4.0 ALTERNATIVES UNDER CONSIDERATION

4.1 Updates to Status Determination Criteria, and Annual Catch Limits

4.1.1 Revised Status Determination Criteria

4.1.1.1 Option 1: No Action

No Action. There would be no revisions to the status determination criteria (SDC) of groundfish stocks, and numerical estimates would not change (Table 1 and Table 2).

Table 1 - No Action status determination criteria.

Stock	Biomass Target (SSBMSY or proxy)	Minimum Biomass Threshold	Maximum Fishing Mortality Threshold (FMSY or proxy)
Georges Bank Cod	SSB _{MSY} : SSB/R (40% MSP)	½ Btarget	F40% MSP
Gulf of Maine Cod	SSB _{MSY} : SSB/R (40% MSP)	½ Btarget	F40% MSP
Georges Bank Haddock	SSB _{MSY} : SSB/R (40% MSP)	½ Btarget	F40% MSP
Gulf of Maine Haddock	SSB _{MSY} : SSB/R (40% MSP)	½ Btarget	F40% MSP
Georges Bank Yellowtail Flounder	Unknown	Unknown	Unknown
Southern New England/Mid-Atlantic Yellowtail Flounder	SSB _{MSY} : SSB/R (40% MSP)	½ Btarget	F40% MSP
Cape Cod/Gulf of Maine Yellowtail Flounder	SSB _{MSY} : SSB/R (40% MSP)	½ Btarget	F40% MSP
American Plaice	SSB _{MSY} : SSB/R (40% MSP)	½ Btarget	F40% MSP
Witch Flounder	SSB _{MSY} : SSB/R (40% MSP)	½ Btarget	F40% MSP
Georges Bank Winter Flounder	SSB_{MSY}	½ Btarget	F_{MSY}
Gulf of Maine Winter Flounder	Unknown	Unknown	F40% MSP
Southern New England/Mid-Atlantic Winter Flounder	SSB _{MSY}	½ Btarget	F_{MSY}
Acadian Redfish	SSB _{MSY} : SSB/R (50% MSP)	½ Btarget	F50% MSP
White Hake	SSB _{MSY} : SSB/R (40% MSP)	½ Btarget	F40% MSP
Pollock	SSB _{MSY} : SSB/R (40% MSP)	½ Btarget	F40% MSP
Northern Windowpane Flounder	External	½ Btarget	Rel F at replacement
Southern Windowpane Flounder	External	½ Btarget	Rel F at replacement
Ocean Pout	External	½ Btarget	Rel F at replacement
Atlantic Halibut	Internal	½ Btarget	F _{0.1}
Atlantic Wolffish	SSB _{MSY} : SSB/R (40% MSP)	½ Btarget	F40% MSP

Table 2 - No Action numerical estimates of SDCs.

Stock	Model/	B_{MSY} or	F _{MSY} or Proxy	MSY (mt)
	Approach	Proxy (mt)		
Georges Bank Cod	ASAP	186,535	0.177	30,622
Gulf of Maine Cod	ASAP	47,184	0.18	7,753
	M=0.2			
	ASAP	69,621	0.18	11,388
	M-ramp			
Georges Bank Haddock	VPA	124,900	0.39	28,000
Gulf of Maine Haddock	ASAP	4,108	0.46	955
Georges Bank Yellowtail Flounder	empirical	NA	NA	NA
Southern New England/Mid-Atlantic	ASAP	2,995	0.32	773
Yellowtail Flounder				
Cape Cod/Gulf of Maine Yellowtail	VPA	7,080	0.259	1,600
Flounder				
American Plaice	VPA	18,398	0.179	3,385
Witch Flounder	VPA	10,051	0.27	2,075
Georges Bank Winter Flounder	VPA	8,100	0.44	3,200
Gulf of Maine Winter Flounder	empirical	NA	0.23	NA
			(exploitation rate)	
Southern New England/Mid-Atlantic Winter Flounder	ASAP	43,661	0.29	11,728
Acadian Redfish	ASAP	238,480	0.038	8,891
White Hake	ASAP	32,400	0.20	5,630
Pollock	ASAP	76,879	0.273	14,791
Northern Windowpane Flounder	AIM	1.60 kg/tow	0.44 c/i	700
Southern Windowpane Flounder	AIM	0.24 kg/tow	2.088 c/i	500
Ocean Pout	index	4.94 kg/tow	0.76 c/i	3,754
Atlantic Halibut	RYM	48,509	0.073	3,546
Atlantic Wolffish	SCALE	1,756	0.334	261

4.1.1.2 Option 2: Revised Status Determination Criteria

This option updates the numerical estimates of the status determination criteria for all groundfish stocks (Table 3). The M-S Act requires that every fishery management plan specify "objective and measureable criteria for identifying when the fishery to which the plan applies is overfished." Guidance on this requirement identifies two elements that must be specified: a maximum fishing mortality threshold (or reasonable proxy) and a minimum stock size threshold.

The M-S Act also requires that FMPs specify the maximum sustainable yield and optimum yield for the fishery. The NEFSC conducted assessment for all groundfish stocks in 2015. The peer review recommended updated numerical values are provided in

Table 4, for information purposes only. Option 2 would also adopt revised status determination criteria for GB cod and Atlantic halibut (Table 3). The peer review concluded that the GB cod and Atlantic halibut models were not acceptable as a scientific basis for catch advice, and that stock status and catch advice should be based an alternative approach. Because a stock assessment model framework is lacking for GB cod and Atlantic halibut, no historical estimates of biomass, fishing mortality rate, or recruitment can be calculated for these stocks. Status determination relative to reference points is not possible because reference points cannot be defined. Overfishing status is considered unknown (

Table 4). In addition, the peer review concluded for both stocks that evidence suggests that these stocks should still be considered overfished.

Rationale: This option would update the status determination criteria for all groundfish stocks to reflect the best scientific information. This is consistent with M-S Act requirements.



Table 3 - Option 2 status determination criteria

Stock	Biomass Target	Minimum	Maximum Fishing
	(SSBMSY or	Biomass	Mortality Threshold
	proxy)	Threshold	(FMSY or proxy)
Georges Bank Cod	Unknown	Unknown	Unknown
Gulf of Maine Cod	SSB _{MSY} : SSB/R (40% MSP)	½ Btarget	F40% MSP
Georges Bank Haddock	SSB _{MSY} : SSB/R (40% MSP)	½ Btarget	F40% MSP
Gulf of Maine Haddock	SSB _{MSY} : SSB/R (40% MSP)	½ Btarget	F40% MSP
Georges Bank Yellowtail Flounder	Unknown	Unknown	Unknown
Southern New England/Mid-Atlantic Yellowtail Flounder	SSB _{MSY} : SSB/R (40% MSP)	½ Btarget	F40% MSP
Cape Cod/Gulf of Maine Yellowtail Flounder	SSB _{MSY} : SSB/R (40% MSP)	½ Btarget	F40% MSP
American Plaice	SSB _{MSY} : SSB/R (40% MSP)	½ Btarget	F40% MSP
Witch Flounder	SSB _{MSY} : SSB/R (40% MSP)	½ Btarget	F40% MSP
Georges Bank Winter Flounder	SSB_{MSY}	½ Btarget	F_{MSY}
Gulf of Maine Winter Flounder	Unknown	Unknown	F40% MSP
Southern New England/Mid-Atlantic Winter Flounder	SSB_{MSY}	½ Btarget	F_{MSY}
Acadian Redfish	SSB _{MSY} : SSB/R (50% MSP)	½ Btarget	F50% MSP
White Hake	SSB _{MSY} : SSB/R (40% MSP)	½ Btarget	F40% MSP
Pollock	SSB _{MSY} : SSB/R (40% MSP)	½ Btarget	F40% MSP
Northern Windowpane Flounder	External	½ Btarget	Rel F at replacement
Southern Windowpane Flounder	External	½ Btarget	Rel F at replacement
Ocean Pout	External	½ Btarget	Rel F at replacement
Atlantic Halibut	Unknown	Unknown	Unknown
Atlantic Wolffish	SSB _{MSY} : SSB/R (40% MSP)	½ Btarget	F40% MSP

Table 4 - Option 2 numerical estimates of SDCs (provided for informational purposes only).

Stock	Model/	B _{MSY} or	F _{MSY} or Proxy	MSY (mt)
	Approach	Proxy (mt)	•	
Georges Bank Cod	Recent	NA	NA	NA
-	catches			
	reduced by			
	trends in			
	the surveys			
	for catch			
	advice			
Gulf of Maine Cod	ASAP	40,187	0.185	6,797
	M=0.2			
	ASAP	59,045	0.187	10,043
	M-ramp			
Georges Bank Haddock	VPA	108,300	0.39	24,900
Gulf of Maine Haddock	ASAP	4,623	0.468	1,083
Georges Bank Yellowtail Flounder	empirical	NA	NA	NA
Southern New England/Mid-Atlantic	ASAP	1,959	0.35	541
Yellowtail Flounder				
Cape Cod/Gulf of Maine Yellowtail	VPA	5,259	0.279	1,285
Flounder				
American Plaice	VPA	13,107	0.196	2,675
Witch Flounder	VPA	9,473	0.279	1,957
Georges Bank Winter Flounder	VPA	6,700	0.536	2,840
Gulf of Maine Winter Flounder	empirical	NA	0.23	NA
			(exploitation rate)	
Southern New England/Mid-Atlantic Winter Flounder	ASAP	26,928	0.325	7,831
Acadian Redfish	ASAP	281,112	0.038	10,466
White Hake	ASAP	32,550	0.188	5,422
Pollock	ASAP	105,226	0.277	19,678
Northern Windowpane Flounder	AIM	1.554 kg/tow	0.45 c/i	700
Southern Windowpane Flounder	AIM	0.247 kg/tow	2.027 c/i	500
Ocean Pout	index	4.94 kg/tow	0.76 c/i	3,754
Atlantic Halibut	Status quo as basis for	NA	NA	NA
	catch advice			
Atlantic Wolffish	SCALE	1,663	0.243	244
Attailue WOIIIISII	SCALE	1,003	0.243	244

Annual Catch Limits

4.1.1.3 Option 1: No Action

No Action. There would be no changes to the specifications for FY 2016 – FY 2017 that were adopted by FW53 file rule (Table 6). Default catch limits for stocks would remain in place until July 31st, 2016; none of the default specifications would need to be reduced since the SSC's recommended FY 2016 ABC's are greater than the default specifications (Table 5). A scallop fishery sub-ACL for SNE/MA yellowtail flounder would not be specified. There would be no FY 2016 quotas specified for the transboundary Georges Bank stocks (i.e. GB cod, GB haddock, GB yellowtail flounder), which are managed through the US/CA Resource Sharing Understanding. These quotas are specified annually.

Rationale: The No Action alternative would not be consistent with best available scientific information. Because not all stocks have specifications for FY2016 – FY2017 and default catch limits are set at 35% of the prior year's catch limit and expire on July 31st, 2016, this alternative would not address M-S act requirements to achieve OY requirements and consider the needs of fishing communities.

Table 5 - FY2016 Default Specifications compared to the SSC's recommended FY 2016 ABC's (mt).

Table 5 - FY2016 Def	tault Spe	cification	ns compared to	the SSC's recor	nmended FY	2016 ABC's	<u>(mt).</u>	
			FY2016 D	efault Specifica	ations			
	U.S. ABC	Total ACL	Groundfish Sub-ACL	Sector Sub- ACL	Common pool sub- ACL	Midwater trawl fishery	FY2016 - U.S. ABC	
GB Cod	693	660	625	612	13		762	
GB Haddock	8,528	8,121	7,616	7,548	68	79	56,068	
SNE/MA Yellowtail Flounder	245	232	195	155	40		267	
CC/GOM Yellowtail Flounder	192	184	161	153	8		427	
American Plaice	540	514	492	483	9		1,297	
Witch Flounder	274	263	213	208	5		394	
SNE/MA Winter Flounder	587	563	457	402	56		780	
Redfish	4,191	3,988	3,862	3,840	22		10,338	
N. Windowpane Flounder	53	50	35	na	35		182	
S. Windowpane Flounder	192	184	36	na	36		623	
Ocean Pout	82	77	68	na	68		165	
Atlantic Halibut	35	34	22	na	22		139	
Atlantic Wolffish	25	23	22	na	22		82	

Table 6 - No Action/Option 1 Northeast Multispecies OFLs, ABCs, ACLs, and other ACL sub-components for FY 2016 (metric tons, live weight). Values are rounded to the nearest metric ton. Default specifications for FY 2016 are shown in italics, and remain in place through July 31st, 2016.

Stock	Year	OFL	US ABC	State Waters Sub- Compo nent	Other sub- compone nts	Scallo ps	Groundfish Sub-ACL	Comm Ground- fish Sub- ACL	Rec Ground -fish Sub- ACL	Prelimina ry Sectors Sub-ACL	Prelim inary Non- sector Groun d-fish Sub- ACL	MWT or Small mesh Sub- ACL	Total ACL
GB Cod	2016 2017		693				625			612	13		660
	2017												
GOM Cod	2016	514	386	26	13		328	7	121	201	6		366
	2017 2018	514	386	26	13		328		121	201	6		366
GB	2016		8,528				7,616	7,616		7,548	68	79	8,121
Haddock	2017 2018												
GOM	2016	2,270	1,772	13	26		1,620		453	1,155	12	16	1,675
Haddock	2017 2018	2,707	2,125	26	31		1,943		543	1,386	14	20	2,009
GB	2016		354		4	55				274	4	7	343
Yellowtail Flounder	2017 2018												
SNE/MA	2016		245	400			195			155	40		232
Yellowtail	2017												
Flounder	2018												
CC/GOM	2016		192				161			153	8		184
Yellowtail	2017												
Flounder	2018												
American	2016		540				492			483	9		514
Plaice	2017												
XX7'. 1	2018		27.4				212			200			262
Witch Flounder	2016 2017		274				213			208	5		263
riounder	2017												
	2010												

Stock	Year	OFL	US ABC	State Waters Sub- Compo nent	Other sub- compone nts	Scallo ps	Groundfish Sub-ACL	Comm Ground- fish Sub- ACL	Rec Ground -fish Sub- ACL	Prelimina ry Sectors Sub-ACL	Prelim inary Non- sector Groun d-fish Sub- ACL	MWT or Small mesh Sub- ACL	Total ACL
GB Winter	2016				63		1,982			1,967	15		2,046
Flounder	2017 2018				65		2,051			2,035	16		
GOM	2016	3,383	2,107	87	10	_	392			375	18		489
Winter Flounder	2017 2018	3,511	2,180	87	10		392			375	18		489
SNE/MA Winter Flounder	2016 2017 2018		587				457			402	56		563
Redfish	2016 2017 2018		4,191				3,862			3,840	22		3,988
White Hake	2016 2017 2018	6,314	4,645	46	93		4,280			4,250	30		4,420
Pollock	2016	21,864	16,600	996	1,162		13,720			13,628	92		15,878
	2017 2018	24,598	16,600	996	1,162		13,720			13,628	92		15,878
GOM/GB Windowpa ne Flounder	2016 2017 2018		53				35				35		50
SNE/MA Windowpa ne Flounder	2016 2017 2018		192				184				36		184
Ocean Pout	2016 2017 2018		82				77				68		77
Atlantic Halibut	2016 2017 2018		35				34				22		34

Stock	Year	OFL	US ABC	State Waters Sub- Compo nent	Other sub- compone nts	Scallo ps	Groundfish Sub-ACL	Comm Ground- fish Sub- ACL	Rec Ground -fish Sub- ACL	Prelimina ry Sectors Sub-ACL	Prelim inary Non- sector Groun d-fish Sub- ACL	MWT or Small mesh Sub- ACL	Total ACL
Atlantic	2016		25				23				22		23
Wolffish	2017												
	2018												



4.1.1.4 Option 2: Revised Annual Catch Limit Specifications

Under Option 2, the annual specification for FY 2016 – FY 2018 for all groundfish stocks and FY2016 – FY2017 for GB yellowtail flounder would be as specified in Table 10. Option 2 includes adjustments to the state waters and other sub-component values from those specified in FW 53 under the No Action (see Appendix III for additional information). Table 11 provides the Closed Area I Hook Gear Haddock SAP.

U.S./ Canada TACs

This alternative would specify TACs for the U.S./Canada Management Area for FY 2016 as indicated in Table 7. If NMFS determines that FY 2015 catch of GB cod, haddock, or yellowtail flounder from the U.S./Canada Management Area exceeded the respective 2015 TAC, the U.S./Canada Resource Sharing Understanding and the regulations require that the 2016 TAC be reduced by the amount of the overage. Any overage reduction would be applied to the components of the fishery that caused the overage of the U.S. TAC in 2015. In order to minimize any disruption to the fishing industry, NMFS would attempt to make any necessary TAC adjustment in the first quarter of the fishing year.

In addition under Option 2, a 2017 target TAC of 50,000 mt for EGB haddock is identified to be used as an upper bound with determining 2017 catch advice (Table 10). This number is expected to be reviewed in 2016 by the Transboundary Management Guidance Committee (TMGC).

A comparison of the proposed FY 2016 U.S. TACs and the FY 2015 U.S. TACs is shown in Table 8. Changes to the U.S. TACs reflect changes to the percentage shares, stock status, and the TMGC recommendations.

Table 7 - Proposed FY2016 U.S./Canada TACs (mt).

	Eastern GB Cod	Eastern GB Haddock	GB Yellowtail Flounder
Total Shared TAC	625	37,000	354 (Total ABC)
U.S. TAC	138	15,170	269 (US ABC)
Canada TAC	487	21,830	85

Table 8 - Comparison of the Proposed FY 2016 U.S. TACs and the FY 2015 U.S. TACs (mt).

Stock	U.S.	Percent Change	
	FY 2016 FY 2015		
Eastern GB cod	138	124	+11.3%
Eastern GB haddock	15,170	17,760	-14.6%
GB yellowtail flounder	269	248	+8.5%

Scallop Fishery Sub-ACL for SNE/MA Yellowtail Flounder

This option would continue to specify scallop fishery sub-ACLs for SNE/MA yellowtail founder. A sub-ACL for SNE/MA yellowtail flounder for the scallop fishery was adopted through Amendment 16, and the Council selected an allocation for the scallop fishery though FW44 and FW50. Since FY2011, the sub-ACL has been based on 90 percent of the estimated scallop fishery catch, though the Council is not bound by its earlier decisions. Table 9 describes projected SNE/MA yellowtail bycatch in the scallop fishery for scallop FW27 alternatives, which range from 37.2 mt – 40.6 mt in FY2016. Two potential scallop fishery SNE/MA yellowtail flounder sub-ACLs are shown in Table 10, and are intended to provide the Council with a range of potential subs-ACLs.

In addition, this sub-ACL would be managed in a manner that would prevent the loss of available yield of this stock. NMFS would evaluate catches of SNE/MA yellowtail flounder by the scallop fishery by January 15 of the fishing year. Should the estimate indicate that the scallop fishery will catch less than 90 percent of the entire sub-ACL, NMFS will reduce the scallop fishery sub-ACL to the amount expected to be caught and increase the groundfish sub-ACL by up to the difference between the original estimate and the revised estimate. The increase to groundfish sub-ACL will be distributed to sectors and the common pool. If the amount of yellowtail flounder projected to be caught by the scallop fishery exceeds the scallop fishery sub-ACL, there will not be any change to the sub-ACL.

Table 9 - Summary of projected SNE/MA yellowtail flounder bycatch estimates (mt) for Scallop Framework 27 alternatives and potential sub-ACL allocations (90% of estimated catch). The management uncertainty buffer for the scallop fishery SNE/MA yellowtail flounder sub-ACL is 7%, i.e. a sub-ACL of 33.5mt would be reduced to 31.2mt).

	SNE/MA YT – US ABC = 267mt in FY 2016- FY 2018											
	Alt. 2	Alt. 3	Alt. 5									
	(BaseRun)	(CA2ext)	(NL-N access)									
FY	Projection	Projection	Projection									
	37.2	37.6	38.3-40.6									
2016	(90% = 33.5)	(90%=33.8)	(90% = 34.5 - 36.5)									
	38.9	40.4	38.9									
2017	(90% = 35.0)	(90% = 36.4)	(90% = 35.0)									
	40.4	43.9	40.5									
2018	(90% = 36.4)	(90% = 39.6)	(90% = 36.5)									

Rationale: This measure would adopt new specifications for groundfish management units that are consistent with the most recent assessment information. For all stocks, only one alternative to No Action is shown. This is because the values in Option 2 represent the best scientific information, as determined by the Council's Scientific and Statistical Committee, and the M-S Act requires that catches not be set higher than these levels. Any catches below these levels would not mitigate economic impact on fishing communities. This measure would also adjust state waters and other sub-component ACLs to reflect recent sub-component performance.

The U.S. and Canada coordinate management of three management units that overlap the boundary between the two countries on Georges Bank. Agreement on the amount to be caught is reached each year by the TMGC. This framework includes the recommendations of the TMGC, which are consistent with the most recent TRAC assessments.

Table 10 - Option 2 Revised OFLs, ABC, and ACLs. Stocks which are underlined would be subject to adjustments in 2017 & 2018 based on US/CA quotas. SNE/MA scallop sub-ACLs are based on the highest estimated bycatch (high, 100%), and 90% of the lowest bycatch estimate (low, 90%) of all FW27 alternatives (Table 9).

Stock	Year	OFL	US ABC	State Waters Sub- Compon ent	Other sub- compone nts	Scallop	Groundfish Sub-ACL	Comm Ground- fish Sub-ACL	Rec Ground- fish Sub- ACL	Preliminar y Sectors Sub-ACL	Prelimi nary Non- sector Groun d-fish Sub- ACL	MWT or Small mesh Sub- ACL	Total ACL
GB Cod	2016	1,665	762	23	99		608	608		595	13		730
	2017	1,665	1,249	37	162		608	608		975	22		1,197
	2018	1,665	1,249	37	162		608	608		975	22		1,197
GOM Cod	2016	667	500	27	10		437	280	157	273	8		473
	2017	667	500	27	10		437	280	157	273	8		473
	2018	667	500	27	10		437	280	157	273	8		473
GB Haddock	2016	160,385	56,068	561	561		51,667	51,667		51,209	458	521	53,309
	2017	258,691	48,398	484	484		44,599	44,599		44,204	395	450	46,017
-	2018	358,077	77,898	779	779		71,783	44,599		71,147	636	724	74,065
GOM	2016	4,717	3,630	26	26		3,344	2,416	928	2,385	31	34	3,430
Haddock	2017	5,873	4,534	33	33		4,177	3,017	1,160	2,979	39	42	4,285
-	2018	6,218	4,815	35	35		4,436	3,204	1,231	3,163	41	45	4,550
<u>GB</u>	2016		269		3	42	211	211		207	4	5	261
Yellowtail	2017		354		4	55	278	278		273	5	7	343
Flounder	2018												
SNE/MA	2016		267	5	29	<u>38</u>	182	182		145	37		255
Yellowtail Flounder	2017		267	5	29	<u>37</u>	182	182		145	37		255
(high, 100%)	2018		267	5	29	<u>41</u>	179	179		142	37		255
SNE/MA	2016		267	5	29	31	189	189		150	39		255
Yellowtail Flounder	2017		267	5	29	33	187	187		149	39		255
(low, 90%)	2018		267	5	29	34	186	186		148	38		255

Stock	Year	OFL	US ABC	State Waters Sub- Compon ent	Other sub- compone nts	Scallop	Groundfish Sub-ACL	Comm Ground- fish Sub-ACL	Rec Ground- fish Sub- ACL	Preliminar y Sectors Sub-ACL	Prelimi nary Non- sector Groun d-fish Sub- ACL	MWT or Small mesh Sub- ACL	Total ACL
CC/GOM	2016	555	427	43	26		341	341		325	16		409
Yellowtail	2017	707	427	43	26		341	341		325	16		409
Flounder	2018	900	427	43	26		341	341		325	16		409
American	2016	1,695	1,297	26	26		1,183	1,183		1,160	23		1,235
Plaice	2017	1,748	1,336	27	27		1,218	1,218		1,195	23		1,272
	2018	1,840	1,404	28	28		1,280	1,280		1,256	24		1,337
Witch	2016	513	394	12	59		307	307		300	7		379
Flounder	2017	925	394	12	59		307	307		300	7		379
	2018	974	394	12	59		307	307		300	7		379
GB Winter	2016	957	668		60		590	590		584	6		650
Flounder	2017	1,056	668		60		590	590		584	6		650
	2018	1,459	668		60		590	590		584	6		650
GOM	2016	1,080	810	122	16		639	639		604	35		776
Winter	2017	1,080	810	122	16		639	639		604	35		776
Flounder	2018	1,080	810	122	16		639	639		604	35		776
SNE/MA	2016	1,041	780	70	94		585	585		514	71		749
Winter	2017	1,021	780	70	94		585	585		514	71		749
Flounder	2018	1,587	780	70	94		585	585		514	71		749
Redfish	2016	13,723	10,338	103	207		9,526	9,526		9,471	55		9,837
	2017	14,665	11,050	111	221		10,183	10,183		10,124	59		10,514
	2018	15,260	11,501	115	230		10,598	10,598		10,537	61		10,943
White Hake	2016	4,985	3,754	38	75		3,459	3,459		3,434	25		3,572
	2017	4,816	3,624	36	72		3,340	3,340		3,315	24		3,448
	2018	4,733	3,560	36	71		3,281	3,281		3,257	24		3,387
Pollock	2016	27,668	21,312	1,279	1,279		17,817	17,817		17,705	112		20,374
	2017	32,004	21,312	1,279	1,279		17,817	17,817		17,705	112		20,374
	2018	34,745	21,312	1,279	1,279		17,817	17,817		17,705	112		20,374
GOM/GB	2016	243	182	2	109		66	66			66		177

Stock	Year	OFL	US ABC	State Waters Sub- Compon ent	Other sub- compone nts	Scallop	Groundfish Sub-ACL	Comm Ground- fish Sub-ACL	Rec Ground- fish Sub- ACL	Preliminar y Sectors Sub-ACL	Prelimi nary Non- sector Groun d-fish Sub- ACL	MWT or Small mesh Sub- ACL	Total ACL
Windowpan	2017	243	182	2	109		66	66			66		177
e Flounder	2018	243	182	2	109		66	66			66		177
SNE/MA	2016	833	623	37	249	209	104	104			104		599
Windowpan	2017	833	623	37	249	209	104	104			104		599
e Flounder	2018	833	623	37	249	209	104	104			104		599
Ocean Pout	2016	220	165	2	17		137	137			137		155
	2017	220	165	2	17		137	137			137		155
	2018	220	165	2	17		137	137			137		155
Atlantic	2016	210	124	25	4		91	91			91		119
Halibut	2017	210	124	25	4		91	91			91		119
	2018	210	124	25	4		91	91			91		119
Atlantic	2016	110	82	1	3		72	72			72		77
Wolffish	2017	110	82	1	3		72	72			72		77
	2018	110	82	1	3		72	72			72		77

Table 11 - CAI Hook Gear Haddock SAP TACs (FY2014 - FY2016).

Year	Exploitable Biomass (thousand mt)	WGB Exploitable Biomass	B(year)/B(2004)	TAC (mt, live weight)	
2016	428,303	149,906	5.488	6,202	
2017	739,567	258,848	9.477	10,709	
2018	1,145,309	400,858	14.677	16,584	

4.2 Fishery Program Administration

4.2.1 <u>Implementation on Additional Sector</u>

4.2.1.1 Option 1: No Action

No Action. The list of operating sectors would be limited to the 24 sectors that have been authorized through prior actions.

4.2.1.2 Option 2: Implement a New Sector for FY 2016

One additional sector would be implemented and allowed to operate on May 1, 2016. This sector would be called the Sustainable Harvest Sector II, which would be comprised of active groundfish vessels, similar to the existing Sustainable Harvest Sectors. The proposed Sustainable Harvest Sector II operations plan is substantially similar to the Sustainable Harvest Sector III operations plan, and falls within the scope of the 2015 sector programmatic EA.

Rationale: The Council received one new sector application for consideration in FW 55. A sector that wishes to begin operating in a given fishing year is required to submit a proposal and preliminary operations plan one year prior to the beginning of that fishing year. The addition of this new sector would provide flexibility for fishery participants to adapt to changing regulatory and legal circumstances.

4.2.2 <u>Sector Approval Process</u>

4.2.2.1 Option 1: No Action

No Action. The process for creating a new sector, as described in Amendment 16, would not change. Under current regulations, an appropriate NEPA document must be prepared by a potential new sector and submitted to NMFS through the Council in an action that assesses the impacts of forming the sector.

Sector operations plans must be reviewed and approved before the sector can operate. A sector must submit its preliminary operations plan to the Council no less than one year prior to the date that it plans to begin operations. The Council must decide whether or not to approve the implementation of an additional sector through an action (Amendment or Framework). Any sector that is authorized by the Council must also submit an operations plan to NMFS. Final operations plans may cover a two-year period and must be submitted to NMFS no later than September 1 prior to the fishing year in which the sector will operate. NMFS may consult with the Council and will solicit public comment on the operations plan consistent with the Administrative Procedures Act (APA). Upon review of the public comments, the RA may approve or disapprove sector operations through a final determinate consistent with the APA.

4.2.2.2 Option 2: Revised Process for Approving New Northeast Groundfish Sectors

The process for approving new groundfish sectors would be changed, such that new sectors would not need to be approved through a Council action. A sector would be required to notify the Council and NMFS in writing of its intent to form a new sector no later than 30 days prior to the deadline to submit an operations plan for the following fishing year.

A sector would submit an operations plan consistent with the existing process for operations plan approval. The operations plan shall be accompanied by a cover letter requesting formation of the new sector and the approval of the operations plan. After the deadline to submit operations plans for new sectors, NMFS would notify the Council in writing of its intent to consider new sectors for approval. Prior to the approval of new sector(s), the Council would add review of new sectors to the agenda of the next available Council meeting (prior to NMFS final decision). Council comments would be submitted to NMFS prior to the end of the comment period for the proposed rule. The agency would explain any deviations from those recommendations when sectors are approved/disapproved.

The Council would also provide the Groundfish Committee an opportunity to discuss the proposals in a public meeting prior to the Council meeting.

NMFS would make a determination about formation of the proposed sector consistent with the APA, and would approve or disapprove the operations plan through the existing process.

Rationale: This option would add flexibility to the sector approval process, particularly with regard to the requirement for the Council to approve new sectors through a Council Action, and the requirement to submit a new sector formation proposal one year prior to when the sector wishes to begin operations. This option would continue to allow the Council to review new sector applications for consistency with the requirements and goals of the sector program in section 4.2.3 of Amendment 16 (p.98).

4.2.3 Modification to the Definition of the Haddock Separator Trawl

4.2.3.1 Option 1: No Action

If this option is adopted, there would be no change to the current definition of the haddock separator trawl at 50 CFR 648.85(a)(3)(iii)(A):

(A) Haddock Separator Trawl. A haddock separator trawl is defined as a groundfish trawl modified to a vertically oriented trouser trawl configuration, with two extensions arranged one over the other, where a codend shall be attached only to the upper extension, and the bottom extension shall be left open and have no codend attached. A horizontal large mesh separating panel constructed with a minimum of 6.0 inch (15.2 cm) diamond mesh must be installed between the selvedges joining the upper and lower panels, as described in paragraph (a)(3)(iii)(A) and (B) of this section, extending forward from the front of the trouser junction to the aft edge of the first belly behind the fishing circle.

- (1) Two-seam bottom trawl nets—For two seam nets, the separator panel will be constructed such that the width of the forward edge of the panel is 80-85 percent of the width of the after edge of the first belly of the net where the panel is attached. For example, if the belly is 200 meshes wide (from selvedge to selvedge), the separator panel must be no wider than 160-170 meshes wide.
- (2) Four-seam bottom trawl nets—For four seam nets, the separator panel will be constructed such that the width of the forward edge of the panel is 90-95 percent of the width of the after edge of the first belly of the net where the panel is attached. For example, if the belly is 200 meshes wide (from selvedge to selvedge), the separator panel must be no wider than 180-190 meshes wide. The separator panel will be attached to both of the side panels of the net along the midpoint of the side panels. For example, if the side panel is 100 meshes tall, the separator panel must be attached at the 50th mesh.

4.2.3.2 Option 2: Revised definition of the haddock separator trawl

The current definition of the haddock separator trawl would be changed, requiring that the horizontal large mesh separator panel must have mesh of a contrasting color to those sections of the net that it separates. All other net specifications would remain unchanged.

Rationale: Option 2 would make the separator panel in the trawl highly visible, thereby improving the identification of the separator panel in the net, facilitating enforcement of the haddock separator trawl. It is expected that a clearly recognizable separator panel would led to faster inspections by the United States Coast Guard, allowing vessels to continue on with normal fishing operations in a more timely manner.

4.3 Commercial and Recreational Fishery Measures

4.3.1 Groundfish Monitoring Program

4.3.1.1 Option 1: No Action

No Action. The groundfish monitoring program would remain as defined in Amendment 16 and Framework 48, including the goals, objectives, and standards for monitoring the fishery, as well as the responsibility for funding monitoring, as outlined below.

The goals and objectives of the monitoring program (\S 648.11(l)) are as follows:

Goal 1: Improve documentation of catch

Objectives:

- Determine total catch and effort, for each sector and common pool, of target or regulated species.
- Achieve coverage level sufficient to minimize effects of potential monitoring bias to the extent possible while maintaining as much flexibility as possible to enhance fleet viability.

Goal 2: Reduce cost of monitoring

Objectives:

- Streamline data management and eliminate redundancy.
- Explore options for cost-sharing and deferment of cost to industry.
- Recognize opportunity costs of insufficient monitoring.

Goal 3: Incentivize reducing discards

Objectives:

- Determine discard rate by smallest possible strata while maintaining cost effectiveness.
- Collect information by gear type to accurately calculate discard rates.

Goal 4: Provide additional data streams for stock assessments

Objectives:

- Reduce management uncertainty and/or biological uncertainty.
- Perform biological sampling if it may be used to enhance accuracy of mortality or recruitment calculations.

Goal 5: Enhance safety of monitoring program

Goal 6: Perform periodic review of monitoring program effectiveness

Other Pertinent Program Elements:

- The primary goal of observers or at-sea monitors for sector monitoring is to verify area fished, catch, and discards by species and by gear type.
- For allocated groundfish stocks caught by sectors, the coefficient of variation must be met for each stock at the overall stock level.
- Sector operations plans will specify how a sector will monitor its catch to assure the sector catch does not exceed the sector allocation.
- Electronic monitoring may be used in place of actual observers or at-sea monitors if the technology is deemed sufficient for a specific trip based on gear type and area fished.
- Absent funding for NMFS at-sea monitoring program, sectors are responsible for implementing industry-funded at-sea monitoring programs to monitor their fishing activities.
- Less than 100% electronic monitoring and at-sea observation will be required.

No Action would require that the groundfish sector ASM program would continue to be industry funded. Sectors are required to develop and implement independent ASM plans in their operations plans which are satisfactory to NMFS for monitoring catch and discards.

Methods to Set ASM Coverage Rates

ASM exemption for sector trips fishing 10" ELM gillnets on Monkfish DAS in SNE
The No Action alternative would maintain lower ASM coverage rates for sector trips on a
Monkfish DAS in the SNE Broad Stock Area using 10" ELM gillnet gear. NMFS would
continue to specify a lower coverage rate for these sector trips on an annual basis. Sector vessels
operating on these trips are required to land all groundfish of legal size on all sector trips. Sector
vessels that declare a monkfish DAS through Pre-trip notification system are prohibited from
changing the declaration for that trip.

Coverage Needed to Achieve a CV30

The required ASM coverage level for each fishing year is based on realized stock-level CVs from the most recent year with complete data. Thus, for FY 2016, data from FY 2014 would be used (Table TBD).

The Council may select Options 2, 3, 4, and 5 in this section.

4.3.1.2 Option 2: Clarification of Groundfish Monitoring Goals and Objectives

This option would clarify that the primary goal of the groundfish sector ASM program is to verify area fished, catch, and discards by species, by gear type; and meeting these primary goals should be done in the most cost effective means practicable. Other goals/objectives identified under FW 48, such as additional data for stock assessment purposes, are secondary benefits achieved through catch verification.

Rationale: This option would clarify the goals and objectives for the monitoring program as they apply to the sector ASM program.

4.3.1.3 Option 3: Clarification of methods used to set sector ASM coverage rates

The Council may select both Sub-Option 3A and 3B.

Adequate coverage (combined NEFOP, ASM and EM) is required to meet the need for both the precision and accuracy of discard estimates. All of the options below – including requirements for coverage adequate for the accuracy and precision of estimates - would be interpreted and applied consistent with the overarching goals and objectives of the sector monitoring program.

4.3.1.3.1 Sub-Option 3A: Monitoring 80% of discarded pounds at CV30

Option 3A would clarify the Council's intent that ASM coverage levels for sectors should be set using only realized stock level CVs, and that overall ASM coverage levels should not be set using an administrative standard of monitoring 80% of discarded pounds at a CV30.

Rationale: This option would further clarify ASM policy set through Amendment 16 and Framework 48 by clarifying that a secondary standard Since FY 2012, NMFS has considered it desirable to set groundfish sector ASM coverage at a level which would have resulted in 80% of the pounds discarded in the fishery be monitored at a CV30. This has resulted in setting ASM coverage at levels higher than what was needed to achieve a CV30 at the overall stock level. This clarification does not preclude NMFS from considering factors other than the SBRM CV standard when determining appropriate coverage levels.

4.3.1.3.2 Sub-Option 3B: Multi-year approach to setting sector ASM coverage

Option 3B would specify that a multi-year average of realized stock-level CVs and corresponding coverage rates would be used when setting ASM coverage levels on an annual basis, consistent with the requirement that minimum coverage levels must meet the coefficient of variation in the Standardized Bycatch Reporting Methodology at the overall stock level.

Rationale: This option would further clarify ASM policy set through Amendment 16 and Framework Adjustment 48 by clarifying that several years of data should be used when determining ASM coverage for the upcoming fishing year. Since FY 2012, NMFS has used the most recent year of available data to set determine coverage needed to achieve a CV30 at the stock level. This has resulted in wide swings in target coverage requirements.

4.3.1.4 Option 4: Remove ASM Coverage Requirements for a sub-set of sector gillnet trips

The Council may select both Sub-Options 4A and 4B.

4.3.1.4.1 Sub-Option 4A: Remove ASM coverage requirements for sector trips fishing extra-large mesh (ELM) gillnet gear

ASM coverage would be removed for sector vessels fishing exclusively with extra-large mesh (ELM) gillnets of 10" or greater on a sector trip in specific BSAs (Figure 1). Vessels making an ELM declaration would not be subject to ASM coverage. A vessel declaring an ELM trip would still be prohibited from changing its declaration for that trip, and would be required to retain and land all groundfish of legal size on the trip. This means that ELM gear can only be used on this type of trip (i.e., possession of, transiting with, or tending a smaller mesh on the same trip would be prohibited). NMFS would need to revise the PTNS to allow a vessel to indicate a trip would be fishing exclusively ELM gear while on either a groundfish DAS, a monkfish DAS, or both.

Rationale: Option 4A would reduce the cost of monitoring while maintaining coverage levels which are consistent with non-sector trips that target non-groundfish species. The majority of catch on sector trips using ELM gear is of non-groundfish stocks, such as skates, monkfish, and dogfish, while the ASM program was designed, primarily, to ensure that sectors do not exceed their sector allocation and to verify area fished, catch, discards by species, and gear type used. Removing the ASM requirement for trips fishing exclusively with ELM gear would reduce the cost of monitoring for sectors. The Council clarified at its June meeting that the additional 80% observed discard threshold should not be applied in determining the target coverage rate. If this option is selected, Option 3A should also be selected.

4.3.1.4.2 Sub-Option 4B: Remove ASM coverage requirements for sector gillnet trips fishing exclusively within the footprint of existing dogfish exempted fisheries

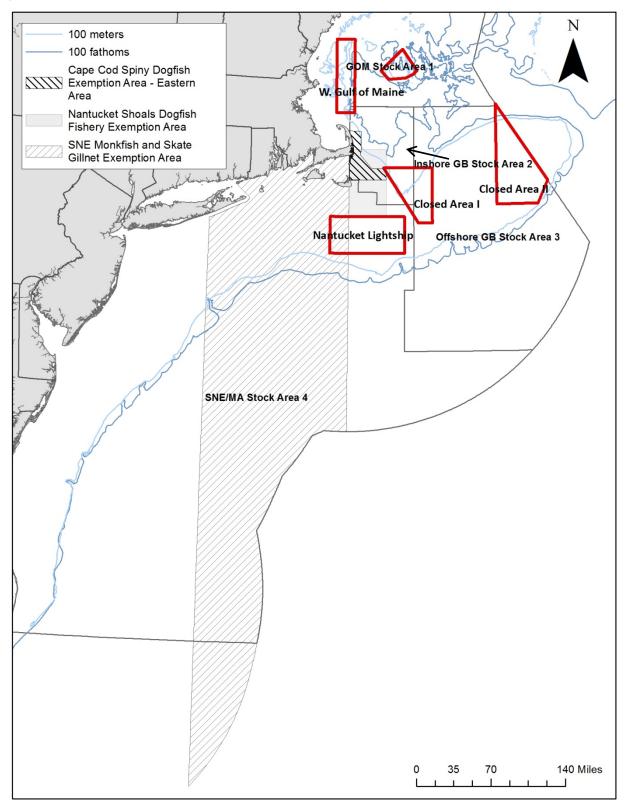
ASM coverage would be removed for sector vessels fishing exclusively within the footprint and season of either the Nantucket Shoals Dogfish Exemption Area, the Eastern Area of the Cape Cod Spiny Dogfish Exemption Area, and SNE Dogfish Gillnet Fishery Exemption Area (Figure 1). Vessels making a declaration to fish in these areas would not be subject to ASM coverage. A vessel declaring to fish as a sector trip within a dogfish exemption area would still be prohibited from changing its declaration for that trip, and would be required to retain and land all groundfish of legal size on the trip. This means that only gillnet gear of 6.5" and greater can only be fished on this type of trip. NMFS would need to revise the PTNS to allow a vessel to indicate a trip would be fishing exclusively inside the footprint and season of dogfish exempted fisheries on either a groundfish DAS, a monkfish DAS, or both.

Rationale: Option 4B would reduce the cost of monitoring while maintaining coverage levels which are consistent with non-sector trips that target non-groundfish species. The majority of catch on sector trips using 6.5" diamond mesh gillnets or greater in BSA 2 and 4 is of non-groundfish stocks, such as skates, monkfish, and dogfish. Groundfish catch is known to be very low with the area and season of dogfish exempted fisheries, and groundfish catch on these trips would be counted against the sector's ACE. The ASM program was designed, primarily, to ensure that sectors do not exceed their sector allocation and to verify area fished, catch, discards

by species, and gear type used. Removing the ASM requirement for trips fishing multiple mesh sizes exclusively within the footprint of existing dogfish exempted fisheries would reduce the cost of monitoring for sectors. The Council clarified at its June meeting that the additional 80% observed discard threshold should not be applied in determining the target coverage rate. If this option is selected, Option 3A should also be selected.



Figure 1 - Groundfish Broad Stock Areas and Spiny Dogfish Exemption Areas under consideration in Option 4.



4.3.1.5 Option 5: Fishery Performance Criteria for Meeting CV Standard

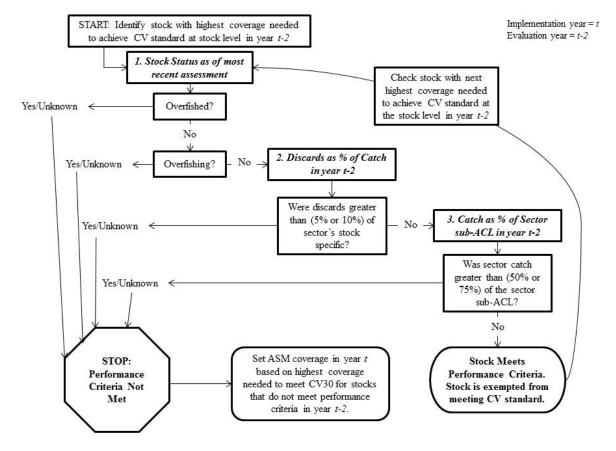
Fishery performance criteria would be used in setting groundfish sector ASM coverage levels. Stocks which meet all of the following performance criteria would not need to meet the CV standard. Realized ASM coverage levels would need to be consistent with the Goals and Objectives of groundfish monitoring program as adopted through FW48 (see 4.3.1.1).

The three fishery performance criteria would be:

- 1. Stock Condition Not overfished and overfishing is not occurring.
- 2. The percentage of stock specific catch comprised of discards (5% 10%).
- 3. The percentage of the sector sub-ACL harvested (50% 75%).

In practice, ASM coverage levels would be set based on the stock with the highest coverage level needed to achieve the CV standard. Figure 2 describes the process for determining ASM coverage levels by iterating through each of the criteria.

Figure 2 - Process for applying the performance criteria when setting ASM coverage rates.



Rationale: Option 5 reduces the cost of monitoring while maintaining ASM coverage levels sufficient to improve the documentation of catch, incentivize reducing discards, and provide additional data streams for stock assessments. By using performance criteria to identify healthy stocks for which percentage of the sub-ACL harvested and discards of stock-specific catch are low, the performance criteria reduce the chance that a realized stock specific CV above the standard would result in sectors exceeding their sub-ACL. In doing so, Option 3 seeks to balance the goals of minimizing the effects of potential monitoring bias to the extent possible while maintaining as much flexibility as possible to enhance fleet viability. The Council clarified at its June meeting that the additional 80% observed discard threshold should not be applied in determining the target coverage rate. If this option is selected, Option 3A should also be selected.

4.3.2 Management Measures for U.S./Canada TACs

This section considers changing fishery management measures as necessary to adjust catches of US/CA stocks. Eastern GB cod is a sub-unit of the overall GB cod stock, and the total ABC for GB cod includes the shared U.S./Canada TAC for the Eastern U.S./Canada Area. Sectors and state-operated permit banks receive two allocations of GB cod ACE, an Eastern GB cod ACE and a Western GB cod ACE.

4.3.2.1 Option 1: No Action

No Action. Eastern GB cod ACE can only be harvested in the Eastern U.S./Canada Area, and the remaining portion of a sector's total GB cod allocation can only be caught in the Western U.S./Canada Area. There would be no adjustment to the amount of the U.S. TAC for Eastern GB cod that is allocated to the Eastern U.S./Canada Management Area. Eastern GB cod is a sub-unit of the total GB cod stock. The amount of the shared U.S./Canada TAC for eastern GB cod is deducted from the total ABC for GB cod. Under the current regulations, the U.S. share of the eastern GB cod can only be caught in the eastern U.S./Canada Management Area, and the remaining portion of the total ABC is only available outside if the eastern U.S./Canada Management Area.

4.3.2.2 Option 2: Distribution of U.S. TACs for Eastern/Western Georges Bank Cod

A sector, or state-operated permit bank, may convert its Eastern GB cod ACE to Western GB cod ACE at any time during the fishing year, and up to two weeks into the following fishing year. A potential ACE conversion will be proposed to, and approved by, NMFS based on conditions such as (but not limited to)whether the applicant is complying with reporting or other administrative requirements. NMFS would notify the applicant if the conversion is approved or disapproved. Ensuring that sufficient ACE is available to cover the conversion is the responsibility of the sector or permit bank. Once a portion of Eastern GB cod ACE has been converted to Western GB cod ACE by a sector or permit bank, that portion of the ACE remains Western GB cod ACE for the remainder of the fishing year and may not be converted back. Western GB ACE may not be transferred to the Eastern U.S./Canada Area at any time.

Rationale: Option 2 would provide additional flexibility for sectors to harvest GB cod, while ensuring that the U.S. does not exceed its TAC for Eastern GB cod. Sectors and state run permit banks receive eastern GB allocations as a share of their overall GB cod allocation. This creates

situations where vessels which have never fished in the Eastern U.S./Canada area have allocations of EGB cod. This limits the amount of cod that could be caught in the Western area, may unnecessarily reduce flexibility, and potentially limit fishing in the Western U.S./Canada Area even if a sector has not caught its entire allocation of GB cod. This alternative mirrors a provision adopted in FW 51, which allows sectors and state operated permit banks to move Eastern GB haddock ACE to the western GB fishery.

4.3.3 Modification to the Gulf of Maine Cod Protection Measures

4.3.3.1 Option 1: No Action

No Action. There would be no changes to the Gulf of Maine Cod Protection Measures implemented on May 1, 2015 date through FW 53. For the recreational fishery, these measures include prohibiting the possession of GOM cod. The recreational possession limit for GOM cod would remain at zero, and could only be adjusted through a future Council action. For the commercial fishery, these measures include a suite of time and area closures (Table 3) that are subject to review when the GOM cod stock biomass reaches 50% of SSBMSY. Commercial and recreational vessels are not allowed to fish in the Whaleback cod spawning closure from April – June regardless of the status of the GOM cod stock

Table 12 – Timing and statistical areas of the Gulf of Maine Cod Protection Closures for the Commercial Fishery.

Month	Sector Closures	Common Pool Closures					
May	132, 133, 138, 139, 140, and 125 north of 42° 20'						
June	132, 139, 140, 146, 147, and 125 north of 42° 20'						
July	None	None					
August	None	None					
September	None	None					
October	None	124 and 125					
	125 and a portion of 124 defined by the following coordinate						
November	42° 00' N70° 30' W						
December	42° 00 N…70° 24' W						
January	42° 15' N70° 24' W						
	42'	° 15' N70° 30' W					
February	None	None					
March	None	121, 122, and 123					
April	None	None					

4.3.3.2 Option 2: Modify GOM cod recreational possession limits

Allow the Regional Administrator (RA) to once again change the possession limit of GOM cod for the recreational fishery. The RA would be allowed to set the GOM cod possession limit for the recreational fishery as an accountability measure (AM) after consultation with the Council.

Rationale: Option 2 would increase flexibility in setting management measures for the recreational fishery by allowing recreational possession limits for GOM cod to be set by NMFS, and not through a Council action. FW 48 revised the recreational AM so that the regional administrator may adjust management measures to ensure that the recreational fishery will achieve, but not exceed, its sub-ACL, and Option 2 would return to this approach.

NMFS currently sets recreational management measures though consultation with the Council, and has the authority to modify bag limits, size limits, and seasons. Recreational measures are currently developed using a bio-economic model, which assumes that recreational anglers catch both cod and haddock while prosecuting the fishery. Removing the zero possession limit of GOM cod would expand the range of possible management outcomes based on the most recent scientific information.