	X25949.8	Y43743.9	032	24.6	54.4
0057	SEP-17	0059	4056.2	7148.3	X25955.1	Y43800.2	233	21.3	56.7
0058	SEP-17	0231	4056.6	7158.4	X26043.8	Y43816.8	242	14.5	64.0
0059	SEP-17	0417	4051.1	7212.8	X26160.4	Y43792.5	250	17.0	66.7
0060	SEP-17	0542	4051.2	7218.7	X26211.6	Y43801.2	214	12.8	66.3
0061	SEP-17	0657	4051.1	7221.2	X26232.6	Y43804.1	055	10.1	66.7
0062	SEP-17	0809	4053.8	7215.1	X26184.9	Y43818.0	079	10.1	65.5
0063	SEP-17	0926	4055.2	7211.1	X26152.2	Y43823.6	062	10.1	66.1
0064	SEP-17	1040	4055.7	7207.2	X26119.4	Y43821.7	071	11.8	68.7
0065	SEP-17	1207	4058.5	7156.8	X26033.5	Y43829.6	118	14.5	65.8
0066	SEP-17	1552	4040.6	7122.3	X25723.3	Y43648.3	048	31.4	51.3
0067	SEP-17	1811	4038.4	7103.5	X25571.6	Y43611.7	051	35.3	49.8
0068	SEP-17	1931	4040.7	7103.4	X25568.9	Y43629.0	069	33.6	49.7
0069	SEP-17	2130	4051.2	7107.3	X25597.3	Y43710.5	055	31.2	51.5
0070	SEP-18	0023	4100.4	7131.9	X25817.3	Y43810.2	062	25.7	55.4
0071	SEP-18	0201	4107.0	7128.7	X25798.5	Y43854.4	183	13.4	64.2
0072	SEP-18	0602	4112.7	7124.9	X25774.8	Y43890.7	190	21.1	63.0
0073	SEP-18	0838	4122.3	7116.4	X25721.5	Y43946.0	132	15.3	64.2
0074	SEP-20	1207	4116.4	7038.8	X25367.1	Y43851.7	100	13.7	62.8
0075	SEP-20	1331	4116.2	7037.1	X25350.8	Y43848.4	171	14.8	62.2
0076	SEP-20	1608	4105.9	7014.7	X25146.4	Y43751.7	182	15.6	61.5
0077	SEP-20	1909	4050.0	7036.4	X25344.5	Y43667.0	130	28.4	51.9
0078	SEP-20	2056	4041.2	7026.4	X25290.2	Y43595.2	122	28.7	52.1
0079	SEP-21	0001	4041.2	6955.3	W14069.9	Y43566.2	242	25.7	57.7
0080	SEP-21	0246	4028.9	7021.5	X25294.6	Y43503.6	251	36.9	52.4
0081	SEP-20	1900	4026.5	7032.4	X25368.3	Y43495.5			52.1
0082	SEP-21	0539	4026.7	7033.7	X25376.3	Y43498.0	236	41.6	
0083	SEP-21	0738	4022.6	7033.6	X25386.1	Y43468.4	102	46.2	51.9
0084	SEP-21	1018	4016.3	7049.5	X25503.5	Y43433.6	080	62.6	54.2
0085	SEP-21	1147	4016.7	7039.5	X25437.5	Y43429.5	106	60.1	54.1
0086	SEP-21	1600	4004.0	6958.4	W14207.9	Y43310.7	093	76.0	54.9
0087	SEP-21	1748	3959.4	6951.7	W14187.8	Y43275.0	100	77.1	54.8
0088	SEP-21	2037	3956.1	6924.0	W14060.9	Y43239.2	074	136.2	50.3
0089	SEP-22	0028	4012.5	6939.8	W14087.0	Y43359.3	268	45.9	50.6
0090	SEP-22	0205	4017.2	6943.0	W14087.8	Y43393.2	085	41.3	50.9
0091	SEP-22	0329	4019.0	6934.7	W14039.7	Y43400.2	026	38.8	51.3
0092	SEP-22	0615	4038.8	6924.8	W13919.4	Y43524.0	136	26.2	57.7
0093	SEP-22	0746	4032.0	6916.6	W13903.1	Y43473.1	155	36.1	51.6
0094	SEP-22	0951	4023.1	6909.0	W13897.1	Y43410.8	120	44.8	51.5
0095	SEP-22	1108	4018.8	6856.5	W13851.8	Y43375.4	101	50.6	52.4
0096	SEP-22	1615	4016.9	6815.6	W13668.6	Y43341.0	080	121.1	51.5

NMFS-NEFSC FALL BOTTOM TRAWL SURVEY  
2003 STATION INFORMATION

Station	Date	Time	Lat	Lon	Loran			Bottom Depth (FM)	Temp (F)
					TD's	Course	-----		
0097	SEP-22	1819	4024.4	6813.1	W13628.9	Y43384.8	044	73.3	54.2
0098	SEP-22	2032	4031.5	6756.6	W13527.5	Y43417.9	058	54.7	52.4
0099	SEP-22	2221	4039.0	6745.1	W13447.4	Y43454.1	126	41.6	48.7
0100	SEP-23	0025	4026.6	6736.5	W13460.1	Y43378.3	062	76.3	53.7
0101	SEP-23	0203	4028.5	6732.6	W13435.8	Y43387.5	325	72.5	55.1
0102	SEP-23	0450	4048.2	6731.7	W13351.4	Y43498.1	051	44.0	48.8
0103	SEP-23	0710	4059.0	6715.3	W13236.6	Y43546.4	123	41.6	51.4
0104	SEP-23	0912	4051.3	6700.1	W13208.2	Y43495.0	056	47.8	48.4
0105	SEP-23	1144	4103.9	6645.3	W13095.6	Y43551.9	070	41.0	51.3
0106	SEP-23	1404	4108.7	6625.6	W12999.8	Y43563.5	293	51.9	46.5
0107	SEP-23	1624	4116.2	6648.3	W13051.2	Y43617.7	291	39.1	49.2
0108	SEP-23	1840	4121.5	6709.9	W13112.5	Y43661.7	172	29.5	56.2
0109	SEP-23	2025	4111.1	6708.5	W13154.8	Y43606.0	232	33.1	53.9
0110	SEP-23	2209	4109.0	6722.0	W13220.3	Y43604.8	244	30.9	54.2
0111	SEP-24	0336	4053.7	6816.4	W13526.6	Y43561.0	281	27.9	59.6
0112	SEP-24	0553	4048.5	6837.7	W13648.3	Y43547.0	306	31.4	60.2
0113	SEP-24	0725	4048.8	6841.6	W13666.0	Y43551.8	325	32.3	58.8
0114	SEP-24	0915	4050.2	6846.7	W13685.3	Y43564.5	185	35.0	58.6
0115	SEP-24	1104	4041.2	6841.7	W13696.5	Y43505.8	272	34.4	52.8
0116	SEP-24	1617	4054.5	6930.9	W13891.6	Y43630.3	359	22.7	59.7
0117	SEP-24	1939	4104.4	6907.1	W13728.7	Y43669.5	177	43.2	46.1
0118	SEP-24	2127	4107.4	6914.4	W13753.8	Y43695.1	154	29.3	51.0
0119	SEP-24	2317	4111.8	6917.7	W13751.8	Y43725.7	140	29.0	47.2
0120	SEP-25	0146	4109.1	6930.2	W13829.1	Y43722.3	048	14.8	54.6
0121	SEP-25	0404	4121.1	6900.3	W13622.2	Y43762.6	198	14.2	50.5
0122	SEP-25	0552	4119.1	6931.2	W13792.4	Y43785.2	147	15.9	53.0
0123	SEP-25	0732	4125.5	6928.4	W13749.4	Y43821.0	142	20.2	49.9
0124	SEP-25	0928	4125.6	6937.0	W13796.1	Y43832.0	125	15.0	53.6
0125	SEP-25	1205	4130.4	6944.4	W13815.8	Y43870.4	313	12.6	50.4
0126	SEP-25	1407	4133.5	6934.1	W13745.5	Y43875.8	301	26.5	45.0
0127	SEP-25	1602	4141.3	6937.8	W13729.5	Y43927.4	120	55.5	42.9
0128	SEP-25	1815	4148.4	6946.8	W13747.3	Y43981.2	341	61.2	42.9
0129	SEP-30	1355	3815.5	7340.0	X26623.6	Y42353.6	214	73.5	55.5
0130	SEP-30	1609	3814.0	7351.2	X26683.6	Y42327.7	001	70.8	54.6
0131	SEP-30	1840	3828.7	7353.8	X26715.1	Y42478.2	196	31.7	50.5
0132	SEP-30	2033	3819.1	7402.3	X26750.6	Y42370.9	262	35.0	51.0
0133	SEP-30	2217	3818.9	7415.9	X26825.5	Y42355.2	256	28.2	49.2
0134	SEP-30	2358	3819.5	7400.3	X26740.1	Y42376.7	235	20.2	59.5
0135	OCT-01	0119	3816.2	7436.2	X26930.7	Y42306.7	144	21.1	58.3
0136	OCT-01	0332	3803.5	7400.2	X26720.8	Y42208.9	036	21.3	51.5
0137	OCT-01	0628	3802.6	7356.5	X26699.8	Y42204.6	039	69.2	57.2
0138	OCT-01	0932	3756.1	7356.7	X26694.1	Y42137.2	031	194.1	46.1
0139	OCT-01	1241	3743.1	7415.7	X26776.9	Y41976.0	208	55.8	55.8
0140	OCT-01	1513	3727.0	7424.5	X26801.1	Y41794.0	207	155.3	54.7
0141	OCT-01	2013	3728.4	7434.8	X26852.0	Y41790.9	358	33.6	50.3
0142	OCT-01	2138	3733.3	7438.8	X26877.7	Y41837.0	333	31.7	50.9
0143	OCT-01	2324	3736.0	7450.7	X26938.9	Y41848.5	179	20.2	62.5
0144	OCT-02	0142	3716.7	7450.3	X26909.1	Y41639.4	206	26.5	51.9

NMFS-NEFSC FALL BOTTOM TRAWL SURVEY  
2003 STATION INFORMATION

Station	Date	Time	Lat	Lon	Loran			Bottom Depth (FM)	Temp (F)
					TD's	Course	-----		
0145	OCT-02	0311	3711.4	7455.1	X26923.4	Y41573.6	000	25.4	56.5
0146	OCT-02	0513	3715.7	7439.7	X26858.8	Y41648.3	055	47.6	53.0
0147	OCT-02	0654	3713.9	7432.6	X26823.8	Y41642.2	191	70.5	56.4
0148	OCT-02	1115	3653.5	7438.4	X26826.9	Y41417.7	189	83.7	56.8
0149	OCT-02	1358	3648.8	7504.7	X26935.1	Y41311.3	272	16.1	68.6
0150	OCT-02	1538	3649.8	7514.9	X26979.9	Y41299.2	168	14.5	69.0
0151	OCT-02	1743	3634.6	7510.2	X26939.9	Y41147.1	208	16.1	70.2
0152	OCT-02	1902	3628.8	7507.7	X26922.3	Y41092.1	103	20.0	69.6
0153	OCT-02	2023	3628.2	7501.0	X26893.8	Y41102.5	038	20.0	67.4
0154	OCT-02	2218	3635.5	7456.5	X26883.7	Y41189.2	350	16.7	68.0
0155	OCT-03	0148	3611.9	7447.4	X26821.4	Y40973.0	192	70.8	55.9
0156	OCT-03	0343	3608.6	7454.5	X26846.5	Y40920.4	189	39.4	52.9
0157	OCT-03	0532	3603.8	7448.3	X26817.0	Y40891.0	190	77.1	54.9
0158	OCT-03	0718	3558.2	7453.1	X26830.7	Y40821.8	195	47.3	51.8
0159	OCT-03	1038	3541.1	7448.3	X26796.7	Y40674.8	329	125.8	50.7
0160	OCT-03	1447	3522.8	7455.5	X26808.2	Y40484.1	237	48.7	77.7
0161	OCT-03	1924	3521.2	7504.3	X26838.7	Y40438.5	195	17.0	80.4
0162	OCT-03	2151	3509.2	7520.6	X26885.4	Y40271.3	211	13.1	79.3
0163	OCT-04	0025	3509.2	7544.1	X26967.0	Y40181.1	218	9.3	72.8
0164	OCT-04	0153	3503.8	7546.7	X26970.3	Y40122.0	179	12.0	76.6
0165	OCT-04	0346	3456.5	7546.3	X26961.2	Y40057.9	220	13.9	77.9
0166	OCT-04	0630	3436.1	7553.0	X26962.7	Y39856.8	052	25.2	77.7
0167	OCT-04	0758	3438.2	7500.4	X26790.8	Y40099.1	033	40.5	75.2
0168	OCT-04	0926	3446.0	7540.8	X26932.2	Y39990.9	028	24.6	78.8
0169	OCT-04	1056	3451.0	7531.4	X26905.6	Y40071.4	037	36.1	71.0
0170	OCT-04	1304	3450.0	7527.4	X26891.2	Y40079.4	235	84.8	57.5
0171	OCT-04	1624	3515.8	7524.7	X26906.3	Y40315.1	339	9.8	75.4
0172	OCT-04	1738	3521.8	7527.8	X26923.5	Y40359.0	023	7.7	72.1
0173	OCT-04	1921	3525.7	7514.9	X26880.9	Y40441.7	023	15.9	79.8
0174	OCT-04	2104	3536.0	7520.4	X26911.5	Y40520.0	346	14.8	74.2
0175	OCT-04	2253	3541.1	7526.1	X26938.2	Y40551.8	313	5.2	75.1
0176	OCT-05	0041	3544.5	7516.0	X26904.3	Y40617.9	009	17.0	78.5
0177	OCT-05	0306	3555.9	7534.5	X26986.8	Y40675.8	325	9.8	72.4
0178	OCT-05	0603	3601.7	7538.6	X27009.3	Y40724.5	331	6.8	71.8
0179	OCT-05	0735	3603.2	7532.5	X26988.2	Y40757.5	334	12.3	72.4
0180	OCT-05	0918	3613.2	7536.1	X27014.9	Y40852.9	351	12.8	72.9
0181	OCT-05	1126	3621.1	7524.8	X26981.4	Y40967.6	292	14.2	74.6
0182	OCT-05	1333	3628.4	7544.2	X27068.3	Y40998.0	339	9.8	71.2
0183	OCT-05	1500	3636.0	7548.6	X27097.6	Y41072.3	322	8.2	70.9
0184	OCT-05	1646	3648.4	7547.8	X27114.6	Y41214.2	319	9.3	71.2
0185	OCT-05	2010	3652.3	7546.2	X27114.5	Y41261.5	179	9.3	71.2
0186	OCT-05	2149	3651.4	7538.7	X27082.1	Y41266.5	315	10.7	70.1
0187	OCT-05	2354	3703.2	7550.5	X27151.3	Y41377.1	047	4.6	69.4
0188	OCT-06	0113	3705.6	7549.7	X27152.2	Y41406.8	048	4.6	69.1
0189	OCT-06	0313	3716.1	7536.1	X27113.0	Y41550.9	065	8.7	69.7
0190	OCT-06	0435	3718.8	7534.6	X27111.2	Y41583.6	064	8.7	69.9
0191	OCT-06	0607	3721.4	7527.1	X27083.0	Y41625.7	346	12.6	69.9
0192	OCT-06	0805	3723.4	7534.5	X27119.5	Y41636.0	002	7.9	69.2

NMFS-NEFSC FALL BOTTOM TRAWL SURVEY  
2003 STATION INFORMATION

Station	Date	Time	Lat	Lon	Loran			Bottom Depth (FM)	Temp (F)
					TD's	Course	-----		
0193	OCT-06	0957	3729.5	7535.7	X27136.1	Y41704.2	020	5.5	68.6
0194	OCT-06	1125	3736.5	7533.8	X27141.3	Y41787.5	001	4.9	67.2
0195	OCT-06	1338	3741.8	7517.1	X27074.0	Y41872.3	012	11.5	69.2
0196	OCT-06	1547	3751.0	7517.9	X27095.2	Y41975.9	039	8.5	68.1
0197	OCT-06	1714	3753.2	7510.9	X27065.8	Y42009.7	049	10.7	68.2
0198	OCT-06	1906	3755.5	7455.6	X26994.5	Y42055.5	021	12.0	68.4
0199	OCT-06	2040	3758.7	7500.0	X27022.3	Y42085.3	040	7.9	67.4
0200	OCT-06	2219	3807.8	7455.9	X27018.7	Y42192.8	008	11.8	67.4
0201	OCT-07	0001	3810.2	7506.3	X27076.2	Y42208.3	003	9.0	67.1
0202	OCT-07	0122	3815.1	7506.7	X27088.4	Y42263.2	017	6.0	66.9
0203	OCT-07	0246	3821.3	7500.1	X27066.6	Y42339.1	003	8.7	67.2
0204	OCT-07	0417	3823.5	7453.2	X27034.8	Y42371.5	059	10.9	67.4
0205	OCT-07	0552	3825.9	7441.4	X26975.9	Y42408.1	049	17.8	66.9
0206	OCT-07	0826	3830.6	7500.4	X27088.2	Y42444.0	348	6.0	66.5
0207	OCT-07	1004	3833.1	7452.7	X27052.1	Y42479.2	339	10.1	66.7
0208	OCT-07	1203	3846.4	7454.1	X27088.9	Y42627.6	074	6.6	66.6
0209	OCT-07	1403	3850.8	7505.7	X27164.2	Y42669.9	310	11.5	65.8
0210	OCT-07	1605	3849.8	7457.4	X27115.5	Y42663.7	031	6.3	66.7
0211	OCT-07	1731	3848.3	7449.5	X27067.7	Y42651.9	064	8.5	66.8
0212	OCT-07	1859	3853.8	7441.6	X27034.2	Y42716.9	010	8.2	66.5
0213	OCT-07	2013	3859.2	7440.4	X27039.2	Y42778.1	080	7.4	66.3
0214	OCT-07	2135	3900.6	7432.8	X26997.1	Y42797.0	069	8.7	65.8
0215	OCT-07	2259	3903.7	7430.2	X26988.7	Y42832.1	321	10.7	66.4
0216	OCT-08	0026	3911.2	7438.1	X27053.5	Y42911.5	041	6.6	64.5
0217	OCT-08	0155	3913.6	7435.5	X27043.5	Y42938.4	032	5.2	64.2
0218	OCT-08	0334	3916.4	7429.1	X27010.1	Y42970.4	091	7.9	64.9
0219	OCT-08	0533	3911.3	7416.9	X26922.4	Y42918.1	005	12.0	66.2
0220	OCT-08	0717	3921.0	7419.4	X26959.0	Y43022.0	042	7.1	65.6
0221	OCT-08	2142	3955.6	7102.0	X25624.6	Y43283.1	098	289.5	42.0
0222	OCT-09	0010	3955.2	7055.5	X25584.6	Y43276.6	260	242.8	
0223	OCT-15	1739	4153.9	7027.2	X25463.8	Y44074.5	353	17.8	47.8
0224	OCT-15	1939	4204.8	7031.4	X25563.7	Y44146.4	178	21.3	46.1
0225	OCT-16	0833	4213.3	7035.6	X25647.1	Y44203.5	317	17.5	47.9
0226	OCT-16	1053	4206.4	7026.5	X25543.4	Y44147.8	252	28.2	45.6
0227	OCT-16	1301	4206.6	7013.2	X25465.5	Y44126.8	047	33.9	50.1
0228	OCT-16	1528	4211.2	6952.4	W13668.7	Y44120.1	011	100.6	42.8
0229	OCT-16	1741	4207.0	6945.2	W13648.4	Y44085.5	139	113.7	42.7
0230	OCT-16	2009	4159.0	6924.3	W13570.5	Y44010.9	164	109.4	42.9
0231	OCT-16	2251	4141.5	6912.2	W13590.0	Y43895.5	101	99.5	41.1
0232	OCT-17	0128	4145.5	6852.3	W13467.5	Y43893.3	160	86.7	43.0
0233	OCT-17	0306	4141.6	6850.9	W13479.0	Y43870.3	122	85.0	41.0
0234	OCT-17	0523	4128.9	6838.6	W13477.5	Y43784.7	176	55.5	43.0
0235	OCT-17	0703	4121.7	6835.2	W13493.6	Y43740.2	001	44.3	52.3
0236	OCT-17	0955	4103.3	6831.5	W13556.7	Y43630.0	006	28.7	59.7
0237	OCT-17	1142	4114.5	6826.1	W13482.6	Y43689.7	134	28.4	58.6
0238	OCT-17	1507	4124.2	6748.7	W13265.2	Y43709.1	076	21.1	62.0
0239	OCT-17	1658	4118.0	6738.0	W13247.6	Y43666.0	320	20.8	60.5
0240	OCT-17	1830	4124.7	6743.7	W13240.9	Y43707.3	041	20.0	61.8

NMFS-NEFSC FALL BOTTOM TRAWL SURVEY  
2003 STATION INFORMATION

Station	Date	Time	Lat	Lon	Loran			Bottom Depth (FM)	Temp (F)
					TD's	Course	-----		
0241	OCT-17	2115	4143.3	6744.1	W13152.8	Y43806.4	315	17.5	59.1
0242	OCT-17	2258	4139.1	6752.7	W13212.2	Y43792.8	218	18.9	60.0
0243	OCT-18	0051	4146.6	6801.6	W13215.6	Y43841.8	249	21.3	58.0
0244	OCT-18	0240	4148.8	6814.5	W13265.0	Y43867.3	050	68.4	42.3
0245	OCT-18	0415	4153.2	6806.6	W13205.4	Y43882.1	069	91.6	44.4
0246	OCT-18	0611	4201.5	6757.5	W13120.6	Y43914.7	068	103.9	46.4
0247	OCT-18	0908	4206.0	6724.4	W12951.4	Y43900.8	096	36.9	43.2
0248	OCT-18	1100	4157.4	6720.3	W12979.4	Y43853.7	192	27.1	58.2
0249	OCT-18	1251	4153.3	6733.7	W13057.0	Y43847.3	180	15.3	58.6
0250	OCT-18	1626	4135.7	6708.4	W13039.0	Y43733.6	005	29.3	59.6
0251	OCT-18	1800	4143.6	6704.5	W12984.4	Y43769.8	070	33.4	59.5
0252	OCT-18	2014	4149.3	6644.8	W12879.4	Y43780.1	081	34.4	57.7
0253	OCT-18	2322	4136.3	6614.9	W12833.2	Y43692.2	136	50.3	49.6
0254	OCT-19	0111	4129.4	6606.4	W12835.9	Y43652.9	232	59.6	48.8
0255	OCT-19	0235	4127.3	6608.0	W12851.1	Y43643.9	250	63.7	49.1
0256	OCT-19	0409	4122.2	6608.0	W12875.0	Y43619.1	121	144.4	50.5
0257	OCT-19	0646	4122.1	6602.7	W12857.0	Y43615.0	042	143.8	46.7
0258	OCT-19	1026	4145.3	6556.9	W12727.6	Y43721.3	017	57.1	47.0
0259	OCT-19	1226	4153.6	6606.9	W12720.4	Y43768.2	191	49.5	46.2
0260	OCT-19	1346	4150.7	6613.2	W12756.7	Y43759.8	340	43.2	48.4
0261	OCT-19	1551	4206.0	6616.2	W12690.1	Y43833.6	283	49.8	44.7
0262	OCT-19	1726	4211.7	6618.5	W12668.5	Y43862.3	000	111.3	48.5
0263	OCT-19	2006	4224.2	6606.4	W12561.4	Y43907.1	359	134.5	48.3
0264	OCT-19	2122	4225.1	6603.8	W12548.2	Y43908.7	241	135.3	
0265	OCT-19	2322	4225.7	6557.0	W12523.1	Y43904.8	320	109.4	49.3
0266	OCT-20	0237	4232.0	6630.5	W12601.5	Y43965.9	273	130.4	48.1
0267	OCT-20	0606	4223.7	6651.7	W12725.1	Y43950.2	238	188.4	47.4
0268	OCT-20	0804	4217.2	6653.6	W12767.7	Y43922.2	078	155.6	47.6
0269	OCT-20	1035	4216.3	6640.2	W12722.2	Y43904.2	236	142.4	47.7
0270	OCT-20	1242	4206.3	6630.4	W12739.0	Y43848.0	261	44.0	44.6
0271	OCT-20	1404	4206.6	6638.9	W12768.5	Y43857.6	262	40.5	44.9
0272	OCT-20	1637	4202.0	6600.6	W12657.2	Y43801.6	059	33.6	57.5
0273	OCT-20	1854	4213.4	6705.2	W12833.8	Y43916.2	276	112.1	47.5
0274	OCT-20	2125	4224.1	6718.1	W12827.5	Y43981.1	001	186.5	47.5
0275	OCT-20	2313	4228.4	6715.0	W12790.7	Y43997.8	294	180.7	47.5
0276	OCT-21	0232	4229.6	6744.8	W12910.7	Y44038.6	040	124.9	47.4
0277	OCT-21	0542	4246.1	6730.4	W12753.4	Y44097.3	278	126.6	47.6
0278	OCT-21	0651	4246.7	6732.6	W12759.4	Y44102.7	086	127.7	
0279	OCT-22	0252	4223.4	7016.6	X25600.2	Y44227.5	321	27.3	48.3
0280	OCT-22	0341	4223.6	7018.1	X25609.9	Y44231.3	107	25.2	
0281	OCT-22	0627	4216.9	7035.6	X25670.1	Y44223.9	129	29.5	45.9
0282	OCT-22	0759	4211.9	7033.5	X25624.6	Y44191.8	359	20.5	45.9
0283	OCT-22	0954	4220.7	7046.8	X25768.2	Y44265.8	146	15.3	48.7
0284	OCT-22	1224	4220.5	7039.3	X25717.4	Y44251.3	116	33.9	46.1
0285	OCT-22	1412	4226.1	7028.5	X25685.9	Y44263.3	281	27.3	48.5
0286	OCT-22	1658	4231.8	7034.7	X25759.5	Y44305.3	198	38.0	46.0
0287	OCT-22	2029	4239.1	7011.2	X25675.3	Y44302.2	285	48.1	44.5
0288	OCT-22	2225	4247.8	7020.8	X25780.9	Y44364.4	329	65.9	41.7

NMFS-NEFSC FALL BOTTOM TRAWL SURVEY  
2003 STATION INFORMATION

Station	Date	Time	Lat	Lon	Loran			Bottom Depth (FM)	Temp (F)
					TD's	Course	-----		
0289	OCT-23	0039	4254.2	7014.7	X25788.1	Y44384.9	261	81.7	40.9
0290	OCT-23	0337	4303.4	6959.1	W13421.1	Y44401.7	031	94.3	42.4
0291	OCT-23	0644	4319.3	7010.4	X25914.9	Y44495.9	249	57.4	46.6
0292	OCT-23	0832	4322.6	7009.2	X25927.5	Y44508.3	160	55.0	47.2
0293	OCT-23	1218	4331.2	6940.1	W13132.5	Y44493.1	210	60.7	47.3
0294	OCT-23	1718	4321.1	6928.2	W13126.9	Y44428.5	263	91.3	43.4
0295	OCT-23	1915	4321.9	6940.7	W13196.1	Y44453.5	221	94.3	42.2
0296	OCT-23	2137	4307.9	6942.4	W13292.5	Y44393.5	188	62.9	43.3
0297	OCT-24	0018	4248.8	6932.2	W13346.5	Y44285.0	142	93.2	43.0
0298	OCT-24	0321	4233.5	6934.7	W13448.2	Y44211.7	153	148.2	44.2
0299	OCT-24	0618	4231.9	6907.7	W13306.3	Y44162.1	049	116.7	44.3
0300	OCT-24	0811	4233.8	6857.8	W13242.4	Y44156.6	109	117.3	44.5
0301	OCT-24	1020	4231.6	6838.5	W13154.3	Y44118.3	142	106.1	45.7
0302	OCT-24	1235	4221.2	6845.0	W13245.6	Y44075.0	260	110.2	45.2
0303	OCT-24	1420	4215.6	6843.7	W13269.6	Y44044.3	107	110.5	41.6
0304	OCT-24	1653	4204.1	6832.1	W13272.2	Y43969.3	197	93.5	43.7
0305	OCT-24	1823	4201.2	6834.3	W13297.8	Y43956.7	224	92.7	44.1
0306	OCT-28	0104	4228.6	6900.9	W13288.1	Y44135.2	181	120.8	45.0
0307	OCT-28	0437	4246.2	6844.3	W13100.3	Y44197.7	049	109.9	45.4
0308	OCT-28	0851	4307.0	6806.6	W12787.7	Y44239.0	084	94.3	45.4
0309	OCT-28	1310	4326.3	6731.8	W12511.2	Y44273.0	050	119.8	46.9
0310	OCT-28	1613	4343.6	6724.4	W12367.5	Y44332.4	094	109.4	46.1
0311	OCT-28	1831	4336.1	6706.7	W12348.6	Y44279.6	142	109.6	47.0
0312	OCT-28	2024	4330.5	6710.7	W12400.1	Y44262.3	135	120.3	47.9
0313	OCT-28	2152	4330.7	6706.4	W12382.8	Y44257.5	119	119.2	47.7
0314	OCT-28	2346	4321.3	6702.5	W12428.2	Y44214.3	179	105.0	47.8
0315	OCT-29	0042	4320.6	6703.7	W12436.9	Y44212.9	197	112.6	
0316	OCT-29	0249	4311.4	6713.6	W12532.2	Y44187.0	056	112.4	46.9
0317	OCT-29	0507	4316.0	6700.9	W12455.2	Y44190.5	046	98.4	47.9
0318	OCT-29	0949	4324.4	6620.8	W12265.6	Y44176.6	125	32.8	50.0
0319	OCT-29	1136	4328.8	6627.0	W12258.4	Y44201.1	167	48.9	49.0
0320	OCT-29	1348	4333.4	6619.3	W12206.3	Y44210.0	139	39.4	50.2
0321	OCT-29	1754	4336.9	6650.5	W12286.0	Y44261.7	023	57.4	47.1
0322	OCT-29	2302	4338.1	6600.5	W12123.1	Y44206.3	169	66.7	47.2
0323	OCT-30	0124	4344.3	6657.7	W12262.6	Y44300.1	180	82.8	45.9
0324	OCT-30	0333	4350.4	6651.4	W12200.8	Y44315.2	216	73.8	46.8
0325	OCT-30	0619	4357.5	6638.0	W12111.1	Y44324.7	215	65.6	49.2
0326	OCT-30	0822	4358.0	6647.1	W12136.4	Y44338.2	043	58.8	48.1
0327	OCT-30	1420	4413.6	6654.2	W12054.5	Y44404.1	233	95.1	47.7
0328	OCT-30	1626	4411.1	6701.4	W12095.5	Y44404.7	271	82.0	48.4
0329	OCT-30	2033	4410.8	6745.1	W12263.0	Y44464.4	122	108.5	48.7
0330	OCT-30	2249	4409.3	6753.5	W12309.8	Y44471.2	213	51.9	49.6
0331	OCT-31	0232	4344.4	6813.7	W12576.4	Y44406.5	013	108.5	46.3
0332	OCT-31	0516	4357.1	6824.2	W12538.9	Y44472.2	218	51.4	50.1
0333	OCT-31	0652	4350.6	6826.7	W12596.7	Y44450.8	342	65.1	48.7
0334	OCT-31	0830	4356.6	6834.7	W12595.1	Y44486.5	178	48.9	50.5
0335	OCT-31	1525	4257.5	6905.3	W13144.5	Y44283.0	027	94.9	42.7
0336	OCT-31	1815	4200.6	6914.9	W13511.6	Y44006.3	172	99.2	43.1

NMFS-NEFSC FALL BOTTOM TRAWL SURVEY

ALBATROSS IV SEP 7 - NOV 1, 2003

## CATCH WEIGHTS (POUNDS) OF IMPORTANT SPECIES BY HAUL







NMFS-NEFSC FALL BOTTOM TRAWL SURVEY

ALBATROSS IV SEP 7 - NOV 1, 2003

## CATCH WEIGHTS (POUNDS) OF IMPORTANT SPECIES BY HAUL









## NMFS-NEFSC FALL BOTTOM TRAWL SURVEY

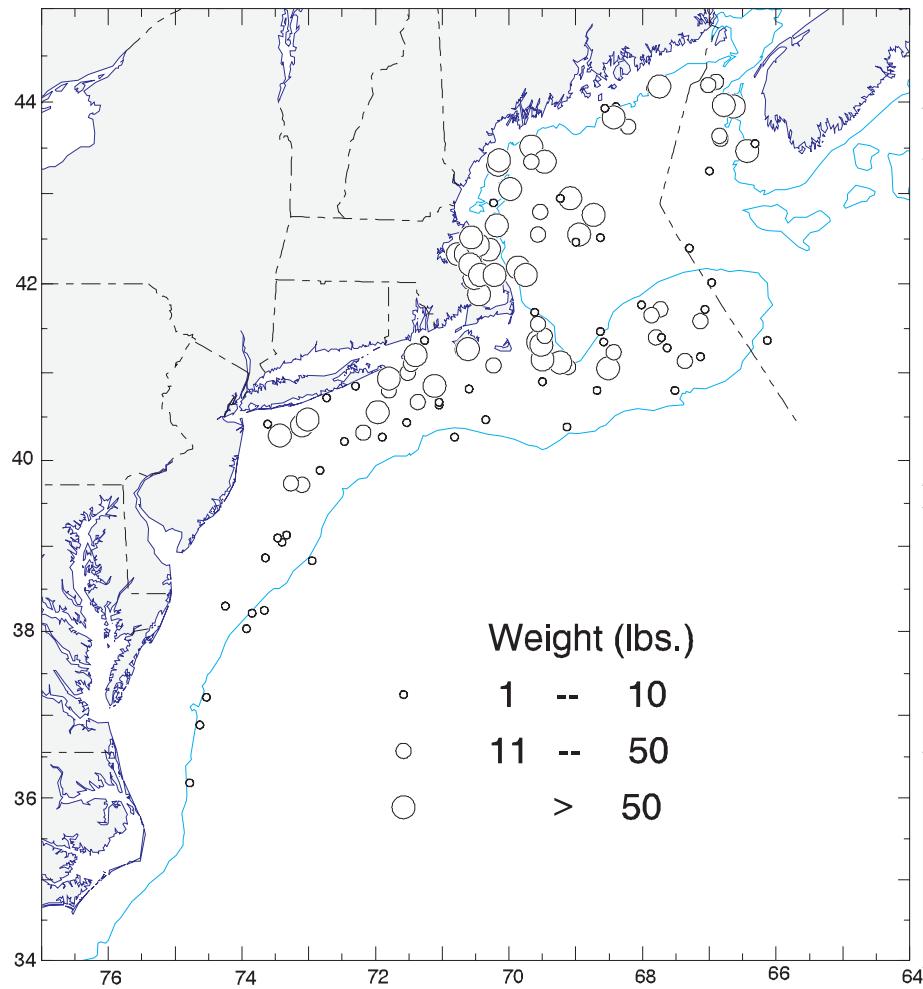
ALBATROSS IV SEP 7 - NOV 1, 2003

## CATCH WEIGHTS (POUNDS) OF IMPORTANT SPECIES BY HAUL

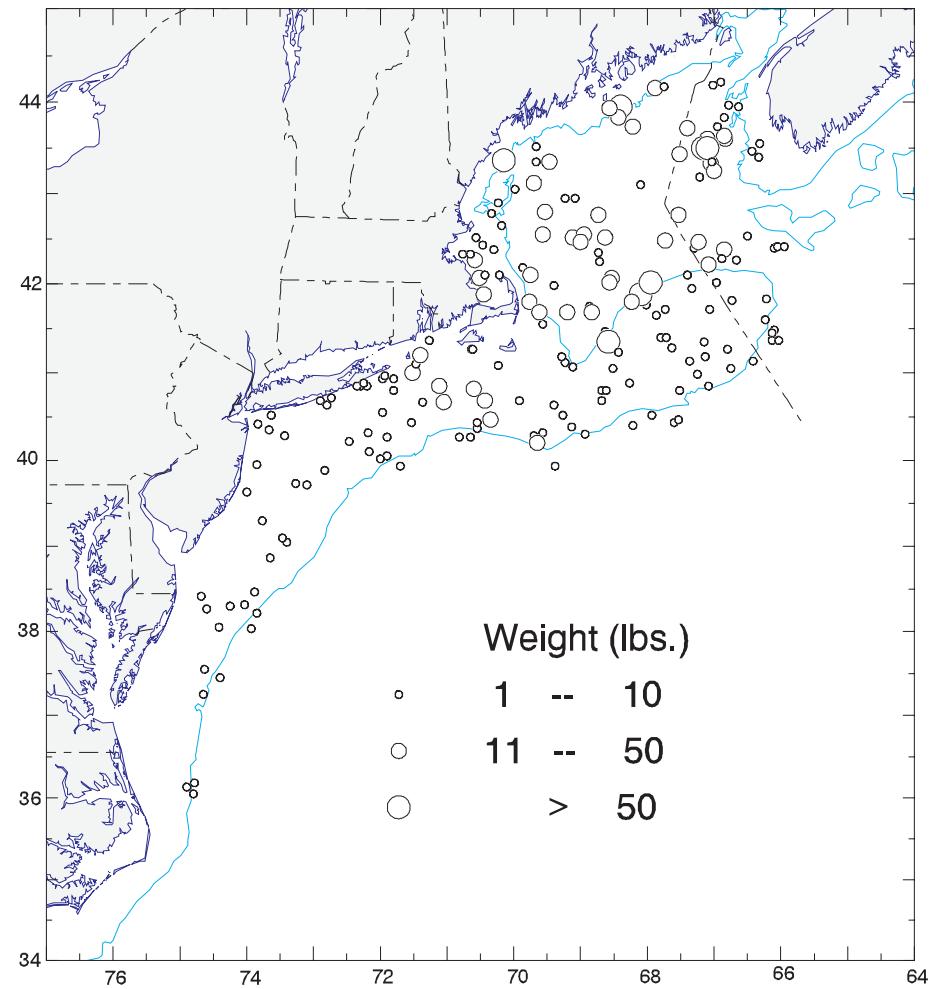
		SPINY DOGFISH	SILVER HAKE	ATLANTIC COD	HADDOCK	POLLOCK	WHITE HAKE	RED HAKE	AMERICAN PLAICE	SUMMER FLDR	YELLOWTAIL FLDR	WINTER FLDR	WITCH FLDR	WINDOWPANE FLDR	BUTTERFISH	BLUEFISH	ATLANTIC CROAKER	BLACK SEA BASS	SCUP	WEAKFISH	SPOT	ACADIAN REDFISH	GOOSEFISH	AMERICAN LOBSTER	LONGFIN SQUID	TOTAL OTHER *	TOTAL ALL
333	141	25	0	0	1	25	8	14	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	29	261
334	1	43	0	0	0	9	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35	255
335	138	3	12	14	28	25	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	2775
336	4	3	0	0	9	20	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	148
TOTAL		32661	1975	2255	5892	1525	851	1101	673	722	757	2056	203	374	3457	600	10069	182	1903	4490	1006	10304	667	1283	2551	36380	124099

\* "Total others" in southern areas are comprised primarily of rays and in northern areas of misc species of skates.

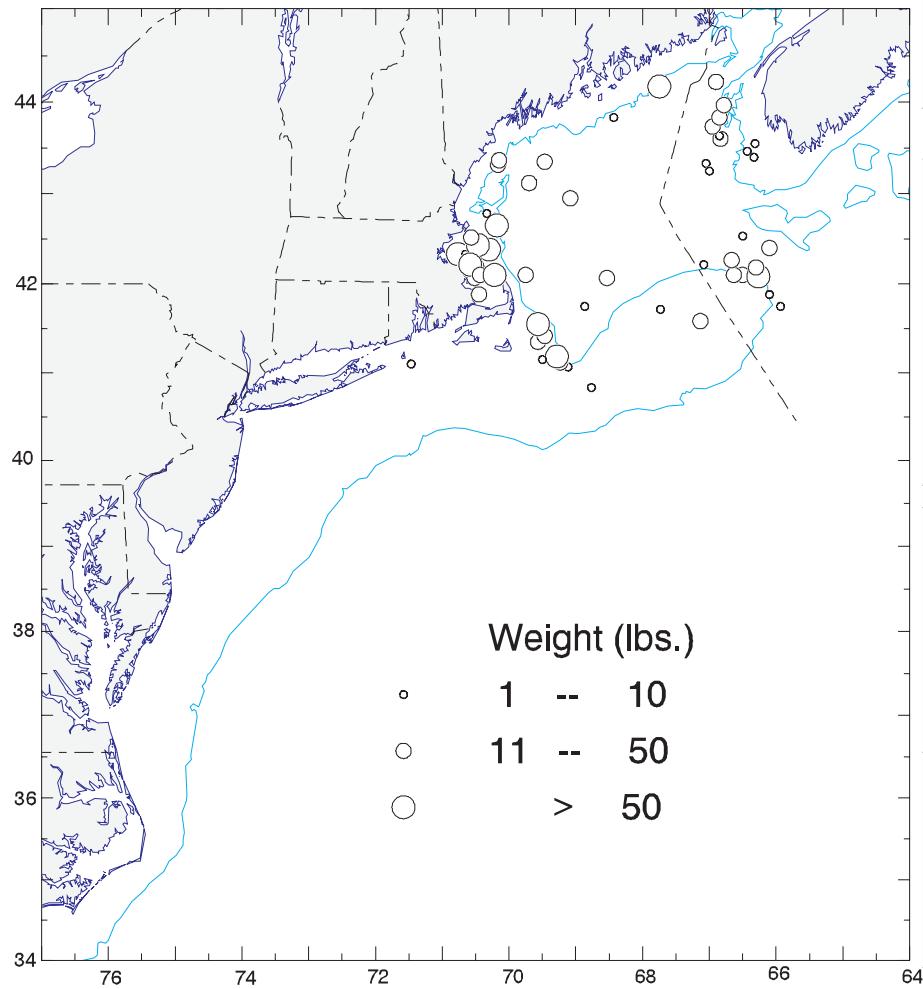
**SPINY DOGFISH**  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003



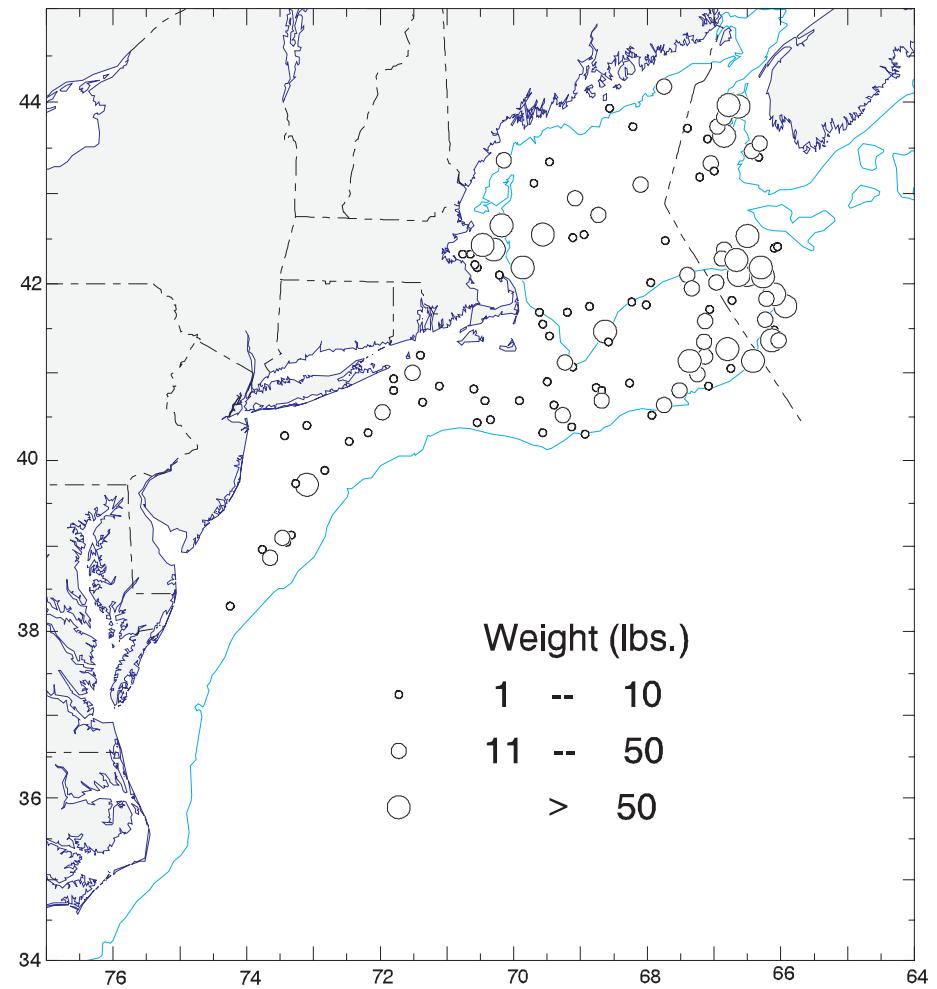
**SILVER HAKE**  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003



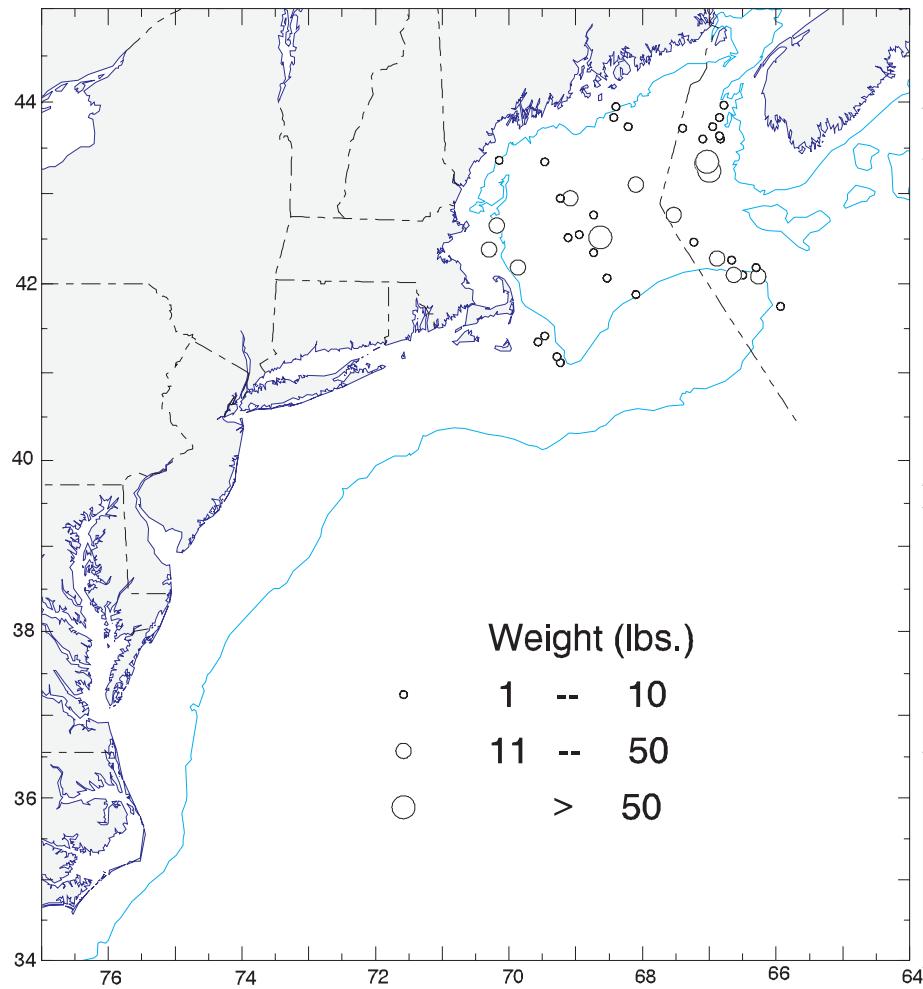
**ATLANTIC COD**  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003



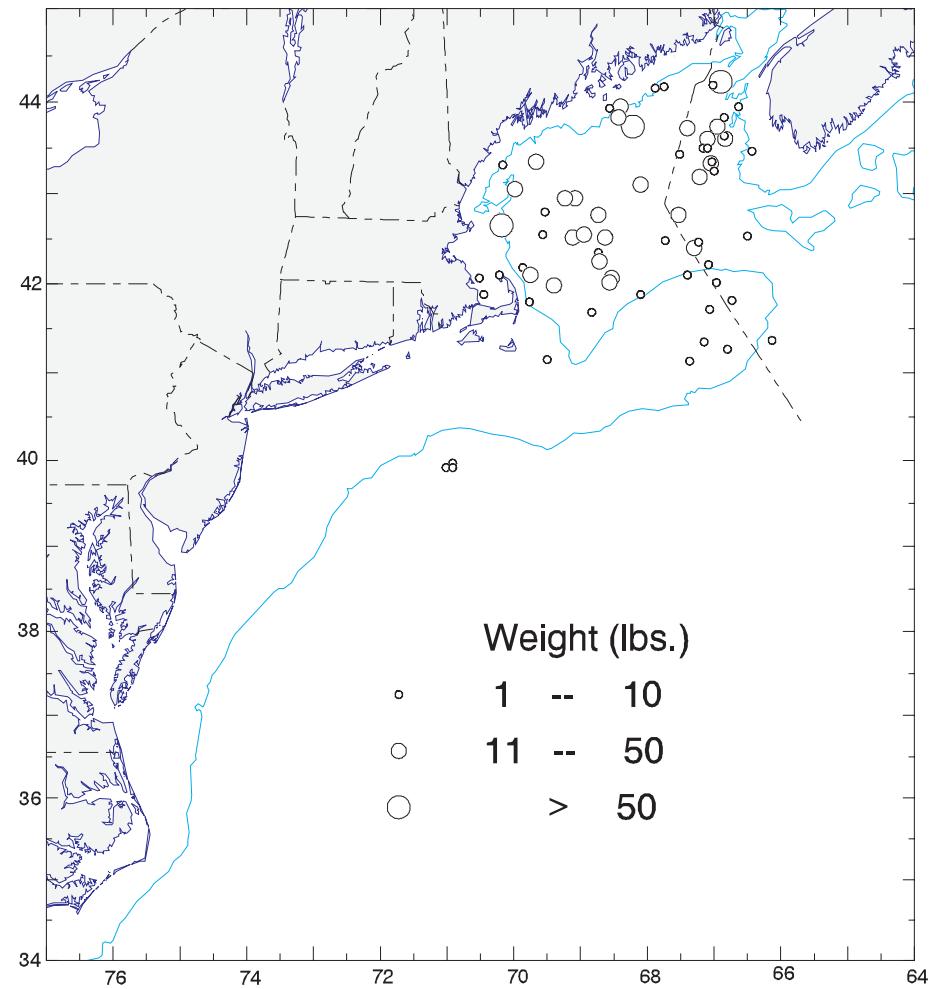
**HADDOCK**  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003



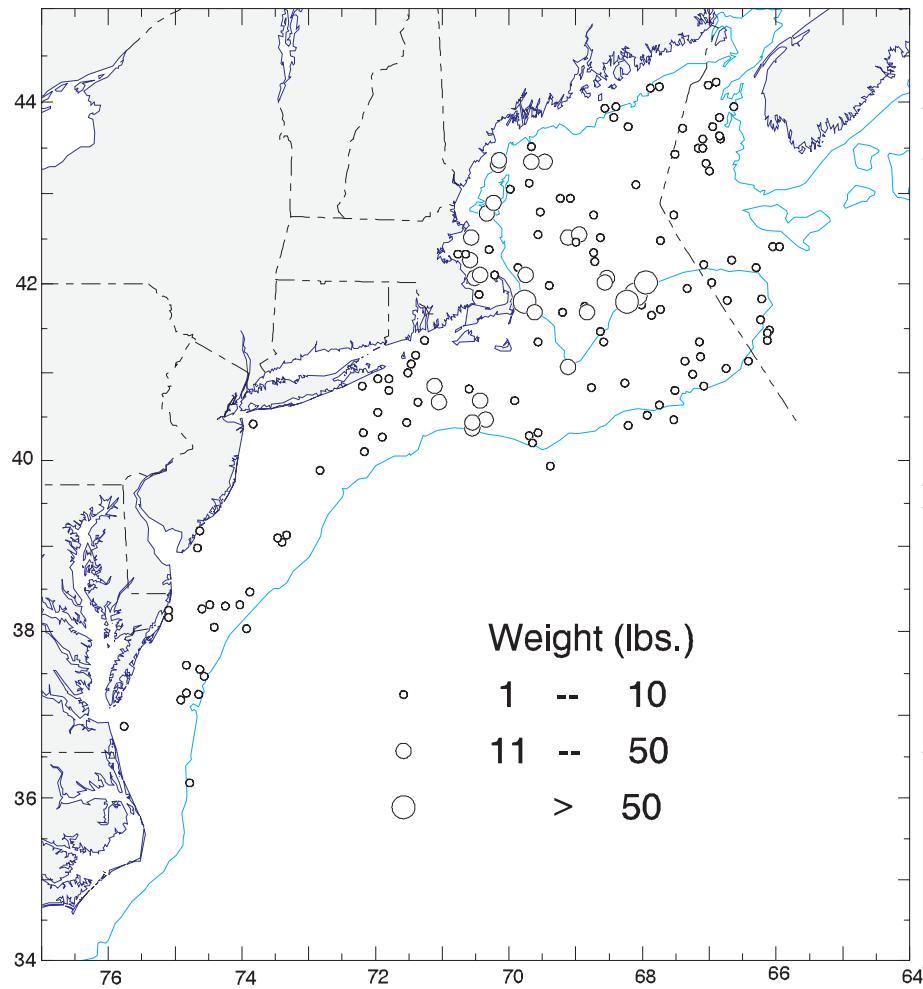
**POLLOCK**  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003



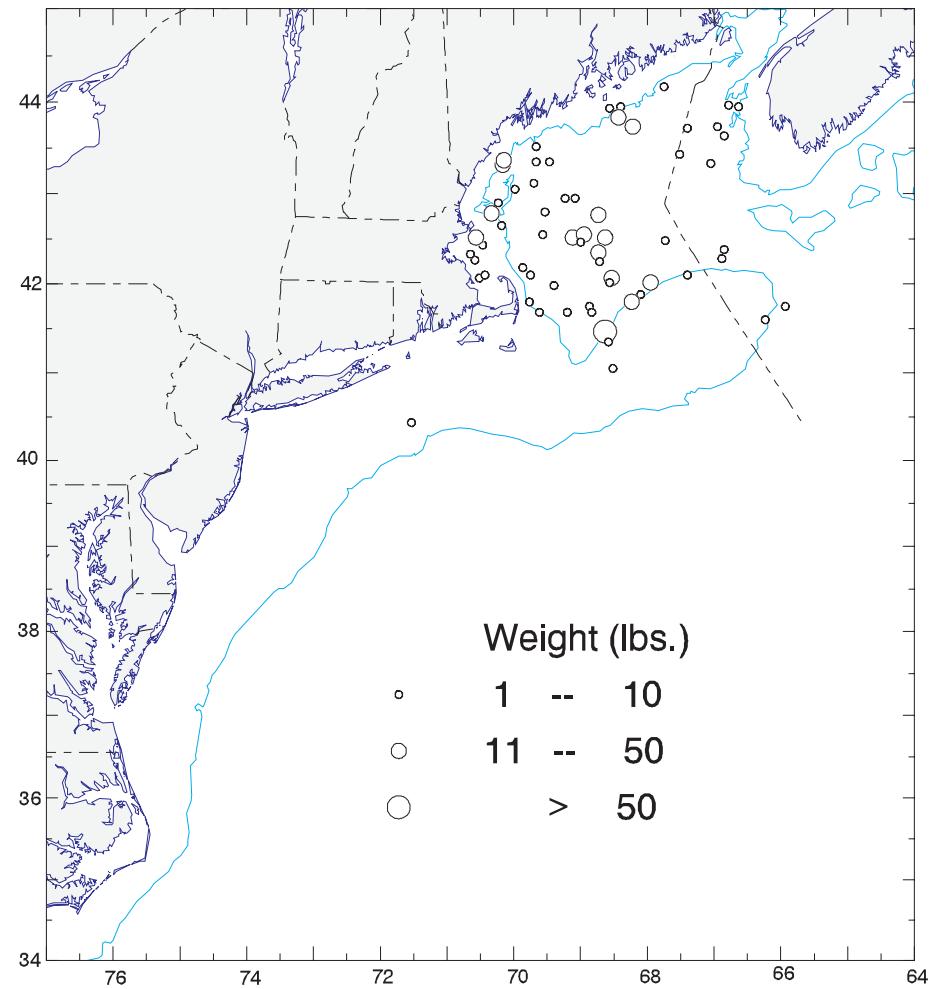
**WHITE HAKE**  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003



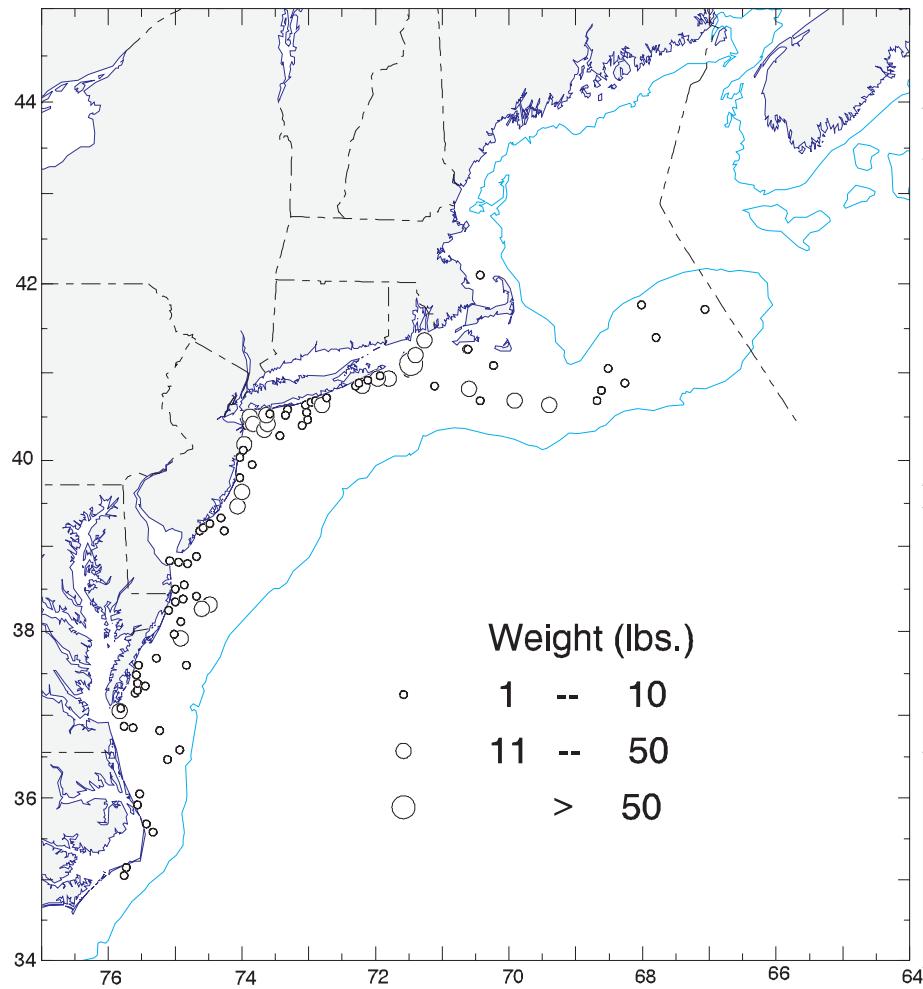
**RED HAKE**  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003



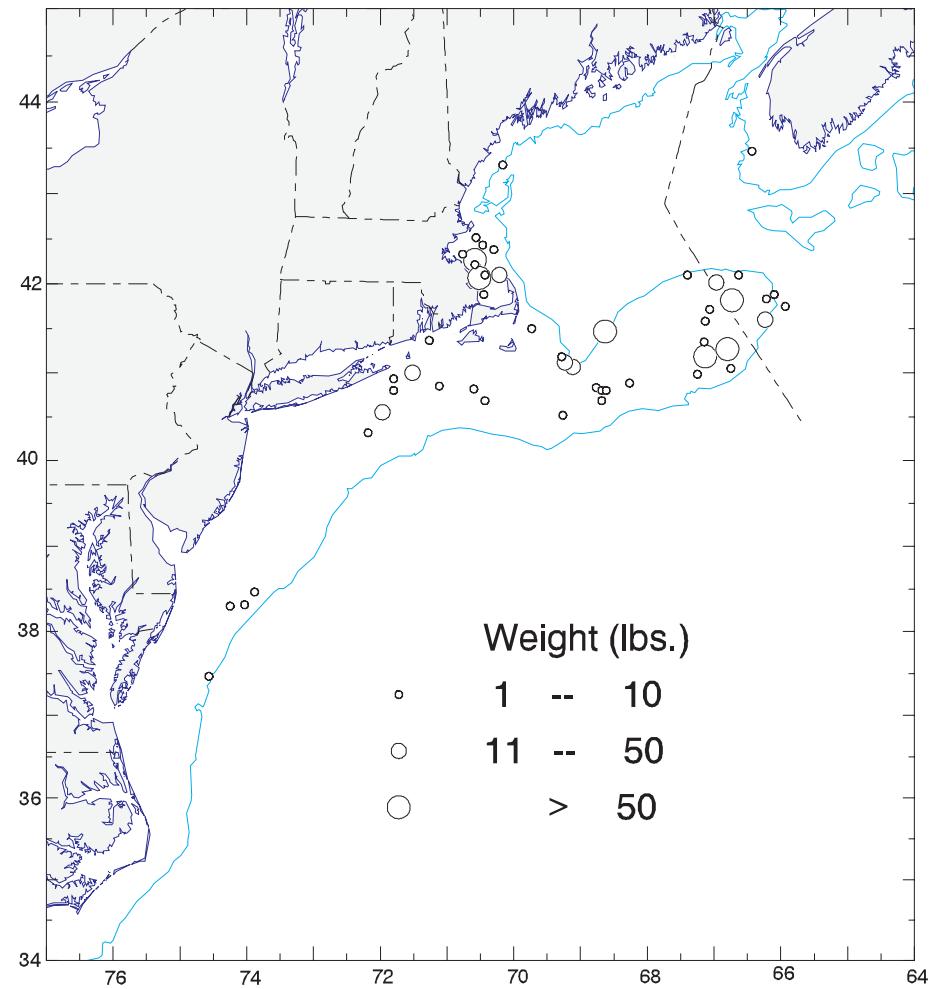
**AMERICAN PLAICE**  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003



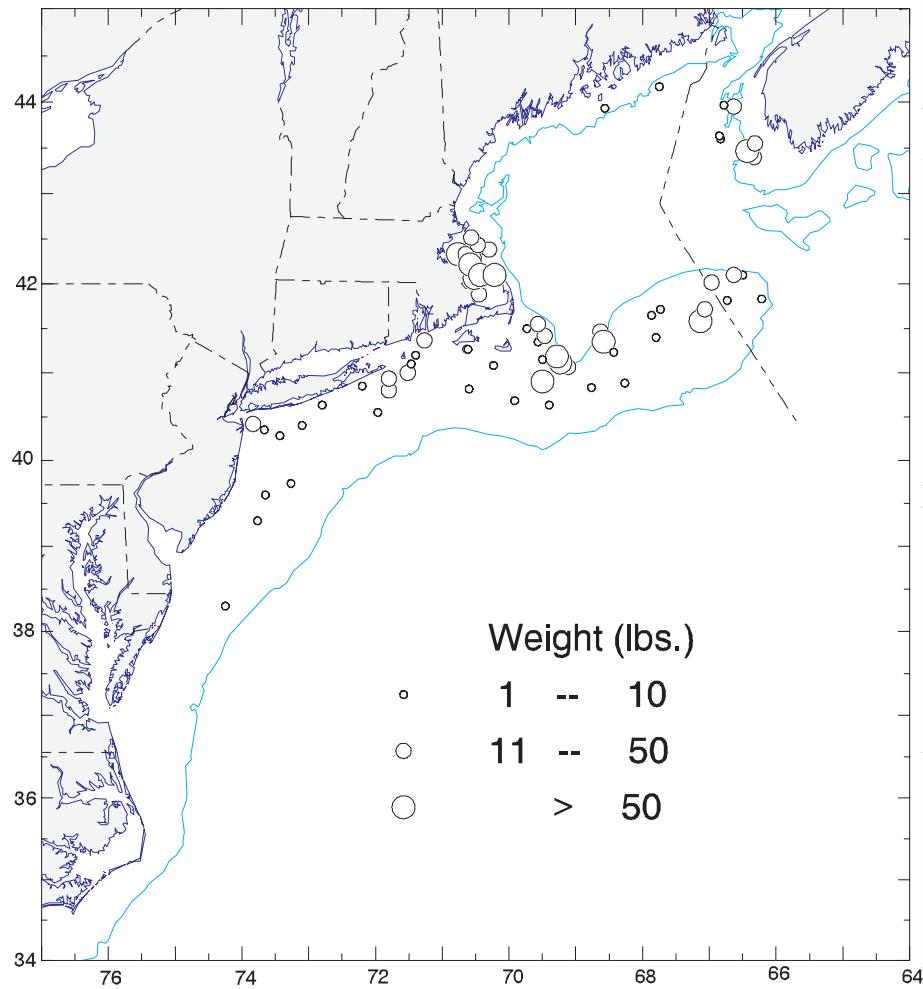
SUMMER FLOUNDER  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003



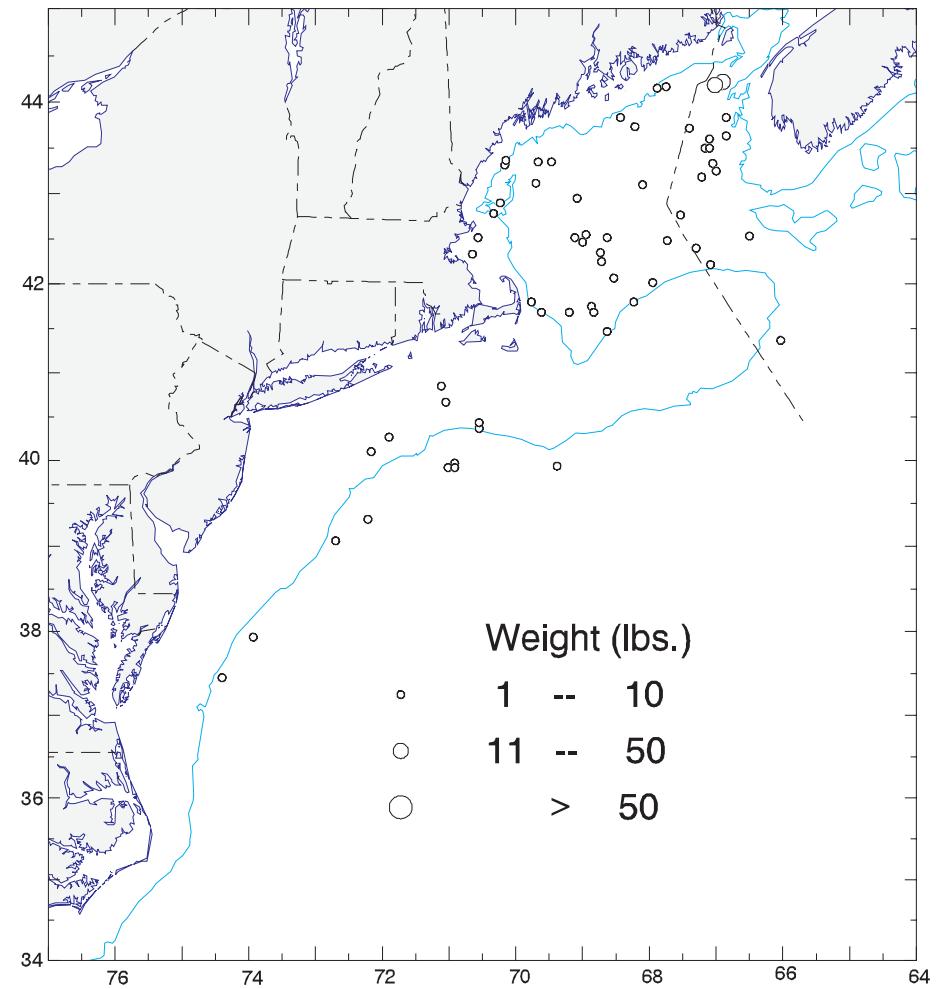
YELLOWTAIL FLOUNDER  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003



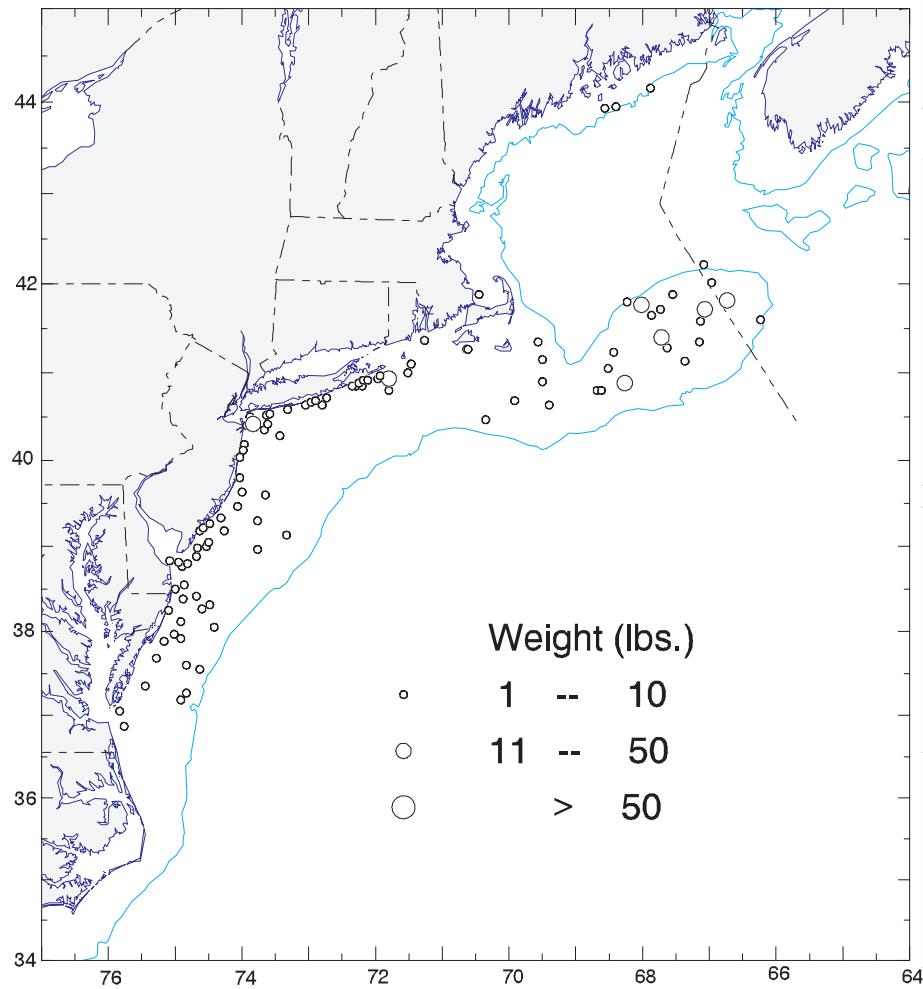
WINTER FLOUNDER  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003



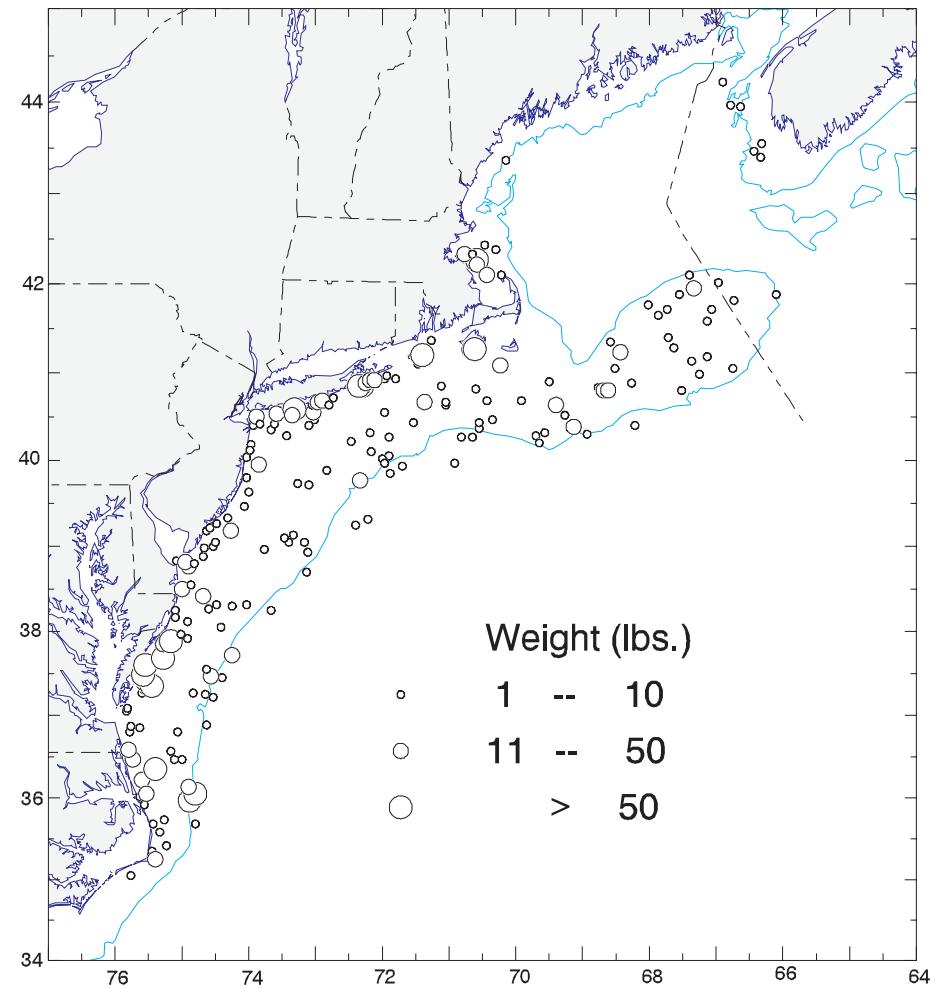
WITCH FLOUNDER  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003



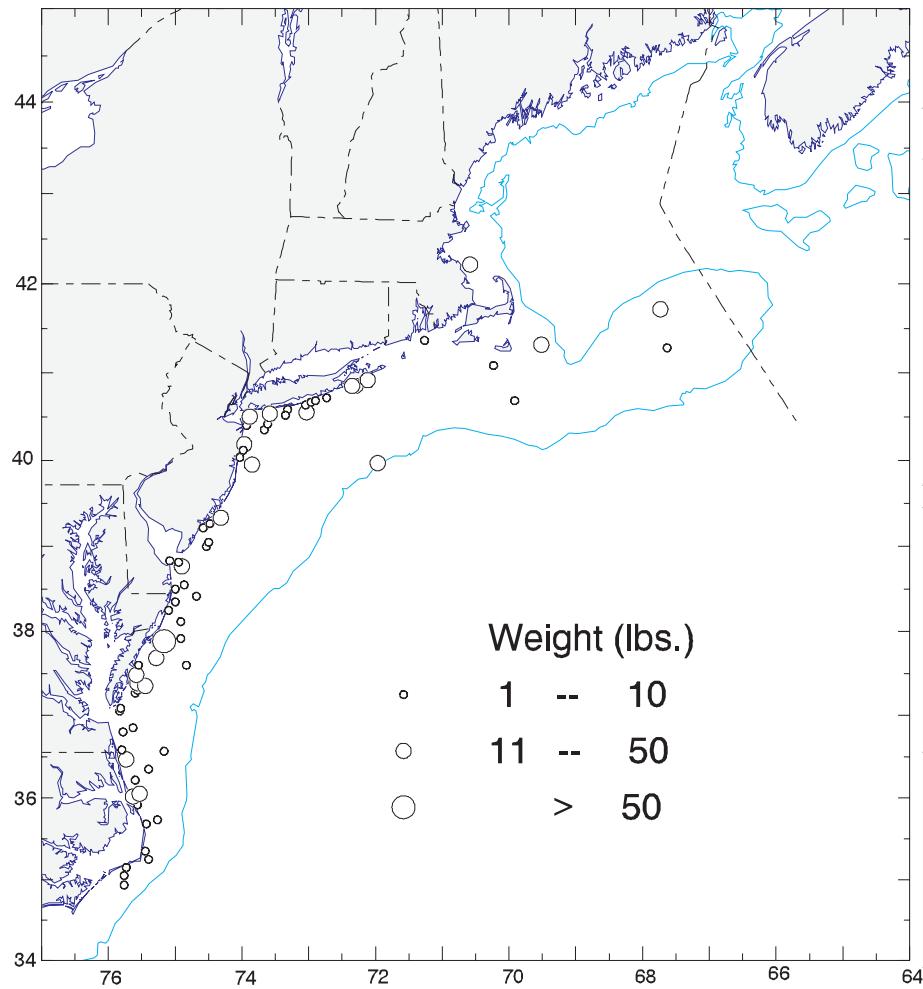
WINDOWPANE FLOUNDER  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003



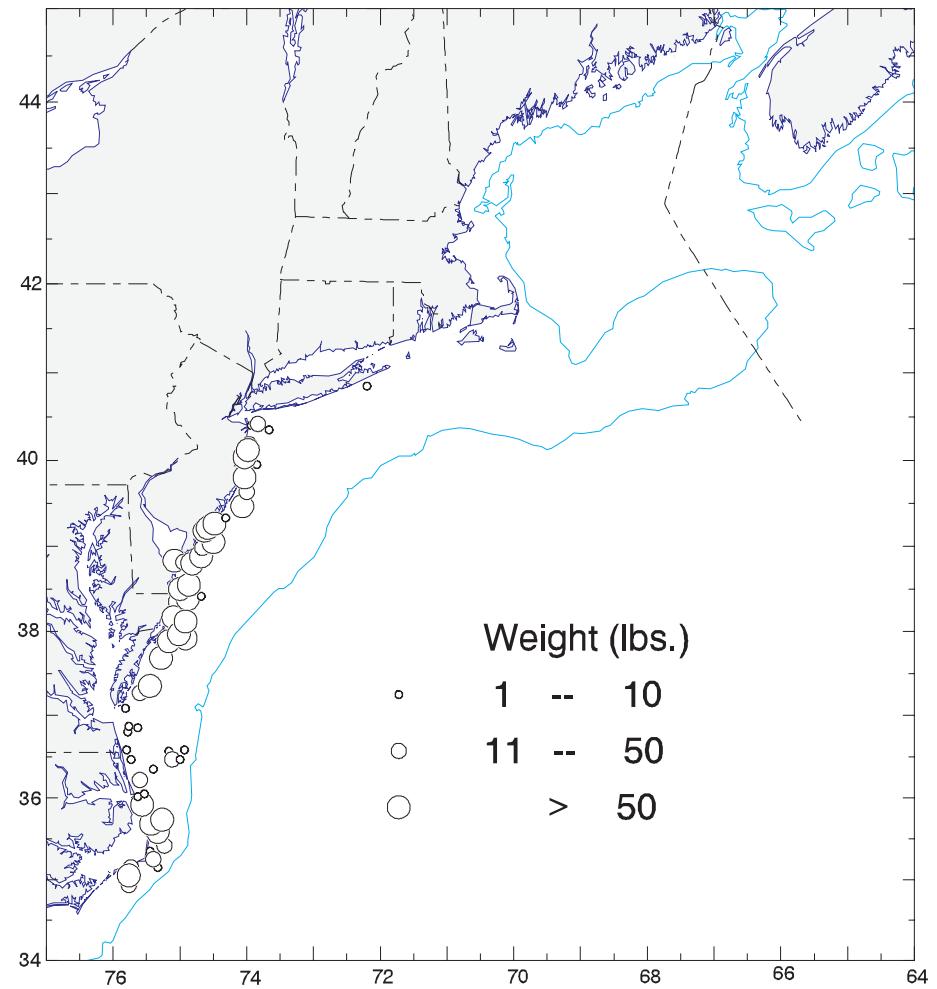
BUTTERFISH  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003



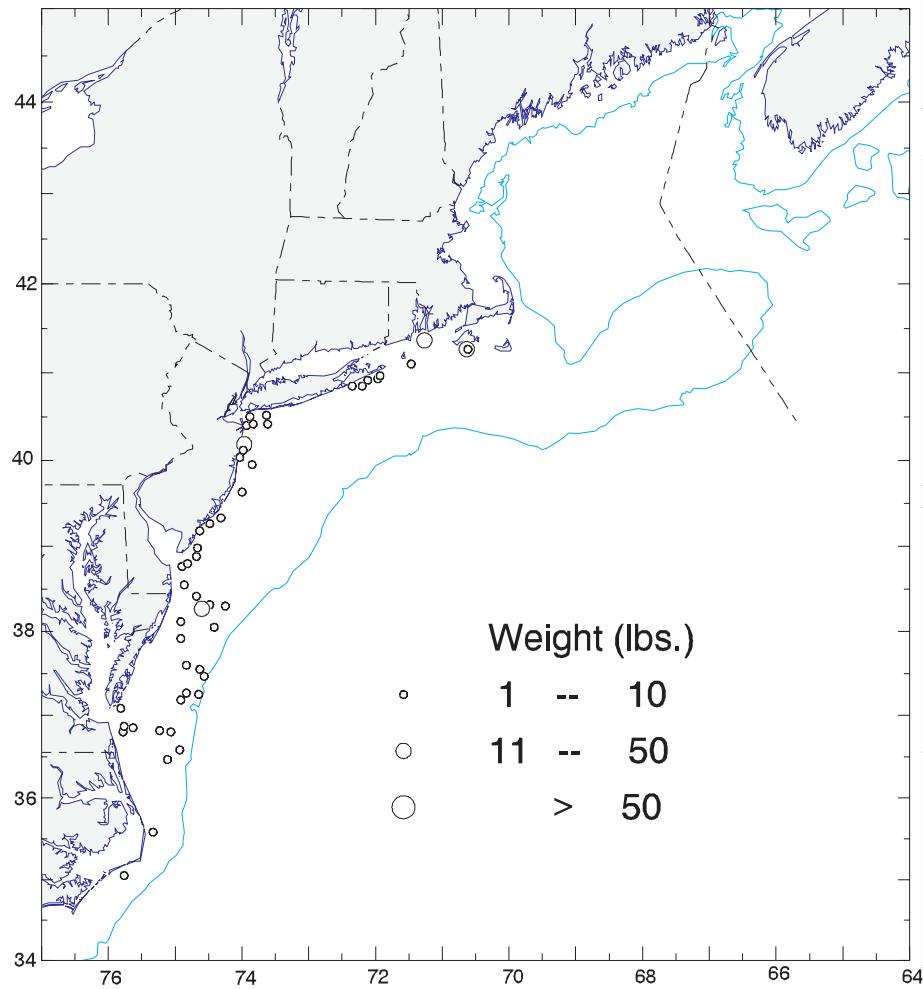
**BLUEFISH**  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003



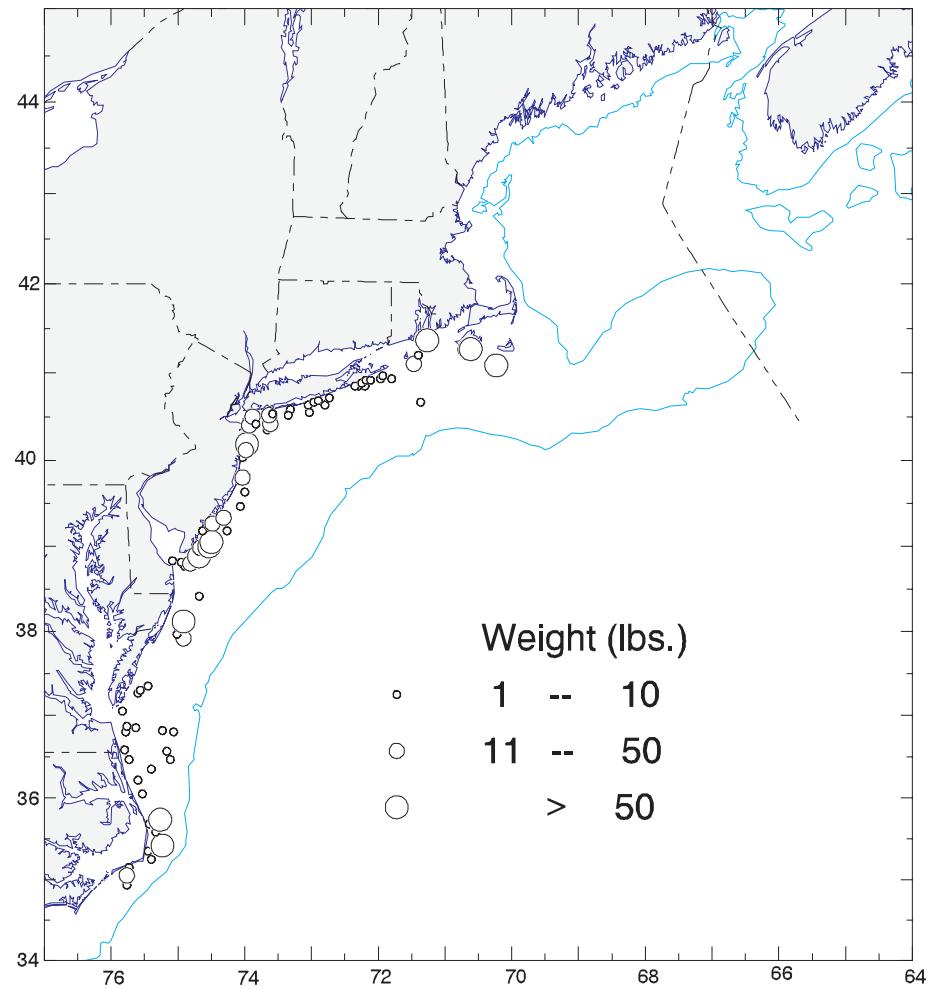
**ATLANTIC CROAKER**  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003



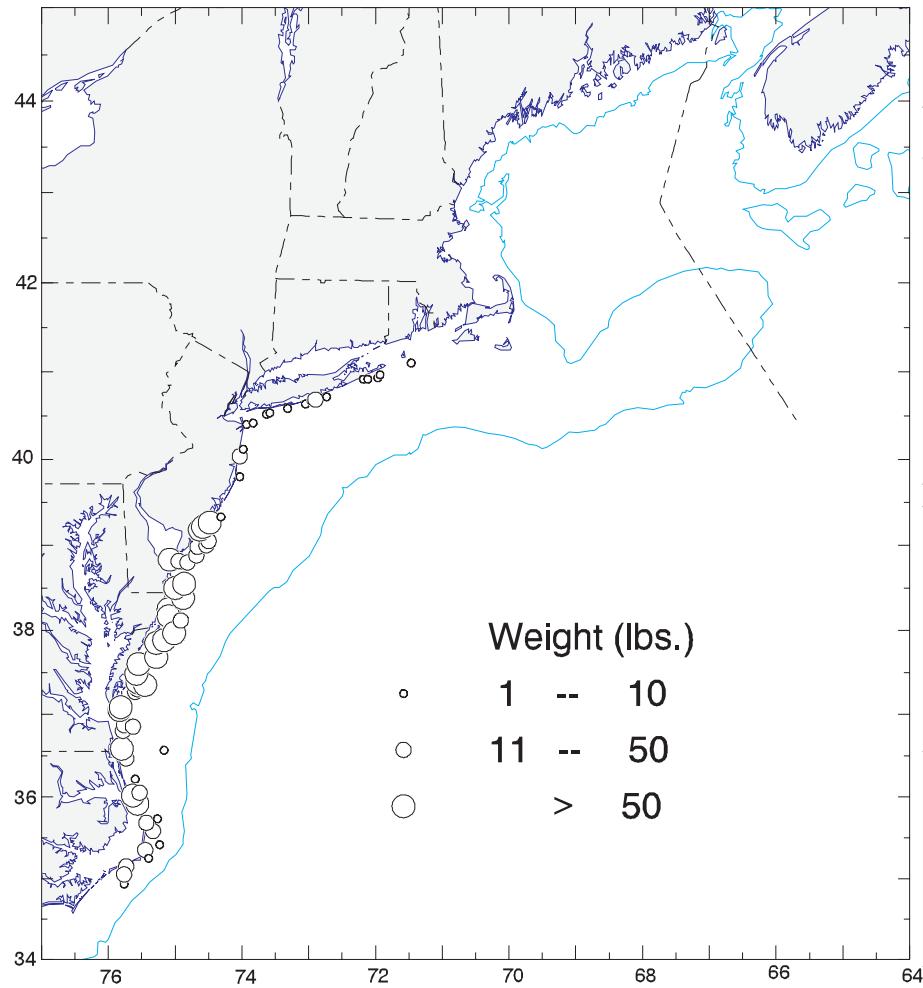
**BLACK SEA BASS**  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003



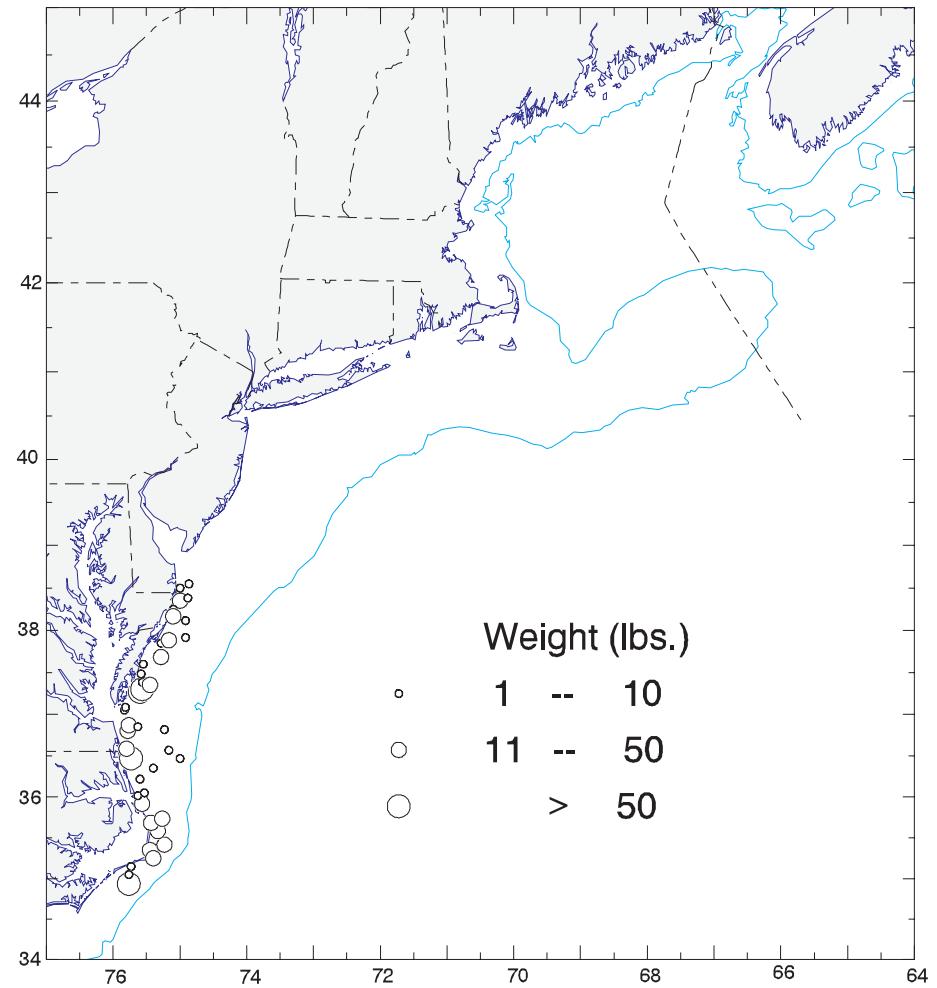
**SCUP**  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003



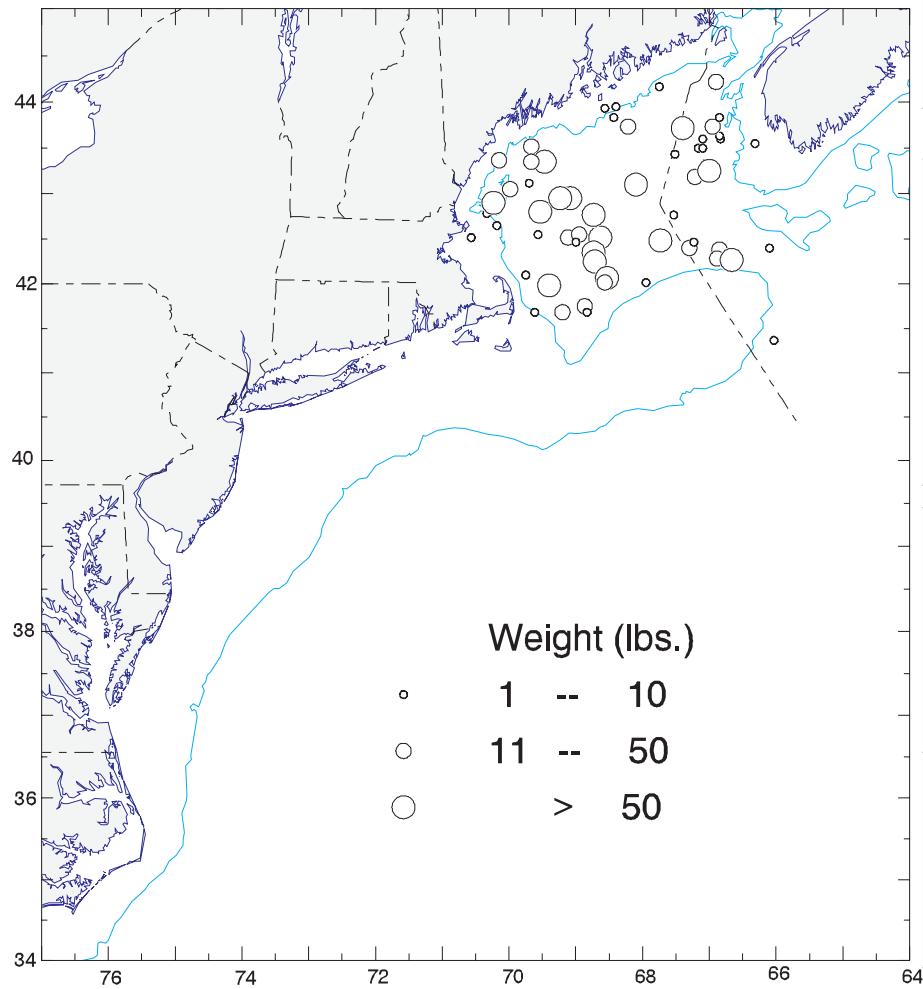
**WEAKFISH**  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003



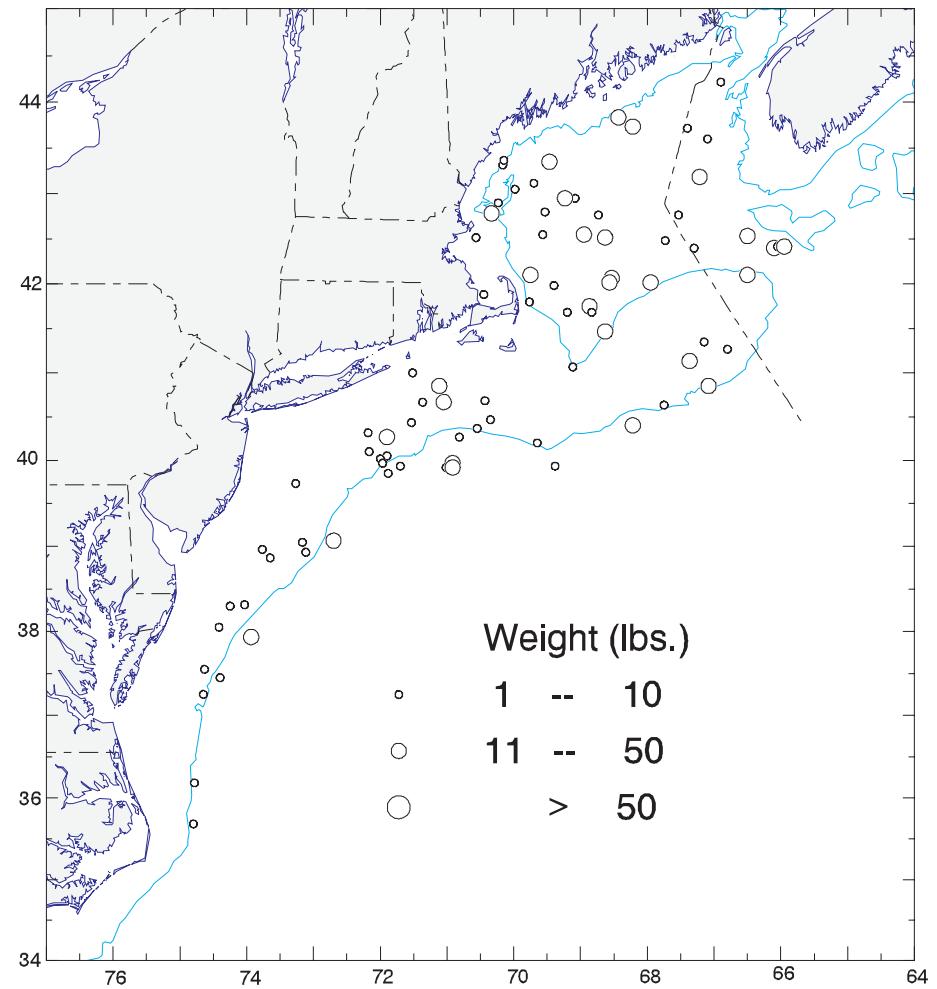
**SPOT**  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003



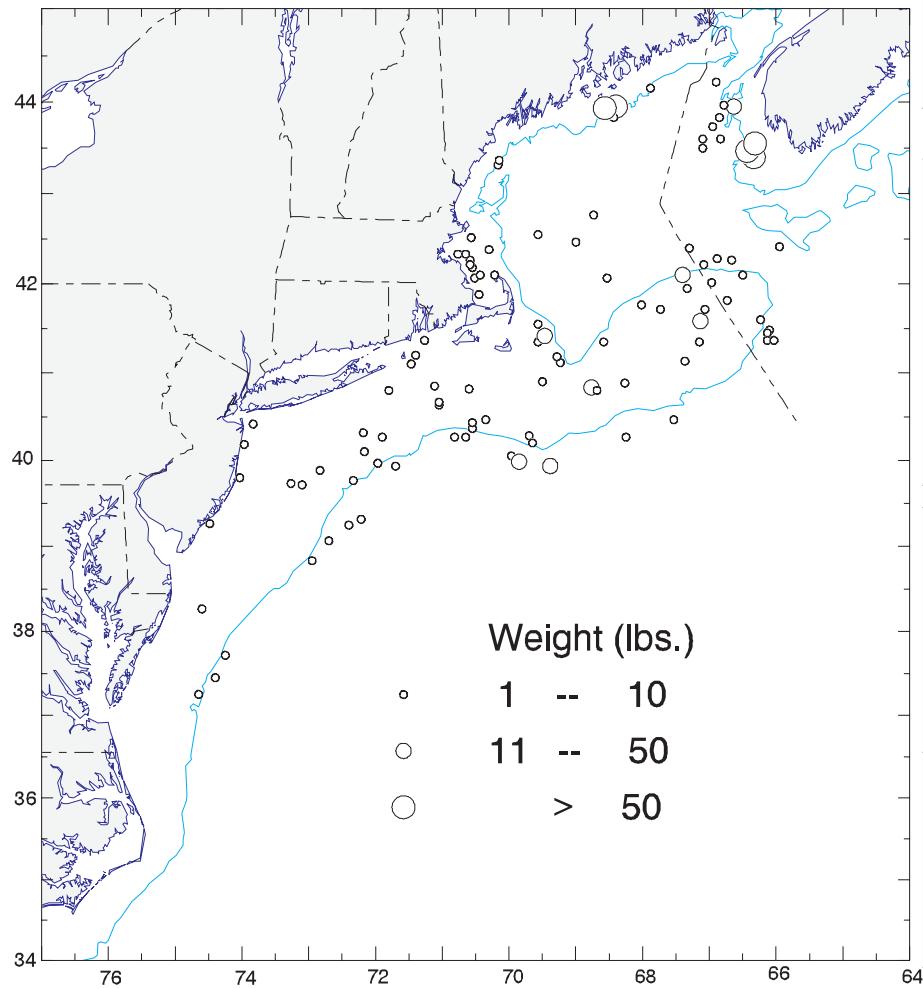
**ACADIAN REDFISH**  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003



**GOOSEFISH**  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003



**AMERICAN LOBSTER**  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003



**LONGFIN SQUID**  
NEFSC Bottom Trawl Survey  
SEP. 7 - NOV. 1, 2003

