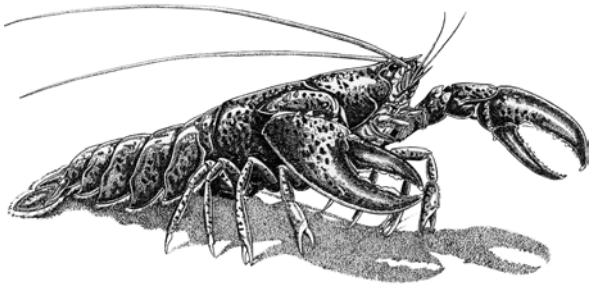
2002 REVIEW OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
FISHERY MANAGEMENT PLAN
FOR
AMERICAN LOBSTER
(*Homarus americanus*)



Plan Review Team

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2002 REVIEW OF THE ASMFC FISHERY MANAGEMENT PLAN FOR AMERICAN LOBSTER (*Homarus americanus*)

I. Status of the Fishery Management Plan

Year of Plan's Adoption:	1997
Framework Adjustments:	Addendum I (1999) Addendum II (2001) Addendum III (2002)
Management Unit:	Maine through North Carolina
States with a Declared Interest:	Maine through North Carolina
Active Committees:	American Lobster Management Board, Technical Committee, Stock Assessment Sub-Committee, Socio-Economic Sub-Committee, Database Sub-Committee, Effort Control Sub-Committee, Model Development Sub-Committee, Advisory Panel, Plan Development Team

II. Status of the Stocks

State by State Trend Analysis – March 2002

In the absence of an annual stock assessment for American lobster, the Technical Committee review annual trends in stock biomass and abundance as recorded by trawl surveys along the Atlantic coast. The 2002 state-by-state analysis of trends in biomass and abundance follow.

Maine

Preliminary landings of 46.4 million pounds in 2001 indicate that Maine landings have decreased by approximately 15% from the record landings of 57.4 million pounds in 2000. Monitoring trends show highest relative abundance of lobsters in western and mid-coast Maine, but in all areas relative abundance was significantly lower than in 2000. In 2001, sea sampling trips recorded 74% of berried female lobsters were marked with a V-notch. Due to high levels of resistance from industry in eastern Maine, only 75 of 100 planned survey tows were completed during the second annual inshore cooperative multi-species trawl survey.

New Hampshire

It is not possible to report on landings for 2001 at this time. New Hampshire landings were down in 2000 as compared with 1999. In addition, the 2000 landings of 1.2 million pounds were the lowest since 1992. In 2001, the New Hampshire lobster population was monitored by means of SCUBA captured lobsters and a sea sampling program. In 2001, SCUBA sampled lobsters had a lower annual catch per unit effort than the previous two years and overall relative lobster abundance was significantly lower than in 2000.

Massachusetts

It is not possible to report on landings for 2001 at this time. Lobster landings in 2000 were 5.6% below 1999, and 2.2% below the 5-year average. Massachusetts dive survey utilizing suction sampling to assess early benthic phase lobster abundance declined in 2001 in all four areas evaluated as compared to abundance densities in 2000. 2001 Fall trawl survey indices for pre-recruit and fully recruited lobsters were at or close to the 20-year time series lows in both the Massachusetts portion of the Gulf of Maine and Southern New England waters.

Rhode Island

It is not possible to report on landings for 2001 at this time. Lobster landings in 2000 were approximately 18% below 1999 landings. Trends in fully recruited lobster abundance have declined in Rhode Island over the past few years, the 1999-2001 fully recruited (83+mm) indices for both male and female lobsters are at the lowest of the 20-year time series. Annual Fall survey abundance indices for both male and female pre-recruits (73-82mm) show a slight increase in 2001.

Connecticut

A severe disease outbreak that occurred during 1998 and 1999 impacted harvest in western Long Island Sound (LIS) ports in 2000 and 2001, and the incidence of shell disease in the eastern LIS has continued to rise resulting in decreased value from a growing portion of the catch. Preliminary estimates indicate that approximately 1.36 million pounds of lobster were landed during 2001, compared to 1.38 million pounds in 2000. Monitoring indices of juvenile and adult lobster abundance show declines in all size classes in 2001. Results from larval sampling trips in 2001 were well below their respective time series means and were close to the lowest values in the 19-year time series. Spring Trawl survey indices of adult lobster abundance declined 31% from 2000, and the Fall survey indices were the lowest seen since 1989.

New York

A severe disease outbreak that occurred during 1998 and 1999 impacted harvest in western Long Island Sound (LIS) ports in 2000 and 2001, and the incidence of shell disease in the eastern LIS has continued to rise resulting in decreased value from a growing portion of the catch. Monitoring indices of juvenile and adult lobster abundance in LIS show declines in all size classes in 2001

New Jersey

Annual abundance of lobster (all sizes) in bottom trawl surveys off New Jersey coastal waters increased slightly from record lows in 2000, but were close to the lowest values in the 13-year time series.

Delaware

Delaware requested *de minimis* status for 2001, meeting the qualification criteria with average landings in 2000-2001 of 2,654 pounds (commercial landings averaging less than 40,000 pounds over the most recent two years). No lobsters were harvested from Delaware state waters, and most, if not all were landed as bycatch from black sea bass pots fished in the EEZ.

Maryland

Maryland requested *de minimis* status for 2001, meeting the qualification criteria with average landings in 2000-2001 of 32,993 pounds (commercial landings averaging less than 40,000 pounds over the most recent two years).

Virginia

Virginia requested *de minimis* status for 2001, meeting the qualification criteria with average landing in 2000-2001 of 175 pounds (commercial landings averaging less than 40,000 pounds over the most recent two years).

North Carolina

North Carolina requested *de minimis* status for 2001, meeting the qualification criteria with average landings in 1997-2001 of 877 pounds (commercial landings averaging less than 40,000 pounds over the most recent two years). Note that North Carolina can not provide landings data for 2000 and 2001 due to confidentiality issues.

ASMFC External Stock Assessment – July 2000

The last stock assessment for lobster was completed via an external peer review during summer 2000. The Stock Assessment Report provides an analysis of the lobster stocks through 1998 and this subsection is summarized from that report. Overall, fishing effort is intense throughout the range of the species and the stock is defined as overfished.

For assessment purposes, the lobster population is split into three regions: Gulf of Maine (GOM), George's Bank and South (GBS), and South of Cape Cod to Long Island Sound (SCCLIS). The quality and quantity of data do not currently permit the lobster population to be assessed at a greater level of detail.

Gulf of Maine (GOM)

Despite recent increases in landings and fishing effort, fishing mortality rates declined and abundance increased during the last ten years in the stock area as a whole, however a sub-area (Massachusetts Bay) showed very different conditions from the rest of the stock area. Total landings increased by 75% from 1982-1997, reaching a record high of 26,230 metric tons in 1997.

The average annual 1995-97 fishing mortality rates were 0.74 (49% annual exploitation rate) for females and 0.59 (42%) for males, with 80% confidence intervals of 0.54-0.88 and 0.30-0.70 respectively. Even though females are protected from fishing to a greater degree, female fishing mortality rates in the GOM were noticeably higher than male fishing mortality rates every year since 1987. Fishing mortality rates have remained relatively stable since 1993 for both males and females, but were higher in the late 1980s. There were no trends in exploitation indices calculated from NMFS fall survey data or in NMFS survey mass balance fishing mortality rates for either sex.

Egg production per recruit, based on 1995-1997 female fishing mortality, was 3.2% of maximum EPR. There was at least a 90% probability that female fishing mortality rates have exceeded the F10% EPR reference point (0.34) for this stock every year since 1982. According to the ASMFC overfishing definition this stock is overfished. However, recruitment into the fishery, total potential egg production, and stock abundance have increased in recent years, thus the majority of the Lobster Stock Assessment Sub-committee (LSASC) concluded that the stock is not currently recruitment overfished. Based on yield

per recruit analysis for females, this stock is growth overfished.

Georges Bank and South (GBS)

Unlike the other two stocks, landings, recruit abundance and full recruit population size remained relatively stable in the GBS stock area over the past 16 years. Total landings increased steadily from 2,444 mt in 1982 to a peak of 4,279 mt in 1990, and remained stable around 3,600 mt from 1992-1998. This stock is composed of a higher proportion of larger lobsters than the other two stocks. The fishery is less dependent on first molt group lobsters with 60-70% of the landings comprised of first molt group lobsters since the early 1990s compared to 90% in SCCLIS.
The average annual 1995-97 fishing mortality rates were 0.41 (31% annual exploitation rate) for females and 0.63 (44%) for males, with 80% confidence intervals of 0.32-0.46 and 0.59-0.69, respectively. Fishing mortality rates were higher for males, which only made up 30% of the average fully-recruited population but 53% of the landings during 1995-97.

Egg production per recruit, based on 1995-1997 female fishing mortality, is 6.2% of maximum EPR. There is at least a 90% probability that female fishing mortality rates have exceeded the F10% EPR reference point (0.29) for this stock in 8 out of the last 16 years. According to the ASMFC overfishing definition this stock is overfished. However, recruitment into the fishery, total potential egg production, and stock abundance have remained stable, thus the majority of the LSASC concluded that the stock is not currently recruitment overfished. Based on yield per recruit analysis for females, this stock is growth overfished.

South of Cape Cod and Long Island Sound (SCCLIS)

Despite a steady increase in landings, and fishing mortality in recent years, the number of recruits in the SCCLIS stock area increased almost three-fold since the mid 1980s. Landings increased steadily from 2,352 metric tons in 1982 to a record high of 6,894 metric tons in 1997, nearly tripling over the time series.

Average 1995-97 fishing mortality rates were estimated from fall landings and survey data were 1.41 for males (71%) and 1.25 for females (67%) with 80% confidence intervals of 1.2-1.5 and 1.07-1.37, respectively. These fishing mortality rates were much higher than the average 1995-97 fishing mortality rates in the other two assessment areas. Fishing mortality rates for the SCCLIS stock as a whole fluctuated, but generally increased after the mid-1980s and remained above 1.0 (60% annual removal rate) during the past ten years. Recent fishing mortality estimates derived from CT fall survey data in LIS were even higher (80% removal rates) and increased steadily since the early 1980s. However, spring survey fishing mortality rates did not change over the time series and were not as high (60% removal rate). Area 539 fishing mortality rates have not changed to any notable degree since 1982, but were below average during the last four years.

Egg production per recruit, based on 1995-1997 female fishing mortality, is 8.3% of maximum EPR. There is at least a 90% probability that female fishing mortality rates exceeded the F10% EPR reference point (0.84) for this stock in 11 out of the last 16 years and every year since 1991. According to the ASMFC overfishing definition this stock is overfished. However, recruitment into the fishery, total potential egg production, and stock abundance have increased in recent years, thus the majority of the LSASC concluded that the stock is not currently recruitment overfished. Based on yield per recruit analysis for females, this stock is growth overfished.

III. Status of the Fishery

Harvests of American lobster peaked in 1999 at 39,654 metric tons. The significance of this increase in harvest is most easily illustrated by comparing 1999 landings to that of the period between 1978-1987 (15-20,000 mt). Landings have continued to increase over time, with small decreases occurring in 1992, 1998, and 2000. Maine and Massachusetts account for 84% of the 2000 commercial landings, 66% and 18% respectively. The magnitude of recreational landings is unknown.

During the fall and winter of 1999-2000, the lobster resource in western Long Island Sound suffered mass moralities, possibly associated with a parasite infestation. Following requests from the Governors of NY and CT, the U.S. Secretary of Commerce, on January 26, 2000, declared the Long Island Sound die-off to be a commercial fishery failure. Following the declaration, the U.S. Congress appropriated $13.9 million to address the biological and economic consequences of the fishery failure. Plans are to utilize $7.3 million to provide economic relief funds for impacted NY and CT lobstermen, and utilize $6.6 million in research funds for a comprehensive, collaborative research and monitoring program into the possible cause(s) of poor lobster health in LIS.

Table 1. Total commercial landings in metric tons. (Based on NMFS landings data as of 9/24/02)

Year	Metric tons	Pounds	$
1990	28,297	62,383,125	154,757,113
1991	29,073	64,093,998	166,014,347
1992	25,978	57,270,826	166,371,185
1993	26,290	57,958,940	160,260,573
1994	31,720	69,930,711	207,161,675
1995	31,742	69,978,238	214,465,158
1996	32,346	71,310,316	241,785,034
1997	37,455	82,572,804	271,573,416
1998	36,330	80,092,672	255,103,096
1999	39,654	87,420,414	322,754,058
2000	39,429	86,926,003	314,255,145

Table 2. Landings of American Lobster by the states of Maine through New Jersey from 1990-2000 (pounds). (Source, NMFS Commercial Fisheries Statistics Web Page as of 9/24/02)

Year	Maine	Massachusetts	Rhode Island	New York	Connecticut	New Hampshire	New Jersey
1990	28,068,238	17,054,434	7,258,175	3,431,111	2,645,800	1,658,200	2,198,867
1991	30,788,646	16,528,168	7,445,172	3,128,246	2,674,000	1,802,035	1,673,031
1992	26,830,448	15,823,077	6,763,087	2,651,067	2,439,600	1,529,292	1,213,255
1993	29,926,464	14,336,032	6,228,470	2,667,107	2,177,022	1,693,347	906,498
1994	38,948,867	16,100,264	6,474,399	3,954,634	2,212,000	1,650,751	581,396
1995	37,208,324	15,771,981	5,363,810	6,653,781	2,536,177	1,834,794	606,016
1996	36,083,443	15,330,377	5,296,110	9,408,689	2,888,683	1,632,829	640,207
1997	47,023,271	15,092,014	5,801,183	8,878,395	3,468,051	1,414,368	858,426
1998	47,036,836	13,278,726	5,618,440	8,525,590	3,715,316	1,194,653	721,811
1999	53,494,418	15,533,953	6,410,125	7,062,687	2,595,764	1,380,714	935,837
2000	57,215,406	15,802,888	6,921,573	2,991,331	1,393,565	1,709,746	891,183

IV. Status of Assessment Advice

The fact that lobster stock abundance has either remained stable or increased despite high and, in some cases, increasing fishing mortality rates, has led to a great deal of speculation concerning the resiliency of the lobster resource to high exploitation rates.

High priority recommendations for improvements in assessment methodology include:

- Develop a database to calculate lobster landings by area caught, time period, sex, and length in a timely and efficient manner (See Section 11.3);
- Evaluation of additional stock assessment models and analyses that could provide the basis for alternative biological reference points for lobsters that would complement the current F10% maximum egg production per recruit reference point, and account for prevailing spawning stock size, total egg production, or recruitment;
- Development of a yield per recruit analysis for male lobsters;
- Analysis of biological risk and economic costs and benefits associated with different management policies that rely on stock assessment models and reference points;
- Expanded use of annual trawl survey data for juvenile lobsters and development of surveys to monitor annual changes in abundance of pre-recruits and predict the effects of variable recruitment on stock abundance; and
- Expanded data collection efforts throughout the range of the resource to determine the spatial distribution of fishing effort and changes to the distribution of effort over time.

V. Status of Research and Monitoring

Prioritized Research Needs 2002

HIGH PRIORITY

- Initiate studies of life history events (molting, extrusion, mortality, etc.) in older/larger lobsters on a regular basis.
- Monitor the condition of the stocks and determine the effects of management measures and environmental changes on the abundance of the stocks and on the fisheries.
- Resolve the question of stock identification, particularly as related to inshore/offshore components south of Georges Bank. Appropriate genetic studies are highly recommended and a compilation and analysis of existing tagging data should be undertaken prior to any new tagging studies. (Bruce Estrella complied tagging studies in the early 1990s. The Technical Committee concluded that this compilation was fruitless because many databases were lost and the lack of consistent information across studies made it difficult for comparisons. See Note in References Section concerning work being conducted by the NEFSC.)
- Yield-per-recruit analyses should be conducted for males.
- Include process error in growth, reproduction, etc; and evaluate effects of assumptions of maximum intermolt periods, maximum size and the partitioning of natural mortality in the egg production per recruit model. Obtain information on molting frequency and lobster growth, mortality, and recruitment among years and geographical areas. (Estrella/Massachusetts has an ongoing hatchery study on this topic.)
- Quantify changes in the spatial distribution of effort.
- Enhanced sea sampling and/or port sampling of offshore catches is urgently needed for biological characteristics of catches and landings since current sampling in these areas is considered inadequate for assessment purposes. (See Note Reference Section concerning work being conducted by the NEFSC.)
- Methods should be developed to derive standardized catch-per-unit-effort indices which include trap attributes, season, soak time, etc. Sea sampling should be modified to include collection of potentially important variables.
- Estimates of biological reference points for the Gulf of Maine stock are partly influenced by the

assumed level of v-notching undertaken by area fishermen. No adequate estimate of the proportion of compliance with this voluntary measure now exists. A credible study of this issue is recommended to reduce uncertainty in estimation of biological reference points. (See Note in Reference Section concerning ongoing work.)

- Analyze effects of different spatial combinations of survey stations in the Delury model.
- Develop area-specific data on effort and LPUE (Forthcoming with ACCSP logbook.)

MEDIUM PRIORITY

- Examine effects of measurement errors and define acceptable levels of risk in the egg production per recruit model.
- Develop a monitoring plan to detect recruitment decline.
- The inclusion of multiple survey indices in DeLury population models could potentially be useful in refining estimates of stock size and F, and should be explored. (A preliminary version of the DeLury model with multiple indices has been developed, but was not available for SAW-22).
- Predictions of EPR models should be validated with respect to data from fishery-dependent and fishery-independent sources including: length frequency distribution of catch, projected growth trajectory, and sixe-specific sex ratios, fraction egg bearing, fraction soft shell, and fraction V-notched.
- Explore alternatives to timing of events in the EPR model. Investigate geographic and seasonal patterns of growth, reporoductive events, and fishing intensity from catch and sea sampling data. Standardize methods of sampling and statistical analysis are needed to determine these patterns.
- Obtain information on natural mortality rates. The effects of alternative partitionings of natural mortality (M) between hardshell and softshell should be investigated, and attempts should be made to estimate rates from field or laboratory data.
- Examine the sensitivity of F (10%) to input parameters in the egg production per recruit model. Specific information for micro-area is needed.
- Additional analyses of biological attributes of the catch and survey data are needed to corroborate patterns and trends in F estimates.
- Examine temperature effects on growth, reproduction, etc. (Many lab studies have been done, but have not been related to the EPR model in the form of an environmental component.)
- Conduct spatial mapping of survey indices and projected egg production.
- More precise and accurate DeLury model estimates of stock size and fishing mortality rates can be made if the relative selectivity of pre-recruit and fully recruited sizes to the bottom trawl survey gear is resolved. Appropriate field studies of lobster availability and R/V gear selectivity are considered a priori.
- Develop standardized LPUE-index fishers.
- Investigate the effects of spatial distribution/movements/selectivity in the Delury model.
- Examine trap effects on catch.
- Undertake regional examination of temperature-yield relationship. (Estrella, Bruce, and Steven Cadrin. 1991. Massachusetts coastal commercial lobster trap sampling program, 1990 Annual Report. 52 pp.; Fogarty, Michael J. 1988. Time series models of Maine lobster fishery: Effects of temperature. Canadian Journal of Fisheries and Aquatic Sciences, Volume 45, 1145-1153.)
- Examine temperature, effort, and abundance effects on catch.
- Use comparative evaluations of reproductive rates with respect to temperature.
- Terminology for lobster life stages need to be defined and standardized for each state's sampling programs in order to ensure comparability and synthesis of available data.
- Examine fixed and random sampling.
- Include multiple input series in modeling for lobster.
- Compare fishery-dependent and fishery-independent length frequencies. (Completed through stock

assessment process but no formal document.)
- Develop a time series of standardized fishing effort and compare with F.

LOW PRIORITY

- Compile existing tagging data-transfer rates.
- Compile existing larval data - transfer rates.
- Examine spatial differences in F (10%) in the egg production per recruit model.
- Evaluate potential biases in the Delury analysis due to incomplete coverage in different substrates.
- Assess the utility of satellite DNA and apply throughout range, if promising. Genetic identity of LIS population should be examined. (Dr. Irv Kornfield, University of Maine, paper in press/process for LIS data; papers on utility of satellite DNA should be out. See Note in Reference Section.)
- Conduct cooperative studies with fishers on gear efficiency.
- Obtain information on operational and socioeconomic data for the commercial fisheries.
- Undertake sensitivity analyses in the DeLury model.
- Develop models with enhanced size/stage structure.
- Test the thermal limit hypothesis.
- Examine effects of predation, regime shifts, etc.
- Establish field studies of density-dependent processes. (Bob Steneck in progress.)
- Combined analyses of inshore and offshore southern stocks produced intermediate results, and were sensitive to the research vessel series (Rhode Island inshore or NEFSC offshore) used for DeLury modeling. Quantitative methods for combining stock status and reference points to multiple stock areas are necessary for providing region-wide assessment advice for the American lobster resource through its range.
- Investigate spatial differences in demography of American lobster**.**

VI. Status of Management Measures and Issues

Amendment 3 established management measures that require coastwide and measures applicable to commercial fishing in lobster management areas. The coastwide requirements are summarized in Table 3.

Table 3. Coastwide requirements and prohibited actions

- Prohibition on possession of berried or scrubbed lobsters
- Prohibition on possession of lobster meats, detached tails, claws, or other parts of lobsters
- Prohibition on spearing lobsters
- Prohibition on possession of v-notched female lobsters
- Requirement for biodegradable "ghost" panel for traps
- Minimum gauge size of 3-1/4"
- Limits on landings by fishermen using gear or methods other than traps to 100 lobsters per day or 500 lobsters per trip for trips 5 days or longer
- Requirements for permits and licensing
- All lobster traps must contain at least on escape vent with a minimum size of 1-15/16" by 5-3/4"
- Maximum trap size of 22,950 cubic inches in all areas except area 3, where traps may not exceed a volume of 30,100 cubic inches.

Amendment 3's measures applicable to commercial fishing in lobster management areas are summarized in Table 4. Amendment 3 also established seven Lobster Conservation Management Teams (LCMTs), each of which coincides with a management area.

Table 4. Measure applicable to commercial fishing in management areas.

Measure	*Area 1*	*Area 2*	*Area 3*	*Area 4*	*Area 5*	*Area 6*	*Outer Cape*
Number of traps per vessel	1998: 1200 1999: 1000 2000: 800	1998: 1200 1999: 1000 2000: 800	1999: 2000	Investigate the need for trap reductions	Investigate the need for trap reductions	Investigate the need for trap reductions	1998: 1200 1999: 1000 2000: 800
Other	5" max. gauge size; proposal for area closure with Area 3		proposal for area closure with Area 1	Investigate the need for other measures to achieve egg production rebuilding schedule	Investigate the need for other measures to achieve egg production rebuilding schedule	Investigate the need for other measures to achieve egg production rebuilding schedule	

The Commission has approved three addenda for the purposes of incorporating LCMT recommendations for full implementation of Amendment 3. Addendum I incorporated measures from the LCMT proposals, which were intended to control effort. Addenda II and III, following the release of an updated, peer-reviewed stock assessment, were designed to address management measures affecting egg production. The measures included in Addenda I, II, and III supercede measures addressing similar issues under Amendment 3. The measures required under Addenda I,II, and III are summarized in Tables 5,6, and 7 below.

Table 5. Required Provisions of Addendum I to Amendment 3

Plan Section	*Management Measure*
2.2	Black sea bass pot fishery limits in Area 5
2.3.4	All commercial traps aboard a vessel must be tagged
2.3.4	All recreational traps must be tagged
2.3.5	Routine loss rate
2.3.5	Tag issuance and effective dates
2.3.5	Mechanism to issue replacement tags
2.3.6	Catastrophic tag loss
2.4	Circular escape vent
2.5.2.1	No Area closure between Area 1 and 3
2.5.3.1	Area 2 trap limit
2.5.3.2	Area 2 control date
2.5.5.1	Area 4 trap limit and evaluation
2.5.6.1	Area 5 trap limit and evaluation
2.5.7.1	Area 6 trap limit and evaluation
2.5.8.1	Outer Cape trap limit

Table 6. Required Provisions of Addendum II to Amendment 3

Plan Section	*Management Measure*
2.1	Egg Production Rebuilding Schedule
2.2.1	Minimum Gauge Size Increase (Areas 2, 3, 4, 5, and Outer Cape)
2.2.2	Minimum Escape Vent Size (Areas 2, 3, 4, 5, and Outer Cape)
2.2.3	Trap Reduction Schedule (Area 3)
2.2.4	Reporting Requirement (Area 3)
2.2.5	Review of Area Management Program

Table 7. Required Provisions of Addendum III to Amendment 3

Plan Section	*Management Measure*
2.1.1	Area 1 Requirements (Vent Size, V-notch Definition, Mandatory V-notching)
2.1.2	Area 2 Requirements (Minimum Gauge Size)
2.1.3	Area 3 Requirements (Minimum Gauge Size, Mandatory V-notching, Overlap Area, Choose and Use Provision)
2.1.4	Area 4 Requirements (Minimum Gauge Size, Maximum Gauge Size)
2.1.5	Area 5 Requirements (Minimum Gauge Size, Maximum Gauge Size)
2.1.6	Area 6 Requirements (Minimum Gauge Size, Management Program after 2005)
2.1.7	OCC Requirements (Minimum Gauge Size, Trap Reduction Schedule, Annual Trap Transfer period)

VII. Current State-by-State Implementation per Compliance Requirements (As of August 26, 2002)

All states are currently in compliance with all required measures under Amendment #3, Addendum I, Addendum II, and Addendum III.

VIII. Recommendations and Research

The following are recommendations from the Plan Review Team:

1. The PRT recommends that states implement logbook programs to collect data that may not be collected through the Atlantic Coastal Cooperative Statistics Program.
2. On July 1, 1998, the moratorium on new commercial licenses in Rhode Island was lifted. The PRT encourages Rhode Island to take the necessary steps to cap or limit the sales of new commercial licenses.
3. An important and influential input to the egg-per-recruit model relates to maturity and the egg extrusion cycle. Data on this subject is either lacking or incomplete. The PRT recommends further research on this subject along the entire coast.
4. Under Amendment 3, the Board deferred action on monitoring and reporting until the Atlantic Coastal Cooperative Statistics Program had made recommendations on a coastwide statistics program. The information collected under this program will play an integral role in area management. The PRT encourages the implementation of this program as soon as possible.