Amendment 9 to the Northeast Multispecies (Groundfish) Fishery Management Plan

incorporating an
Environmental Assessment
and Regulatory Impact Review

VOLUME I

October 9, 1998

prepared by the

New England Fishery Management Council
5 Broadway, Saugus, MA 01906-1036
Tel (781)231-0422 • Fax (617)565-8937

1.0 Introduction

1.1 Document Organization

This document is divided into two volumes. Volume I contains the Background, Purpose and Need, and Proposed Action and Alternative Sections as well as the Environmental Assessment. Section heading numbers for those sections contained in the Environmental Assessment are preceded with the letter "E" for identification purposes. Volume II contains supporting documents and information in six appendices as described below.

Appendix I	Conceptual Basis of the Fishery Management Plan
Appendix II	Report of the Overfishing Definition Review Panel
Appendix III	"An Appraisal of the Social and Cultural Aspects of the Multispecies Groundfish Fishery in New England and the Mid-Atlantic Regions" (October, 1996) by Aguirre International under contract from NOAA
Appendix IV	Chapter 6, Conclusions, of "Summary Report of Methods and Descriptive Statistics for the 1994 Northeast Region Marine Recreational Economics Survey", by Scott Steinback, NEFSC and Jon O'Niell, URI. Full report available at www.wh.whoi.edu/nefsc.html
Appendix V	From Fishes of the Gulf of Maine, by Bigelow and Schroeder, 1953, pages 249-258, *Atlantic halibut.*
Appendix VI	Sections 6.0 and 7.0 (stock status and projection results) from the 1997 Report of the Multispecies Monitoring Committee.
Appendix VII	Public hearing summaries and written comments
Appendix VIII	Draft Supporting Statement for Revisions to OMB Number 0648-0202 Permit Family of Forms (Paperwork Reduction Act requirements)
Appendix IX	Draft Proposed Rule

1.2 Executive Summary

The New England Fishery Management Council (Council) is submitting Amendment 9 to the Northeast Multispecies (Groundfish) Fishery Management Plan (FMP) primarily to address the new and revised requirements of the Magnuson-Stevens Fishery Conservation and Management Act (FCMA), as amended by the Sustainable Fisheries Act of 1996 (SFA). The Council has considered public comment on alternatives described in a public hearing document and Environmental Assessment during a 30-day comment period, June 15-July 15, 1998. This document contains the description of the proposed action as well as supporting materials as required by the FCMA, the National Environmental Policy Act (NEPA), Regulatory Flexibility Act (RFA) and other applicable law.

The Council is submitting the following for incorporation into the FMP:

- new or revised overfishing definitions for 12 species in the Northeast Multispecies Fishery Management Unit (excluding silver hake and red hake which the Council is addressing in a separate amendment)
- revised specification of optimum yield from the fishery

- the inclusion of Atlantic halibut in the Multispecies FMP, with measures to stop overfishing and rebuild the halibut stocks
- an increase of one inch in the minimum size for winter flounder (to 13 inches)
- indefinite postponement of the Vessel Monitoring Systems (VMS) requirement beyond the scheduled deployment date of May 1, 1999, and
- a framework adjustment process for approval of aquaculture projects in the EEZ.

Based on analysis contained in the Environmental Assessment, the Council has concluded that the proposed action will not have a significant impact on the human environment. It has also found that the proposed action will not have a significant impact on a substantial number of small entities, under the criteria in the Regulatory Flexibility Act guidelines. The amendment contains two new collection-of-information programs, and the Council has submitted a draft materials for clearance under the Paperwork Reduction Act. The Council has held informal consultations with NMFS on the impacts of the proposed measures on marine mammals or protected species and has concluded that they will not have a significant impact.

2.0 Background and Purpose

2.1 Background

The history of the FMP through 1995 is summarized in Amendments 5 and 7. Amendment 9 is an extension of the groundfish stock rebuilding program established in 1996 by Amendment 7. The Council is taking action at this time to meet the requirements of the Sustainable Fisheries Act of 1996.The following summarizes in chronological order the actions and events leading up to this amendment.

2.1.1 1996

2.1.1.1 Amendment 7

Amendment 7 took effect on July 1, 1996. The primary purpose of the amendment was to establish a rebuilding plan for cod, haddock and yellowtail flounder stocks. The amendment did the following:

- set fishing mortality rate objectives for cod, haddock and yellowtail flounder stocks to rebuild the biomass, and spawning stock minimum biomass thresholds for GB cod, haddock and yellowtail flounder, and SNE yellowtail flounder
- established a Multispecies Monitoring Committee (MSMC) and an annual process for setting total allowable catch targets (TACs), and revised the framework process for reviewing the effectiveness of management measures, and adjusting the plan to ensure that the objectives are continually met
- accelerated the DAS effort-reduction program established by Amendment 5 and eliminated most of the exemptions to that program
- added new closed areas in the Gulf of Maine
- placed restrictions on party/charter and recreational catches

- restricted non-DAS fisheries that cannot demonstrate a minimal (less than five percent) bycatch of regulated species
- modified permit categories and eliminated most open-access categories that could retain any regulated species, and
- converted the Nantucket Shoals dogfish trawl experimental fishery into an exempted fishery.

2.1.1.2 Framework Adjustments

Framework 15, submitted July 24, modified the GOM gillnet closed areas to protect harbor porpoise and allowed the use of acoustic deterrents ("pingers") under certain conditions. **Framework 16**, submitted October 30, provided an exemption to the gillnet/harbor porpoise closures for limited use of small pelagic gillnets.

Since Amendment 7 became effective on July 1, two months after the start of the fishing year (on May 1), vessels' allocations of DAS were prorated. This created an inequity for vessels that did not fish their DAS in May and June who received the same prorated amount as vessels that fished in those months. In response, the Council submitted **Framework 17** on July 24, to restore unused DAS to the prorated allocations.

The Council initiated **Framework 18** on June 5, 1996. The purpose of this framework was to allow mid-water fishing for pelagic species, such as mackerel and herring, in groundfish closed areas. The Council initially submitted the framework document on March 17, 1997, but NMFS did not accept it for review because of concerns about the analysis of collection-of-information burden under the Paperwork Reduction Act relating to the required use of electronic vessel monitoring systems (VMS). The Council resubmitted the document on July 23. NMFS published the final rule on February 17, 1998, effective immediately.

The Council submitted **Framework 19** on September 16, 1996. When the Council was developing Amendment 7 and considering area closures in the Gulf of Maine, the issues were so complicated and controversial, it set the existing harbor porpoise/gillnet closures as default measures for all groundfish fishing so as to not delay the rest of the amendment. This framework modified the time and area of the Mid-Coast closure in the Gulf of Maine.

2.1.1.3 Sustainable Fisheries Act

On October 11, 1996, President Clinton signed the Sustainable Fisheries Act (SFA) which amended (and renamed) the Magnuson-Stevens Fishery Conservation and Management Act (FCMA, PL 94-265). This law revised and added national standards for fisheries management, and added new requirements for fishery management plans. The new mandates of the FCMA are the main reason the Council is submitting this amendment (Amendment 9).

Following below is a summary of the main elements of the FCMA that affect the Multispecies FMP and are the basis for this amendment:

- Optimum yield (OY, National Standard 1) from a fishery is redefined to mean maximum sustainable yield *reduced* by relevant social, economic and ecological factors
- New National Standards 8, 9 and 10 require Council to take into account the importance of fishery resources to communities consistent with the conservation requirements of the Act, and, to the extent practicable, to minimize bycatch and bycatch mortality, and to promote safety
- The Secretary of Commerce must report annually to the Congress and the Councils on the status of fisheries and identify those fisheries which are overfished or approaching a condition of being overfished; within one year of being notified that a fishery is overfished or approaching an overfished condition, the Council must submit a plan to stop overfishing; for a fishery that is overfished, the amendment must include a rebuilding plan that will be as short as possible but not to exceed 10 years in most cases, allocate restrictions and benefits fairly and equitably among fishing sectors (commercial, recreational and charter)
- The FMP must specify objective and measurable criteria for identifying when the fishery is overfished and, where a fishery is overfished, include measures to end overfishing and rebuild the stocks
- The FMP must contain a standardized methodology for reporting and assessing the amount and type of bycatch, and
- The FMP must include a description of the commercial, recreational and charter fishing sectors and their respective landings trends.

The FCMA also requires the Council, within 24 months of enactment, to include in each FMP a description and identification of essential fish habitat (EFH). The Council will submit a separate amendment to each FMP to address this requirement by October 1, 1998. The amendment will include recommendations to minimize any adverse effects of fishing on EFH and on other actions to encourage the conservation and enhancement of such habitat.

2.1.2 1997

2.1.2.1 Amendment 8

In 1996, the Council completed work on an amendment to the Sea Scallop, Lobster and Multispecies FMPs which put in place a mechanism for addressing gear conflicts. The Multispecies FMP amendment was Amendment 8. This amendment facilitated the use of the framework adjustment process in the FMP to address gear conflicts, although the regulatory solution is the one of last resort. The amendment took effect on January 10, 1997.

2.1.2.2 Framework Adjustments

Under the first annual plan review process established by Amendment 7, the Council submitted **Framework 20** on February 6, 1997, to implement adjustment to the rebuilding plan for the 1997 fishing year, starting May 1. The framework contained a per-day trip limit on GOM cod, an increase in the haddock trip limit, gillnet fishery

management measures (including limits on numbers of nets and net tagging for Day Gillnet boats, and a requirement to bring nets to port at the end of a trip for Trip Gillnet boats), and several exempted fisheries programs.

Also in February, the Council submitted:

- **Framework 21** to allow an exemption for small scallop dredges to fish in the Gulf of Maine.
- **Framework 22** to implement a gear conflict resolution in Southern New England, and
- **Framework 23** to reduce the potential for entanglement of right whales in the Great South Channel and Cape Cod Bay Right Whale Critical Habitat Areas.

Soon after implementation of GOM cod trip limit under Framework 20, the Council became concerned that the rule still allowed fishermen to circumvent its intent to minimize the potential for directed fishing on cod. It submitted **Framework 24** on September 5 to modify the trip limit system, as well as to provide exemptions for vessels fishing in the NAFO (Northwest Atlantic Fisheries Organization) Area, and to allow vessels to carryover up to 10 unused DAS to a following fishing year.

2.1.2.3 Sustainable Fisheries Act Activities

On April 23, NMFS published proposed guidelines for meeting the FCMA requirements for essential fish habitat. Subsequently, the Council started the process of developing a strategy to address that mandate. It took no formal action, however, in 1997.

On August 4, 1997, NMFS published proposed guidelines for revised and new national standards. Following an initial comment period that ended on September 18, NMFS re-opened the comment period in response to questions and issues raised in the initial period. On May 1, 1998, NMFS published final guidelines.

Pursuant to §304 of the FCMA, NMFS issued its first annual *Report on the Status of Fisheries* on September 30, 1997. The report identified stocks that are overfished or approaching an overfished condition and which the Council has one year to submit a plan to stop overfishing. The report is, therefore, the impetus for, and sets the timetable for, this amendment.

2.1.2.4 Aquaculture policy

In August, 1997 the Council voted to amend all of its FMPs to include a framework adjustment process for reviewing and approving aquaculture project proposals that would otherwise require a full plan amendment. The Council recognized at that time that the most efficient way to implement that decision would be through the amendments that were being planned to bring the FMPs into compliance with the SFA.

2.1.3 1998

2.1.3.1 Framework Adjustments

In January, 1998, the Council completed the second annual plan review and adjustment procedure established by Amendment 7. On February 1, it submitted **Framework 25** to make the following changes:

- reduce the cod trip limit and expand the use of closed areas (including a year-round closure) in the Gulf of Maine
- increase the haddock trip limit
- postpone the implementation of electronic vessel monitoring systems (VMS) for one year, and
- require a raised-footrope trawl in Small Mesh Areas 1 and 2 in the Gulf of Maine.

In response to comments by affected fishermen, and an alternative proposal to address conservation of GOM cod prepared by the Gulf of Maine Fishermen's Alliance, the Council initiated **Framework 26**. The alternative proposal required additional development and analysis that came into conflict with the time and effort required to prepare Amendment 9. Unresolved issues and unanswered questions about the proposal's impacts, prevented the Council from including it as an alternative in this amendment. However, the Council has indicated that it would consider the proposal along with other alternatives during its annual plan review and adjustment procedure later this year. Since the Alliance's preferred alternative contained Framework 25 measures for the first year (1998), the Council felt that the proposal could still be implemented as designed, if the outstanding issues and questions could be resolved.

2.1.3.2 Amendment 9

On February 25, the Council published a notice of intent to prepare a supplemental environment impact statement and request for scoping comments (63 *Federal Register* 9500, February 25, 1998). Following the completion of the annual review and submission of Framework 25, the Council and Groundfish Committee began full-scale development of this amendment. During the February-August period, the Groundfish Committee met five times and the Groundfish Advisory Panel met four times to discuss and develop measures for this Amendment.

From June 15 through July 15, the Council formally took public comment on the proposed measures and the draft Environmental Assessment. It also held seven public hearings, as follows:

DATE	LOCATION
June 29	Fairhaven/New Bedford, MA
June 30	Portland, ME
July 1	Ellsworth, ME
July 6	Glouceser, MA
July 7	New London, CT
July 8	Tom's River, NJ
July 13	Hyannis, MA

The Groundfish Advisory Panel met on July 9 in Mansfield, MA to prepare formal comments on the alternatives. The Groundfish Committee met on July 15-16 to review comments and develop recommendations to the Council.

2.2 Purpose and Need

The purpose of this amendment is to:

- Bring the Multispecies FMP into compliance with the new and revised national standards and other required provisions of the Magnuson-Stevens Act
- Address the list of overfished species issued by the Secretary of Commerce on September 30, 1997, specifically by: including Atlantic halibut in the Multispecies Fishery Management Unit; implementing measures to rebuild the halibut resource and stocks of winter flounder; and minimizing bycatch of juvenile or sub-legal size flounders;
- Postpone the implementation of electronic vessel monitoring systems (VMS) so the Council can resolve outstanding policy, equity and operational issues.
- Provide a basis for considering and facilitating aquaculture projects in a framework adjustment process.

3.0 Proposed Action

The following section describes the measures the Council is submitting and discusses the Council's rationale and basis for selecting them.

3.1 Definitions of Overfishing

The Council proposes to revise the overfishing definitions for all species in the Northeast Multispecies FMP, and to include an overfishing definition for Atlantic halibut, in response to revised national standards and guidelines. It also proposes that these definitions can be modified by the framework adjustment process as new scientific information is available warranting a revision. Table 1 contains the proposed overfishing definitions for cod, haddock, pollock, winter flounder, witch flounder, American plaice, redfish, windowpane flounder, white hake, Atlantic halibut and ocean pout. The council is also revising the overfishing definitions for silver hake and red hake, and including on for offshore hake in a separate amendment now in preparation.

Discussion: The Council convened an Overfishing Definition Review Panel to evaluate existing overfishing definitions and develop recommendations for new definitions, as needed, to bring the FMP into compliance with the Magnuson-Stevens Act. The panel recommended to the Council the overfishing definitions described in the tables below based on NMFS guidelines and using the best scientific information available. Sections of the panel report pertaining to Multispecies FMP stocks are contained in Appendix II.

New overfishing definitions have two basic parts, a stock biomass component (B) and a fishing mortality rate (F) component. A stock is "overfished" when its biomass is less than that which can produce maximum sustainable yield (B_{msy}) on a continuing basis. "Overfishing" is occurring when F exceeds $F_{threshold}$. The $F_{threshold}$ is less than or equal to the fishing mortality rate that can produce maximum sustainable yield (F_{msy}) and varies with stock size based on whether the biomass is above or below (and how far below)

B_{msy}. For stocks with biomass levels below B_{msy}, $F_{threshold}$ is the F that allows the stock to rebuild to B_{msy} in a maximum rebuilding time period, which is not to exceed 10 years.

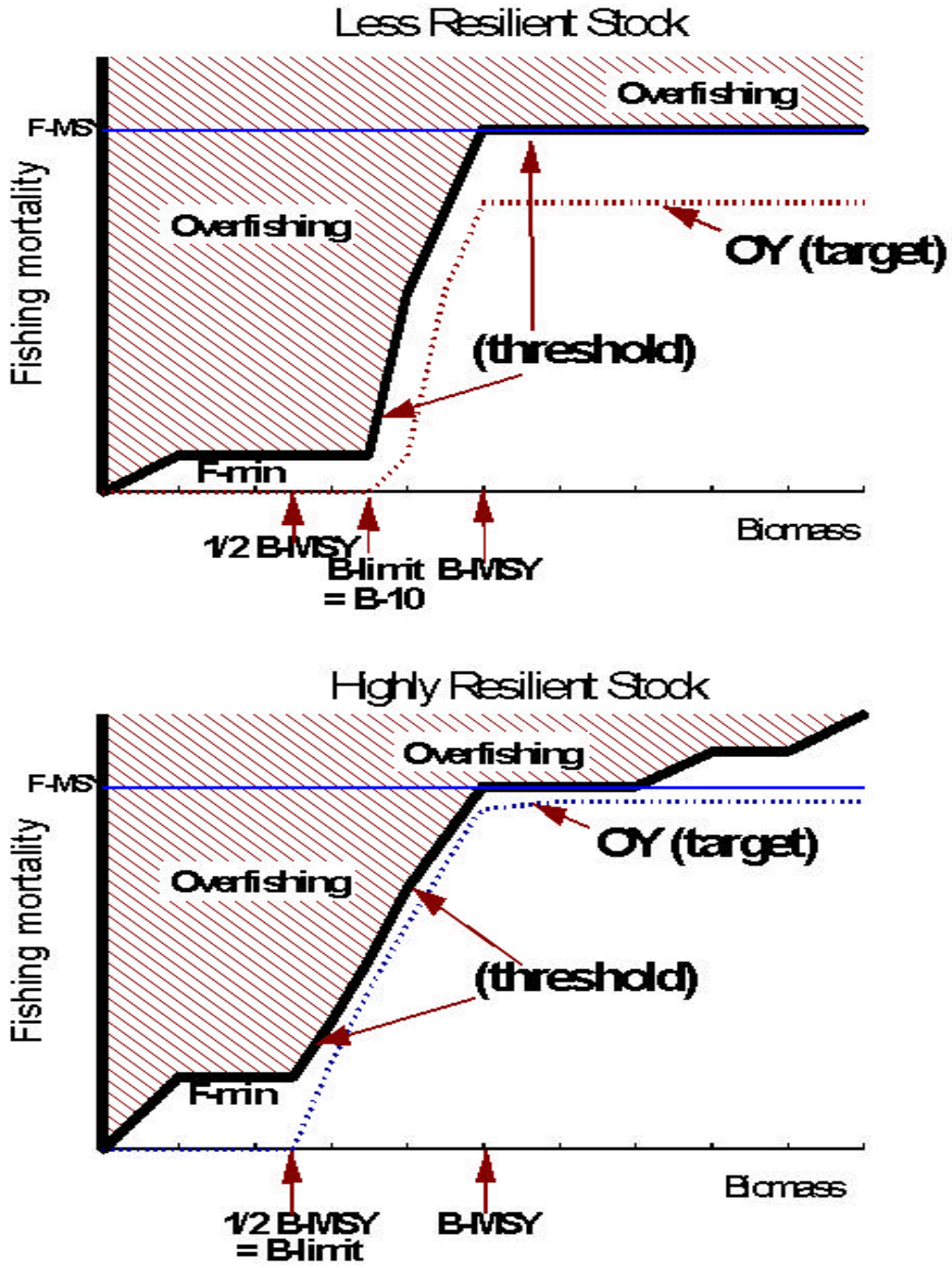

Figure 1 Example control law strategies for two types of fish stocks. B_{msy} is the biomass level that would produce MSY if the fishing mortality rate is F_{msy}. OY is portrayed as the target fishing mortality rate that would produce optimum yield at various levels of stock biomass. The minimum biomass threshold, or B_{limit},is shown as the biomass level that can be rebuilt to B_{msy} within 10 years or less, or ½ B_{msy}, whichever is greater.

SPECIES	STOCK	Status Determination Criteria	BIOMASS		FISHING MORTALITY		Maximum Rebuilding Time
			Target (MSY or proxy)	Threshold	Target	Threshold (MSY or proxy)	
COD	GB	VPA	B_{msy}	¼ B_{msy}	Lower 80th percentile of F_{msy}	F_{msy}	10 yrs.
	GOM	VPA	B_{msy}	¼ B_{msy}	Lower 80th percentile of F_{msy}	F_{msy}	10 yrs.
HADDOCK	GB	VPA	Mean SSB 1931-1961	½ B_{target}	75% of $F_{0.1}$	$F_{0.1}$	Undefined
	GOM	Survey index (fall) of biomass, and relative exploitation index (f)	B_{msy}	4.38 kg/tow	Lower 80th percentile of f_{msy}	f_{msy}	5 yrs.
POLLOCK		VPA	SSB_{msy}	¼ SSB_{msy}	75% of $F_{20\%}$	$F_{20\%}$	
REDFISH		Survey index (fall)	MSY/F_{msy} proxy	½ B_{msy}	60% of $F_{20\%}$	$F_{20\%}$	Undefined
WHITE HAKE		Surplus production	B_{msy}	¼ B_{msy}	Lower 80th percentile of F_{msy}	F_{msy}	10 yrs.
YELLOWTAIL FLOUNDER	GB	VPA	B_{msy}	¼ B_{msy}	Lower 80th percentile of F_{msy}	F_{msy}	10 yrs.
	SNE	VPA	B_{msy}	¼ B_{msy}	Lower 80th percentile of F_{msy}	F_{msy}	10 yrs.
	MID-Atl.	Survey index (fall)	Median survey biomass 1963-1971	½ B_{target}	60% of $F_{threshold}$	MSY / B_{target} MSY=ave. landings 1964-69	Undefined
	Cape Cod	Surplus production	B_{msy}	½ B_{msy}	Lower 80th percentile of F_{msy}	F_{msy}	5 yrs.
WINDOWPANE FLOUNDER	North	Survey index (fall)	Median survey biomass 1978-1987	½ B_{target}	60% of $F_{threshold}$	f_{msy}	Undefined
	South	Survey index (spring and fall)	B_{msy}	¼ B_{msy}	Lower 80th Confidence Interval for F_{msy} divided by B_{msy}	f_{msy}	Undefined
WINTER FLOUNDER	GB	Surplus production	B_{msy}	½ B_{msy}	75% of f_{msy}	f_{msy}	Undefined
	GOM	*No recommendation*					
	SNE/MA	Surplus production	B_{msy}	¼ B_{msy}	Lower 80th percentile of F_{msy}	F_{msy}	10 yrs.
AMERICAN PLAICE		VPA	Ave. SSB @ $F_{0.1}$	¼ Ave.SSB@$F_{0.1}$	60% of $F_{0.1}$	$F_{0.1}$	
WITCH FLOUNDER		VPA	B_{msy}	42% B_{msy}	Lower 80th percentile of F_{msy}	F_{msy}	5 yrs.
ATLANTIC HALIBUT		Survey index (spring and fall)	MSY(proxy)/ $F_{0.1}$	½ B_{msy}	60% of $F_{0.1}$	$F_{0.1}$	Undefined
OCEAN POUT		Survey index (spring)	Median survey biomass 1980-1991	½ B_{target}	60% of $F_{threshold}$	f_{msy}	Undefined

Table 1 Proposed overfishing definition reference points.

SPECIES	STOCK	CONTROL LAW **Overfishing occurs when fishing mortality is above:**
COD	GB	F=0 when B < $B_{threshold}$; F calculated to rebuild to B_{msy} in 5 years when $B_{threshold}$< B < ½ B_{msy}; F calculated to rebuild to B_{msy} in 10 years when ½ B_{msy}< B < B_{target}
	GOM	F=0 when B < $B_{threshold}$; F calculated to rebuild to B_{msy} in 5 years when $B_{threshold}$< B < ½ B_{msy}; F calculated to rebuild to B_{msy} in 10 years when ½ B_{msy}< B < B_{target}
HADDOCK	GB	F=0 when B < $B_{threshold}$; F that increases linearly to $F_{0.1}$ at B_{target}
	GOM	f=0 when B< $B_{threshold}$; f calculated to rebuild in 5 years when $B_{threshold}$< B < B_{target}
POLLOCK		F=0 when B < $B_{threshold}$; and an F that increases linearly to $F_{20\%}$, at B_{target}
REDFISH		F=0 when B < $B_{threshold}$; and an F that increases linearly to $F_{20\%}$, at B_{target}
WHITE HAKE		F=0 when B < $B_{threshold}$; F calculated to rebuild to B_{msy} in 5 years when $B_{threshold}$< B < ½ B_{msy}; F calculated to rebuild to B_{msy} in 10 years when ½ B_{msy}< B < B_{target}
YELLOWTAIL FLOUNDER	GB	F=0 when B < $B_{threshold}$; F calculated to rebuild to B_{msy} in 5 years when $B_{threshold}$< B < ½ B_{msy}; F calculated to rebuild to B_{msy} in 10 years when ½ B_{msy}< B < B_{target}
	SNE	F=0 when B < $B_{threshold}$; F calculated to rebuild to B_{msy} in 5 years when $B_{threshold}$< B < ½ B_{msy}; F calculated to rebuild to B_{msy} in 10 years when ½ B_{msy}< B < B_{target}
	MID-Atl.	F=0 when B < $B_{threshold}$; f increases linearly to f_{msy} at B_{target}
	Cape Cod	F=0 when B < $B_{threshold}$; F calculated to rebuild to B_{msy} in 5 years when B < B_{target}
WINDOWPANE FLOUNDER	North	F=0 when B < $B_{threshold}$; f increases linearly to f_{msy} at B_{target}
	South	F=0 when B < $B_{threshold}$; f increases linearly to f_{msy} at B_{target}
WINTER FLOUNDER	GB	F=0 when B < $B_{threshold}$; f increases linearly to f_{msy} at B_{target}
	GOM	No recommendation
	SNE/MA	F=0 when B < $B_{threshold}$; F calculated to rebuild to B_{msy} in 5 years when $B_{threshold}$< B < ½ B_{msy}; F calculated to rebuild to B_{msy} in 10 years when ½ B_{msy}< B < B_{target}
AMERICAN PLAICE		F=0 when B < $B_{threshold}$; F that increases linearly to $F_{0.1}$ at B_{target}
WITCH FLOUNDER		F=0 when B < $B_{threshold}$; F calculated to rebuild to B_{msy} in 5 years when ¼ B_{msy}< B < B_{target}
ATLANTIC HALIBUT		F=0 until stock is rebuilt (provisional control law)
OCEAN POUT		F=0 when B < $B_{threshold}$; f increases linearly to f_{msy} at B_{target}

Table 2 Proposed overfishing definition control laws

SPECIES	STOCK	STAT. AREAS*	REFERENCE POINTS			
			B_{TARGET} (metric tons)	$B_{THRESHOLD}$ (metric tons)	F_{MSY}	MSY (metric tons)
COD	GB	520-600	108,000	27,000	0.32	35,000
	GOM	510-515	33,000	8,300	0.31	10,400
HADDOCK	GB	520-562	105,000[1]	53,000	0.26	NA
	GOM	510-515	8.25 kg/tow[2]	2.06 kg/tow[2]	0.29(C/I)[3]	2,400
POLLOCK		464-562	102,000[1]	26,000[1]	0.65	40,000
REDFISH		500-562	121,000[4]	60,500[4]	0.116	14,000
WHITE HAKE		Areas 5+	22,000	5,700	0.25	6,000
YELLOWTAIL FLOUNDER	GB	522,525, 551,552, 561,562	49,000	12,150	0.30	14,500
	SNE	526, 537-539	51,000	12,800	0.23	11,700
	Mid-Atl.	600s	0.915 kg/tow[2]	4.58 kg/tow[2]	0.36(C/I)[3]	3,300
	Cape Cod	514, 521	14,000	7,000	0.17(C/I)[3]	2,400
WINDOWPANE FLOUNDER	North	Area 5 except:	0.94 kg/tow[2]	0.47 kg/tow[2]	1.11(C/I)[3]	1,000
	South	526, 530-539, 541, Area 6	0.41 kg/tow[2]	0.10 kg/tow[2]	2.24(C/I)[3]	900
WINTER FLOUNDER	GB	522, 525, 551-562	2.74 kg/tow[2]	1.37 kg/tow[2]	0.98(C/I)[3]	2,700
	GOM	510-515	*No recommendation*			2,000
	SNE/MA	521, 526, 537-539, 600s	25,800	6,500	0.32	8,200
AMERICAN PLAICE		Areas 5+	40,000[1]	20,000[1]	0.18	9,600
WITCH FLOUNDER		Areas 5+	21,000	9,000	0.14	2,900
ATLANTIC HALIBUT		Areas 5+	5,400	2,700	0.06	300
OCEAN POUT		Areas 5+	4.9 kg/tow[2]	2.4 kg/tow[2]	0.31(C/I)[3]	1,500

Table 3 Calculation of current biological reference points for proposed overfishing definitions for species under the Multispecies FMP**.**

***NOTE:** Statistical areas are shown in Figure 2 below.

1] Biomass level based on spawning stock biomass (SSB) not total biomass

2] Reference points expressed in nominal survey units rather than total stock biomass because the model estimate of the catchability coefficient could not be verified. F_{msy} based on relative exploitation index

3] Relative exploitation index (catch/survey index)

4] B_{msy} calculated from F_{msy} proxy and estimate of MSY from PRODFIT program

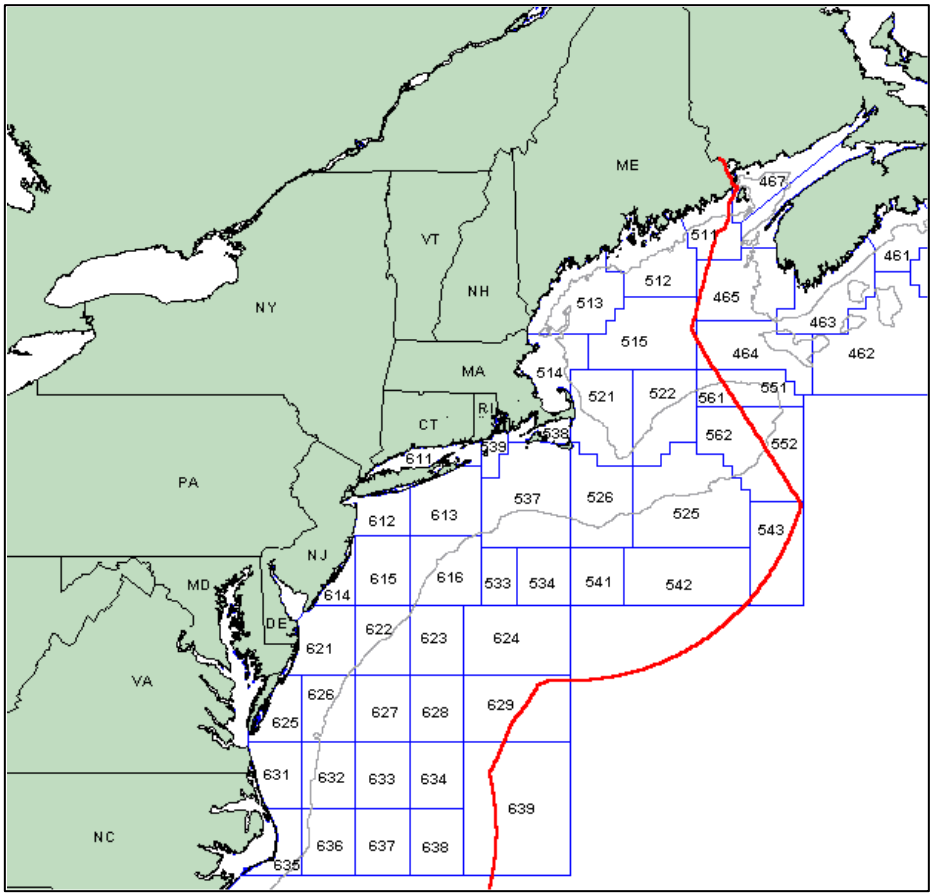

Figure 2 Map of Statistical Areas

3.2 Specification of Optimum Yield (OY)

Optimum yield (OY) is the amount of fish that results from fishing under a set of rules designed to achieve certain plan objectives. It is the amount of fish caught by the fishery when fishing at target fishing mortality rates (F_{target}) at current biomass levels (B_t), or when fishing in a manner intended to maintain or achieve biomass levels capable of producing maximum sustainable yield (MSY) on a continuing basis. Expressed as an equation:

$$OY=F_{target}*B_t$$

On a rebuilt stock, B_t is always greater than B_{msy} and F_{target} is some level of fishing mortality that is set safely below F_{msy} to prevent overfishing and ensure that OY can be achieved on a continuing basis. On an overfished stock, B_t is the current stock biomass level estimated or projected from the most recent assessment and F_{target} is the fishing mortality rate objective that will achieve the desired rebuilding. In cases where current F, F_{target} or B_t, are unknown, proxy control rules are applied and the long-term potential yield may be a satisfactory proxy for OY.

The fishing mortality rate target is the rate that will achieve the plan objectives with an acceptable degree of safety or precaution. Factors to be considered in setting the F_{target} will be calculated through periodic stock assessments, and include the stock size relative to B_{msy}, the current age structure of the population and recruitment, as well as projected growth and recruitment characteristics of the stock. The Council may also consider social and economic characteristics in setting F_{target} provided the stock rebuilding projections are within the Council's range of precaution.

For an overfished stock, for example, the Council would set a target rate to rebuild the stock in a specified time period or within a maximum time, usually not to exceed ten years. On a rebuilt stock, the Council should set F_{target} safely below the threshold level that will produce MSY. In setting target fishing mortality rates, the Council will need to balance maximizing short-term economic yield and providing for sustained participation of communities in the fishery against the risk, or cost, of allowing the biomass to decline to levels below B_{msy}. Thus, the Council will consider social, economic and ecological factors in setting the F_{target} in addition to considering the risk of not achieving stock recovery in an acceptable time period, or the risk of the rebuilt stock becoming overfished at any given time.

OY, therefore, is not a fixed amount but varies with the status of the stocks in the fishery, but cannot be above a level that would exceed F_{msy}. It is a quantity that represents the yield that results from fishing at target levels on a rebuilt stock or stock complex, or the yield that results from fishing at target levels designed to rebuild the stock in a specified time frame. Annual target TACs used as guidance in monitoring a stock-rebuilding program may represent OY but where annual target TACs are not calculated because estimates of F or current biomass are not available, OY may be equivalent to an estimated

current potential yield from a stock complex. For example, the Multispecies FMP requires annual target TACs for cod, haddock and yellowtail flounder while using a combined quantity (25,500 metric tons) based on current potential yield for the other regulated species combined. In this case OY for the multispecies fishery is equal to the sum of the annual target TACs plus 25,500 metric tons. As stock biomass fluctuates and as new scientific information becomes available about individual stocks, OY will fluctuate.

3.3 Increase winter flounder minimum size

The Council proposes to increase the minimum legal size of winter flounder to 13 inches from the current minimum size of 12 inches.

Discussion: By increasing the minimum fish size, the Council intends to increase the age at which winter flounder are first captured. The proposal provides an incentive for fishermen to use diamond mesh rather than square mesh when fishing for flounders and minimizes the incentive to use net liners. Six-inch diamond mesh releases a higher proportion of juvenile and sub-legal sized flatfish than 6-inch square mesh.

Because fishermen can now legally land 12-inch fish, an incentive exists to reduce the selection pattern and escapement of 12-inch fish (that is, catch as many as possible) by legally fishing with square mesh or, illegally using liners or modifying the net. The Council expects that if 12-inch fish are illegal to possess, fishermen will fish in a way that does not even retain them in the net. Since winter flounder in this stock and size range will grow one inch in about nine months the impact of this proposal may result in a short term economic loss, offset by increased yield per recruit (pounds per fish), and higher price per pound (based on market category) within the year.

While scientific data on winter flounder mesh selectivity at larger mesh sizes is incomplete, both scientific studies and the practical experience of fishermen indicate that diamond mesh retains fewer small flatfish than a comparable square mesh. By raising the minimum size, the Council can retain existing option in the regulations for fishermen to use either 6-inch diamond or square mesh and still achieve the conservation goals of the plan for both flatfish and roundfish. Fishermen in Southern New England report that 30-40 percent of their catch with 6-inch square mesh comprises fish under 13 inches, and with diamond mesh of the same size the number of fish smaller than 13 inches drops significantly. Since those fish are not retained by the diamond mesh, they will not contribute to fishing mortality as would fish that are caught and discarded, and they would contribute to increasing spawning stock biomass and, when caught at the larger size, to increased yield per recruit. Fishermen landing winter flounder from Georges Bank report that fish in the 12-13-inch size range are an insignificant portion of their catch, except on vessels fishing with illegally modified nets.

The Council initially proposed this action in response to Groundfish Advisory Panel and public concern about the use of net liners to catch 12-inch winter flounder that would otherwise escape the regulated mesh. Net liners are difficult for enforcement agents to detect, and some fishermen reportedly continue to use them even though they have been

caught in violation and assessed penalties on more than one occasion. Other fishermen are strongly disturbed by this illegal activity because it is inconsistent with their own conservation ethic and undermines their efforts to work within the plan regulations. While the Council understands that only a small percentage of fishermen are using liners, it feels that the impact on the resource and on the rest of the participants in the fishery is significant enough to warrant action.

3.4 Postpone implementation of Vessel Monitoring Systems (VMS)

The Council proposes to postpone the VMS requirement in the multispecies fishery until it can resolve several outstanding issues and questions. This proposal would not affect the ability of NMFS to include a VMS requirement as part of a violation settlement. The current regulations (no-action alternative) would require all vessels fishing under Individual DAS or Combination permits to use a VMS beginning on May 1, 1999. When the Council resolves the issues and questions described below, it may recommend that the Regional Administrator implement the current VMS requirement by notice action, or it may modify the VMS requirements through normal rulemaking procedure.

Discussion: Since 1994, when the Council first proposed using VMS for electronically monitoring DAS, the Council has reiterated its support of the strategy on several occasions. However, since that time, it has also become concerned about a number of issues and questions which it needs to address before implementing the VMS requirement as currently described in the regulations. Some of these issues are operational or cost-related while others relate to policy and equity issues that the Council must resolve. The following list describes the issues forming the basis for the Council's proposal to postpone implementation.

While the Council's experience with the prior implementation of the VMS in the scallop fishery may answer some of the questions, it has not formally evaluated that implementation and it does not expect that all the listed issues can be adequately resolved, and any needed changes implemented, before May 1. It is, therefore, proposing to postpone the activation of the rule so it can address the issues completely. It is not proposing to eliminate the VMS as a management tool.

- *Equity among permit categories*- The original justification in Amendment 5 for requiring VMS on Individual DAS vessels only was that those boats could come and go at will, and were not required to layover at the dock. Fleet DAS boats, on the other hand, were required to layover at a rate of one day for each two days at sea. With elimination of the layover-day requirement in Amendment 7, some members of the public have asked the Council: what is the justification for only requiring vessels in the Individual DAS category to use the VMS since Fleet and Individual DAS vessels are indistinguishable? The Council recognizes the validity of this fairness question but has not deliberated or answered it.
- *Effectiveness for location monitoring*- While the original (Amendment 5) application of the VMS was solely to track DAS on Individual DAS vessels, the Council and NMFS now also consider it to be a useful device to monitor location. For example, the VMS might help resolve gear conflicts or ease enforcement of

closed areas. However, the effectiveness of the VMS to serve those other purposes can only be fully realized if all potentially involved vessels are required to use it, otherwise both conventional and electronic systems will have to be maintained at full operational levels to achieve complete coverage.

- *Cost uncertainties*- The Council does not fully understand the actual costs to the government and the user. For example, members of the public have asked who will pay every time a new regulation or enhancement to the system requires software revisions and what is the cost. Additionally, the Council has limited information on how the VMS compares with the call-in system in terms of costs to the government or the industry? Furthermore, unless the VMS is universal, and the call-in system phased out, two systems will have to be maintained placing an added, and uncertain cost burden on the public (both government and industry).
- *Cost control/vendor competition*- With only one service vendor currently certified, and a regulatory requirement to use the VMS, there is no inherent cost-controlling mechanism such as would exist in a competitive marketplace with two or more vendors. This is a problem for the lease/purchase cost of the equipment, but is perhaps a greater problem for embedded, or hidden variable costs such as messaging charges, insurance or the cost of reprogramming to incorporate regulatory changes. On the other hand, any further delay in the requirement to use VMS may discourage other potential vendors from further development of their competing systems.
- *Cost/benefit for small boats*- The fixed costs of the system represent a proportionally larger part of the annual revenues of a small or part-time boat than a larger or full-time boat. Some boats will not be able to afford the cost of compliance with a VMS requirement.
- *Efficacy of hourly tracking*- Currently, the VMS requires reporting of a vessel location once every hour. Members of the public have expressed concern that, with DAS and per-day trip limits being counted at a precision of one minute, the current hourly monitoring may cause problems when a discrepancy exists between the time a vessel actually crosses the line and when the system marks the end of a trip. Hourly tracking of a vessel's movements also may not be adequate to enforce closed-areas or transit provisions, particularly if target species are much more abundant inside closed areas than outside.
- *Electrical power requirement*- The system is designed to record a vessel's hourly position throughout the year, including when the vessel is at the dock or on a mooring. While power requirements may be low there is a continuous drain on batteries, which can be a problem during port time, especially in cold weather. Many vessels do not have an independent electrical source (generator), and those that do would have to run the generators continuously to keep the batteries charged, even when on a mooring or sitting idly at the dock for an extended period.

3.5 Include Atlantic halibut in the Multispecies Fishery Management Unit, stop overfishing and rebuild the stock

The Council proposes to include Atlantic halibut in the Multispecies fishery management unit and to rebuild the stocks. A commercial vessel would be required to have a

multispecies permit to retain halibut. A vessel that does not have a multispecies permit could obtain an open access multispecies permit, either a non-regulated species permit, a handgear permit or a party-charter permit. Recreational vessels would not be required to have a permit to catch halibut but would be prohibited from selling their catch. They would also be under the same halibut possession limits as commercial vessels.

The Council proposes that a commercial or recreational vessel could possess one halibut not less than 36 inches in length.

Discussion: The halibut resource is widely recognized to be depleted in comparison to historical levels. NMFS has identified halibut as overfished, and under the SFA, the Council must prepare a plan to rebuild the stocks. Because stock abundance and commercial catch has been at such low levels for so many years, very little scientific information is available for halibut in U.S. waters. Nevertheless, the Overfishing Definition Review Panel was able to estimate proxy reference points that are measurable with current data collection methods (trawl survey and commercial catch reports).

Both scientific data and reports from fishermen suggest a continuing decline in the resource. In recent times, fishermen have reported that even the incidental catch of halibut has declined noticeably, although occasional catches of halibut are landed. Smaller fish are generally sold as "mixed flounders" while larger fish are sold individually. Fishermen also report that they often keep the incidentally caught halibut for personal consumption.

The last remaining directed halibut fishery in the eastern U.S. occurs during the spring in eastern Maine, primarily in state waters, but information on that fishery is also incomplete. This fishery has seen reduced participation in the last few years, and is at a relatively low level, both in terms of effort and economic value. The number of Maine vessels fishing with halibut gear is estimated to be under fifty, with the majority of vessels fishing in state waters.

The PDT recommended that the Council reduce fishing mortality rates to as close to zero as possible, limit possession to not more than one fish per vessel. It further recommended that the Council encourage states to adopt a similarly restrictive management strategy for state waters to address the severely depleted state of halibut and prevent any increase in effort on the stock, if and when it begins to rebuild. The Groundfish Advisory Panel members commented on their observations of an apparent decline in halibut catches (numbers and average size of fish) in recent years. They also agreed that the fish are very hearty and appear to swim away strongly when released. The panel supports a halt to directed fishing but told the Council that enforcement of a complete prohibition on possession would be difficult and of questionable effectiveness.

The Council took to public hearing a preferred alternative that included both a minimum and maximum size, but based on public comments, it decided to drop the maximum size rule. Fishermen expressed concern that in order to measure a large halibut (to determine

if it was below the maximum size) they would have to subdue the animal which, if it was too large, would have to be discarded with a low probability of survival.

A one-fish possession limit stops directed fishing while at the same time minimizes the wasteful discarding of incidentally caught halibut. Not only does the proposal end the directed fishery, it also greatly reduces any incentive to continue fishing in areas where concentrations of small halibut are encountered.

3.6 Framework Process for Approval of Aquaculture Projects

The Council proposes to use the framework adjustment process that already exists in the FMP to modify specific measures to facilitate the establishment of aquaculture projects. The framework process requires the Council to announce in advance its intent to consider a proposal and to take public comment over the span of at least two Council meetings prior to voting on the measures to be submitted NMFS. At least one week before the Council meeting at which a final vote is scheduled, the Council must make available a document describing the proposal and other alternatives under consideration, as well as and the biological and economic impacts of the measures. Following a passing vote, the Council forwards its recommendation to the NMFS Regional Administrator.

The Council may recommend that the Regional Administrator publish the regulation as a final rule if certain conditions are met with respect to the following factors:

- whether the availability of data on which the recommended management measures are based allows for adequate time to publish a proposed rule
- whether regulations have to be in place for an entire harvest/fishing season
- whether there has been adequate notice and opportunity for participation by the public and members of the affected industry in the development of the Council's recommended management measures
- whether there is an immediate need to protect the resource, and
- whether there will be a continuing evaluation of management measures adopted following their implementation as a final rule.

The Regional Administrator has the authority to publish the regulations as a final rule based on the preceding considerations, or as a proposed rule with additional opportunity for public comment.

For aquaculture projects in the EEZ, the Council's recommendations on adjustments or additions to management measures must come from one or more of the following categories: minimum fish sizes, gear restrictions, minimum mesh sizes, possession limits, tagging requirements, monitoring requirements, reporting requirements, permit restrictions, area closures, establishment of special management areas or zones and any other management measures currently included in the FMP.

Discussion: The Council recognizes that some aquaculture projects cannot occur in federal waters without modification to one or more FMPs, and with this action it, therefore, intends to facilitate the siting of biologically and environmentally sound

aquaculture operations in the EEZ in a timely manner. Through the proposed framework process, the Council will address issues within its purview, including user-group conflicts and fishery habitat issues, but it will not pre-empt the role of the permitting agencies, specifically, the Army Corps of Engineers and the Environmental Protection Agency.

3.7 Prohibit brush sweep trawl gear

The Council proposes to prohibit the use of brush sweep ("streetsweeper") trawl gear on vessels fishing for multispecies until it receives information that convincingly demonstrates that the use of such gear does not significantly increase catch per unit of effort or overall fishing efficiency as compared with the use of other common gear, such as rockhoppers or roller gear. Brush sweep trawl gear is constructed of a series of rubber discs (usually constructed from tires) and bristle brushes, as found in streetsweepers. The distinguishing component of this sweep is the brushes made of stiff bristles mounted on a cylinder core. The brush cylinders are usually 12 inches long or more and have smaller diameter rubber disc(s) placed between them. The discs are strung on a cable or chain and aligned in series forming the sweep of the trawl net.

The No-Action Alternative would allow the continued use of the gear as a conventional otter trawl.

Discussion: The brush sweep trawl is a recent gear innovation that covers the footrope with bristles resembling a streetsweeper brush. As reported by the fishermen who use the gear, the effect of this modification is that the footrope is lighter and more flexible than conventional rockhopper and roller gear. Another difference is that the entire trawl sweep (the brushes) is in contact with the bottom, rather than just the rockhoppers that are separated by hard rubber spacers which do not contact the bottom.

The Council is concerned that such a net could so greatly improve the efficiency of the trawl so as to undermine the effectiveness of the DAS reduction program. The basis for this concern is that if vessels with limited DAS can increase their catch per day significantly, the number of DAS allocated would have to be reduced to achieve the set fishing mortality goal. Fishermen who favor the use of the gear argue that they do so because of the efficiency that is realized by reduced down time since the nets do not hang up as often and do not need frequent mending.

Since the Council has no way of assessing the impacts of the gear, it is taking the precautionary step of prohibiting it. Under current regulations, interested fishermen may propose limited, controlled experimental fisheries to determine the gear's impacts. The Council also recommends that appropriate entities conduct, in cooperation with the industry, comparative studies of roller, rockhopper, chain, brush sweep and other bottom-tending trawl gear (that is, not including scallop dredges) to assess bycatch, efficiency and other impacts.

4.0 Magnuson-Stevens Act Consistency

4.1 National Standards

Section 303 of the Magnuson-Stevens Act (FCMA) requires that fishery management plans contain conservation and management measures that are consistent with the ten national standards. The following section summarizes, in the context of the national standards, the analysis and discussion of the proposed action that appears in various sections of this amendment document.

1. *Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.*

   This amendment contains conservation and management measures designed both to continue the stock-rebuilding program initiated by the Council with Amendment 7 to the FMP, and to begin the rebuilding process for Atlantic halibut. In addition, this amendment proposes new overfishing definitions and a specification of optimum yield that are consistent with NMFS guidelines on changes to the FCMA implemented by the Sustainable Fisheries Act. The FMP contains an annual review process for evaluating the stock-rebuilding program and a framework for making adjustments to management regulations so that the FMP goals are met. This amendment also addresses the overfished stocks identified by NMFS in its 1997 *Report on the Status of Fisheries* as required by the FCMA.

2. *Conservation and management measures shall be based on the best scientific information.*

   Data provided to the Council by NMFS is the best scientific data available. Furthermore, the Council has considered information and analysis provided by several scientific and technical groups in developing these measures, including the Multispecies Monitoring Committee, the Overfishing Definition Review Panel and the Groundfish Plan Development Team. It has also considered information provided by its Groundfish Advisory Panel and members of the public, particularly where systematically collected data is unavailable or incomplete. Consistent with NMFS' technical guidance on the precautionary approach, target fishing mortality rates under the new overfishing definitions are set safely below limit reference points and are sufficiently risk averse to account for uncertainty in the scientific estimates of stock status or productive capability.

3. *To the extend practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.*

   The fishery management plan is based on a combination of measures which either apply to all species within the fishery management unit, such as days-at-sea, or apply

to specific stocks in need of special attention, such as trip limits. To the extent possible, the Council monitors the status of all components of the mixed-stock fishery to insure that individual components or stocks are not overfished. Since the status of individual stocks within the multispecies complex fluctuates continuously relative to its respective overfishing definitions or rebuilding targets, the Council has a process for continually monitoring and adjusting the management plan as needed on a stock-by-stock basis.

For stocks that cross the international boundary, the Council Chairman and staff and NMFS Regional Office staff meet regularly (usually twice a year) with their Canadian counterparts to exchange information about the management of the shared resource. While scientists from both countries have historically participated in each other's stock assessments, this year they have begun to assess stocks jointly. These efforts are consistent with NMFS guidelines on National Standard 3.

At the southern end of the range, for stocks that extend into the Mid-Atlantic region, the Council applies most regulations on a stock-wide basis (such as DAS or minimum fish size). It has, however, established a geographical boundary for the application of some regulations (for example, minimum mesh size and exempted fishery programs) consistent with other national standards (particularly, 4, 5 and 6). The proposed actions in this amendment (prohibition on brush sweep trawl gear, halibut restirctiosn and winter flounder minimum size) covers all vessels fishing for or possessing multispecies, throughout the range.

4. *Conservation and management measures shall not discriminate between residents of different states. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (A) fair and equitable to all such fishermen; (B) reasonably calculated to promote conservation; and (C) carried out in such a manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.*

   The measures in this amendment do not discriminate between residents of different states, although fishermen in different areas may be differentially affected by the conservation measures depending on their level of dependence on the stocks being addressed. Further, the measures do not allocate or distribute fishing privileges among fishermen since they apply equally across all affected parties, even though they may impact some fishermen more than others.

5. *Conservation and management measures shall, where practicable consider efficiency in the utilization of fishery resources; except that no such measure shall have economic allocation as its sole purpose.*

   The Council has considered efficiency in the utilization of fishery resources by selecting management alternatives that focus on individual stocks in need of rebuilding (halibut and winter flounder) while allowing vessels to continue fishing on other stocks within the overall multispecies management strategy (days-at-sea,

minimum mesh size and closed areas). None of the proposed management measures have economic allocation as its purpose.

6. *Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.*

   In the FMP, the Council has taken into account variations in fisheries, fishery resources and catches by combining measures (such as days-at-sea, mesh configuration rules, minimum fish sizes, trip limits and area closures) in order to maximize flexibility and opportunity while still achieving the conservation goals of the plan. Consequently, however, the FMP contains a complicated array of measures, management areas and exemptions. In this amendment, as in the development of the FMP, the Council seeks to balance the requirements of this standard with the requirements of other national standards, namely, to manage a stock throughout its range, fairly and equitably and efficiently, while achieving the overall conservation mandate.

   Changes in fisheries occur continuously both as the result of human activity (for example, new technology or shifting market demand) or independent of human activity (for example, as the result of oceanographic perturbations). The Council already has a process in place for regularly reviewing and adjusting the management measures in consideration of and adapting to variations and changes in fisheries. Furthermore, with this amendment it has provided contingencies against biological uncertainty by applying the precautionary approach in setting target reference points in the proposed overfishing definitions.

7. *Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.*

   The Council has considered the costs and benefits of a range of alternatives to achieve the conservation goals of the plan. It considered costs to the industry as well as administrative and enforcement costs in determining overall net benefit to the nation. It has chosen alternatives which will achieve the long-term benefits of the rebuilding plan while minimizing the short term costs as practicable.

8. *Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse impacts on such communities.*

   The Council recognizes that the proposed actions may have an impact on fishing communities in the region as vessels adjust to new regulations. However, it considers those impacts to be the short-term effect of taking action to rebuild the stocks and to provide for the long-term sustained participation of those communities in the

fisheries. The Council has an ongoing process of developing, monitoring and adjusting management measures to achieve conservation mandates in which members of the affected communities actively participate. The public comments, in conjunction with technical economic and social impact analysis, help the Council identify and select those measures which minimize the adverse impacts on affected communities to the extent practicable, while still achieving the conservation goals.

9. *Conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.*

   The Council has historically adopted measures designed to minimize bycatch and/or minimize the mortality of unavoidable bycatch. Specific measures in this amendment that continue this strategy include the one-fish halibut possession limit and the winter flounder minimum size increase. The halibut measure is designed to end any directed fishing for halibut but recognizes that incidental catch may still occur, and that not all discards will survive. The Council intends the winter flounder measure to accomplish two purposes: eliminate the incentive to use net liners and to provide an incentive to target winter flounder with diamond mesh, thereby reducing the bycatch of undersize flounders.

10. *Conservation and management measures shall, to the extent practicable, promote safety of human life at sea.*

    While the current FMP contains management measures that promote safety (for example, closed area transit provisions), the measures in this amendment are neutral with respect to their impact on safety.

4.2 Other FCMA Required Provisions

Section 303 (a) of FCMA contains 14 required provisions for FMPs. These are discussed below. Any fishery management plan which is prepared by any Council, or by the Secretary, with respect to any fishery, shall--

(1) contain the conservation and management measures, applicable to foreign fishing and fishing by vessels of the United States, which are-- (A) necessary and appropriate for the conservation and management of the fishery to prevent overfishing and rebuild overfished stocks, and to protect, restore, and promote the long-term health and stability of the fishery; (B) described in this subsection or subsection (b), or both; and (C) consistent with the national standards, the other provisions of this Act, regulations implementing recommendations by international organizations in which the United States participates (including but not limited to closed areas, quotas, and size limits), and any other applicable law;

See Section 3.0 for a description of the measures contained in the amendment, and Section 4.1 for a discussion of the amendment's consistency with the national standards.

(2) contain a description of the fishery, including, but not limited to, the number of vessels involved, the type and quantity of fishing gear used, the species of fish involved and their location, the cost likely to be incurred in management, actual and potential revenues from the fishery, any recreational interest in the fishery, and the nature and extent of foreign fishing and Indian treaty fishing rights, if any;

The Environmental Assessment included with this amendment, as well as the documents submitted with preceding amendments (particularly Amendment 5 and 7), contain a description of the fishery. There is no foreign fishing for species covered under this FMP, nor are there any Indian treaty fishing rights.

(3) assess and specify the present and probable future condition of, and the maximum sustainable yield and optimum yield from, the fishery, and include a summary of the information utilized in making such specification;

The amendment contains proposed overfishing definitions based on achieving maximum sustainable yield, Section 3.1, and a revised specification of optimum yield, Section 3.2. The report of the Overfishing Definition Review Panel in Appendix II contains a complete description of the information used in calculating the target and limit reference points.

(4) assess and specify-- (A) the capacity and the extent to which fishing vessels of the United States, on an annual basis, will harvest the optimum yield specified under paragraph (3), (B) the portion of such optimum yield which, on an annual basis, will not be harvested by fishing vessels of the United States and can be made available for foreign fishing, and (C) the capacity and extent to which United States fish processors, on an annual basis, will process that portion of such optimum yield that will be harvested by fishing vessels of the United States;

Based on the annual Multispecies Monitoring Committee analysis of DAS utilization rates, fishing mortality rates and target TACs, the total capacity of the fleet exceeds that needed to harvest optimum yield at current stock levels and fishing mortality targets designed to rebuild the resource. Consequently, no portion of the allowable catch is available for foreign fishing. However, much of the capacity, in terms of permitted vessels, is inactive or only uses a fraction of its allotted fishing effort (DAS). As the stocks rebuild, that now-excess capacity will provide the means to harvesting the available resource competitively, efficiently and safely. The Council has an annual review and adjustment process to manage the effort levels and keep them within the target range.

(5) specify the pertinent data which shall be submitted to the Secretary with respect to commercial, recreational, and charter fishing in the fishery, including, but not limited to, information regarding the type and quantity of fishing gear used, catch by species in numbers of fish or weight thereof, areas in which fishing was engaged in, time of fishing, number of hauls, and the estimated processing capacity of, and the actual processing capacity utilized by, United States fish processors;

See Section E.6.1.1 for a discussion of the FMP's data considerations and the Council's participation in the Atlantic Coastal Cooperative Statistics Program (ACCSP) and in the stock assessments.

(6) consider and provide for temporary adjustments, after consultation with the Coast Guard and persons utilizing the fishery, regarding access to the fishery for vessels otherwise prevented from harvesting because of weather or other ocean conditions affecting the safe conduct of the fishery; except that the adjustment shall not adversely affect conservation efforts in other fisheries or discriminate among participants in the affected fishery;

The Council recently (in Framework 24) included a provision to allow vessels to carry over up to 10 unused DAS to a following fishing year, in part out of consideration that a vessel may have been prevented, because of weather or ocean conditions, from using its full allocation of DAS before the end of the fishing year. This amendment is neutral on this consideration.

(7) describe and identify essential fish habitat for the fishery based on the guidelines established by the Secretary under section 305(b)(1)(A), minimize to the extent practicable adverse effects on such habitat caused by fishing, and identify other actions to encourage the conservation and enhancement of such habitat;

The Council has undertaken a major effort to bring all of its FMPs into compliance with this requirement. It will be submitting a separate amendment to this FMP for Secretarial review by October 11, 1998 as mandated by the SFA.

(8) in the case of a fishery management plan that, after January 1, 1991, is submitted to the Secretary for review under section 304(a) (including any plan for which an amendment is submitted to the Secretary for such review) or is prepared by the Secretary, assess and specify the nature and extent of scientific data which is needed for effective implementation of the plan;

The Council is working closely with NMFS to coordinate the reporting of scientific information in a timely manner so it coincides with the annual plan review and adjustment process. The Council also provides input to the development of the ACCSP (see section E.6.1.1.4) and other scientific assessment work as discussed in section E.6.1.1.

(9) include a fishery impact statement for the plan or amendment (in the case of a plan or amendment thereto submitted to or prepared by the Secretary after October 1, 1990) which shall assess, specify, and describe the likely effects, if any, of the conservation and management measures on--(A) participants in the fisheries and fishing communities affected by the plan or amendment; and (B) participants in the fisheries conducted in adjacent areas under the authority of another Council, after consultation with such Council and representatives of those participants;

The Environmental Assessment contains analysis and discussion of the impacts of the proposed action on the human environment, including individuals and fishing communities. The Council developed measures in this amendment in consultation with the Mid-Atlantic Council and held a public hearing in New Jersey.

(10) specify objective and measurable criteria for identifying when the fishery to which the plan applies is overfished (with an analysis of how the criteria were determined and the relationship of the criteria to the reproductive potential of stocks of fish in that fishery) and, in the case of a fishery which the Council or the Secretary has determined is approaching an overfished condition or is overfished, contain conservation and management measures to prevent overfishing or end overfishing and rebuild the fishery;

The proposed overfishing definitions specify both biomass and fishing mortality criteria for evaluating a stock's status. The Overfishing Definition Review Panel Report in Appendix II contains a full description of the analysis and methodology used to establish these criteria. The FMP contains measures to stop overfishing and an annual review and adjustment process to keep the rebuilding plan on track. This amendment supplements the existing plan with measures to rebuild Atlantic halibut and a measure to increase the age at entry of winter flounder. This amendment also takes the precautionary position that the brush sweep trawl may contribute to overfishing by increasing the efficiency of trawls, and prohibits the use of the gear until evidence to the contrary is presented. Such evidence could be collected through experimental fishing, whereupon the Council will reconsider this action.

(11) establish a standardized reporting methodology to assess the amount and type of bycatch occurring in the fishery, and include conservation and management measures that, to the extent practicable and in the following priority--

(A) minimize bycatch; and

(B) minimize the mortality of bycatch which cannot be avoided;

The Vessel Trip Reports (logbooks) mandatory under the FMP since 1994, require fishermen to report discards. In conducting the stock assessments, NMFS uses information provided in the VTR as well as information gathered in the Northeast Fisheries Observer Program. In recent years, assessment scientists have expanded the analysis of discards in the stock assessments for some species. The Council and NMFS are both participating in the Atlantic Coastal Cooperative Statistics Program which is a long-term effort to improve the collection and utility of fisheries data (including bycatch).

The FMP contains a number of measures that directly or indirectly minimize bycatch or bycatch mortality. Measures in this amendment that expand this strategy include: allowing a vessel to retain one incidentally caught halibut and the prohibition of the brush sweep trawl. The halibut possession allowance will reduce the discarding of incidentally caught halibut, in comparison to a total prohibition on possession, while still providing

for maximum stock rebuilding. The survivability of discarded halibut from all of the different gears where it might be caught incidentally is not known. The brush sweep prohibition is a precautionary strategy to a gear whose impacts on target species and bycatch is poorly understood. The Council has recommended that appropriate entities conduct comparative studies of different trawl gear configurations to assess impacts on bycatch and target species catch rates. If the winter flounder minimum size increase achieves one of its purposes (that is, to reduce the incentive to use net liners) then it will also reduce bycatch in those nets. The measure also gives an incentive to vessels that now use 6-inch square mesh have to switch to diamond mesh and retain fewer 12-inch fish.

(12) assess the type and amount of fish caught and released alive during recreational fishing under catch and release fishery management programs and the mortality of such fish, and include conservation and management measures that, to the extent practicable, minimize mortality and ensure the extended survival of such fish;

The FMP contains no recreational fishery catch-and-release programs.

(13) include a description of the commercial, recreational, and charter fishing sectors which participate in the fishery and, to the extent practicable, quantify trends in landings of the managed fishery resource by the commercial, recreational, and charter fishing sectors; and

Appendix III describes the social and cultural aspects of the multispecies fishery. Section E.6.4. contains additional descriptions of the halibut fishery and recreational fishery, including trends in landings. Appendix II, the Report of the Overfishing Definition Review Panel, describes the long-term landings history by species for all of the stocks in the multispecies fishery. Furthermore, Amendments 5 and 7 to the Multispecies FMP contain detailed descriptions of the commercial recreational and party/charter sectors participating in the fishery which provides additional historical perspective.

(14) to the extent that rebuilding plans or other conservation and management measures which reduce the overall harvest in a fishery are necessary, allocate any harvest restrictions or recovery benefits fairly and equitably among the commercial, recreational, and charter fishing sectors in the fishery.

The Council has incorporated all sectors of the fishery into the FMP. In this amendment, the winter flounder minimum size and the halibut possession limit and minimum size apply equally across all sectors.

5.0 Relationship to Other Applicable Law

5.1 National Environmental Policy Act (NEPA)

E.1.0 Environmental Assessment

E.2.0 Table Of Contents

Section 2.1 of this document contains a discussion of the purpose and need for the proposed action and Section 3.0 contains a description of the proposed action and alternatives, including the no-action alternative. A Table of Contents for the entire integrated document, including this Environmental Assessment can be found behind the cover sheet and a discussion of the document organization is in Section 1.1. Section heading numbers for those sections contained in the Environmental Assessment are preceded with the letter "E" for identification purposes.

E.3.0 Summary

E.3.1 Introduction

The Council began consideration of some issues addressed in this amendment (particularly rebuilding SNE winter flounder and halibut) in 1996. Work on the amendment, however, began in late 1997, with the publication of NMFS' first annual *Report on the Status of Fisheries* on September 30, 1997, and accelerated after February 1, 1998, when the Council submitted its annual plan adjustment with Framework 25. The Council published a Notice of Intent to prepare a Supplemental Environmental Impact Statement for this Amendment and to initiate scoping on February 25, 1998 (63 *Federal Register* 9500, 2/25/98).

During March and April, the Council, Groundfish Committee, Groundfish Advisory Panel and Plan Development Team identified, analyzed and chose alternatives to be included in the amendment. Based on the analysis and discussion in these forums, the Council does not expect that the impacts of this amendment will be "significant" in the under the National Environmental Policy Act (NEPA) and has prepared the following Environmental Assessment to support this conclusion. The Council's evaluation of the "significance" under NEPA of the actions proposed in this amendment is based on a consideration of both the context and intensity of their impacts, beneficial and adverse, as described in Section E.5.0 below.

E.3.2 List of Agencies Consulted

In developing the proposed measures and in reviewing the analysis of impacts contained in this Environmental Assessment, the Council has consulted with NMFS, the Mid-Atlantic Fishery Management Council, Atlantic States Marine Fisheries Commission U.S. Fish and Wildlife Service, and the state marine fisheries agencies in New England through their participation in Council and Groundfish Committee meetings. Staff from the NMFS Northeast Regional Office and Northeast Fisheries Science Center, Mid-Atlantic Council, as well as technical personnel from Maine and Massachusetts participate on the Groundfish Plan Development Team.

In addition, non-governmental organizations, conservation groups and fishing industry associations are involved in the public process either through the Groundfish Advisory Panel or through the notification mailings. The Council has informed the interested public of meetings and of the proposed action and review of environmental documents through notice in the *Federal Register* and by mailing of Council meeting notices and

agendas to approximately 1,650 persons. About 850 interested parties receive notices of the Groundfish committee meetings.

E.3.3 Major Conclusions: Finding Of No Significant Impact (FONSI)

NOAA Administrative Order 216-6 provides guidance for the determination of significance of the impacts of fishery management plans and amendments. The five criteria to be considered are addressed below based on analysis and discussion contained in Section E.7.0:

1. *Can the proposed action be reasonably expected to jeopardize the long-term productive capability of any stocks that may be affected by the action?*

   The proposed action continues and improves the stock rebuilding program established by Amendment 7 and expands it to include Atlantic halibut. The Council feels that this amendment is consistent with National Standard 1 of the Magnuson-Stevens Act, which requires that fishery management plans maximize sustainable yield on a continuing basis. The Council also does not expect that this amendment will jeopardize the productive capability of stocks not managed under this FMP.

2. *Can the proposed action be reasonably expected to allow substantial damage to the ocean and coastal habitats?*

   The proposed action continues an effort-reduction program which the Council expects will not have a negative impact on fish habitat, as concluded in the SEIS for Amendments 5 and 7. In response to Sustainable Fisheries Act requirements, the Council has undertaken an separate effort to define essential fish habitat (EFH) and identify threats to that habitat. When the EFH analysis is complete, the Council will amend the fishery management plan to bring it into compliance with the new requirements.

3. *Can the proposed action be reasonably expected to have an adverse impact on public health or safety?*

   The Council feels that the measures proposed in this amendment are neutral in terms of their impact on public health and safety, and has no cause to expect any adverse impacts.

4. *Can the proposed action be reasonably expected to have an adverse effect on endangered, threatened species or a marine mammal population?*

   The Council does not expect the proposed action to have an adverse effect on marine mammals or other protected species.

5. *Can the proposed action be reasonably expected to result in the cumulative adverse effects that could have a substantial effect on the target resource species or any related stocks that may be affected?*

The measures in this amendment are adjustments to the stock rebuilding program established under Amendment 7 and address the new and revised requirements of the Sustainable Fisheries Act. For this reason and based on the analysis contained in the following Environmental Assessment, the Council does not expect the action to have any cumulative adverse effect on the target resource or any related species.

Based on the preceding criteria and analysis contained in the EA, the Council proposes a finding of no significant impact.

FONSI STATEMENT: In view of the analysis presented in this document and in the FSEIS for Amendment #7 to the Northeast Multispecies Fishery Management Plan, the proposed action will not significantly affect the quality of the human environment with specific reference to the criteria contained in NAO 216-6 implementing the National Environmental Policy Act. Accordingly, the preparation of a Supplemental Environmental Impact Statement for this proposed action is not necessary.

_____ _____

Assistant Administrator for Fisheries, NOAA **Date**

E.4.0 Purpose And Need For Action

See Section 2.1 as well as the discussion following the description of each measure in Section 3.0.

E.5.0 Alternatives Under Consideration

E.5.1 Description Of The Proposed Action

See Section 3.0.

E.5.2 Alternatives To The Proposed Action

The following section contains a description of alternatives to the proposed action that the Council considered and rejected. It also contains a discussion of the basis for not selecting those alternatives.

E.5.2.1 No Action (status quo)

Vessel Monitoring Systems (VMS): The current regulations require all vessels (and only vessels) fishing under Individual DAS permits to use a VMS beginning on May 1, 1999. For the reasons outlined in Section 3.0, the Council proposes to postpone implementation of the VMS for multispecies vessels.

Brush sweep trawl gear: Vessels can currently use the brush sweep trawl gear, but the Council is uncertain concerned about the impacts of the gear on the effectiveness of the DAS program and on bycatch. The Council does not want to allow the use of this gear until information can be presented that convincingly demonstrates that it does not significantly increase catch per unit of effort or overall fishing efficiency as compared with the use of other common gear, such as rock hoppers and roller gear. The Council recommends that comparative gear studies be conducted to assess the bycatch, efficiency and other impacts.

Winter flounder minimum size: The winter flounder minimum size is now 12 inches. The Council wants to increase the age at entry and thereby increase yield per recruit and spawning stock biomass per recruit. It wants to provide an incentive to use diamond mesh to target winter flounder (instead of square mesh) and to eliminate the incentive to use net liners (on the vessels that are fishing illegally).

Halibut fishing: If a federally permitted vessel is fishing on a DAS, it can direct on halibut without restriction as to number or size of fish it can retain. If a vessel does not have a federal permit, or is not on a DAS, it is prohibited from fishing in the EEZ unless it is fishing in an exempted fishery or using exempted gear. This effectively prohibits fishing for halibut outside of state waters, and in state waters on federally permitted vessels.

Aquaculture facilitation through a framework adjustment: The current plan does not include adjusting management measures through a framework adjustment in order to facilitate aquaculture projects in the EEZ.

E.5.2.2 Alternatives considered and rejected by the Council

E.5.2.2.1 Modify the Gulf of Maine cod trip limit system

The Council considered adjusting the trip limit system now in place for Gulf of Maine (GOM) cod but rejected all proposals because they added to the complexity of a system that is already difficult to enforce and of questionable efficacy. In response to NMFS concerns, it is seeking to minimize the use of trip limits as a management tool. Furthermore, it is reconsidering the overall management strategy for the GOM in the annual review and adjustment.

Under the proposed alternative, vessels not fishing under the GOM cod trip limit exemption program would be required to call in to either the DAS clock or the cod hail line at least once every 14 days from the start of the trip. At the end of the 14-day period (counted from the start of the trip) a vessel would remain in port to account for any overage before calling the DAS clock to end the trip. The landings for the 14-day period used to determine an overage would include all landings during the period, not just landings reported to the cod hail line. Current rules require a vessel to call the hail line each time the landings exceed the limit.

A vessel fishing under the Gulf of Maine cod trip limit program is now required to remain in port while the DAS clock is running to account for any trip limit overages. The proposed adjustment would have modified the requirement to “remain in port” and allow a vessel to engage in non-fishing activities or in other fisheries, provided the gear used is on the list of “exempted gears” under the existing regulations and the vessel did not possess any regulated multispecies. “Exempted gear” means gear that is deemed to be not capable of catching Northeast Multispecies and includes: pelagic hook and line, pelagic longline, spears, rakes, diving gear, cast nets, tongs, harpoons, weirs, dipnets, stop nets, pound nets, pelagic gillnets, pots and traps, purse seines, shrimp trawls (with a properly

configured grate as defined under this part), surf clam and ocean quahog dredges, and midwater trawls. The Council also considered and rejected a broader allowance for vessels to engage in exempted fisheries while running the DAS clock.

E.5.2.2.2 Per-day trip limits

The Council proposed that all per-day trip limits, where the landing allowance is based on the length of the trip, be modeled after the system in place for Gulf of Maine cod. Under that system, vessels may land more than the per-day limit provided they remain in port and run the DAS clock until sufficient time has elapsed to account for the overage. For example, if a vessel is allowed 400 pounds of cod for any day or part of a day, and it lands 1,200 pounds of cod after two DAS (more than 24 hours but less than 48 hours) have elapsed, it would have to remain in port with the DAS clock running until 48 hours and one minute have elapsed from the start of the trip (the one minute accounts for the "part of a day"). As described in the preceding section, however, the Council also proposed modifying the meaning of "remain in port" for the purposes of this measure. Even though the proposal was recommended by the Groundfish Committee, the Council rejected this alternative because of the complexity of multiple per-day trip limits applying on the same vessel, and because it is avoiding a reliance trip-limit management in general because of enforcement and efficacy concerns.

E.5.2.2.3 Trawl mesh configuration change

The Council took to public hearings four options for modifying the regulations pertaining to the use of square and diamond mesh, primarily to reduce the catch of sub-legal sized flounders. It also proposed four options for delimiting the area where this change would apply. The initial reason for not applying the measures throughout the region, is that vessels in the SNE Regulated Mesh Area do not catch witch flounder and American plaice (as vessels do in the Gulf of Maine) and the Council was considering other measures to rebuild SNE winter flounder.

Following public hearings, the Groundfish Committee proposed that trawl vessels fishing east and north of a line beginning at Monomoy Island (Pollock Rip) along 70°00' to 41°30' then east to Area II (along the northern boundary of Area I) would be required to use diamond mesh only except in the Stellwagen Bank and Jeffreys Ledge Regulated Mesh Areas, where square mesh codends would still be required. To enable vessels to fish inside and outside of the square mesh areas without have to change codends, the Council proposed to allow vessels to use a composite codend as described below.

The committee also proposed phasing-in the mesh configuration rule throughout the SNE Regulated Mesh Area (see discussion of winter flounder rebuilding proposals in the following section). The contentiousness of the proposed mesh configuration changes, and the complexity of related issues (such as enforcement and impact on roundfish) prompted the Council pull these proposals from this amendment. It is scheduling meetings to provide additional opportunity for the industry and the Groundfish Committee to work out the problems and issues before implementing any changes in a future regulatory action.

Composite codend

The Council considered allowing a vessel to use a composite codend (6-inch diamond, and 6-inch or 6.5-inch square mesh panel) either inside or outside of the Stellwagen Bank and Jeffreys Ledge Regulated Mesh Areas. A composite codend is a codend that is made of square and diamond mesh, with the square mesh hung as a panel in the top part of a diamond mesh codend. The square mesh panel is a minimum of 32 bars across and not less than 50 bars in length for vessels 45 ft (13.7 m) and less. For vessels greater than 45 ft (13.7 m) the square mesh panel is a minimum of 32 bars across and not less than 100 bars in length. The rear edge of the square mesh panel may end at the terminus or the codend or within 10 meshes of the terminus. The sides of the square mesh panel may extend to the gores.

E.5.2.2.4 Winter Flounder Management Alternatives

The Council took to public hearings a proposal to implement possession limits ranging from 5,000 pounds to 12,500 pounds on SNE winter flounder as an alternative to implementing mesh configuration changes in this area. It also proposed using the same boundary line that would have applied to the new mesh configuration rule as the boundary for the area where the possession limit would apply. Following public hearings, the committee proposed, but the Council rejected the following 3-year program:

- **Year 1 -** A winter flounder possession limit of 5,000 pounds west of 70°00' in Southern New England; vessels fishing east of 70°00' would enroll in a trip limit exemption program similar to the Gulf of Maine cod trip limit exemption program for vessels fishing south of 42°20'.
- **Year 2 -** The minimum size of winter flounder would increase from 12 inches to 13 inches.
- **Year 3 -** The mesh rules in effect north of 41°30' in the first year (diamond mesh only, see preceding recommendation) would now apply throughout the range, up to the Mid-Atlantic Regulated Mesh Area. This would eliminate the 41°30' line upon implementation. The winter flounder possession limit implemented in Year 1 would be lifted.

The Council rejected this alternative for several reasons, including questions about the effectiveness and enforceability of the trip limit west of 70°00', and strong opposition to the phasing-in of the mesh configuration/mesh size change by SNE fishermen. NMFS also expressed opposition to the any new trip limits out of concerns about enforceability and effectiveness. The Council directed the Groundfish Committee to address the concerns of those fishermen with regards to any mesh regulation changes and it will reconsider any changes in a future plan adjustment.

E.5.2.2.5 Halibut Management Alternatives

In addition to the proposed measures, the Council took to public hearings three other alternatives. They are:

- prohibition on possession of halibut
- one fish possession limit with a maximum size of 48 inches

- one fish possession limit with a maximum size of 48 inches and a minimum size of 36 inches (preferred alternative in public hearings).

The Council rejected the preferred alternative and the maximum size following public comment that subduing a large halibut to determine if it was less than the maximum size would injure or kill the fish and, therefore, negate the benefits of the measure. The Council also did not adopt the complete prohibition because of questionable efficacy given the combination of very low frequency of incidental catch the uncertainty about the survivability of discarded halibut. Furthermore, the Council heard comments from fishermen, including advisors, that a complete prohibition would be difficult to enforce given the high value, either for sale or personal consumption, and ease of concealment of a single fish.

E.6.0 Affected Environment

E.6.1 Introduction

This section contains the information which forms the basis for the analysis of impacts and environmental consequences of proposed actions. It includes a description of the physical, biological and human environments in which the fishery takes place, as well as a discussion of the data and information systems which support the management process.

E.6.1.1 Data Considerations

A description of the system for collecting and using fisheries data is given in the SEIS for Amendment 5 and is also provided in each issue of the NEFSC publication *Status of the Fisheries Resources of the Northeastern United States, "Status of the Stocks"*. NMFS will issue a new *Status of the Stocks* in the near future. The management information system has undergone a number of changes in recent years, most notably a shift from voluntary to mandatory vessel reporting in 1994 pursuant to Amendment 5, and continues to evolve to address changing needs and improvements. The following paragraphs describe some of the components of the data and information systems used by the Council, including changes and improvements currently underway.

E.6.1.1.1 Stock Assessment Workshops

The Northeast Regional Stock Assessment Workshop (SAW) process is a partnership of the NMFS Northeast Fisheries Science Center (NEFSC), NMFS Northeast Region (NER), New England Fishery Management Council (NEFMC), Mid-Atlantic Fishery Management Council (MAFMC), and Atlantic States Marine Fisheries Commission (ASMFC). The SAW objective is to produce stock assessments, perform peer reviews of those assessments, and prepare scientific advice based on the peer-reviewed assessment results for fisheries management. This is the process that provides the primary biological information used in the management and conservation of the fishery resources in the region.

The SAW process began in 1985 and has gradually evolved in structure and procedure to its present format of two SAW cycles per year. There are three stages to the process which are overseen by a Steering Committee.

Working Groups

There are currently five standing Working Groups (Northern Demersal, Southern Demersal, Coastal/Pelagic, Invertebrate, and Assessment Methods), with each Group responsible for assessing assigned stocks. The Working Groups have no formal membership other than a Chair (generally from the NEFSC) appointed by the Steering Committee (see below). Meetings are attended mainly by NEFSC personnel whose assessment responsibilities or expertise coincide with the stocks being considered at a given meeting, but scientists from states, the two Council staffs, the ASMFC staff, universities, and Canada are welcome to attend. Fishing industry representatives are also welcome. Each Working Group has the following broad mandate:

- assembly of relevant input data;
- analysis of input data, performance of assessment, and investigation of analytical options;
- formulation of research recommendations;
- production of Working Paper (and ultimately the NEFSC Reference Document) and draft Advisory Report on Stock Status document for submission to SARC (see below);
- drafting of the appropriate section of the SARC Consensus Summary of Assessments document.

Depending on the stocks on the agenda for a particular SAW cycle, some or all of the Working Groups meet 1-2 months in advance of the SARC meeting to perform the assessments and prepare the necessary documentation. Either the Working Group Chair or the lead person for the specific assessment gives an oral presentation of the assessment at the SARC meeting.

Stock Assessment Review Committee

The Stock Assessment Review Committee (SARC) meets once during each SAW cycle (generally two each year, although three in 1997) usually in late June and late November or early December, with each meeting lasting five days. The SARC is chaired by the SAW Chair, and membership (at least 12 scientists which varies from meeting to meeting) includes four assessment experts chosen by the Chair from the NEFSC, two state people, one person each from the two Council staffs, one person from the NER, and generally at least one person each from Canada (DFO), academia, and another NMFS Fisheries Science Center. SARC meetings are open to the public and are frequently attended by members of the fishing industry, academia, state agencies, Councils, and environmental groups. However, only the SARC members are responsible for developing the Consensus Summary of Assessments and Advisory Report on Stock Status. The SARC has the following mandate:

- peer review Working Papers (containing assessments) submitted by Working Groups, undertake dialogue on analytical options and, if necessary, conduct re-analyses to clarify issues, and refer assessment back to Working Group if problems persist;
- determine management advice;
- formulate research recommendations;

- produce Consensus Summary of Assessments and Advisory Report on Stock Status.

The SAW Chair is responsible for editing and assembling the draft Consensus Summary of Assessments and the draft Advisory Report on Stock Status and forwarding these documents to the Steering Committee (see below) for their approval prior to their distribution to the Councils.

Public Review Workshop
The Public Review Workshop consists of two half-day sessions, one each held in conjunction with a NEFMC and MAFMC meeting, at which time the assessment results and management advice from the SARC are presented and explained by the SAW Chair (with assistance from the Working Group Chairs). These sessions are open to the public and offer an opportunity for dialogue among Council members, scientists, and members of the fishing industry on the assessment results and management advice.

SAW Steering Committee
The Steering Committee is an executive group comprised of the NMFS Regional Administrator, NEFSC Science and Research Director, and the Executive Directors of the NEFMC, MAFMC, and ASMFC and chaired by the SAW Chair. The Steering Committee determines the stocks to be reviewed at each SAW and approves terms of reference, allocates personnel and funding resources to facilitate the assessment and peer review process, oversees the assessment and advisory process, sets dates and venues for SARC and Public Review Workshop sessions, evaluates the sufficiency and style of the SAW Reports and any additional communication required, and guides the SAW policy.

SAW Schedule
Normally, there are two SAW cycles annually. For the first one, the SARC meeting is generally held in late June and the Public Review Workshop sessions completed by August, while for the second, the SARC meeting is held in late November or early December and the Public Review Workshop sessions completed in January or February.

The SAW generally considers stocks considered by the SAW are generally on a multi-year schedule. Whether or not a stock is addressed at the spring or autumn SAW is based on survey timing, data availability, and management schedules. Working Group meetings for spring SAWs are generally held in April or early May. The NEFSC conducts its annual autumn trawl survey in September and October, and its annual spring survey in March and April, but the spring data are not available for use in any assessments for the spring SAW.

E.6.1.1.2 NRC Review of Northeast Fishery Stock Assessments

In response to public questions, particularly among the harvester sector, about the scientific basis for management restrictions, Congress mandated in the SFA that the National Research Council (NRC) of the National Academy of Sciences conduct a review of stock assessments, information collection methodologies, biological assumptions and projections and other relevant scientific information used as the basis for conservation and management in the Northeast multispecies fishery. The NRC report concluded that

"the current assessment process, despite the need for improvements, appears to provide a valid scientific context for evaluating the status of fish populations and the effects of fishery management."

The report also contained eight recommendations to NMFS to improve the assessments. These are:

1. Improve the collection, analysis, and modeling of stock assessment data as detailed in Chapter 3. Such improvements could include evaluations of sample size, design, and data collection in the fishery and the surveys; the use of alternative methods for data analysis; consideration of a wider variety of assessment models; and better treatment of uncertainty in forecasting;

2. Improve relationships and collaborations between NMFS and harvesters by providing, for example, an opportunity to involve harvesters in the stock assessment process and using harvesters to collect and assess disaggregated catch per unit effort data;

3. Continue to educate stock assessment scientists through short-term exchanges among NMFS centers so that each center can keep abreast of the latest improvements in stock assessment technologies being used at other NMFS fishery science centers and other organizations in the United States or elsewhere;

4. Ensure that a greater number of independent scientists from academia and elsewhere participate in the Stock Assessment Review Committee (SARC) process; where necessary, pay competitive rates for such outside participation to ensure that a sufficient number of the best people are involved in the review;

5. Increase the frequency of stock assessments. As the New England Fishery Management Council intensifies its management of the Northeast fishery, stock assessments may have to be performed more frequently than every three years (the current timing);

6. Consider a wider range of scenarios (e.g., recruitment, individual growth, survival, sub-stock structure, ecosystem, data quality, compliance with regulations, long-term industry response) in evaluating management strategies;

7. Investigate the effects of specific management actions, such as closed areas and days at sea limitations, on fishing mortality and related parameters;

8. Work toward a comprehensive management model that links stock assessments with ecological, social and economic responses, and adaptation for given long-term management strategies. This involves input from the social sciences (economics, social and political science, operations research) and from a wider range of natural sciences (ecology, genetics, oceanography) than traditionally is the case in fisheries management.

The NRC Review of Northeast Fishery Stock Assessments is available from:

National Academy Press
2101 Constitution Avenue, N.W.
Box 285
Washington, D.C. 20055
www.nap.edu

E.6.1.1.3 NMFS Strategic Plan for Research

Also in response to an SFA mandate, NMFS has recently published a national "Strategic Plan for Fisheries Research" which outlines the agency's goals and objectives for research in all areas, including biology and population dynamics, ecology, conservation engineering, information management, and socio-economic aspects of the fishery. The report also contains specific regional research priorities for the NEFSC which will result in programs to improve collection, management and analysis of data specific to fisheries in this region.

E.6.1.1.4 Atlantic Coastal Co-operative Statistics Program

NMFS and the Council are participating in the Atlantic Coastal Co-operative Statistics Program (ACCSP) along with the Atlantic States Marine Fisheries Commission, coastal state fishery agencies and the U.S. Fish and Wildlife Service. The ACCSP is a cooperative state-federal marine and coastal fisheries data collection program. It is intended to coordinate present and future marine and coastal data collection and data management activities through cooperative planning, innovative uses of statistical theory and design, and consolidation of appropriate data into a useful database system.

The mission of the ACCSP is to cooperatively collect, manage, and disseminate fishery statistical data and information for the conservation and management of fishery resources for the Atlantic coast and to support the development and operation of a national program.

The four goals of the ACCSP are:

> (1) plan, manage, and evaluate a cooperative, coordinated, cost-effective, dependable, non-duplicative and accurate state-federal marine and coastal fisheries data collection program for the Atlantic coast in which the general public, fishermen, and fisheries managers have confidence;
>
> (2) undertake a unified state-federal marine and coastal fisheries data collection system for the Atlantic coast, including both commercial and recreational sectors, to provide to the general public, fishermen, fisheries managers and stock assessment biologists, the best scientific and technical data needed for effective management on a timely basis;
>
> (3) establish and maintain an integrated cooperative coastwide fisheries data management system among all Atlantic Coastal states from Maine to Florida, the

regional fishery management councils, the National Marine Fisheries Service, the US Fish and Wildlife Service and other state or federal agencies involved in the collection, compilation, and management of marine, estuarine, anadromous and catadromous fisheries statistics; and

(4) support the continued development and operation of a national system to collect, manage, and disseminate marine fisheries information for use by states, councils, interstate commissions, and federal marine fishery management agencies using the existing regional programs as building blocks.

Development of the ACCSP began in 1996 and implementation is scheduled for September, 1998.

E.6.1.1.5 Transboundary Resources Assessment Committee

Since 1977, Canada and the USA have independently developed peer review processes for their stock assessments. In Canada, in late 1992, the Canadian Atlantic Fisheries Scientific Advisory Committee (CAFSAC) was disbanded and the Regional Advisory Process (RAP) put in its place. RAP in the DFO Maritimes Region currently provides advice on about 120 marine and freshwater finfish, shellfish and marine plant resources. In the Northeast Region of the National Marine Fisheries Service (NMFS), the SAW process currently provides advice on about 44 marine finfish and shellfish resources.

Collaboration between Canada and the USA on stock assessments and related research has been strong. Regular scientific meetings are held to co-ordinate joint research programs and facilitate inter-lab communication. Protocols for routine data exchange, particularly commercial and survey, have been established and joint work on assessment related issues is common. Finally, participation in each other's peer review process is routine.

The 1996 Canada/USA Scientific Discussions noted that it would be desirable to conduct joint assessments of the Georges Bank groundfish stocks during the 1997 assessment cycle. Thus in April 1997, scientists from Canada and the USA combined efforts to prepare assessments of Georges Bank cod, haddock, and yellowtail flounder. The peer review of these assessments was subsequently conducted first by RAP in Canada and then by the SAW Stock Assessment Review Committee (SARC) in the USA. Upon completion of the 1997 process, it was evident that there would be efficiencies realized by eliminating the duplication in the peer review process. This would also ensure that RAP and SARC would not produce divergent and inconsistent status reports on these stocks.

An outline of a joint Canada/USA peer review process has been agreed to by both Canada and the USA and the first joint assessment is currently in process. The following is a summary of this process.

Stocks to Consider

There are a number of stocks that could be considered in a combined process, however, for the initial joint assessment only three principal stocks are being addressed to allow the incremental development of the new joint process. Since the U.S. and Canada have had close interaction (data sharing and participation in each other's assessments) on 5Z cod, haddock, and yellowtail flounder, these stocks are the focus of the initial joint process. Other groundfish stocks in the Georges Bank - Gulf of Maine region that may also be considered include Southern New England yellowtail flounder, Gulf of Maine cod, Gulf of Maine - Georges Bank plaice, and Georges Bank winter flounder.

Structure of the Peer Review

Transboundary Assessment Working Group

A multidisciplinary Transboundary Assessment Working Group (TAWG) has been established with membership composed of Canadian and USA scientists with a range of backgrounds. Industry participation from both countries is also encouraged. Its mandate is to:

- analyze pertinent assessment information and produce stock assessments on identified stocks;
- formulate research recommendations which will lead to long-term improvements in the assessments.

Meetings of the TAWG are arranged on a mutually agreed basis by both countries. The Chair of the TAWG will be determined by the RAP and SAW Chairs (see below).

Transboundary Resources Assessment Committee

A new Transboundary Resources Assessment Committee (TRAC) has been established to peer review the stock assessments produced by the TAWG. The TRAC will be distinct from RAP and SARC. The TRAC will be co-chaired by the Chairs of RAP and SAW who are also responsible for all logistical arrangements associated with TRAC meetings (e.g., dates, venue, participation). The TRAC is charged with producing final, approved assessments and resulting documentation on the status of the transboundary resources.

Participation at the first TRAC meeting was by invitation and will consist of a limited number of representatives. The policy on participation at future meetings will be developed based on experience with the new process. The TRAC will alternate its venue between Canada and the USA, with the host country serving as chair. The first meeting was held in St. Andrew's, N.B., Canada 20-24 April , 1998.

TRAC Coordination

The RAP and SARC Chairs, with the guidance of their respective steering committees, will oversee the activities of the TRAC and TAWG.

Management Advice and Public Meetings

Once the TRAC review process has completed its deliberations, the results may be used by either country for fisheries management purposes as appropriate e.g., preparation of management advice in Canada by the Fisheries Resource Conservation Council (FRCC)

and in the USA by the SARC. Each country may conduct independent consultations with clients or disseminate the information to the public, informing the other side as required.

Documentation

Technical Documents

The current plan is not to establish a new technical document series for resources reviewed by the TRAC. For 1998, when the TAWG and TRAC meetings will be held in Canada, the Canadian Stock Asssessment Secretariat (CSAS) Research Document series will be used to catalogue the technical reports produced by the TRAC and the TAWG. For 1999, when the meetings will be held in the USA, the Northeast Fisheries Science Center (NEFSC) Reference Document series might be used. A definitive policy for the cataloguing of future documents in either of the existing Canadian or USA series remains to be developed.

Stock Status/Advisory Documents

The purpose of the joint Canada/USA stock assessment process for transboundary resources will be only to produce and peer review assessments of stocks of mutual interest and not to prepare management advice. Each country will use the assessment results from this joint process for their respective fisheries management purposes. The document series currently employed by each country at RAP and SARC meetings to convey a brief summary of stock status and management advice for individual stocks (i.e., the DFO Science Stock Status Report series in Canada and the SAW Advisory Report on Stock Status in the USA) will continue to be used for those purposes in each country because they serve different purposes and clients in each country. For stocks reviewed at a given TRAC meeting, the TRAC will produce final, approved documents for the Canadian SSR series. These documents, as well as the technical documents noted above, will provide the basis for management advice to be prepared by the SARC, following the TRAC meeting, and reported in the SAW Advisory Report on Stock Status.

E.6.1.1.6 Halibut Fishery Information

While the Atlantic halibut fishery has a long history in New England, the resource has been depleted for decades and catches have primarily occurred incidentally in other fisheries. Consequently, scientific information on the life history, habitat, stock status, population dynamics of halibut, as well as knowledge about the socio-economic aspects of the halibut fishery are extremely limited. Information used in assessing the impacts of proposed management measures comes from historical documents, recent Canadian scientific studies, studies about Pacific halibut, and information provided by NMFS, fishermen, Groundfish Advisory Panel members, and the State of Maine based on interviews with fishermen.

While detailed information is lacking, the Council, NMFS and interested members of the public (including fishermen, conservation organizations and others) widely recognize that the species is overfished and in need of rebuilding. They also agree that rebuilding will be a long-term process since the animals are slow growing, slow to mature and long-lived. Regardless of the high degree of uncertainty, however, the Council is not using the lack of information as a basis for avoiding conservation and management, but rather it is

taking a conservative approach which it can adjust as new information becomes available.

E.6.2 Physical Environment

Amendment 5 contains a description of the physical environment of the region which is being updated pursuant to the mandates of the SFA. The SFA requires all Councils, after receiving recommendations from NMFS, to amend their fishery management plans by October, 1998, to:

- identify and describe the essential habitat for the fish (EFH) species managed by the Council;
- describe adverse impacts to that habitat from fishing activities;
- describe adverse impacts to that habitat from non-fishing activities; and
- recommend conservation and enhancement measures necessary to help minimize impacts and protect and restore that habitat.

For the purpose of this amendment, however, the information contained in the SEIS for Amendment 5 is the basis for discussion of impacts on the physical environment.

E.6.3 Biological Environment

E.6.3.1 Geographic species assemblages and the multispecies aspect of the fishery

Amendment 5 contains the results of an in depth analysis of the geographic co-occurrence of a number of commercial and non-harvested species observed in the bottom trawl survey during the period 1967-88. This work provides an insight into the spatial and temporal distribution of species assemblages, several of which form the multispecies fishery management unit.

E.6.3.2 Stocks under the Multispecies FMP

E.6.3.2.1 Species currently under the FMP

Amendments 5 and 7 contain detailed descriptions of the life history and habitat requirements for species managed under the FMP. The Council is updating this information in the EFH amendment currently in development. Information about the stock status is continually updated as new data is available and stock assessments are completed. Appendix II contains the Report of the Overfishing Definition Review Panel that contains some updated catch and stock status information, as does the Appendix VI, stock status and projection results from the 1997 Multispecies Monitoring Committee Report.

E.6.3.2.2 Atlantic Halibut

Appendix V contains a description of halibut life history, habitat requirements and fishery history published in Bigelow and Schroeder's Fishes of the Gulf of Maine, 1953. Of particular note is their description of the demise of the fishery that existed from Nantucket Shoals throughout coastal Gulf of Maine which had taken place by the mid-19th century. The halibut section of the Report of the Overfishing Definition Review Panel, Appendix II, contains some more recent information, including landings history

for 1893-1997 and abundance data from 1963 onward, as well as a discussion of relevant biological reference points.

In the late 19th century, annual recorded landings in the region exceeded 12 million pounds, according to Fish and Wildlife statistics, although most of these landings came from waters which are now in the Canadian EEZ. The proportion of those historical landings estimated from Area 5 (which includes most of the central and western part of the Gulf of Maine and the Georges Bank area) is about two million pounds, with landings over one million pounds not uncommon through the 1920's. This compares with NMFS recorded annual landings of 13,000-48,000 pounds in recent years.

E.6.3.3 Other stocks

The status of other fishery stocks in the region is contained in the *Status of the Stocks* and are updated in the reports of the Stock Assessment Workshop. The Council is updating the life history and habitat requirement information in the EFH amendment now in development.

E.6.3.4 Marine mammals and other protected species

Amendments 5 and 7 contain a full description of potentially affected protected species (marine mammals, sea turtles and shortnose sturgeon), including those that are threatened and endangered or proposed to be listed as threatened or endangered. Impacts to these species were discussed in the submission documents and in formal consultations pursuant to Section 7(a)(2) of the Endangered Species Act, as well as in the associated Biological Opinions issued by NMFS.

E.6.3.5 Other biota

Amendment 5 contains a description of the other biotic components of the ecosystem in which the multispecies fishery takes place. The Council is updating this section in the EFH amendment which it will submit later this year.

E.6.3.6 Stellwagen Bank Marine Sanctuary

The 1992 amendments to the Marine Protection and Sanctuaries Act designated Stellwagen Bank as a National Marine Sanctuary. The area of the sanctuary, located between Cape Ann, Massachusetts and Cape Cod, supports a rich and diverse population of marine life at different times of the year, including several species of endangered whales, groundfish stocks and bluefin tuna. Commercial fishing, however, is not a regulated sanctuary activity and remains the responsibility of the Council. To the extent that fishery management actions protect and conserve fish species in the area and minimize fishery interaction with protected and endangered species, the Council's actions are generally consistent with the sanctuary mission.

E.6.4 Human Environment

E.6.4.1 Commercial Fishery

Appendix III contains a report prepared by Aguirre International under contract to NOAA titled "An Appraisal of the Social and Cultural Aspects of the Multispecies Groundfish

Fishery in New England and the Mid-Atlantic Regions" (October, 1996). The report describes the level and nature of community dependence on the fishery for primary and secondary ports in the region, and discusses how these communities adapt to resource crises and concomitant management restrictions. The report is also available on the website of the NEFSC (www.wh.whoi.edu/nefsc.html). Additional information describing the historical socio-economic aspects of the commercial fishery is provided in Amendments 5 and 7, and in the *Status of the Stocks.*

Halibut fishery

NMFS provided the Council with information on the halibut fishery collected from the Maine Department of Marine Resources (DMR), industry interviews and federally permitted dealer and vessel reported data. According to this information, the traditional spring halibut fishery occurs predominately in the mid-coast and Downeast areas of Maine. This fishery has seen reduced participation in the last few years, and is at a relatively low level, both in terms of effort and economic value. The number of Maine vessels fishing with halibut gear is estimated to be under fifty, with the majority of vessels fishing in state waters. Landings from federal waters consist largely of incidental catch in other fisheries.

The halibut has been largely a "shack" fish (considered as belonging to the crew) landed as incidental catch mostly in the otter trawl fishery. Most of the halibut data in the NMFS landings tables is from incidental catch. As regulations have become more stringent and catches of targeted species have declined, NMFS agents have seen more receipts coming through dealers for halibut. Most of the halibut landed are in the chicken (7-12 pounds) and medium (12-60 pounds) market categories. Fish over 60 pounds are reported landed occasionally.

April and May have been the months when activity traditionally takes place, but participation has declined in recent years. Full-time lobstermen will bait one to ten tub trawls consisting of 40-100 hooks each and set them over the gravel and clay bottom. This is usually done in conjunction with setting out their traps for the new season of lobstering. The Downeast area does not see some of the larger trawls set with some trips dedicated to halibut fishing. Maine DMR Marine Patrol estimates about 24 small boats with halibut gear working out of the Jonesport area at this time. As soon as the dogfish strike or the lobsters start crawling, the trawls are taken ashore and the halibut season ends.

These boats are fishing mainly in state waters, but some may also fish in federal waters. Subsequent to Amendment 7, however, vessels have been prohibited from fishing in the EEZ (and federally permitted vessels fishing in state waters) with gear capable of catching groundfish, such as longlines, unless fishing under a DAS or in an approved exempted or experimental fishery. Currently, no such fisheries for halibut are in effect.

E.6.4.2 Recreational and Party/Charter Fishery

Amendments 5 and 7 contain a description of the recreational fishery through 1993 based on information contained in the Marine Recreational Fisheries Statistics Survey

(MRFSS). Appendix IV contains the concluding chapter of NMFS' "Summary Report Of Methods And Descriptive Statistics For The 1994 Northeast Region Marine Recreational Economics Survey". The full report details socio-economic characteristics of participants in recreational fisheries and identifies their marine recreational fishery preferences and their perceptions of management regulations. It is available from the Northeast Fisheries Science Center, 166 Water St., Woods Hole, MA, 02543 , and can also be downloaded from the NEFSC website (http://www.wh.whoi.edu/noaa.html). NMFS is currently conducting a marine recreational economic survey which will provide the council with an updated description of the socio-economic aspects of the recreational fishery through 1998. Table 4 and Figure 3 show the trend in recreational activity over the past 17 years based on data in the Marine Recreational Fisheries Statistics Survey. Figure 4 and Figure 5 show the trend in recreational cod and winter flounder catches, the two primary recreational species in the multispecies fishery management unit.

YEAR	MAINE		NEW HAMPSHIRE		MASSACHUSETTS		RHODE ISLAND		CONNECTICUT		*NEW ENGLAND TOTALS*	
	P	T	P	T	P	T	P	T	P	T	P	T
1981	216	513	110	280	701	2,806	274	925	272	1,240	971	5,764
1982	123	487	115	339	695	3,192	278	1,088	304	1,933	844	7,039
1983	166	439	148	341	1,011	3,801	411	1,257	230	1,257	1,123	7,095
1984	135	373	135	335	751	2,382	297	880	322	1,345	1,024	5,315
1985	202	570	56	74	980	3,253	605	1,630	351	1,547	1,121	7,073
1986	209	513	148	300	1,000	3,829	302	1,214	427	1,627	1,200	7,482
1987	282	620	77	190	577	2,686	213	847	227	1,441	859	5,784
1988	320	695	104	229	620	2,575	226	991	301	1,250	959	5,739
1989	210	483	171	386	547	2,275	191	725	369	1,360	1,034	5,229
1990	178	467	116	312	684	2,536	229	1,006	348	1,220	963	5,542
1991	338	895	122	263	694	2,899	300	1,070	471	1,674	1,203	6,801
1992	136	442	53	192	594	2,389	218	836	503	1,842	977	5,701
1993	202	608	76	197	719	3,094	254	1,109	233	1,218	876	6,225
1994	216	606	122	314	686	3,249	208	1,003	228	1,109	845	6,281
1995	234	628	97	286	688	3,368	220	885	295	1,347	874	6,513
1996	268	687	96	250	597	3,290	243	1,001	387	1,528	972	6,756

Table 4 New England Marine Recreational Fisheries 1981-1996: Estimated Number of Participants, P (in thousands), and Estimated Number of Trips, T (in thousands)

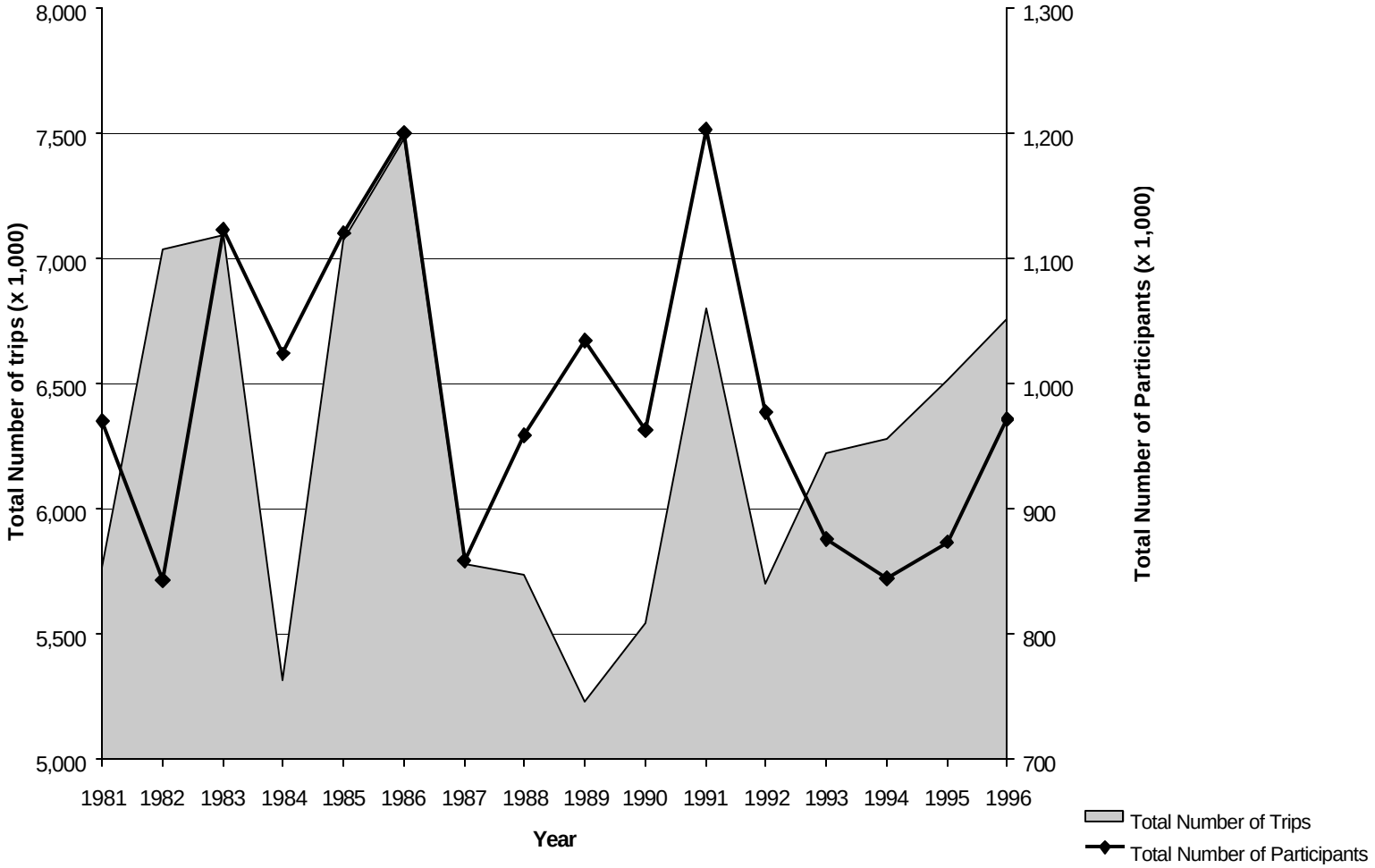

Figure 3 Marine Recreational Participation and Trips in New England

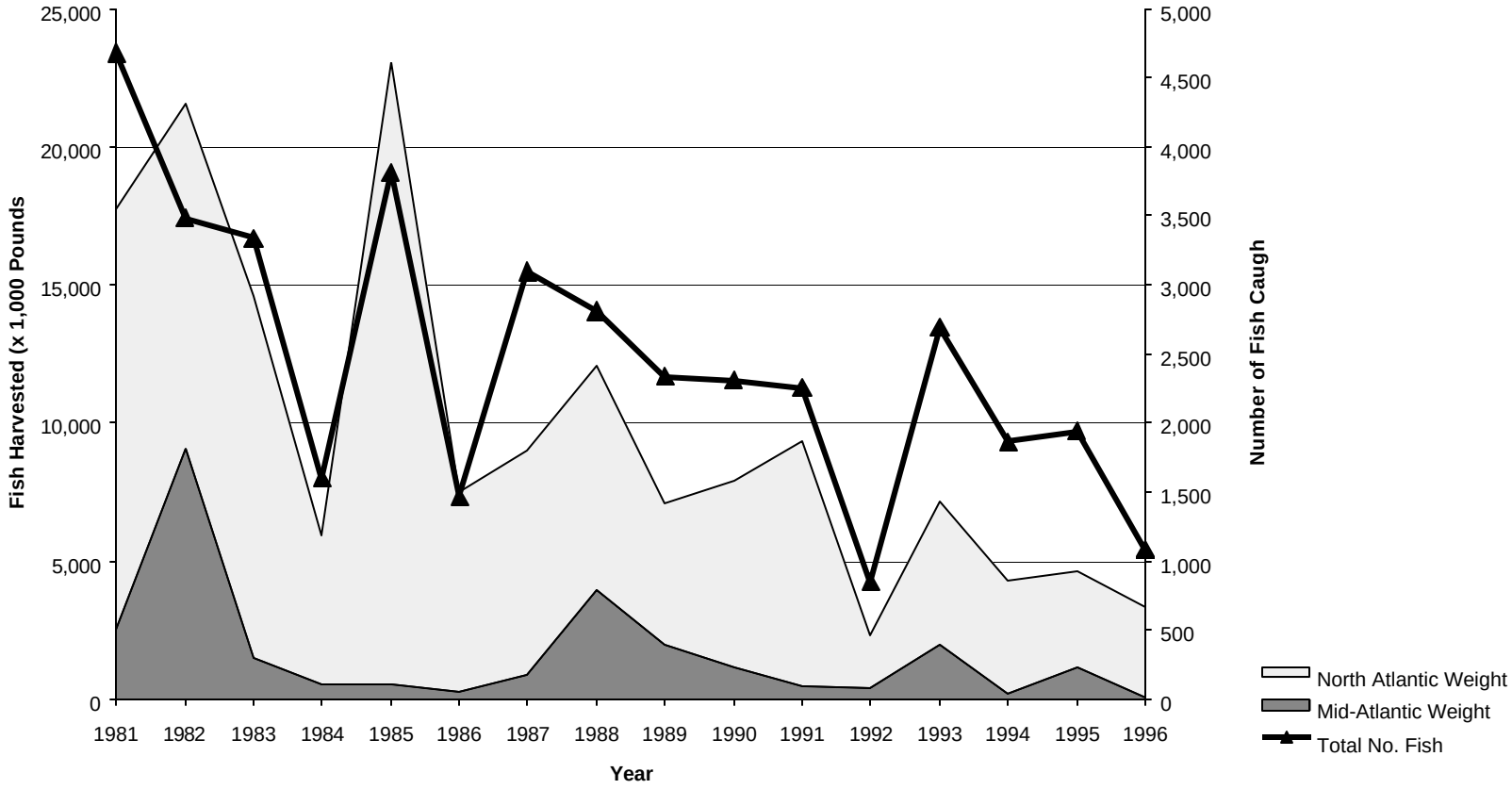

Figure 4 Trend in Recreational Cod Catch

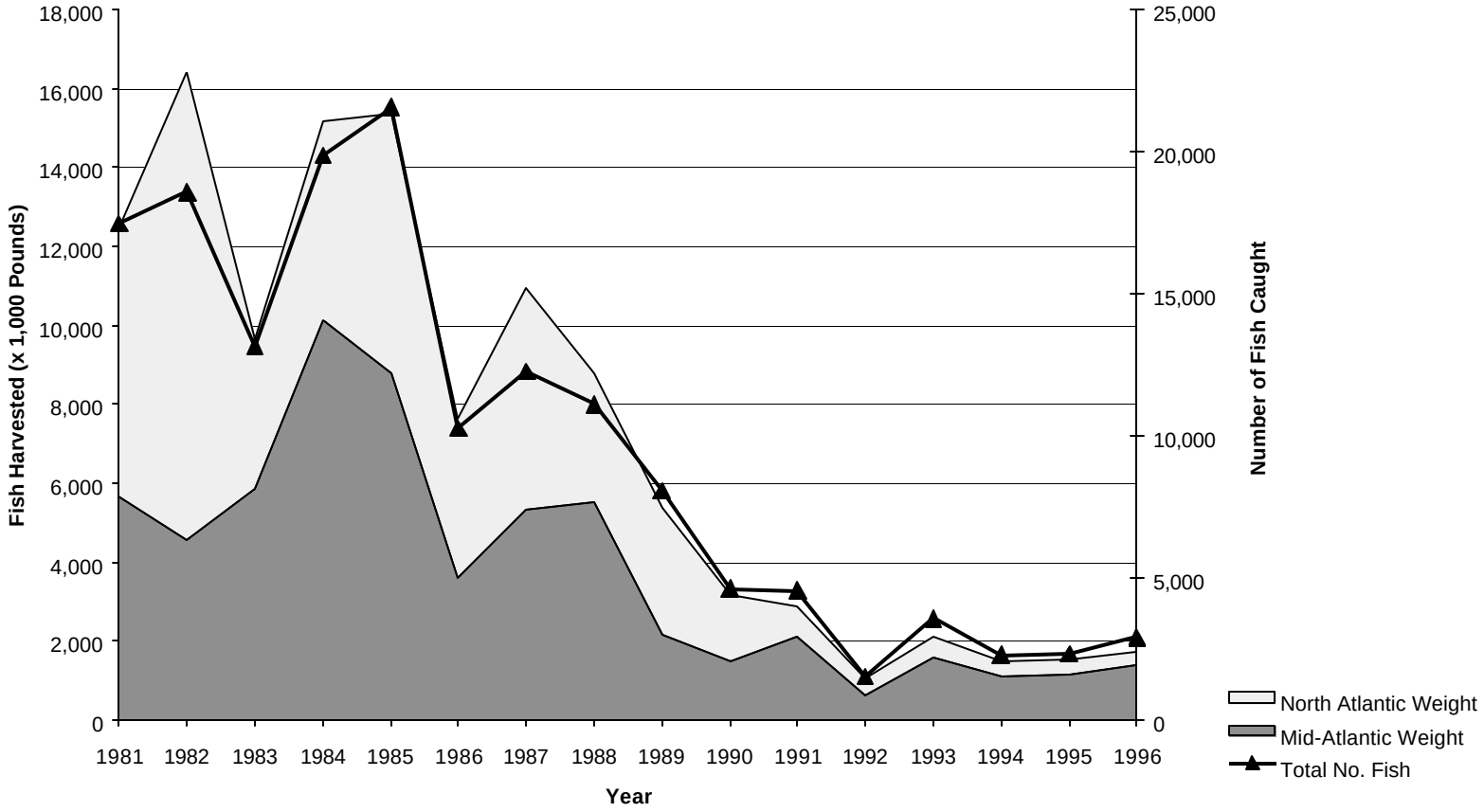

Figure 5 Trend in Recreational Winter Flounder Catch

E.6.4.3 Processing Sector

As discussed in Amendments 5 and 7, the processing sector is undergoing a long-term transformation in response to fluctuations in supply, globalization of markets, and improved transportation and communications infrastructure. Wholesalers and processors now import fresh product that is often cheaper and more steadily available than local product. According to the *Wall Street Journal* (3/31/98, p. NE1), for example, imports of fresh fish at Logan Airport in 1997 increased 55% from 1996, to 7.3 million pounds, much of which is cod and haddock from Iceland.

In recent years the wholesaling sector has consolidated and diversified. Table 5 shows that over the past decade, while the number of plants and persons employed in processing, and the number of wholesaling plants have all declined steadily, the number of persons employed in wholesaling has almost doubled. This trend toward consolidation and diversification in the wholesaling of fresh product has changed the method for valuing the catch and has increased economic return on reduced landings.

Product quality has become increasingly important in the pricing of catch, as supplies have declined. In the past few years, Portland, ME, Gloucester and New Bedford, MA, have established central display auctions where product is viewed before purchase. Vessels are rewarded for quality through competitive pricing in these auctions. Many fishermen who offload in other ports also truck their catch to one of these auction houses.

Another recent development in the wholesaling/marketing of groundfish is the growth of live-product markets and infrastructure. A number of fishermen have reported that they are also selling live cod directly to the Asian market in New York as a way of increasing the value of the catch. The *Boston Globe Sunday Magazine* recently contained an article describing this activity. The Cape Cod Hook Fishermen's Association is actively working to develop this market and to improve handling techniques.

The following table summarizes the recent trend in processing and wholesaling employment in the region (from *Fisheries of the United States*, 1989, 1992 and 1995).

P= number of plants, **E**= average annual employment (number of persons)

	PROCESSING						WHOLESALE						TOTAL					
	1989		1992		1995		1989		1992		1995		1989		1992		1995	
STATE	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P	E
ME	98	1978	76	1785	64	1799	285	814	284	838	195	1529	383	2792	360	2623	259	3328
NH	10	309	11	399	11	336	8	39	14	88	30	183	18	348	25	487	41	519
MA	109	3340	112	2568	90	2232	259	1373	282	1466	279	2583	368	4713	394	4034	369	4815
RI	31	478	29	546	24	512	86	326	82	273	84	447	117	804	111	819	108	959
CT	4	77	5	71	5	73	44	193	36	247	37	301	48	270	41	318	42	374
TOTAL	252	6182	233	5369	194	4952	682	2745	698	2912	625	5043	934	8927	931	8281	819	9995

Table 5 Processors and Wholesalers: Plants and Employment, 1989, 1992, 1995

E.7.0 Environmental Impacts

E.7.1 Biological Impacts of the Proposed Alternatives

E.7.1.1 Impacts on Fisheries

E.7.1.1.1 Impacts on species under this FMP

In terms of biological impacts, the proposed actions can be grouped into three categories:

- measures affecting all species
- measures affecting individual species, and
- measures having no biological effect. Included in this category are the specification of optimum yield and the revised overfishing definitions (although these may result in management action in the future, they have no immediate biological impact), as well as the proposal to delay implementation of the VMS.

E.7.1.1.1.1 Measures affecting all species in the FMP

The prohibition on brush sweep trawl gear will have an effect on all species with which the gear comes into contact. Since the gear is a recent development, very little information is available about how widespread its use is, or about how it impacts specific species. The prohibition will not affect overall fishing effort on regulated species to a significant degree. Therefore, while the impacts of the prohibition cannot be estimated at this time, the Council does not expect that this prohibition will have a significant biological impact on regulated species based on public comments about the number and frequency of vessels using the gear.

Nevertheless, the Council is taking the precautionary step of prohibiting the gear out of concern that it may greatly increase trawl efficiency and, thereby, offset the benefits of the DAS effort reduction program, particularly if its use becomes more widespread. Unlike when the Council prohibited pair trawling in Amendment 5, however, conclusive evidence for a significant increase in catch efficiency is lacking. The Council has recommended that appropriate entities conduct, in cooperation with industry, comparative studies of bottom tending gear to assess bycatch, efficiency and other impacts. It has also stated that it will consider information (collected in experimental fisheries) that demonstrates the efficiency gains of this gear.

E.7.1.1.1.2 Impact of the increase in minimum size of winter flounder

Increasing the winter flounder minimum size from 12 inches to 13 inches will result in an increase in age at first capture and increased spawning stock biomass per recruit. While the minimum size increase alone will not produce those results, as fishermen adapt to this rule (particularly switching to diamond mesh from square mesh or stopping the use of net liners), the exploitation pattern will change because fewer small fish will be caught. The

magnitude of biological, conservation benefits depends on the extent to which vessels currently using liners stop using liners and fish with more selective, legal-sized nets, and vessels that use square mesh nets to catch 12-inch winter flounder switch to diamond mesh. Based on public comments and enforcement reports, the Council believes that only a small percentage of vessels are using net liners, but these vessels account for a significant portion of the "peewees" (under-13-inch fish) at the New Bedford auction. The Council cannot determine from available data the number extent to which vessels are catching 12-inch winter flounder with square mesh codends.

Since approximately 50 percent of 11-inch winter flounder are sexually mature, allowing more 12-inch fish to survive before being captured will contribute to building spawning stock biomass. In southern New England, winter flounder in this size range grow one inch in about nine months, providing many of those fish an additional spawning cycle before being susceptible to capture. Increasing the age at entry will not, however, affect fishing mortality rates on fully recruited winter flounder.

E.7.1.1.1.3 Measures affecting halibut

Proposals under consideration that will affect halibut are described in Section 3.8. The biological impacts of prohibiting or limiting possession of halibut cannot be quantified since very little scientific information is available about the stock or fishery. However, based on Council members' own knowledge and experience, and on information provided by NMFS, as well as input from Groundfish Advisory Panel members, and other fishermen, the Council does not expect that the measures will have an adverse biological impact. The Council also does not expect that any significant beneficial biological impacts will occur in the reasonably foreseeable future (for example, one human generation).

The qualitative summary of projected impacts, including the long time period before any impacts will likely be detected, is based on the knowledge that halibut are slow-growing, slow to mature, and the spawning stock is severely depleted. According to fishermen, halibut appear to have a relatively high survival rate after being caught and discarded (that is they swim away strongly), in all gear types and under a variety of circumstances (depth, temperature, etc.). Canadian studies of halibut survivability suggest that discarded fish (from otter trawls) have about a 70 percent survival rate. Thus, the Council expects that the alternatives under consideration will have some beneficial impact.

Since total reported landings are less than 50,000 pounds, even if actual landings (including unrecorded incidental catch and landings from the seasonal fishery in Maine state waters) are two or three times greater, the total biological impact would equate to less than 150,000 pounds per year. The impact of such a reduction in catch on overall stock biomass (as a percentage of the total, for example) cannot be calculated, but the Council does not expect it to be significant in the reasonably foreseeable future. Over the long term, the biological impact of proposed alternatives will depend on the frequency of incidental catch and the survival rate of fish returned to the sea.

E.7.1.1.2 Impacts on species in other fisheries

Of the measures proposed in this amendment, the only measure that may have a direct impact on species in other fisheries is the prohibition on brush trawl gear. Since trips on which the brush sweep trawl are not identifiable in the database, the extent of this impact cannot be quantified.

Indirect impacts on other fisheries may result from the halibut possession limit and the winter flounder minimum size increase. The one-fish halibut possession limit may indirectly affect fishing on lobsters in eastern Maine as fishermen who otherwise might have conducted a seasonal directed halibut fishery redirect their effort onto lobsters, their primary fishery. The increase in effort on lobsters that might result cannot be estimated, but the Council does not think it would represent significant proportion of existing overall fishing effort on that fishery.

As fishermen modify their nets or fishing behavior in response to the winter flounder minimum size increase, their catches of other species may be affected. If they stop using liners, juveniles of all species will be protected. If they switch to diamond mesh (to reduce the catch/discard of 12-inch winter flounder), the Council expects that more roundfish and fewer flatfish would be retained in the net. Since all of these indirect impacts depend on the choices of individual fishermen, and, secondly, since the extent of liner and square mesh usage is not known, the overall impact cannot be estimated with any degree of certainty.

E.7.1.2 Impacts on Threatened, Endangered Species and Marine Mammals

Impacts of the measures in the FMP on these species were discussed in the submission documents for Amendments 5 and 7 and in formal consultations pursuant to Section 7(a)(2) of the Endangered Species Act, as well as in the associated Biological Opinions issued by NMFS. As has been discussed extensively in previous framework adjustments and amendments, direct adverse impacts (of the multispecies fishery) to protected species occur chiefly as the result of entanglement in sink gillnet gear. The Council submitted Frameworks 4, 12, 14 15 and 23 specifically to protect harbor porpoise and Atlantic large whales by reducing potential for encounters with sink gillnet or the likelihood that they will result in mortality or serious injury. The Council determined that Framework 25 measures would not diminish, and could possibly enhance measures to protect harbor porpoise and right whales due to reduced fishing effort in inshore areas and expanded use of closed areas.

The measures proposed for this amendment do not change those conclusions, and several are within the scope of those already analyzed (in previous amendments and frameworks) and were determined to have little, if any negative impacts on marine mammals and threatened and endangered species. The Council does not expect that the either the winter flounder minimum size increase or the inclusion of halibut in the management unit, described in Section 3.0, will have any impact on marine mammals and protected species. Nor are they likely to cause effort shifts that will have any measurable adverse impact on these species.

E.7.1.3 Impacts on Habitat and Other Biota

The Council does not expect that the measures proposed in this document will have a significant impact on habitat and other biota. The proposed measures do not materially affect habitat or other biota since overall fishing effort and area closures are not changed, and, with the exception of the prohibition on brush sweep trawl gear, there are no changes to fishing gear regulations. As noted in preceding sections, the impacts of these measures cannot be quantified, but they probably have some moderately positive impact based on the fact that they are intended to reduce bycatch and discards of juvenile fish.

Pursuant to the SFA, the Council is conducting a comprehensive effort to amend all FMPs to include a description and identification of essential fish habitat (EFH). The Council is submitting a separate amendment to each FMP to address this requirement. The EFH amendment will include recommendations to minimize any adverse effects of fishing, including any potential adverse impacts of this amendment, on EFH, and recommendations on other actions to encourage the conservation and enhancement of such habitat. The public will have an opportunity to review this amendment in public hearings this summer.

E.7.2 Economic Impacts of Alternatives

Economic impacts of the proposed measures result primarily from the following factors:

- Cost of replacing brush sweep trawl gear or unrecovered costs due to the prohibition
- Costs of administration and enforcement of measures to protect and rebuild halibut
- Revenues lost due to halibut fishery restrictions
- Revenues lost due to the winter flounder minimum fish size increase
- Increased economic yield from the ongoing program to rebuild the multispecies fishery resource and achieve maximum sustainable yield on a continuing basis
- Increased economic yield resulting from increases in the numbers of fish that survive to legal size because of reduced bycatch and discard of juvenile and sub-legal sized fish
- Increased economic yield in the long term resulting from the rebuilding of the halibut resource, and
- Short-term cost savings from postponement of the mandatory electronic vessel monitoring system (VMS).

In most cases, the factors listed above cannot be quantified, however, the Council believes that the individual or cumulative impacts are not significant as discussed below.

E.7.2.1 Costs of replacing gear

Estimates of the total cost of the brush sweep trawl are in the $8,000-$15,000 range, depending on the length of the trawl sweep and other custom specifications. However, the gear is subject to significant wear and tear, and must be replaced relatively frequently, especially since it is designed to fish on “hard bottom”. The Council has no official estimates of the numbers of vessels using the gear or the frequency with which they need to replace it.

In 1997, when the Council first learned about the gear, fishermen reported that about two dozen boats were using it, but as word has spread about its effectiveness, more boats have purchased and rigged the gear. In recent months, however, some fishermen have reported that they have stopped using the gear for various reasons. Gear suppliers have contacted the Council office in recent months about the proposed prohibition, and have indicated that they are reluctant to restock supplies. These factors contribute to minimizing the potential adverse economic impacts of this proposal.

In any case, the Council expects that most trawl vessels are not using the gear, and those that are only use it at certain times. As a result, the cost to vessels is based on the loss of use of a piece of gear that otherwise would wear out in a few months to a year, depending on usage. Since vessels already have other trawl rigs available, they would not be forced to immediately purchase replacement gear but could do so in the normal course of operations.

The prohibition will not add to administrative costs, and since it can be enforced during the course of routine enforcement acitivities, will not add significantly to enforcement costs. Thus, the Council does not expect that overall economic impacts of this proposal are significant.

E.7.2.2 Economic Impacts of Halibut Management Proposals

Reported halibut landings in recent years have been less than 50,000 pounds, most of which has been the result of incidental catch by otter trawls. The Council recognizes that a seasonal directed fishery in eastern Maine traditionally takes place in April and May. Based on comments from participants in this fishery, and on the limited data available, the Council recognizes that this is not a primary activity, but an alternative to Spring lobstering, and often done in conjunction with the setting out of traps at the beginning of the lobster season. This seasonal fishery takes place primarily in state waters and has declined in size in recent years.

The cost of the proposals to manage halibut include lost revenues from restricted or prohibited landings, as well as the added cost of enforcing new regulations and administering the new open-access permits. Using the estimate of participation contained Section 6.4.1 above of less than 100 boats in the directed fishery, some of which may already have limited-access multispecies permits, and a unit cost per permit of $33 (from Amendment 5), the administrative cost of issuing the open access permit probably will not exceed $3,300. However, since vessels will probably also cancel the open access permit after the halibut “season” in order to avoid the logbook requirements for the remainder of the year, the administrative costs also include processing the cancellation, or reissuing a vessel permit (for lobsters) without the open access multispecies permit. This second permit issuance will also cost the government an estimated $3,300. The Council expects that the one-fish possession limit and minimum size can be enforced as part of the routine fisheries enforcement effort, and that they will not add significantly to enforcement costs.

The price for halibut at the Portland Fish Exchange usually ranges between $4.00 and $5.00 per pound but it is subject to downward pressure from Canadian and Pacific halibut imports that result in a price paid to the vessel below $3.00 per pound. Since the revenues from halibut are either infrequent (in the case of incidentally caught fish) or a minor component of the revenues in lobster fishing operations (in the Maine fishery), the Council does not expect that the proposed measures will have a significant economic impact on vessel revenues or on the revenues of wholesalers.

The Council also does not expect that the measures will have a significant impact on costs or benefits to consumers. Since the amount of halibut landed is relatively small, and since imports of Atlantic halibut from Canada and Pacific halibut are readily available, prices to the consumer of substitutes will probably not increase due to any reduced landings of local product. In the long term, consumers may benefit from increased availability of local product, but the Council does not expect that such a benefit will be realized in the reasonably foreseeable future.

E.7.2.3 Economic Impacts of Winter Flounder Management Measures

Economic impacts of the increased winter flounder minimum fish size measures include the net of revenue losses from prohibited landings of fish in the between 12 and 13 inches and revenue gains from the increased yield per recruit and price per pound for higher market category fish. Older, larger fish represent more pounds per unit and usually get a premium price per pound (as much as 30 percent more depending on supply, spot demand and quality). Since winter flounder in this size range grow one inch in approximately nine months, the losses will probably be recovered within a few months, resulting in annual revenue increases to the fishermen.

In addition, catch rates and total revenues should increase over time as the stock biomass increases as a result of increased survival of juvenile and sub-legal sized fish. The net economic impact of these measures on producers and on consumers cannot be quantified precisely, but the Council feels that they will be positive, although probably not significant, at least in the foreseeable future because total effort and fishing mortality on winter flounder is not significantly changed.

Likewise, the impact on enforcement costs cannot be quantified. The Council expects that if the increased minimum size is effective in reducing the incentive to use liners, enforcement costs will be reduced. Enforcing gear/mesh regulations, especially proving intent to violate is difficult and costly. Enforcement of the minimum fish size is already part of routine at-sea and shoreside enforcement activities.

E.7.2.4 Economic Impacts of VMS postponement

Under the no-action alternative, Individual DAS vessels will be required to use the VMS beginning on May 1, 1999. The economic impact of the proposed alternative to delay implementation is, therefore, the delayed cost of purchasing and using the VMS reduced by the savings from not having to use the DAS call-in system. The cost to individual vessels varies based on the following factors:

- vendor (currently only one vendor is certified, but NMFS expects that a second will be certified in the next few months)
- means of purchase, lease or financing
- choice of services or functionality options
- usage level, and
- needed vessel modifications, mainly if power supply needs to be upgraded.

Depending on these variables, the purchase cost is up to $6,000, and the monthly charges which are based in part on usage levels, average about $100-$150. During the past year, between 91 and 110 vessels fished as Individual DAS vessels. If these vessels remained in that permit category in 1999, they would be required to have an operational VMS under the no-action alternative. Since many vessels already use the system for their own purposes, they would only be subject to additional messaging costs associated with complying with the DAS monitoring regulations.

Since the purpose of the proposed postponement is to resolve a number of outstanding questions and issues (many of which relate to costs), and not to permanently end the use of VMS as a management tool, the Council does not expect that the cost savings that result from postponing its mandatory use will be permanent. In fact, one of the unresolved questions is why VMS is still only required on Individual DAS vessels, and after the Council answers this question, it may expand VMS usage to other vessel groups. Any such action, however, would not be taken without complete analysis and opportunity for public comment. Nevertheless, the Council does not expect the cost savings from the action currently under consideration to be significant.

E.7.3 Social and Community Impacts of Alternatives

Social impact analysis of fisheries management actions is hampered by a lack of both data and analytical methodology. In recent years, the Council and NMFS have supported efforts to collect more information and conduct analysis of social impacts of FMPs. On July 17, 1998, NMFS announced funding for two major contracts under the Marine Fisheries Initiative (MARFIN) program. These complementary projects will develop community profiles and an input-output model which should greatly advance our social impact assessment capabilities.

The following sections discuss potential impacts of the proposed actions on communities and individuals within the context of the available data and analysis capabilities. However, since the Council does not expect the proposed actions will have a significant biological or economic impact in comparison to taking no action, it also does not expect they will have significant social impacts.

As described in the Aguirre International report contained in Appendix III, fishermen, their families and their communities have devised a variety of strategies for dealing with crisis and change. The crisis or change may be the result of changing resource or market conditions, or it may be the result of a changing regulatory regime. In either case, the scope and intensity of impacts of changing regulations varies with the level of dependence (of the individual or community) on the affected fisheries. In the case of this

amendment, the two most affected fisheries are the seasonal halibut fishery in coastal Maine, and the Southern New England winter flounder fisheries.

E.7.3.1 Impacts of Winter Flounder measures

Massachusetts ports historically account for about two-thirds of all winter flounder landings, with New Bedford being the principal port where winter flounder from both Southern New England/Mid-Atlantic and Georges Bank stocks is landed. As stated in Appendix III (p. 75), of all the major groundfishing ports in the region, the economy of New Bedford is probably the most dependent on the multispecies groundfish fishery. Thus, the proposed restrictions will likely result in more short-term impacts on the community and fishermen of New Bedford than other ports. In the same way, however, that community will likely benefit the most from the stock recovery and increased yield. Since the Council expects that revenue losses from the minimum fish size will be offset within the fishing year by gains in yield and price, it does not expect that the social impacts of this proposal will be significant.

Fishermen and Groundfish Advisory Panel members from New Bedford brought to the Council's attention the use of liners to catch winter flounder, and they suggested that the solution to the problem is to raise the minimum fish size and take away the incentive to use the liners. These fishermen strongly stated that the ongoing use of liners by some vessels was causing strife and conflict in their community because the law-abiding fishermen had to compete in the marketplace with those who gained advantage by violating the rules. They expressed anger at the management system that allowed repeat violators to continue fishing.

While the impacts would be mostly on the New Bedford fishing community, the Council expects that all winter flounder fishermen from Mid-Atlantic ports up to Portland, Maine will benefit from the proposed changes.

E.7.3.2 Impacts of the Halibut Measures

Historically, that is, until the end of the 19th century, halibut was an important component of the catch of the sail-and-dory fleets out of many New England ports. As noted in Section E.6.4.1, however, halibut is now primarily an incidental catch in other fisheries, and is most landed as a "shack" fish (considered as belonging to the crew). As a result, the proposed limit on possession could have an impact on the crew's income, but since the catches are so infrequent, the Council does not expect that the social impacts of the alternatives, including the prohibition on possession, will be significant.

The Council recognizes that a seasonal directed fishery for halibut still occurs in the mid-coast and eastern areas of Maine. Based on the best information available, however, the halibut fishery does not appear to be a significant component of the fishing economy (which is based primarily on lobsters), and the dependence of fishermen or their communities on this seasonal fishery is minor, and has been declining in recent years. For these reasons, the Council does not expect that the measures will have a significant social impact in the near term. In the future, when halibut stocks rebuild, the restored fishery may have a positive benefit on those communities and others where halibut is landed,

particularly if the fishery provides a seasonal alternative source of income to fishermen. In the reasonably foreseeable future, however, the Council cannot predict the magnitude or spatial distribution of that impact, particularly because it cannot predict how fast the resource will rebuild to a level that can sustain a directed fishery.

5.2 Regulatory Impact Review (E.O. 12866 and Regulatory Flexibility Act)

This section provides the information necessary for the Secretary of Commerce to address the requirements of Executive Order (EO) 12866 and the Regulatory Flexibility Act (RFA). Section 2.1, Background, and Section 2.2, Purpose and Need, of this document contain the statement of the problem and the need for management. Section 3.0 describes the proposed regulatory action, while Section E.5.2.3, describes the alternatives considered and rejected, including the no-action alternative. Section E.7.2, which discusses the economic impacts of the proposed action, is summarized below under the discussion of how the proposed action is characterized under EO 12866 and the RFA.

5.2.1 Executive Order 12866

The Council has proposed measures in this amendment to achieve the conservation objectives of Amendment 7 and meet the mandates of the Sustainable Fisheries Act. The proposed action does not constitute a significant regulatory action under EO 12866 for the following reasons:

The proposed action will probably not have an annual effect on the economy of more than $100 million, since even under the Amendment 7 stock-rebuilding program, the annual effect of existing regulations on the economy is less than that amount. While sufficient data is not available to quantitatively assess the overall economic impact of the proposed measures, qualitatively, the Council expects the net benefits to be positive, consistent with the long-term positive impacts projected for the effort reduction program. This expectation is based on premise that as currently depressed or depleted fish stocks are rebuilt to higher levels, economic yields will increase substantially. Most of the costs of the rebuilding plan have already been incurred, under Amendment 7 and subsequent management actions.

The management proposals will not significantly impact the landings and revenues of the existing fishery when compared to taking no action. As indicated in the Environmental Assessment, the proposed adjustments to the winter flounder minimum size, the measures to protect Atlantic halibut and the prohibition on brush sweep trawl gear may have a short-term negative impact as vessels modify their fishing strategies. In each case, however, vessels have existing alternatives or will recover any lost revenues within the fishing year. The Council also does not expect that the other components of the amendment will have a significant economic impact since the measures are not restrictive and do not involve re-allocation of benefits.

The increase in the winter flounder minimum size may have a short-term negative impact on some vessels compared to the no-action alternative, due to lost revenues. As affected vessels adjust to the modified rules by fishing with different mesh configurations they will forgo the revenues from winter flounder catches in the 12-13” inch range. Fishermen in Southern New England have reported that as much as 30-40 percent of their winter flounder catches are in that size range, however, within a matter of months, those fish will have grown to legal minimum size, and will produce an increased economic yield in pounds per fish and price per pound. Fishermen landing winter flounder from Georges

Bank report that fish in the 12-inch to 13-inch size range are an insignificant portion of their catch, except on vessels fishing with illegally modified nets.

The prohibition on brush sweep trawl gear may also have a minimal, short-term impact on vessels. Economic losses from the prohibition include unrecovered costs of the gear (less depreciation) and losses from revenues due to potentially reduced catches (if catch rates are higher when using the gear). In either case, losses would be offset by the availability of alternatives, especially conventional trawl gear which these vessels used prior to the introduction of the brush sweep, and continue to use when not fishing with the brush sweep. In the case of unrecovered costs of gear, the Council does not expect the losses will be significant, even though the purchase cost is estimated at $8,000-$15,000 (depending on size), since the gear is expendable, according to public comment, and must be replaced frequently, depending on usage. The Council has publicly discussed its consideration of a prohibition on the gear for at least a year and fishermen have made purchases during that period of replacement gear knowing the risks that the gear might be prohibited. The Council office has also received several calls from gear suppliers who have been concerned about the possible prohibition and were reluctant to restock supplies, suggesting that their losses will also be minimized due to the advanced notice of this possible action.

In the case of potentially reduced catches, fishermen who use the gear report that their catch rates are not any higher than with more conventional trawls. They use the gear because it does not hang up as often, and less time is required to mend the nets. In fact, the Council is prohibiting the gear because of uncertainty about its catch efficiency and the potential impacts on the rebuilding program. Furthermore, this is a relatively recent gear development and fishermen can alternatively use conventional trawls. To the extent that the gear may have detrimental impact on the rebuilding program, the economic impact of the prohibition on overall economic returns is expected to be positive.

The proposed measures to rebuild the halibut resource by stopping directed fishing will only impact those federal fisheries permit holders who fished for halibut in the EEZ while on a multispecies DAS. Since 1996, under Amendment 7, fishing in the EEZ while not on a DAS, with gears other than specified exempted gears or in an exempted fishery, has been prohibited. The directed halibut longline fishery is neither an exempted fishery nor is it conducted with one of the exempted gears. Landings from federal waters consist largely of incidental catch in other fisheries.

Fishermen in the seasonal directed halibut fishery consider this fishery to be a secondary activity, with their primary activity being lobstering. Public hearing comments from such fishermen indicated that as an alternative to halibut fishing (if it were reduced or prohibited as proposed) they would set out their traps earlier in the year. Furthermore, this fishery has seen reduced participation in the last few years, and is at a relatively low level, both in terms of effort and economic value.

For these reasons, the proposed action will not adversely affect in a material way the economy, productivity, and competition. The costs of administering and enforcing the

proposed measures are not likely to significantly increase in comparison to current costs. The cost to the government of administering the new collection-of-information requirements is expected to be $6,600 per year (see Appendix VIII, Supporting Statement, Permit Family of Forms). Enforcement of the proposed measures can be accomplished as part of the routine activities of enforcing the FMP regulations.

For the same reasons as above, the proposed action will not significantly affect jobs, the environment, or state, local or tribal governments and communities nor will they affect safety or public health. The proposed action will not create an inconsistency or otherwise interfere with an action taken or planned by another agency. There are no other actions proposed by other agencies that will impact the same areas and fisheries. The proposed action will not materially alter the budgetary impact of entitlements, grants, user fees or loan programs, or the rights and obligations of their recipients.

The proposed action does not raise novel legal or policy issues. Regulations regarding minimum fish sizes, gear restrictions and possession limits are already used to manage fisheries in the northeast.

5.2.2 Regulatory Flexibility Act

The purpose of the RFA is to reduce the impact of burdensome regulations and record-keeping requirements on small entities (small businesses, organizations or governments). The RFA applies to any rule or regulation that must undergo "notice and comment" under the Administrative Procedures Act, specifically those rules published as proposed rules. When the RFA applies, the Council must assess the effects of the regulations to determine if they will have a "significant economic impact on a substantial number of small entities." The Council must then either provide an explanation that there is not a significant impact (as described in the guidelines to the RFA), or prepare an initial regulatory flexibility analysis (IRFA). Since the Council is proposing new collection-of-information requirements in this amendment, it will submit proposed rules for those measures, and must then meet RFA requirements described above.

Determination of significance

NMFS guidelines for determining whether an action will have a significant impact on a substantial number of small entities identifies five criteria, any one of which, if met, would result in a determination that the action is significant under the RFA. Previous analyses (for example, Amendment 7) have concluded that the majority of vessels in the Northeast multispecies fishery are small entities according to SBA criteria. The guidelines also state that if the effects of the rule fall primarily on a distinct segment, or portion of the industry (including geographical area), that segment would be considered the universe for the purposes of this criterion.

For the purposes of analysis of the winter flounder minimum fish size, the universe of small entities includes all limited-access fishing vessels, approximately 1,650, since any vessel fishing for regulated species could land winter flounder regardless of whether it was the target species. The universe for the brush sweep trawl prohibition is the subset of

permit holders that fishes for multispecies with otter trawls and would potentially be impacted by the prohibition, approximately 900 vessels.

For the halibut fishery restrictions, the universe is also 1,650 limited access multispecies permit holders plus a subset of the estimated 100 participants in the directed halibut fishery who do not already hold a federal fisheries permit, including a lobster permit. Since 1996, federal fisheries permit holders have been prohibited from fishing in the EEZ unless on a DAS or in an exempted fishery or while fishing with exempted gear. The total number of vessels in the universe is, therefore, conservatively estimated to be 1,700.

"A substantial number", according to the guidelines, is more than 20 percent of those small entities in the specified universe. The brush sweep trawl prohibition does not affect a substantial number of small entities. Since vessels are not required to report using the gear, verifiable counts of the numbers of trawl vessels using it are not available. However, initial estimates provided by fishermen during meetings on this matter suggest that not more than 50 vessels are using it. The level of comment in public hearings on the proposed prohibition also suggests that the number of affected vessels is not substantial from an RFA standard (20 percent of 900 vessels, or fewer than 180).

The halibut restrictions will also not affect a substantial number of small entities, since the catches of halibut are so infrequent. The vast majority of vessels do not catch one halibut in a year and certainly fewer than 340 vessels (20 percent of 1,700 vessels) have caught more than one halibut on a trip, thus being affected by the possession limit.

The winter flounder minimum size will probably affect a substantial number of small entities, since more than 330 vessels land winter flounder (20 percent of the universe of vessel) and any vessel landing winter flounder would be affected by the minimum size increase. However, the Council does not expect that the minimum size increase will have a significant impact from an RFA standpoint. The five criteria for determining significance, and the relationship of this proposal to them are as follows:

1. *The regulations are likely to result in a reduction or an increase in annual gross revenues by more than 5 percent.*
   The impact on revenues of a one-inch minimum size increase will be less than 5 percent for the following reasons:

   a) Winter flounder landings in the 1997-1998 fishing year were approximately 11.7 million pounds, or 14 percent of the total regulated species landings. Revenues from winter flounder as a percentage of total regulated species revenues would be in the same range since prices for winter flounder generally fall in the mid-range for the group. Furthermore, since vessels' opportunity to fish for regulated species is limited to 88 DAS or 50 percent of their historical activity, regulated species are probably not the only source of revenues in nearly all cases.
   b) while some vessels catching winter flounder report that fish in the 12-13 inch range make up as much as 30-40 of their winter flounder catch, most

vessels, including the larger vessels fishing in the Great South Channel and on Georges Bank report that very few fish in that size range are retained by the nets unless a vessel is fishing with illegal gear
c) fish will grow from 12 inches to 13 inches in nine months or less, and when caught will result in more pounds per fish and a higher price per pound (market category in New Bedford is over 13 inches, "peewees" are 12-13 inches), mitigating any short-term revenue losses with increased revenue gains.

2. *Annual compliance costs (annualized capital, operating, reporting, etc.) increase total costs of production for small entities by more than 5 percent.* Since a minimum size is already part of the regulations, the only compliance cost would be that resulting from the cost of modifying trawl codends to reduce the bycatch of 12 inch fish (switching from square to diamond mesh, for example). As noted in the preceding paragraph, most vessels report that they do not catch significant quantities of 12-inch fish with current gear. Codend costs vary depending on the size, however, since codends are expendable and replaced when they wear out or to target different species, annual compliance costs are unlikely to increase 5 percent.

3. *Compliance costs as a percent of sales for small entities are at least 10-percent higher than compliance costs as a percent of sales for large entities.* No large entities are affected by this rule change.

4. *Capital costs of compliance represent a significant portion of capital available to small entities, considering cash flow and external financing capabilities.* The rule change imposes no capital costs of compliance.

5. *The requirements of the regulations are likely to result in a number of the small entities affected being forced to cease business operations (generally 2 percent of the businesses).* The exemptions will not result in any entities being forced to cease operations.

Based on the above analysis, the Council does not expect that the winter flounder minimum fish size increase of one inch will have a significant impact on a substantial number of small entities.

5.3 Endangered Species Act

The Council does not believe that this management program will have any adverse effect on any threatened or endangered species within the range of stock managed under this FMP. Commercial fishing operations and vessels issued fishing permits in accordance with Section 204(b) of the Magnuson-Stevens Act are subject to the provisions of the ESA. Section E.7.1.2 of this document contains a discussion of impacts on populations of endangered species.

5.4 Coastal Zone Management Act

The Council has reviewed the coastal zone management programs for states whose coastal waters are within the range of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware and Maryland. It has determined that the proposed amendment is consistent with the CZM programs of those states and has sent a notification of this determination, along with a copy of the amendment document, for their concurrence. Copies of the correspondences are on file at the Council office.

5.5 Paperwork Reduction Act

The proposed action contains two new collection-of-information items:

- a requirement for a vessel that does not possess either a limited access or open access multispecies permit to obtain an open access permit in order to retain one halibut, and consequently submit a Vessel Trip Report, and
- a request that vessels catching halibut indicate in the Vessel Trip Report, the size of any halibut caught and the time of day it was caught.

The Council submitted a draft Supporting Statement to NMFS on September 29, 1998. Based on comments from NMFS, the staff is revising the draft and a final submission copy is on file at the office.

5.6 Marine Mammal Protection Act

The Council does not believe that this management program will have any adverse effect on marine mammals that occur within the range of species managed by this FMP. Commercial fishing operations and vessels which have valid fishing permits issued in accordance with Section 204(b) of the Magnuson-Stevens Act are subject to the provisions of the MMPA and specifically Section 114 which governs the incidental take of marine mammals. Section E.7.1.2 of this document contains a discussion of impacts on marine mammal populations.