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## **Standardized Bycatch Reporting Methodology Prioritization, 2009**

### **Background**

As established by the Standard Bycatch Reporting Methodology (SBRM) omnibus amendments, Councils and public are provided an opportunity to consider and provide input into, decisions regarding prioritization of at-sea observer coverage allocations, if the expected resources necessary may not be available to achieve CV-based performance goals. In any year in which external operational constraints would prevent NMFS from fully implementing the required at-sea observer coverage levels, the Regional Administrator and Science and Research Director will consult with the Councils to determine the most appropriate prioritization for how the available resources should be allocated.

The attached table (Table 1) summarizes the planned allocation of 6,161 at-sea observer days for the 12 month period from April 2009 to March 2010. These allocations reflect information available through February 2009. The SBRM recommendations have been updated using the same method specified in the Amendment using the most recent 12 months of data, July 2007 to June 2008. As specified in the Amendment, the April 2009 to March 2010 allocations are compared to the updated SBRM recommendations of 15,125 days.

### **1. At-sea Observer Coverage Levels Required to Attain SBRM Performance in Each Applicable Fishery**

The Omnibus Amendment calls for attainment of CVs of no more than 30% in each unique fishing gear mode/species combination. Thus, for each fishing mode (Table 1), a CV of 30% or less is to be attained for each species within that mode. Some mode/species combinations contribute very little to the total mortality or discard of the species, but may require significant resources to characterize the precision of the estimate. For example, a high variance estimate for a rare event within a fishing mode would require high levels of sampling, even though the total discard in that mode was unimportant with respect to either the total discard or total mortality on the resource. The preferred alternative thus emphasizes mode/species combinations which address the combined influence of 95% of the total discards of the species group and 98% of the total mortality of the species. Application of this filter leads to CVs of 30% or better for all species groups in the reduced set of fishing mode x species group cells. Species include fishes and sea turtles, but exclude marine mammals. The updated number of sea days required to attain these performance levels by mode is summarized in Table 1, "Updated Omnibus Amendment Preferred Alternative." Current resources are inadequate to support this coverage (15,125 sea days). As noted above, the initial SBRM recommendations have been updated using July 2007 to June 2008 data.

### **2. Coverage Levels Available If Available Resources Were Allocated Proportionately Across All Applicable Fisheries**

Available resources were characterized as number of sea days which could be supported in April 2009 to March 2010 period based on funding through New England Groundfish, and Atlantic Coast Observer funding programs. Although each program has specific fish/protected species/data category targets associated with that funding, those restrictions were not considered in this summary. Thus, funding earmarked to observe New England groundfish bycatch was assumed to be transferable to any fishing mode, regardless of region, for example. Funding dedicated to implementation of the Marine Mammal Protection Act, including observer coverage to estimated bycatch of marine mammals, was not included in this summary, because marine mammal species were not included in the SBRM coverage targets. A total of 6,161 sea days were considered available for proportionate allocation.

*Note: Presentation given to NEFMC on February 9, 2009 and to MAFMC on February 12, 2009*

Those sea days were distributed in the same proportion as the 15,125 sea days required to attain SBRM performance. Elements in the Table 1 column labeled “Available Coverage with shortfall applied proportionally” were obtained by multiplying the column “Updated Omnibus Amendment Preferred Alternative” by 0.4073 (= 6,161/15,125). This achieves the same relative distribution of days as the SBRM performance schedule, although the CVs of estimates for each species in each mode will not be affected equally.

### **3. Coverage Levels That Incorporate the Recommended Prioritization; Justification for Prioritization**

Recommended prioritization is summarized as “Prioritized April 2009 – March 2010 Coverage” (Table 1). This represents the proposed observer sea day schedule.

New England groundfish funding is primarily used to support three objectives in the New England region:

To insure that program-specific and negotiated TACs are not exceeded, relatively intense monitoring of SAP/B day and US-Canada sharing fisheries is supported (1,940 sea days). Those days cannot be allocated to specific fishing modes a priori, because coverage depends on real-time industry use of DAS categories and call-in data. It is important to note that the SAP/B day and US/CAN days will be addition to the sea days assigned to fleets fishing in New England and using gear that catch groundfish.

To monitor bycatch of groundfish in the Atlantic herring fishery, a dedicated program covers mid-water trawl and purse seine components of the fishery, with statistical performance standards for that specific objective (240 sea days).

To insure optimal coverage of fishing modes to estimate discards for stock assessments, an optimization tool is used to allocate the remaining sea days among modes harvesting the New England groundfish complex (2,976 sea days).

Implementation of the optimization tool for April 2009 – March 2010 allocations is based on the same data set used for the updated SBRM performance targets. Higher or lower sample sizes are now required for some components depending on changes in variability within a fishing mode over time. As indicated in Table 1, the fishing modes that lacked observer coverage in July 2007 to June 2008 were allocated sea days at the “pilot” coverage level (2% of trips with a cap of 100 trips per calendar quarter) in the SBRM report. There are 24 fishing modes identified for pilot coverage based on 2007/2008 data. One fishing mode (Scottish seine) is no longer active. The updated SBRM performance target analysis includes six additional fishing modes (Table 1, rows 42 to 47).

Atlantic Coast funding supports the estimation of sea turtle bycatch in mixed trawl and purse seine fisheries (485 sea days), supporting biological opinions and planned rulemaking. The optimization tool is used to allocate coverage among modes to most effectively estimate discards of summer flounder, scup, black sea bass and monkfish to support fish stock assessments (460 sea days).

Discovery days are held in reserve to address emerging questions of scientific and management interest as the year progresses, to minimize disruption to statistically designed on-going coverage (60 sea days).

Table 1. Standardized Bycatch Reporting Methodology Prioritization Information, April 2009 to March 2010, based on data from July 2007 to June 2008.

	Fishing Mode	Updated Omnibus Amendment Preferred Alternative: 95% of Discards & 98% of Mortality	Available Coverage with shortfall applied proportionally	Prioritized April 2009 - March 2010 Coverage	April 2009 - March 2010 Difference from Preferred Alternative	April 2009 - March 2010 Percentage of Preferred Alternative	Justification	Basis for SBRM Recommended Coverage
1	NE Clam Dredge	46	19	0	-46	0%		Pilot
2	MA Clam Dredge	122	50	0	-122	0%		Pilot
3	NE Crab Pot	70	29	0	-70	0%		Pilot
4	MA Crab Pot	28	12	0	-28	0		Pilot
5	NE Fish Pot	17	7	0	-17	0		Pilot
6	MA Fish Pot	28	11	0	-28	0		Pilot
7	NE Small-mesh Gillnet	12	5	0	-12	0	(4 days for marine mammal bycatch not included in this SBRM summary)	Pilot
8	MA Small-mesh Gillnet	1,155	470	0	-1,155	0	(192 days for marine mammal bycatch not included in this SBRM summary)	
9	NE Large-mesh Gillnet	187	76	680	494	365	Fish stock assessment optimization (134 days for marine mammal bycatch not included in this SBRM summary)	
10	MA Large-mesh Gillnet	139	57	0	-139	0	(32 days for marine mammal bycatch not included in this SBRM summary)	
11	NE X-Large-mesh Gillnet	171	69	34	-137	20	Fish stock assessment optimization (90 days for marine mammal bycatch not included in this SBRM summary)	
12	MA X-Large-mesh Gillnet	1,273	519	55	-1,218	4	Fish stock assessment optimization (33 days for marine mammal bycatch not included in this SBRM summary)	
13	NE Handline	44	18	0	-44	0		Pilot
14	MA Handline	80	32	0	-80	0		Pilot
15	NE Lobster Pot	430	175	0	-430	0		Pilot
16	MA Lobster Pot	69	28	0	-69	0		Pilot
17	NE Longline	456	186	104	-352	23	Fish stock assessment optimization	
18	MA Longline	108	44	0	-108	0		Pilot
19	NE Mid-Water Trawl	433	176	123	-310	28	Atlantic herring bycatch monitoring	
20	MA Mid-Water Trawl	41	17	12	-29	30	Atlantic herring bycatch monitoring	Pilot
21	NE Small-mesh Trawl	4,027	1,640	129	-3,898	3	Fish stock assessment optimization	
22	MA Small-mesh Trawl	1,495	609	225	-1,270	15	Fish stock assessment optimization (213), protected species mixed trawl (12)	
23	NE Large-mesh Trawl	1,233	502	1,978	745	160	Fish stock assessment optimization	
24	MA Large-mesh Trawl	1,459	594	655	-804	45	Fish stock assessment optimization (192), protected species mixed trawl (463)	
25	NE Purse Seine	24	10	71	47	297	Atlantic herring bycatch monitoring	
26	MA Purse Seine	10	4	44	34	440	Fish stock assessment optimization (34), protected species (10)	Pilot
27	NE Scallop Dredge OL	254	103	IF			Industry funded	
28	MA Scallop Dredge OL	398	162	IF			Industry funded	
29	NE Scallop Dredge CL	233	95	IF			Industry funded	
30	MA Scallop Dredge CL	271	110	IF			Industry funded	
31	NE Scallop Dredge OG	43	18	6	-37	14	Fish stock assessment support	
32	MA Scallop Dredge OG	167	68	29	-138	17	Fish stock assessment support	
33	NE Scallop Dredge CG	26	11	IF			Industry funded	Pilot
34	MA Scallop Dredge CG	36	15	IF			Industry funded	Pilot
35	MA Scallop Trawl OL	97	39	0	-97	0		Pilot
36	MA Scallop Trawl OG	39	16	0	-39	0		Pilot
37	NE Scottish Seine						No vessels fishing with this gear	
38	NE Shrimp Trawl	61	25	16	-45	26	Fish stock assessment support	
39	MA Shrimp Trawl	80	33	0	-80	0		Pilot
40	SAP/B day/US-CAN			1,940	1,940		Days will be allocated according to call-in DAS procedures	
41	Discovery			60	60		Days are not allocated above but will be conducted under NEFOP schedule	
42	NE Conch Pot & Trap	14	6	0	-14	0		Pilot
43	MA Conch Pot & Trap	15	6	0	-15	0		Pilot
44	NE Hagfish Pot & Trap	55	22	0	-55	0		
45	MA Hagfish Pot & Trap	106	43	0	-106	0		Pilot
46	MA Scallop Trawl CG	27	11	0	-27	0		Pilot
47	MA Scallop Trawl CL	46	19	0	-46	0		Pilot
Total Number Days		15,125	6,161	6,161	-7,746			
Projected Cost		\$18,149,520	\$7,393,200	\$7,393,200	-\$9,295,080			

OL= Open Area, Limited Access ; CL= Closed Area, Limited Access; OG= Open Area, General Category; CG=Closed Area, General Category