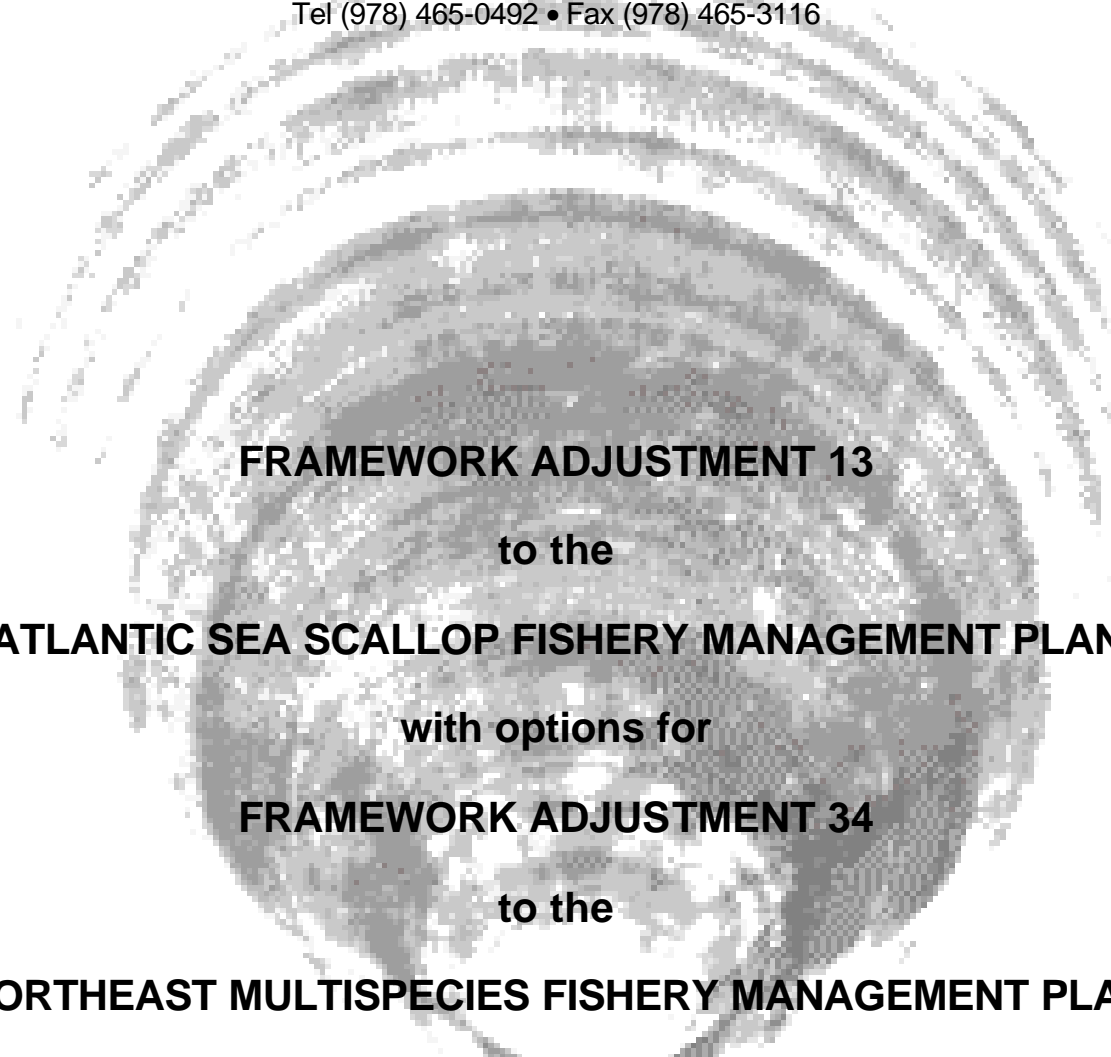


New England Fishery Management Council

50 Water St., The Tannery – Mill 2, Newburyport, MA 01950
Tel (978) 465-0492 • Fax (978) 465-3116



FRAMEWORK ADJUSTMENT 13
to the
ATLANTIC SEA SCALLOP FISHERY MANAGEMENT PLAN
with options for
FRAMEWORK ADJUSTMENT 34
to the
NORTHEAST MULTISPECIES FISHERY MANAGEMENT PLAN

To re-open portions of the Groundfish Closed Areas
for scallop fishing

Prepared in consultation with the National Marine Fisheries Service and the Mid-Atlantic Fishery Management Council

Initial framework meeting: September 22, 1999
Final framework meeting: November 17, 1999 and January 20, 2000
Submitted by NEFMC: March 7, 2000

1.0 TABLE OF CONTENTS

1.0	TABLE OF CONTENTS.....	i
1.1	List of Tables	vi
1.2	List of Figures	viii
2.0	INTRODUCTION	1
2.1	Background	1
2.1.1	Summary of Existing Closures	1
2.1.2	Success of the Closed Area II scallop fishery during 1999.	1
2.1.3	Meetings and Opportunity for Public Comment	4
3.0	PURPOSE AND NEED.....	8
4.0	ISSUES OF CONCERN.....	9
4.1	Sustainability.....	9
4.2	Optimum yield.....	11
4.3	Conservation neutrality	14
4.4	Stock rebuilding.....	17
4.5	Groundfish bycatch and bycatch of other species	17
4.6	Habitat impacts.....	19
4.7	Gear conflict.....	23
4.8	Compliance and enforcement.....	29
5.0	PROPOSED ALTERNATIVES AND QUALITATIVE IMPACTS.....	30
5.1	Proposed Action	30
5.1.1	Area access boundaries and seasons for Nantucket Lightship Area, Closed Area I, and Closed Area II (Framework Adjustments 13 and 34).....	33
5.1.1.1	Closed Area II: June 15, 2000 to August 14, 2000 with Alternative 1 boundaries	33
5.1.1.2	Nantucket Lightship Area: August 15, 2000 to September 30, 2000 with Alternative 1 boundaries.....	36
5.1.1.3	Closed Area I: October 1, 2000 to December 31, 2000	38
5.1.2	No buffer zones or internal no-fish areas: Alternative 3 (Frameworks 13 and 34).....	39
5.1.3	Total Allowable Catch and Set-asides (Framework Adjustment 13)	40
5.1.3.1	Total Allowable Catch of Sea Scallops	40
5.1.3.2	Set-asides.....	40
5.1.3.2.1	One-percent set-aside for research.....	40
5.1.3.2.2	One-percent set-aside and one-percent supplement for funding observers	42
5.1.3.2.3	Five-percent for access by general category vessels in Nantucket Lightship Area and Closed Area I.....	42
5.1.4	Total Allowable Catch for yellowtail flounder (Framework Adjustment 34)	43
5.1.5	Triggered Area Closure (Frameworks 13 and 34).....	44
5.1.6	Effort limits (Framework 13).....	44
5.1.6.1	Trip allocations	44
5.1.6.2	Day-at-sea restrictions and tradeoffs.....	45
5.1.6.3	Maximum trip length	46
5.1.7	Eligibility and exemptions (Framework Adjustments 13 and 34).....	46
5.1.7.1	Limited access scallop vessels	46
5.1.7.2	Net boats may fish in the groundfish closed areas with dredges and continue using trawls in all other areas open to scallop fishing – status quo.....	47
5.1.7.3	Access by vessels with General Category permits to fish for scallops in the groundfish closed areas with a separate scallop TAC – Alternative 3 (Framework Adjustments 13 and 34) ..	47
5.1.8	Gear restrictions	48
5.1.8.1	Dredges (Framework Adjustment 13).....	48

5.1.8.2	Twine tops (Framework Adjustment 34)	49
5.1.9	Possession limits	49
5.1.9.1	Scallop possession limit for limited access vessels (Framework Adjustment 13)	49
5.1.9.2	Shellstock – 50 US Bushels	51
5.1.9.3	Scallop possession limit for general category scallop vessels (Framework Adjustment 13)	51
5.1.9.4	Regulated Multispecies - Limited access scallop vessels	52
5.1.9.5	Regulated Multispecies – Vessels with general category scallop permits.....	52
5.1.9.6	Monkfish.....	53
5.1.10	Enforcement Provisions (Framework Adjustment 13)	53
5.1.10.1	Trip Declaration and Notification	53
5.1.10.2	Vessel operation and landing.....	53
5.1.10.3	Penalties for Closed Area Fishery Violations	54
5.1.10.4	More frequent polling of VMS equipment.....	54
5.1.11	Reporting requirements (Framework Adjustment 13)	55
5.1.11.1	Vessel monitoring systems (VMS).....	55
5.1.11.2	Vessel Trip Reports (VTR)	55
5.1.12	Observer requirements (Framework Adjustment 13)	56
5.1.12.1	Alternative 1 – Mandatory observers on 25 percent of closed area trips	56
5.1.13	TAC set-aside and administration to fund scallop research (Framework Adjustment 13)	57
5.1.13.1	General provisions of the TAC research set-aside	58
5.1.13.2	Research TAC collected on the research trip - Alternative 1b	60
5.1.13.3	Research TAC collected separately from a research trip - Alternative 2b	61
5.1.13.4	Yellowtail flounder bycatch set-aside	62
5.2	Alternatives Considered and Rejected.....	57
5.2.1	Area access (Frameworks 13 and 33)	63
5.2.1.1	Nantucket Lightship Area.....	63
5.2.1.2	Closed Area I.....	63
5.2.1.2.1	Alternative 1 – Access to areas surveyed by the 1999 experimental fishery where scallops are most abundant and bycatch rates have been measured.	63
5.2.1.2.2	Alternative 2 – Access to areas surveyed by the 1999 experimental fishery where scallops are most abundant and bycatch rates have been measured, avoiding areas identified as having hard bottom and complex habitat.....	65
5.2.1.2.3	Alternative 3 – Allow scallop fishing in all parts of Closed Area I, north of the 43660 loran line.....	66
5.2.1.3	Closed Area II.....	70
5.2.1.3.1	Alternative 1 – Re-open the portions of Closed Area II, Areas south of 41°30' N latitude Error! Bookmark not defined.	
5.2.1.3.2	Alternative 2 – Areas south of the HAPC boundary.....	70
5.2.2	Seasons.....	71
5.2.3	Alternative 1 – Continuous season when groundfish spawning is not occurring and the vulnerability of larval and juvenile groundfish is low	71
5.2.4	Alternative 2 – Sequential openings of Nantucket Lightship Area, Closed Area I, and Closed Area II.....	71
5.2.5	Alternative 3 – Sequential openings of inshore and offshore areas.....	72
5.2.6	Total Allowable Catch (TAC) of sea scallops (Framework 13)	73
5.2.7	TAC set asides (Framework 13).....	73
5.2.7.1	One-percent set aside for research..... Error! Bookmark not defined.	
5.2.7.2	One-percent set aside for funding observers.....	73
5.2.7.3	TAC set-asides for scallop landings by vessels with General Category scallop permits 73	

5.2.8	Yellowtail Flounder TAC and Triggered Area Closure (Framework 34)	74
5.2.9	Effort limits (Framework 13)	74
5.2.9.1	Trip Allocations	74
5.2.9.2	Day-at-sea restrictions and tradeoffs	75
5.2.9.3	Maximum trip length	76
5.2.10	Eligibility (Framework 13)	76
5.2.10.1	Net boats may fish in the groundfish closed areas with dredges and continue using trawls in all other areas open to scallop fishing	76
5.2.10.2	Vessels with General Category Permits	76
5.2.10.2.1	Alternative 1 – Vessels with General Category permits would be prohibited from fishing in the groundfish closed areas	76
5.2.10.2.2	Alternative 2 – Allow vessels with General Category permits to fish for scallops in the groundfish closed areas with added reporting requirements	78
5.2.11	Gear Restrictions (Framework 13)	78
5.2.11.1	Twine Tops and Dredges – status quo	78
5.2.11.2	Other gear modifications to reduce bycatch	78
5.2.12	Buffer zones (Framework 13)	79
5.2.12.1	Alternative 1 - External buffer zones where closed area regulations apply	79
5.2.12.2	Alternative 2 - Internal no-fishing areas	82
5.2.13	Possession limits	83
5.2.13.1	Scallop meats – single limit for access to all groundfish closed areas (Framework 13)	83
5.2.13.2	Shellstock – 50 US Bushels (Framework 13)	83
5.2.13.3	Possession Limits for Regulated Multispecies	83
5.2.13.3.1	Alternative 1 – 500 pounds per trip	83
5.2.13.3.2	Alternative 2 – 1,000 pounds per trip	84
5.2.13.4	Possession Limit for Monkfish	85
5.2.14	Enforcement Provisions (Framework 13)	85
5.2.14.1	VMS polling frequency – Status quo	85
5.2.15	Reporting Requirements (Framework 13)	86
5.2.16	Observers (Framework 13)	86
5.2.16.1	Alternative 2 – Mandatory observer coverage on less than 25 percent of closed area trips	86
5.2.17	TAC set-aside and administration to fund scallop research (Framework Adjustment 13)	87
5.2.17.1	Research funded through an authorization to exceed the trip limit by 1,000 pounds - Alternative 3	87
5.2.17.2	Days-at sea accounting - Alternatives 1a and 2a	88
6.0	APPLICABLE LAW	89
6.1	Magnuson-Stevens fishery Conservation and Management Act (MSFCMA) – Consistency with National Standards	89
6.1.1	National Standard 1 – Optimum Yield	89
6.1.2	National Standard 2 – Scientific Information	90
6.1.3	National Standard 3 – Management Units	91
6.1.4	National Standard 4 – Allocations	91
6.1.5	National Standard 5 – Efficiency	91
6.1.6	National Standard 6 – Variations and Contingencies	92
6.1.7	National Standard 7 – Costs and Benefits	93
6.1.8	National Standard 8 – Communities	93
6.1.9	National Standard 9 – Bycatch	93
6.1.10	National Standard 10 – Safety of Life at Sea	94

6.2	National Environmental Policy Act (NEPA) – Environmental Assessment	94
6.2.1	Purpose and Need for the Proposed Action	95
6.2.2	Description of the Proposed and Alternative Actions	95
6.2.3	Description of the Physical Environment	95
6.2.4	Description of the Biological Environment	95
6.2.5	Description of the Human Environment	95
6.2.6	Impacts of the Proposed Action	95
6.2.6.1	Biological Impacts of closed area access options	96
6.2.6.1.1	General conclusions	96
6.2.6.1.2	Sources of data	97
6.2.6.1.3	CMAST photographic survey.....	98
6.2.6.1.4	Commercial experimental fisheries and extrapolation of the photographic survey data for unsurveyed areas within the closed areas.....	103
6.2.6.1.5	Annual Albatross survey.....	103
6.2.6.1.6	TAC estimates for the 2000 fishing year	110
6.2.6.1.7	Trip allocations and trip limits	112
6.2.6.1.8	Finfish bycatch	114
6.2.6.1.9	Finfish bycatch TAC recommendations	118
6.2.6.1.10	Conservation-neutral day-at-sea tradeoffs, effort estimates, and expected catch	119
6.2.6.1.11	Triggering a Suspension of the Closed Area Scallop Fishery	125
6.2.6.2	Impacts on Habitat and Essential Fish Habitat (EFH) Assessment.....	126
6.2.6.2.1	Proposed Action.....	126
6.2.6.2.2	Alternatives Considered and Rejected.....	131
6.2.6.3	Impacts on Endangered Species and Other Protected Species.....	126
6.2.6.3.1	Threatened and Endangered Species.....	135
6.2.6.3.2	Species of Concern.....	135
6.2.6.3.3	Impacts of Management Measures	136
6.2.6.3.4	Conclusion	138
6.2.6.4	Economic Impacts - Cost/benefit analysis of closed area access options	134
6.2.6.4.1	Proposed area access - Summary of results	138
6.2.6.4.2	Non-preferred options: Summary of the results	146
6.2.6.4.3	Assumptions and Methodology	153
6.2.6.4.4	Sources of uncertainty in the analysis	154
6.2.6.5	Social and Community Impacts.....	138
6.2.6.5.1	Impacts on the Sea Scallop Fishery	155
6.2.6.5.2	Impacts on the Multispecies and Monkfish Fisheries	157
6.2.6.5.3	Limiting Factors.....	158
6.2.6.5.4	Groundfish possession limits in the closed areas.....	159
6.3	Finding of No Significant Impact (FONSI).....	154
6.4	Regulatory Impact Review (RIR).....	162
6.4.1	Introduction	162
6.4.2	Executive Order 12866	162
6.5	Regulatory Flexibility Analysis (RFA).....	163
6.6	Endangered Species Act (ESA).....	163
6.7	Marine Mammal Protection Act.....	163
6.8	Coastal Zone Management Act (CZMA).....	162
6.9	Paperwork Reduction Act (PRA)	164
7.0	GLOSSARY	164
8.0	LITERATURE CITED.....	166
9.0	ACKNOWLEDGEMENTS.....	168

10.0 WRITTEN COMMENTS..... 168
**11.0 Appendix I: Depletion Model Projections Of Scallop Fishing Effort, Scallop Catch, And
Finfish Bycatch For Various Closed Area Access Alternatives..... 169**
**12.0 Appendix II: Preliminary analysis of the commercial dredge experimental fisheries in
Nantucket Lightship Area and Closed Area I during July to August 1999..... 176**
13.0 Appendix III: Joint Scallop and Groundfish PDT Report – October 17, 1997 177
14.0 Appendix IV: Sea Scallop Industry Bycatch Reduction Program Report 178
**15.0 Appendix V: Enforcement Comments from the US Coast Guard on Management Options in
Framework Adjustment 13 179**
**16.0 Appendix V: Final (15-Nov-99) Preliminary Monitoring Report from the Georges Bank Sea
Scallop Exemption Fishery 180**

1.1 List of Tables

Table 1. Foregone pounds and value for scallop vessels fishing in the groundfish closed areas. Source: Environmental Assessment for an Emergency Action to implement protective measures in the Northeast Multispecies Fishery prepared by NMFS-Gloucester; March 6, 1995.	1
Table 2. Total allowable catch and status of the Closed Area II fishery as of October 27, 1999. Source: NMFS– http://www.nero.nmfs.gov/ro/doc/gb102799.htm	2
Table 3. Distribution of trips and vessel participation during the Closed Area II fishery from June 15, 1999 to October 27, 1999. Source: NMFS– http://www.nero.nmfs.gov/ro/doc/gb102799.htm	2
Table 4. Summary of management measures in the proposed action.	31
Table 5. Boundary of the portion of Closed Area II for scallop fishing during June 15, 2000 to August 14, 2000.	33
Table 6. Proposed northeastern area of the Nantucket Lightship Area to re-open for scallop fishing from August 15 to September 30.	37
Table 7. Proposed boundary of the portion of Closed Area I for scallop fishing.	38
Table 8. Summary of TACs and limits for scallop access in the Georges Bank closed areas during the 2000 fishing year.	41
Table 9. Number of eligible vessels with full-time, part-time, and occasional scallop limited access permits as of February 11, 1999.	46
Table 10. Alternative 1: Proposed boundary of the portion of Closed Area I for scallop fishing.	64
Table 11. Alternative 2: Proposed boundary of the portion of Closed Area I for scallop fishing.	66
Table 12. Alternative 3: Proposed boundary of the portion of Closed Area I for scallop fishing.	68
Table 13. Alternative 2: Boundary of the portion of Closed Area II for scallop fishing.	70
Table 14. Boundary of the scallop buffer zone adjacent to Closed Area II.	80
Table 15. Trip allocations, conservation-neutral day-at-sea tradeoffs, and predicted net benefits for various possession limit options for trips by limited access scallop vessels that fish in the groundfish closed areas.	83
Table 16. Preliminary estimates of scallop density and meat weight in the Nantucket Lightship Area and Closed Area I.	100
Table 17. Sampling parameters and biomass estimates for the 1999 experimental fishery and the CMAST photographic survey in the Nantucket Lightship Area and Closed Area I.	104
Table 18. Sampling parameters and biomass estimates for the 1999 experimental fishery and the CMAST photographic survey post stratified to include only random survey stations within the boundaries of the region circumscribed by the photographic survey.	104
Table 19. Calculation of mean total sea scallop biomass in Nantucket Lightship Area.	105
Table 20. Calculation of median total sea scallop biomass in Nantucket Lightship Area.	106
Table 21. Calculation of mean total sea scallop biomass in Closed Area I.	107
Table 22. Adjustments applied to the CMAST photographic survey biomass estimates to estimate biomass throughout the area survey by the 1999 experimental fishery.	108
Table 23. Biomass estimates for the three closed areas from CMAST photographic survey, experimental fishery, and research survey data. The biomass values from each survey have been extrapolated to the entire closed area and adjusted by the expected change in exploitable biomass between 1999 (when the surveys were conducted) and 2000 when access is proposed by this framework adjustment.	110
Table 24. Adjustment of 1999 biomass estimates and calculation of 2000 scallop TACs for access to Georges Bank closed areas.	112
Table 25. Assumed vessel participation and maximum trip allocations for trip limits in common for all areas.	113
Table 26. Closed Area II catch rates for scallops and yellowtail flounder for observed trips.	115

Table 27. Mean number of animals captured per 10-minute tow in an experimental fishery conducted during July and August 1999.	116
Table 28. Mean stratified weight of yellowtail flounder caught on a 10-minute tow during a July to August experimental fishery.	117
Table 29. Observed movements of yellowtail flounder among stock areas (GOM: northern Gulf of Maine; CC: Cape Cod; GB: Georges Bank; SNE: Southern New England; MA: Mid-Atlantic) from Royce et al. (1959), Lux (1963a, 1963b), and Lux (unpublished). From NEFSC 1999a.	117
Table 30. Proposed TACs for yellowtail flounder.	119
Table 31. Estimated catch and effort for various trip allocations and trip limits to achieve conservation-neutrality.	125
Table 32. Summary of economic benefits.	138
Table 33. Impacts on vessel revenues, profits and break-even day-at-sea for a full-time vessel.	139
Table 34. Average ex-vessel price per pound and meat count by area.	140
Table 35. Gross and net revenues per DAS (allocation).	140
Table 36. Economic benefits.	142
Table 37. Vessel revenues, profits and break-even day-at-sea.	143
Table 38. Trip allocations and conservation-neutral day-at-sea tradeoffs for accessing groundfish closed areas in fishing year 2000.	146
Table 39. Gross and net revenues per DAS (allocation).	147
Table 40. Summary of economic benefits.	147
Table 41. Area opening options, landings, and DAS-used.	148
Table 42. Average ex-vessel price per pound.	149
Table 43. Gross and net revenues per DAS (used from allocation).	149
Table 44. Economic benefits.	151
Table 45. Economic benefits compared to the no access option.	151
Table 46. Vessel revenues, profits and break-even day-at-sea allocations.	152
Table 47. Proposed action: Depletion model projections to estimate conservation-neutral day-at-sea tradeoffs, catch, and effort – Scallop possession limit of 10,000 pounds; 40% dredge efficiency; participation by all vessels with active permits in the Nantucket Lightship Area and Closed Area I; participation by 178 vessels that fished in 1999 in Closed Area II.	170
Table 48. Depletion model projections to estimate conservation-neutral day-at-sea tradeoffs, catch, and effort – Scallop possession limit of 8,000 pounds; 40% dredge efficiency; participation by all vessels with active permits in the Nantucket Lightship Area and Closed Area I; participation by 178 vessels that fished in 1999 in Closed Area II.	171
Table 49. Depletion model projections to estimate conservation-neutral day-at-sea tradeoffs, catch, and effort – Scallop possession limit of 10,000 pounds; 40% dredge efficiency; participation by all vessels with active permits in the Nantucket Lightship Area and Closed Area I; participation by 178 vessels that fished in 1999 in Closed Area II.	172
Table 50. Depletion model projections to estimate conservation-neutral day-at-sea tradeoffs, catch, and effort – Scallop possession limit of 12,000 pounds; 40% dredge efficiency; participation by all vessels with active permits in the Nantucket Lightship Area and Closed Area I; participation by 178 vessels that fished in 1999 in Closed Area II.	173
Table 51. Depletion model projections to estimate conservation-neutral day-at-sea tradeoffs, catch, and effort – Scallop possession limit of 15,000 pounds; 40% dredge efficiency; participation by all vessels with active permits in the Nantucket Lightship Area and Closed Area I; participation by 178 vessels that fished in 1999 in Closed Area II.	174
Table 52. Depletion model projections to estimate conservation-neutral day-at-sea tradeoffs, catch, and effort – Scallop possession limit of 18,000 pounds; 40% dredge efficiency; participation by all vessels with active permits in the Nantucket Lightship Area and Closed Area I; participation by 178 vessels that fished in 1999 in Closed Area II.	175

1.2 List of Figures

Figure 1. Trip length distribution for scallop fishing trips to Closed Area II, during June 15 to October 27, 1999. Source: NMFS – http://www.nero.nmfs.gov/ro/doc/gb102799.htm	3
Figure 2. Daily vessel activity in Closed Area II from June 15 to October 27, 1999. Source: NMFS – http://www.nero.nmfs.gov/ro/doc/gb102799.htm	3
Figure 3. Proportion of scallop and yellowtail flounder TACs caught by vessels fishing in Closed Area II between June 15 to October 27, 1999. Source: NMFS – http://www.nero.nmfs.gov/ro/doc/gb102799.htm	4
Figure 4. Location of groundfish closed areas closed to scallop vessels during December 1994.....	6
Figure 5. Location of scallop closed areas in the Mid-Atlantic closed during 1998 by emergency action. .	7
Figure 6. Change in biomass of recruits and exploitable scallops for Closed Area II from 1994 (left bar) and 1998 (right bar). The hatched bar indicates the ratio of the biomass in 1998 to the biomass in 1994. Recruitment increased about six times compared with 1994 while the biomass of exploitable scallops increased by 8.5 times.....	9
Figure 7. Mean meat weight per tow from the NMFS scallop survey (1982 to 1998), stratified into closed and open areas of Georges Bank.....	10
Figure 8. Size frequency of shell heights of scallops captured by the NMFS scallop survey in 1998, comparing the size distribution within the open areas to the size distribution in the three groundfish closed areas.....	11
Figure 9. Seasonal change in meat weight for shell-heights ranging from 87 to 107 mm.	12
Figure 10. Seasonal relationship between scallop yield, gear conflict, and interactions with spawning and juvenile groundfish in Closed Area I.....	13
Figure 11. Seasonal relationship between scallop yield, gear conflict, and interactions with spawning and juvenile groundfish in Closed Area II.....	13
Figure 12. Seasonal relationship between scallop yield, gear conflict, and interactions with spawning and juvenile groundfish in Nantucket Lightship Area.....	14
Figure 13. Distribution and volume of scallops of various meat counts captured by commercial vessels during the CMAST experimental fishery in August to October 1998.....	16
Figure 14. Distribution of cod, haddock, and yellowtail flounder catches in the CMAST experimental scallop fishery during August to October 1998. The dashed lines show the outline of Closed Area II. The maximum number of fish per tow were cod – 2; haddock – 16; and yellowtail flounder – 253. The size of the markers is proportional to the number of fish observed in a standard 10-minute tow.	18
Figure 15. Possible area to be opened to scallop fishermen that would minimize conflicts with lobster gear. Area is defined by following coordinates (western boundary approximately matches 13900 loran line):.....	25
Figure 16. Recommended boundary line for northern limit of area open to scallop vessels, August 1 to December 31 in Closed Area II. According to a group of representatives from both industries, this line would minimize gear interactions between scallop vessels and scallopers.	26
Figure 17. Areas of lobster fishing activity in the vicinity of Closed Area I, as reported by the Atlantic Offshore Lobstermen's Association. Shaded area is bounded by the following coordinates:.....	27
Figure 18. Calendar year 1997 lobster landings (pots/traps only) by ten minute square (landings in pounds) (Source: NMFS VTR database).....	28
Figure 19. Calendar year 1998 lobster landings (pots/traps only) by ten minute square (landings in pounds) (Source: NMFS VTR database).....	23
Figure 20. Distribution and volume of scallops of various meat counts captured by commercial vessels during the CMAST experimental fishery in August to October 1998. Alternative 1 is all areas south	

of 41°30' N latitude and Alternative 2 is all areas south of the HAPC boundary, including the areas for Alternative 1. 34

Figure 21. Proposed scallop access boundaries and seasons for the Nantucket Lightship Area, Closed Area I, and Closed Area II. Dark shading represents areas where scallop fishing would be permitted during each season. Larger areas with hatched patterns represent different stock areas for yellowtail flounder. 36

Figure 22. Alternative 1: Proposed scallop access areas for Closed Area I and the Nantucket Lightship Area, showing the boundaries of the groundfish closed areas and yellowtail flounder stock boundaries (denoted by different shaded backgrounds). 65

Figure 23. Boundaries of areas considered by the Groundfish Oversight Committee for scallop fishing in 2000, showing the relationship to yellowtail flounder stock areas. In Closed Area I, the 43660 loran line is the southern boundary of the Habitat Committee's recommendations for the area to be considered. The shaded area, south of the 43660 line is the southern boundary for Alternative 1. The southern boundary for Alternative 2 is an east-west line at 41°07' N latitude, approximately at the same latitude as the middle of the 43660 loran line. 67

Figure 24. Boundary of area for scallop fishing in Closed Area I for Alternative 3. The southern boundary, along a straight line along the 43660 loran line corresponds to the Habitat Committee's recommendation. The northern boundary of the area where scallop fishing would be allowed, corresponds with the boundary of Closed Area I. The chart also shows the location of the Right Whale Critical Habitat Area and the location where fishermen report prevalence of lobster gear. 70

Figure 25. Boundaries of the Georges Bank scallop demarcation area where the closed area fishery regulations apply to any vessel fishing during a scallop day-at-sea. Closed area trips may be taken in the scallop buffer zone and in the portion of Closed Area II that lies south of 41°30' North latitude. 81

Figure 26. CMAST video survey conducted in Nantucket Lightship Area (NLSA), Closed Area I (CAI) and Closed Area II (CAII) during the May to September 1999. 102

Figure 27. Relationship between day-at-sea tradeoffs, scallop trip limits, and number of allocated trips for scallop fishing in Nantucket Lightship Area, Closed Area I, and Closed Area II. The stacking of the trips allocated is in the same order as the day-at-sea tradeoffs. 122

Figure 28. Relationship between the Great South Channel Right Whale Critical Habitat and the proposed scallop fishing access within Closed Area I. The shading represents the area of overlap. 137