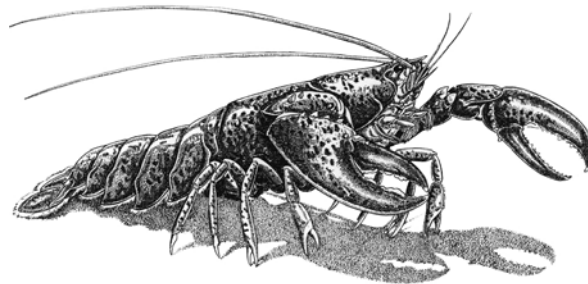




FEDERAL AMERICAN LOBSTER MANAGEMENT
In The
EXCLUSIVE ECONOMIC ZONE
Based Upon
FISHERY MANAGEMENT MEASURES SPECIFIED IN
ADDENDA II, III, IV and DRAFT ADDENDUM XI
To
AMENDMENT 3
Of The
INTERSTATE FISHERY MANAGEMENT PLAN
FOR AMERICAN LOBSTER

**Environmental Assessment
Regulatory Impact Review and Regulatory Flexibility Analysis
of Broodstock Protection and Effort Reduction Measures
for Lobster Conservation Management Area 3**

National Marine Fisheries Service
Northeast Region
MAY 2007



EXECUTIVE SUMMARY	5
1.0 INTRODUCTION.....	7
1.1 Purpose and Need.....	9
1.2 Legal and Historical Context.....	10
1.3 Federal Process.....	11
2.0 MANAGEMENT MEASURES AND ALTERNATIVES.....	14
2.0.1 Alternatives Considered.....	15
2.1 Alternative 1: No Action – Maintain current measures in LCMA 3	16
2.2 Alternative 2: Commission Recommendations	17
2.3 Alternative 3: Modified Commission Recommendations –Preferred	18
2.4 Considered but Rejected Alternatives	19
2.4.1 Implement an Area 1 lobster trap escape vent increase by 2007	20
2.4.2 Increase the minimum gauge size in Outer Cape Management Area by 2008.....	20
2.4.3 Active trap reductions for the Outer Cape Management Area	21
2.4.4 Increase in the Area 2 minimum gauge size up to 3 1/2 inches (8.89 cm) by 2008.....	21
3.0 AFFECTED ENVIRONMENT	22
3.1 Status of Lobster Resource	22
3.1.1 Range	22
3.1.2 Status of the Stocks.....	23
3.1.3 Life History and Reproductive Success.....	26
3.1.4 Factors Affecting Survival	29
3.1.5 Interactions with Non-target Species	30
3.2 Description of Physical Environment/Habitat.....	32
3.2.1 Offshore Lobster Habitats	32
3.2.2 Deep Sea Canyons.....	33
3.3 Description of Socioeconomic Environment.....	35
3.3.1 Community Overview.....	36
3.3.2 Description of the LCMA 3 Trap Fishery.....	37
3.3.3 LCMA 3 Non-Trap Fishery	40
3.4 Description of Protected Resources	42
3.4.1 Northern Right Whale	43
3.4.2 Humpback Whale.....	45
3.4.3 Fin Whale.....	46
3.4.4 Sei Whale.....	47
3.4.5 Sperm Whale	48
3.4.6 Loggerhead Sea Turtle	49
3.4.7 Leatherback Sea Turtle	53
4.0 ENVIRONMENTAL CONSEQUENCES - ANALYSIS OF IMPACTS.....	56
4.0.1 Background	56
4.1 Alternative 1: No Action Alternative (Non-preferred).....	57
4.1.1 Biological Impacts	58
4.1.2 Habitat Impacts	60

4.1.3	Bycatch	61
4.1.4	Socio-economic Impacts – Trap Sector	62
4.1.5	Socio-economic Impacts – Non-Trap Sector	65
4.1.6	Protected Resources Impacts.....	66
4.2	Alternative 2: Commission Area 3 Measures - (Non-preferred).....	68
4.2.1	Biological Impacts.....	69
4.2.2	Habitat Impacts.....	72
4.2.3	Bycatch	72
4.2.4	Socioeconomic Impacts – Trap Sector	73
4.2.5	Socio-Economic Impacts – Non-Trap Sector	78
4.2.6	Protected Resources Impacts.....	78
4.3	Alternative 3: Modified Area 3 Measures - (Preferred).....	80
4.3.1	Biological Impacts.....	80
4.3.2	Habitat Impacts	84
4.3.3	Bycatch	84
4.3.4	Socioeconomic Impacts – Trap Gear Sector.....	85
4.3.5	Socio-economic Impacts – Non-Trap Gear Sector.....	87
4.3.6	Protected Resources Impacts.....	87
4.4	Cumulative Effects Analysis	90
4.4.1	Consideration of the VECs	90
4.4.2	Geographic Boundaries	90
4.4.3	Temporal Boundaries.....	90
4.4.4	Actions Other Than Those Proposed in this Action.....	91
4.4.5	Preferred Action on all the VECS	103
5.0	NATIONAL ENVIRONMENTAL POLICY ACT	104
5.1	Environmental Assessment	104
5.2	Finding of No Significant Impact (FONSI).....	104
6.0	OTHER APPLICABLE LAW	110
6.1	Paperwork Reduction Act (PRA).....	110
6.2	Coastal Zone Management Act (CZMA)	110
6.3	Section 515 Information Quality Determination	111
6.3.1	Utility of Information Product.....	111
6.3.2	Integrity of Information Product.....	111
6.3.3	Objectivity of Information Product.....	111
6.4	Magnuson-Stevens Fishery Conservation and Management Act.....	112
6.4.1	National Standards of the Magnuson Stevens Act.....	112
6.4.2	Essential Fish Habitat (EFH)	114
6.5	Executive Order 12630.....	115
6.6	Executive Order 12866.....	115
6.7	Executive Order 13132.....	117
6.8	Executive Order 13211	117
6.9	Atlantic Coastal Act	117
7.0	LIST OF PREPARERS OF THE ENVIRONMENTAL ASSESSMENT.....	117
8.0	INITIAL REGULATORY FLEXIBILITY ANALYSIS	118

8.1	Increase the Minimum Gauge Size	118
8.2	Escape Vent Size.....	119
8.3	Trap Reduction	120
9.0	AGENCIES AND PERSONS CONSULTED	122
11.0	APPENDICES	135
11.0	APPENDICES	135
	Appendix 1: Impacted Trap Vessels by State.....	135
	Appendix 2: Chart of Lobster Management Areas.....	136
	Appendix 4: Excerpts from ISFMP Addendum IV	139
	2.2.1 Minimum Gauge Size in Lobster Management Areas	139
	Appendix 5: Excerpts of Addendum IV to Amendment 3 to the Interstate Fishery Management Plan for American Lobster	141
	Vent Sizes.....	142
	Most Restrictive Rule.....	143
	Area 3 Management Measures	145
	5.3.2 Minimum Gauge Size.....	145
	Appendix 6: Rescission of Measures from ASMFC.....	146
	Appendix 6c: Excerpt from ASMFC press release, May 8, 2006	146
	Appendix 6b: Excerpt from Addendum VII, November 2005.....	146
	Appendix 7: Advance notice of proposed rulemaking (ANPR), December 18, 2006	147
	Appendix 8: LIST OF ACRONYMS.....	155
	Appendix 9: Area 3 Lobster Trap Reduction Schedule (2007-2010).....	156
	Appendix 9 (cont'd.): Area 3 Lobster Trap Reduction Schedule (2007-2010)	157
	Appendix 10: Revised Lobster Stock Assessment Areas.....	158
	Appendix 11: Former Lobster Stock Assessment Areas	159

EXECUTIVE SUMMARY

The National Marine Fisheries Service (NMFS) proposes to revise Federal American lobster regulations in response to recommendations by the Atlantic States Marine Fisheries Commission (Commission). The proposed regulations are applicable to the offshore Lobster Conservation Management Area 3 (LCMA 3/Area 3) and are consistent with the measures set forth in the Commission's Interstate Fishery Management Plan for American Lobster (ISFMP). The analysis herein evaluates three separate regulatory scenarios for Area 3 concerning the following management measures: a schedule of minimum carapace length (gauge) increases through 2008; an escape vent size increase in 2010; and a suite of annual trap reductions through 2010.

To protect lobster broodstock, NMFS intends to implement two additional gauge increases that would result in a 3 1/2 inch (8.89 cm) minimum gauge size requirement for LCMA 3 by July 1, 2008. Most states have already begun the four-year gauge increase schedule in 2005 as mandated by the ISFMP. To remain consistent with the ISFMP, NMFS proposes to implement a gauge increase subsequent to publication of a final rule later in 2007. In addition, NMFS proposes escape vent size increases in LCMA 3 to 2 1/16 inches X 5 3/4 inches rectangular (5.24 cm X 14.61 cm) or two circular vents at 2 11/16 inches diameter (6.83 cm) by July 1, 2010. NMFS also intends to implement a suite of trap reductions in LCMA 3 to augment previous measures to control lobster trap fishing effort in the offshore area. First, Addendum IV to Amendment 3 of the ISFMP calls for a 10% active trap reduction implemented over two consecutive years with a scheduled 5% reduction for 2007 and 5% reduction in 2008. To address the need for further fishing mortality and fishing effort reductions in the offshore fishery as identified in the updated stock assessment released in 2005, the Board adopted Addendum XI in May 2007 which includes an additional 5% reduction in traps in LCMA 3 to be implemented as a 2.5% reduction each year for two consecutive years following the initial 10% active trap reduction.

The direct and indirect impacts of the preferred alternative, a no action alternative and a third alternative are described and analyzed in Sections 4.1 through 4.3 of this document with the cumulative impact assessment in Section 4.4. The analyses of the impacts of the preferred alternative to biological resources, protected species and socioeconomic factors indicate that the management measures, as described in Section 2, will positively benefit the offshore lobster resource and that the impacts of this proposed action will not be significant. Thus, a "Finding of No Significant Impact" is justified based on the analyses presented in the EA.

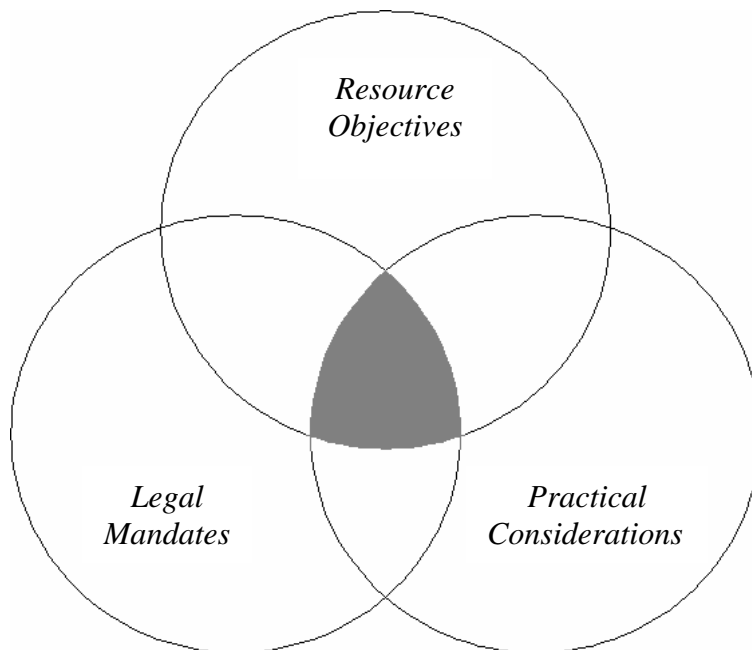
This analysis was conducted prior to the most recent meeting of the Commission's Lobster Management Board (Board) in May 2007 and prior to receipt of public comments on the associated proposed rule. When this analysis was conducted, the Board adopted the suite of minimum size increases into the ISFMP but had yet to adopt the delay in the escape vent size for Area 3 until 2010 and the inclusion of two additional industry proposed trap reductions of 2.5% each for 2009 and 2010. In anticipation that the Board would adopt these measures at the May 2007 meeting as part of Addendum XI,

which it subsequently did adopt, the NMFS preferred alternative of this environmental assessment included these measures. Thus, all the measures relevant to this action that have been adopted into the ISFMP are consistent with the preferred alternative in this assessment. Furthermore, the public comments received in response to the proposed rule raised no new issues within the scope of this action that have not already been contemplated. Consequently, the expected impacts to the fishing industry of this action are now even less than the minimal impacts estimated in this analysis. Since the Commission has now adopted these measures, the majority of the impacted member states are now required to implement these measures. Therefore, Federal implementation will impact only those few vessels that are not otherwise subject to the measures at the state level.

1.0 INTRODUCTION

American lobster (*Homarus americanus*) is a trust resource of both the Federal Government and the Atlantic coastal states. The National Marine Fisheries Service (NMFS) manages lobster for the Federal Government and has primary jurisdiction over the species in waters 3 to 200 nautical miles from the shoreline (also known as the Exclusive Economic Zone, or EEZ). The states with lobster fisheries (*i.e.*, the states of Maine southward to North Carolina) manage lobster within the waters of their individual states, 0 to 3 nautical miles from shore. NMFS and the states manage lobster within the framework of the Atlantic States Marine Fisheries Commission (Commission). The Commission is a deliberative body comprised of representatives from the states and the Federal Government. The Commission serves to develop fishery conservation and management strategies for various coastal species, including lobster, and coordinates the efforts of the states and Federal Government toward concerted sustainable ends.

Any potential Federal lobster management action is bound by three categories of considerations: 1) resource objectives; 2) legal mandates; and 3) practical/managerial considerations. The three categories relate to one another similar to the way that circles interact in a Venn diagram. That is, each category contains measures, some of which overlap with measures in other categories. It is, however, those measures common to all categories (*e.g.*, the shaded area in the Venn diagram) where the Federal Government should focus its attention.



The first consideration, which is illustrated in the top circle in the Venn diagram schematic, involves resource objectives. Generally, NMFS and the states seek to end overfishing of lobster and restore the fishery to sustainable levels. The Commission set forth its resource objectives more specifically in its ISFMP.¹

The second category, which is shown as the left circle in the Venn diagram, involves legal mandates. Specifically, the Atlantic Coastal Fisheries Cooperative Management Act (Atlantic Coastal Act) mandates that NMFS support the management efforts of the Commission. The Atlantic Coastal Act also requires that NMFS regulations, to the extent that it issues regulations, must not only be compatible with the Commission lobster ISFMP but also must be consistent with the ten National Standards articulated in the Magnuson-Stevens Fishery Conservation and Management Act.²

¹ The plan's overall objectives were set forth in Amendment 3. They are as follows:

- (1) Protect, increase or maintain, as appropriate the brood stock abundance at levels that would minimize risk of stock depletion and recruitment failure;
- (2) Develop flexible regional programs to control fishing effort and regulate fishing mortality rates;
- (3) Implement uniform collection, analysis and dissemination of biological and economic information and improve understanding of the economics of harvest;
- (4) Maintain existing social and cultural features of the industry wherever possible;
- (5) Promote economic efficiency in harvesting and use of the resource;
- (6) Minimize lobster injury and discard mortality associated with fishing;
- (7) Increase understanding of biology of American lobster, improve data, improve stock assessment models; improve cooperation between fishermen and scientists;
- (8) Evaluate contributions of current management measures in achieving objectives of the lobster plan;
- (9) Ensure that changes in geographic exploitation patterns do not undermine success of Commission management program;
- (10) Optimize yield from the fishery while maintaining harvest at a sustainable level;
- (11) Maintain stewardship relationship between fishermen and the resource.

² The 10 National Standards are:

- (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.
- (2) Conservation and management measures shall be based upon the best scientific information available.
- (3) To the extent 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.
- (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 manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.
- (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.
- (6) Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.
- (7) Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.
- (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 economic impacts on such communities.
- (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.
- (10) Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.

Additionally, any potential Federal lobster management action must not violate other NMFS trust responsibilities, such as for other species managed under other statutory mandates, including the Endangered Species Act, Marine Mammal Protection Act and Magnuson-Stevens Act.

The third general category, which is depicted as the right circle in the Venn diagram, involves practical/managerial considerations. Specifically, the potential Federal lobster management action must be feasible. In other words, it is impractical to consider taking actions that are unrealistic, even if those actions might hypothetically achieve resource goals without violating legal mandates. Such actions might include those which are deemed unenforceable or irreconcilably constrained by administrative or budgetary restrictions.

1.1 Purpose and Need

The updated and peer-reviewed lobster stock assessment in 2005 (published in 2006) showed that the American lobster resource presents a mixed picture (ASMFC 2006a). One theme throughout the assessment was the high fishing effort and high mortality rates in all three stock areas. The assessment indicated that there is stable abundance for the Georges Bank (GBK) stock and much of the Gulf of Maine (GOM) stock and decreased abundance and recruitment, yet continued high fishing mortality rates, for the Southern New England (SNE) stock and in Statistical Area 514 (Massachusetts Bay and Stellwagen Bank) in the GOM stock. Of particular concern in the 2005 peer-reviewed stock assessment report is the SNE stock, where depleted stock abundance and recruitment coupled with high fishing mortality rates over the past few years led the stock assessment and peer review panel to recommend additional harvest restrictions. The SNE stock encompasses all of Lobster Conservation Management Areas (LCMAs) 4, 5, and 6, and part of Areas 2 and 3. Overall, stock abundance in the GOM is relatively large with recent fishing mortality comparable to the past. The GOM stock encompasses all of Area 1, and part of Area 3 and the Outer Cape Management Area. Currently, high effort levels in GOM continue in concert with high stock abundance, although high effort levels are not likely to be supportable if abundance returns to long-term median levels. The GBK stock seems stable, with current abundance and fishing mortality similar to the 20-year average. The GBK stock encompasses part of Areas 2, 3, and the Outer Cape Management Area. While the report noted the female proportion of the stock is increasing slightly, it also cautioned that further increases in effort are not advisable. Therefore, the best and most recent science suggests and supports the need for broodstock protection and trap reductions in Area 3, since Area 3 spans all three stock areas. (see **section 3.1 – Status of the Stock** for more in depth information, or the Commission Stock Assessment Report No. 06-03, dated January 2006 (ASMFC 2006a) at www.asmfc.org).

The Commission has developed a framework to end overfishing in SNE and reduce overcapitalization and has requested assistance from NMFS in the form of complementary Federal regulations. The Federal Government is obligated by statute to

respond in support of the Commission's efforts.³ Specifically, the Commission's Lobster Board recommended that the Federal Government create regulations consistent with the measures set forth in the Commission's Lobster ISFMP, specifically identified in Addenda II, III, and IV to Amendment 3 or the ISFMP and is expected to make similar recommendations as draft Addendum XI is formalized. Doing so would involve regulatory measures in three general categories for LCMA 3: 1) gauge size increases (recommended in Addenda II, (see section **2.2.1., Appendix 6**)); 2) escape vent increases (recommended in Addendum IV); and 3) trap reductions (recommended in Addendum IV and draft Addendum XI). The need of this action is to aid the Commission in reducing the catch of more immature lobsters to allow for more time for successful reproduction as well as in ending overfishing in SNE and reducing overcapitalization in the lobster fishery. The proposed action, therefore, is to address NMFS' purpose to respond to the Commission's requested action to achieve this need and to do so in a manner consistent with NMFS' resource objectives, legal mandates, and overall practical and managerial requirements.

1.2 Legal and Historical Context

As noted earlier in the Introduction, American lobsters are managed within the framework of the Commission. The Commission serves to develop fishery conservation and management strategies for certain coastal species and coordinates the efforts of the states and Federal Government toward concerted sustainable ends. The Commission, under the provisions of the Atlantic Coastal Act, decides upon a management strategy as a collective and then forwards that strategy to the states and Federal government, along with a recommendation that the states and Federal Government take action (*e.g.*, enact regulations) in furtherance of this strategy.

The Commission's American lobster management strategy is neither predicated upon a single measure nor is it contained within a single document. Rather, the structure is based on facilitating ongoing adaptive management with necessary elements implemented over time. The Commission set forth the foundation of its American Lobster ISFMP in Amendment 3 in December 1997. The Federal Government issued compatible regulations that complemented Amendment 3 in December 1999. Amendment 3 regulations established assorted measures to directly, even if preliminarily, address overfishing (*e.g.*, trap caps and minimum gauge sizes). Amendment 3 created seven lobster management areas and established industry-led lobster management teams that make recommendations for future measures to end overfishing, based on the current status of the stocks. Examples of more specific measures were recently set forth in the following Amendment 3 addenda: measures to limit future access to LCMAs 3, 4, and 5 in Addendum I (Commission approved August 1999 and compatible Federal regulations enacted March 2003); and measures to increase protection of the American lobster broodstock in Addenda II and III, including gauge increases and mandatory v-notch requirements for Area 3 (Commission approved February 2001 and February 2002,

³See Atlantic Coastal Fisheries Cooperative Management Act, 16 USC 5103(a).

respectively, and compatible Federal regulations enacted March 2005). Additional lobster management measures, notably measures that would control effort, were set forth in later addenda, including Addendum III, and relative to this action, Addendum IV – that included additional trap reductions in Area 3 (Commission approved December 2003); Addendum V – that included a reduced trap cap in Area 3 (Commission approved March 2004); Addendum VI (Commission approved February 2005); Addendum VII (Commission approved November 2005); Addendum VIII (Commission approved May 2006); Addendum IX (Commission approved October 2006), Addendum X (Commission approved October 2006), and draft Addendum XI – that includes recommendations for additional trap reductions in Area 3 (Commission approved as a Public Information Document on January 31, 2007).⁴ For more information on the Commission’s ISFMP see www.asmf.org.

1.3 Federal Process

The present agency rulemaking is the latest of three (3) Federal rulemakings that have their genesis, at least in part, in Commission Addenda II and III.⁵

The first Addenda II – III rulemaking began with the publishing of an Advance Notice of Proposed Rulemaking (ANPR) in the Federal Register on May 24, 2001 (66 FR 28726), and ended with the publishing of a Final Rule on March 14, 2006 (71 FR 13027). This first rulemaking focused primarily on the broodstock protection measures set forth in the two addenda, and it was this similarity that resulted in NMFS combining the addenda recommendations into a single rulemaking.⁶ Addenda II and III, however, also contained additional management recommendations; most notably effort control measures and “if necessary” measures, so called because they would be considered recommended only if determined necessary in later years. These separate measures became more prominent as the Commission issued later addenda, causing NMFS to start a second rulemaking involving Addenda II – III in 2005.

The second Addenda II – III rulemaking actually focuses more on Commission Addenda IV – VII. This second rulemaking formally began with NMFS’ filing of an

⁴The Federal Government initiated a proposed rulemaking in May 2005 in response to the Commission effort control recommendations. This rulemaking is pending and is discussed in more detail in the following section, Section 1.3 – Federal Process.

⁵ The need to alter and sometimes re-organize a Federal lobster rulemaking is due in part to the dynamics of the State/Federal relationship as well as the Commission Lobster Plan itself. Specifically, the Commission is able to add new management measures and re-focus direction quickly. Often, new addenda are added before the Federal Government has had an opportunity to respond to the original addendum. Accordingly, developments in the Commission’s Lobster Plan sometimes require the Federal Government to reconsider how it approaches a particular rulemaking (see footnote #8 for further explanation).

⁶ The May 2001 ANPR only contemplated Addendum II recommendations because the Commission had not yet approved Addendum III. When Addendum III was finalized in February 2002, NMFS responded by filing a revised ANPR in the Federal Register on September 5, 2002 (67 FR 66801), that incorporated the Addendum III recommendations for consideration into a previous Addendum II rulemaking. NMFS also notified the public of its intent to prepare an Environmental Impact Statement at that same time.

ANPR in a Federal Register notice dated May 10, 2005, and remains ongoing.⁷ Specifically, NMFS determined that the Addenda II – III effort control measures were modified substantively and revised by the Commission’s Addenda IV, V, VI, and VII. Overall, measures proposed in those Addenda involved additional limited access programs for Area 2 and the Outer Cape LCMA and proposals to transfer traps in LCMAs 2, 3 and the Outer Cape. As a result, NMFS will analyze the Addenda II – III effort control programs as a component of the larger more detailed second rulemaking associated with the effort control recommendations in Addenda IV – VII. NMFS is still engaged in this second proposed rulemaking, and the Commission’s effort control measures are still under analysis.

The third proposed Addenda II – III rulemaking, which is presented in this document, also involves later Commission action, most notably draft Addendum XI. This third proposed rulemaking formally began on December 13, 2005, with NMFS’ filing of an ANPR in the Federal Register (70 FR 73717). The rulemaking initially focused on Addenda II – III’s so called “if necessary” measures because, although the measures were in Addenda II – III at the time of the first Federal rulemaking, the Commission had not actually deemed them necessary until too late in the process for their inclusion in the March 2006 Final Federal Rule. Ultimately, the Commission in May 2006 rescinded its earlier determination on all of the “if-necessary” measures, except for those measures in LCMA 3. Specifically, the Commission reversed its earlier determination that the “if necessary” measures were necessary, voting on May 8, 2006, that the “if necessary” measures were, in fact, necessary only in LCMA 3 but not in the other LCMAs. In addition, the Commission voted to approve draft Addendum XI for public comment on January 31, 2007. This draft Addendum contained additional trap reductions in Area 3. NMFS incorporated the Addendum XI proposed measures in this third rulemaking in an ANPR filed in the Federal Register on December 18, 2006 (71 FR 75705).

At present, most states have issued their complementary regulations; the Federal Government has not. Most Federal lobster permit holders also hold a state lobster license, and they must abide by the ISFMP measures by virtue of their state license, even if the same restrictions have not yet been placed on their Federal permit. Generally, the exception to state coverage of all ISFMP measures, under the Commission’s ISFMP, is for states that are classified as *de minimis* states. The focus of the analysis of measures in this action is for Federal lobster permit holders from states that have not implemented all measures in the Commission’s ISFMP and exceptions to coverage existing for Federal permit holders from Connecticut, New Jersey, and the *de minimis* states. Certain states at the southern end of the range qualify for *de minimis* status because a given state’s declared annual landings, averaged over a two-year period, amount to less than 40, 000 lbs (18,144 kg) of American lobster (see Appendix 3). While *de minimis* states are required to promulgate all coastwide measures contained in Section 3.1 of Amendment 3, many of the area-specific measures for Area 3 identified in this EA are not required to be implemented by the *de minimis* states. However, Federal lobster regulations apply to all

⁷ The ANPR also notified the public of NMFS’ decision to prepare an Environmental Impact Statement (“EIS”) for this second rulemaking and that an EIS would no longer be necessary for the first rulemaking.

entities fishing for lobster in Federal waters, including Federal permit holders in *de minimis* states.

2.0 MANAGEMENT MEASURES AND ALTERNATIVES

Introduction

The alternatives addressed within this EA are relevant to LCMA 3, which is the lobster management area that encompasses the offshore lobster fishery. This EA considers further minimum carapace length (gauge) size increases, an escape vent size increase, and a series of trap reductions for implementation only for vessels fishing in or electing to fish in LCMA 3. These management measures for Area 3 are consistent with the recommendations for Federal action outlined either in the Commission's Lobster ISFMP (the gauge and escape vent increases, and reduction in trap fishing effort) or the pending management actions proposed in draft Addendum XI that include an additional reduction in trap fishing effort totaling five percent for all vessels electing to fish with traps in Area 3.

Issue Overview

NMFS published an ANPR on December 13, 2005 (70 FR 73717) that requested public comment on several lobster management measures adopted into the ISFMP by the Commission's Lobster Management Board (Board) and recommended for Federal implementation.

Addenda II and IV to Amendment 3 of the ISFMP include a wide array of management measures affecting multiple LCMAs, and several measures in these Addenda are relevant to this EA. Specifically, Addendum II includes a schedule of annual 1/32 inch gauge increases from 3 1/4 inches up to 3 1/2 inches for LCMA 3. In addition, Addendum II establishes an escape vent size of 2 inches X 5 3/4 inches rectangular per trap, or two circular vents per trap at 2 1/2 inches in diameter for Areas with a minimum gauge size of 3 3/8 inches. Addendum IV adjusts the circular escape vent size for Areas with a minimum gauge size of 3 3/8 inches from 2 1/2 inches up to 2 5/8 inches, and includes an increase to the LCMA 3 escape vent size to 2 1/16 inches X 5 3/4 inches rectangular per trap, or two circular vents per trap at 2 11/16 inches in diameter when a minimum gauge size reaches 3 1/2 inches. The Board specified that the proposed Area 3 minimum gauge size increase from 3 3/8 inches to 3 1/2 inches and the corresponding escape vent increase outlined in Addenda II and IV would only be implemented if an updated lobster stock assessment found that the measures were necessary to meet the goals and objectives of the ISFMP. Further, Addendum IV requires a 10% decrease in traps for all vessels historically qualified to fish with traps in LCMA 3 by implementing a 5% trap reduction in 2007 and a 5% trap reduction in 2008.

However, the Board has since repealed several of those measures based on the findings of an updated lobster stock assessment approved by the Board in January 2006 (ASMFC 2006). The updated stock assessment indicated stable abundance for the GBK stock and majority of the GOM stock. However, decreased stock abundance and

recruitment due to high fishing mortality were evident in the assessment of the SNE stock and the statistical area 514 portion of the GOM stock that includes Massachusetts Bay and Stellwagen Bank. (see section 3.1 – Status of the Stock for more information on the assessment). Upon review of the findings of the stock assessment, the Board determined that many of the additional gauge and escape vent size increases were not necessary for conservation and, with the exception of those in Area 3, were repealed. Another suite of trap reductions are under consideration by the Board that would cut traps an additional 5% over a two year period, by implementing a 2.5% trap reduction in 2009 and 2010. Although these additional trap reductions have not officially been recommended by the Commission for Federal implementation as yet, the likelihood of this is high. Considering the relevance of these reductions to the other measures analyzed in this EA, NMFS has included this element in the scope of this EA. In consideration of the Board's repeal of several of the so called "*If Necessary*" measures based on the findings of the stock assessment, NMFS published a revised ANPR in the Federal Register on December 18, 2006 (71 FR 75705) (see Appendix 7 for full text of ANPR). The revised ANPR refines the suite of management options to include only the management measures in Area 3 that were not repealed by the Board. When repealed, the measures were withdrawn from the ISFMP and are no longer recommended for Federal implementation.

2.0.1 Alternatives Considered

With respect to compatibility with the ISFMP and to foster collaborative interjurisdictional management of the American lobster fishery, the Alternatives considered are:

- Alternative 1: No Action – Maintain current minimum carapace length (gauge) and escape vent sizes in LCMA 3 and do not implement any further trap reductions.
- Alternative 2: Commission Recommendations – Implement gauge increase schedule in LCMA 3 over a four year period (2007-2010), from 3 3/8 inches up to 3 1/2 inches, but therefore inconsistent with the effective implementation dates specified in the ISFMP (2005-2008); implement the escape vent size increase in LCMA 3 by 2008 consistent with the ISFMP; and implement Commission-approved trap reductions in LCMA 3 – a 5% reduction in 2007 and another 5% reduction in 2008.
- Alternative 3: Modified Commissions Recommendations - Preferred – Implement the LCMA 3 gauge increases, with the year 1 minimum size equal to the current minimum size specified in the ISFMP and increase the American lobster minimum size requirement in LCMA 3 to 3 1/2 inches by 2008; implement the escape vent size increase in LCMA 3 in 2010, consistent with the LCMA 3 industry proposal specified in draft Addendum XI, but therefore inconsistent with the current implementation date of 2008 specified in the ISFMP; implement a 5% trap reduction for all historically qualified vessels authorized to fish with traps in

LCMA 3 in 2007 and implement an additional 5% trap reduction in 2008; schedule two additional 2.5% trap reductions for all historically qualified vessels authorized to fish with traps in LCMA 3 in 2009 and implement an additional 2.5% trap reduction in 2010 consistent with the LCMA 3 industry proposal specified in draft Addendum XI currently under review by the Commission.

Table 2.1: Summary of LCMA 3 Management Measures								
LCMA	No Action		Commission Plan			Preferred Alternative		
	gauge	vent*	gauge	vent*	trap reductions	gauge	vent*	trap reductions
LCMA 3	3 3/8	2 X 5 3/4 rectangular or 2 5/8 circular	3 3/8 July 2004 3 13/32 July 2005 3 7/16 July 2006 3 15/32 July 2007 3 1/2 July 2008	2 X 5 3/4 rectangular or 2 5/8 circular by 2004 2 1/16 X 5 3/4 rectangular or 2 11/16 circular by 2008	5% in 2007 5% in 2008	3 15/32 in 2007 3 1/2 in 2008	2 1/16 X 5 3/4 rectangular or 2 11/16 circular in 2010	5% in 2007 5% in 2008 2.5% in 2009 2.5% in 2010
Notes: Measurements in Inches								
*All vent sizes include a rectangular and corresponding circular vent size. In all cases, each trap is required to have one rectangular vent or two circular vents at the sizes indicated. The EA considers a proposed action by the Board to postpone the escape vent increase for LCMA 3 until 2010.								

2.1 Alternative 1: No Action – Maintain current measures in LCMA 3

This option would keep the current minimum carapace length in LCMA 3 at 3 3/8 inches and maintain the escape vent size at the current requirement of 2 inches X 5 3/4 inches rectangular or 2 5/8 inches circular. No further trap reductions would occur, and the current pool of 139 vessels qualified to fish with traps in Area 3 would continue to fish their specified trap allocations without further decreases.

Table 2.2: Summary of Measures under Alternative 1 – No Action			
Alternative 1 – No Action	Minimum Gauge Size	Escape Vent Size	No Additional Trap Reductions
Broodstock protection Measures	Maintain current minimum size: 3 3/8 inches	Maintain current size: 2 X 5 3/4 inches rectangular; 2 5/8 inches circular	
Effort Control Measures			No Further Trap Reductions

2.2 Alternative 2: Commission Recommendations

Implement gauge increase schedule over a four year period; implement the escape vent size increase in 2008; and implement two 5% trap reductions, one in 2007 and another in 2008.

Table 2.3: Summary of Measures under Alternative 2 – Commission Recommendations			
Alternative 2.3.2 – Modified Commission Recommendations	Minimum Gauge Size Increased over 4 Years, but Not on Commission Schedule	Commission Approved Escape Vent Size Increase by 2008	Commission Approved Trap Reductions
Broodstock protection Measures	3 13/32 Year 1 (2007) 3 7/16 Year 2 (2008) 3 15/32 Year 3 (2009) 3 1/2 Year 4 (2010)	2 1/16 X 5 3/4 rectangular or 2 11/16 circular by 2008	
Effort Control Measures			5% in 2007 5% in 2008

The ISFMP calls for a succession of 1/32 inch gauge increases for LCMA 3 phased in over four years beginning in 2004 and ending at a terminal minimum carapace length of 3 1/2 inches by July 2008. The current Federal gauge size in LCMA 3 is 3 3/8 inches.

This option would implement the escape vent size increase consistent with the recommendations for Federal action in the Commission's ISFMP. Further, the

Commission’s recommended trap reductions in LCMA 3 would also be implemented consistent with the ISFMP and would not include the two 2.5% trap reductions currently under review by the Board in Draft Addendum XI.

2.3. Alternative 3: Modified Commission Recommendations –Preferred

Implement the LCMA 3 gauge increases as recommended in the ISFMP and increase to 3 ½ inches by 2008; implement the escape vent size increase in 2010; implement a 5% trap reduction in 2007 and another in 2008; schedule the additional 2.5% trap reductions for 2009 and 2010 as concurrently under review by the Commission.

Table 2.4: Summary of Measures under Alternative 3 – Preferred			
Alternative 2.3.3 – Preferred Alternative	Minimum Size Increases – Consistent with Commission Schedule	Escape Vent Size Increase Postponed until 2010 – LCMA 3 Industry Proposed	Commission Approved Trap Reductions plus Commission Pending Reductions
Broodstock protection Measures	3 15/32 in 2007 3 ½ July 2008	2 1/16 X 5 ¾ rectangular or 2 11/16 circular by 2010	
Effort Control Measures			5% in 2007 5% in 2008 2.5% in 2009 2.5% in 2010

This option would implement the gauge increases consistent with the Commission’s implementation schedule. However, rather than implementing the increases over a four-year period, the increase would occur in 2 years; the minimum carapace length for 2007 would be consistent with the minimum size set forth by the ISFMP and consistent with the minimum sizes required for state compliance in 2007. The 3 ½ inch terminal minimum size would be achieved by 2008.

This option, recognizing a recent proposal by the LCMT 3, would delay the implementation of the escape vent size increase until 2010 rather than 2008 as currently recommended in the ISFMP.

In addition to the two 5% trap reductions specified in the ISFMP, this option would consider the LCMT 3 recommendation to the Commission for two additional 2.5% trap reductions in LCMA 3. Due to the time and administrative resources associated with

Federal rulemaking, NMFS will take advantage of the opportunity to consider and analyze these additional measures even though they are yet to be recommended for Federal implementation by the Commission in the ISFMP. Furthermore, comments received in response to the proposed rule will hopefully illuminate the Commission's intentions on moving forward with the industry-proposed modifications to the ISFMP.

2.4 Considered but Rejected Alternatives

Background

As outlined in greater detail in Section 1 of this draft EA, the Commission's American lobster management strategy is neither predicated upon a single measure nor is it contained within a single document. Referring specifically to the proposals discussed in this section, the Commission Lobster Board (Board) took several actions in 2001 and 2002 that were contingent, in part, on the future status of the lobster stocks, as determined by updated stock assessment information. In essence, several Area-specific management measures were inserted in Addenda II – IV that would be implemented if the measures were deemed "necessary" to meet the ISFMP goals and objectives. These proposed measures are commonly referred to as the "if necessary" measures. The Board approved several "if necessary" provisions, including: provisions for additional lobster minimum gauge increases for Area 3 and the Outer Cape Area and provisions to increase the lobster trap escape vent size for traps fished in Area 1 and Area 3. In addition, if ISFMP trap reduction targets for the Outer Cape Management Area were not met from the implementation of a limited entry transferable trap program outlined in Addendum I, the ISFMP included "if necessary" provisions to continue additional trap reductions totaling nearly ten percent over two years. When an updated lobster stock assessment was completed in January 2006 (ASMFC 2006), the Board revisited the "if necessary" proposals specified in Addenda II – IV. Based on the updated assessment, on May 8, 2006, the Lobster Board repealed the "if necessary" provisions described above for LCMAs where the lobster stocks are not considered overfished. For copies of the 2006 Assessment, or Addenda II – IV, visit the Commission website at: <http://www.asmfc.org/>.

In addition to the "if necessary" proposals outlined in the paragraph above, the Board took several actions in 2002-2003 to address the reported sharp decline in lobster landings in Area 2 (the nearshore Area adjacent to Massachusetts, Rhode Island, Connecticut, and New York). Based on several meetings among the Area 2 industry, the Commission, and impacted state and Federal agencies, in February 2003, the Board took Emergency Action to implement an increase in the minimum gauge size in Area 2, from 3 3/8 inches to 3 1/2 inches (8.57 cm to 8.89 cm), pending further evaluation of the scope and extent of the resource decline and implementation of appropriate management action to address the Area 2 situation. At that time, the Area 2 LCMT began development of a comprehensive limited access program for Area 2, which ultimately was incorporated in Addendum VII and approved in November 2005 by the Commission. A component of Addendum VII included the revocation of the Emergency Action that mandated the

increase in the minimum gauge size in Area 2 and established a minimum gauge size in Area 2 of 3 3/8 inches (8.57 cm).

2.4.1 Implement an Area 1 lobster trap escape vent increase by 2007

As noted in the Background text above, the Commission approved an *If Necessary* provision to increase the lobster trap escape vent size for traps fished in Area 1 as specified in Addendum III, which was approved by the Commission in February 2002. If this provision had not been rescinded by the Commission on May 8, 2006, the trap escape vent size would increase in Area 1 from a requirement for each trap to contain at least one rectangular escape vent measuring at least 1 15/16 inches by 5 3/4 inches (4.92 cm x 14.61 cm) or two circular escape vents measuring 2 7/16 inches (6.19 cm), to a requirement for each trap to contain at least one rectangular escape vent measuring at least 2 inches by 5 3/4 inches (5.08 cm x 14.61 cm) or two circular escape vents measuring 2 1/2 inches (6.35 cm) and later revised in Addendum IV to 2 5/8 inches (6.67 cm) circular. The Area 1 trap escape vent increase was rescinded by the Commission after a determination, based on the updated stock assessment completed in 2006, that the measure was unnecessary to meet the ISFMP goals and objectives for the Gulf of Maine lobster stock, as previously specified in Addendum III. Therefore, based on that determination, the Area 1 trap escape vent increase is no longer considered a Commission recommendation for Federal implementation. Accordingly, the measure was considered but rejected for this action. Federal implementation of the escape vent size increase, therefore, would no longer complement the ISFMP and, in fact, may result in regulatory incongruence amongst state/Federal jurisdictions.

2.4.2 Increase the minimum gauge size in Outer Cape Management Area by 2008

As noted in the Background text above, the Commission approved an *If Necessary* provision to increase in the Outer Cape Management Area the minimum gauge size up to 3 1/2 inches (8.89 cm) by 2008 as specified in Addendum III, which was approved by the Commission in February 2002. If this provision had not been rescinded by the Commission on May 8, 2006, the minimum gauge size for all lobsters taken in the Outer Cape Management Area would increase from the current minimum gauge size of 3 3/8 inches (8.57 cm) to 3 1/2 inches (8.89 cm). The Outer Cape Management Area minimum gauge size provision was rescinded by the Commission after a determination, based on the updated stock assessment completed in 2006, that the measure was unnecessary to meet the ISFMP goals and objectives for the Gulf of Maine lobster stock, as previously specified in Addendum III. Therefore, based on that determination, the Outer Cape Management Area minimum gauge size provision is no longer considered a Commission recommendation for Federal implementation. Accordingly, the measure was considered but rejected for this action. Federal implementation of the gauge increase in the Outer Cape Management Area, therefore, would no longer complement the ISFMP and, in fact, may result in regulatory incongruence amongst state/Federal jurisdictions.

2.4.3 Active trap reductions for the Outer Cape Management Area

As noted in the Background text above, the Commission approved an *If Necessary* provision to require lobster vessels with trap allocations in the Outer Cape Management Area be reduced by five percent per year for a two year period if a limited entry transferable trap program, approved for the Outer Cape Management Area in Addendum III, did not achieve a 20 percent reduction in the total number of traps allowed to be fished in the Outer Cape Management Area. The Outer Cape Management Area “if necessary” trap reduction schedule provision was rescinded by the Commission after a determination, based on information provided by the impacted state management agency, that the limited entry transferable trap program had met the ISFMP goals and objectives, as previously specified in Addendum III. Therefore, based on that determination, the Outer Cape Management Area “if necessary” trap reduction provision is no longer considered a Commission recommendation for Federal implementation. Accordingly, the measure was considered but rejected for this action. Federal implementation of the active trap reductions in the Outer Cape Management Area, therefore, would no longer complement the ISFMP and, in fact, may result in regulatory incongruence amongst state/Federal jurisdictions.

2.4.4 Increase in the Area 2 minimum gauge size up to 3 1/2 inches (8.89 cm) by 2008

As noted in the Background text above, the Commission approved in February 2003, via Emergency Action, a provision to increase the minimum gauge size in Area 2, from 3 3/8 inches to 3 1/2 inches (8.57 cm to 8.89 cm). During this time period, the Area 2 LCMT and impacted participants in the Area 2 lobster fishery held multiple public meetings that culminated in approval of a limited entry transferable trap program for Area 2 as specified in Addendum VII, which was approved in November 2005. Based on the implementation of an integrated plan to address the status of the stock in Area 2, in Addendum VII, the Commission approved the revocation of the Emergency Action that mandated the minimum gauge size increase in Area 2, and, by the same action, established a minimum gauge size in Area 2 of 3 3/8 inches (8.57 cm). Therefore, based on that determination, the provision to increase the minimum gauge size in Area 2 is no longer considered a Commission recommendation for Federal implementation. Accordingly, the measure was considered but rejected for this action. Federal implementation of the associated gauge increases in Area 2, therefore, would no longer complement the ISFMP and, in fact, may result in regulatory incongruence amongst state/Federal jurisdictions.

3.0 AFFECTED ENVIRONMENT

The alternatives discussed in this EA focus on measures that would be implemented in Area 3. Area 3 is the largest and most diverse of the seven LCMAs, extending as far north as the U.S./Canadian border and as far south as Cape Hatteras. It abuts and in fact forms the eastern boundary of every other U.S. lobster management area except Area 6 (Long Island Sound). Area 3 is entirely within the Federal EEZ and varies from approximately 25 – 200 miles from shore (See **Appendix 2**, Chart of lobster stocks and LCMAs).

Area 3 is the only lobster management area that encompasses portions of all three stocks of American lobster. The Gulf of Maine (GOM) stock populates the northern reaches of Area 3 within the Gulf of Maine. The water here is generally colder, the depth moderate, and habitat is variable and structured. Relative to Area 3, trap fishing effort tends to concentrate in sloping areas where the bottom rises up from depth to create sloping yet often steep-sided ridges. The Georges Bank (GBK) stock populates the geographical bank of the same name that is east and south of Cape Cod. The waters on top of the bank are relatively shallow and warmer than in the Gulf of Maine, and the habitat is generally characterized by sand and cobble. Relative to Area 3, trap fishing effort tends to concentrate along the slope of GBK and on the bottom of the associated deep water canyons that cut into the continental shelf edge on the south side of GBK. The third lobster stock is the Southern New England (SNE) stock, which populates territory south and west of Georges Bank, including the southern reaches of Area 3 off the Mid-Atlantic. This portion of Area 3 contains some of the deepest water, which is generally warmer than water on Georges Bank or the Gulf of Maine, and the bottom of the continental shelf has less habitat features. Fishing effort in this part of Area 3 often occurs along the slope and on the bottom of the deep water canyons that cut into the edge of the Continental Shelf, often in areas populated by such species as deep water corals.

The Chapter 3 sub-sections that follow will describe the three American lobster stocks in greater detail, including the biological, physical, and socioeconomic environment in which this proposed action will occur, as well as characterizing the protected resources that are known to inhabit Area 3.

3.1 Status of Lobster Resource

3.1.1 Range

The American lobster, *Homarus americanus*, is distributed throughout the Northwest Atlantic from the Strait of Belle Isle, Newfoundland to Cape Hatteras, North Carolina from mean low water to depths of 700 meters (Cooper and Uzmann 1980; Lawton and Lavalli 1995). In the U.S., the American lobster resource occurs in continental shelf waters from Maine to North Carolina, and they are most abundant in relatively shallow coastal zones. Inshore landings have increased steadily since the early

1970s. Fishing effort is intense and increasing throughout much of the range of the species. The majority of the landings are reportedly harvested from state waters (within 3 miles of shore).

The Area 3 trap fishery is primarily a deepwater fishery for lobster that occurs farther from shore (approximately 25-200 miles out) and includes the canyon areas along the edge of the continental shelf. In areas south of the Gulf of Maine, catch rates of legal-sized lobsters were higher in inshore southern New England, and lowest on Georges Bank and the offshore southern New England waters. Cooper, Shepard, Valentine, Uzmann, and Hulber (1987) reported that deep water population densities were one to two orders of magnitude less than those found in coastal zones. Lobsters are known to aggregate in offshore canyons on the southern edge of the continental shelf in much greater concentrations than in the surrounding deep water areas, where they can not easily be caught in bottom trawls; thus, catch rates on Georges Bank and the outer continental shelf that are based primarily on trawl survey data may not reflect the actual population densities. Research has shown concentrations of adolescents and adult lobsters are substantially greater in deep sea canyons than in nearby areas that are occupied mostly by adults (Cooper et al. 1987). This proposed action includes alternatives that recommend a larger gauge size, a larger vent size, and varying degrees of trap reductions for vessels fishing in Area 3, including the fishing effort known to concentrate in the deep sea canyons.

3.1.2 Status of the Stocks

Since the early 1990s, the status of the American lobster resource in each of the three identified U.S. lobster stock areas has been assessed approximately once every four or five years to provide information for management decisions. Up until 1997, American lobster stock assessments were peer-reviewed through the Federal NMFS Stock Assessment Workshop/Stock Assessment Review Committee process. During the period from 1997 to 2000, management of American lobster transitioned from the New England Fishery Management Council (NEFMC) to the ASMFC. As a result, the ASMFC assumed primary responsibility for stock assessment updates for American lobster. (For additional information on the transition from the NEFMC to the ASMFC see **Section 1.2 – Legal and Historical Context**).

The two primary computer models used to assess lobster during the last three assessments (1996, 2000, and 2005) have included: the Collie-Sissenwine model, also known as the modified DeLury model, to estimate mortality and abundance of male and female lobsters in individual areas; and the life history model, also known as the egg-per-recruit model (EPR), to estimate egg production per recruit and other per-recruit reference points for male and female lobsters in each stock assessment region. However, the EPR was not used in the most recent 2005 assessment. The yield and egg-per-recruit model (Fogarty and Idoine 1988) established a biological reference point used to evaluate the effectiveness of LCMA management plans to meet the egg production per recruit objective of 10% or more of a non-fished population. In the 1996 and 2000 stock

assessments, using the EPR reference point of $F = 10\%$, the American lobster resource was defined as overfished when the fishing mortality rate (F) resulted in a reduction in estimated egg production per harvestable lobster of 10% ($F10\%$) or less of a non-fished population (Growth overfishing means that the maximum yield is not produced because of high fishing mortality rates on smaller lobsters). In other words, lobsters were considered overfished when harvest reduced the amount of lobsters in the water so that the remaining lobsters can produce no more than 10% of the eggs that an unfished population would produce.

Using the $F10\%$ EPR reference point, the peer-reviewed stock assessment conducted by state and Federal scientists concluded that American lobster was growth overfished, overfishing was continuing, and there was a large risk of a sharp decline in abundance throughout the species' range. In the Commission's updated and peer-reviewed stock assessment in 2000 (ASMFC 2000a), the results supported previous assessments in 1993 and 1996, *i.e.*, fishing effort is intense and increasing throughout the range of the resource. The 2000 stock assessment noted that all three stock areas were growth overfished, overfishing is occurring, and the resource is overfished according to the EPR- $F10\%$ overfishing definition in the Interstate Fisheries Management Plan (ISFMP). The stock assessment did, however, report that all three stocks are not recruitment overfished. (Recruitment overfishing means that the number of new lobsters available to the fishery each year is reduced by high fishing mortality rates).

Based on an extensive independent review of the stock assessment modeling tools used to assess the American lobster resource by a Lobster Stock Assessment Model Review Panel in 2004 (ASMFC 2004), enhanced versions of the stock assessment models were recommended to estimate mortality (F), abundance (N), and egg production per recruit reference points for male and female lobsters in each stock assessment region. The Lobster Stock Assessment Model Review Panel found that the scale of fishing mortality and abundance estimates (F and N) used in the previous stock assessment models was sensitive to uncertain parameters and modeling conventions (Chen and Wilson 2002). The overfishing definition relied on in previous assessments using the EPR model (EPR- $F10\%$) was found to be insufficient from a technical point of view because it does not distinguish between a depleted stock at low abundance and a stock where overfishing is occurring and fishing mortality rates are too high (ASMFC 2006a). The Lobster Stock Assessment Model Review Panel recommended that management advice in the 2005 assessment be based on estimated trends in abundance (N) and fishing mortality (F).

The modeling tools used in the 2005 stock assessment were similar to models used in previous assessments. An enhanced version of the Collie-Sissenwine model (modified DeLury model) was used to estimate mortality and abundance of male and female lobsters in individual areas. The EPR model was updated with new growth parameters and current management measures and used to estimate egg production per recruit and other per-recruit reference points for male and female lobsters in each stock assessment region used in previous assessments. However, in the 2005 stock assessment, new overfishing reference points were established as part of the updated assessment. In

place of the EPR-F10% overfishing reference point used in previous assessments, the new overfishing reference points used the median abundance level and fishing mortality rate values over a twenty-five year period to establish a “threshold” for each stock area, corresponding to the level requiring management intervention. The idea is that lobster abundance in a particular stock area should be above the median threshold value, while fishing mortality should be below the median F threshold. The stock assessment process also established “target” reference points, which are more accurate levels to use to gauge the overall health of a particular stock. The 2005 assessment also evaluated a variety of indicators, including exploitation rates, total mortality, recruitment, abundance, and fishing effort to confirm model results and provide additional information about the overall health of each lobster stock. The assessment report stated that the use of equal weighting of multiple stock indicators would minimize bias and uncertainty in the assessment.

The 2005 assessment made adjustments to the boundaries of the three U.S. stock assessment units. The former stock areas (see Appendix 11) combined the Georges Bank and offshore southern New England areas into a single stock area named the Georges Bank and South Stock Area, with the nearshore waters of Area 2 and Long Island Sound combined to form the South of Cape Cod and Long Island Sound Stock Area. Revisions to the three U.S. American lobster stock units were based primarily on regional differences in life history parameters. The new, adjusted stock areas (see Appendix 10) as specified in the assessment and the Commission ISFMP are: the Gulf of Maine stock unit (GOM), the Georges Bank stock unit (GBK), and the Southern New England stock unit (SNE). Relative to the status of each stock, the updated and peer-reviewed lobster stock assessment in 2005 showed that the American lobster resource presents a mixed picture. The assessment indicated that there is stable abundance for the GBK stock and much of the GOM stock and decreased abundance and recruitment, yet continued high fishing mortality rates, for the SNE stock and in Statistical Area 514 (Massachusetts Bay and Stellwagen Bank) in the GOM stock. Echoing recommendations from the 2000 stock assessment, the report stated that the scientific and statistical data available for lobster assessments are woefully inadequate for the management needs of the fishery and that the primary limitation on the ability to manage lobster is limited data. The assessment report called for implementation of a standardized mandatory reporting system for American lobster fishermen (ASMFC 2006b), and those recommendations were incorporated in Addendum X, approved in January 2007.

Of particular concern in the 2005 peer-reviewed stock assessment report is the SNE stock, where depleted stock abundance and recruitment coupled with high fishing mortality rates over the past few years led the stock assessment and peer review panel to recommend additional harvest restrictions. In fact, the concerns with the status of the SNE stock were raised as early as 1998, during the 22nd Stock Assessment Workshop/Stock Assessment Review Committee process held during that year. The SNE stock encompasses all of Areas 4, 5, and 6, the majority of Area 2 and the southwesterly portion of Area 3. In SNE, 61-72% of the fishable stock is made up of new entrants into the legal fishery, and the 2005 stock assessment report noted concern that the fishery is too dependent on new recruits.

Overall, stock abundance in the GOM is relatively large with recent fishing mortality comparable to the past. The GOM stock encompasses all of Area 1, and part of Area 3 and the Outer Cape Management Area. There has been a long-term trend of increasing recruitment and spawning stock through 2002. On average, the fishable stock is about 60% new entrants (recruits) into the fishery. However, the report noted future poor recruitment may jeopardize the sustainability of the fishery. Currently, high effort levels in GOM match high stock abundance, although high effort levels are not likely to be supportable if abundance returns to long-term median levels. One area of concern within the GOM is in Massachusetts Bay and Stellwagen Bank, which has exhibited persistent low recruitment in recent years and high levels of fishing mortality since 1999. The majority of the fishable lobsters in Massachusetts Bay and Stellwagen Bank are new entrants into the fishery. The management measures proposed for this action would be applicable to the resource in the offshore region of the GOM stock, and proposals include options to increase the lobster minimum gauge size, the trap escape vent size, and reduce traps in Area 3.

The GBK stock seems stable, with current abundance and fishing mortality similar to the 20-year average. The GBK stock encompasses part of Areas 2, 3, and the Outer Cape Management Area. Forty percent of the fishable stock is new entrants into the fishery, raising concern for the GBK stock's dependence on new recruits. While the report noted the female proportion of the stock is increasing slightly, it also cautioned that further increases in effort are not advisable. The management measures proposed for this action, include trap reductions and would be applicable to the resource in the GBK stock. See the Commission Stock Assessment Report No. 06-03, dated January 2006 (ASMFC 2006a), for complete information on the stock assessment.

Primarily in response to recommendations in the 2005 peer-reviewed stock assessment, the Commission is in the process of holding public hearings on a public information document for an amendment to the ISFMP, and the Commission is beginning development of one or more addenda to the ISFMP. For additional information on current and pending Commission ISFMP activities associated with the stock assessment recommendations, visit the Commission's website at www.asmfc.org.

3.1.3 Life History and Reproductive Success

The information contained in this section is a summary of the life history and reproductive success of the American lobster. For a more extensive review of the status of American lobster, see the Commission Stock Assessment Report No. 06-03, dated January 2006 (ASMFC 2006a) located at the Commission's website at www.asmfc.org.

The American lobster is a long-lived species known to reach more than 40 pounds (18 kg) in body weight (Wolff 1978). The American lobster is a bottom-dwelling, marine crustacean characterized by a shrimp-like body and ten legs, two of which are enlarged to serve as crushing and gripping appendages. Lobsters are encased in a hard external

skeleton that provides body support and protection. Periodically, this skeleton is cast off to allow body size to increase and mating to take place. Lobster growth and reproduction are linked to the molting cycle. The age of lobsters is unknown because all hard parts are shed and replaced at molting, leaving no accreting material for age determinations. Traditionally, scientists estimate the age of lobsters based on size, per-molt growth increments and molt frequencies. Based on this kind of information, Cooper and Uzmann (1980) estimated that the American lobster may live to be 100 years old.

Recent information from European lobster, *H. gammarus* (Addison 1999), indicated a large variation in age at size with seven year classes making up the 85-95 mm size class. Research on aging of lobsters using lipofusion was conducted in the UK on measurements from the eyestalk ganglia (Sheehy and Bannister 2002). Molting was so erratic and protracted that European lobster between 70 and 80 mm CL required at least five years to fully recruit to legal size (81 mm) in the trap fishery off the UK (Sheehy et al. 1996). These researchers have concluded that changes in lobster body length explained less than 5 percent of the variation in true age in European lobster. Predicted sizes at age were significantly below those estimated from tagging studies, and large animals approached 54 years in age using lipofusion data.

Water temperatures exert significant influence on reproductive and developmental processes of lobster. Huntsman (1923, 1924) found that larvae hatched in water less than 15° C developed much more slowly than those hatched in warmer water. Size at maturity is related to summer water temperatures, *e.g.*, high temperatures enhance maturation at small sizes, and the frequency of molting increases with water temperature (Aiken 1977). Within the range of lobster, water temperatures tend to increase from north to south and tend to range higher inshore than offshore. However, the size increase per molt was shown to be smaller in blue crabs raised in warmer waters (Leffler 1972); and adult lobsters increased in size per molt estimated from tagging studies in the U.S. offshore waters (Uzmann et al. 1977, Fogarty and Idoine 1988) compared to those measured in warmer areas (NUSCO 1999). Early maturity occurs in relatively warm water locations in the Gulf of St. Lawrence and inshore southern New England, while in the deeper offshore waters off the northeastern U.S. and in the Bay of Fundy, maturation occurs at larger sizes (Krouse 1973; Aiken and Waddy 1980; Van Engel 1980; Campbell and Robinson 1983; Fogarty and Idoine 1988; Estrella and McKiernan 1989). The management measures proposed for this action would be applicable to the trap fishing effort reportedly concentrated in the colder, deeper offshore waters of the canyon and slope areas at the edge of the continental shelf of GBK and SNE where lobsters mature at a slower pace than in the warmer inshore areas. As outlined in Chapter 2, options include an increase in the lobster minimum gauge size, an increase in the trap escape vent size, and a phased reduction of traps in Area 3.

Lobsters typically form a brief pair bond for mating. Female lobsters can mate at any molt stage, but their receptivity peaks immediately after molting (Dunham and Skinner-Jabobs 1978; Waddy and Aiken 1990). Mating takes place within 24 hours of molting and usually within 30 minutes (Talbot and Helluy 1995). Eggs (7,000 to 80,000) are extruded and carried under the female's abdomen during the 9 to 12 month incubation

period. Hatching and release of larvae occur while eggs are still attached to the female (Talbot and Helluy 1995). Seasonal timing of egg extrusion and larval hatching is somewhat variable among areas and may also vary due to seasonal weather patterns. Overall, hatching tends to occur over a four month period from May through September, occurring earlier and over a longer period in the southern part of the range.

Smaller lobsters molt more often than larger ones; however, larger females (>120 mm carapace length) can spawn twice between molts, making their relative fecundity greater than females within one molt of legal size (Waddy et al. 1995). Larger lobsters produce eggs with a greater energy content and thus, may produce larvae with higher survival rates (Attard and Hudon 1987). Measures relative to this action include options to increase the minimum legal gauge size and the escape vent size. Once the eggs mature, prelarvae are released by the female over the course of several days. For the first three molt stages (15-30 days), larvae remain planktonic. During settlement, fourth stage post larvae exhibit strong habitat selection behavior and seek small shelter-providing substrates, with the greatest abundance of newly settled lobsters occurring in cobble beds (Wahle and Steneck 1991; Cobb and Wahle 1994; Palma et al. 1999). (See **section 3.2 – Description of Physical Environment** for more information on lobster habitat selection behavior).

During their first year on the sea bottom, lobsters move little and can be found within a meter of where they settled (Wahle 1992; Palma et al. 1999). They do not usually emerge from their shelters until reaching about 25 mm CL (Wahle 1992; Cobb and Wahle 1994). As they grow, their daily and annual ranges of movement increase. Adolescent phase lobsters are found on a variety of bottom types, usually characterized by an abundance of potential shelters. By the time lobsters reach sexual maturity, the annual range of lobster averages just over 20 miles (32 km) (Campbell and Stacko 1985; Campbell 1986). In general, mature legal lobsters are more abundant offshore and in deeper water (Harding and Trites 1989b). For the offshore trap fishery, the deep water canyons contain habitat with an abundance of favorable potential shelters. Clay and mud allow lobsters to excavate burrows up to 1.5 meters long with bowl-like depressions that may shelter several lobsters at a time. However, while gravel and rocky habitat provide ready made shelters, large sexually mature lobsters are capable of traversing great distances and show at least three different migration behaviors: those that do not migrate; those that migrate seasonally; and those that migrate long distances. Fogarty (1998) calculated that even a modest amount of offshore larvae supplied by larger sexually mature lobsters could add significantly to the resiliency of inshore areas. Management measures relative to this action include: an increase the minimum gauge size, an increase in the lobster trap escape vent, and phased-in reductions in fishing effort.

Several studies have shown that lobster growth rates decline as food availability and quality decline (Castell and Budson 1974; Bordner and Conklin 1981; Capuzzo and Lancaster 1979). In laboratory studies, greater densities of lobster as well as limited space reduce growth rates (Stewart and Squires 1968; Hughes et al. 1972; Aiken and Waddy 1978; Van Olst et al. 1980; Ennis 1991). Growth rates of smaller lobster seem to be slower when they are in the presence of larger lobster (Cobb and Tamm 1974, 1975).

All of these variables have been shown to influence the frequency of molting and/or the length of the molt increments.

The adult American lobster is the largest mobile benthic invertebrate in the North Atlantic. Its size and large claws make it an important predator. Adult lobsters are omnivorous, feeding largely on crabs, molluscs, polychaetes, sea urchins, and sea stars (Ennis 1973; Carter and Steele 1982a, b; Weiss 1970). Live fish and macroalgae are also part of the natural diet. Lobsters are opportunistic feeders, so their diet varies regionally. In areas where lobster traps are numerous, bait is a very important component of the diet. Lobster larvae and postlarvae eat zooplankton during their first year (Lavalli 1988). Copepods and decapod larvae are common prey items, but cladocerans, fish eggs, nematodes, and diatoms have been noted.

3.1.4 Factors Affecting Survival

The natural mortality rate in post settlement lobster is generally considered to be low because they are a long-lived species that produce fairly small egg clutches, carry their eggs for months until they hatch, and are not very vulnerable to predation, especially as they become larger. A low and stable natural mortality rate seems less certain for inshore lobster stocks south of Cape Cod (ASMFC 2006a). The dominant source of natural mortality includes predation, disease, and extreme environmental conditions. Predation pressures seem related to size and habitat. The presence of shelter greatly reduces predation mortality (Cobb et al., 1986; Richards, 1992). Mortality due to predation decreases as the lobster grows (Wahle 1992). The effects of disease can be as profound as predation or exploitation (Anderson and Hart, 1979; Hart 1990). A number of animals parasitize lobsters, including protozoa, helminths, and copepods. Aiken and Waddy (1986) and Sherburne and Bean (1991) reported a cyclical infestation of the ciliate *Mugardia* spp. in lobsters. Eggs are subject to high mortality rates by a nemertean worm, *Pseudocarcinonemertes homari*. A well-known disease that leads to the development of gaffkemia, which is a fatal infection (Stewart 1980), is caused by the bacteria *Aerococcus viridans*.

External bacteria that digest the minerals in a lobster's shell cause shell disease. Shell disease is believed to be the result of opportunistic bacteria exploiting an injury or poor physiological state of the lobster (Getchell 1989). Ovigerous female lobsters display the highest rate of infection and carapace damage because they molt less frequently and therefore, have older shells. There has been a recent increase in the incidence of shell disease in the southern New England area. The consequences of shell disease on natural mortality are not known. The recent increase in shell disease may also be an indication of stresses in the lobster populations. Lab studies have shown that lobster with shell disease can heal themselves by molting out of the diseased shell and replacing it with a new healthy one. However, if the disease-causing bacteria become thick enough to penetrate completely through a lobster's shell, internal lesions lead to a compromised immune system or death. Ecdysone, a hormone that controls the molting process in lobster, has been found at levels well above normal in shell-diseased lobster,

indicating that severe cases of the disease may interfere with normal molting and result in early molting (Laufer A 2004). Since the disease is most prevalent in eggbearing females, early molting may cause declines in reproduction.

Lobster are preyed upon by a variety of bottom inhabiting species, including teleost fish, sharks, rays, skates, octopuses, and crabs (Phillips and Sastry, 1980). Larvae are subject to predation in the water column, and postlarvae are vulnerable to mud crabs, cunner, and an array of other bottom-feeding finfish species after settlement. However, once postlarvae are established in shelter, they are thought to be relatively safe from fish predators (Wahle and Steneck 1992) but not necessarily invertebrates, such as burrowing crabs (Lavalli and Barshaw 1986). Mud crabs are abundant throughout the northeast as are green crabs and rock crabs, which are also suspected predators on post-larvae. When not in their burrows, the foraging early benthic phase and larger juvenile lobsters are prey to sculpin, cunner, tautog, black sea bass, and sea raven (Cooper and Uzmann 1980). Atlantic cod, wolffish, goosfish, tilefish, and several species of shark consume lobsters up to 100 mm CL (Cooper and Uzmann 1977; Herrick 1909). With the recovery of the striped bass resource, substantial predation of sublegal lobster by striped bass have been reported. While settling lobsters suffer extraordinarily high predation rates, and pre-recruits and fully-recruited lobsters are subject to predation when foraging, larger lobsters (>100 mm CL) may be immune to predation.

Lobsters and crabs compete for space and food (Richards et al., 1983; Cobb et al., 1986; Richards and Cobb, 1986). These studies show competition between lobsters and crabs caused a redistribution of individuals. Lobsters that lost space to their competitors also showed an increased mortality. Intra-specific competition among lobsters is well known (O'Neill and Cobb, 1979). Large body size and claw size are particularly important in determining competitive dominance among lobsters selecting shelters. When local population densities increase, larger lobsters diffuse to habitats where total population densities are lower (Steneck 1989; Lawton and Lavalli 1995). Mortalities that result from aggression between lobsters may not represent predation but do represent an additional source of natural mortality.

3.1.5 Interactions with Non-target Species

Several marine fish and shellfish species are incidentally caught in the directed lobster trap fishery. These species vary depending on seasons and geographic area. Size of individuals caught in lobster traps is generally limited by the circular openings in the entrance of the trap as well as the escape vent size. This section discusses, on a qualitative level, some species that are most likely expected to be caught in lobster traps. This is not meant to be an exhaustive list of all the regulated and non-regulated species that may be caught in the traps.

The coastal lobster trap fishery in Massachusetts Bay and the Gulf of Maine is a seasonal one that directly targets lobster. Bycatch species include various species of

crabs (*Cancer spp.*), and unregulated benthic finfish species such as sculpins (*Myoxocephalus spp.*), sea raven (*Hemitripterus americanus*), sea robins (*Prionotus spp.*), wrymouth eel (*Cryptacanthoides maculates*), lumpfish (*Cyclopterus lumpus*), Atlantic tomcod (*Microgadus tomcod*), and windowpane flounder (*Scophthalmus aquosus*). Regulated species such as cod (*Gadus morhua*), haddock (*Melanogrammus aeglefinus*), pollock (*Pollachius virens*), and red hake (*Urophycis chuss*) may be encountered in lobster traps. Flatfish such as yellowtail flounder (*Limanda ferrugina*), winter flounder (*Pseudopleuronectes americanus*) and American plaice (*Hippoglossoides platessoides*) may also be encountered in the traps. Regulated species to a varying degree are sometimes harvested if the vessel has the associated permits necessary to do so, as required under 50 CFR part 648.

South of New England, the trap fishery remains directed on lobster although some vessels, with the appropriate permits, may seasonally focus their efforts on finfish such as tautog (*Tautoga onitis*), scup (*Stenotomus chrysops*) and black sea bass (*Centropristis striata*) in the coastal fisheries from Nantucket Sound south to North Carolina. Incidental catch of non-Federally regulated species such as crabs (*Cancer spp.*), four-spot flounder (*Paralichthys oblongus*), among others is likely. All vessels with a Federal lobster permit are required to comply with the lobster gear specifications set forth under the Federal lobster regulations at 50 CFR part 697.21 regardless of whether lobster is the target species. Concerned with the impacts on commercial fishing enterprises from differing management systems, the Mid-Atlantic Fishery Management Council (Mid-Atlantic Council) and the Commission requested that NMFS provide an exemption from the lobster gear requirements to black sea bass fishers in the Mid-Atlantic area, specifically in Lobster Management Area 5. Black sea bass fishermen typically use smaller escape vents in their traps than that required by the Federal lobster regulations and may use as many as 1,500 traps, compared to the maximum lobster trap limit of 1,440 in this management area. Area 5 has historically represented less than 2 percent of total coastwide lobster landings, and these dual permit holders tend to direct their fishing on black sea bass, with lobster as a marketable bycatch. The Mid-Atlantic Council and Commission recommended further that the incidental lobster allowance that applies to non-trap lobster fishermen be applied to exempted black sea bass fishers. In response to these recommendations and after several opportunities for public comment, NMFS published a final rule in the Federal Register on March 13, 2001 (66 FR 14500). This rule allows black sea bass fishers who concurrently hold limited access lobster and limited access black sea bass permits to temporarily request to enter into the Area 5 waiver program, which allows them to participate in a directed black sea bass trap fishery in Area 5 while exempt from the lobster trap gear specifications. While in the waiver program, the vessels are limited to the non-trap lobster possession limits.

In the offshore component of the fishery, Federal lobster vessels direct their trap fishing on lobster. Some bycatch of regulated and non-regulated finfish and shellfish species is known to occur. Specifically, the regulated species mentioned above as well as Atlantic wolf fish (*Anarhicas lupus*), white hake (*Urophycis tenuis*), cusk (*Brosme brosme*), and red fish (*Sebastes fasciatus*) may also be encountered. The red crab fishery is a directed trap fishery occurring in the deeper canyons along Georges Bank. Of the

generally small number of participants in this fishery, some subset may hold Federal lobster permits and therefore may keep lobster as a bycatch for commercial purposes as regulations allow. Due to the depths at which the red crab fishery is prosecuted, lobster are not as likely to be encountered in red crab directed trap fishing operations.

3.2 Description of Physical Environment/Habitat

The physical environment of the American lobster is the same as summarized in Section V of the FEIS (NMFS 1999) and the 2000 lobster stock assessment report (ASMFC 2000a). The American lobster is distributed throughout the Northwest Atlantic Ocean from Newfoundland to Cape Hatteras, North Carolina (ASMFC 2000a). Juvenile and adult American lobsters occupy a wide variety of benthic habitats from the intertidal zone to depths of 700 meters. They are most abundant in relatively shallow coastal waters. Shelter is a critical habitat requirement for lobsters.

The following description of offshore lobster habitats in the Northeast region of the U.S. (Maine to North Carolina) is based primarily on a report prepared by Lincoln (1998) from a variety of primary source documents. This information has been supplemented by the addition of some more recent research results. Table 3.1 summarizes information on lobster densities by habitat type. Unless otherwise noted, the information noted below was originally provided by Cooper and Uzmann (1980).

3.2.1 Offshore Lobster Habitats

Sand base with rocks – Although common inshore, this habitat is rather restricted in the offshore region except along the north flank of Georges Bank.

Clay base with burrows and depressions – This habitat is common on the outer continental shelf and slope. Lobsters excavate burrows up to 1.5 m long. There are also large, bowl-like depressions that range in size from 1 to 5 m in diameter and may shelter several lobsters at a time. Minimum densities of 0.001 lobsters/m² have been observed in summer (Table 3.1).

Mud-clay base with anemones – This is a common habitat for lobsters on the outer shelf or upper slope. Forests of mud anemones (*Cerianthus borealis*) may reach densities of 3 or 4 per square meter. Depressions serve as shelter for relatively small lobsters at minimum densities of 0.001 lobsters/m² (Table 3.1).

Mud base with burrows – This habitat occurs offshore mainly in the deep basins, in depths up to 250 m. This environment is extremely common offshore. Lobsters occupy this habitat, but no density estimates are available.

3.2.2 Deep Sea Canyons

There are more than 15 submarine canyons that cut into the shelf edge on the south side of Georges Bank. These canyons were first surveyed in the 1930s, but they were not fully explored until manned submersibles were used extensively in the 1980s. Detailed information on canyon habitats for American lobster is available primarily for Oceanographer Canyon but is generally applicable to other major canyons on Georges Bank. These canyons present a diverse group of habitat types including hard substrate bottom with the presence of deepwater coral. Seventeen species of hard corals are known from Cape Hatteras to the Gulf of Maine (Cairns and Chapman 2001), 71% of which occur deeper than 1000 meters. Surveys on the continental slope and in canyons south of Georges Bank recorded over 25 species of both hard and soft corals (Hecker et al. 1980, 1983; Valentine et al. 1980; Cooper et al. 1987; Hecker 1990).

Deepwater corals can be vulnerable to damage by fishing gear because of their often complex, branching form of growth, and many of them are extremely slow-growing (Packer et al., Draft). For example, growth rates of about 1-2 cm/year have been reported for *Primnoa resedaeformis* and *Desmophyllum cristagalli* (Andrews et al. 2002 and Risk et al. 2002). *P. resedaeformis* colonies reach heights of 1 meter or more (Opresko 1980). At 1-2 cm/year, it would take 100-200 years to replace one of these colonies.

Concentrations of adolescents and adult lobsters are substantially greater in deep sea canyons than in nearby areas that are occupied mostly by adults (Cooper et al. 1987). The following information on lobster habitats is extracted from Cooper and Uzmann (1980) and Cooper et al. (1987).

Canyon rim and walls with <5% gravel – Sediments consist of sand or semi-consolidated silt with less than 5% overlay of gravel. The bottom is relatively featureless. Burrowing mud anemones are common. Lobster densities are low (Table 3.1).

Canyon rim and walls with >5% gravel – Sediments consist of gravely sand, sand, or semi-consolidated silt with more than 5% gravel. The bottom is relatively featureless. Burrowing mud anemones are common, as are Jonah crabs, ocean pout, starfish, rosefish, and squirrel hake. Lobster densities are a little greater than in substrates that contain less gravel (see above).

Rim and upper walls at canyon heads and sometimes at base of walls – Sand or semi-consolidated silt substrate is overlain by siltstone outcrops and talus up to boulder size. The bottom is very rough and is eroded by animals and current scouring. Lobsters are associated with rock anemones, Jonah crabs, ocean pout, tilefish, starfish, conger eels, and white hake. Densities are highly variable but reach up to 0.13 lobsters/m² (Table 3.1).

Clay canyon walls (pueblo villages) – This habitat type exists in the clay canyon walls and extends from the heads of canyons to middle canyon walls. It is heavily burrowed and excavated. Slopes range from 5 to 70 degrees but are generally >20 and <50 degrees.

Juvenile and adult lobsters and associated fauna create borings up to 1.5 m in width, 1 m in height, and 2 m or more in depth. Lobsters are associated with Jonah crabs, tilefish, hermit crabs, ocean pout, starfish, and conger eels. This habitat may well contain the greatest densities of lobsters found offshore (Table 3.1).

Canyon floor – Sand dune substrate, this habitat type is found only in Oceanographer Canyon from southern end south to depths of at least 700 meters. It is a high-energy environment where the sand is constantly shifting. Lobsters are associated with occasional glacial erratic boulders in dune troughs, no density estimates.

Table 3.1 – Area 3 Habitats and Densities for American Lobster

Habitat	Lobster Densities (nos/square meter)	Lobster Sizes (carapace length = CL)	Source
OFFSHORE			
Sand base with rock	Not available	Not available	
Clay base with burrows and depressions	Minimum 0.001		Cooper & Uzzmann 1980
Mud-clay base with anemones	Minimum 0.001	50-80 mm in depressions	Cooper & Uzzmann 1980
Mud base with burrows	No information		
SUBMARINE CANYONS			
Canyon rim and walls: sand/silt with <5% gravel	0-0.0002	Adolescents and adults	Cooper et al. 1987
Canyon rim and walls: sand/silt with >5% gravel	Up to 0.001	Adolescents and adults	Cooper et al. 1987
Rim and upper walls at canyon heads and sometimes at base of walls: sand/silt with rocky outcrops, boulders	0.0005-0.126	Adolescents and adults	Cooper et al. 1987
Clay canyon walls (pueblo villages)	0.0005-0.126	Juveniles and adults	Cooper et al. 1987
Note: For this table, adolescents 40-70 mm CL; adults >70 mm CL; data for submarine canyons based on surveys of Oceanographer and Lydonia Canyons, midsummer 1980-1982.			

3.3 Description of Socioeconomic Environment

Introduction

The American lobster fishery is the most valuable fishery in the northeastern U.S. The value of the commercial landings of lobster from 1994 – 2004 has averaged \$265 million, ranging from \$207 million in 1994 to \$329 million in 1999. In calendar year 2004, total landings were 75.3 million pounds (34,168 mt), valued at \$315.4 million. The EEZ has been estimated to account for about 20% of all domestic landings of American Lobster. Assuming 20% of landings originate from the EEZ, the 2004 EEZ lobster fishery would account for approximately 15.1 million pounds (6,850 mt), valued at nearly \$63 million. This value may be underestimated since EEZ landings tend to be comprised of larger, more valuable lobsters. Without mandatory coastwide reporting by all regulatory agencies, the percentage of lobsters taken specifically from Area 3, the LCMA where proposed measures in this draft EA are considered, cannot be quantitatively determined, but the recent stock assessment data (ASMFC 2006) indicated the majority of trap fishing effort is concentrated inshore and increases from south to north.

Lobsters are landed throughout the year in New England, while landings are concentrated in the warmer months in the Mid-Atlantic region. The majority of lobsters are sold to the live lobster industry, and an extensive network of storage facilities or lobster pounds is used to hold live lobsters so that markets can be regularly supplied. There is an extensive cross-border trade with Canada to ensure a consistent domestic supply and to supply the export markets. Imports of live lobster from Canada accounted for 49.4 million pounds (22,415 mt), valued at \$288 million (U.S.) in 2004. U.S. exports of live lobster to Canada accounted for 38 million pounds (14,728 mt), valued at \$145 million (U.S.) in 2004. In 2004, the most important U.S. export markets outside of Canada for live American lobsters were: Italy – 6.5 million lbs (2,956 mt); Spain – 6.4 million lbs (2,923 mt); France – 4.4 million lbs (1,985 mt); Japan – 1.1 million lbs (487 mt); and South Korea – 818 thousand lbs (371 mt). In recent years, the development of new freezing processes has significantly improved consumer acceptance of whole frozen lobster. Demand for a shelf stable product by the restaurant trade represents a small but growing market that has allowed consumers in the interior of the country to have access to whole lobsters. While expansion of domestic production of whole frozen lobster continues to increase, Canadian supplies account for a majority. In 2004, total U.S. imports of frozen lobster from Canada, including lobster in shell, accounted for 14.7 million pounds (6,672 mt), valued at \$189 million dollars.

This EA focuses on Federal American lobster permit holders who harvest lobsters in LCMA 3. It is by far the largest of the seven (7) lobster management areas and extends as far north as the Canadian border down to Cape Hatteras in the south. It abuts and in fact forms the eastern boundary of every other LCMA except LCMA 6 (Long Island Sound) (see **Lobster Management Area Chart – Appendix 2**).

The LCMA 3 is entirely within the Federal Exclusive Economic Zone (EEZ). The LCMA 3 fishery has two distinct components: 1) A limited access trap fishery, with a total of 139 permits having individual trap allocations, as a result of a Federal historical participation program, and 2) a limited access non-trap fishery that deploys mostly gillnet and trawl gear that operates under a non-trap daily possession limit.

3.3.1 Community Overview

Generally, community dependency on lobster fishing, and more specifically lobster trap fishing, decreases from north to south. While industry participants from Downeast (northern) and mid-coast Maine are largely dependent on lobster, lobstermen from southern Maine, Massachusetts and Rhode Island are proportionately less reliant on lobster compared to other fisheries. The community dependency on lobster fishing decreases dramatically south of Rhode Island, and landings of lobster from Connecticut to North Carolina accounted for less than three percent of coastwide landings in 2004, the last year coastwide data was available. However, as set forth in **Table 3.2**, the majority of lobster permit holders that elected LCMA 3 on their Federal permit in 2006 concentrate in a few locations in New Hampshire and southern New England. The majority of the owners of vessels that elect to fish with traps in LCMA 3 live in the following ports: New Bedford, MA (including Westport and Fairhaven); Point Judith, RI; Newport, RI; and the Newington/Portsmouth, NH Area.⁸

MAINE	21
NEW HAMPSHIRE	11
MASSACHUSETTS	40
RHODE ISLAND	46
CONNECTICUT	3
NEW YORK	5
NEW JERSEY	10
<i>De minimis</i>	3
TOTAL	139
Note: The <i>de minimis</i> states are Delaware, Maryland, Virginia, and North Carolina.	

Similar to the LCMA 3 trap sector, the majority of the LCMA 3 non-trap fishers operate out of southern New England ports. Vessels electing to fish for lobsters with non-trap gear are allowed to possess, retain on board, or land and sell a maximum of 100 lobsters, for each lobster day-at-sea or part of a lobster day-at-sea, up to a maximum of

⁸ The principal ports of commercial importance are described in detail in the most recent FSEIS (67 FR 68128, November 8, 2002), and only summary information is provided here. While there has been no systematic, comprehensive community-based survey of the American lobster fishery in the U.S., there have been a limited number of studies, most recently a report released by the Gulf of Maine Research Institute (GMRI). This study will be analyzed in depth in NMFS' forthcoming Lobster Effort Control EIS (ANPR **Published April 2005**).

500 lobsters for any one fishing trip (also known as the 100/500 rule), as specified in Federal regulations at 50 CFR 697.7(c)(1)(xxiii). Accordingly, one would expect to find non-trap lobster landings to be greater in states and ports with large concentrations of dragger/trawler and gillnet vessels that direct on finfish species. Notably, Maine – the largest lobster producing state – prohibits the trawling for lobster in its state’s waters. Non-trap permit holders mostly use gillnet and trawl gear, and the majority of non-trap lobster vessels operate out of Massachusetts and Rhode Island.

CT	8
DE	1
MA	177
MD	1
ME	41
NC	2
NH	34
NJ	28
NY	20
RI	57
VA	3
Total	372
Source: NMFS VTR Fishing Year 2005.	

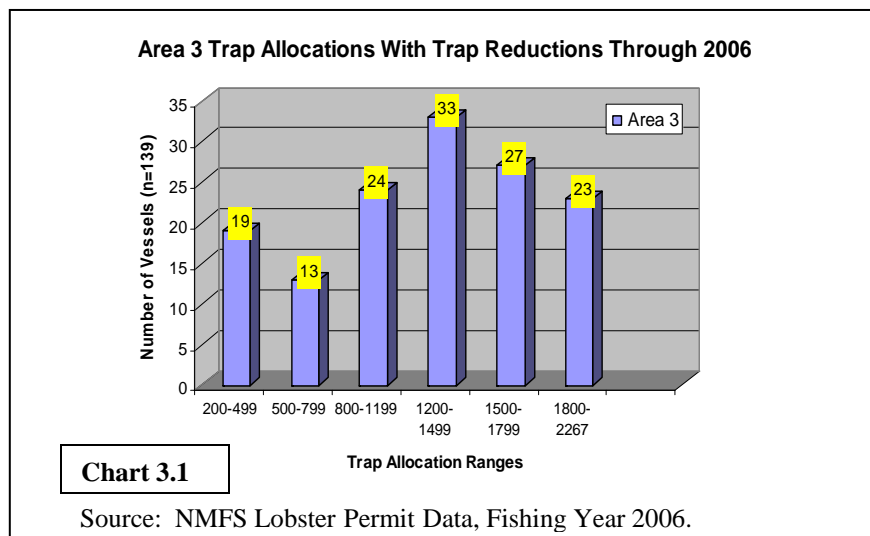
3.3.2 Description of the LCMA 3 Trap Fishery

Based on the analysis done for this draft EA, data indicate the majority of lobsters in LCMA 3 are harvested by trap fishermen, who accounted for 86% of all lobster landings in that LCMA. Area 3 fishing operations tend to be larger than average, with almost 70,000 pounds of landed lobsters per permit holder in 2005, and far greater than the average for other Federal permit holders (see **Table 3.5**). Due to the geographical locations and distance from shore varying from 20-200 miles, vessels electing to fish in Area 3 are larger in length and horsepower than the industry average (see **Table 3.6**). These larger offshore vessels, on average, are more likely than the majority of Federal lobster vessels to possess other Federal limited access permits that require mandatory Vessel Trip Reports (VTR). Because of this higher than average VTR reporting rate for Area 3 vessels, landings of lobsters by Area 3 trap fishermen account for 44% of all landing of lobsters caught by traps as reported by VTRs. A typical lobster trap configuration for these larger offshore vessels consists of strings of approximately 40-50 traps called a “trawl”. Each trawl is routinely configured with two vertical lines, one at each end of the gear affixed with gear identification buoys and radar reflectors, as well as approximately 50 meters of groundline between each trap in the string. For more

information on Federal lobster trap gear configuration requirements, see 50 CFR 697 and 50 CFR 229.

Trap Allocations & Reductions

NMFS implemented a history-based eligibility and trap allocation program on the Area 3 trap fishery in 2003, based on the recommendations in Addendum I to Amendment 3 of the ISFMP, which resulted in 139 total Federal lobster vessels eligible to fish with traps (68 FR 14902, March 27, 2003). Based on their historically documented fishing effort in Area 3, each qualified permit holder was allocated between 200 and 3,250 traps per vessel. The number of traps originally allocated was 211,408 traps (see **Table 3.4**). These individual trap allocations represent the maximum amount of fishing effort for traps that can occur in LCMA 3 at any given time.



A schedule of annual trap reductions through 2006 reduced all allocations to no more than 2,267 traps and brought the total potential number of allowable traps in Area 3 to 172,627 traps (see **Table 3.4**). The number of vessels in each general trap allocation range is provided in **Chart 3.1**, with the greatest instance of allocations falling in the 1,200 – 1,499 traps range.

Year	Total Traps
Number of originally allocated traps	211,408
2003	187,377
2004	181,031
2005	175,922
2006	172,627

Source: NMFS Permit Data, Fishing Year 2006.

Fishing Effort with Traps

The analysis undertaken for this EA indicates, according to VTRs, that 71 Area 3 permit holders electing to fish with traps landed lobster from LCMA 3 in fishing year 2005 (May 1, 2005 to April 30, 2006 and the last complete year of VTR data). However, VTR reporting is not mandatory for Federal vessels that have only a Federal lobster permit and no other Federal fishery permits. Consequently, 19 lobster permit holders did not have any VTR requirements in 2005. Assuming a simple ratio to estimate the potential number of trap vessels currently fishing in Area 3 using the ratio of reporting to non-reporting vessels (20/91) to the number of vessels that did not have to report (19/91), results in a best estimate that 16 of those fished in 2005, for a total of 87 vessels that actively fished in LCMA 3 out of a potential of 139 allocations (**see Table 3.5**).

	# of permits fishing*	Total landings for 2005 (lbs.)	Average landings per permit (lbs.)
Trap fishing in LCMA 3	87	6,029,225	69,301
Trap fishing in all areas by Fed permit holders*	662	14,163,930	21,493
Non-trap fishing in LCMA 3**	265	996,981	3,762
All LCMAs; Non-trap	497	1,299,055	2,614

Notes:
 * VTR reporting is not mandatory for permit holders whose vessel has only a Federal lobster permit and no other Federal permits.
 "Trap fishing in all areas by Fed Permit holders" is likely to be substantially less than the actual number of trap fishermen in all LCMAs. VTR coverage in LCMA 3 is over 80% of active permit holders.
 Non-trap lobster permit holders have other Federal permits that require VTRs.
 ** Many of these landings occur with mobile gear types that can fish across Federal management and statistical areas in one trip. Total landings are estimated based on statistical areas.

In LCMA 3, vessels were larger than vessels fishing in either LCMA 1 or LCMA 2, with LCMA 3 vessels averaging 55' in length, compared to vessels fishing in LCMA 1 or LCMA 2 that averaged between 33' and 36' in length, respectively (see Table 3.6). In addition to larger vessels, LCMA 3 vessels have larger engines, averaging 469 horsepower (HP) versus between 283 – 293 HP for LCMA 1 and LCMA 2 vessels, respectively, and employ larger crews, with approximately 66% of LCMA 3 vessels employing 2 or more crew compared to only 6-7% of vessels fishing in LCMA 1 or 2.

Table 3.6 – Summary of Lobster Business Characteristics in LCMA's 1, 2, and 3						
	LCMA 1		LCMA 2		LCMA 3	
	Full-Time		Full-Time		Full-Time	
	Mean	+/-	Mean	+/-	Mean	+/-
Average Vessel Length (ft)	33	1.4	36	2.7	55	9.1
Average Vessel Horsepower	283	14	293	44.9	469	113
One Sternman	68%	4%	45%	12%	34%	22%
Two or More Sternmen/Crew	7%	2%	7%	6%	66%	22%

Notes: Bolded text denotes statistically significant difference.

Source: Gulf of Maine Research Institute, 2006.

3.3.3 LCMA 3 Non-Trap Fishery

In 2005, according to VTR data analyzed for this action, 265 Federal lobster permit holders landed lobster with non-trap gear from LCMA 3, which was approximately three times the number of permit holders that fished with traps⁹. However, the non-trap sector landed significantly fewer lobsters than were landed by the trap sector (see Table 3.5 above). This is due in part, as noted in Section 3.3.1, that the non-trap sector is limited to a daily possession limit, the 100/500 rule, a number which is principally determined to be bycatch.

Non-trap lobster permit holders are not bound geographically to Lobster Management Areas like their counterparts who fish with traps; however, vessels may be geographically restricted or otherwise impacted by other Federal regulations. Since Federal permit holders are bound to the most restrictive of state or Federal regulations, vessels that fish exclusively with non-trap gear are subject to potentially more restrictive landings or possession laws according to the state where they land lobster. Non-trap vessels could fish for and retain lobster in the EEZ greater than 3 3/8 inches under current Federal regulations, but those vessels could not land lobster smaller than the current ISFMP specified minimum gauge size of 3-7/16 inches in any state that currently has regulations in place or an enforceable reference to the Commission's ISFMP regarding that measure.

⁹ This figure is based upon 2005 fishing year VTR data.

Bycatch with Non-Trap Gear

As noted earlier in Section 3.3.1, non-trap vessels have daily possession limits, i.e. the 100/500 rule, and tend to have a low percentage of their income derived from lobster landings. However, recent data show that for some permit holders this may be changing. It is possible that a decline in the finfish catch by vessels that had previously relied on finfish for the majority of their revenue has caused these vessels to now rely on their lobster catch for 20%-50% of their trip revenue (Table 4.5 and/or GMRI 2006). Relative to this action, there are alternatives described in Chapter 2 and analyzed further throughout this document that propose to increase the minimum carapace size for permit holders electing to fish in LCMA 3. However, as further evaluated in Chapter 4, lobsters caught with non-trap gear tend to be larger, on average, with a greater percentage of the catch having a carapace length in excess of the 3-3/8 inch (8.57 cm) gauge size, so the impact on this gear sector, while currently unquantifiable, is expected to be relatively minor.

Table 3.7 – Summary of Landed Value by Federal Lobster Non-Trap Vessels in 2003

Landing State	Value of All Species (\$)	Lobster Value (\$)
Connecticut	1,384	0
Maine	10,188,286	0
Maryland	476,382	196
Massachusetts	142,428,955	2,609,076
New Hampshire	1,516,139	7,973
New Jersey	38,086,737	6,883
New York	7,975,711	15,444
North Carolina	4,185,206	0
Rhode Island	17,226,008	372,438
Virginia	37,164,789	0
Total	259,249,597	3,012,010
Source: NMFS Federal Dealer Data, Fishing Year 2003.		

3.4 Description of Protected Resources

There are numerous species which inhabit the environment within the management unit of American lobster that are afforded protection under the Endangered Species Act of 1973 (ESA; i.e., for those designated as threatened or endangered) and/or the Marine Mammal Protection Act of 1972 (MMPA). Fifteen are classified as endangered or threatened under the ESA, while the remainder are protected by the provisions of the MMPA. The following list of species, protected either by the ESA, the MMPA, or the Migratory Bird Act of 1918, may be found in the environment utilized by American lobster:

Cetaceans

<u>Species</u>	<u>Status</u>
Northern right whale (<i>Eubalaena glacialis</i>)	Endangered
Humpback whale (<i>Megaptera novaeangliae</i>)	Endangered
Fin whale (<i>Balaenoptera physalus</i>)	Endangered
Sei whale (<i>Balaenoptera borealis</i>)	Endangered
Blue whale (<i>Balaenoptera musculus</i>)	Endangered
Sperm whale (<i>Physeter macrocephalus</i>)	Endangered
Minke whale (<i>Balaenoptera acutorostrata</i>)	Protected
Beaked whale (<i>Ziphius and Mesoplodon spp.</i>)	Protected
Risso's dolphin (<i>Grampus griseus</i>)	Protected
Pilot whale (<i>Globicephala spp.</i>)	Protected
White-sided dolphin (<i>Lagenorhynchus acutus</i>)	Protected
Common dolphin (<i>Delphinus delphis</i>)	Protected
Spotted and striped dolphins (<i>Stenella spp.</i>)	Protected
Bottlenose dolphin (<i>Tursiops truncatus</i>)	Protected

Sea Turtles

<u>Species</u>	<u>Status</u>
Leatherback sea turtle (<i>Dermochelys coriacea</i>)	Endangered
Kemp's ridley sea turtle (<i>Lepidochelys kempii</i>)	Endangered
Green sea turtle (<i>Chelonia mydas</i>)	Endangered
Hawksbill sea turtle (<i>Eretmochelys imbricata</i>)	Endangered
Loggerhead sea turtle (<i>Caretta caretta</i>)	Threatened

Fish

<u>Species</u>	<u>Status</u>
Shortnose sturgeon (<i>Acipenser brevirostrum</i>)	Endangered
Atlantic salmon (<i>Salmo salar</i>)	Endangered

Birds

<u>Species</u>	<u>Status</u>
Roseate tern (<i>Sterna dougallii dougallii</i>)	Endangered
Piping plover (<i>Charadrius melodus</i>)	Endangered

Critical Habitat Designations

<u>Species</u>	<u>Area</u>
Right whale	Cape Cod Bay
Right whale	Great South Channel

There have been documented entanglements of right whales and humpback whales in lobster trap gear (Waring et al. 1998; Waring et al. 2003; Johnson et al. 2005). Records kept by the Sea Turtle Stranding and Salvage Network (STSSN) include reports of loggerhead and leatherback sea turtle entanglements with lobster trap gear as well. Although there have been no known entanglements of fin whales, sei whales, or sperm whales with lobster trap gear, these endangered and threatened species are also included here given: (1) that they occur where the lobster trap/pot fishery operates and (2) that there are some similarities in life history characteristics with humpback and right whales to suggest that entanglements are reasonably likely to occur.

3.4.1 Northern Right Whale

Right whales have occurred historically in the ocean from temperate to subarctic latitudes. All right whales are listed as endangered either as Northern right whales (*Eubalaena glacialis*) or Southern right whales (*Eubalaena australis*). The Northern right whale was listed as endangered throughout its range on June 2, 1970. A recovery plan has been published and currently is in effect (NMFS 2005).

NMFS designated right whale critical habitat areas on June 3, 1994, (59 FR 28793) to help protect important right whale foraging and calving grounds within the U.S. These include the waters of Cape Cod Bay, the Great South Channel off the coast of Massachusetts, and waters off the coasts of southern Georgia and northern Florida. In 1993, Canada's Department of Fisheries declared two conservation areas for right whales; one in the Grand Manan Basin in the lower Bay of Fundy and a second in Roseway Basin between Browns and Baccaro Banks.

It is well known and documented that there are relatively few Northern right whales remaining in the western North Atlantic. Abundance can be reasonably estimated as a result of the extensive study of this subpopulation. International Whaling Commission (IWC) participants from a 1999 workshop agreed that it was reasonable to state that the number of right whales in the North Atlantic as of 1998 was probably around 300 (+/- 10%) (Best et al. 2001). This conclusion was principally based on a photo-identification

catalog that, as of July 1999, was comprised of more than 14,000 photographed sightings of 396 individuals, 11 of which were known to be dead and 87 of which had not been seen in more than 6 years. In addition, it was noted that relatively few new non-calf whales (*i.e.*, whales that were never sighted and counted in the population as calves) had been sighted in recent years (Best et al. 2001), which suggests that the 396 individuals was a close approximation of the entire population.

Using sightings and genetics data, participants at the 1999 IWC workshop also reviewed: (1) the total number of female right whales in the North Atlantic, (2) the number of presumed mature females (females known to be at least 9 years old), and (3) the number of females who had been observed with a calf at least once (Best et al. 2001). Of the 385 right whales in the North Atlantic presumed alive at the end of 1998 (excludes the 11 known to have died but includes the 87 that had not been seen in at least 6 years), it was estimated that: (1) 153 were known to be females (an additional 75 were of unknown sex), (2) at least 90 of the 153 females were 9 years old or greater, and (3) 75 of these had produced a calf during that same period (Best et al. 2001; Kraus et al. 2001). Thus, there were approximately 75 reproductive female right whales in the western Atlantic as of 1998. The 2000/2001 - 2004/2005 calving seasons have had relatively high calf production and have included additional first time mothers. These potential “gains” have been offset, however, by continued losses to the subpopulation including the death of mature females as a result of anthropogenic mortality (Cole et al. 2005; Kraus et al. 2005).

There is general agreement that right whale recovery is negatively affected by anthropogenic mortality. Fifty-five right whale mortalities were reported from Florida to the Canadian Maritimes during the period of 1970-2003 (Moore et al. 2004; Cole et al. 2005). Eight additional mortalities were reported for the period from 2004 through July 1, 2005 (Kraus et al. 2005). This represents an absolute minimum number of the right whale mortalities for this period. Given the range and distribution of right whales in the North Atlantic, it is unlikely that all carcasses will be observed. Of 31 right whale carcasses examined between 1970-2002, ship strike was identified as the cause of death or probable cause of death for 15 (11 adults/juveniles; 4 calves), and entanglement in fishing gear was identified as the cause of death for 4 (all adults/juveniles) (Moore et al. 2004; Cole et al. 2005). A cause of death was undeterminable for 12 animals, 8 of which were calves (Moore et al. 2004).

Right whales may also be adversely affected by habitat degradation, habitat exclusion, acoustic trauma, harassment, and reduction in prey resources due to trophic effects resulting from a variety of activities, including the operation of commercial fisheries. However, direct evidence of the effects of any of these on right whales is lacking.

3.4.2 Humpback Whale

Humpback whales inhabit all major ocean basins from the equator to subpolar latitudes. They generally follow a predictable migratory pattern in both hemispheres; feeding during the summer in the higher near-polar latitudes and migrating to lower latitudes where calving and breeding take place in the winter (Perry et al. 1999). The humpback whale was listed as endangered throughout its range on June 2, 1970. This species is probably the fourth most numerically depleted large cetacean worldwide (NMFS 1991).

Atlantic humpback whales calve and mate in the West Indies in the winter. In the spring through fall, Atlantic humpbacks use one of six feeding areas in the North Atlantic (Waring et al. 2002). Fidelity to the feeding areas is determined matrilineally, and humpbacks using the areas represent relatively discreet subpopulations (Clapham and Mayo 1987; Waring et al. 1998). Only one of these feeding areas, the Gulf of Maine (GOM), lies within U.S. waters and is within the area where the lobster fishery operates. Most of the humpbacks that forage in the GOM visit Stellwagen Bank and the waters of Massachusetts and Cape Cod bays. Sightings are most frequent from mid-March through November between 41° N and 43° N from the Great South Channel north along the outside of Cape Cod to Stellwagen Bank and Jeffreys Ledge (CeTAP 1982), and sightings peak in May and August. Small numbers of individuals may be present in this area year-round. They feed on a number of species of small schooling fishes, particularly sand lance and Atlantic herring, by targeting fish schools and filtering large amounts of water for their associated prey. Humpback whales have also been observed feeding on krill (Wynne and Schwartz 1999).

The best estimate of abundance for GOM humpback whales is 902 (C.V. = 0.41), and the stock seems to be increasing in size (Barlow and Clapham 1997; Clapham 2002; Waring et al. 2003). However, this stock also suffers mortalities and injuries as a result of entanglement in commercial fishing gear and ship strikes. Based on photographs of the caudal peduncle of humpback whales, Robbins and Mattila (2001) estimated that at least 48%, and possibly as many as 78%, of animals in the Gulf of Maine exhibit scarring caused by entanglement. Several whales have been entangled apparently on more than one occasion. These estimates are based on sightings of free-swimming animals that initially survive the encounter. Because some whales may drown immediately, the actual number of interactions may be greater. In addition, the actual number of species-gear interactions is contingent on the intensity of observations from aerial and ship surveys. For the period of 1997 through 2001, the total estimated human-caused mortality and serious injury to the Gulf of Maine humpback whale stock is estimated at 2.6 per year (USA waters, 2.0; Canadian waters, 0.6) (Waring et al. 2003). There were additional humpback mortalities and serious injuries that occurred in the southeastern and Mid-Atlantic states that could not be confirmed as involving members of the Gulf of Maine stock (Waring et al. 2003). These records represent an additional minimum annual average of 1.6 human-caused mortalities and serious injuries to humpbacks over the time period, of which 1.2 per year are attributable to incidental fishery interactions, and 0.4 per year are attributable to vessel collisions (Waring et al. 2003). Lobster gear has been

identified as the gear type resulting in serious injury of at least one humpback whale during the period of 1997-2001 (Waring et al. 2003).

Humpback whales may also be adversely affected by habitat degradation, habitat exclusion, acoustic trauma, harassment, and reduction in prey resources due to trophic effects resulting from a variety of activities, including the operation of commercial fisheries.

3.4.3 Fin Whale

Fin whales inhabit a wide range of latitudes between 20-75° N and 20-75° S (Perry et al. 1999). Like the right whale and humpback whale, fin whales were listed as endangered under the ESA in 1970. Fin whales off of the eastern U.S. are believed to represent a single stock (Waring et al. 1997).

During 1978-1982 aerial surveys, fin whales accounted for 24% of all cetaceans and 46% of all large cetaceans sighted over the continental shelf between Cape Hatteras and Nova Scotia (Waring et al. 1998). Underwater listening systems have also demonstrated that the fin whale is the most acoustically common whale species heard in the North Atlantic (Clark 1995). The single most important area for this species seems to be from the Great South Channel, along the 50m isobath past Cape Cod, over Stellwagen Bank, and past Cape Ann to Jeffrey's Ledge (Hain et al. 1992).

Like right and humpback whales, fin whales are believed to use North Atlantic waters primarily for feeding and more southern waters for calving. However, evidence regarding where the majority of fin whales winter, calve, and mate is still scarce. Clark (1995) reported a general pattern of fin whale movements in the fall from the Labrador/Newfoundland region, south past Bermuda and into the West Indies, but neonate strandings along the U.S. Mid-Atlantic coast from October through January suggest the possibility of an offshore calving area (Hain et al. 1992).

Various estimates have been provided to describe the current status of fin whales in western North Atlantic waters. Based on the catch history and trends in Catch per Unit Effort, an estimate of 3,590 to 6,300 fin whales was obtained for the entire western North Atlantic (Perry et al. 1999). Hain et al. (1992) estimated that about 5,000 fin whales inhabit the Northeastern United States continental shelf waters. The latest Stock Assessment Report (SAR) (Waring et al. 2003) gives a best estimate of abundance for the U.S. stock of fin whales of 2,814 (CV = 0.21).

Anthropogenic mortality and injury of fin whales include entanglement in commercial fishing gear and ship strikes. Fishing gear seems to pose less of a threat to fin whales in the North Atlantic Ocean than it does for Northern right whales or humpback whales. However, it is believed to be the most commonly struck cetacean by large vessels (Laist et al. 2001). From 1997- 2001, there were three fin whale entanglements and seven ship strikes that resulted in serious injury or mortality (Waring

et al. 2003). In addition, hunting of fin whales continued well into the 20th Century (Draft Recovery Plan, NMFS 1998). Fin whales were given total protection in the North Atlantic in 1987 with the exception of a subsistence whaling hunt for Greenland (Gambell 1993, Caulfield 1993). However, Iceland reported a catch of 136 whales in the 1988/89 and 1989/90 seasons and has since ceased reporting fin whale kills to the IWC (Perry et al. 1999).

Fin whales may also be adversely affected by habitat degradation, habitat exclusion, acoustic trauma, harassment, and reduction in prey resources due to trophic effects resulting from a variety of activities, including the operation of commercial fisheries. In the western North Atlantic, fin whales feed on a variety of small schooling fish (*i.e.*, herring, capelin, sand lance) as well as squid and planktonic crustaceans (Wynne and Schwartz 1999).

3.4.4 Sei Whale

The sei whale is a widespread species in the world's temperate, subpolar, subtropical and tropical marine waters. However, they seem to be more restricted to temperate waters than other balaenopterids (Perry et al. 1999). The IWC recognized three stocks in the North Atlantic based on past whaling operations as opposed to biological information: (1) Nova Scotia; (2) Iceland Denmark Strait; and (3) Northeast Atlantic (Perry et al. 1999). Mitchell and Chapman (1977) suggested that the sei whale population in the western North Atlantic consists of two stocks; a Nova Scotian Shelf stock and a Labrador Sea stock. The Nova Scotian Shelf stock includes the continental shelf waters of the northeastern United States and extends northeastward to south of Newfoundland. The IWC boundaries for this stock are from the U.S. east coast to Cape Breton, Nova Scotia and east to longitude 42° (Waring et al. 2002). This is the only sei whale stock within the area where the lobster fishery operates.

Like other baleen whales, sei whales are found in warm temperate or subtropical waters in the winter and in more northern latitudes in the summer. Sei whales occur in deep water throughout their range, typically over the continental slope or in basins situated between banks (Draft Recovery Plan, NMFS 1998). Within the area where the lobster fishery operates, the sei whale is most common on Georges Bank and into the Gulf of Maine region during spring and summer, primarily in deeper waters (Waring et al. 2003).

There are insufficient data to determine trends of the sei whale population. Because there are no abundance estimates within the last 10 years, a minimum population estimate cannot be determined for NMFS' management purposes (Waring et al. 2002). Abundance surveys are problematic not only because this species is difficult to distinguish from the fin whale but more importantly, too little is known of the sei whale's distribution, population structure and patterns of movement; thus, survey design and data interpretation are very difficult.

Few instances of injury or mortality of sei whales due to entanglement or vessel strikes have been recorded in U.S. waters. Entanglement is not known to impact this species in the U.S. Atlantic, possibly because sei whales typically inhabit waters farther offshore than most commercial fishing operations, or perhaps entanglements do occur but are less likely to be observed. A small number of ship strikes of this species have been recorded. The most recent documented incident occurred in 2001 when a sei whale carcass was recovered in New York harbor after it had slid off the bow of an arriving ship (Waring et al. 2003). A carcass was also brought in on the bow of a container ship in Charlestown, Massachusetts in 1994 (Blaylock et al. 1995). Other impacts noted above for other baleen whales may also occur.

3.4.5 Sperm Whale

Sperm whales inhabit all ocean basins, from equatorial waters to the polar regions (Perry et al. 1999). In the western North Atlantic, they range from Greenland to the Gulf of Mexico and the Caribbean. The sperm whales that occur in the western North Atlantic are believed to represent only a portion of the total stock (Blaylock et al. 1995). Total numbers of sperm whales off the US or Canadian Atlantic coast are unknown, although eight estimates from selected regions of the habitat do exist for select time periods. The best estimate of abundance for the North Atlantic stock of sperm whales is 4,702 (CV=0.36) (Waring et al. 2002). Sperm whales present in the Gulf of Mexico are considered by some researchers to be endemic and represent a separate stock from whales in other portions of the North Atlantic. However, NMFS currently uses the IWC stock structure guidance, which recognizes one stock for the entire North Atlantic (Waring et al. 2002).

Sperm whales generally occur in waters greater than 180 meters in depth. While they may be encountered almost anywhere on the high seas, their distribution shows a preference for continental margins, sea mounts, and areas of upwelling, where food is abundant (Leatherwood and Reeves 1983). Sperm whales in both hemispheres migrate to higher latitudes in the summer for feeding and return to lower latitude waters in the winter where mating and calving occur. Mature males typically range to much higher latitudes than mature females and immature animals but return to the lower latitudes in the winter to breed (Perry et al. 1999). Waring et al. (1993) suggest sperm whale distribution is closely correlated with the Gulf Stream edge. In the U.S. EEZ, sperm whales occur on the continental shelf edge, over the continental slope, and into the mid-ocean regions (Waring et al. 1993) and are distributed in a distinct seasonal cycle; concentrated east-northeast of Cape Hatteras in winter and shifting northward in spring when whales are found throughout the Mid-Atlantic Bight. Distribution extends farther northward to areas north of Georges Bank and the Northeast Channel region in summer and then south of New England in fall, back to the Mid-Atlantic Bight (Waring et al. 2002).

Few instances of injury or mortality of sperm whales due to human impacts have been recorded in U.S. waters. Sperm whales may also interact opportunistically with

fishing gear. Observers aboard Alaska sablefish and Pacific halibut longline vessels have documented sperm whales feeding on longline-caught fish in the Gulf of Alaska (Perry et al. 1999). Behavior similar to that observed in the Alaskan longline fishery has also been documented during longline operations off South America where sperm whales have become entangled in longline gear, have been observed feeding on fish caught in the gear, and have been reported following longline vessels for days (Perry et al. 1999).

Sperm whales are also struck by ships. In May 1994, a ship-struck sperm whale was observed south of Nova Scotia (Waring et al. 2002). A sperm whale was also seriously injured as a result of a ship strike in May 2000 in the western Atlantic. Due to the offshore distribution of this species, interactions that do occur are less likely to be reported than those involving right, humpback, and fin whales that more often occur in nearshore areas. Other impacts noted above for baleen whales may also occur.

In addition, due to their offshore distribution, sperm whales tend to strand less often than, for example, right whales and humpbacks. Preliminary data for 2000 indicate that of ten sperm whales reported to the stranding network (nine dead and one injured), there was one possible fishery interaction, one ship strike (wounded with bleeding gash on side), and eight animals for which no signs of entanglement or injury were sighted or reported. No sperm whales have stranded or been reported to the stranding network as of February 2001.

3.4.6 Loggerhead Sea Turtle

Loggerheads commonly occur throughout the inner continental shelf from Florida through Cape Cod, Massachusetts, although their presence varies with the seasons due to changes in water temperature (Braun and Epperly 1996; Epperly et al. 1995a, Epperly et al. 1995b; Shoop and Kenney 1992). Aerial surveys of loggerhead turtles north of Cape Hatteras indicate that they are most common in waters from 22 to 49 meters deep, although they range from the beach to waters beyond the continental shelf (Shoop and Kenney 1992). As previously mentioned, the presence of loggerhead turtles in an area is influenced by water temperature. Loggerheads have been observed in waters with surface temperatures of 7-30° C, but water temperatures of $\geq 11^{\circ}$ C are favorable to sea turtles (Epperly et al. 1995b; Shoop and Kenney 1992). Loggerhead sea turtles occur year round in offshore waters off of North Carolina where water temperature is influenced by the Gulf Stream. As coastal water temperatures warm in the spring, loggerheads begin to migrate to North Carolina inshore waters (*e.g.*, Pamlico and Core Sounds) and also move up the coast (Braun-McNeill and Epperly 2004; Epperly et al. 1995a; Epperly et al. 1995b; Epperly et al. 1995c), occurring in Virginia foraging areas as early as April and on the most northern foraging grounds in the Gulf of Maine in June. The trend is reversed in the fall as water temperatures cool. The large majority leave the Gulf of Maine by mid-September but some may remain in Mid-Atlantic and Northeast areas until late fall. By December, loggerheads have migrated from inshore North Carolina waters and more northern coastal waters to waters offshore of North Carolina, particularly off of Cape Hatteras, and waters farther south where the influence of the Gulf

Stream provides temperatures favorable to sea turtles (Epperly et al. 1995b; Shoop and Kenney 1992).

In the western Atlantic, most loggerhead sea turtles nest from North Carolina to Florida and along the Gulf coast of Florida. There are at least five western Atlantic subpopulations, divided geographically as follows: (1) a northern nesting subpopulation, occurring from North Carolina to northeast Florida at about 29° N; (2) a south Florida nesting subpopulation, occurring from 29° N on the east coast to Sarasota on the west coast; (3) a Florida Panhandle nesting subpopulation, occurring at Eglin Air Force Base and the beaches near Panama City, Florida; (4) a Yucatán nesting subpopulation, occurring on the eastern Yucatán Peninsula, Mexico (Márquez 1990; TEWG 2000); and (5) a Dry Tortugas nesting subpopulation, occurring in the islands of the Dry Tortugas, near Key West, Florida (NMFS SEFSC 2001). Cohorts from three of these, the northern, south Florida, and Yucatán subpopulations, are known to occur within the area where the lobster fishery operates (Bowen et al. 2004; Rankin-Baransky et al. 2001), and there is genetics evidence that cohorts from the other two also likely occur (Bass *et al.* in press; Bowen et al. 2004). The fidelity of nesting females to their nesting beach is the reason these subpopulations can be differentiated from one another. This nesting beach fidelity will make recolonization of nesting beaches with sea turtles from other subpopulations unlikely. In addition, a recent study by Bowen et al. (2004) lends support to the hypothesis that juvenile loggerhead sea turtles also exhibit homing behavior with respect to using foraging areas in the vicinity of their nesting beach. Therefore, coastal hazards that affect declining nesting populations may also affect the next generation of turtles when they are feeding in nearby habitats (Bowen et al. 2004).

Mating takes place in late March-early June, and eggs are laid throughout the summer, with a mean clutch size of 100-126 eggs in the southeastern United States. Individual females nest multiple times during a nesting season, with a mean of 4.1 nests/individual (Murphy and Hopkins 1984). Nesting migrations for an individual female loggerhead are usually on an interval of 2-3 years but may vary from 1-7 years (Dodd 1988).

Between 1989 and 1998, the total number of nests laid along the U.S. Atlantic and Gulf coasts ranged from 53,014 to 92,182 annually with a mean of 73,751 (TEWG 2000). The south Florida nesting group is the largest known loggerhead nesting assemblage in the Atlantic and one of only two loggerhead nesting assemblages worldwide that has greater than 10,000 females nesting per year (USFWS and NMFS 2003; USFWS Fact Sheet). Annual nesting totals have ranged from 48,531 - 83,442 annually over the past decade (USFWS and NMFS 2003). South Florida nests make up the majority (90.7%) of all loggerhead nests counted along the U.S. Atlantic and Gulf coasts during the period of 1989-1998. The northern subpopulation is the second largest loggerhead nesting assemblage within the United States but is much smaller than the south Florida nesting group. Of the total number of nests counted along the U.S. Atlantic and Gulf coasts during the period of 1989-1998, 8.5% were attributed to the northern subpopulation. The number of nests for this subpopulation has ranged from 4,370 - 7,887 for the period of 1989-1998, for an average of approximately 1,524 nesting females per year (USFWS and

NMFS 2003). The remaining three subpopulations (Florida Panhandle, Yucatán, and the Dry Tortugas) are much smaller subpopulations. Annual nesting totals for the Florida Panhandle subpopulation ranged from 113-1,285 nests for the period of 1989-2002 (USFWS and NMFS 2003). The Yucatán nesting group was reported to have had 1,052 nests in 1998 (TEWG 2000). Nest counts for the Dry Tortugas subpopulation ranged from 168-270 during the 9-year period from 1995-2003.

A number of stock assessments (TEWG 1998; 2000; NMFS SEFSC 2001; Heppell et al. 2003) have examined the stock status of loggerheads in the waters of the United States but have been unable to develop any reliable estimates of absolute population size. Due to the difficulty of conducting comprehensive population surveys away from nesting beaches, nesting beach survey data are used to index the status and trends of loggerheads (USFWS and NMFS 2003).

However, while nesting beach data is a useful tool for assessing sea turtle populations, the detection of nesting trends requires consistent data collection methods over long periods of time (USFWS and NOAA Fisheries 2003). In addition, given the late age to maturity for loggerhead sea turtles (20-38 years; NMFS SEFSC 2001), current nesting data reflect natural and anthropogenic effects to female loggerheads that occurred over the last two decades at the least. To date, there are no discernible trends for any of the loggerhead subpopulations based on nesting data (Florida Fish and Wildlife Conservation Commission, Florida Marine Research Institute, Statewide and Index Nesting Beach Survey Programs; USFWS and NOAA Fisheries 2003; Zurita et al. 2003).

The diversity of a sea turtle's life history leaves them susceptible to many natural and human impacts, including impacts while they are on land, in the benthic environment, and in the pelagic environment. Hurricanes are particularly destructive to sea turtle nests. Sand accretion and rainfall that result from these storms as well as wave action can appreciably reduce hatchling success. For example, in 1992, all of the eggs over a 90-mile length of coastal Florida were destroyed by storm surges on beaches that were closest to the eye of Hurricane Andrew (Milton et al. 1994). Early reports suggest that extensive loggerhead nest destruction has occurred in Florida and other southern states in 2004 due to damage from multiple hurricanes and storm events. Other sources of natural mortality include cold stunning and biotoxin exposure.

Anthropogenic factors that impact hatchlings and adult female turtles on land or impact the success of nesting and hatching include: beach erosion, beach armoring and nourishment; artificial lighting; beach cleaning; increased human presence; recreational beach equipment; beach driving; coastal construction and fishing piers; exotic dune and beach vegetation; and poaching. An increased human presence at some nesting beaches or close to nesting beaches has led to secondary threats such as the introduction of exotic fire ants, feral hogs, dogs and an increased presence of native species (*e.g.*, raccoons, armadillos, and opossums), which raid and feed on turtle eggs. Although sea turtle nesting beaches are protected along large expanses of the northwest Atlantic coast (in areas like Merritt Island, Archie Carr, and Hobe Sound National Wildlife Refuges), other areas along these coasts have limited or no protection. Sea turtle nesting and hatching

success on unprotected high density east Florida nesting beaches from Indian River to Broward County are affected by all of the above threats.

Sea turtles, including loggerhead sea turtles, are affected by a completely different set of anthropogenic threats in the marine environment. These include oil and gas exploration, coastal development, and transportation; marine pollution; underwater explosions; hopper dredging; offshore artificial lighting; power plant entrainment and/or impingement; entanglement in debris; ingestion of marine debris; marina and dock construction and operation; boat collisions; poaching; and fishery interactions.

In the pelagic environment, loggerheads are exposed to a series of longline fisheries that include the U.S. Atlantic tuna and swordfish longline fisheries, a Japanese longline fleet, a Chinese longline fleet, an Azorean longline fleet, a Spanish longline fleet, and various fleets in the Mediterranean Sea (Aguilar et al. 1995; Bolten et al. 1994; Crouse 1999). Globally, the number of loggerhead sea turtles captured in pelagic longline fisheries is significant (Lewison et al. 2004). NMFS continues to work with pelagic longline fishers on gear modifications to help minimize turtle interactions with longline gear.

In the benthic environment in waters off the coastal U.S., loggerheads are exposed to a suite of fisheries in Federal and state waters including trawl, purse seine, hook and line, gillnet, pound net, longline, and trap fisheries. Perhaps the most well documented U.S. fishery with respect to interactions with sea turtles, including loggerheads, is the U.S. shrimp fishery. NMFS continues to address the effects of this fishery on loggerheads as well as other sea turtle species. Turtle Excluder Devices (TEDs) have proven to be effective at excluding Kemp's ridley sea turtles and some age classes of loggerhead and green sea turtles from shrimp trawls. However, it was apparent that TEDs were not effective at excluding large benthic immature and sexually mature loggerheads (as well as large greens) from shrimp trawls (Epperly and Teas 2002). Therefore, on February 21, 2003, NMFS issued a final rule that required increasing the size of TED escape openings to allow larger loggerheads (and green sea turtles) to escape from shrimp trawl gear. As a result of the new rules, annual loggerhead mortality from capture in shrimp trawls is expected to decline from 62,294 to 3,947 turtles (Epperly et al. 2002).

Power plants can also pose a danger of injury and mortality for benthic loggerheads. In Florida, thousands of sea turtles have been entrained in the St. Lucie Nuclear Power Plant's intake canal over the past couple of decades (Bresette et al. 2003). From May 1976 - November 2001, 7,795 sea turtles were captured in the intake canal (Bresette et al. 2003). Approximately 57% of these were loggerheads (Bresette et al. 2003). Procedures are in place to capture the entrained turtles and release them. This has helped to keep mortality below 1% since 1990 (Bresette et al. 2003). The Oyster Creek Nuclear Generating Station in New Jersey is also known to capture sea turtles, although the numbers are far less than those observed at St. Lucie, FL. As is the case at St. Lucie, procedures are in place for checking for the presence of sea turtles and rescuing sea turtles that are found within the intake canals.

3.4.7 Leatherback Sea Turtle

Evidence from tag returns and strandings in the western Atlantic suggests that adult leatherback sea turtles engage in routine migrations among boreal, temperate, and tropical waters (NMFS and USFWS 1992). A 1979 aerial survey of the outer Continental Shelf from Cape Hatteras, North Carolina to Cape Sable, Nova Scotia showed leatherbacks to be present throughout the area, with the most numerous sightings made from the Gulf of Maine south to Long Island. Leatherbacks were sighted in water depths ranging from 1-4,151 m, but 84.4% of sightings were in waters less than 180 m (Shoop and Kenney 1992). Leatherbacks were sighted in waters within a sea surface temperature range similar to that observed for loggerheads; from 7-27.2 ° C (Shoop and Kenney 1992). However, leatherbacks seem to have a greater tolerance for colder waters in comparison to loggerhead sea turtles since more leatherbacks were found at the lower temperatures as compared to loggerheads (Shoop and Kenney 1992). This aerial survey estimated the leatherback population for the northeastern U.S. at approximately 300-600 animals (from near Nova Scotia, Canada to Cape Hatteras, North Carolina). However, this estimate was based on turtles visible at the surface and does not include those that were below the surface out of view. Therefore, it likely underestimates the leatherback population for the northeastern U.S. Estimates of leatherback abundance of 1,052 turtles (C.V.= 0.38) and 1,174 turtles (C.V.= 0.52) were obtained from surveys conducted from Virginia to the Gulf of St. Lawrence in 1995 and 1998, respectively (Palka 2000). However, since these estimates were also based on sightings of leatherbacks at the surface, the author considered the estimates to be negatively biased, and the true abundance of leatherbacks may be 4.27 times the estimates (Palka 2000).

The largest leatherback rookery in the western Atlantic remains along the northern coast of South America in French Guiana and Suriname. More than half of the present world leatherback population is estimated to be nesting on the beaches in and close to the Marowijne River Estuary in Suriname and French Guiana (Hilterman and Goverse 2004). Nest numbers in Suriname have shown an increase, and the long-term trend for the Suriname and French Guiana nesting group seems to show an increase (Hilterman and Goverse 2004). In 2001, the number of nests for Suriname and French Guiana combined was 60,000, one of the greatest numbers observed for this region in 35 years (Hilterman and Goverse 2004). Studies by Girondot et al. (in review) also suggest that the trend for the Suriname-French Guiana nesting population over the last 36 years is stable or slightly increasing.

Leatherbacks are also a long lived species (> 30 years). They mature at a younger age than loggerhead turtles, with an estimated age at sexual maturity of about 13-14 years for females, with 9 years reported as a likely minimum (Zug and Parham 1996) and 19 years as a likely maximum (NMFS SEFSC 2001). In the U.S. and Caribbean, female leatherbacks nest from March through July. They nest frequently (up to 7 nests per year) during a nesting season and nest about every 2-3 years. During each nesting, they produce 100 eggs or more in each clutch and thus, can produce 700 eggs or more per nesting season (Schultz 1975). However, a significant portion (up to approximately 30%) of the eggs can be infertile. Thus, the actual proportion of eggs that can result in

hatchlings is less than this seasonal estimate. As is the case with other sea turtle species, leatherback hatchlings enter the water soon after hatching. Based on a review of all sightings of leatherback sea turtles of <145 cm curved carapace length (CCL), Eckert (1999) found that leatherback juveniles remain in waters warmer than 26°C until they exceed 100 cm CCL.

Of the Atlantic turtle species, leatherbacks seem to be the most vulnerable to entanglement in fishing gear. This susceptibility may be the result of their body type (large size, long pectoral flippers, and lack of a hard shell) and their attraction to gelatinous organisms and algae that collect on buoys and buoy lines at or near the surface, and perhaps to the lightsticks used to attract target species in longline fisheries. They are also susceptible to entanglement in gillnets (used in various fisheries) and capture in trawl gear (*e.g.*, shrimp trawls, *Loligo* squid trawls). Sea turtles entangled in fishing gear generally have a reduced ability to feed, dive, surface to breathe, or perform any other behavior essential to survival (Balazs 1985). They may be more susceptible to boat strikes if forced to remain at the surface, and entangling lines can constrict blood flow, resulting in necrosis.

Leatherbacks are exposed to pelagic longline fisheries in many areas of their range. Unlike loggerhead turtle interactions with longline gear, leatherback turtles do not ingest longline bait. Therefore, leatherbacks are foul hooked (*e.g.*, on the flipper or shoulder area) rather than mouth or throat hooked by longline gear. Nevertheless, according to observer records, an estimated 6,363 leatherback sea turtles were caught by the U.S. Atlantic tuna and swordfish longline fisheries between 1992-1999, of which 88 were released dead (NMFS SEFSC 2001). Since the U.S. fleet accounts for only 5-8% of the hooks fished in the Atlantic Ocean, adding up the under-represented observed takes of the other 23 countries actively fishing in the area would likely result in annual take estimates of thousands of leatherbacks over different life stages (NMFS SEFSC 2001).

Leatherbacks are also susceptible to entanglement in the lines associated with trap/pot gear used in several fisheries, including the lobster fishery. From 1990-2000, 92 entangled leatherbacks were reported from New York through Maine (Dwyer et al. 2002). Additional leatherbacks that stranded had wrapped in line of unknown origin or with evidence of a past entanglement (Dwyer et al. 2002). A review of leatherback mortality documented by the STSSN in Massachusetts suggests that vessel strikes and entanglement in fixed gear (primarily lobster pots and whelk pots) are the principal sources of this mortality (Dwyer et al. 2002). Fixed gear fisheries in the Mid-Atlantic have also contributed to leatherback entanglements (NMFS SEFSC 2001).

Leatherback sea turtles may be more susceptible to marine debris ingestion than other species due to their pelagic existence and the tendency of floating debris to concentrate in convergence zones that adults and juveniles use for feeding areas and migratory routes (Lutcavage et al. 1997; Shoop and Kenney 1992). Investigations of the stomach contents of leatherback sea turtles revealed that a substantial percentage (44% of the 16 cases examined) contained plastic (Mrosovsky 1981). Along the coast of Peru, intestinal contents of 19 of 140 (13%) leatherback carcasses were found to contain plastic

bags and film (Fritts 1982). The presence of plastic debris in the digestive tract suggests that leatherbacks might not be able to distinguish between prey items and plastic debris (Mrosovsky 1981). Balazs (1985) speculated that the object may resemble a food item by its shape, color, size or even movement as it drifts about and induce a feeding response.

It is important to note that, like marine debris, fishing gear interactions and poaching are problems for leatherbacks throughout their range. Entanglements are common in Canadian waters where Goff and Lien (1988) reported that 14 of 20 leatherbacks encountered off the coast of Newfoundland/Labrador were entangled in fishing gear, including salmon net, herring net, gillnet, trawl line and crab pot line. Leatherbacks are reported taken by many other nations, including Taipei, Brazil, Trinidad, Morocco, Cyprus, Venezuela, Korea, Mexico, Cuba, U.K., Bermuda, People's Republic of China, Grenada, Canada, Belize, France, and Ireland, that participate in Atlantic pelagic longline fisheries (see NMFS SEFSC 2001, for a complete description of take records). Leatherbacks are known to drown in fish nets set in coastal waters of Sao Tome, West Africa (Castroviejo et al. 1994; Graff 1995). Gillnets are one of the suspected causes for the decline in the leatherback sea turtle population in French Guiana (Chevalier et al. 1999), and gillnets targeting green and hawksbill turtles in the waters of coastal Nicaragua also incidentally catch leatherback turtles (Lagueux et al. 1998). Observers on shrimp trawlers operating in the northeastern region of Venezuela documented the capture of six leatherbacks from 13,600 trawls (Marcano and Alio 2000). An estimated 1,000 mature female leatherback sea turtles are caught annually off of Trinidad and Tobago, with mortality estimated to be between 50-95% (Eckert and Lien 1999). However, many of the turtles do not die as a result of drowning, but rather because the fishermen butcher them in order to get them out of their nets (NMFS SEFSC 2001). In Ghana, nearly two thirds of the leatherback sea turtles that come up to nest on the beach are killed by local fishermen.

4.0 ENVIRONMENTAL CONSEQUENCES - ANALYSIS OF IMPACTS

4.0.1 Background

Three alternatives are identified for the assessment of impacts, as described in Chapter 2, Regulatory Alternatives. The impacts of the alternatives are based on whether the affected states have promulgated regulations to implement the relevant measures, as well as the difference in how the ISFMP and Federal regulations interpret the most restrictive rule with respect to trap allocations within multiple management areas.

When the Commission adopts measures into the ISFMP, states are required to adhere to a strict compliance schedule with specified dates by which they must incorporate the necessary measures into their regulations. However, under the Commission's ISFMP, *de minimis* states are exempt from certain ISFMP requirements (see Appendix 3 for additional information on *de minimis* status). A *de minimis* state is required to implement, at a minimum, the coast-wide requirements identified in Section 4 of Addendum I to Amendment 3 of the ISFMP and any other measures as deemed necessary by the Board at the time *de minimis* status is granted (NMFS 1999). In this case, the Commission's gauge, vent and trap restrictions are neither coast-wide requirements nor are they measures deemed necessary for *de minimis* implementation. Therefore, *de minimis* states are not required to implement these management measures. As a result, the extent of Federal action will determine whether vessels from *de minimis* states will be held to these requirements under Federal regulations. Some states that do not have *de minimis* status may not have fully implemented the entire suite of management measures as identified in the ISFMP (see Table 4.1). Accordingly, the chosen alternative will determine how this subset of permit holders will be impacted since they are currently not held to these measures under state law.

The majority of non-*de minimis* states requires lobster fishers from their state to have either a lobster fishing license or lobster landing license. Consequently, the vast majority of Federal lobster permit holders have a state license and are, therefore, in some manner, subject to the most restrictive of state and Federal regulations. In the event that a state's regulations are more restrictive than Federal regulations, dual state-Federal lobster permit holders are subject to the more restrictive state regulations. Since most of the major lobster producing states have adopted the gauge and vent size increases, and to some extent the trap reductions, the majority of the Federal lobster vessels are already, by virtue of their state license, subject to these measures in the absence of comparable Federal regulations. Since the majority of Federal lobster permit holders are already subject to these measures as adopted into the ISFMP, Federal action of any kind will result in minimal impacts to the lobster resource and industry. Those impacted by Federal action are those Federal permit holders who are not now, or in the future, impacted by more restrictive state regulations which are promulgated pursuant to the ISFMP. Some permit holders may be impacted in their ability to fish traps in nearshore

areas due to the most restrictive trap allocation measures in the Federal regulations and such occurrences are examined as socio-economic impacts to the trap fishery in Alternatives 2 and 3.

Table 4.1. Summary of Area 3 Regulations for Subject Measures by State				
STATE	MINIMUM SIZE	ESCAPE VENT	10% TRAP REDUCTION	5% TRAP REDUCTION*
ME	YES	YES	YES	YES
NH	YES	YES	YES	YES
MA	YES	YES	YES	YES
RI	YES	YES	YES	NO
CT	NO	NO	YES	NO
NY	YES	YES	YES	YES
NJ	YES	NO	NO	NO
DE	NO	NO	NO	NO
MD	NO	NO	NO	NO
VA	NO	NO	NO	NO
NC	NO	NO	NO	NO

LEGEND

Shaded cells represent *de minimis* states.
YES = State has regulation in place to implement the measure, or has a “most restrictive” reference based on the Commission’s ISFMP, in its state regulations.
NO = State does not have a regulation in place to implement the measure, or may have a “most restrictive” reference, based on NMFS 50 CFR 697 regulations, in its state regulations.
 * Assumes that state is poised to adopt and enforce the measures should the Commission adopt Add. XI.

4.1 Alternative 1: No Action Alternative (Non-preferred)

This alternative would not implement any of the Area 3 broodstock protection measures recommended by the Commission (e.g. gauge increases and vent increase) in the EEZ nor would this alternative reduce trap allocations for Federal vessels historically qualified to fish for lobsters with traps in Area 3 with respect to the two 5% reductions adopted in the ISFMP. This option would: 1) maintain the current Federal lobster minimum size limit of 3 3/8 inches (8.57 cm) in Area 3; 2) maintain the current Federal lobster trap requirement of a single rectangular escape vent measuring 2 inches X 5 3/4 inches (5.08 X 14.06 cm), or two circular vents per trap with a diameter of 2 5/8 inches (6.67 cm) in Area 3; and 3) maintain the current Area 3 vessel-specific trap limits without implementing the ISFMP trap reductions.

4.1.1 Biological Impacts

4.1.1.1 Gauge Increases

In the absence of any further federally-implemented gauge increases in Area 3, 490 of 511, or 96%, of combined trap and non-trap vessels are already restricted to the minimum size increases approved in the ISFMP due to the presence of state regulations (Table 4.2). Looking at it another way, when affected vessels from *de minimis* states and the only non-conforming Commission state, with respect to gauge increases (*i.e.*, Connecticut, which has not yet adopted the Area 3 gauge increases into its regulations), are considered, Alternative 1 would potentially allow 21 of 511 Federal lobster permit holders eligible to fish in Area 3 (if the trap vessels in the subset actually elected Area 3 on their Federal permits) to harvest lobster that might be protected if the proposed gauge increases are implemented by NMFS. Eleven of these vessels are either trap vessels or non-trap vessels from Connecticut. However, it is expected that Connecticut would likely implement these regulations soon to comply with the ISFMP. Such action by Connecticut would halve the theoretical number of vessels that remain unaffected should NMFS choose the no action alternative. Regardless, as Table 3.7 indicates, Federal non-trap vessels from Connecticut had a reported lobster value of \$0.00 during 2003. Although the Area 3 lobster value generated from the remaining three Connecticut trap vessels cannot be quantified, it is not expected to be a significant portion when compared to the overall fishery, so leaving these vessels unaffected by a no action alternative would not impact either the industry or the resource.

Table 4.2: Federal Lobster Vessels Affected by Gauge and Vent Size Requirements

State	MINIMUM GAUGE SIZE				ESCAPE VENT		COMBINED VESSEL TOTALS BY STATE
	TRAP		NON-TRAP		TRAP		
	Currently Affected	Not Affected	Currently Affected	Not Affected	Currently Affected	Not Affected	
ME	21		41		21		62
NH	11		34		11		45
MA	40		177		40		217
RI	46		57		46		103
CT		3		8		3	11
NY	5		20		5		25
NJ	10		28			10	38
De minimis		3		7		3	10
Total	133	6	357	15	123	16	511

Source: NMFS NERO 2006 Permit Data March 2007.

LEGEND

Affected = State has regulations in place and vessels are currently affected by them.

Not Affected = No state regulation in place.

*Although all Federal non-trap gear vessels may fish in Area 3, this analyzes only those vessels who reported Area 3 fishing activity from NMFS VTR or dealer data.

The remaining 10 unaffected vessels are either trap or non-trap vessels that hail from *de minimis* states and therefore, are not subject to these restrictions because the *de minimis* states are not required to implement them. Seven of the *de minimis* vessels are from the non-trap sector of the fishery, which accounted for only \$196.00 in lobster value in 2003, which is a combined total that is far less than the ex-vessel revenue an average trap vessel in New England may generate from a single day of directed lobster fishing and is negligible compared to the fishery overall. Therefore, the lack of either state or Federal gauge increases as considered in this analysis will have a negligible impact on the status of the stock overall since it leaves only a theoretical maximum of 4% of the fleet of potential lobster vessels unaccountable for these gauge increases. In practice, NMFS would expect the number to be lower since not all possible Area 3 permits renew in Area 3 every year, and non-trap vessels may fish in Area 3 only part of the year due to the seasonality and logistics of their target fisheries.

The biological impacts of leaving this small number of vessels unaffected by the gauge increases are negligible. This is true because of the minimal amount of lobster they would harvest that is smaller than the minimum size increases analyzed herein. Lobsters are known to be larger, on average, in the offshore fishery. Therefore, a smaller percentage of lobster would fall within the 3 3/8 – 3 1/2 inch range that would be harvestable for those few vessels not covered by a gauge increase should NMFS choose no action. NEFSC 2004 trawl survey data as presented in the most recent American lobster stock assessment indicate that the Georges Bank (GBK) component of the offshore lobster fishery is comprised, on average, of a larger lobster than the Gulf of Maine (GOM) and Southern New England (SNE) stock components. Specifically, the median size of male and female lobster observed in the GOM was just over 80 mm. In SNE, male and female median carapace lengths hovered around 80 mm. In contrast, the GBK female lobster median size was approximately 115 mm with male median size just short of 100 mm (ASMFC 2006a). Both male and female lobster median sizes according to this data are well above the ultimate Area 3 minimum size of 88.9 mm (3 1/2 inches). So, even though these few unaffected vessels could still harvest lobster between 3 3/8 inches and 3 1/2 inches, they are less likely to encounter such individuals in the offshore fishery.

4.1.1.2 Escape Vent Size Increase

The biological impacts of no Federal escape vent size increase are negligible. As with the gauge increase impacts explained in the previous subsection, a small number of vessels will remain unaffected by an escape vent size increase. Unlike the gauge increase, the vent size increase is only relevant to the trap sector of the fishery. Since New Jersey has not implemented the escape vent increase, ten trap vessels would remain unaffected by an increase in the escape vent should NMFS choose the no action alternative. In addition, the three trap vessels from Connecticut and the three vessels from the *de minimis* states would also not be subject to an escape vent increase. This results in approximately 16 vessels that could fish traps without the larger vent if this alternative is chosen. However, since the ISFMP vent increase is not mandatory until 2008, it is likely that Connecticut and New Jersey will comply by then, which would drop the number of unaffected vessels to the three vessels from the *de minimis* states.

Therefore, the biological impacts of leaving between 3 and 16 vessels unaffected by an escape vent size increase are negligible in comparison to the fishery overall, which consists of 139 trap vessels. The unaffected vessels could catch more sublegal-sized lobster with the smaller vents, but the survivability of lobster when released from the trap is likely to be high.

4.1.1.3 Trap Reductions

The benefits to the lobster resource due to trap limits and trap reductions are difficult to quantify. It would, however, promote economic efficiency, which is one of the 11 overall objectives in Amendment 3 of the ISFMP. At some level, fishing mortality can be affected by the number of traps fished. However, in the case of Area 3, despite ongoing efforts to decrease effort in the fishery through a limited access history-based program with vessel specific trap allocations, trap fishing effort remains high. Thus, even if the full suite of trap reductions (up to an additional 15%) is implemented, it is questionable that any substantial reductions in the number of traps fished will occur to the point where fishing mortality is affected. However, trap reductions are part of the Commission's ISFMP and have been embraced and brought forth by the industry to methodically reduce potential effort, control effort shift amongst lobster management areas, and prohibit latent effort from becoming active in the fishery.

The level of traps needed to impact the biology of the resource is debatable and tempered by industry impacts. Trap reductions would, however, promote economic efficiency, which is one of the 11 overall objectives in Amendment 3. Controlling latent effort needs to be addressed as acknowledged by the Area 3 fishing industry and the Stock Assessment Peer Review Panel (ASMFC 2006a) as a prudent means of obtaining a sustainable level of traps in the fishery. The ability of the management program to responsibly and effectively control latent effort would be diminished if no Federal action is taken with respect to trap reductions. Although the reductions are biologically unquantifiable at this level, the resource would forego any short or long-term associated biological benefits that the trap reductions may have on the lobster resource. Potentially, 91% of the lobster trap fleet in Area 3 will be subject to the trap reductions, as administered by states, should NMFS choose no action. State-implemented reductions would be acknowledged by NMFS due to the most restrictive requirement, and then Federal lobster permit holders must abide by the lowest of state or Federal trap allocations. Therefore, relying only on state implemented reductions could encompass nearly the same level of biological benefit as Federally-implemented reductions. This analysis assumes that in the absence of Federal action, only the 13 vessels hailing from the *de minimis* states and New Jersey will not be subject to trap reductions.

4.1.2 Habitat Impacts

The most recent American lobster stock assessment identifies water temperature, salinity, currents, dissolved oxygen and substrate as the most critical habitat components that influence lobster reproduction and growth. Gauge increases and escape vent regulations have no bearing on these components and therefore will not impact lobster habitat. Substrate impacts due to the fishing of lobster trap trawls have been explored in

a limited manner in peer-reviewed research and in Federal impact assessments of measures proposed in the Atlantic Large Whale Take Reduction Plan. Although the footprint of an individual lobster trap and the impact on the bottom due to hauling and setting a trap is considered negligible, more cumulative impacts may result during the process of hauling back trawls consisting of multiple lobster traps. This no action alternative certainly would not increase trap numbers. However, it wouldn't decrease trap numbers as a matter of Federal law, therefore, the impacts are neutral. Regardless, should NMFS opt to take no action, the theoretical number of lobster traps that are, or could be, fished in Area 3 would be diminished due to state-implemented trap reductions for the offshore fishery. Therefore, this alternative will not adversely impact lobster habitat.

4.1.2.1 Gauge Increases

No impacts are expected on lobster substrate should the Federal government choose to not implement gauge increases in Area 3. Lobster minimum size requirements have no relationship to habitat. Therefore, whether or not the Federal government chooses to take action with respect to gauge increases will have no impact on lobster habitat.

4.1.2.2 Escape Vent Size Increase

The size of escape vents has no relationship to lobster habitat, and no impacts are associated with this component of the alternative on lobster habitat.

4.1.2.3 Trap Reductions

The no action alternative will not increase or decrease impacts to bottom substrate types important for lobster biology. This alternative will not increase the amount of traps that can currently be deployed in Area 3.

4.1.3 Bycatch

Bycatch of crustaceans, finfish and sublegal or illegal (*e.g.*, berried, oversized) lobster can occur in the directed lobster trap fishery. Soak time, depth, and predation may affect the survivability of bycatch species, although anecdotal evidence suggests that most individuals inadvertently caught in lobster traps remain alive in the trap and are discarded alive. The no action alternative will allow a minimal number of vessels to avoid further gauge increases, escape vent size increases and trap reductions while the majority of both trap and non-trap vessels will remain subject to the measures in the ISFMP due to state requirements. Theoretically, not increasing the gauge allows a greater size range of lobster to be taken in the traps. Because more lobsters are legal and less sub-legal then, hypothetically, proportionally less lobster are bycatch. But this number is expected to be small. The potential number of traps that may be fished in Area 3 may decline even if NMFS takes no action due to state-implemented reductions. State-implemented escape vent size increases will also afford benefits to bycatch species by facilitating escapement. Therefore, the no action alternative will not increase bycatch in the fishery or otherwise adversely impact species, including lobster, which may be inadvertently caught in the directed lobster fishery.

In the non-trap fishery, lobster is landed as bycatch, and non-trap vessels are allowed to retain a limited number of lobster each trip. The gauge increase schedule is the only measure that is relevant to this sector of the fishery. A negligible number of vessels will not be subject to the gauge increases, but the majority will through state-implemented gauge increases. The no action alternative will not alter non-trap fishing activity in a manner resulting in increased bycatch of undersized lobster or non-targeted species of finfish or crustaceans.

4.1.3.1 Gauge Increases

This action would not substantially impact bycatch because it will not increase the bycatch of sub-legal or illegal lobster or other species. There is no perceived link between bycatch mortality and gauge size. Regardless, if there are bycatch reduction benefits relative to gauge increases, they would not be compromised by lack of Federal implementation since 85% or more of the Area 3 fleet would be subject to gauge increases due to state action.

4.1.3.2 Escape Vent Size Increase

Bycatch of lobster and other species may decrease due to state implemented vent increases. The 16 trap vessels unaffected by the state-implemented vent size increase make up only about 12% of the entire Area 3 trap fishery. No additional overall impacts to the lobster resource or other species will occur if these vessels are not required to increase their escape vent size.

4.1.3.3 Trap Reductions

Bycatch associated with no Federal trap reductions is also not expected to increase since the potential number of traps that may be fished may decrease due to state-implemented trap reductions. In the absence of Federal trap reductions, only 13 vessels, primarily from *de minimis* states will not be subject to trap reductions (see Table 4.2). Therefore, the impact of not reducing the traps on these relatively few vessels is negligible and will not substantially increase bycatch of lobster or other resources.

4.1.4 Socio-economic Impacts – Trap Sector

Alternative 1 would not significantly impact the trap gear sector since it would allow some vessels to forego certain management measures while the balance would be subject to state-mandated measures in the absence of Federal action. Therefore, any impacts due to costs associated with replacing escape vents and reduced revenues associated with trap reductions and gauge increases are already accounted for under the state-implemented measures. Under the no-action Alternative 1, the trap vessels from *de minimis* states or from states that have not effectively promulgated or referenced regulations to enforce the subject measures would suffer no additional economic impacts, since vessels from those states would not be subject to the gauge increases if not implemented by the Federal government. This includes 6 trap vessels not impacted by the gauge increases and 16 vessels not impacted by the escape vent requirement. Thirteen trap gear vessels from the *de minimis* states and New Jersey could benefit from

no action because they will not be subject to the trap reductions. This number could increase if Connecticut and Rhode Island do not implement the industry-proposed trap reductions subsequently adopted by the Commission.

A State-Federal gap in lobster regulations, as would be the case if Alternative 1 is chosen, is unlikely to provide an economic incentive to change fishing patterns. Most states already have implemented more restrictive measures, so vessels cannot simply seek out less restrictive measures by obtaining a lobster permit from another state due to limited access programs in most states. This means that the primary vehicle for changing fishing patterns would be through a change in lobster management area designation on the Federal permit, which is only an option at the start of each new fishing year. However, given historical participation programs that have already been implemented in Areas 3, 4, and 5, and depressed resource conditions in Area 2, the only area likely to attract effort is Area 1. Given the state regulations already implemented, including the limited access program for the Outer Cape Management Area, and ongoing review of State-Federal vessel permit issues in draft Amendment 5 to the ISFMP with respect to trap fishery area eligibility, future access to multiple Areas by a single permit holder may become more restricted. Therefore, the potential for shifts in fishing patterns solely to take advantage of less restrictive measures is limited as lobster vessels become less flexible in choosing their respective trap fishing areas. Further, the practical reality of changing fishing locations in a highly territorial fishery limits the extent to which vessels could switch from one area to another. Finally, it may be logistically difficult for most lobster vessels south of Cape Cod to fish the Outer Cape Management Area or Area 1, due to the expenses and time required to transit such distances. Regardless, the benefits to those few unaffected vessels would be negligible because of the decreased economic reliance on lobster by fishermen as one moves southwesterly down the coast.

4.1.4.1 Gauge Increases

In the absence of Federal gauge increases, it is estimated that 21 trap and non-trap vessels might benefit since they would not be held to the increases in minimum size. However, this number is likely to be much lower since it is expected that the states of Connecticut and New Jersey will likely come into compliance and implement the gauge increases. Regardless, the limited number of vessels that would not be held to the increases is negligible, and in comparison to the scale of the overall fishery, the impacts will be quite limited since the majority of the fleet will already be held to the more restrictive state requirements; not Federal action.

4.1.4.2 Escape Vent Size Increase

Lobster traps with the smaller escape vents may catch more sublegal lobsters than those with the proposed larger escape vents. If a greater percentage of sublegal lobsters become caught in the traps with smaller escape vents, 10 of the 16 vessels unaffected by a vent increase will still be bound to the greater minimum carapace size, since New Jersey has implemented this regulation. Therefore, these 10 vessels would be required to discard any lobster with a carapace length smaller than the size standards set forth in the ISFMP. Some legal-sized lobster may be retained that may otherwise escape from traps rigged with the larger escape vents. However, the potential mortality attributed to the

harvest of such lobsters by approximately 4% (6 vessels) of the Area 3 trap fleet that are bound by neither the gauge increases nor the vent increase is negligible. The impacts on the resource are even less when one considers that some of these unaffected vessels may not even be fishing in Area 3. Furthermore, there are no impacts to the resource considering that the 16 vessels left unaffected by no Federal escape vent increase represent about 0.5% of the approximately 3,200 Federal lobster vessels coast-wide, with lobster landed from the EEZ component of the fishery totaling approximately 14.3 million lbs. in 2003.

4.1.4.3 Trap Reductions

Essentially, the same impacts are expected for no Federal action on the Commission-adopted trap reductions for Area 3 as would be expected with the no action alternative on the escape vent size increase. Only 13 (9%) of the eligible Area 3 trap vessels are not currently required to reduce their traps based on state regulations, since New Jersey and the *de minimis* states are the only states that either have not implemented these measures or are not required to do so. However, if New Jersey complies with Commission directives, as expected, and implements the trap reductions, only three vessels would be unaffected if NMFS chose Alternative 1. States are not required to comply until July 1, 2007, so it is reasonable to expect such action by Connecticut and New Jersey by then. Regardless, without the compliance of New Jersey, the impacts imposed on the resource by the 13 vessels remaining unaffected by the escape vent increase are negligible because these vessels make up only 9% of the total 139 vessels that are authorized to fish in Area 3 with traps, and it is unclear whether these unaffected vessels are even fishing in Area 3.

Alternative 1 would result in 13 vessels unaffected by the trap reductions adopted by the Commission and scheduled to begin in 2007. However, this is not expected to result in an increase in fishing effort since, as with the escape vent size increase, New Jersey would likely come into compliance, bringing the number of unaffected vessels down to just 3. Should the no action alternative be chosen, these three vessels would be allowed to continue to fish their full allocations without reduction. This amounts to less than 300 traps that would otherwise be removed from the total Area 3 allocation. Overall, the associated biological impact is negligible since these few hundred traps are insignificant when compared to the approximately 172,600 lobster traps currently allocated for Area 3, which would decrease to 155,796 by 2008 under the two 5% Commission-adopted trap reductions (see Table 3.4). Connecticut and Rhode Island have not implemented measures to incorporate the two 2.5% industry proposed trap reductions. However, if these additional reductions are adopted by the Commission, then these two states are expected to comply by implementing these specific requirements. In fact, it is likely that Connecticut and Rhode Island would, by default, implement these additional reductions upon Commission adoption, since the respective regulations of the two states incorporate the ISFMP by reference.

4.1.5 Socio-economic Impacts – Non-Trap Sector

Non-trap lobster fishers derive a small percentage of their income from lobster fishing. According to dealer records for calendar year 2003, 569 of the 637 permitted non-trap vessels reported seafood landings that totaled approximately \$260 million (Table 3.7). But, the reported \$260 million in landings reflected the value of all species caught, including, but not limited to, lobster. In fact, the vast majority of reported landings related to species other than lobster. Specifically, of the 569 reporting vessels 380 (roughly two-thirds) did not report landing lobster. Lobster landings for the remaining 189 vessels were valued at just over \$3 million, with the majority (87%) being landed in Massachusetts. With the exception of Maryland, the balance of the reported non-trap lobster landings, valued at just under \$395 thousand, were landed in states that have adopted the suite of management measures for Area 3 under evaluation here.

4.1.5.1 Gauge Increases

Gauge increases are the only management measure evaluated here that are directly relevant to the non-trap sector of the lobster fishery. The majority of non-trap lobster vessels is subject to the gauge increases for Area 3 adopted into the ISFMP. This means that the vast majority of Federal non-trap lobster permit holders would have to abide by the Commission's recommended gauge increases, even under the no action alternative because the majority of states have implemented, or have enforceable provisions in their state regulations, for the increased Area 3 minimum size, with the exception of 15 non-trap vessels hailing from the *de minimis* states and Connecticut (Table 4.2). Therefore, the overall impact to the non-trap sector due to any Federal action or no action, in this case, is minimal because the majority of these vessels are already impacted by state regulations.

Those 15 remaining vessels that are not affected by gauge increases due to no Federal action are not likely to have an impact on the fishery overall. The realized impact of gauge increases on non-trap vessels is difficult to assess since the size composition of the commercial catch is not well known. However, lobsters caught with non-trap gear tend to be larger, on average, with the median size of lobster observed in GBK exceeding that of both the GOM and SNE locales (ASMFC 2006a). In fact, median sizes on GBK for males and females are greater than the ultimate minimum size of 3 ½ inches that the ISFMP mandates by 2008. Thus, it is not expected that this subset of vessels would experience economic gains due to no Federal action since the predominance of lobster encountered in this sector is likely to be at or above the current minimum size of 3 3/8 inches. Regardless, the lobster revenues generated by non-trap vessels, based on landings data from the subset of vessels that is required to report landings, average less than 4% of the vessel's total annual fishing income. Much of this small component of the overall catch would likely be subject to more restrictive state-implemented gauge increases, so the expected benefits to the unaffected component of the non-trap fishery are likely to be quite limited.

4.1.5.2 *Escape Vent Size Increase*

The escape vent size increases are not relevant to the non-trap sector of the fishery, and the no action alternative will not impact this segment of the industry.

4.1.5.3 *Trap Reductions*

Like the escape vent size increases, the trap reductions are not relevant to the non-trap sector; therefore, a no action alternative will have no direct positive or negative impact.

4.1.6 Protected Resources Impacts

4.1.6.1 *Gauge Increases*

Gauge increases are lobster broodstock conservation measures that are not directly related to marine mammal issues involving vertical lines or ground lines used with lobster trap gear. Therefore, gauge increases, whether implemented at the Federal level or not, will have no positive or negative impacts on marine mammals or other protected species.

4.1.6.2 *Escape Vent Size Increase*

Like the gauge increases, escape vent size increases are lobster broodstock conservation measures that are not directly related to marine mammal issues involving vertical lines or ground lines used with lobster trap gear. Therefore, escape vent size increases, whether implemented at the Federal level or not, will have no positive or negative impacts on marine mammals or other protected species.

4.1.6.3 *Trap Reductions*

The no action alternative will neither positively nor negatively impact protected resources. As stated in Chapter 3, it is typically the rope configuration in lobster gear that has the potential to impact protected resources, since large whales and other cetaceans are known to become entangled in stationary fishing gear. More specifically, rope attaching the lobster traps to a buoy (known as vertical line) and the rope attaching one trap to another trap on the ocean floor (known as ground line) are the main sources of entanglement for protected species. Further, the recommended trap reduction, even in the Federal no action alternative, may potentially reduce the amount of vertical line and ground line in Area 3 for the majority of vessels in Area 3 based on state requirements, although likely not to a significant degree.

With the exception of New Jersey and the *de minimis* states, all states covered under the ISFMP have promulgated regulations to adopt the Commission's two annual 5% trap reductions scheduled for 2007 and 2008. Of the 139 Federal Area 3 vessels, 126 of those vessels would be impacted without implementation of compatible Federal regulations, while 13 vessels hailing from the *de minimis* states and New Jersey would not be impacted without compatible Federal regulations in place. However, if New Jersey complies with Commission directives, as expected, and implements the trap reductions, only three vessels would be unaffected if NMFS chose Alternative 1. It is

reasonable to expect action by New Jersey, based on the very infrequent non-compliance actions since 1993. Regardless, without the compliance of these states, the impacts imposed on protected resources by a maximum of 13 vessels remaining unaffected by the trap reductions adopted in the ISFMP are negligible when compared to the lobster fishery in Area 3 and coastwide from Maine to North Carolina.

Assuming a maximum of 13 vessels noted above remains unaffected by the proposed trap reductions, and those vessels fished their entire complement of authorized lobster traps in Area 3, there would be a maximum of 1,656 traps that are allowed to remain in Area 3 if NMFS did not implement the two 5% trap reductions adopted into the ISFMP. However, the actual number of traps represented here is far less. Based on 2006 lobster permit data, 4 of the 13 vessels either did not elect to fish in Area 3 or did elect Area 3 but could not fish their full allocation because they are limited by a lower trap allocation in a nearshore area. However, for the purposes of this analysis, the impacts of no action on all 13 vessels will be calculated since all have the option to elect to fish in Area 3.

Based on a qualitative review of gear configurations in the offshore fishery, there are approximately 40-50 traps in an average string of gear or trawl. Each trawl is configured with two vertical lines, one at each end of the trawl and affixed with gear identification buoys and radar reflectors, as well as approximately 50 meters of groundline between each trap in the trawl (except for the last trap). Assuming an average of 45 traps per trawl, with 50 meters of groundline between 44 of the 45 traps, the total amount of groundline per trawl is approximately 2,200 meters. These additional 1,656 traps equate to approximately 37 lobster trawls or 81,400 meters of groundline. Considering two vertical lines per trawl of unknown length due to the varied depth and tides associated with the offshore fishery, the no action alternative could result in about 74 vertical lines that are potentially allowed to remain in Area 3. This amount of gear equates to that of one moderate to large offshore lobster trap operation.

Following this premise forward, if the Commission's Area 3 trap reductions of about 10% are not implemented at either the state (*de minimis* or non-conforming) or Federal level, a total of 16,831 traps would not otherwise be removed from the offshore waters of Area 3. These traps equate to approximately 374 trawls, which in turn equate to 822,848 meters of groundline and 746 vertical lines. Therefore, if NMFS chose the no action alternative, about 90% of the reductions in gear would be enabled and less than 10% of the industry would not be required to implement reductions in gear, some of which is not actively fished in Area 3. Based on the limited number of traps, there would be no negative impact overall under Alternative 1.

All Federal lobster permit holders are currently bound by existing Federal measures in place to protect marine mammals and protected species, including gear configuration requirements specified in 50 CFR part 229, and that situation will not change under this alternative or any of the feasible alternatives set forth in this document. Further, for reasons indicated in Section 4.1.4, although the no action alternative would result in a regulatory discrepancy between state and Federal regulations, the economic

incentive to change fishing patterns is likely to be quite limited. Historical participation programs have already been implemented in several lobster management areas. In addition, difficulties of changing fishing locations in a highly territorial fishery as well as increased costs associated with transit time to alternative fishing grounds, all restrict the extent to which vessels would be able to switch from one Area to another.

Conclusion

The impacts to the resource and the industry are expected to be negligible should Alternative 1 be chosen. However, the no action alternative would result in inconsistencies between state and Federal regulations that would complicate the effective State-Federal enforcement of measures deemed necessary for the rebuilding of the lobster resource under the ISFMP. Alternative 1 would continue the existing situation that allows a number of Federal lobster permit holders, currently not impacted under state regulations, to avoid compliance with the recommended measures in the ISFMP, as evaluated herein, deemed necessary to ensure the lobster resource is protected throughout its range. This State-Federal regulatory inconsistency would further complicate at-sea enforcement, since compliance in offshore Area 3 is primarily the responsibility of the U.S. Coast Guard (USCG). The USCG tends to most aggressively enforce Federal regulations since it may be unclear, when a vessel is boarded far from land, in which state a vessel may actually elect to land lobsters.

The no action alternative would continue the confusion of inconsistent state and Federal regulations in Area 3. Furthermore, despite the negligible biological impacts of no action, Alternative 1 might be considered a less fair and equitable choice since some Area 3 vessels would be subject to the full suite of management measures while others, albeit a small number, would not. This inconsistency and inequity could undermine the effectiveness of the ISFMP in promoting cooperative State-Federal management in maintaining the stock and the fishery.

4.2 Alternative 2: Commission Area 3 Measures - (Non-preferred)

If Alternative 2 is chosen, NMFS would: 1) implement a series of gauge increases up to 3 ½ inches in Area 3 over a four-year period, as is suggested in the ISFMP, although not using the specific four years referenced in the ISFMP due to the passage of time since the relevant addenda were approved; 2) implement the escape vent size increase by 2008 consistent with the ISFMP; and 3) implement Commission-approved trap reductions of a 5% reduction in 2007 and another 5% reduction in 2008 (*or by 9.7% in 2008 only*) but not the two 2.5% reductions proposed by the Area 3 LCMT and not yet adopted into the ISFMP.

This alternative is essentially identical to Alternative 1, the No Action Alternative, in terms of impacts for the reasons set forth in earlier Section 4.1. Specifically, irrespective of whether the Federal government enacts regulations that closely follow the Commission ISFMP (*e.g.* Alternative 3, as will be discussed below) or

whether the Federal government chooses not to act (*e.g.* Alternative 1, as was previously discussed in Section 4.1), the vast majority of Federal permit holders will be obligated to follow the Commission's ISFMP restriction by virtue of their dually held state permit. As will be discussed, however, there may be some benefit to issuing complementary Federal regulations insofar as doing so might prevent confusion for permit holders trying to understand seemingly different state and Federal regulations. Further, as will also be discussed below, although differences in overall impact between Alternative 1, No Action, and Alternative 2 are negligible, traditional notions of fair play might be best advanced by closing the loop holes that Alternative 1 might provide for the minimal number of Federal permit holders in *de minimis* and other states that have yet to issue ISFMP compatible regulations.

4.2.1 Biological Impacts

The Commission's gauge, vent and trap restrictions, would provide some benefits to all three North Atlantic stocks of American lobster. However, regardless of Federal action, states are required to implement these management measures, and all states, except for the *de minimis* states and Connecticut, have either specifically promulgated Area 3 gauge increases or have incorporated them by reference to the approved measures for the specified lobster management areas as set forth in the ISFMP. Therefore, the majority of Federal vessels are already subject to these requirements. Although the escape vent size increase and trap reduction schedule would be consistent with those in the ISFMP, the gauge increases would not be since they would begin a cycle of four annual increases of 1/32 inch beginning in 2007 and would not reach the ultimate minimum size until 2010; two years later than the ISFMP recommends. Any overall benefits for the lobster resource that may result from this more pro-active approach, when compared to Alternative 1, would be outweighed by adding confusion and more complexity to an already complicated system of regulations for the offshore fleet.

4.2.1.1 Gauge Increases

The gauge increase schedule offered in this alternative may provide some, albeit small, benefits to the resource when compared to Alternative 1, which is the no action alternative. Under the current scenario and consistent with Alternative 1, 96% of trap and non-trap Area 3 vessels are already affected by current state-implemented minimum size requirements (see Table 4.2). This alternative would require those 21 vessels that are currently unaffected by the state requirements, either because their state of landing is *de minimis* or has not implemented the Area 3 gauge increases (Connecticut), to begin the course of annual 1/32 inch minimum carapace length increases commencing in 2007. These 21 vessels, currently subject to the 3 3/8 inch minimum size, would be held to a 3 13/32 inch minimum size beginning in 2007, while the remainder of the fleet is subject to a minimum carapace length of 3 15/32 inches. The biological benefits associated with increasing the gauge in this manner are not substantial and any potential benefit to the lobster resource by increased egg production or reduced fishing mortality by increasing the carapace length would be overwritten by the confusion caused by inconsistent minimum size requirements for all vessels that exploit the offshore fishery. As Table 3.7

illustrates, none of the non-trap vessels hailing from *de minimis* states or Connecticut landed lobster in 2003. Although the 15 non-trap vessels currently unaffected by the Commission's gauge sizes for Area 3 would be subject to the size increases under this alternative, there are still no expected benefits to the resource since these vessels have not historically landed lobster. Even if they fished in other management areas that currently require a 3 3/8 inch minimum size, they would be held to the larger gauge if they fished in Area 3. However, since they are not known to land lobster, there is no associated benefit to the resource. This leaves only the six trap vessels unaffected by the current larger state-implemented minimum size requirements.

Since Connecticut is likely to implement the Commission's gauge increase schedule, only the three *de minimis* trap vessels would likely be directly subject to the size increases offered in this alternative. Overall, this alternative would likely require the three *de minimis* trap vessels that are eligible to fish in Area 3 to adhere to a gauge increase that is inconsistent with the Commission's ISFMP and that would produce no measurable benefits to the lobster resource. This modified schedule of gauge increases, although on track to an ultimate minimum size of 3 1/2 inches as required under the ISFMP, would do so in an inconsistent manner that would confuse the issue and undermine the enforceability of the measure on Area 3 vessels.

Gauge increases can benefit the lobster resource by allowing more "smaller" lobsters additional time to remain in the population before being harvested, with more opportunity to reproduce, thus increasing egg production. Holding the entire lobster fleet, or at least the vast majority, to the gauge increases implemented by state regulations may allow for the maximum potential benefit from gauge increases. Federal action to bring the remaining 15% of the unaffected vessels into compliance, as this alternative would do, would assist in achieving the egg production benefits associated with gauge increases but to a very small degree. Therefore, the inconsistent manner with respect to timing of the gauge increases, as compared to state action, would not likely be the most optimal choice. So, if this alternative is chosen, there may be some marginal benefits to the lobster resource by requiring the small percentage of those lobster vessels not currently impacted by more restrictive state regulations to comply with compatible Federal requirements as proposed, because some, albeit small, quantity of lobster may be discarded due to the larger gauge. However, lobster are known to be larger in the offshore area and therefore, the encounters with lobster between the 3 3/8 inch and 3 1/2 inch range are not as common. Trawl survey data have shown median lobster carapace lengths to exceed 3 1/2 inches in the GBK stock. Additionally, the gauge increase schedule would not be consistent with that set forth in the ISFMP and the full benefit of the gauge increases would not be reached coastwide for all affected permit holders until 2010, when the terminal minimum size of 3 1/2 inches is reached. Therefore, the minimal benefits to the lobster resource associated with a four year phase-in that is inconsistent with the Commission schedule does not outweigh the perceived continuation of confusion and enforcement inconsistencies that would hamper the industry, enforcement personnel and fishery managers (see section 4.2.2 for more discussion).

4.2.1.2 Escape Vent Size Increase

A Federal rulemaking to implement the escape vent size increase identified in this alternative would be consistent with that recommended for Federal implementation in the Commission's ISFMP and would mirror the escape vent size increase to be implemented by states for Area 3 trap vessels beginning in 2008. This would bring all 139 Area 3-eligible lobster trap vessels under the same escape vent size requirement simultaneously. However, all but six of these vessels would be held to the requirement even if NMFS took no action, and as previously mentioned, the three Connecticut vessels would be held to this escape vent size increase should that state come into compliance with the ISFMP by the July 1, 2008, compliance date. Therefore, Federal action here, although consistent with the Commission, would only potentially impact three vessels, with an overall negligible benefit to the resource and no negative biological impacts.

4.2.1.3 Trap Reductions

Federal implementation of the Commission-approved trap reductions would bring all 139 eligible trap vessels under the same trap reduction requirements coastwide. These two reductions, 5% each year during 2007 and 2008, would actually amount to about a 9.7% reduction, not 10%, since the second annual reduction would be taken from the remaining balance of traps after the first 5% reduction is taken. These reductions are beneficial because they address the stock assessment review panel's advice to reduce effort in the offshore fishery. Additionally, the Area 3 industry has advocated for trap reductions as a means of controlling effort in the offshore fishery. In fact, the Area 3 LCMT has called for two 2.5% increases, in addition to the two 5% reductions adopted in the ISFMP, as described in the preferred alternative, Alternative 3.

Trap reductions are a reasonable next step in controlling fishing effort in the offshore fishery. These reductions would complement a Commission-recommended benchmark historical participation eligibility and effort reduction program implemented by NMFS for the trap fishery in Areas 3, 4 and 5. This program reduced the potential number of traps that could be fished in Area 3 from approximately 390,000 traps in 1999 to about 172,000 in 2006 (56%) and capped the overall number of eligible vessels to 139 out of an estimated 968 vessels that did potentially fish there.

The Area 3 industry has taken a proactive approach in the conservation of the offshore fishery by not only embracing the historical participation eligibility regime but also by proposing the two 5% trap reductions considered in this alternative as adopted by the Commission, as well as two additional 2.5% increases pending Commission approval. The two 5% reductions considered in this alternative have been approved by the Commission. If New Jersey implements these reductions as expected, the 10 trap vessels hailing from that state that are authorized to fish in Area 3 will come under the state's regulations. Should NMFS choose to implement these reductions, the remaining three vessels from the *de minimis* states would also be subject to the two 5% reductions. Consequently, Federal action here would result in a 368-trap decrease in Area 3 through reductions in the allocations of vessels hailing from the *de minimis* states. Although some biological benefits could be gleaned from Federal action, those benefits, given that the vast majority of vessels will be held to the reductions under state laws, are negligible.

and would be enhanced by opting for the entire suite of reductions as proposed in Alternative 3. NMFS adoption of just these two annual reductions would fall short of the potential benefits that could be realized if the additional industry-proposed reductions are also implemented. NMFS expects that the Commission may adopt the Area 3 LCMT's proposal for the two additional 2.5% trap reductions, so to fail to implement them now would only continue the rift between state and Federal mandates if the Commission adopted these additional reductions in the future. The industry's interest in pursuing the more aggressive path of additional increased trap reductions, the great likelihood of Commission adoption of these additional measures and the increased benefits expected in reducing and controlling fishing effort in the offshore fishery with the additional 2.5% reductions have prompted NMFS to include these additional reductions in the preferred alternative (see section 4.3 for Alternative 3 discussion).

4.2.2 Habitat Impacts

4.2.2.1 Gauge Increases

Gauge size in the lobster fishery has no relationship to habitat. Therefore, the gauge increases associated with Alternative 2 will not have any adverse impacts on substrate or other habitat components important to lobster reproduction and development.

4.2.2.2 Escape Vent Size Increase

Similar to the gauge increases, escape vent size increases are not relevant to lobster habitat, and no impacts, either positive or negative, are expected on lobster habitat should NMFS choose Alternative 2.

4.2.2.3 Trap Reductions

If Alternative 2 is chosen, NMFS would implement the two 5% trap reductions for Area 3 and would bring all Federal lobster vessels under the trap reduction schedule. However, NMFS action will only reduce the allocations of 10 vessels for a combined total of about 368 traps. This is insignificant when compared to the fishery overall and the fact that the vast majority of reductions will already be implemented due to state action. Therefore, Federal action with respect to trap reductions in Alternative 2 will have no discernable positive or negative impact on lobster habitat.

4.2.3 Bycatch

4.2.3.1 Gauge Increases

The gauge increases in Alternative 2 will have no impacts on the bycatch of sublegal lobster or other species.

4.2.3.2 Escape Vent Increase

This action will impact few vessels and will have negligible impact on the bycatch of sub-legal or illegal lobster or other species by bringing them up to a large escape vent size.

4.2.3.3 Trap Reductions

Due to the negligible trap reductions associated with Federal action in Alternative 2, there are no discernable positive or negative benefits to bycatch reduction through the trap reductions in this alternative.

4.2.4 Socioeconomic Impacts – Trap Sector

4.2.4.1 Gauge Increases

There is little benefit in such a gauge size delay. First, as described in Section 4.2.1, Biological Impacts, increasing the gauge size is designed to be a protective biological measure, and although compatible Federal gauge size regulations might only have a minimal impact because the vast majority of Federal permit holders already abide by the increased gauge size, a delay in Federal gauge size increases should not be considered as beneficial. Second, there is little socio-economic benefit to Federal permit holders because the vast majority would already be bound to the state's gauge size by virtue of their state license. Third, this Federal delay would continue the current regulatory incongruence and potential confusion of inconsistent minimum gauge size requirements between state and Federal regulations for Area 3 lobster fishers. Fourth, the delay would create a potential loophole for those few permit holders in the *de minimis* states and Connecticut (15 non-trap vessels and 6 trap vessels) who are not covered by state regulation. Although this number is not significant enough to impact the fishery, confidence in overall lobster management is potentially undermined when a few are able to take undue advantage in a regulatory situation. And fifth, NMFS believes that the Commission's intent in setting the schedule focused more on overall theories of gradual implementation (which has already been accomplished through state action) and compatibility, and less on the states and Federal government each taking four years to implement from their respective dates of regulation. Therefore, the minimal benefits to no more than 21 vessels, and likely far less due to logistics and the lack of non-trap landings from this area from *de minimis* states and Connecticut, associated with a four-year phase-in that is inconsistent with the Commission schedule does not outweigh the perceived continuation of confusion and enforcement inconsistencies that would hamper the industry, enforcement personnel and fishery managers.

Currently, the state of Connecticut is the only non-*de minimis* state that has not adopted the Commission's gauge increase schedule that would culminate in a 3 ½ inch minimum size by 2008. If Connecticut implements the Commission's schedule, only the three *de minimis* state trap vessels would remain unaffected by the Commission-adopted schedule of gauge increases. If Alternative 2 is chosen, then these vessels would be subject to the four-year gauge increase schedule; however, the first increase would not be implemented until 2007, reaching the 3 ½ inch mark by 2010, which is two years later than the Commission schedule. If Connecticut fails to comply with the Commission schedule, the three vessels from that state, as well as the three vessels from the *de minimis* states, will be subject to the NMFS schedule of gauge increases as identified in this alternative.

Overall, if this alternative is chosen, the impacts on the Area 3 trap fishery are negligible. Primarily, lobsters caught in the offshore fishery tend to be larger than those in the nearshore areas and incremental increases of 1/32 inches over a four-year period are not likely to impact lobster catches or revenues from lobster trapped in Area 3. Secondly, at a maximum, only six vessels would be subject to the Federal gauge increase schedule and any economic impacts to the industry associated with gauge increases would already be absorbed by the remainder of the fleet since they are subject to the state-implemented gauge increases.

4.2.4.2 *Escape Vent Increase*

No more than 16 boats would be affected by this alternative with respect to escape vent size increases. The rest of the fleet, regardless of any Federal action, will be subject to the state-implemented escape vent increases. Affected fishers would experience the costs of purchasing and installing new escape vents under this alternative, but would likely be subject to these costs regardless of any Federal action, since they must abide by the more restrictive of state and Federal requirements. Only the states of New Jersey and Connecticut have yet to require the subject escape vent size increase for Area 3 (see Table 4.1), resulting in 16 trap vessels, including those landing in *de minimis* states, which would be affected by a NMFS-implemented escape vent increase. The ISFMP requires the states to implement this management measure by 2008, so affected fishers will need to adhere to this requirement based on the regulations and enforcement practices of their state of landing. Therefore, the overall economic burden would be insignificant since the majority of the affected vessels would already be subject to the escape vent increase as a consequence of state-compliance regardless of any Federal action. However, the industry has advocated for a two-year delay in the escape vent size increase to offset the economic impacts that may be associated with decreased catches due to the gauge increases and trap limits. The Commission is currently preparing an addendum to address this proposal, and it is likely that it could be adopted before the current implementation deadline of July 1, 2008, is reached.

4.2.4.3 *Trap Reductions*

Alternative 2 differs from Alternative 3, the preferred alternative, insofar as this alternative does not incorporate two additional 2.5% trap reductions in 2009 and 2010. Trap reductions would, at some level, have a positive biological effect on the species targeted, i.e., lobster, as well as on other species that might unintentionally interact with lobster gear, such as protected species. As is discussed in Alternative 4.3 below, the precise biological impacts of two 2.5% trap reductions in Area 3 are difficult to quantify with any precision but are not expected to be significant. The two additional 2.5% Area 3 trap reductions are not, at present, part of the Commission's lobster ISFMP. Accordingly, Alternative 2 would not commit the Federal government to additional Area 3 trap reductions that might ultimately fail to pass the Commission level. However, to the extent that the Commission approves the two 2.5 % trap reductions the future, as would be expected since it was brought forth and supported by the Area 3 industry and is included in the Commission's draft Addendum XI for public comment, then NMFS would need to initiate a new rulemaking and being anew because the two additional

reductions are not a part of Alternative 2. The impacts associated with the two additional 2.5% trap reductions are discussed further in Section 4.3, Preferred Alternative.

If Alternative 2 were adopted, NMFS would implement the trap reductions consistent with the time schedule set forth in the ISFMP. In other words, the Commission's plan requires a 10% reduction implemented as two 5% reductions annually during 2007 and 2008, which actually amount to an overall 9.7% reduction. If this action were implemented in the Federal regulations in 2007, NMFS will begin with the first 5% reduction during that year, consistent with the ISFMP. If this option were chosen and new Federal rules become effective in 2008, NMFS would implement the entire 10% reduction during that year to maintain consistency with the Commission's plan and state-recognized trap limits. Under this scenario, NMFS would adjust the deductions to match those associated with two 5% reductions, which would amount to a reduction of approximately 9.7% in one year.

The trap reductions associated with this action are based on Addendum IV to Amendment 3 of the ISFMP. Addendum IV requires a ten percent reduction in trap allocations to be implemented as two 5% reductions over two consecutive years, 2007 and 2008. Besides the *de minimis* states, New Jersey and Connecticut have not implemented the two 5% trap reductions associated with this action nor have they implemented such a requirement through reference to the approved measures of the ISFMP. If NMFS implements this action, then all vessels in Area 3 will be subject to the trap reductions.

Identification of the universe of vessels that could potentially be affected by Federally-implemented trap reductions is not as simple as with the gauge and vent measures. Rather, it is complicated by a discrepancy between the Federal regulations and the ISFMP in the interpretation of how trap allocations are quantified for Federal vessels that fish in multiple management areas with differing trap allocations. When a Federal lobster vessel designates more than one lobster management area on the Federal permit and the areas have differing trap allocations, either due to an overall trap cap set for a management area (*e.g.* Area 1) or due to a vessel-specific history-based trap allocation granted through an eligibility determination (*e.g.* Area 3), Federal regulations restrict the vessel to the lowest allocation of all the areas on the permit. In other words, the vessel's total number of deployed traps in all areas combined cannot exceed the lowest trap allocation for any area the vessel has designated on the Federal permit. A relevant example is a vessel that designates Area 1 (800 traps) and Area 3 on the permit and which qualified for an allocation of 1,000 traps in Area 3. The Federal regulations would restrict this vessel to no more than a combined total of 800 traps in both areas.

Conversely, Addendum IV to Amendment 3 of the Commission's ISFMP altered the manner in which the states interpret what is known as the "most restrictive" rule (ASMFC 2003). Addendum IV intended to mitigate the restrictions associated with multi-area trap allocations. Addendum IV changed the most restrictive requirement to regard a vessel's allocations on an area by area basis, not an overall inter-area allocation based on the lowest of all trap limits associated with the permit. For example, a vessel

with an 800 trap allocation in Area 1 and 300 trap allocation in Area 3 would be allowed to fish no more than 300 traps in Area 3 but could simultaneously fish the balance of 500 traps in Area 1. Or, the vessel could fish any combination of traps in either area as long as no more than 800 traps are deployed at any time, and no more than 300 traps are set in Area 3. Under the Federal regulations, this vessel would be held to no more than 300 traps in all areas. Consequently, some vessels will be impacted by Federal action if their Area 3 allocations fall below their nearshore allocations since, under the Federal interpretation of the most restrictive trap allocation rule, these vessels would endure trap reductions in nearshore management areas due to an Area 3 trap reduction program should they choose to designate Area 3 on the Federal permit.

Table 4.3: Federal Lobster Trap Vessels Affected by State-Implemented Trap Reductions

STATE TRAP REDUCTIONS*			
State	Currently Affected	Currently Not Affected	Total Trap Vessels
ME	21		21
NH	11		11
MA	40		40
RI	46**		46
CT	3**		3
NY	5		5
NJ		10	10
De minimis		3	3
TOTAL	126	13	139

Legend

*Considers total vessels by state. Assumes all would be impacted if state has implemented reductions since all allocations will be reduced.

**State has regulations to implement ISFMP 10% reduction but not industry proposed 5% reduction.

With the exception of 13 vessels hailing from New Jersey and the *de minimis* states as shown in Table 4.3, all vessels would be subject to trap reductions under the state regulations regardless of Federal action. However, if Federal trap reductions are implemented, those 13 Federal vessels are not the only vessels that would be impacted. Table 4.4 shows the extent of impacted vessels on the various stages of trap reductions. Between 22 and 26 vessels that have actively designated Area 3 on their Federal permits have allocations that are below or, as a result to the trap reductions, will fall below their nearshore area allocation. The high end values in each range represent Federal trap vessels that did not designate Area 3 on the Federal permit but have allocations near or below the nearshore trap limits. This is the maximum number of vessels that could be impacted if all designated Area 3 on their respective Federal permits. The analysis assumes that although the majority of these vessels will be subject to trap reductions due to state action alone, they could be further impacted by Federal regulations. The rationale is that in the absence of current trap tag agreements with NMFS that enforce the Federal version of the most restrictive rule, the states could administer the ISFMP version of the

most restrictive allocation rule and implement the trap reductions for these vessels while acknowledging each vessel's differential allocations in Area 3 and another area.

Table 4.4 –Impacts of Annual Trap Reductions on Area 3 Vessels								
# of Impacted Area 3 Trap Vessels	5% Trap Reduction (2007)	% all Area 3 vessels (139)	5% Trap Reduction (2008)	% of Total Area 3 vessels (139)	2.5% Trap Reduction (2009)	% of Total Area 3 vessels (139)	2.5% Trap Reduction (2010)	% of Total Area 3 vessels (139)
Actual/Active	22	15.8%	23	16.5%	24	17.3%	26	18.7%
Potential (est. Max.)	45	32.4%	46	33.1%	47	33.8%	49	35.3%
Range	22 – 45		23 – 46		24 – 47		26 - 49	

By adopting Alternative 2, NMFS could potentially impact between 23 and 46 vessels whose Area 3 allocations are currently or would subsequently fall below their nearshore trap allocations if the two 5% annual reductions are implemented. Since the allocations would fall lower than their nearshore allocations, their allocations in these nearshore areas, under the most restrictive allocation requirement in the Federal lobster regulations, would also reduce their allocation in the nearshore areas.

For example, 40 vessels from Massachusetts have Area 3 allocations (see Appendix 1, Impacted Trap Vessels by State). All 40 would be subject to two 5% reductions if NMFS adopted this alternative. After the first 5% reduction in 2007, ten vessels will have allocations that are either below or will subsequently fall below 800 traps; the standard trap allocation for the two common Massachusetts nearshore management areas, Area 1 and Area 2. Four of these vessels have not actively designated Area 3 on their permit and if they continue in this manner, the federally-implemented trap reductions will not impact their trap allocations in nearshore areas. This leaves six vessels in year 1, increasing to seven in year 2, whose allocations will be below 800 traps either before or as a result of the trap reductions. The vessels with larger Area 3 allocations that do not fall below 800 in this case are impacted by the state reductions regardless of Federal action, and the vast majority fish only in Area 3 due to their relatively high trap allocations. Carrying this example forward, as shown in Table 4.4, between 23 and 46 Area 3 trap vessels (16.5%-33.1%) would be impacted due to Federal action. This, however, is not regarded as a significant impact since the more realistic number that would be impacted is expected to be closer to the lower end of the range, at about 23 vessels, since these permits have recently designated to fish in Area 3. The trap reductions in this case are not expected to result in lower catches of lobster for these vessels. NMFS is still analyzing the most restrictive trap allocation rule in a separate rulemaking and is considering the Commission's revised interpretation of this measure as it relates to trap limits for multi-area vessels.

4.2.5 Socio-Economic Impacts – Non-Trap Sector

4.2.5.1 Gauge Increases

The impact of Alternative 2 on non-trap gear fishermen is negligible. None of the vessels fishing from *de minimis* states or Connecticut and subject to state or Federal reporting requirements have reported lobster landings with non-trap gear. Therefore, if the NMFS schedule of gauge increases for Area 3 as identified in this alternative is implemented, these 15 non-trap vessels known to have fished in Area 3 would be subject to the gauge increases beginning 2007. However, since there is no indication that these vessels are landing lobster, there is no perceived impact on them.

4.2.5.2 Escape Vent Size Increase

The non-trap gear sector of the fishery is not subject to the trap gear measures evaluated here, so there are no perceived positive or negative impacts on the non-trap sector due to trap-related management measures.

4.2.5.3 Trap Reductions

The trap reductions are not relevant to the non-trap sector of the Area 3 lobster fishery.

4.2.6 Protected Resources Impacts

4.2.6.1 Gauge Increase and Escape Vent Size Increase

The gauge increases are not perceived to have any impact on large whales or other protected resources because these management measures have no direct relationship to lobster fishing activity, nor do they relate to the endangerment, bycatch or entanglement of large whales or other protected species.

4.2.6.2 Escape Vent Increase

As with the gauge increases, the escape vent size increase is not perceived to have any impact on large whales or other protected resources because these management measures have no direct relationship to lobster fishing activity, nor do they relate to the endangerment, bycatch or entanglement of large whales or other protected species.

4.2.6.3 Trap Reductions

If this option were chosen, the result would likely be beneficial to large whales and other protected marine mammals since the trap reductions will further limit the potential number of traps that could be fished in Area 3, thereby, over time, minimizing the threat of entanglement to large whales and other protected species. The trap reductions would benefit affected protected species by reducing the number of vertical buoy lines in the water as well as ground lines that connect traps. Right whales and other endangered large whales are known to become entangled in these lines, and reductions in the lines may reduce interactions with these species, consistent with the measures in the Atlantic Large Whale Take Reduction Plan.

Based on the recommendations in Addendum I to Amendment 3 of the ISFMP, NMFS implemented a history-based eligibility and trap allocation program on the Area 3 trap fishery in 2003. This resulted in 139 total Federal lobster vessels eligible to fish with traps in Area 3, with vessel-based trap allocations ranging between 200 and 3,250 traps per vessel. A schedule of annual trap reductions through 2006 reduced all allocations to no more than 2,267 traps and brought the total potential number of allowable traps in Area 3 to 172,627 traps at any one time. Despite Federal action, the ISFMP requires states to implement a 5% trap reduction in both 2007 and 2008 with the reductions summarized in Table 4.3. Thirteen trap vessels hailing from New Jersey and the *de minimis* states would not be subject to these reductions without Federal action. Therefore, as described in Section 4.1.6, the reductions to the allocations of these 13 vessels will reduce the potential number of traps in Area 3 by 1,656 traps. This equates to approximately 81,400 meters of groundline and 74 vertical lines that would potentially be removed from the fishery.

Within the context of Alternative 2, the reductions would result in a decrease in the overall number of traps that could be fished in Area 3 and could benefit large whales and other marine mammals by reducing the chance for interaction or entanglement with lobster gear. Since many eligible Area 3 vessels have opted not to fish in Area 3 with traps and others are not fishing their full allocations, the trap reductions may not result in real-time reductions in the number of traps fished. However, there is the opportunity for these latent traps to be fished in the future. Therefore, any trap reductions now may reduce risks to marine mammals later if latent traps are put into service.

Table 4.5 – Area 3 Trap Reduction Schedule Based on Adopted Measures			
YEAR	0	1	2
	2006	2007 (-5%)	2008 (-5%)
# REDUCED	N/A	8,631	8,200
TOTAL TRAPS	172,627	163,996	155,796

Conclusion

The impacts of implementing non-preferred Alternative 2 are essentially the same as those associated with the No Action Alternative 1. However, Alternative 2 does not consider the full extent of the trap reductions as recommended by the Area 3 lobster trap fishery. It is likely that the Commission will eventually adopt the two additional 2.5% trap reductions proposed in Alternative 3 – the Preferred Alternative. Although these additional reductions will be, to a limited degree, more beneficial to the resource over time and allow for continued trap reductions to the greatest extent feasible within the scope of this action. Selection of this alternative would help to breach the divide between state and Federal lobster regulations in the short term but would likely result in a continued rift should the Commission move, as expected, to adopt the additional industry proposed trap reductions and delay of the escape vent size increase.

4.3 Alternative 3: Modified Area 3 Measures - (Preferred)

With this alternative NMFS would: implement the Area 3 gauge increases with the year 1 minimum size equal to the current minimum size in the ISFMP and to 3 ½ inches by 2008; implement the escape vent size increase in 2010, consistent with Area 3 industry proposal; implement a 5% trap reduction in 2007 and again in 2008; schedule the two additional 2.5% trap reductions for 2009 and 2010 as recommended to the Commission by the Area 3 LCMT and currently under review by the Commission.

This alternative would increase the gauge to a size to be consistent with the ISFMP and hold Area 3 lobster trap fishers, all of which are Federally-permitted, to an additional round of trap reductions to further restrict fishing effort and the utilization of latent traps in the offshore fishery. Although these additional trap reductions have not yet been approved by the Commission, it is expected that they will be given the request to do so by the Area 3 trap industry. NMFS sees the opportunity to avoid a delay in implementing these additional reductions in the future should the Commission adopt them into the ISFMP by analyzing them now alongside similar measures that warrant concurrent examination.

Delaying the escape vent size increase would not be consistent with current ISFMP measures but, like the additional gauge increases, this industry-sponsored proposal is under review by the Commission and likely to be adopted. The measure will offset potential impacts on the trap sector of the fishery due to the gauge increases and will likely not impact fishing mortality.

4.3.1 Biological Impacts

4.3.1.1 Gauge Increases

The gauge increase schedule for this preferred alternative differs from that of Alternative 2 in that it results in NMFS implementing the same minimum size that is currently enforced by the states, rather than phasing in the increases over a four-year period. To choose the latter would continue the disparate state and Federal gauge sizes in Area 3. The resulting confusion and inconsistency in enforcement of these measures would undermine the ability of the stock and the industry to benefit from the anticipated egg production increase and fishing mortality reduction that the gauge increases are intended to yield. Therefore, implementing a consistent gauge size concurrent with that in place in the ISFMP and enforced by the states would be the most reasonable alternative, facilitating enforcement and resource conservation while eliminating confusion among managers, industry and enforcement officials by implementing a standard minimum size for all Area 3 lobster fishers. The potential long-term biological benefits, albeit small due to the small number of vessels impacted by Federal action, would outweigh any negligible economic gains that may be afforded the fishery by phasing in the gauge increase schedule over a four-year period.

4.3.1.2 Escape Vent Size Increase

The ISFMP calls for states, and recommends that NMFS, implement an escape vent size to 2 1/16 inches X 5 3/4 inches rectangular or two 2 11/16 circular vents in each trap by 2008. All the states, with the exception of Connecticut, New Jersey and the *de minimis* states have done so. Therefore, regardless of any Federal action, as many as 123 of 139 (88%) of the trap fleet in Area 3 will be subject to the Commission's mandate. Should NMFS implement this measure, the 88% will still be subject to the increase by 2008, but no more than the 16 remaining vessels would benefit from the delay until 2010. Regardless, the biological impact of allowing no more than 16 vessels to delay installation of the new vents is negligible. Though the larger vents may allow for the escapement of some legal and all sub-legal lobster, the gauge increases proposed here, in concert with those implemented by the states, will control the harvestable size, and any benefits to these 16 vessels from the smaller vents are expected to be minimal. Further, since the delay of the vent is an industry proposal currently before the Commission for review, the Commission is likely to adopt the delay. In anticipation of such action and given the aggressive management measures promoted by industry and adopted into the ISFMP to benefit the resource, a delay until 2010 is the most reasonable alternative. Should NMFS fail to adopt it now, the cycle of disparate state and Federal regulations will continue should the Commission choose to delay this measure in the near future.

4.3.1.3 Trap Reductions

This alternative would implement additional trap reductions in excess of what has already been approved by the Commission and included in the Board's recommendations for Federal implementation. However, with the exception of the *de minimis* states, Connecticut, Rhode Island and New Jersey, all other states have incorporated these additional reductions in the regulations by reference to the ISFMP. The Federal permit holders from the remaining states amount to a total of 62 trap gear vessels that may not be subject to these reductions if their respective states (excluding *de minimis* states = 3 vessels) did not implement them once adopted into the ISFMP as expected and mandated for state compliance (Table 4.6). Although not yet adopted by the ISFMP, the Board is currently considering these additional trap reductions, consistent with the advice of the stock assessment peer review panel that cautioned against increasing trap effort in the offshore fishery.

Table 4.6 –Federal Lobster Trap Vessels Impacted by Industry Proposed Trap Reductions			
STATE TRAP REDUCTIONS*			
State	Currently Affected	Currently Not Affected	Total Trap Vessels
ME	21		21
NH	11		11
MA	40		40
RI		46**	46
CT		3**	3
NY	5		5
NJ		10	10
<i>De minimis</i>		3	3
TOTAL	77	62	139
<u>Legend</u>			
*Considers total vessels by state. Assumes all would be impacted if state has implemented reductions since all allocations will be reduced.			
**State has regulations to implement ISFMP 10% reduction but not industry proposed 5% reduction.			

If this alternative is chosen and the additional reductions are adopted by the Commission and all states, the final maximum number of traps allocated for Area 3 would be reduced to 148,103 traps. This amounts to a 14.23% reduction from the current allowable level (Table 4.7).

Table 4.7 – Proposed & Adopted Area 3 Trap Reduction Schedule					
YEAR	0	1	2	3	4
	2006	2007 (-5%)	2008 (-5%)	2009 (-2.5%)	2010 (-2.5%)
# REDUCED	N/A	8,631	8,200	3,895	3,798
TOTAL TRAPS	172,627	163,996	155,796	151,901	148,103

The 62 vessels that would not be covered if their states fail to implement these additional reductions have allocations that would total 76,961 traps at the end of the second 5% reduction in 2008. Therefore, Federal action would reduce these allocations by about 5% over the following two years, amounting to the potential elimination of approximately 3,800 traps that would not otherwise be removed without Federal action. However, if the Commission adopts these additional trap reductions, most states will likely follow suit. Such action could require the currently unaffected vessels to comply under state regulations and be subject to these reductions regardless of Federal action.

Table 4.8 – Vessels Affected in States Without Industry Proposed Reductions					
State	CT	RI	NJ	<i>de minimis</i>	Total
# vessels	3	46	10	3	62
year 2 allocation	2,843	59,126	11,984	3,008	76,961
year 4 allocation	2,703	56,207	11,390	2,859	73,159
Reduction (traps)	140	2,919	594	149	3,802

If NMFS chooses this action and the Commission and states subsequently do not choose the two additional 2.5% reductions, then all 139 Area 3 lobster trap vessels would be impacted by NMFS action. Accordingly, these vessels would reduce their allocations by 7,693 traps, the difference between the total trap value in 2008 versus 2010 (see table 4.7).

This full suite of trap reductions has the potential to provide the most benefits to the resource than just the Commission’s two 5% reductions because these additional reductions prevent the use of latent traps under the overall allocation and may remove traps from the water altogether. This will benefit the resource by controlling effort in the fishery, restricting further effort expansion and possibly reducing fishing mortality.

Some have debated whether trap reductions could, in fact, increase lobster fishing mortality since these leaner allocations would give the vessel more time to haul the gear, and perhaps haul more often on a given trip. It is also speculated that fishermen will be more selective in setting the gear, increasing the efficiency of the operation and resulting in larger catches. There is little evidence to equate fishing mortality with numbers of traps, especially in Area 3 where, despite multiple measures to limit and control fishing effort, trap numbers remain relatively large and latent effort exists. However, it could be assumed that an optimal level of catch per unit effort exists, although it is difficult to quantify in the offshore fishery due to limited data on harvest rates per vessel. However, trap reductions are not expected to increase fishing effort in Area 3. Most offshore operations have little flexibility in the amount of time they spend on the grounds and tend to haul as many traps as they can before other factors such as weather, fuel and market concerns drive them ashore. It is expected that most offshore vessels are already fishing their full allocations, but trap reductions will prevent latent traps from entering the fishery and could also result in the removal of active traps from Area 3.

The ISFMP, with the support of the industry, has embraced the concept of trap reductions as a means of controlling effort and expansion into the offshore fishery, as well as in Areas 2, 4, 5, 6 and the Outer Cape Management Area. NMFS has responded, as have the states, in implementing history-based trap allocations in multiple management areas to control effort. The reductions assessed in this action, whether implemented by the Federal government or not, could decrease the overall Area 3 allocation of traps by as much as 15%. Despite any hard evidence that fewer traps will increase mortality, and

given the potential benefits to marine mammals that may result from trap reductions, trap reductions seem to be an acceptable means of moving forward with a management regime that is both palatable to industry and consistent with the ISFMP.

4.3.2 Habitat Impacts

4.3.2.1 Gauge Increases

The gauge increases will offer no positive or negative affects to lobster habitat.

4.3.2.2 Escape Vent Increase

The escape vent increase delay until 2010 will not impact lobster habitat.

4.3.2.3 Trap Reductions

This option, of all three alternatives, has the most potential benefit to lobster habitat because it will provide the maximum amount of trap reductions available under the industry-supported management regime. It is unclear whether traps will actually be removed from the water as a result, but this will cap the overall number of potential traps in the fishery and afford the best protection to habitat by further limiting the number of traps that may be fished in Area 3.

4.3.3 Bycatch

4.3.3.1 Gauge Increases

A federally-implemented series of gauge increases will not substantially affect the bycatch of illegal or sublegal lobster or other species since the majority of the Area 3 lobster fishery is already subject to these measures. Some negligible amount of lobster may avoid capture by requiring the balance of the offshore fleet to be covered under the ISFMP gauge schedule. Although the biological benefits are expected to be small, it will ensure that the entire fishery is held to the same minimum size. The chances of encountering lobster smaller than 3 ½ inches in Area 3 are slight, but this measure will require all smaller lobster to be released and potentially assist in overall egg production and broodstock protection.

4.3.3.2 Escape Vent Increase

This alternative would delay the escape vent increase until 2010. However, in the meantime the gauge will increase to 3 ½ inches by 2008. Due to the few lobster below this size that are encountered in the vicinity of the GBK stock area, the delay of the vent increase is not expected to impact or increase lobster mortality. Also, if the Commission does not adopt the delayed increase, only about 16 vessels would be exempt from installing the larger vents. This small percentage of the fishery is not expected to have an impact on the bycatch of lobster or other species.

4.3.3.3 Trap Reductions

Although this option affords the best opportunity for trap reductions, the extent of the reductions are contingent upon Commission adoption of the two additional 2.5% trap reductions. Even if all vessels are required to reduce their allocations, it is unknown to what degree it will impact the number of active traps in Area 3. However, it does offer the best benefits to bycatch by controlling the number of traps that can be fished, thereby offering some indirect benefits to bycatch reduction.

4.3.4 Socioeconomic Impacts – Trap Gear Sector

4.3.4.1 Gauge Increases

This alternative would require about 6 trap vessels to comply with the gauge increase schedule beginning in 2007. It is likely that of these 6 vessels, the 3 Connecticut vessels would likely be subject to these requirements anyway since Connecticut is expected to comply with the ISFMP. Overall, the impacts focus on the few trap vessels from *de minimis* states that may fish for lobster in Area 3. These, like all vessels in the offshore fishery, fish on a larger-sized stock of lobster and will unlikely be significantly impacted by the gauge increases. In addition, the comparative costs of these vessels in lost lobster revenues, if they are even fishing in Area 3, are negligible compared to the approximately 14 million lbs. of lobster harvested annually from the EEZ.

4.3.4.2 Escape Vent Increase

Under this alternative, the escape vent increase will be effective by 2010 after the full suite of gauge increases has been implemented. If the Commission fails to delay the escape vent size increase, the majority of the Area 3 vessels would be subject to the escape vent increase currently set for implementation in 2008 and required for state implementation. Therefore, in this circumstance, no more than 16 vessels would experience the delay in the vent increase at no detriment to the resource or the industry given the small percentage of impacted vessels.

Although the proposed vent size does correspond to the 3 ½ inch carapace length to allow for some legal-sized lobsters the opportunity to exit the trap, the lobster industry has recommended that this measure be delayed to allow the industry and the resource additional time to adjust to this measure, which could mitigate the effects of trap reductions and gauge increases on the industry. Despite the delay, once implemented the larger escape vent will allow more legal-sized lobsters to escape the traps and mitigate cannibalism and other non-fishery related forms of mortality.

If the Commission chooses not to adopt the delay, then all 139 Federal lobster vessels would be impacted by foregoing, for two years, the economic costs of replacing the vents and the opportunity costs that could result from retaining more legal-sized lobsters. However, even if this alternative is chosen and the escape vent requirement is delayed, the associated costs would be minimal with respect to both the resource and the industry because the vast majority of Area 3 lobster trap vessels would be subject to the state-enforced escape vent size increase, regardless of whether the Commission maintains the current 2008 requirement or postpones it until 2010.

4.3.4.3 Trap Reductions

If the Commission chooses not to implement the two additional 2.5% trap reductions proposed here, then all 139 Federal lobster vessels would be impacted by this alternative. As stated throughout this chapter, the impacts on the industry of the two Commission-adopted 5% reductions will impact all but a few trap vessels. With NMFS implementation of those two reductions, the entire fleet will be required to reduce their allocations by approximately 9.7% total over the next two years (see Table 4.7).

The two additional 2.5% reductions, in the absence of Commission adoption, will impact all 139 vessels. This could impact landings, but there is insufficient data available to quantify any such losses. The four-year implementation of the reductions may soften any such impacts if fishermen adjust their fishing practices accordingly. However, the reductions are expected to further eliminate any latent effort in the trap fishery but will, likely, result in real time trap reductions for some vessels operating at their full fishing capacity. These additional reductions will result in removing 7,691 additional traps from the overall Area 3 allocation, down to 148,103 (see Table 4.7).

However, should the Commission adopt the additional reductions, and the states that currently do not have regulations to implement these measures do not adopt them, 62 vessels would be impacted by the Federal adoption of Alternative 3 (see Table 4.8). This will bring the number of traps reduced by Federal action to 3,802 traps.

As discussed in Section 4.2, some vessels may be impacted due to Federal trap reductions because their allocations are below, or will fall below, their nearshore trap allocation. This, in turn, will impact the number of traps they can fish in Areas other than Area 3. The majority of these vessels will already have trap reductions due to state-implemented measures, but due to the Federal interpretation of the most restrictive trap allocation rule, these vessels would be impacted in their fishing practices in other areas. As shown in Table 4.4, 26 active vessels (those that designated Area 3 on their Federal permit in 2006) will have allocations that are below or will fall below their nearshore trap limits due to the Federal adoption of this alternative. As many as 49 vessels could be impacted if all vessels activated their Area 3 allocations in the future. Appendix 1 provides the breakdown of vessels impacted by this situation on a state-by-state basis. Due to the fishing practices and multiple areas that these fishermen employ, it is difficult to equate this to any reductions in traps other than to relate the reductions to the “across the board” allocation reductions for all permit holders, with the understanding that not all eligible vessels fish in Area 3, nor do they necessarily fish their entire complement of traps in Area 3. This situation is not considered to result in a significant impact since the more realistic number that would be impacted is expected to be closer to the lower end of the range, at about 26 vessels, since these permits have recently designated to fish in Area 3. The trap reductions in this case are not expected to result in lower catches of lobster for these vessels. NMFS is still analyzing the most restrictive trap allocation rule in a separate rulemaking and is considering the Commission’s revised interpretation of this measure as it relates to trap limits for multi-area vessels.

4.3.5 Socio-economic Impacts – Non-Trap Gear Sector

4.3.5.1 Gauge Increases

There is no perceived economic detriment to the non-trap sector of the industry associated with not implementing the gauge increases over four years. On the contrary, to not implement a gauge increase consistent with the Commission's schedule would likely provide negative impacts to the Area 3 fishery since the majority of Area 3 lobster fishers have already undertaken the necessary measures to comply with state-enforced gauge increases consistent with the ISFMP. To do anything other than begin the gauge increase schedule in step with the current state-enforced measures would undermine the biological benefits of the gauge increases and compromise effective enforcement efforts.

4.3.5.2 Escape Vent Increase

These measures do not impact the fishing practices of the non-trap sector of the industry and therefore, will have no direct positive or negative impact.

4.3.5.3 Trap Reductions

The trap reduction measures do not impact the fishing practices of the non-trap sector of the industry and therefore, will have no direct positive or negative impact.

4.3.6 Protected Resources Impacts

4.3.6.1 Gauge Increases and Escape Vent Size Increase

The gauge increases and escape vent size increases proposed in this preferred alternative are not perceived to have any impact on large whales or other protected resources because these management measures have no direct relationship to lobster fishing activity, nor do they relate to the endangerment, bycatch or entanglement of large whales or other protected species.

4.3.6.2 Escape Vent Increase

A delay of the escape vent increase until 2010 will have no discernible effects on protected resources.

4.3.6.3 Trap Reductions

If the Commission adopts the two additional trap reductions, an overall Area 3 reduction of 24,524 traps would be realized if all states implement management measures to require the reductions. This would reduce the Area 3 allocation by an additional 7,693 traps over the current reduction schedule in the ISFMP. If the states that do not currently have regulations to enforce these reductions do not choose to implement them, NMFS, in choosing the preferred alternative, would reduce the allocations of 62 currently unaffected vessels by about 3,800 traps (see Table 4.8).

If the Commission does not adopt these reductions, then it is likely the states will not as well. Therefore, potentially all 139 Federal lobster vessels eligible for Area 3 would be impacted by Federal action and would result in a federally-mandated reduction of 7,693 traps.

Therefore, depending on the action of the Commission and the states, Alternative 3 could require a reduction of between 3,800 traps for 62 vessels, or 7,693 traps for all 139 vessels combined. The range of reductions is equivalent to between 84 and 171 lobster trawls (assuming 45 traps per trawl). Estimating about 2,200 meters of ground line per trawl, this could reduce the potential amount of ground line by somewhere between 184,800 and 376,200 meters. The range of vertical buoy lines removed, considering two per trawl, would be between 168 and 342 vertical lines.

This option allows for the maximum amount of trap reduction potential of all three alternatives and its overall effectiveness is contingent upon Commission approval. A combined Commission and Federal adoption of these additional trap reductions could, overall, affect latent and perhaps some active effort by reducing the overall Area 3 trap allocation by an additional 7,693 traps. Comparatively, reductions due to Federal action through adoption of Alternative 2 would reduce the allocations of 13 vessels overall by about 1,656 traps and any benefits of the additional 4.7% reduction (7,693 traps) would not be realized. Therefore, this alternative provides the greatest option for trap reductions and would thus represent the best choice for reducing interactions with large whales and other protected species which can become entangled in lobster trap gear.

Conclusion

The ISFMP calls for additional measures to end overfishing and rebuild lobster stocks. The most recent stock assessment points out the relatively high levels of lobster fishing effort on the Georges Bank stock and the depleted stock abundance and recruitment and high fishing mortality rates for the Southern New England stock. Additional management measures for Area 3 are timely with respect to the recommendations in the stock assessment and are critical since Area 3 includes portions of all three American lobster stock areas. This preferred option would best address the concerns of the stock assessment and call for action to reduce effort and provide for broodstock protection because, simply, it would bring all Federal lobster permit holders under the same set of regulations. As previous sections of this chapter have explained, the impacts associated with no action, or limited action, will have a negligible affect on the biology of the lobster resource since nearly the entire fishery is, or will be, bound to the suite of Area 3 management measures adopted into the ISFMP. However, this alternative will facilitate the effective management of the resource by providing a standard gauge size for all Federal lobster vessels that fish in, or elect to fish in, Area 3. The states, as the Commission's Lobster Board with input from public sector scientists and the Area 3 lobster industry, have indicated the need for these additional gauge increases to further conserve the offshore lobster fishery and ensure its sustainability. The Commission has recommended that the Federal government adopt these gauge increases into the Federal regulations to assist in this goal. By adopting these gauge

increases in Area 3, NMFS will support the Commission’s ISFMP in the conservation of the resource with compatible measures for fishery management.

Although delayed under this alternative, the vent increase will offer a more palatable option for a sector of the industry that has been relatively proactive in developing and promoting its own regulatory program: the epitome of area management. In the meantime, the gauge increases will afford protection to legal lobster that are not able to escape from the current vents. Finally, this alternative exceeds the Commission’s adopted trap reductions and seizes the opportunity, on the prompting of industry to address scientific concerns associated with fishing effort, to further ensure that latent and real-time effort are controlled to the maximum degree available under the current management scenario. Table 4.8b compares the impacts of each alternative on the Valued Ecosystem Components (VECs) associated with the American lobster resource.

Table 4.8b: Impacts of Alternatives on Valued Ecosystem Components (VECs)

VEC	Impact of No Action Alternative – (Non-preferred)	Impact of Commission Area 3 Measures – (Non-preferred)	Impact of Modified Area 3 Measures – (Preferred)
Managed Resource	Neutral to Positive	Neutral to Positive	Neutral to Positive
Non-target Species	Neutral	Neutral	Neutral
Habitat	Neutral	Neutral	Neutral
Protected Resources	Neutral to Positive	Neutral to Positive	Neutral to Positive
Human Communities	Short-term-Negative to Positive; Long-term-Positive	Short-term-Negative to Positive; Long-term-Positive	Short-term-Negative to Positive; Long-term-Positive

4.4 Cumulative Effects Analysis

A cumulative effects analysis (CEA) is required by the Council on Environmental Quality (CEQ) (40 CFR part 1508.7). The purpose of CEA is to consider the combined effects of many actions on the human environment over time that would be missed if each action were evaluated separately. CEQ guidelines recognize that it is not practical to analyze the cumulative effects of an action from every conceivable perspective, but rather, the intent is to focus on those effects that are truly meaningful. The following remarks address the significance of the expected cumulative impacts as they relate to Federal permit holders in the American lobster fishery.

4.4.1 Consideration of the VECs

In section 3.0 (Description of the Affected Environment), the valued ecosystem components (VECs) that exist within the American lobster fishery environment are identified, and the basis for their selection is established. The significance of the cumulative effects will be discussed in relation to the VECs listed below.

1. Managed resource (American lobster)
2. Non-target species
3. Habitat including EFH for the managed resource and non-target species
4. Endangered and protected species
5. Human communities

4.4.2 Geographic Boundaries

The analysis of impacts focuses primarily on actions related to the harvest of lobster in LCMA 3. The core geographic scope for the managed resource, non-target species, habitat, and endangered and protected resources can be considered the overall range of these VECs in LCMA 3 in the Western North Atlantic Ocean. The geographic boundaries for human communities are the U.S. fishing communities in coastal areas in states from Maine to North Carolina (see section 3.3.1—Community Overview) which are directly involved in the harvest or processing of the American Lobster resource.

4.4.3 Temporal Boundaries

The temporal scope of past and present actions for the American lobster resource, non-target species, habitat and human communities is based on the actions since the establishment of a control date for the Federal American lobster fishery by the NEFMC. A notice published in the Federal Register on March 25, 1991 (56 FR 12366), subsequently established that date as a qualification date to determine eligibility for future access to the Federal lobster fishery. For endangered and other protected

resources, the scope of past and present actions is on a species-by-species basis (**section 3.4—Description of Protected Resources**) and is largely focused on the 1980s and 1990s through the present, when NMFS began generating stock assessments for marine mammals and turtles that inhabit waters of the U.S. EEZ. The temporal scope of future actions for all five VECs, including the measures proposed by this amendment, extends five years into the future. This period was chosen because of the relatively high frequency of adoption of new addenda to the ISFMP by the Commission’s lobster management board. Such action by the Board can have impacts on the VECs associated with the managed resource, making it difficult to predict the potential impacts beyond a five-year period.

4.4.4 Actions Other Than Those Proposed in this Action

Table 4.9 below provides a qualitative summary of the relevant past (P), present (Pr), or reasonably foreseeable future (RFF) actions that may or have affected the VECs identified in this assessment, not including those management measures considered in this environmental assessment.

Past and Present Actions

NMFS has worked with the states, the Commission and the NEFMC since 1978 to manage the lobster resource in Federal waters. Numerous actions have been taken over time to manage the commercial lobster fishery through the Council process until 1997, and through the Commission process after authority for Federal management of the resource was transferred from the MSA to the ACA (**see section 1.2 Legal and Historical Context**). The ACA gives the Secretary the authority to promulgate lobster regulations that are compatible with the Commission’s recommendations for Federal action in the ISFMP and consistent with the National Standards included in the MSA. The 2005 American Lobster Stock Assessment and Peer Review raised concerns about the condition of the three lobster stocks. It found that despite high stock abundance in the GOM, this component of the fishery is based on new recruits which could jeopardize the sustainability of the fishery if the recruitment status changes. It also determined that the Area 514 component of the GOM stock is in poor condition with low recruitment and abundance and fishing mortality. The GBK stock has high abundance and recruitment, although high fishing effort is high and the fishery is highly dependent on new recruits. In SNE, the stock abundance and recruitment are depleted with high fishing mortality and dependence on newly recruited individuals. Despite the cautious findings of the Stock Assessment Report, the majority of the fishery does exhibit somewhat high abundance, particularly in the GOM and GBK stocks. Consequently, due to the proactive and cooperative approach of the interjurisdictional lobster management program, the cumulative impacts of past and present Federal lobster management actions have been mostly positive. To the degree with which this regulatory regime is complied, the cumulative impacts of past, present, and reasonably foreseeable future Federal fishery management actions on the VECs should generally be associated with positive long-term outcomes. Constraining fishing effort through regulatory actions can often have negative

short-term socio-economic impacts. These impacts are usually necessary to bring about long-term sustainability of a given resource, and as such, should, in the long-term, promote positive on effects on human communities, especially those that are economically dependent upon the lobster resource.

Active industry participation in the Commission management process since 1997 has generally helped mitigate the adverse cumulative impacts of past, present and future state and Federal lobster management regulations. Prior to 1978, lobster management varied by state and was unregulated in Federal waters. The first Federal lobster fishery management plan (FMP) was developed in 1978 with industry, state and Federal participation. The FMP was then forwarded directly to the appropriate states, as well as to the New England Fishery Management Council (NEFMC) and Mid-Atlantic Fishery Management Council (MAFMC), newly created in 1976 by the Magnuson-Stevens Act. The Councils reviewed the FMP and, pursuant to the Magnuson-Stevens Act, formally referred the plan to the Federal government with a recommendation for adoption. The Federal Government adopted the FMP as a rule in 1983. Despite having a Federal FMP, uniformity of regulation remained a problem in the lobster fishery, and by 1983, some states still had not implemented the recommended minimum carapace length and others had not implemented the plan's recommended escape vent requirement. The NEFMC continued to manage lobster in the EEZ and amended the Federal FMP five times through the mid-1990s. Noteworthy during this period was the establishment of a 'control date' in the Federal lobster fishery by the NEFMC. A Federal Register notice was published on March 25, 1991, (56 FR 12366) that subsequently established that date as a qualification date to determine eligibility for future access to the Federal lobster fishery that limits the number of participants in the Federal lobster fishery (59 FR 31938).

In the meantime, Congress enacted the Atlantic Coastal Act in 1993. The Atlantic Coastal Act contemplated transition of lobster management from the more federally-oriented fishery management councils created under the Magnuson-Stevens Act to the state-oriented Commission. The logic of the decision is straightforward: since approximately 80% of the fishery for American lobster occurs in state waters, the Federal FMP objectives of maintaining a sustainable fishery and preventing overfishing of the resource could not be achieved effectively by Federal action alone. NMFS could no longer ensure that the Federal FMP, which covered only Federal waters, was consistent with National Standard 1 of the Magnuson-Stevens Act, which requires implementation of conservation and management measures to prevent overfishing. In December 1997, the Commission issued Amendment 3, and later, on December 6, 1999, when NMFS issued a Final Rule (64 FR 68228) that transferred its Federal lobster fishery regulations from the Magnuson-Stevens Act (50 CFR Part 649) to the Atlantic Coastal Act (50 CFR Part 697), implemented new regulations. These new regulations included: extension of the moratorium on new entrants into the EEZ fishery; designation of lobster management areas; near-shore and off-shore area trap limits; a 5-inch maximum carapace size in the Gulf of Maine; trap size restrictions; a trap escape vent size increase; trap tag requirements; and annual specification of additional management measures necessary to end overfishing and rebuild American lobster stocks. The regulations issued in that Federal Final Rule were designed in keeping with the new regulatory standard of state

primacy as set forth in the Atlantic Coastal Act: 1) that the regulations be consistent with the National Standards set forth in the Magnuson-Stevens Act; and 2) that the regulations be compatible with the Commission's Lobster ISFMP.

Cumulative lobster regulatory impacts are mitigated under the Commission Lobster ISFMP most effectively through the LCMTs and Area-specific management programs. With active industry input in the development of local Area management programs through the Commission LCMT process, measures are more likely to be accepted and appropriate for the Area than a coastwide measure without local support. The flexibility of the Commission adaptive management program through the use of conservation equivalent measures by the Commission can be used to effectively implement resource conservation measures that most effectively mitigate the cumulative impacts on impacted participants. On February 11, 2000, the Commission addressed mitigation measures for dual permit holders under the ISFMP and also recommended that dual black sea bass and lobster permit holders fishing with black sea bass pots in Lobster Management Area 5 be exempted from Atlantic Coastal Act trap gear requirements. NMFS published a Final Rule, to complement Commission mitigation measures for dual Federal permit holders, in the Federal Register March 13, 2001 (66 FR 14500). This regulatory action exempts black sea bass fishers who concurrently hold limited access lobster and limited access black sea bass permits from the more restrictive gear requirements in the lobster regulations when fishing in LCMA 5 if they elect to be restricted to the non-trap lobster allowance while targeting black sea bass in LCMA 5. This regulation also clarifies that lobster trap regulations do not affect trap gear requirements for fishermen who do not possess a Federal limited access American lobster permit. The intent of these regulations is to relieve restrictions on fishers that were unintended, without compromising lobster conservation goals.

NMFS published a lobster Final Rule in the Federal Register on March 27, 2003, (68 FR 14902) amending regulations, in response to the following recommendations made by the Commission: control fishing effort as determined by historical participation in the American lobster trap fisheries conducted in LCMA 3, 4, and 5; implement conservation equivalency trap limits for owners of vessels in possession of a Federal lobster permit (permit holders) fishing in New Hampshire state waters; and clarify lobster management area boundaries in Massachusetts waters. NMFS included in this final rule a mechanism for Federal consideration of future Commission requests to implement conservation equivalent measures and a technical amendment to the regulations clarifying that Federal lobster permit holders must attach federally approved lobster trap tags to all lobster traps fished in any portion of any management area (whether in state or Federal waters). Implementation of the LCMA 3, 4, and 5 fishing effort control program reduced the eligible number of lobster permit holders and maximum trap allocations. Upon completion, this action substantially capped and reduced lobster trap fishing effort in these management areas and set the stage for future management measures to rebuild stocks that had previously been assessed as overfished. This program reduced the number of eligible lobster trap vessels in Area 3 to 139, authorized to fish an overall allocation of approximately 172,000 traps after a four-year trap reduction schedule that ended in 2006. Similarly, the number of Area 4 vessels was reduced to 81, with an

overall allocation of about 80,000 traps. In Area 5, 42 vessels qualified to fish an overall allocation of about 32,000 traps.

In a final rule published in the Federal Register on March 14, 2006, (71 FR 13027) NMFS implemented several new lobster broodstock management measures in response to the recommendations of the Commission in the ISFMP. Specifically, this rule, in part, revised the egg-per-recruit overfishing target timeline and increased the minimum carapace limit from 3 ¼ inches (8.26 cm) to 3 3/8 inches (8.57 cm) in all LCMAs except Area 1, which remains at 3 ¼ inches. The rule also increased the rectangular and circular escape vent sizes in all LCMAs, with the exception of Area 1. It also established a Federal maximum size for female lobster in both Areas 4 and 5, required mandatory v-notching of female egg-bearing lobsters in Area 1, established an overlap zone between Area 5 and Area 3, and required a zero tolerance definition of v-notching in Area 1. Despite the short-term impacts to the industry associated with these regulations, the majority of Federal lobster vessels were already subject to these requirements as implemented at the state level. Therefore, these measures, similar to the situation with the proposed actions in this assessment, directly impacted a relatively small component of the industry and resulted in a framework of consistent regulations at both the state and Federal level, specific to the implemented measures of that particular action. Ultimately, these measures are expected to enhance the condition of lobster broodstock and facilitate egg production to the long-term benefit of the industry and resource.

Overall, the past and present fishery management actions summarized in this section have had a generally positive impact on the managed resource and the associated VECs. The fishing industry has likely endured some short-term economic impacts due to potentially lost revenue from minimum and maximum size increases and the loss of access for some trap fishermen to Areas 3, 4 and 5 when that program capped the number of vessels that could fish in those areas. However, for the most part, Federal lobster permit holders were subject to such restrictions at the state level before compatible measures were implemented at the Federal level; a concept that has reduced the overall impact of Federal lobster regulations on Federal lobster permit holders over the temporal scope of this analysis.

Cumulative effects to the physical and biological dimensions of the environment may come from non-fishing activities. Non-fishing activities, in this sense, relate to habitat loss from human interaction and alteration or natural disturbances. These activities are widespread and may have localized impacts to habitat such as accretion of sediments from at-sea disposal areas, oil and mineral resource exploration, and significant storm events. NMFS reviews these types of effects during the review process required by Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act for certain activities that are regulated by Federal, state, and local authorities. The jurisdiction of these activities is the ‘waters of the United States’ and includes both riverine and marine habitats.

Certain non-fishing activities are known to impact the lobster fishery. Mineral exploration and beach sand replenishment activities are more frequent at the southern end

of the range of the American lobster. Federal permit holders from the southern end of the range would be more likely to be impacted by the preferred alternative and these non-fishing sediment based activities. Water quality issues are known to impact the lobster fishery throughout its range. Adverse resource impacts could result from such non-fishing activities as land-based runoff of toxic materials, petroleum products, or from pesticides or fertilizer after significant storm events. Water treatment plants, primarily near large urban areas, introduce variable levels of chlorine byproducts into the marine environment that may adversely impact lobster. However, most replenishment activities and water quality impacts occur within 3 nm of the beach, and lobster abundance at the southern end of the range is generally much farther offshore. While cumulative effects to the environment may come from non-fishing activities, a database which could facilitate physical and biological habitat covered by American lobster is not available at this time. The development of a habitat and effects database would accelerate the cumulative effects environmental review process and outline areas of increased disturbance.

There were significant impacts to the lobster fishery when large amounts of oil spilled from the vessel *North Cape* on January 19, 1996, and spread throughout many estuaries and inshore and offshore areas of RI. An estimated 2.92 million lobsters washed up on RI beaches and were collected from Point Judith to Charlestown Beach, RI, between January 21 and February 2, 1996. The majority of the stranded lobsters were under 40 millimeters in carapace length. Based on the best available data, approximately 9 million lobsters were killed by the spill. Roughly 82 percent of the lobsters were in their first or second year of life. As part of the oil spill mitigation settlement to address biological impacts on the lobster resource, several programs designed to enhance the lobster population in LCMA 2 are underway, including a broodstock enhancement program that involves compensation to lobstermen for restocking and v-notching an estimated 1.248 million adult legal female lobsters throughout LCMA 2 (NMFS et al. 1999).

There were significant impacts to the lobster fishery when a lobster resource disaster occurred in Long Island Sound in 1999. As described in the lobster SFEIS (67 FR 68128), dated November 8, 2002, a number of fishing operations in Long Island Sound (LIS) reported hauling traps containing a large number of American lobsters, which died soon after capture and transport to tanks or other holding areas. This event occurred entirely in New York and Connecticut state jurisdictional waters of Long Island Sound. There is no specific estimate of the actual lobster mortality levels during this event, although some have reported more than half of the lobsters hauled in commercial and state survey gear were affected. In late 1999, the Secretary of Commerce declared a fishery resource disaster, pursuant to Section 312 (a) of the Magnuson-Stevens Act. Congress approved an emergency appropriation, administered through NOAA, and on July 13, 2000, President Clinton signed the Military Construction Appropriations Act for FY 2001 (P.L. 106-246), which approved \$13.9 million to address the commercial failure of the Long Island Sound lobster fishery. An additional \$1 million in research funds were contributed by the State of Connecticut Bonding Commission to be administered through the Connecticut Department of Environmental Protection Long Island Sound Research Fund. The intent of the research program is to study the impacts and possible

causes of the failure, which will provide information to not only understand the lobster resource disaster but also hopefully to prevent future failure of the LIS lobster fishery. Other less dramatic lobster die-offs have been reported off Long Island in recent years, sometimes attributed to Gaffkemia and shell disease. Given these various occurrences, a systematic environmental source of pollution cannot be eliminated as at least being a contributing factor to episodic lobster die-offs.

The Long Island Sound fishery resource disaster in 1999 resulted in significant financial loss in the bi-state commercial lobster fisheries of both New York and Connecticut. Using the emergency appropriation, NMFS has awarded \$7.3 million in grants (\$3.65 million each) to the States of CT and NY for the following purposes: (1) to pay compensation to individuals for reductions in the number of lobsters caught in the LIS lobster fishery; (2) to provide sustaining aid to affected fishermen; and (3) to provide assistance to communities that are dependent on the LIS lobster fishery and have suffered losses from the resource disaster. Specifically, these funds are being effectively utilized to support activities in the two states, including economic compensation for reductions in fishery income, subsidization of interest costs on existing debts in the LIS fishing community, job retraining, and a trap tag buyback program.

Non-fishing activities that introduce chemical pollutants, sewage, changes in water temperature (*e.g.*, global warming phenomenon), salinity, dissolved oxygen, and suspended sediment into the marine environment pose a risk to all of the identified VECs. As previously discussed in section 3.1.3, water temperatures exert significant influence on reproductive and developmental processes of lobster. Thus, a global change in sea water temperature related to anthropogenic increases in greenhouse gas emissions may have a direct impact on the lobster resource as well as other VECs. Human-induced non-fishing activities tend to be localized in nearshore areas and marine project areas where they occur. Examples of these activities include, but are not limited to: agriculture, port maintenance, beach nourishment, coastal development, marine transportation, marine mining, dredging and the disposal of dredged material. Wherever these activities co-occur, they are likely to work additively or synergistically to decrease habitat quality and, as such, may indirectly constrain the sustainability of the managed resource, non-target species, and protected resources. Decreased habitat suitability would tend to reduce the tolerance of these VECs to the impacts of fishing effort. Mitigation of this outcome through regulations that would reduce fishing effort could then negatively impact human communities. The overall impact to the affected species and their habitats on a population level is uncertain, but likely neutral to slightly negative, since a large portion of these species have a limited or minor exposure to these local non-fishing perturbations.

In addition to guidelines mandated by the ACA and MSFMCA, NMFS reviews these types of effects through the review process required by Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act for certain activities that are regulated by Federal, state, and local authorities. The jurisdiction of these activities is in "waters of the U.S." and includes both riverine and marine habitats.

Reasonably Foreseeable Future Actions

In terms of Reasonably Foreseeable Future (RFF) Actions that relate to the American lobster fishery (Table 4.9), several warrant additional discussion. Primarily another Federal rulemaking and associated environmental impact analysis is underway to address the fishing effort control measures associated with Addenda II through VI to Amendment 3 in the Commission's ISFMP. NMFS notified the public of its intent to conduct this rulemaking in a Federal Register notice published on May 10, 2005, (70 FR 24495) to request comments from the public on a variety of fishing effort control measures, including: limits on future access based on historical participation criteria; procedures to allow trap transfers among qualifiers and impose a trap reduction or conservation tax on any trap transfers; evaluation of trap reduction programs to meet the goals of the ISFMP; revision to "Most Restrictive" trap limits rule and other management area trap limits; and requirements to permanently designate each active Management Area. The extent of the impacts of this rulemaking on the resource and associated VECs are unknown and are currently being analyzed in an EIS. The extent to which these or related effort control measures are implemented at both the state and Federal level will affect the overall impacts of any relevant Federal action.

NMFS is also considering action regarding the Commission's recommendations to incorporate coastwide mandatory reporting procedures for the American lobster fishery. The recommendations came in Addendum X to Amendment 3. Approved on February 1, 2007, this addendum established consistent coastwide monitoring and reporting criteria for American lobster harvest and sales. The addendum comes in response to the 2005 lobster stock assessment that noted insufficient data on catch and landings in the lobster fishery is an impediment to the effective state and Federal management of the fishery. The addendum calls for 100% mandatory dealer reporting and at least 10% mandatory reporting from the harvesting sector. The impacts of this measure will be analyzed in the near future and are currently unknown.

In order for many of the non-fishing actions proposed in Table 4.9 to be permitted under other Federal agencies (such as beach nourishment, offshore wind facilities, etc.), those agencies would conduct examinations of potential biological, socioeconomic, and habitat impacts. The MSFMCA (50 CFR 600.930) imposes an obligation on other Federal agencies to consult with the Secretary of Commerce on actions that may adversely affect EFH. The eight Fishery Management Councils are engaged in this review process by making comments and recommendations on any Federal or state action that may affect habitat, including EFH, for their managed species.

In addition, under the Fish and Wildlife Coordination Act (Section 662), "whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever, including navigation and drainage, by any department or agency of the United States, or by any public or private agency under Federal permit or license, such department or agency first shall consult with

the United States Fish and Wildlife Service, Department of the Interior, and with the head of the agency exercising administration over the wildlife resources of the particular State wherein the activity is taking place. This act provides another avenue for review of actions by other Federal and state agencies that may impact resources that NMFS manages in the reasonably foreseeable future.

Table 4.9a: Impacts of Past (P), Present (Pr), and Reasonably Foreseeable Future (RFF) Fishery-Related Actions on the five VECs (not including those actions considered in this action).

Action	Description	Impacts on Managed Resource	Impacts on Non-Target Species	Impacts on Habitat and EFH	Impacts on Protected Species	Impacts on Human Communities
P, Pr Original Council Lobster FMP; Commission ISFMP and Subsequent Amendments and Addenda to the ISFMP (1991 to 2006)	Established fishery management plan for sustainable conservation of the American lobster fishery and resource.	Direct Positive Regulatory tool available to rebuild and manage stocks	Indirect Positive Limits bycatch through size and gear requirements	Direct Positive Capped numbers of vessels and traps	Direct Positive Capped numbers of vessels and traps consistent with ALWTRP measures	Direct Positive Benefits to domestic businesses
P, Pr, RFF Federal Rulemaking for American Lobster Fishery in Response to Original Council FMP and Commission's ISFMP (1991-2006)*	Promulgated regulations for effort control, permitting, eligibility, area management, trap tagging, size limits, broodstock conservation and bycatch limits	Direct Positive Regulatory tool available to rebuild and manage stocks	Indirect Positive Limits bycatch through size and gear requirements	Direct Positive Capped numbers of vessels and traps	Direct Positive Capped numbers of vessels and traps consistent with ALWTRP measures	Direct Positive Benefits to domestic businesses
RFF Lobster Permit Holder and Dealer Mandatory Reporting Program and Commission's ISFMP, 2008	Considers ISFMP measures to broaden and enhance the reporting of lobster landings by lobster fishers and dealers	Uncertain – Likely Positive <i>NMFS is currently in rulemaking and impact analysis is incomplete</i>	Uncertain – Likely Neutral <i>NMFS is currently in rulemaking and impact analysis is incomplete</i>	Uncertain – Likely Neutral <i>NMFS is currently in rulemaking and impact analysis is incomplete</i>	Uncertain – Likely Neutral <i>NMFS is currently in rulemaking and impact analysis is incomplete</i>	Uncertain – Likely Positive NMFS is currently in rulemaking and impact analysis is incomplete
RFF Area 2 Lobster Trap Fishery Effort Control Program	Considers ISFMP measure to cap and control trap fishing effort in Area 2 by qualifying eligible vessels based on trap fishing history	Uncertain – Likely Positive <i>NMFS is currently in rulemaking and impact analysis is incomplete</i>	Uncertain – Likely Positive <i>NMFS is currently in rulemaking and impact analysis is incomplete</i>	Uncertain – Likely Positive <i>NMFS is currently in rulemaking and impact analysis is incomplete</i>	Uncertain – Likely Positive <i>NMFS is currently in rulemaking and impact analysis is incomplete</i>	Uncertain – Likely Positive NMFS is currently in rulemaking and impact analysis is incomplete
RFF Inter-transferable Lobster Trap Allocation Program for Areas 2, 3 and the Outer Cape Management Area	Considers ISFMP measure to develop a program for the transferability of trap allocations among Federal lobster permits	Uncertain – Likely Positive <i>NMFS is currently in rulemaking and impact analysis is incomplete</i>	Uncertain – Likely Positive <i>NMFS is currently in rulemaking and impact analysis is incomplete</i>	Uncertain – Likely Positive <i>NMFS is currently in rulemaking and impact analysis is incomplete</i>	Uncertain – Likely Positive <i>NMFS is currently in rulemaking and impact analysis is incomplete</i>	Uncertain – Likely Positive <i>NMFS is currently in rulemaking and impact analysis is incomplete</i>

* More detailed information and analysis on the multiple actions and impacts associated with these comprehensive measures are available in the NEPA documents created to support these measures. Most recently, an EIS was completed in October 2002 and an EA in February 2006 which support the Federal Government's rulemaking process for American lobster.

Table 4.9b: Impacts of Past (P), Present (Pr), and Reasonably Foreseeable Future (RFF) Non-Fishery Related Actions on the five VECs (not including those actions considered in this amendment).

Note: The potential impact descriptions below are made on a conceptual level since most or all of these actions would likely require NMFS review and analysis on a case by case basis. To avoid any premature judgments on existing or future evaluations, the impacts described below are made in general terms and represent “potential” positive, negative, neutral or uncertain impacts.

Action	Description	Impacts on Managed Resource	Impacts on Non-target Species	Impacts on Habitat and EFH	Impacts on Protected Species	Impacts on Human Communities
P, Pr, RFF 1999 Long Island Sound Lobster Die-off	Die-off of lobster due primarily to lobster parasite (<i>Paramoeba spp.</i>), brought on or exacerbated by other environmental stressors	Direct Negative Resulted in lobster mortality	Uncertain – Likely Neutral to Negative May impact species that rely on lobster as a food source, but no data available to quantify this	Uncertain – Likely Neutral to Negative Decreased lobster activity may upset ecosystem balance and reduce positive impacts of lobster activity on habitat such as burrowing	Uncertain – Likely Neutral to Negative May impact species that rely on lobster as a food source due to increased lobster mortality	Direct Negative Resulted in short- term and unquantifiable long-term economic losses to the LIS lobster industry
P, Pr, RFF Lobster Shell Disease	Bacterial infection of lobster chitin that can kill or seriously injure lobsters	Direct Negative Can kill lobster and impact egg production due to mortality or premature shedding in females	Uncertain – Likely Neutral to Negative May impact species that rely on lobster as a food source if shell disease increases lobster mortality and abundance	Uncertain – Likely Neutral to Negative Decreased lobster activity due to mortality may upset ecosystem balance and reduce positive impacts of lobster activity on habitat such as burrowing	Uncertain – Likely Neutral to Negative May impact species that rely on lobster as a food source if shell disease increases lobster mortality and subsequently decreases abundance	Direct Negative Impacts marketability of whole live lobster and could affect all aspects of wholesale and retail industry
P, Pr, RFF North Cape Oil Spill, Naragansett Bay, RI	Localized pollution due to oil spill	Direct Negative Resulted in lobster mortality	Direct Negative Resulted in mortality of finfish and shellfish	Direct Negative Fouled beaches and polluted water and bottom substrate	Uncertain – Likely Negative Direct contact with fouled matter or food sources would likely have negative impacts	Direct Negative Resulted in short- term and unquantifiable long-term economic losses
P, Pr, RFF Offshore Disposal of Dredged Materials	Disposal of materials dredged to enhance navigation or other human needs	Uncertain – Likely Negative May reduce habitat quality and may directly or indirectly kill lobster or lobster larvae	Uncertain – Likely Negative May reduced habitat quality and directly or indirectly impact marine resources	Uncertain – Likely Negative May directly or indirectly impact marine habitat	Uncertain – Likely Negative May directly or indirectly negatively impact marine mammals, fish, seabirds and associated habitat	Uncertain – Likely Neutral Direct benefits to navigation and other needs are tempered by indirect impacts to marine resources

Table 4.9b Continued. Impacts of Past (P), Present (Pr), and Reasonably Foreseeable Future (RFF) Non-Fishery Related Actions on the five VECs (not including those actions considered in this amendment).

Note: The potential impact descriptions below are made on a conceptual level since most or all of these actions would likely require NMFS review and analysis on a case by case basis. To avoid any premature judgments on existing or future evaluations, the impacts described below are made in general terms and represent “potential” positive, negative, neutral or uncertain impacts.

Action	Description	Impacts on Managed Resources	Impacts on Non-target Species	Impacts on Habitat and EFH	Impacts on Protected Resources	Impacts on Human Communities
RFF Liquefied Natural Gas (LNG) terminals (within 5 years)	Transportation of natural gas via tanker to terminals located offshore and onshore (Several LNG terminals are proposed, including MA, RI, NY, NJ and DE)	Uncertain – Likely Mixed Dependent on mitigation measures. May have short term negative affect on resources but potential no-fish zones could benefit resources over time	Uncertain – Likely Mixed Dependent on mitigation measures. May have short term negative affect on resources but potential no-fish zones could create refuge areas and benefit resources over time	Uncertain – Likely Mixed Dependent on mitigation measures. May have short term negative affect on resources but potential no-fishing zones could benefit resources over time	Uncertain – Likely Mixed Dependent on mitigation measures. May have short term negative affect on resources but potential no-fishing zones could benefit resources over time	Uncertain – Likely Mixed Dependent on mitigation effects. Long term energy benefits may be offset by impacts to resources and limitations to fishing areas due to no-fishing perimeters
P, Pr, RFF Installation of Pipelines, Utility Lines and Cables	Transportation of oil, gas and energy through pipelines, utility lines and cables	Uncertain – Likely Neutral to Negative Dependent on mitigation measures. May cause impediments to movement and migration for lobster and other benthic species	Uncertain – Likely Negative Dependent on mitigation effects. May cause impediments to movement and migration for lobster and other benthic species	Uncertain – Likely Direct Negative Reduced habitat quality, depends on mitigation measures	Uncertain – Likely Neutral to Negative Dependent on mitigation measures	Uncertain – Likely Mixed Direct energy benefits may be partially offset by impacts to marine resources
P, Pr, RFF Offshore Wind Energy Facilities (within 5 years)	Construction of wind turbines to harness electrical power (Several facilities proposed from ME through NC, including off the coasts of MA, NY/NJ and VA)	Uncertain – Likely Mixed Dependent on mitigation measures. May have short term negative affect on resources but potential no-fish zones could create refuge areas and benefit resources over time	Uncertain – Likely Mixed Dependent on mitigation measures. May have short term negative affect on resources but potential no-fish zones could create refuge areas and benefit resources over time	Uncertain – Likely Mixed Dependent on mitigation measures. May have short term negative affect on resources but potential no-fishing zones could benefit resources over time	Uncertain – Likely Mixed Dependent on mitigation measures. May have short term negative affect on resources but potential no-fishing zones could benefit resources over time	Uncertain – Likely Mixed Dependent on mitigation measures. Long term energy benefits may be offset by impacts to resources and limitations to fishing areas due to no-fishing perimeters

Table 4.9b Continued. Impacts of Past (P), Present (Pr), and Reasonably Foreseeable Future (RFF) Non-Fishery Related Actions on the five VECs (not including those actions considered in this amendment).

Note: *The potential impact descriptions below are made on a conceptual level since most or all of these actions would likely require NMFS review and analysis on a case by case basis. To avoid any premature judgments on existing or future evaluations, the impacts described below are made in general terms and represent “potential” positive, negative, neutral or uncertain impacts.*

Action	Description	Impacts on Managed Resources	Impacts on Non-target Species	Impacts on Habitat and EFH	Impacts on Protected Resources	Impacts on Human Communities
P, Pr, RFF Port Maintenance	Dredging of wetlands, coastal, port and harbor areas for port maintenance	Uncertain – Likely Negative Dependent on mitigation effects. Localized decreases in habitat quality and possible direct negative impacts to marine resources	Uncertain – Likely Negative Dependent on mitigation effects. Localized decreases in habitat quality and possible direct negative impacts to marine resources	Uncertain – Likely Negative Dependent on mitigation effects. Localized decreases in habitat quality and possible direct negative impacts to marine resources	Uncertain – Likely Neutral to Negative Dependent on mitigation effects. Localized decreases in habitat quality and possible direct negative impacts to marine resources	Uncertain – Likely Mixed Human benefits of port enhancement may be tempered by potential impacts to marine resources. Dependent on mitigation measures
P, Pr, RFF Marine transportation	Expansion of port facilities, vessel operations and recreational marinas	Uncertain – Likely Negative Dependent on mitigation effects. Localized decreases in habitat quality and possible direct negative impacts to marine resources	Uncertain – Likely Negative Dependent on mitigation effects. Localized decreases in habitat quality and possible direct negative impacts to marine resources	Potentially Direct Negative Dependent on mitigation measures. Localized decreases in habitat quality and possible direct negative impacts to marine resources	Potentially Indirect Negative Localized decreases in habitat quality and possible direct negative impacts to marine resources	Potentially Mixed Positive for some businesses and communities, potential displacement for others
P, Pr, RFF Beach nourishment	Offshore mining of sand for beach enhancement and other uses	Uncertain – Likely Neutral to Negative Localized decreases in habitat quality in mined areas may result in benefits to humans and marine resources in enhancement areas	Uncertain – Likely Neutral to Negative Localized decreases in habitat quality in mined areas may result in benefits to humans and marine resources in enhancement areas	Uncertain – Likely Neutral to Negative Localized decreases in habitat quality in mined areas may result in benefits to humans and marine resources in enhancement areas	Potentially Neutral Dependent upon species involved and focus areas of specific projects	Potentially Mixed Positive for mining companies, beachgoers, businesses, possibly negative for fisheries and marine resources in mined areas

4.4.5 Preferred Action on all the VECS

Because this action would continue to support the goals of the ISFMP, direct and indirect impacts of the measures identified in Alternative 4.3 - the preferred alternative, when combined with other past, present, and reasonably foreseeable future actions, are expected to be positive on the American lobster resource, as summarized below. The cumulative effects of the range of actions considered in this document can be considered to make a determination if significant cumulative effects are anticipated from the preferred action.

Table 4.10: Magnitude and significance of the cumulative effects, the additive and synergistic effects of the proposed action, as well as past, present, and future actions.

VEC	Net Impact of P, Pr, and RFF Fishery Related Actions	Net Impact of P, Pr, and RFF Non-Fishery Related Actions	Impact of the Proposed Action	Significant Cumulative Effects
Managed Resource	Positive (Section 4.4 and Table 4.9a)	Neutral to Negative (Section 4.4 and Table 4.9b)	Neutral to Positive (Section 4.3)	None
Non-target Species	Neutral to Positive (Section 4.4 and Table 4.9a)	Neutral to Negative (Section 4.4 and Table 4.9b)	Neutral (Section 4.3)	None
Habitat	Neutral to Positive (Section 4.4 and Table 4.9a)	Neutral to Negative (Section 4.4 and Table 4.9b)	Neutral (Section 4.3)	None
Protected Resources	Positive (Section 4.4 and Table 4.9a)	Neutral to Negative (Section 4.4 and Table 4.9b)	Neutral (Section 4.3)	None
Human Communities	Positive (Section 4.4 and Table 4.9a)	Slightly Positive to Slightly Negative (Section 4.4 and Table 4.9b)	Short-Term Negative to Positive; Long-Term Positive (Section 4.3)	None

The impacts of this proposed action on the VECs are described in section 4.3. The magnitude and significance of the cumulative effects, the additive and synergistic effects of the proposed action, as well as past, present, and future actions, have been taken into account throughout this section (4.4). The action proposed in this document builds off action taken in with respect to the interjurisdictional management program for the American lobster resource. When this action is considered in conjunction with all the other pressures placed on fisheries by past, present, and reasonably foreseeable future actions, it is not expected to result in any significant impacts, positive or negative. Based on the information and analyses presented in these past Federal actions and this document, there are no significant cumulative effects associated with the action proposed in this document.

5.0 NATIONAL ENVIRONMENTAL POLICY ACT

The National Environmental Policy Act (NEPA) provides a mechanism for identifying and evaluating environmental issues associated with Federal actions, and for considering a reasonable range of alternatives to avoid or minimize adverse environmental impacts. This document is designed to meet the requirements of NEPA.

5.1 Environmental Assessment

The required elements of an Environmental Assessment are specified in 40 C.F.R. 1508.9(b) and are included in this document as indicated below:

Need for Action: Section 1.1

Alternatives Considered: Section 2.0

Environmental Impacts of Proposed Action: Section 4.0

Agencies and Persons Consulted on This Action: Section 9.0

5.2 Finding of No Significant Impact (FONSI)

National Oceanic and Atmospheric Administration Administrative Order 216-6 (NAO 216-6) (May 20, 1999) contains criteria for determining the significance of the impacts of a final fishery management action. In addition, the Council on Environmental Quality regulations at 40 C.F.R. 1508.27 state that the significance of an action should be analyzed both in terms of “context” and “intensity.” Each criterion listed below is relevant in making a finding of no significant impact and has been considered individually, as well as in combination with the others. The significance of this action is analyzed based on the NAO 216-6 criteria and CEQ’s context and intensity criteria. These include:

1) Can the proposed action reasonably be expected to jeopardize the sustainability of any target species that may be affected by the action?

The proposed action is not expected to jeopardize the sustainability of any target species that may be affected by the action. This action, to enhance protection to American lobster in Lobster Conservation Management Area 3 (LCMA 3), will increase the minimum legal carapace size; increase the lobster trap escape vent size; and implement a series of lobster trap reductions. The majority of Federal permit holders are currently bound to abide by the proposed measures under their state lobster regulations. Federal implementation of these measures are not expected to result in a change to fishing practices or fishing effort, because the number of potentially impacted Federal permit holders is limited and, of those impacted, many reside in states south of New Jersey where annual state lobster landings are minimal (do not exceed 40,000 lbs (18,144 kg)).

2) Can the proposed action reasonably be expected to jeopardize the sustainability of any non-target species?

The proposed action is not expected to jeopardize the sustainability of any non-target species that may be affected by the action. The harvest of non-target species, such as black sea bass and scup, by lobster trap gear should decrease in Area 3 due to the proposed increase in the trap escape vent size. Since the rectangular lobster trap escape vent size would increase from 2 inches x 5 3/4 inches (5.08 cm x 14.61 cm) to 2 1/16 inches X 5 3/4 inches (5.24 cm x 14.61 cm) in LCMA 3, and the circular lobster trap escape vent size would increase from 2 5/8 inches (6.67 cm) to 2 11/16 inches (6.83 cm) in diameter when a minimum gauge size reaches 3 1/2 inches (8.89 cm) in LCMA 3, non-target species would likely exit the lobster trap more easily and therefore, their sustainability would not be jeopardized. Similarly, a decrease in the amount of lobster traps authorized to be fished in Area 3 is expected to reduce interactions of non-target species with lobster trap gear.

3) Can the proposed action reasonably be expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat (EFH) as defined under the Magnuson-Stevens Act and identified in FMPs?

The proposed action is not expected to cause damage to the ocean, coastal habitats, and/or EFH. Proposed measures to increase the minimum legal size of lobsters harvested in Area 3 and the associated increase in the lobster trap escape vent size in Area 3 are expected to have no adverse impacts on EFH. The proposed measure to reduce the amount of traps authorized to be fished in Area 3 is expected to reduce the frequency of interactions with habitat and EFH. As described in more detail in Section 4, the potential for a State-Federal gap in lobster regulations in these states to provide an economic incentive to change fishing patterns is likely to be quite limited. Most states already have implemented more restrictive measures so vessels cannot simply seek out less restrictive measures by obtaining a lobster permit from another state due to limited access programs in most states. Further, the practical reality of changing fishing locations in a highly territorial fishery would also limit the extent to which vessels would be able to switch from one area to another. Overall, the measures proposed in this action are not expected to result in a change to fishing practices or fishing effort and are expected to result in neutral effects to the ocean, coastal habitats, and/or EFH.

4. Can the proposed action be reasonably expected to have a substantial adverse impact on public health or safety?

This proposed American lobster action is not expected to impact adversely public health or safety. The proposed measures, including an increase in the minimum legal size and increase in the lobster trap escape vent size, are not expected to change the behavior of the target species or increase the exposure of the target species to activities or materials that would reasonably be expected to adversely impact public health or safety. Since not all lobstermen electing to fish in Area 3 do actually set traps in Area 3, nor do they, when fishing in Area 3, necessarily fish their full authorized complement of traps, the proposed measure to reduce the amount of traps authorized to be fished in Area 3 is not expected to result in an increase in fishing effort that would expose industry participants to increased safety risks.

5. Can the proposed action be reasonably expected to have an adverse impact on endangered or threatened species, marine mammals, or critical habitat of these species?

The proposed Area 3 lobster trap reduction measure and the proposed gauge and escape vent increases, are not expected to adversely impact endangered or threatened species, marine mammals, or their critical habitat. The proposed gauge and escape vent increase measures do not directly impact marine mammal or protected resources and do not change existing regulations for vertical lines or ground lines used with lobster trap gear. The proposed lobster trap reductions in Area 3 should reduce the probability of interactions of marine mammals and protected species with vertical lines and ground lines used with lobster trap gear. All Federal lobster permit holders continue to be bound by all existing Federal measures in place to protect marine mammals and protected species, including gear configuration requirements, and that situation will not change under this proposed action. The implementation of the measures would impact only a limited number of Federal lobster permit holders not currently bound by the proposed measures at the state level, and this action is not expected to result in a shift in fishing patterns that may negatively impact marine mammals or protected resources (see **section 4—Analysis of Impacts**).

6) Can the proposed action be expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.)?

The proposed measures in Area 3 would: reduce the amount of traps authorized to be fished in Area 3; allow sublegal lobsters to exit through larger escape vents; and allow more lobsters to reach reproductive size by an increase in the minimum gauge size. Given the limited context and intensity of these proposed management measures (a maximum of 139 vessels are authorized to fish with traps in Area 3), they are not expected to have a substantial impact on biodiversity and/or ecosystem function.

7) Are significant social or economic impacts interrelated with natural or physical environmental effects?

The majority of lobster landings are being taken from state waters. The proposed Federal regulations would complement similar, already existing state regulations. As noted in Section 4, a review of existing state management measures indicates only a limited number of the total of 3,200 Federal permit holders are not currently impacted at the state level by these proposed measures. In addition, the proposed measures would most likely impact lobster permit holders at the southern end of the range of American lobster, where permit holders are more likely to hold Federal permits for several fisheries. Vessels that fish with traps in these southern areas typically depend primarily on multiple finfish fisheries and do not rely on lobster for their fishing income. Thus, there are no significant social or economic impacts as a result of the proposed action.

8) Are the effects on the quality of the human environment likely to be highly controversial?

The action does not set any new precedent, but the benefits of greater protection to lobsters in Federal waters to complement existing state actions do enhance cooperative management of American lobster in state and Federal waters. The proposed action has its genesis in industry-comprised lobster conservation management teams, was subject to numerous public hearings and meetings, and was approved in a public vote by representatives of the involved states. The action is not expected to result in changes in fishing activity, effort, or significantly impact landings, and there does not seem to be effects on the human environment that are highly controversial or uncertain or that involve unique or unknown risks.

9) Can the proposed action reasonably be expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas?

The proposed action is not expected to result in substantial impacts to unique areas. The proposed measures primarily impact participants at the southern end of the species' range in the Mid-Atlantic region. In the Mid-Atlantic region, Federal lobster permit holders primarily harvest lobsters as a bycatch in areas where various finfish trap fisheries have been in operation for a long period of time. Implementation of these proposed measures is not expected to change industry fishing behavior or encourage Federal permit holders to seek or utilize new and/or unique ecologically critical areas.

10) Are the effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

No; the involved lobster management measures have been in place, initially at the state level, for many decades. The proposed Federal regulations would complement similar, already existing state regulations, and no unique or unknown risks have been identified. At most, less than four percent of Federal lobster permit holders would be impacted by the proposed management measures, primarily at the southern end of the range of the resource where participants do not rely solely on the lobster fishery.

11) Is the proposed action related to other actions with individually insignificant, but cumulatively significant impacts?

The proposed action is not expected to result in cumulatively significant impacts. As described in further detail in section 4.4 — Cumulative Impacts Assessment, the proposed broodstock management measures are not expected to result in a change in fishing activity, fishing effort, or significantly impact lobster landings. The cumulative impacts to participants at the southern end of the range that are reliant on traps to harvest both finfish and lobsters have been mitigated by implementation of a gear requirements waiver program that limits dual black sea bass and lobster permit holders to a fixed daily lobster landing allowance (100 lobsters per day, up to a maximum of 500 lobsters for trips of 5 or more days), but it exempts them from the more restrictive lobster trap gear regulations. Participants at the southern end of the range of the

lobster resource, which are those most likely to be impacted by the proposed measures, generally do not rely on lobster for a significant share of their fisheries income, and these potentially impacted participants are not likely to change fishing patterns. Most states already have implemented more restrictive measures so vessels cannot simply seek out less restrictive measures by obtaining a lobster permit from another state due to limited access programs in most states.

12) Is the proposed action likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural or historical resources?

No; the proposed lobster management measures are primarily impacting a limited number of Federal lobster permit holders, mostly at the southern end of the range of the resource, where participants do not rely solely on the lobster fishery. Benefits of greater protection to lobsters in the Federal waters of Area 3 to complement existing state actions do enhance cooperative management of American lobster in state and Federal waters, yet are not likely to change fishing patterns, nor increase existing fishing effort, and are not likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural or historical resources.

13) Can the proposed action reasonably be expected to result in the introduction or spread of a non-indigenous species?

Since the proposed management measures are not expected to result in a change in fishing activity, fishing effort, or significantly impact lobster landings, the transport, introduction, or spread of a non-indigenous species is unlikely. The potential to provide an economic incentive to change fishing patterns is likely to be quite limited. Most states already have implemented more restrictive measures so vessels cannot simply seek out less restrictive measures by obtaining a lobster permit from another state due to limited access programs in most states. Given state regulations are already implemented in all of the Gulf of Maine states as well as Rhode Island, New York, New Jersey and most of the southern states to restrict additional access in the lobster fishery, a change in fishing patterns is quite limited. Further, the practical reality of changing fishing locations in a highly territorial fishery would also limit the extent to which vessels would be able to switch from one area to another and therefore, it is unlikely the proposed measures would introduce non-indigenous species.

14) Is the proposed action likely to establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration?

The proposed action is not likely to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration. The majority of Federal permit holders are currently bound to abide by the proposed measures under their state lobster regulations. Federal implementation of these measures is not expected to result in a change to fishing practices or fishing effort, because the number of potentially impacted Federal permit holders is very limited and, of those impacted, the majority reside in states south of New Jersey where annual state lobster landings are minimal (do not exceed 40,000 lbs (18,144 kg)).

15) Can the proposed action reasonably be expected to threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment?

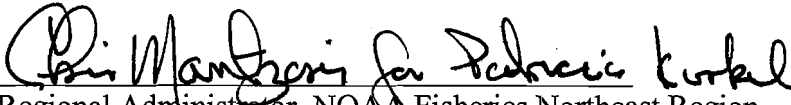
The proposed action is not expected to threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment. A review of existing state management measures indicates less than four percent of a total of approximately 3,200 Federal permit holders are not currently impacted at the state level by the proposed measures. Federal implementation of these measures is not expected to result in a change to fishing practices or fishing effort, because the number of potentially impacted Federal permit holders is very limited and, of those impacted, the majority reside in states south of New Jersey where annual state lobster landings are minimal (do not exceed 40,000 lbs (18,144 kg)).

16) Can the proposed action reasonably be expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?

The proposed action is not expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species. The proposed measures would allow sub-legal lobsters to exit through larger escape vents; allow more lobsters to reach reproductive size by an increase the minimum gauge size; and reduce the amount of traps authorized to fish in Area 3. The clear intent of these measures is to enhance protection to the lobster resource in Area 3.

DETERMINATION

In view of the information presented in this document and the analysis contained in the supporting Environmental Assessment prepared for this action, it is hereby determined that the proposed action will not significantly impact the quality of the human environment as described above and in the supporting Environmental Assessment. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an EIS or SEIS for this action is not necessary.


Regional Administrator, NOAA Fisheries Northeast Region

9/6/07
Date

6.0 OTHER APPLICABLE LAW

6.1 Paperwork Reduction Act (PRA)

The purpose of the Paperwork Reduction Act is to reduce the paperwork burden on the public. The Director of the Office of Management and Budget (OMB) has the authority to manage information collection and record keeping requirements in order to reduce paperwork burdens. This authority encompasses the establishment of guidelines and policies and the approval of information collection requests. The selected management actions in this environmental assessment do not contain new collection-of-information requirements subject to the PRA.

6.2 Coastal Zone Management Act (CZMA)

The principal objective of the CZMA is to encourage and assist states in developing coastal management programs, to coordinate state activities, and to safeguard regional and national interest in the coastal zone. Section 307(c) of the CZMA requires Federal activity affecting the land or water uses or natural resources of a state's coastal zone be consistent with that state's approved coastal management program, to the maximum extent practicable. NMFS provided a copy of this draft environmental assessment and a consistency determination to the state coastal management agency in every state with a federally-approved coastal management program whose coastal uses or resources are affected by these lobster management measures. Each state has sixty days in which to agree or disagree with the determination regarding consistency with that state's approved coastal management program. If a state fails to respond within sixty days, the state's agreement may be presumed. If a state disagrees, the issue may be resolved through negotiation or, if that fails, by the Secretary of Commerce.

The regulatory actions in this document should, if anything, increase consistency between state and Federal regulations. This action was reviewed relative to CZM programs of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, and North Carolina. Letters and a copy of the draft EA were sent to all of the states listed on May 22, 2007, indicating that NMFS concluded that the involved measures would not affect the state's coastal zone and are consistent to the maximum extent practicable with the state's CZM program as understood by NMFS. The majority of the states responded and concurred with the NMFS determination. Those that did not respond within 60 days, as indicated in the letter, were assumed to have concurred with NMFS' determination.

6.3 Section 515 Information Quality Determination

6.3.1 Utility of Information Product

The document includes a description of the alternatives considered and the reasons for selecting the proposed management measures. The proposed measures are intended to meet the conservation and management goals of the ISFMP, consistent with the Magnuson-Stevens Act national standards. This document utilizes the best available information to evaluate the potential impacts of the alternatives considered. The Federal Register notice that announces the final rule and the regulations that will accompany this EA will be made available in printed publication and on the website for the Northeast Regional Office. This document and the notice provide metric conversions for all measurements.

The intended users of the information are individuals involved in the American lobster fishery, such as fishermen, vessel owners and operators, lobster dealers, and processors. Both the final rule and the EA address measures for implementation in the American lobster fishery. The documents are based on the most current information available and were subject to public comment through proposed rulemaking as required under the Administrative Procedures Act.

The proposed rule was made available to the public as a publication in the Federal Register and the final EA and final rule will be available in hard copy format and on the NMFS Northeast Regional Office web site at www.nero.noaa.gov.

6.3.2 Integrity of Information Product

All electronic information disseminated by the NOAA adheres to the standards set out in Appendix III, "Security of Automated Information Resources" OMB Circular A-130; the Computer Security Act; and the Government Information Security Reform Act.

6.3.3 Objectivity of Information Product

The EA and final rule fall under the Natural Resource Plan category. In preparing the documents, NMFS must comply with the requirements of the Atlantic Coastal Act; the Regulatory Flexibility Act, the Paperwork Reduction Act, the Coastal Zone Management Act, the Endangered Species Act, the Marine Mammal Protection Act, the Data Quality Act, the National Standards of the Magnuson-Stevens Act, the National Environmental Policy Act (NEPA), Executive Order 13132 (Federalism), Executive Order 12866 (Regulatory Planning), and other applicable laws.

The document has been developed to comply with all applicable National Standards, including National Standard 2. National Standard 2 states that management measures shall be based upon the best scientific information available. Despite current data limitations as discussed in this document, the conservation and management measures proposed to be

implemented are based upon the best scientific information available. This information includes NMFS dealer weighout and permit data, and the most current stock assessment available. The specialists who worked with these data are familiar with the most recent analytical techniques and with the available data and information relevant to the lobster fishery.

The policy choices (*i.e.*, management measures) to be implemented are supported by the available scientific information, and, in cases where information was unavailable, proxy reference points are based on observed trends in the survey data. The management measures are designed to meet the conservation goals and objectives of the ISFMP, to prevent overfishing, and to rebuild this growth overfished resource, while maintaining sustainable levels of fishing effort to ensure a minimal impact on fishing communities. The supporting materials and analyses used to develop the measures are contained in the document, and to some degree in previous environmental assessments as noted in this document.

The review process for this regulatory action involves the Northeast Fisheries Science Center, the Northeast Regional Office, and NMFS headquarters. The Centers technical review is conducted by senior level scientists with specialties in population dynamics, stock assessment methods, coastal migratory resources, population biology, and the social sciences. Review by Northeast Regional Office staff is conducted by those with expertise in fisheries management and policy, habitat protection, protected species, and compliance with applicable law. Final approval and clearance of the document is conducted by staff at NMFS headquarters and the Department of Commerce.

6.4 Magnuson-Stevens Fishery Conservation and Management Act

6.4.1 National Standards of the Magnuson Stevens Act

Compliance with National Standards - Atlantic Coastal Act requires that Federal regulations be consistent with the national standards of the Magnuson-Stevens Act.

National Standard 1 requires that conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the U.S. fishing industry. By itself, the selected management action will not end overfishing and restore stocks of American lobster, but is part of and will complement an ongoing long-term management strategy to achieve these purposes (NMFS 1999). The degree to which the selected management actions will limit fishing effort and associated lobster mortality is difficult to state with precision. Nevertheless, it is anticipated that the enhancement of American lobster broodstock associated with the selected management action when combined with other lobster management measures, will increase the overall effectiveness of those measures in achieving ISFMP objectives and ultimately end overfishing and rebuild stocks of American lobster under National Standard 1. Additional lobster management measures in both state and Federal waters will be needed in the future in accordance with the resource management requirements addressed by the ISFMP to end resource overfishing. See Section 1.3 - Federal Process and 4.4 - Cumulative Impacts for additional discussion of future state and Federal lobster rulemaking.

National Standard 2 requires that management measures be based upon the best scientific information available. The information base for evaluation of the proposed measures in this action is based upon the best scientific information available and incorporates the scientific review and associated approval by state and Federal lobster scientists through the Commission's Lobster Technical Committee. For example, the March 2005 Commission Stock Assessment Report, provide the basic underpinnings of the proposed action. In addition, current NMFS vessel and dealer reporting data is incorporated in the assessment of impacts for this action.

National Standard 3 requires, as practicable, that an individual stock be managed as a unit throughout its range, and that interrelated stocks be managed as a unit or in close coordination. NMFS believes that the proposed action illustrates the consistency and coordination sought by this National Standard. The three stock areas for American lobster are being managed, throughout the range of the population from Maine to North Carolina, through an area management approach in coordination with state jurisdictional management and Federal management through the Commission's ISFMP and complementary Federal regulations.

National Standard 4 requires that conservation and management measures not discriminate between residents of different states. As a preliminary matter, the principle action is not state specific. That is, all Federal permit holders must adhere to the same qualification criteria regardless of the state from which they hail. Further, the selected management actions for the EEZ were developed in consultation with the Commission and the lobster industry through its LCMT program, and take into account the social and economic distinction among the nearshore and offshore EEZ fisheries. NMFS gave great consideration to the expertise of the LCMTs, whose membership is appointed by the involved states, and who were presumed to have intimate knowledge of how their proposal would affect their state's fishery. Further, despite a dearth of information due to the lack of mandatory reporting, NMFS examined the best available information to discern any unintended discriminatory effect and used its best efforts to create counter measures to guard against such unexpected eventualities.

National Standard 5 requires that, where applicable, conservation and management measures promote efficiency in the utilization of fishery resources. The proposed action is consistent with such a standard. Active industry involvement ensured selection of measures that the majority of the industry supported as most efficient for the industry and effective for conservation of the American lobster broodstock. Additionally, the proposed action would result in more consistent, and thus more efficient, management between state and Federal governments.

National Standard 6 requires that conservation and management measures take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches. The selected management actions takes into account the variations in fisheries, fishery resources, and catches, in consultation with the Commission and industry groups through coordination with LCMTs, and among the inshore and offshore EEZ fisheries. Industry involvement through the ISFMP process ensures flexibility in management of the fisheries, and fishery resource over seven management areas.

National Standard 7 requires that, where practicable, conservation and management measures minimize costs and avoid unnecessary duplication. The implementation of the proposed

measures would ensure state and Federal regulations are compatible, minimize confusion by industry participants, enhance compliance, and avoid duplication.

National Standard 8 requires that, consistent with fishery conservation requirements, conservation and management measures take into account the importance of fishery resources to fishing communities. As a preliminary matter, the action is premised on broodstock enhancement to achieve overfishing objectives, which should, in the long term, maintain the integrity of reliant fishing communities. NMFS examination of available data showed no incongruence with that expectation. Sustained participation of communities and consideration of economic impacts is facilitated through the ISFMP's area management provisions, which allow fishing communities to participate in, and provide public comment on, proposed management measures.

National Standard 9 requires that, to the extent practicable, conservation and management measures minimize bycatch, and to the extent bycatch cannot be avoided, minimize the mortality of such bycatch. In the lobster trap fishery, bycatch of non-legal lobster is addressed through trap configuration requirements such as escape vents and ghost panels, and lobster fishing practices are designed to keep the lobster bycatch alive and therefore, bycatch is returned to the sea alive. The broodstock measures in this action will increase the trap escape vent size in conjunction with an increase in the minimum and further minimize bycatch.

National Standard 10 requires that, to the extent practicable, conservation and management measures promote the safety of human life at sea. The selected management actions will have no anticipated impact on safety at sea, because it would not result in any changes in fishing practices.

6.4.2 Essential Fish Habitat (EFH)

Section 305(b) of the Magnuson-Stevens Act requires all Federal agencies to consult with NMFS' Habitat Conservation Division on any future action that may adversely affect EFH. NMFS conducted an initial EFH consultation on May 28, 1999, in preparation of its FEIS (64 FR 29025) that analyzed promulgating regulatory recommendations from the Commission under the Atlantic Coastal Act rather than from the New England Fishery Management Council under the Magnuson-Stevens Act. At that time, it was concluded that the regulations would not adversely impact EFH for any federally-managed species (see below table).

The measures identified in this action are also not expected to adversely impact EFH. The proposed measures include: an increase in the minimum legal carapace size; an increase in escape vent size; and an approximate 15 percent trap cut in Area 3. Geographical limitations and more restrictive regulation in other management areas are expected to minimize possible effort displacement into other areas. There will be no changes to the size of traps currently fished, only a change in the size of the lobster escape vent required in each lobster trap. Changes in the size of the escape vent will have no physical impact on habitat. The action will result in a reduction in the number of traps authorized to be fished in LMA 3 by 10 to 15 percent over current trap allocations. While limited peer-reviewed research is available on trap gear impacts, the footprint and impact on the bottom of hauling and setting a trap is considered negligible. In addition, a

reduction the amount of traps authorized in LMA 3 should further lessen the physical impact of trap gear on habitat.

Council/Management Authority	FMPs
New England Fishery Management Council (NEFMC)	Multispecies; Sea Scallop; Monkfish, Red Crab
Mid-Atlantic Fishery Management Council	Summer Flounder, Scup, and Black Sea Bass; Squid, Atlantic Mackerel, and Butterfish; Surf Clam and Ocean Quahog
South Atlantic Fishery Management Council	Coastal Migratory Pelagics; Red Drum; Golden Crab
NMFS	Atlantic Highly Migratory Species; Atlantic Billfishes

6.5 Executive Order 12630

The action will not result in a regulatory taking. The chief components of this action would have the benefits in terms of egg production per recruit and yield per recruit that directly responds to the latest scientific data as described in the 2005 stock assessment summarized in Section 3.1 of this EA. As a preliminary matter, there is no physical taking of actual property. Additionally, there would be no taking of any intangible property -- for example, the "right" to fish -- because there is no general property right to harvest wildlife and because NMFS's Federal lobster permits lack the traditional hallmarks of property and are more akin to a revocable license. Further, the action is non targeting and is not retroactive, and reasonable expectations should have been tempered, since the fishery has long been highly regulated and the action is consistent with past regulations. Finally, the action is not expected to alter the fishing practices of Federal permit holders.

6.6 Executive Order 12866

E.O. 12866 requires a review of proposed regulations to determine whether or not the expected effects would be significant, where a significant action is any regulatory action that may:

- Have an annual effect on the economy of \$100 million or more, or adversely affect in a material way the economy, a sector of the economy, productivity, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

- Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
- Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Of these four criteria, the discussion to follow focuses only on the expected magnitude and duration of the economic impacts of the proposed action. The proposed action would be effective in LCMA 3 only and would, over time, increase the minimum gauge size, increase the escape vent size, and implement additional trap reductions. The economic impacts of these measures are difficult to quantify, but are expected to be well below the \$100 million threshold for a significant regulatory action for purposes of the Executive Order. In fact, the economic effects of the preferred alternative are expected to be virtually indistinguishable from that of taking no Federal action since participating states have already implemented or are expected to implement most of the provisions of this proposed action. That is, state action alone that would compel federally permitted vessels to abide by the more restrictive state measures.

The potential impacts of the action are difficult to quantify. The action will raise the minimum gauge in Area 3 to 3 ½-inches by July 2008, require the use of a larger escape vent by 2010, and implement a scheduled reduction in Area 3 trap allocations over a four-year period. Of these measures only the minimum size change would affect all lobsters harvested in Area 3 by either trap or non-trap gear. Based on sea sampling data from calendar years 2004 and 2005, approximately 98 percent of trawl-caught lobsters were at least 3 ½-inches in size. Assuming a similar size distribution for the Area 3 trap fishery and an estimated value of \$63 million from the entire EEZ fishery in 2004 an upper bound estimate of economic impact would be \$1.26 million. Note that the estimated \$63 million includes the value of landings from the entire EEZ so the actual impact on Area 3 revenues is likely to be lower.

The economic impacts of the escape vent change and the trap reductions are uncertain. Escape vents are designed to allow all sub-legal lobsters to be able to exit the trap, but also results in some escapement of legal sized lobsters. Usually, escape vent size changes are made concurrent with changes in minimum size. However, the action will delay implementation of the larger escape vent until two years after establishing the 3 ½-inch minimum size in 2008. This means that for at least those two years retention of legal lobsters would increase which may be sufficient to offset the cost of replacing escape vents by 2010 when the larger size would be required.

The relationship between numbers of traps and landings is complex. A number of adaptations to reduced traps are available to harvesters that would tend to maintain landings at levels similar to what was achieved using more traps. This means that landings do not typically change in the same proportion as traps are reduced consequently the economic impact of the proposed action trap reductions is expected to be relatively low.

6.7 Executive Order 13132

This rule does not contain policies with Federalism implications sufficient to warrant preparation of a Federalism assessment under E.O. 13132.

6.8 Executive Order 13211

Executive Order 13211, which became effective on May 18, 2001, addresses “actions concerning regulations that significantly affect Energy supply, distribution, or use”. To the extent permitted by law, an agency is obligated to prepare a Statement of Energy Effects for those matters identified as a significant energy action. According to E.O. 13211, “significant energy action” means “any action by an agency that promulgates or is expected to lead to the promulgation of a final rule or regulation: (1) that is a significant regulatory action under Executive Order 12866 or any successor order, and; (2) is likely to have a significant adverse effect on the supply, distribution, or use of energy. Based on this criteria, the proposed regulatory actions identified in this EA do not require a Statement of Energy Effects, since these regulatory actions are not likely to have a significant adverse effect on the supply, distribution, or use of energy.

6.9 Atlantic Coastal Act

Presently, American lobster regulations are issued under the Atlantic Coastal Fisheries Cooperative Management Act in Title 50 of the Code of Federal Regulations, Part 697. The lobster regulations under the Atlantic Coastal Act are in keeping with the regulatory standard set forth in the Atlantic Coastal Act: 1) that the regulations be consistent with the National Standards set forth in the Magnuson-Stevens Act and 2) that the regulations be compatible with the Commission’s lobster ISFMP. The measures evaluated in this EA are in keeping with the Atlantic Coastal Act regulatory standard to develop compatible regulations to the Commission’s lobster ISFMP, and, as stated in section 6.4.1, be consistent with the National Standards set forth in the Magnuson-Stevens Act.

7.0 LIST OF PREPARERS OF THE ENVIRONMENTAL ASSESSMENT

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8.0 FINAL REGULATORY FLEXIBILITY ANALYSIS

The action would have a potential affect on the 139 federally permitted vessels with an Area 3 trap allocation. The action would also have a potential affect on federally permitted vessels that elected to fish lobster using non-trap gear of which there were 1,105 in fishing year 2006. Gross sales for any one of these vessels would not exceed the small business size standard for commercial fishing of \$4 million. Therefore, all 1,244 fishing businesses are considered small entities for purposes of the RFA.

Since the action would only change regulations for trap and non-trap vessels fishing in Area 3, only vessels that actually fished or intend to fish in Area 3 would be affected. Available data indicate that 87 of the 139 vessels with an Area 3 trap allocation and 265 non-trap vessels actually landed lobster while fishing Area 3 for a total of 352 small entities (about 30% of the total number of potentially affected permit holders) that have demonstrated recent participation in the Area 3 lobster fishery.

The ASMFC has lead responsibility for managing lobster and developing a regulatory framework for implementation by the individual member states and making recommendations for complementary action by the Federal government. Since all permit holders must be licensed in a state and are bound by the most restrictive measure no matter where they fish, Federal action will have added economic impact only in cases where the Federal regulation would be more restrictive than any given state regulation. The proposed Federal action would implement that would either align Federal regulations with that of already existing state regulations or anticipates highly probable state actions to be taken in the future. For each measure, the discussion below identifies the proposed action as well as alternatives that were considered.

8.1 Increase the Minimum Gauge Size

The ISFMP calls for a scheduled increase of $1/32^{\text{nd}}$ of an inch from $3 \frac{3}{8}$ -inches in Area 3 in 2004 to $3 \frac{1}{2}$ -inches by July 2008. These scheduled gauge increases have already been implemented by all states except for New Jersey, Connecticut and the *de minimis* states. Currently the minimum Federal gauge size in Area 3 is $3 \frac{3}{8}$ -inches. However, since the majority of lobster trap and non-trap vessels are licensed in states that have already implemented the ASMFC recommended size increases for Area 3, only 21 of the participating federally permitted trap and non-trap vessels are currently able to retain lobster at the lower federal minimum gauge. The proposed action would raise the gauge to $3 \frac{15}{32}$ -inches in 2007 and to $3 \frac{1}{2}$ -inches in July 2008. This schedule would replicate what has already been implemented by most states and would affect the 21 participating Area 3 vessels that are currently licensed in states that have not implemented the recommended gauge size.

The economic impact on these vessels is uncertain but is expected to be low for the 6 affected trap vessels and even lower for the 15 affected non-trap vessels. That is, lobsters landed from Area 3 tend to be larger than lobsters landed elsewhere. For example, sea sampling data indicate that 98% of non-trap landings on observed trips was at least $3 \frac{1}{2}$ -inches in both 2004 and

2005. Assuming the size distribution of the trap-gear catch is similar to that of non-trap gear the majority of lobster income by either trap or non-trap vessels would be unaffected by the increase in the Area 3 Federal gauge. However, non-trap vessel impacts are likely to be proportionally lower than that of the trap vessels because lobster comprises only a small percentage of total fishing income for non-trap vessels.

Alternatives to the Proposed Minimum Gauge Size

No Action – Taking no action would not change the economic status of the overwhelming majority of participating Area 3 trap and non-trap vessels. No action would provide some economic relief to the 21 vessels identified above. This alternative was not selected because it would perpetuate an inconsistency between state and Federal regulations in Area 3 as well as creating inequities between the majority of Area 3 participants and the small number of vessels that might benefit from continuing present regulations. Furthermore, continued inconsistency would undermine the effectiveness of the ISFMP in promoting cooperative State-Federal management of the lobster fishery.

Implement Scheduled Size Increases Beginning in 2007 – This alternative would maintain the original schedule of four consecutive gauge size increases beginning with a 1/32-inch increase from 3 3/8-inches in July 2007 and ending at 3 1/2-inches in 2010. As noted previously this alternative would provide some negligible relief to the 21 vessels that are not currently bound by state regulation. This alternative schedule of gauge increases would eventually resolve any inconsistencies between State-Federal regulations, but would not do so until two years later than the preferred alternative and what has already been implemented by most states affecting the majority of participating small entities. This alternative was not selected since the negligible economic benefit to a small minority of small entities would not outweigh the potential to undermine the intended objectives of the ISFMP to achieve consistency between State-Federal lobster fishery management.

8.2 Escape Vent Size

The action would modify the current ISFMP recommendation by delaying implementation of increase in vent size to 2 1/16 x 5 3/4 –inches rectangular or 2 11/16-inches circular until 2010 instead of 2008. This alternative was recommended by the Area 3 LCMT and included in Addendum XI to the ISFMP. Although the Addendum has yet to be approved by the ASMFC, there is a high likelihood that it will be, and implementation with this action would eliminate any delay in Federal implementation.

Delaying the escape vent size would have no affect on non-trap vessels but would provide some economic relief to any vessel that fished traps in Area 3. The larger escape vent size would allow any sub-legal and some legal sized lobsters to escape. Delaying the increase in escape vent size would retain all legal sized lobsters which would provide some compensation for the change in the minimum gauge size since more legal size lobsters would be retained. Note that all vessels would still be required to bear the cost of replacing non-conforming escape vents

but the two-year delay in implementation provide sufficient additional income to offset the cost of replacing escape vents.

Alternatives to the Escape Vent Size Implementation Date

No Action – Taking no action would leave the escape vent in Area 3 at its current size of 2 x 5-inches rectangular or 2 5/8-inches circular. However, since the ISFMP requires that all states implement the larger escape vent size by 2008, the majority of participating Area 3 trap vessels would be required to replace all escape vents with or without Federal action since the majority of states have already promulgated regulations in accordance with the ISFMP. In the absence of Federal action, a total of 16 vessels would be exempted from the 2008 vent size increases as they are currently licensed by states (Connecticut and New Jersey) that have not yet implemented the recommended change in escape vent size. This action would provide some economic relief for those 16 vessels that would not be required to change the escape vent size if the no action alternative was selected. However, selection of the no action alternative would perpetuate inconsistency between State-Federal lobster fishery management and therefore was not selected.

Implement the Escape Vent Size Increase in 2008 - The Commission recommended complementary Federal action was to implement the escape vent size increase in 2008. This alternative would be consistent with the Commission recommendation and would bring all participating Area 3 trap vessels into conformance with state regulatory action at the same time. Compared to the preferred alternative, this alternative would require all vessels to replace all escape vents two years earlier without the potential mitigating effects of the higher retention rates associated with a delay in the escape vent size. Furthermore, if, as expected, the ASMFC does recommend a delay in the escape vents size to 2010 selecting this alternative (*i.e.* to implement the change in 2008) could result in implementation delays that would compromise realization of the intended economic benefits attributable to a delay in the escape vent size increase described previously.

8.3 Trap Reduction

The preferred alternative would implement the Commission recommended reductions in individual trap allocations of 5% in July 2007 and in July 2008. However, the preferred alternative would also implement two additional reductions in individual allocations or 2.5% in 2009 and another 2.5% in 2010. Like the delayed implementation to the escape vent size, the latter two reductions were recommended by the Area 3 LCMT and approval by the ASMFC is considered very likely. Since the majority of states have already implemented the scheduled Area 3 trap reductions for 2007 and 2008 Federal action would not impose any added economic costs on the majority of participating Area 3 trap vessels. Federal action would affect an estimated 13 trap vessels from New Jersey and the *de minimis* states that have not yet implemented the Area 3 trap reductions for 2007 and 2008.

The additional 2.5% reduction in trap allocations scheduled for 2009 and 2010 would affect all Area 3 trap vessel participants. Assuming that these LCMT recommended reductions are adopted by the Commission, the economic effects of Federal action would be no different

than what would be expected if states implemented the additional 2.5% reductions in the absence of Federal action.

Regardless of whether states or the Federal government implement trap reductions the economic impact on small entities is difficult to quantify but may be offset through adaptations to fishing strategies by lobster trap businesses. Fewer traps may reduce fishing time as well as costs without necessarily reducing revenue for some trap operations. There may be differences in impact, however, among Area 3 participants that fish in other LCMAs. Due to the Federal definition of the most restrictive provision, vessels that fish in multiple management areas with differing trap allocations are restricted to the lowest trap allocation in all areas. If a vessel's Area 3 allocation is reduced below the allowable number of traps the vessel can fish in a nearshore area, then the vessel's nearshore area allocation is affected. For example, if a vessel is qualified for 800 Area 3 traps and the vessel's permit designates both Area 1 and Area 3, the vessel is able to fish a total of 800 traps in any combination in Area 1 and Area 3. With the intended trap reductions, however, the same vessel's Area 3 allocation would decline in 2007 to 760 Area 3 traps. In this case the number of traps the vessel can fish in Area 1 is also reduced to 760 traps even though other Area 1 participants not subject to the reductions could fish 800 traps in Area 1. These potential decreases in trap numbers, however, do not necessarily correlate to decreased revenues, particularly given the small numbers involved. That is, a reduced trap allocation equates to lower overhead costs and increased time and potential fishing strategy adaptations, such as more frequent tending of traps, could offset the negative economic effects of the trap reductions.

Alternative Area 3 Trap Reductions

No Action – Taking no action would leave the present federally allowable Area 3 trap allocations unchanged. However, since the Federal government and the states have Memoranda of Understanding regarding trap allocations the federally recognized Area 3 trap allocations would be the lower of that allowed by the states or the Federal government. Since the majority of states have already implemented the ISFMP required 5% trap reductions for 2007 and 2008 most participating Area 3 lobster trap vessels would be held to the state mandated trap allocations even in the absence of Federal action. A small number of vessels (13) from states that have not yet implemented the Commission adopted trap reductions under the no action alternative might be minimally advantaged since they could maintain trap levels whilst their peers are forced to decrease under state regulations. As described in the preferred alternative, however, the economic effects of this supposed advantage are negligible and are outweighed by the inequity and inconsistency that incongruent state/Federal regulations would create. Since the preferred alternative also includes trap reductions in 2009 and 2010 taking no action would allow all vessels to fish more traps in Area 3. However, assuming the Commission does adopt the LCMT 3 recommended trap reductions in 2009 and 2010, there would be no appreciable difference in economic impact between the preferred and the no action alternative.

Implement Trap Reductions in 2007 and 2008 – This alternative would limit the Area 3 trap reductions to the current Commission recommended levels of 5% in 2007 and another 5% in 2008. The economic impacts of this alternative on small fishing entities would be equivalent to that of the preferred alternative in 2007 and 2008. Should the Commission not adopt the Area 3

management team proposed trap reduction in 2009 and 2010 then this alternative would allow participating vessels to fish more traps as compared to the preferred alternative and result in the inequities and inconsistencies similar to those as were discussed in the no action alternative. If the Commission does, as anticipated, implement the LCMT 3 recommendations it would require a separate action to implement complementary Federal regulations; a process that has frequently resulted in delayed implementation of Commission proposed measures. In this case, there would be added administrative costs associated with taking Federal action but economic impact on small entities fishing traps in Area 3 would be similar to that of the preferred alternative.

9.0 AGENCIES AND PERSONS CONSULTED

The following agencies and organizations were consulted during the development of the proposed action: The Atlantic States Marine Fisheries Commission and its member states; the New England Fishery Management Council; and the Mid-Atlantic Fishery Management Council.

10.0 REFERENCES

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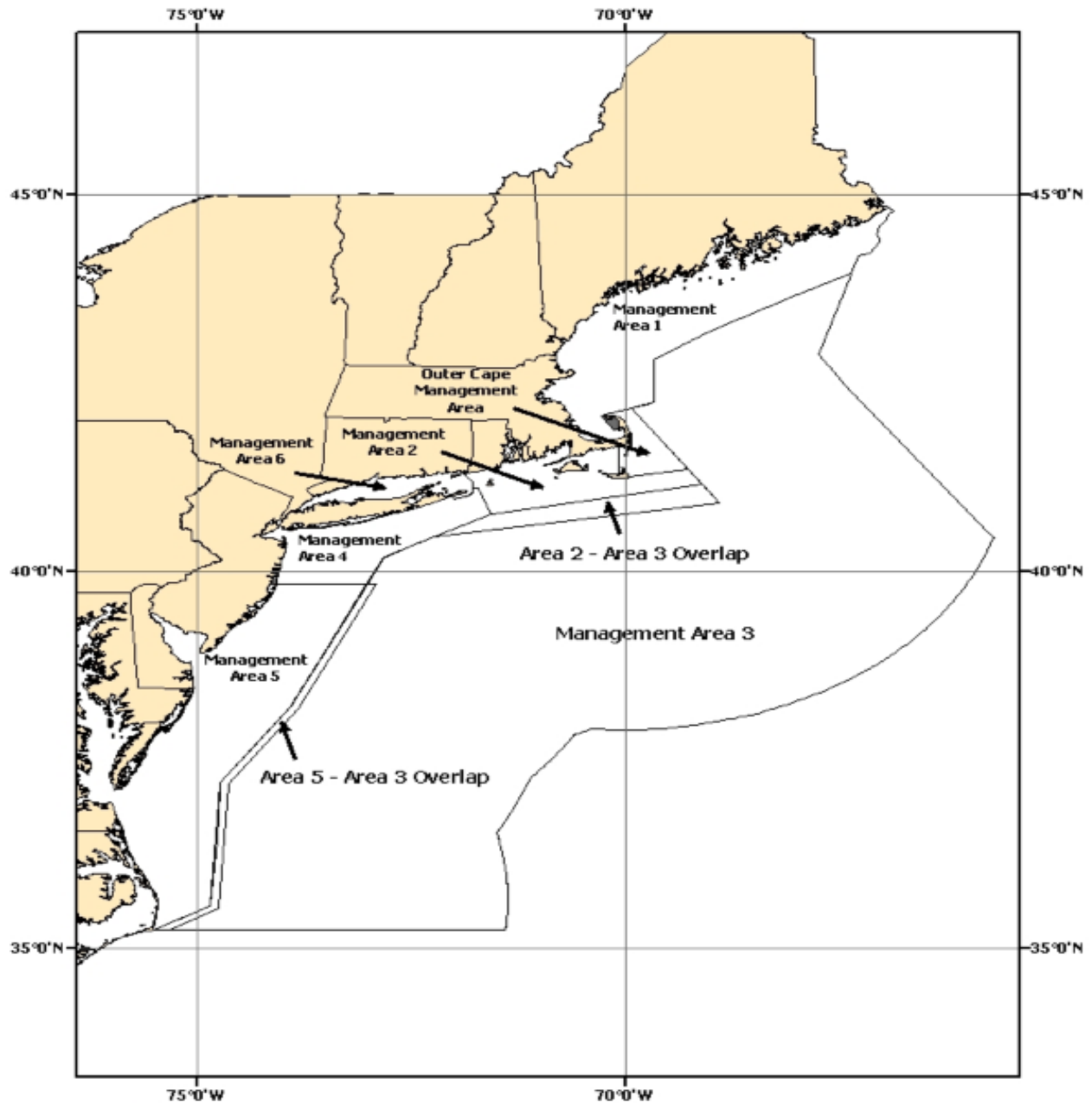
11.0 APPENDICES

Appendix 1: Impacted Trap Vessels by State.

State	Yr1-5%	Yr2-5%	Yr3-2.5%	Yr4-2.5%	Description
CT	3	3	3	3	Total Vessels in State
	2	2	2	2	Max. Vessels Impacted by NMFS Action
	1	1	1	1	Active Area 3 Vessels Impacted by NMFS Action
ME	21	21	21	21	Total Vessels in State
	12	12	13	14	Max. Vessels Impacted by NMFS Action
	3	3	4	5	Active Area 3 Vessels Impacted by NMFS Action
MA	40	40	40	40	Total Vessels in State
	10	11	11	12	Max. Vessels Impacted by NMFS Action
	6	7	7	8	Active Area 3 Vessels Impacted by NMFS Action
NH	11	11	11	11	Total Vessels in State
	0	0	0	0	Max. Vessels Impacted by NMFS Action
	0	0	0	0	Active Area 3 Vessels Impacted by NMFS Action
NJ	10	10	10	10	Total Vessels in State
	5	5	5	5	Max. Vessels Impacted by NMFS Action
	3	3	3	3	Active Area 3 Vessels Impacted by NMFS Action
NY	5	5	5	5	Total Vessels in State
	4	4	4	4	Max. Vessels Impacted by NMFS Action
	3	3	3	3	Active Area 3 Vessels Impacted by NMFS Action
RI	46	46	46	46	Total Vessels in State
	11	11	11	11	Max. Vessels Impacted by NMFS Action
	5	5	5	5	Active Area 3 Vessels Impacted by NMFS Action
de min.	3	3	3	3	Total de minimis Vessels
	1	1	1	1	Max. Vessels Impacted by NMFS Action
	1	1	1	1	Active Area 3 Vessels Impacted by NMFS Action
TOTAL	139	139	139	139	Total Area 3 Vessels
	45	46	47	49	Max. Vessels Impacted by NMFS Action
	22	23	24	26	Active Area 3 Vessels Impacted by NMFS Action

Appendix 2: Chart of Lobster Management Areas

American Lobster Management Areas



NOAA Fisheries
Northeast Regional Office
Gloucester, MA

9/21/04

Appendix 3: De minimis States - ADDENDUM I to AMENDMENT 3 to the ISFMP.

Section 4. DE MINIMIS FISHERY GUIDELINES

Section 4.1. CRITERIA FOR DE MINIMIS CONSIDERATION

To be eligible for *de minimis* consideration, a state must prove that its commercial landings in the most recent two years for which data is available did not exceed an average of 40,000 pounds.

Section 4.2. PROCEDURES TO APPLY FOR DE MINIMIS STATUS

States must specifically request *de minimis* status each year. Requests for *de minimis* status will be reviewed by the American Lobster Plan Review Team (PRT) as part of the annual FMP review process. Requests for *de minimis* must be submitted to the Commission American Lobster FMP Coordinator as a part of the state=s yearly compliance report. The request must contain the following information: all available commercial landings data for the current year, all available commercial landings data for at least two years preceding, commercial regulations for the current year, and the proposed management measures the state plans to implement for the year *de minimis* status is requested. The FMP Coordinator will then forward the information to the PRT and, if necessary, the American Lobster Technical Committee and Stock Assessment Subcommittee.

In determining whether or not a state meets the *de minimis* criteria, the PRT will consider the information provided with the request, the most recent available coastwide landings data, any information provided by the Technical Committee and Stock Assessment Subcommittee, and projections of future landings. The PRT will make a recommendation to the Board to either accept or deny the *de minimis* request. The Board will then review the PRT recommendation and either grant or deny the *de minimis* classification.

The Board must make a specific motion to grant a state *de minimis* status. By deeming a given state *de minimis*, the Board is recognizing that: the state has a minimal commercial lobster fishery; there is little risk to the health of the lobster stock if the state does not implement the full suite of management measures; and the overall burden of implementing the complete management and monitoring requirements of the FMP outweigh the conservation benefits of implementing those measures in the particular state.

If commercial landings in a *de minimis* state exceed the *de minimis* threshold, the state will lose its *de minimis* classification, will be ineligible for *de minimis* in the following year, and will be required to implement all the commercial fishery requirements of the FMP. If the Board denies a state=s *de minimis* request, the state will be required to implement all the commercial fishery requirements of the FMP. When a state rescinds or loses its *de minimis* status the Board will set a compliance date by which the state must implement the required regulations.

Section 4.3. PLAN REQUIREMENTS IF DE MINIMIS STATUS IS GRANTED

If *de minimis* status is granted, the *de minimis* state is require to implement, at a minimum, the coastwide requirements contained in Section 3.1 of Amendment 3. Any additional components

of the FMP, which the Board determines necessary for a *de minimis* state to implement, can be defined at the time *de minimis* status is granted. For all other required components of the plan, the Board will specify by motion which measures a *de minimis* state must adopt.

Appendix 4: Excerpts from ISFMP Addendum IV

The following are excerpts from Addendum IV that pertain to Area 3 measure: vent size changes, gauge size increases for Area 2 (later rescinded), and overview of Most Restrictive. For the full text of the addendum please see the ASMFC's website:.

1. INTRODUCTION

Amendment 3 was approved in December 1997. During 1998, the Board engaged in discussions to fully implement Amendment 3. Amendment 3 established a framework for area management, which includes industry participation through seven Lobster Conservation Management Teams (LCMT). The LCMTs were encouraged to develop a management program, which suits the needs of the area while meeting targets established in the plan. The LCMTs, with the support of state agencies, have played a vital role in advancing the area management program.

The LCMTs for LCMA 2, 3, 4, 5, 6, and the Outer Cape submitted area management proposals to the Board during the fall of 1998. The proposals included management measures to control effort and increase egg production. A technical evaluation was conducted to ensure that the proposals achieved the targets in Amendment 3. After reviewing the proposals and the technical evaluation, the Board chose to incorporate the LCMT recommendations into the area management program.

The Board adopted a two-phase approach to incorporate the LCMT recommendations, which will involve two addenda to Amendment 3. Addendum I incorporated measures from the LCMT proposals directed towards controlling effort. The Board decided to address management measures affecting egg production in Addendum II, following the release of an updated, peer-reviewed stock assessment. The stock assessment was completed in March 2000 and reviewed by an independent panel of scientists through the Commission's Peer Review Process in May 2000. After consideration of the stock assessment and peer review results, the Board initiated the development of Addendum II in August 2000 to continue implementation of the 1998 LCMT proposals.

Addendum II also clarifies several components of Amendment 3, such as updating the egg production rebuilding schedule and reconvening LCMTs to develop recommendations for area management based on the recent stock assessment.

The management measures adopted by the states, to comply with the Commission's management plan, will apply within state waters. The Commission will recommend that the Secretary of Commerce implement the management measures adopted in Addendum I in federal waters.

2.2.1 Minimum Gauge Size in Lobster Management Areas

The minimum size for American lobster in management areas 2, 3, 4, 5, and Outer Cape shall be no lower than the carapace length identified in the following schedule. Carapace length is

the straight-line measurement from the rear of the eye socket parallel to the centerline of the carapace to the posterior edge of the carapace. The carapace is the unsegmented body shell of the American lobster.

The 2001 year indicated runs throughout the entire calendar year (January 1-December 31).

<i>Area 2</i>	<i>Area 3</i>	<i>Area 4</i>	<i>Area 5</i>	<i>Outer Cape</i>
2001- 3-9/32"	2001- 3-9/32"	2001- 3-9/32"	2001- 3-9/32"	2001- 3-9/32"
2002- 3-5/16"	2002- 3-5/16"	2002- 3-5/16"	2002- 3-5/16"	2002- 3-5/16"
2003- 3-11/32"	2003- 3-11/32"	2003- 3-11/32"	2003- 3-11/32"	2003- 3-11/32"
2004- 3-3/8"	2004- 3-3/8"	2004- 3-3/8"	2004- 3-3/8"	2004- 3-3/8"
	2005*- 3-13/32"			
	2006*- 3-7/16"			
	2007*- 3-15/32"			
	2008*- 3-1/2"			

* NOTE – Area 3 will implement minimum size increases beyond 3 3/8" at the rate of 1/32" per year until a final minimum size of 3 1/2" is reached, if necessary to meet lobster management plan goals and objectives.

2.2.2. Minimum Escape Vent Size in Lobster Management Areas [2, 3, 4, 5, and Outer Cape]

All lobster traps in Areas 2, 3, 4, 5, and Outer Cape, whether fished commercially or recreationally, must contain at least one rectangular escape vent per trap or at least two circular escape vents according to the following schedule:

	One Rectangular Vent	Two Circular Vents
2003	2 inches by 5-3/4 inches	2 1/2 inches

Appendix 5 – Excerpts of Addendum IV to Amendment 3 to the Interstate Fishery Management Plan for American Lobster

The following are excerpts from Addendum IV that pertain to Area 3 measure: vent size changes, gauge size increases for Area 2 (later rescinded), and overview of Most Restrictive. For the full text of the addendum please see the ASMFC's website:.

Introduction and Background

Amendment 3 was approved in December 1997. Amendment 3 established a framework for area management, which includes industry participation through seven Lobster Conservation Management Teams (LCMT). The LCMT's were encouraged to develop a management program, which suits the needs of the area while meeting targets established in the plan. The Board adopted a three-phase approach to incorporate the LCMT recommendations, which involved three addenda to Amendment 3. Addendum I incorporated measures from the LCMT proposals directed at effort control. After consideration of the stock assessment and peer review results, the Board initiated the development of Addendum II in August 2000 to continue implementation of the 1998 LCMT proposals. Addendum III incorporates the alternative management measures presented to the Board for the purposes of meeting $F_{10\%}$ by calendar year 2008.

Addendum IV was initiated by the Lobster Management Board in June of 2003 to address four different issues: a proposal from the Area 3 LCMT; concern about stock conditions in Area 2; new information about vent selectivity; and a desire to change the interpretation of the most restrictive rule.

For a detailed description of the coastwide requirements, prohibited actions, and other compliance measures that are applicable under Amendment 3, Addendum I, Addendum II and Addendum III, readers should refer to *Fisheries Management Reports No. 29, 29a, 29b, and 29c of the Atlantic States Marine Fisheries Commission*. Copies can be obtained via the Commission's website at www.asmfc.org.

The provisions in this section may be changed in order to meet the goal and objectives specified in Section 2 of Amendment 3. Any changes made to Addendum IV will be done via addendum under Section 3.6 of Amendment 3.

Vent Sizes

Introduction and Background

Addendum III to Amendment 3 of the ASMFC FMP requires at least one rectangular escape vent per trap or at least two circular escape vents in Area 2, 3, 4, 5 and the Outer Cape by July of 2003. Under Addendum II these circular vents were required to be 2 ½ inches. This size of circular escape vent was determined by extrapolating from earlier selectivity studies on smaller vents.

The Technical Committee reviewed a vent selectivity study recently completed by the Massachusetts Division of Marine Fisheries which generated selectivity curves for escape vents that correspond with the proposed increases in minimum legal size for American lobster. The lobster size selectivity of eight experimental lobster trap escape vents (4 rectangular and 4 circular) was investigated in both laboratory and sea sampling settings. Study results indicate that the previous recommendation for a circular vent size of 2 ½ inches is inappropriate and is not compatible with the 2 inch rectangular vent. The study also provided data to indicate a 2 1/16" rectangular and 2 11/16" circular as the appropriate vent sizes for a 3 1/2" minimum carapace length. These vents would maintain a similar conservation buffer, which maximizes escapement of sub-legal lobsters while minimizing escapement of legal lobsters at a 3 1/2" minimum carapace length.

Based on this study, Addendum IV changes the circular vent size requirement from 2 ½ inches to 2 5/8 inches. In addition, vent sizes of 2 1/16" rectangular and 2 11/16" circular are required for those LCMA's (LCMA 2, 3, and OCC) that have scheduled increases to a 3 1/2" minimum legal CL.

Vent Size Management Measures

Each minimum gauge size has a corresponding rectangular and circular vent size. When a LCMA has an increase in the minimum gauge size, the corresponding vent size changes are required at the same time. For those areas that have already implemented a 3-3/8" minimum gauge size, the increase in circular vent size would be required by December 31, 2004. The changes and/or additions to previous ASMFC measures are highlighted in bold and italics.

Minimum Gauge Size	Rectangular Vent	Circular Vent
3-1/4"	1-15/16" x 5-3/4"	2-7/16"
3-3/8"*	2" x 5-3/4"	2-5/8"
3-1/2"	2-1/16" x 5-3/4"	2-11/16"

* The Area 1 plan maintains a 3-1/4" minimum gauge size and adds a 2" x 5-3/4" rectangular vent and corresponding circular vent to be implemented in 2007 if necessary.

Most Restrictive Rule

Introduction and Background

Previously, the FMP for American lobster indicated that multiple area fishermen must comply with the most restrictive management measures of all areas fished including the smallest number of traps allocated to them for each of the areas fished. For example, an individual designates both Area 2 and 3 on his permit. The individual qualifies for 800 traps under Area 2 and through historical participation in Area 3 qualifies for 300 traps. Due to the most restrictive rule, they are limited to a total of 300 traps throughout Area 2 and 3.

The original intention of the most restrictive rule was to allow multi-area fishermen to continue to fish in the areas they historically have while maintaining the conservation benefits unique to each area. However, an unintended consequence of implementing historical participation in some areas had been to limit these multi-area fishermen to the number of traps they were allocated in an area where they have a minimal history. Fishermen were either limited to this low number of traps or must drop that area from their permit.

In order to implement the most restrictive rule as outlined in previous Addenda and Amendments of the Interstate Fishery Management Plan for American Lobster, each state must be able to enforce all of the area regulations that their state's fishermen are permitted in. For example, if fishermen in Rhode Island are permitted to fish in Area 1, 2, OCC, and 3, RI must be able to enforce all of those Area regulations.

The most restrictive rule as a whole is necessary to maintain the conservation benefits for each area management plan. However, to address this outstanding issue, this Addendum changes the interpretation of the most restrictive rule.

Most Restrictive Rule Management Measures

Addendum IV applies the most restrictive rule on an area trap cap basis without regard to the individual's allocation. Fishermen who designate multiple management areas on their permits will be bound by the most restrictive management measures of those areas' trap caps. They would be allowed to fish the number of traps they are allocated in that most restrictive area. The following examples are intended to clarify this.*

Example 1:

A lobster fisherman is permitted in both Area 2 and 3. This individual's Area 2 allocation is 800 traps and based on historical participation their Area 3 allocation is 300 traps. The overall trap cap in Area 2 is 800 traps and the overall trap cap in Area 3 is 2600 traps.

Most Restrictive Rule Interpretation: The most restrictive rule compares the **trap cap** in each area (800 in Area 2 vs. 2600 in Area 3) and the fisherman is limited to the most restrictive trap cap. Therefore, this fisherman is limited to his Area 2 allocation of 800 traps; 300 of these could be fished in Area 3

* In each example, trap caps are outlined. In some LCMA's, these trap caps will change due to active and passive reductions and this section should not be used to determine trap caps for these areas.

Example 2:

A lobster fisherman is permitted in both Area 2 and 3. Their Area 2 allocation is 800 traps and based on historical participation his Area 3 allocation is 1200 traps. The overall trap cap in Area 2 is 800 traps and the overall trap cap in Area 3 is 2600 traps.

Most Restrictive Rule Interpretation: The most restrictive rule compares the **trap cap** in each area (800 in Area 2 vs. 2600 in Area 3) and the fisherman is limited to the most restrictive trap cap, which is 800 traps in Area 2. Therefore, this fisherman is limited to his Area 2 allocation of 800 traps to be fished in either area.

Example 3:

A lobster fisherman is permitted in both Area 3 and 4. Based on historical participation, his Area 3 allocation is 1000 traps and based on historical participation his Area 4 allocation is 1200 traps. The overall trap cap in Area 3 is 2600 traps and the overall trap cap in Area 4 is 1440 traps.

Most Restrictive Rule Interpretation: The most restrictive rule compares the **trap cap** in each area (2600 in Area 3 vs. 1440 in Area 4) and the fisherman is limited to the most restrictive trap cap, which is 1440 in Area 4. Therefore, this fisherman is limited to his allocation in Area 4 of 1200 traps; 1000 of these can be fished in Area 3.

Example 4:

A lobster fisherman is permitted in both Area 3 and 4. Based on historical participation, his Area 3 allocation is 1600 traps and based on historical participation his Area 4 allocation is 1000 traps. The overall trap cap in Area 3 is 2600 traps and the overall trap cap in Area 4 is 1440 traps.

Most Restrictive Rule Interpretation: The most restrictive rule compares the **trap cap** in each area (2600 in Area 3 vs. 1440 in Area 4) and the fisherman is limited to the most restrictive trap cap, which is 1440 in Area 4. Therefore, this fisherman is limited to his allocation in Area 4 of 1000 traps to be fished in either area.

Area 3 Management Measures

Introduction

This section includes both an increase in active trap reductions in Area 3 as well as a transferable trap program. The following management measures are only applicable to those who designate Area 3 on their permit.

Active Trap Reductions for Area 3

Addendum IV includes a sliding scale trap reduction plan to increase active trap reductions to 10% (5% in each year, in 2007 and 2008, assuming no further delays in implementation). The rationale for the proposed increase in active reductions of traps is to help ensure that the goal of reducing fishing mortality is addressed and the associated economic and biological benefits are realized. This reduction is hypothetical at this point because the actual population of Area 3 fishermen has yet to be determined. The application deadline for qualification is December 31, 2003 and will be administered by NMFS.

5.3.2 Minimum Gauge Size

The minimum size for American lobster in management Area 2 shall be no lower than the carapace length identified in the following schedule. Carapace length is the straight-line measurement from the rear of the eye socket parallel to the centerline of the carapace to the posterior edge of the carapace. The carapace is the unsegmented body shell of the American lobster. July 1st is the deadline for implementing these minimum gauge sizes.

Area 2
2005 - 3 13/32"
2006 - 3 7/16"
2007 - 3 15/32"
2008 - 3 1/2"

Appendix 6: Rescission of Measures from ASMFC

Appendix 6c: Excerpt from ASMFC press release, May 8, 2006

AMERICAN LOBSTER MANAGEMENT BOARD (May 8, 2006)

Press Release

*American Lobster Board Approves Addendum VIII
Addendum Establishes New Biological Reference Points and Enhances Data Collection
Requirements*

Motion to repeal “if necessary” provisions:

Move to repeal “if necessary provision” in those LCMAs that fish on stocks that are not considered overfished or depleted. This motion would affect the following requirements:

- The Area 1 escape vent increase due in 2007; and
- The Outer Cape Cod gauge increase beyond 3 3/8” and trap reductions beyond the 20 percent reduction due by 2008.

Motion made by Mr. Lapointe, second by Mr. R. White. Motion passes by voice consensus.

Appendix 6b: Excerpt from Addendum VII, November 2005

4.2.1.6. Minimum Size

The Minimum Size for Area 2 is 3-3/8” carapace length.

Future addenda or plan amendments may require adjustments to minimum gauge sizes pending stock assessment results.

Appendix 7: Advance notice of proposed rulemaking (ANPR), December 18, 2006

BILLING CODE 3510-22-S

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 697

[Docket No. ; I.D. 112505A]

RIN 0648-AU07

Atlantic Coastal Fisheries Cooperative Management Act Provisions; American Lobster Fishery

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Advance notice of proposed rulemaking (ANPR).

SUMMARY: NMFS announces that it is considering and seeking public comment on the implementation of further minimum carapace length (gauge) increases, escape vent size increases, and trap reductions in the offshore American lobster fishery, consistent with recommendations for Federal action in the Atlantic States Marine Fisheries Commission's (Commission) Interstate Fishery Management Plan for American Lobster (ISFMP) and pending management actions of the Commission's American Lobster Management Board (Board). A similar announcement, published in the Federal Register on December 13, 2005 (70 FR 73717), notified the public that NMFS was considering and requesting comment on gauge and escape vent size increases in multiple lobster conservation management areas (LCMAs). However, since the publication of that notice, many LCMA-specific Commission recommendations were modified in response to information in an updated peer-reviewed stock assessment published January 2006. Subsequent Commission deliberations resulted in the Board making changes to the fishery management plan, adding and repealing measures, such that many of the newer plan elements focused primarily on LCMA 3. Some measures relevant to this action, still under Board consideration, are included within the scope of this rulemaking. Accordingly, NMFS announces that this present ANPR revises the December 13, 2005, ANPR and invites public comment on changes to the ISFMP, either formally approved by the Board or pending approval. Any repealed measures, having previously been raised in the December 13, 2005, ANPR, will remain within the scope of this present ANPR, although the Board's repeal is notable and NMFS invites comment on the Board's withdrawal of the measures.

DATES: Comments must be received by [Insert date 15 days after date of publication in the FEDERAL REGISTER]. DATES: Comments must be received by [Insert date 15 days after date of publication in the FEDERAL REGISTER].

ADDRESSES: Written comments should be sent to Harold Mears, Director, State, Federal and Constituent Programs Office, Northeast Region, NMFS, One Blackburn Drive, Gloucester, MA 01930. Comments may also be sent via e-mail to Lob1106@noaa.gov, via fax (978) 281-9117 or via the Federal e-Rulemaking portal at www.regulations.gov.

FOR FURTHER INFORMATION CONTACT: Peter Burns, Fishery Management Specialist, (978) 281-9144, fax (978) 281-9117, e-mail peter.burns@noaa.gov.

SUPPLEMENTARY INFORMATION:

Scope of This ANPR

Relevant to the scope of this action, additional management measures are identified for LCMA 3 that have yet to be proposed or implemented by NMFS. These include: four additional 1/32 inch (0.08 centimeters (cm)) gauge increases that would result in a 3 ½ inch (8.89 cm) minimum gauge size requirement for LCMA 3 by July 1, 2008; and escape vent size increases in LCMA 3 to 2 1/16 inches X 5 3/4 inches rectangular (5.24 cm X 14.61 cm) or two circular vents at 2 11/16 inches diameter (6.83 cm) by July 1, 2010. Additionally, NMFS also is considering a suite of trap reductions in LCMA 3. First, Addendum IV to Amendment 3 of the ISFMP calls for a 10% active trap reduction implemented over two consecutive years with a scheduled 5% reduction for 2007 and a 5% reduction in 2008. To address the need for further fishing mortality and fishing effort reductions in the offshore fishery as identified in the updated stock

assessment released in 2005, the Board is developing an addendum to consider an additional 5% reduction in traps in LCMA 3 to be implemented as a 2.5 % reduction each year for two consecutive years following the initial 10% active trap reduction. The two 2.5% reductions have not been included as part of the ISFMP, but are in an addendum being drafted for review by the Board, and consequently, NMFS includes this measure for public consideration. Table 1 illustrates the LCMA 3 gauge increases, escape vent size increases and the 10% trap reductions currently recommended in the ISFMP for Federal implementation. Also included in the table are the two additional 2.5% trap reductions for LCMA 3 pending Board adoption. Although not officially part of the ISFMP, these pending trap reductions are included within the scope of this ANPR because they are relevant to the 10% reductions already adopted into the ISFMP and recommended for Federal implementation.

Several management measures previously included in the ISFMP and addressed in a previous NMFS ANPR, published in the Federal Register on December 13, 2005 (70 FR 73717) , have since been repealed by the Board based on an updated American lobster stock assessment approved in January 2006. The updated stock assessment indicated stable stock abundance for the Georges Bank and majority of the Gulf of Maine stocks. However, decreased stock abundance and recruitment due to high fishing mortality were evident in the assessment of the Southern New England stock and the statistical area 514 portion of the Gulf of Maine stock that includes Massachusetts Bay and Stellwagen Bank. Upon review of these findings, the Board determined that many of the additional gauge increases and escape vent size increases were not necessary for conservation and, with the exception for those in LCMA 3, were repealed. The repealed measures include the

additional escape vent size increase for LCMA 1 (2" X 5 3/4" (5.08 cm X 14.61 cm) rectangular or 2 5/8" (6.67 cm) circular by 2008); in the Outer Cape Cod LCMA, four additional 1/32" (0.08 cm) gauge increases up to 3 1/2" (8.89 cm) by July 2008 and an escape vent increase to 2 1/16" X 5 3/4" (5.24 cm X 14.61 cm) rectangular or 2 11/16" (6.83 cm) circular by 2008. Recommendations for delay in the LCMA 3 escape vent size increase until 2010, is included in draft Addendum XI to Amendment 3 of the ISFMP, scheduled for Board review in January 2007. NMFS invites the public to comment on the revised management scenario and extends the scope of this ANPR to include the measures subsequently withdrawn by the Board as well, given their potential impacts on the resource and industry.

Table 1. American Lobster ISFMP Gauge, Escape Vent and Trap Reduction Schedule for LCMA 3 and Corresponding Federal Action (Includes only the measures currently recommended in the ISFMP for Federal implementation and relevant trap reductions pending Board adoption).

[Measurements are in inches]

LCMA	Addenda II-VIII			Current Federal Lobster Regulations		This ANPR Considers		
	gauge	vent*	trap reductions	gauge	vent*	gauge	vent*	trap reductions**
LCMA3	3 3/8 July 2004 3 13/32 July 2005 3 7/16 July 2006 3 15/32 July 2007 3 1/2 July 2008	2 X 5 3/4 rectangular or 2 5/8 circular by 2004 2 1/16 X 5 3/4 rectangular or 2 11/16 circular by 2008	5% in 2007 5% in 2008	3 3/8	2 X 5 3/4 rectangular or 2 5/8 circular	3 13/32 3 7/16 3 15/32 3 1/2 by 2008	2 1/16 X 5 3/4 rectangular or 2 11/16 circular by 2010	5% in 2007 5% in 2008 2.5% in 2009 2.5% in 2010

* All vent sizes include a rectangular and corresponding circular vent size. In all cases, each trap is required to have one rectangular vent or two circular vents at the sizes indicated. The ANPR considers a proposed action by the Board to postpone the escape vent increase for LCMA 3 until 2010.

** The two 5% trap reductions scheduled for 2007 and 2008 were established in Addendum IV; the two 2.5% reductions are being considered in this ANPR, concurrent with Board review.

Background and Description of Relevant ISFMP Actions

Addenda I through IX are part of an overall lobster fishery management regime set forth in Amendment 3 to the ISFMP. The intent of Amendment 3, approved by the Board in December 1997, is to achieve a healthy American lobster resource and to develop a management regime that provides for sustained harvest, maintains opportunities for participation, and provides for the cooperative development of conservation measures by all stakeholders. In short, Amendment 3 was envisioned to provide much of the framework upon which future lobster management - to be set forth in later addenda - would be based. In particular, Amendment 3 employed a participatory

management approach by creating the seven lobster management areas, each with its own lobster conservation management team (LCMT) comprised of industry members.

Amendment 3 tasked the LCMTs with providing recommendations for area-specific management measures to the Board to meet the lobster egg production and effort reduction goals of the ISFMP. NMFS has the authority under the ACFCMA to implement regulations in Federal waters that are compatible with the effective implementation of the ISFMP and consistent with the national standards of the Magnuson-Stevens Fishery Conservation and Management Act. These Federal regulations are promulgated pursuant to the ACFCMA and are codified at 50 CFR part 697.

Addendum I to Amendment 3 focused largely on effort control measures. The Board approved Addendum I in August 1999, with NMFS promulgating compatible regulations on March 27, 2003 (68 FR 14902). This action, in part, established a limited access program in the lobster trap fishery in LCMA 3, 4 and 5, based on historical participation and additional sliding scale trap reductions in LCMA 3 through 2006. The Board approved Amendment 3's egg production measures as Addenda II and III in February 2001 and February 2002, respectively, and recommended that NMFS implement complementary Federal regulations. In response, NMFS published a final rule on March 14, 2006 (71 FR 13027), implementing multiple management measures, including a gauge increase and escape vent size increase in all LCMA 3, 4 and 5, except LCMA 1, to 3 3/8" (8.57 cm) and 2 X 5 3/4" (5.08 X 14.61 cm), respectively. In December 2003, the Board approved Addendum IV which, in part, included additional egg production measures. One such measure, the sliding scale trap reduction plan, was adopted to facilitate additional active trap reductions in LCMA 3 by 10% by imposing a 5% trap

reduction in both 2007 and 2008. The 10% trap reduction is part of the suite of measures considered in this ANPR. Addenda V and VI did not include any further measures pertinent to egg production and therefore, are not included within the scope of this ANPR but are being addressed in a separate rulemaking action. Addendum VII, approved by the Board in November 2005, facilitates effort control measures and constitutes a limited access program for the lobster trap fishery in the state waters of LCMA 2, based on historical participation, with recommendations for complementary actions in the Federal waters of LCMA 2. In approving Addendum VII, the Board opted not to continue with the previously adopted schedule of minimum carapace length increases up to 3 ½" (8.89 cm) in LCMA 2 (Addendum III) and voted to maintain the minimum legal carapace length (gauge) at 3 3/8 inches (8.57 cm). Following the updated stock assessment results, at a meeting in May 2006, the Board rescinded gauge increases beyond 3 3/8" (8.57 cm), and a complementary escape vent increase in the Outer Cape LCMA, and an escape vent increase in LCMA 1. Addendum VIII, adopted by the Board in May 2006, established new data collection requirements and adopted new biological reference points to facilitate the assessment of the lobster resource. NMFS will address the data collection issue in a separate rulemaking outside the scope of this ANPR. Addendum IX, adopted by the Board in October 2006, will impose a 10% conservation tax on the sale of lobster traps in LCMA 2.

Classification

This ANPR has been determined to be not significant for the purposes of Executive Order 12866.

Authority: 16 U.S.C. 5101 et seq. Dated:

Appendix 8: LIST OF ACRONYMS

ACA	Atlantic Coastal Act (same Act as next listing)
ACFCMA	Atlantic Coastal Fishery Conservation and Management Act
ANPR	Advanced Notice of Proposed Rulemaking
ALWTRP	Atlantic Large Whale Take Reduction Plan
ASMFC	Atlantic States Marine Fisheries Commission
CCL	Curved Carapace Length
Commission	Atlantic States Marine Fisheries Commission
CL	Carapace Length
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EIS	Environmental Impact Statement
EPS	Egg Production Schedule
ESA	Endangered Species Act
FEIS	Final Environmental Impact Statement
FMP	Fishery Management Plan
FONSI	Finding of No Significant Impact
FSEIS	Final Supplementary Environmental Impact Statement
ISFMP	Interstate Fishery Management Plan
LCMA	Lobster Conservation Management Area
LCMT	Lobster Conservation Management Team
LIS	Long Island Sound
MAFMC	Mid-Atlantic Fishery Management Council
NAO	National Oceanic and Atmospheric Administration Administrative Order
NEFMC	New England Fishery Management Council
NEFSC	Northeast Fisheries Science Center
NEPA	National Environmental Policy Act
NOI	Notice of Intent to Prepare an Environmental Impact Statement
NMFS	National Marine Fisheries Service
OC	Outer Cape
PBR	Potential Biological Removal
SAR	Stock Assessment Report
SCCLIS	South of Cape Cod to Long Island Sound
SEFSC	Southeast Fisheries Science Center
TED	Turtle Excluder Device
TEWG	Turtle Expert Working Group

Appendix 9: Area 3 Lobster Trap Reduction Schedule (2007-2010)

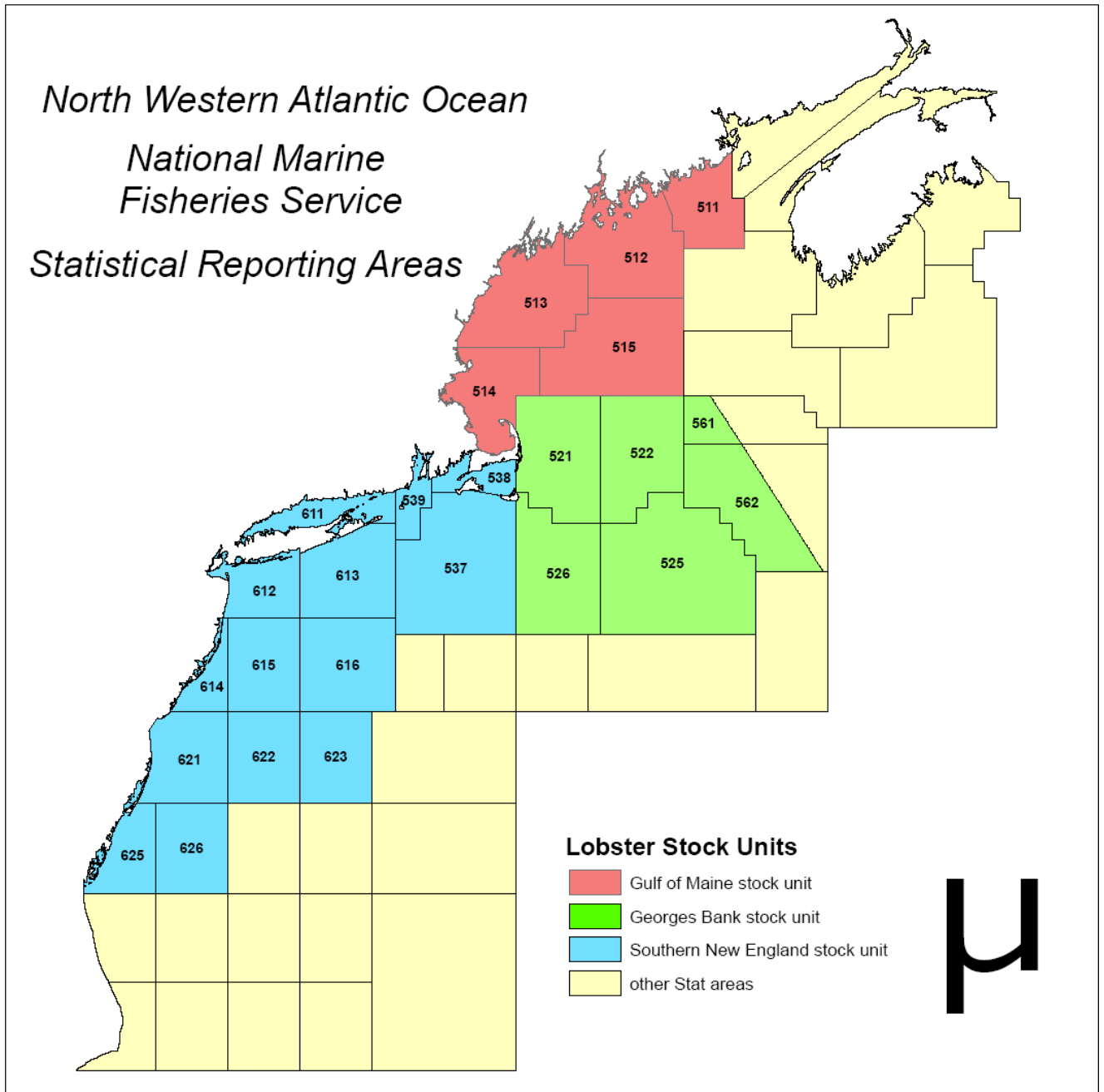
HISTORIC Trap Allocation	Year 2006 Trap Allocation	Year 1 - 5% Trap Reduction Effective November 1, 2007	Year 2 - 5% Trap Reduction Effective July 1, 2008	Year 3- 2.5% Trap Reduction Effective July 1, 2009	Year 4 - 2.5% Trap Reduction Effective July 1, 2010
200	200	190	181	176	172
240	240	228	217	211	206
250	250	238	226	220	214
264	264	251	238	232	226
300	300	285	271	264	257
320	320	304	289	282	275
325	325	309	293	286	279
360	360	342	325	317	309
370	370	352	334	326	317
400	400	380	361	352	343
450	450	428	406	396	386
480	480	456	433	422	412
500	500	475	451	440	429
590	590	561	532	519	506
600	600	570	542	528	515
700	700	665	632	616	601
720	720	684	650	634	618
768	768	730	693	676	659
800	800	760	722	704	686
883	883	839	797	777	758
900	900	855	812	792	772
930	930	884	839	818	798
1000	1000	950	903	880	858
1004	1004	954	906	883	861
1020	1020	969	921	898	875
1100	1100	1045	993	968	944
1150	1150	1093	1038	1012	987
1170	1170	1112	1056	1030	1004
1200-1299	1200	1140	1083	1056	1030
1300-1399	1200	1140	1083	1056	1030
1400-1499	1200	1140	1083	1056	1030
1500-1599	1276	1212	1152	1123	1095
1600-1699	1352	1284	1220	1190	1160
1700-1799	1417	1346	1279	1247	1216
1800-1899	1482	1408	1338	1304	1271

Appendix 9 (cont'd.): Area 3 Lobster Trap Reduction Schedule (2007-2010)

HISTORIC Trap Allocation	Year 2006 Trap Allocation	Year 1 - 5% Trap Reduction Effective November 1, 2007	Year 2 - 5% Trap Reduction Effective July 1, 2008	Year 3- 2.5% Trap Reduction Effective July 1, 2009	Year 4 - 2.5% Trap Reduction Effective July 1, 2010
1900-1999	1549	1472	1398	1363	1329
2000-2099	1616	1535	1458	1422	1386
2100-2199	1674	1590	1511	1473	1436
2200-2299	1732	1645	1563	1524	1486
2300-2399	1789	1700	1615	1574	1535
2400-2499	1845	1753	1665	1623	1583
2500-2599	1897	1802	1712	1669	1628
2600-2699	1949	1852	1759	1715	1672
2700-2799	2000	1900	1805	1760	1716
2800-2899	2050	1948	1850	1804	1759
2900-2999	2100	1995	1895	1848	1802
3000-3099	2150	2043	1940	1892	1845
3100-3199	2209	2099	1994	1944	1895
>3199	2267	2154	2046	1995	1945

Appendix 10: Revised Lobster Stock Assessment Areas

(Graphics courtesy of ASMFC)



Appendix 11: Former Lobster Stock Assessment Areas

(Graphics courtesy of ASMFC)

