

Proposed 2012 Observer Sea Day Allocation

**Prepared
for
Northeast Regional Coordinating Committee**

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Introduction

The Standardized Bycatch Reporting Methodology (SBRM) Omnibus Amendment was implemented on February 27, 2008 (NMFS 2008, NEFMC 2007) and subsequently vacated by the US District Court for the District of Columbia and remanded back to National Marine Fisheries Service (NMFS) on September 15, 2011. Nevertheless, the need to annually allocate observer coverage among fisheries prosecuted in Northeast region remains. The number of the sea days needed to monitor 14 federally managed fish/invertebrate species groups and one species of sea turtles have been estimated by the Northeast Fisheries Science Center (NEFSC). Based on the funding available for observer coverage, the numbers of sea days have been allocated by fleet for the April 2012 through March 2013 period.

Number of Sea Days Needed

Sample size analyses were conducted to estimate the numbers of sea days needed to monitor 14 federally managed fish and invertebrate species groups and one species of sea turtles (Table 1). For fish/invertebrate species groups, the numbers of sea days needed to achieve a 30% CV of total discards of each species groups were estimated for 55 fleets using data collected during the June 2010 through July 2011 utilizing estimation methods similar to those described in Wigley et al. (2007). The 2012 sea day analysis, described by Wigley et al. (in prep) estimated 18,822 sea days are needed for the 14 fish and invertebrate species groups (Table 2).

For loggerhead turtles, the numbers of sea days needed to achieve a 30% CV of turtle discards was estimated by fishery, defined as a managed fish or invertebrate species landed on vessels using bottom otter trawl, sink gillnet, or scallop dredge gear in the Mid-Atlantic region (see Murray in prep for details). The maximum amount of projected coverage across all the fisheries was considered the desired level of sampling to monitor turtle discards for that gear type. Roughly 4,300 days are needed across bottom trawl fisheries, based on estimated bycatch precision levels for trips catching *illlex* squid. Roughly 1,600 days are needed across sink gillnet fisheries, based on estimated bycatch precision levels for trips catching Atlantic croaker. Lastly, ~1,300 days are needed in the scallop dredge fishery, based on loggerhead bycatch precision levels after chain mats were implemented in the fishery (Table 3).

The numbers of sea days needed to achieve a 30% CV associated with the Mid-Atlantic¹ turtle gear types and fish/invertebrate fleets are given below.

¹ In the sea turtle sample size analysis, Mid-Atlantic refers to areas fished west of 70°W. In the fish/invertebrate sample size analysis, Mid-Atlantic refers to region based on port of departure from Connecticut and southward. Although it is recognized that port of departure may differ from the area fished, an odds ratio analysis conducted to evaluate broad-scale spatial coherence indicated a strong relationship between area fished (statistical area) and port of departure (region). Based upon this analysis, the 'Mid-Atlantic' stratifications used in two analyses were considered similar.

Turtle Gear Types and Fish Fleets	Sea Days	
	Loggerhead Turtles	Fish/Invertebrates Species Groups
MA Otter Trawl and Scallop Trawl Rows 5, 6, 9, 10, 11 and 12	4,364	9,096
MA Gillnet Rows 22, 23, and 24	1,582	166
MA Scallop Dredge Rows 30, 32, 34 and 36	1,293	675

The number of sea days needed for the combined fish/invertebrates and turtle species groups are derived as followed:

- If the sum of the sea days needed for fish/invertebrates species groups of the corresponding fish fleets exceeds the sea days needed for the turtle gear type, then the sea days needed for fish/invertebrate sea day are used.
- If the number of sea days needed for turtles for the gear type exceeds the sum of the sea days needed for fish/invertebrates of the corresponding fish fleets, then the sea days needed for turtles are distributed according to the proportion of sea days needed for fish/invertebrates of the corresponding fish fleets.

A total of 20,856 sea days are needed for fish/invertebrates and loggerhead turtles (COMBINED; Table 4) during the April 2012 through March 2013 period (Table 4).

Funding available for the April 2012 to March 2013 period

Based upon the March 13, 2012 provisional NEFSC’s Northeast Fisheries Observer Program (NEFOP) budget, there is agency funding for 8,786 days. Based upon an initial observer set-aside compensation rate analysis, there is industry funding for 3,606 days. There are 12,392 days available for observer coverage.

Below is a summary of the two funding source categories: agency-funded and industry-funded. Within the agency-funded category, there are six sub-categories.

- **Agency-funded:** Based on the March 13, 2012 budget, the NEFC has funds for 8,786 sea days. The funding sources for these sea days include: Atlantic Coast (484 days), New England Groundfish [2,448 NEFOP sea days, 5,255 At-Sea Monitoring (ASM) days partially funded by National Observer Program (NOP), Reducing Bycatch (49 days), National Observer Program (276 days), and Marine Mammal Protection Act (MMPA; 274 days). Each funding source has funding constraints (days targeted for specific species and/or data category).

- Of the 274 MMPA days, 258 days are associated with trips having sampling protocols that are specific to protected species and are not applicable for fish. However, these days will provide observer coverage for sea turtles above that which is allocated.
- 8,528 agency-funded days (8,786 – 258) are applicable for all species.
- Projected costs: \$1200/day for NEFOP days and \$900/day for ASM days
- **Industry-funded:** The number of industry-funded sea days available depends upon the total expected budget from the Research Set Aside (RSA) program and the increase in landings allowed for vessels carrying observers (i.e., the compensation rate). Based on projected landings and expected prices, the RSA program generates funds in support of discard monitoring of the scallop fleets. A compensation rate analysis was undertaken to support observer coverage of the nine industry-funded scallop fleets. The sea days for the nine industry-funded fleets are presented in Rows 9, 10, 12, 30, 31, 32, 33, 36, and 37 (Table 4).
 - Based on the initial compensation rate analysis, a total of 3,606 sea days can be funded: 1,713 days for Open areas, 240 days for Delmarva Access Area (DMV), 720 days for Hudson Canyon Access Area (HC), 240 days for Closed Area I (CAI), 453 days for Closed Area II (CAII), and 240 days in the Nantucket Lightship Access Area (NLAA).
 - The industry-funded schedule runs March 1 through February, a 12-month period that is shifted one month from the NEFOP sea day schedule of April to March.
 - A letter to vessel owners describes the set-aside compensation rate calculations.
 - Coverage of the nine fleets depends on industry activity among these fleets; however, the allocated sea days represent the maximum coverage (i.e. caps).
 - Limited Access General Category (LAGC) open area fleets are not industry-funded fleets (Rows 11, 34, and 35; Table 4).
 - Projected costs: \$775/day for industry-funded fleets.

Summary of sea days based on the provisional agency budget and initial compensate rate analysis, by funding source.

Funding Source	Sea Days
Agency-funded Total	8,786
Agency-funded applicable to all species	8,528
Agency-funded applicable to protected species	258
Industry-funded Total	3,606
Total	12,392

Allocation of Sea Days by Fleet

The 12,392 funded sea days were allocated to 31 of the 55 fleets (Table 4) according to the funding constraints associated with each funding source to support stock assessments and compliance monitoring. Over all fleets, a funding shortfall of 8,464 days (20,856 – 12,392) is expected.

Within the nine industry-funded fleets, there is not a shortfall in sea days (Table 4). The combined sea days needed for these fleets (2,289 days) does not exceed the 3,606 industry-funded days associated with Open areas (Rows 12, 36, and 37), Mid-Atlantic Access Areas (Hudson Canyon Access Area, Delmarva Access Area; Rows 9, 10, 30, and 32) and New England Access Areas (Closed Area I, Closed Area II, and Nantucket Lightship; Rows 31 and 33). The sea days for the industry-funded fleets will be assigned via the call-in system². The sea day coverage will depend on industry activity during the April 2012 through March 2013 period and will be capped as described above.

The non-industry-funded fleets with an * or ** (Table 4) indicated that some or all of the observer coverage will be assigned via the Pre-Trip Notification System³ (PTNS). This means that some or all of the observer coverage within each of these fleets will depend upon industry activity during the April 2012 through March 2013 period. The sea days for non-industry-funded fleets have been proportionally allocated based on the previous year's activity, and thus should be considered provisional. The total number of sea days for these fleets will be capped at 6,985 days. Of the 6,985 days, 6,593 days will be allocated for groundfish monitoring via the PTNS and 392 days will be allocated for monitoring *Loligo* trips via the PTNS (191 days for MA small-mesh otter trawl and 201 days for NE small-mesh otter trawl). There are three fleets (MA small-mesh otter trawl, MA large-mesh otter trawl fleet, and the NE small-mesh otter trawl fleet) that will have sea day coverage assigned via the PTNS and the NEFOP sea day schedule. All other fleets will have sea days assigned via the NEFOP sea day schedule.

It is important to note that for all fleets where allocated sea days are less than the number of sea days needed, the predicated precision for some species group may exceed a 30% CV. However, it does not mean that the predicted precision for *all* species will exceed 30%.

Further improvements in precision of discard estimates are limited by total funding and constraints on funding by region or species group. The Atlantic States Marine Fisheries Commission has secured funding through the Atlantic Coast Cooperative Statistical Program (ACCSP) to support observer coverage (331 days) for small-mesh otter trawl fleets in the Mid-Atlantic region. These sea days will provide observer coverage for all species above that which is allocated in this report.

² For more information on the call-in system for industry-funded scallop program, see http://www.nefsc.noaa.gov/femad/fishsamp/fsb/Scallop%202006/Industry%20Scallop%20Call%20in%20Guide_2009.pdf

³ For more information on the PTNS for New England groundfish and the *Loligo* fishery, see http://www.nefsc.noaa.gov/femad/fishsamp/fsb/Observer_Pre-Trip_Notification.html

References

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Wigley, SE, J. Blaylock, PJ Rago, and G. Shield. in prep. Discard Estimation and Sample Size Analysis for 14 federally managed species groups, 2012. Northeast Fisheries Science Center Reference Document. 146 p.

Table 1. List of the 14 fish and invertebrate species groups and one species of sea turtles (in bold), with species group abbreviations in parentheses, and the species comprising these groups, corresponding to the 13 federally managed fishery management plans in the Northeast region.

ATLANTIC SALMON (SAL)
BLUEFISH (BLUE)
FLUKE - SCUP - BLACK SEA BASS (FSB)
Black Sea Bass
Fluke
Scup
HERRING, ATLANTIC (HERR)
LARGE MESH GROUND FISH (GFL)
American Plaice
Atlantic Cod
Atlantic Halibut
Atlantic Wolffish
Haddock
Ocean Pout
Pollock
Redfish
White Hake
Windowpane Flounder
Winter Flounder
Witch Flounder
Yellowtail Flounder
MONKFISH (MONK)
RED CRAB (RCRAB)
SEA SCALLOP (SCAL)
SKATE COMPLEX (SKATE)
Barndoor Skate
Clearnose Skate
Little Skate
Rosette Skate
Smooth Skate
Thorny Skate
Winter Skate
SMALL MESH GROUND FISH (GFS)
Offshore Hake
Red Hake
Silver Hake
SPINY DOGFISH (DOG)
SQUID - BUTTERFISH - MACKEREL (SBM)
Atlantic Mackerel
Butterfish
Illex Squid
Loligo Squid
SURFLAM - OCEAN QUAHOG (SCOQ)
Surfclam
Ocean Quahog
TILEFISH (TILE)
LOGGERHEAD TURTLE (TURS)

Table 2. The number of sea days needed to achieve a 30% CV based on the variance of the total composite discard for each the fish/invertebrate species groups, the number of pilot sea days, and 2012 sea days (the maximum number of sea days needed for each fleet) based on July 2010 through June 2011 data. Red font indicates basis for fleet sea days; species group and fleet abbreviations are given in Table 1 and Appendix Table 1 respectively.

Row	Gear Type	Access Area	Trip Category	Region	Mesh	BLUE	HERR	SAL	RCRAB	SCAL	SBM	MONK	GFL	GFS	SKATE	DOG	FSB	SCOQ	TILE	Pilot days	2012 Sea Days Needed FISH	Pilot	
1	Longline	OPEN	all	MA	all	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	P
2	Longline	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	24
3	Hand Line	OPEN	all	MA	all	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	P
4	Hand Line	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	62	62
5	Otter Trawl	OPEN	all	MA	sm	0	0	0	3,231	0	364	0	497	545	397	325	513	0	0	0	160	3,231	
6	Otter Trawl	OPEN	all	MA	lg	0	0	0	5,551	0	0	164	141	0	107	333	173	0	0	0	266	5,551	
7	Otter Trawl	OPEN	all	NE	sm	0	0	0	0	0	411	0	461	451	531	1,151	489	0	0	0	168	1,151	
8	Otter Trawl	OPEN	all	NE	lg	0	0	0	3,879	0	0	568	76	280	261	229	788	0	0	0	415	3,879	
9	Scallop Trawl	AA	GEN	MA	all	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	P
10	Scallop Trawl	AA	LIM	MA	all	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	P
11	Scallop Trawl	OPEN	GEN	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	32
12	Scallop Trawl	OPEN	LIM	MA	all	163	163	163	163	163	163	163	163	163	163	163	163	163	163	163	163	163	P
13 +	Otter Trawl, Ruhle	OPEN	all	MA	lg	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	P
14 +	Otter Trawl, Ruhle	OPEN	all	NE	sm	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	P
15	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59	59
16 +	Otter Trawl, Haddock Separator	OPEN	all	MA	lg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8
17	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	0	0	0	0	0	0	0	0	0	0	257	567	0	0	0	100	567	
18	Shrimp Trawl	OPEN	all	MA	all	131	131	131	131	131	131	131	131	131	131	131	131	131	131	131	131	131	P
19	Shrimp Trawl	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	34	0	0	0	0	0	0	65	34
20	Floating Trap	OPEN	all	MA	all	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	P
21	Floating Trap	OPEN	all	NE	all	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	P
22	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	40
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43	43
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xl	0	0	0	0	0	0	70	0	0	83	0	0	0	0	0	0	61	83
25	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	P
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	0	0	0	0	0	0	0	0	0	0	0	97	0	0	0	134	97	
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xl	0	0	0	0	0	0	132	0	0	118	171	0	0	0	0	0	94	171
28	Purse Seine	OPEN	all	MA	all	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	P
29	Purse Seine	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	23
30	Scallop Dredge	AA	GEN	MA	all	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	P
31	Scallop Dredge	AA	GEN	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	14
32	Scallop Dredge	AA	LIM	MA	all	0	0	0	0	0	0	282	0	0	0	0	0	0	0	0	0	102	282
33	Scallop Dredge	AA	LIM	NE	all	0	0	0	0	0	0	189	0	0	0	0	0	0	0	0	0	121	189
34	Scallop Dredge	OPEN	GEN	MA	all	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	95	50
35	Scallop Dredge	OPEN	GEN	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	87	87
36	Scallop Dredge	OPEN	LIM	MA	all	0	0	0	0	0	0	312	0	0	164	0	0	0	0	0	0	238	312
37	Scallop Dredge	OPEN	LIM	NE	all	0	0	0	0	500	0	234	107	0	163	505	607	0	0	0	277	607	
38	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17
39	Mid-water Paired & Single Trawl	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	571	0	0	0	0	43	571	
40	Pots and Traps, Fish	OPEN	all	MA	all	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	P
41	Pots and Traps, Fish	OPEN	all	NE	all	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	P
42	Pots and Traps, Conch	OPEN	all	MA	all	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	P
43	Pots and Traps, Conch	OPEN	all	NE	all	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	P
44	Pots and Traps, Hagfish	OPEN	all	MA	all	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	P
45	Pots and Traps, Hagfish	OPEN	all	NE	all	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	P
46	Pots and Traps, Shrimp	OPEN	all	NE	all	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	P
47	Pots and Traps, Lobster	OPEN	all	MA	all	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	P
48	Pots and Traps, Lobster	OPEN	all	NE	all	429	429	429	429	429	429	429	429	429	429	429	429	429	429	429	429	429	P
49	Pots and Traps, Crab	OPEN	all	MA	all	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	P
50	Pots and Traps, Crab	OPEN	all	NE	all	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	P
51	Beam Trawl	OPEN	all	MA	all	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	P
52	Beam Trawl	OPEN	all	NE	all	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	P
53	Dredge, Other	OPEN	all	MA	all	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	P
54	Ocean Quahog/Surf Clam	OPEN	all	MA	all	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	P
55	Ocean Quahog/Surf Clam	OPEN	all	NE	all	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	P
					Totals	1,638	1,638	1,638	14,299	2,138	2,413	3,589	2,920	2,948	3,801	5,587	4,208	1,638	1,638	4,379	18,822		

Table 3. Projected Sea Day Needs to Monitor Turtle Bycatch on Trips Capturing Managed Species in the Mid-Atlantic. Maximum values are high-lighted in red.

Fish Species	Bottom Otter Trawl	Sink Gillnet	Dredge
	projected days	projected days	projected days
Black Drum		4	
Blue Crab	0		
Bluefish	9	500	
Coastal Migratory Spp	0	83	
Croaker	129	1582	
Dolphin/Wahoo	0		
Flounder (other)	0		
Herring	522		
Highly Mig Spp	0		
Horseshoe Crab	11		
Invertebrates	2		
Lobster	4		
Mackerel	306		
Squid (Illex)	4346		
Squid (Loligo)	528		
Squid (Unc)	23		
Butterfish	8		
Menhaden	24		
Monkfish	117	1026	
NE Multispp	96		
Red Crab	0		
Red Drum	0		
Sea Scallop	138		1293
Seatrout	0		
Shad & river Herring	13		
Shrimp, Northern	0		
Skates	540	585	
Smooth Dog	3	155	
Snapper/Grouper	0		
Spiny Dog	9	64	
Spot	0	362	
Striped Bass	2	151	
Summer Fl	67	32	
Scup	161		
Black Sea Bass	22		
Tautog	2		
Tilefish	1		
Weakfish	1	56	
Other	63		

Table 4. The number of sea days needed to monitor fish/invertebrates (FISH) and loggerhead turtles (TURS), and combined species groups (COMBINED) and proposed observer sea days allocated by fleet for April 2012 through March 2013.

Row	Gear Type	Access Area	Trip Category	Region	Mesh	2012 Sea Days Needed for FISH	2012 Sea Days Needed for TURS	2012 Sea Days Needed COMBINED	Sea Days Allocated for April 2012 - March 2013	Comments
1	Longline	OPEN	all	MA	all	67		67	21	Fish stock assessment support *
2	Longline	OPEN	all	NE	all	24		24	133	Fish stock assessment support *
3	Hand Line	OPEN	all	MA	all	81		81	0	
4	Hand Line	OPEN	all	NE	all	62		62	350	Fish stock assessment support *
5	Otter Trawl	OPEN	all	MA	sm	3,231	4,346	3,231	493	Fish stock assessment and turtle bycatch support **
6	Otter Trawl	OPEN	all	MA	lg	5,551		5,551	1,983	Fish stock assessment and turtle bycatch support **
7	Otter Trawl	OPEN	all	NE	sm	1,151		1,151	351	Fish stock assessment support **
8	Otter Trawl	OPEN	all	NE	lg	3,879		3,879	2,477	Fish stock assessment support *
9	Scallop Trawl	AA	GEN	MA	all	21	1,582	21		Industry funded* (see Row 32)
10	Scallop Trawl	AA	LIM	MA	all	98		98		Industry funded* (see Row 32)
11	Scallop Trawl	OPEN	GEN	MA	all	32		32	32	Fish stock assessment support
12	Scallop Trawl	OPEN	LIM	MA	all	163		163		Industry funded* (see Row 36)
13+	Otter Trawl, Ruhle	OPEN	all	MA	lg	9		9	0	
14+	Otter Trawl, Ruhle	OPEN	all	NE	sm	27		27	1	Fish stock assessment support *
15	Otter Trawl, Ruhle	OPEN	all	NE	lg	59		59	46	Fish stock assessment support *
16+	Otter Trawl, Haddock Separator	OPEN	all	MA	lg	8		8	0	
17	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	567		567	254	Fish stock assessment support *
18	Shrimp Trawl	OPEN	all	MA	all	131		131	0	
19	Shrimp Trawl	OPEN	all	NE	all	34		34	34	Fish stock assessment support
20	Floating Trap	OPEN	all	MA	all	6		6	0	
21	Floating Trap	OPEN	all	NE	all	6		6	0	
22	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	40	1,582	381	0	
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	43		410	0	
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xl	83		791	359	Fish stock assessment support *
25	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	41		41	0	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	97		97	800	Fish stock assessment support *
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xl	171		171	563	Fish stock assessment support *
28	Purse Seine	OPEN	all	MA	all	15		15	51	Fish stock assessment support
29	Purse Seine	OPEN	all	NE	all	23		23	116	Fish stock assessment support
30	Scallop Dredge	AA	GEN	MA	all	31		59		Industry funded* (see Row 32)
31	Scallop Dredge	AA	GEN	NE	all	14		14		Industry funded* (see Row 33)
32	Scallop Dredge	AA	LIM	MA	all	282	1,293	540	1,200	Industry funded* (Rows 9, 10, 30, & 32)
33	Scallop Dredge	AA	LIM	NE	all	189		189	693	Industry funded* (Rows 31 & 33)
34	Scallop Dredge	OPEN	GEN	MA	all	50		96	50	Fish stock assessment support
35	Scallop Dredge	OPEN	GEN	NE	all	87		87	43	Fish stock assessment support
36	Scallop Dredge	OPEN	LIM	MA	all	312		598	1,713	Industry funded* (Rows 12, 36, & 37)
37	Scallop Dredge	OPEN	LIM	NE	all	607		607		Industry funded* (see Rows 36)
38	Mid-water Paired & Single Trawl	OPEN	all	MA	all	17		17	8	Fish stock assessment support
39	Mid-water Paired & Single Trawl	OPEN	all	NE	all	571		571	234	Fish stock assessment support
40	Pots and Traps, Fish	OPEN	all	MA	all	25		25	0	
41	Pots and Traps, Fish	OPEN	all	NE	all	15		15	0	
42	Pots and Traps, Conch	OPEN	all	MA	all	27		27	0	
43	Pots and Traps, Conch	OPEN	all	NE	all	26		26	0	
44	Pots and Traps, Hagfish	OPEN	all	MA	all	3		3	0	
45	Pots and Traps, Hagfish	OPEN	all	NE	all	74		74	0	
46	Pots and Traps, Shrimp	OPEN	all	NE	all	6		6	0	
47	Pots and Traps, Lobster	OPEN	all	MA	all	65		65	0	
48	Pots and Traps, Lobster	OPEN	all	NE	all	429		429	80	Fish stock assessment support
49	Pots and Traps, Crab	OPEN	all	MA	all	12		12	0	
50	Pots and Traps, Crab	OPEN	all	NE	all	67		67	0	
51	Beam Trawl	OPEN	all	MA	all	31		31	0	
52	Beam Trawl	OPEN	all	NE	all	16		16	0	
53	Dredge, Other	OPEN	all	MA	all	41		41	0	
54	Ocean Quahog/Surf Clam Dredge	OPEN	all	MA	all	67		67	0	
55	Ocean Quahog/Surf Clam Dredge	OPEN	all	NE	all	38		38	0	
	Herring CAI coverage								49	Coverage associated with Rows 28, 29, 38, & 39
	MMPA coverage ***								258	Coverage associated with Rows 22, 23, 24, 26 & 27
	Total					18,822	7,221	20,856	12,392	

* all coverage is dependent on industry activity; ** Some coverage is dependent on industry activity; *** coverage for protected species bycatch (not applicable to fish); + = new fleets in 2012.

Appendix Table 1. Stratification abbreviations used for 2012 fleets (Tables 2 and 4).

Abbreviation	Definition
MA	Mid-Atlantic ports (CT and southward)
NE	New England ports (RI and northward)
sm	Small mesh (less than 5.5 inches)
lg	Large mesh (5.5 to 7.99 inches)
xlg	Extra-large mesh (8 inches and greater)
LIM	Limited access category
GEN	General category
OPEN	Non-access area
AA	Access area