December 11, 1992

Dear Reviewer:

In accordance with provisions of the National Environmental Policy Act of 1969, we enclose for your review the Final Environmental Impact statement (FEIS) for the Fishery Management Plan for Sharks of the Atlantic Ocean (FMP).

The FMP, when implemented, would regulate commercial and recreational shark fisheries in the Exclusive Economic Zone of the Atlantic Ocean, Gulf of Mexico, and the Caribbean Sea. The FMP's management objectives include preventing overfishing of shark resources, encouraging consistent management of oceanic shark species throughout their ranges, preventing the wasteful practice of "finning" sharks (removing the fins and discarding the carcass at sea), and establishing a shark fisheries data collection program. The FMP and implementing regulations would establish (1) annual commercial quotas for several major groups of sharks, (2) recreational bag limits, (3) commercial permit requirements, (4) fishery information reporting requirements, (5) a regulatory adjustment procedure, and (6) other measures.

Any written comments, requests for additional copies of the FEIS, or questions you may have regarding this FEIS should be submitted to the responsible official identified below by (January 18, 1993). Also, one copy of your comments should be sent to me in Room 6222, CS/EC, U.S. Department of Commerce, Washington, D.C. 20330.

RESPONSIBLE OFFICIAL: William w. Fox, Jr.
Assistant Administrator for Fisheries
Attention: Richard H. Schaefer
National Marine Fisheries Service
1335 East-West Highway
Silver Spring, MD 20910.
Telephone (301) 713-2334

Sincerely,

/s/ Donna Weiting for
David Cottingham
Director, Office of Ecology
and Environmental Conservation

Enclosure

APPENDIX I

FINAL ENVIRONMENTAL IMPACT STATEMENT

Responsible Agency
National Marine Fisheries Service

Cooperating Agency
Regional Fishery Management Councils (Covering the Atlantic, Gulf of Mexico, and Caribbean Sea)
Intercouncil Shark Advisory Committee

Title of Action
Fishery Management Plan for Sharks of the Atlantic Ocean (FMP)

Contact Person
Richard H. Schaefer, Director
Office of Fisheries Conservation and Management
National Marine Fisheries Service (NOAA)
1335 East-West Highway, Silver Spring, MD 20910.
Telephone (301) 713-2334

Copies of the FMP/FEIS are available from this address.

Designation of the Statement
Final Environmental Impact Statement

Abstract
The Secretary of Commerce (Secretary) will issue a final FMP and implement through Federal regulations. The FMP is prepared under authority of the Magnuson Fishery Conservation and Management Act (Magnuson Act) and will place 39 species of sharks under management within the U.S. exclusive economic zone (EEZ) of the Atlantic Ocean, Gulf of Mexico, and Caribbean Sea. The FMP should rebuild the overfished large costal species group to a maximum sustainable yield level, prevent overfishing of the fully utilized pelagic and small coastal species groups, and curtail the practice of "finning" (practice of harvesting sharks for the fins alone). The FMP establishes commercial and recreational catch restrictions and a fishery data collection and reporting system, and requires commercial permits for sale of sharks harvested in the EEZ. Management measures may be adjusted by the NOAA Assistant Administrator for Fisheries through a framework regulatory adjustment procedure. There is no indication that the FMP will have any adverse impact on the physical environment. However, the shark fisheries are observed to have certain adverse impacts on marine mammals and protected species; the FMP does not directly reduce or eliminate these impacts but could reduce them by limiting the amount of shark fishing effort. While the new management program is expected to cause short term economic losses to the commercial fishery through imposition of commercial

quotas, permits, and finning restrictions, the FMP should produce long term resource and economic benefits. Recreational and commercial fisheries should continue indefinitely, under regulatory controls, supported by a healthy shark resource.

Comment Due Date

Comments on the statement are required by January 19, 1993.

TABLE OF CONTENTS

The Final Environmental Impact Statement (FEIS) consists of the text incorporated in this Appendix I as well as those sections of the Fishery Management Plan for Sharks of the Atlantic Ocean (FMP) referenced below in the FEIS Table of Contents:

FEIS Table of Contents

BACKGROUND

Preparation of the Proposed FMP

The National Marine Fisheries Service (NMFS) prepared the FMP on behalf of the Secretary of Commerce (Secretary) under authority of the Magnuson Fishery Conservation and Management Act (Magnuson Act). Preparation of the FMP began under section 304(c) of the Magnuson Act, which provides for Secretarial preparation under certain circumstances. The Fishery Conservation Amendments of 1990 (1990 Amendments) gave the Secretary full management responsibility for managing Atlantic highly migratory species, including "oceanic sharks." Accordingly, the FMP and implementing regulations are being issued under section 304(f) of the Magnuson Act.

In the late 1980's, the five Regional Fishery Management Councils (Councils) with management responsibilities covering the exclusive economic zone of the Atlantic Ocean, Gulf of Mexico, and Caribbean Sea recognized: (1) the need for the FMP due to rapidly increasing catches attributed to the demand for shark fins and meat; and (2) that the expected lengthy schedule for developing and implementing a five-Council FMP would delay those actions necessary to conserve the exploited shark resources. On June 3, 1989, the five Councils recommended that the Secretary develop an FMP that would: (1) cap the growth of the commercial fishery; (2) establish a recreational bag limit; (3) eliminate "finning" (harvesting sharks for fins only); and (4) initiate a fishery data collection program. Their concern was that the late maturity and low fecundity of sharks, coupled with increasing fishing mortality, could result in long-term damage to shark resources. The management objectives and measures of the FMP are intended to address these concerns.

NMFS has prepared three sequential drafts of the and a final FMP. The first draft, completed in October 1989, was presented at 22 public hearings and was commented upon extensively. Based on the comments received, NMFS determined that an updated stock assessment was necessary. In December 1990, the Southeast Fisheries Science Center (SEC) completed a new shark stock assessment. The 1990 Amendments and the new assessment necessitated significant changes to the initial draft. The second draft was completed in April 1991 and was presented at eight additional public hearings. The third draft ("proposed FMP"), revised based on the comments received during the second round of public hearings, was completed on October 21, 1991, and released for public review and comment from January 8 to March 9, 1992. The proposed rule was published and made available for public review and comment from June 5 through July 23, 1992.

Preparation of the Final FMP and FEIS

Some 1,159 individual public comments were received on the FMP, DEIS, and proposed regulations. Commenters included: (1) numerous individuals with a variety of views (e.g., recreational and commercial fishermen, fish dealers or processors, charter vessel and headboat owners, and interested citizens); (2) many groups or organizations representing diverse fishery interests, including commercial and recreational sectors, fish processing or export-import businesses, environmental organizations, animal rights groups, and scientific research entities; (3) state and Federal agencies; and (4) five regional fishery management Councils covering the east coast, Gulf of Mexico, and Caribbean areas.

NMFS has evaluated the public comments received and presents the following summary of the public concerns. There was overwhelming support for management of Atlantic sharks and general support for approval and implementation of the FMP. In terms of number of comments, some 57 times (1,030 commenters) more commenters supported management of Atlantic Ocean sharks than (18 commenters) opposed it, and some 4 times more (765) commenters supported implementation of the FMP than opposed (175) it. Support for the FMP was from a broad cross section of constituents, including citizens, commercial and recreational fishermen, many coastal state agencies, and the five Councils. Opposition to the FMP came primarily from several commercial fishermen associations, the State of North Carolina and certain North Carolina shark fishermen, and individual shark dealers/processors along the Atlantic and Gulf of Mexico coasts. A summary of the issues raised by the public comments is available. The public comments are summarized in the FEIS and in the final rule preamble with the agency responses.

During the public comment periods held on the proposed FMP, DEIS, and the proposed rule, significant new information was received from fishermen, fish buyers, and state fishery management agencies. This information included: (1) fishery removals not previously recorded; (2) sizes of landed sharks; and (3) the number of commercial fishing vessels targeting sharks. The additional information significantly changed the analytic results of the last stock assessment done in 1990 (Parrack, M.L., 1990, A Study of Shark Exploitation in U.S. Atlantic Coastal Waters during 1986-89).

To ensure that the FMP management measures are based upon the best scientific information available, a revised assessment of the condition of the large coastal species group was completed recently by the Southeast Fisheries Science Center, NMFS. The revised assessment was reviewed by a scientific peer committee consisting of both outside scientific experts and NMFS scientists. The Review Committee issued its final report on

November 23, 1992 (Report of the Atlantic Coastal Shark Fishery Analysis Review, November 23, 1992).

The Review Committee reports evidence of overfishing for the large coastal group during 1986 through 1992 (except for 1987 and 1990). The Committee recommends that calendar year 1993 landings for the large coastal group be reduced below the calendar year 1991 landings level of 4,319 mt dressed weight. The Committee Report establishes three options for the calendar year 1993 landings limit (recreational and commercial combined) for the large coastal group. Each option provides a specific degree of conservation and economic benefits.

NMFS considered the Review Committee's recommendations for the conservation of the shark resources, specifically the large coastal group, and adopted the conservation option that provides for stock rebuilding of the large coastal group biomass at 5 percent a year until it reaches MSY level by the beginning of 1995. NMFS has adopted the Review Committee's specific rebuilding schedule for this option with certain changes. The Committee indicated that stock yields would not approach MSY level until the end of 1998 under its rebuilding schedule. NMFS believes that a rebuilt large coastal species group stock size of 14,900 metric tons dressed weight reached by 1995 will yield MSY.

Based on public comments and the provision of new data and analysis, certain management measures in the final FMP were changed from the proposed FMP. These changed measures include the following:

1. Large coastal species group--revised optimum yield, total annual landings, commercial quotas, MSY, and recreational fishery limits (see discussion below).

2. Pelagic species group--revised optimum yield, total annual landings, commercial quotas, MSY, and recreational fishery limits (see discussion below).

3. Mako minimum size was reserved. The mako minimum size was reserved in the final FMP because of inadequate supporting biological information. There was no clear evidence that significant conservation benefits would accrue. Our proposed application of the measure differently to the recreational and commercial fisheries raised many public objections that could not be overcome with demonstrable stock conservation benefits. NMFS will ask the Operations Team to review this measure, as well as possible minimum sizes for other species, and provide NMFS with its recommendations regarding appropriate measures for implementation.

4. Fishing season and assignment of commercial quotas was changed. Specifically, changed from (1) a fishing year running from July 1 of each year though June of the next year with associated fishing year commercial quotas for the large coastal and pelagic species groups to (2) calendar year commercial quotas for the large coastal and pelagic species groups; each annual quota will be divided into two equal half-year quotas that will apply to the following two fishing periods--January 1 through June 30 and July 1 through December 31.

Finally, NMFS has prepared the FEIS herein based on the public comment which has been summarized and addressed.

Contents of Final FMP

The Secretary has determined that action is necessary to conserve and manage Atlantic shark resources. The FMP measures are based on the best available scientific information. The present state of resource and fishery knowledge makes shark management difficult on an individual species basis. However, the FMP moves in that direction by establishing certain separate groups of species (based on their being caught in the same or similar fisheries and on occupying similar oceanic niches) for management and assessment purposes: (i.e., large coastal, small coastal, and pelagic species groups). Immediate management measures will be placed on fishing for the managed shark species (see FMP section 7).

The objectives of the FMP are to: (1) prevent overfishing of Atlantic shark resources; (2) encourage management of shark resources throughout their full geographical ranges; (3) establish a data collection, research, and monitoring program for the shark resources and associated fisheries; and (4) increase the benefits from shark resources to the United States while reducing waste consistent with the other objectives.

The FMP's management unit contains 39 species of sharks found in the western north Atlantic Ocean. These species are frequently caught in commercial and/or recreational fisheries. Species in the management unit were separated into three groups for assessment and regulatory purposes: large coastal sharks (22 species), small coastal sharks (7 species), and pelagic sharks (10 species). The stock assessment determined that large coastal sharks are overfished, while pelagic and small coastal sharks appear to be fully exploited.

The FMP lists 34 additional species for data collection purposes, but they are not part of the management unit. These species are not overfished and are not included in MSY estimates. Most of these 34 species are small, deep-water sharks that are taken incidentally in directed shark, swordfish, or tuna longline fisheries. This group also includes the spiny dogfish and the

smooth dogfish that enter shallow water. These latter two species are extremely abundant, but are in relatively low demand. The FMP includes the following management measures:

(1) calendar year commercial quotas (divided into two equal half year quotas for the fishing periods January 1 through June 30 and July 1 through December 31) for large coastal and pelagic species groups;

(2) a recreational trip limit of 4 sharks per vessel per trip for large coastal and pelagic species combined and a bag limit of 5 fish per person per day for small coastal species;

(3) a requirement for annual permits for vessels fishing sharks commercially; a permit eligibility requirement that the owner or operator (including charter vessel and headboat owners/operators who intend to sell their catch) must show proof that at least 50 percent of earned income has been derived from sale of the fish or fish products or charter vessel and headboat operations or at least $20,000 from the sale of fish during one of three years preceding the permit request.

(4) a limitation on the sale of sharks harvested in the exclusive economic zone (EEZ) to those caught from permitted vessels--permits are contingent on meeting a commercial fishing income requirement during previous years;

(5) a prohibition on finning by requiring permitted vessels to land fins in proportion to carcasses (a ratio by weight of wet fins to the dressed carcass that does not exceed 5 percent);

(6) a requirement that sharks not harvested as part of the commercial quota or used for home consumption be released in a manner that will ensure maximum probability of survival;

(7) a requirement for data reports from all owners/operators of permitted vessels and persons conducting shark tournaments, and a log book requirement for selected vessels and tournaments;

(8) a requirement that permitted vessels accommodate observers upon request;

(9) a requirement that permitted vessels cease fishing in all waters (including state waters) when the commercial fishery is closed;

(10) authorization for the Assistant Administrator for Fisheries to implement or adjust certain measures (i.e.,following an established framework regulatory procedure;

(11) a zero total allowable level of foreign fishing (TALFF) for sharks in the Atlantic, Gulf of Mexico, and Caribbean EEZ; and

(12) establishment of an FMP Operations Team (OT) composed of representatives from NMFS (management and scientific management personnel), the five Regional Fishery Management Councils (Councils) covering the east coast, Gulf of Mexico and Caribbean Sea (Council members, staff, and advisory panel or scientific committee members), and the ICCAT Advisory Committee. The OT will monitor the fishery and FMP and recommend regulatory adjustments for implementation by the Assistant Administrator for Fisheries.

Discussion of Changed Measures and Means of Implementation

1. Revised stock assessment and new MSY estimates, optimum yields, commercial quotas, and bag limits.

During the public comment period held on the proposed FMP and on the proposed implementing rule, significant new fishery information was received from fishermen, fish dealers/processors, and several state fishery agencies. This new information included: (1) data showing fishery removals in recent years higher than those used as a basis for determining MSY and stock conditions in the May 1990 stock assessment; (2) records on the size frequency of shark species caught in commercial fisheries; and (3) information on the commercial fishing fleet. NMFS reviewed this new information and determined that incorporation of these new data in the stock assessment could result in conclusions about the abundance, productivity, and condition of the managed shark species significantly different from those listed in the proposed FMP (dated October 28, 1991).

To ensure that all FMP management measures are based upon the best scientific information available, a revised assessment of the condition of the large coastal species group was completed by the NMFS Southeast Fisheries Science Center. The revised assessment was reviewed by a scientific peer committee consisting of both outside scientific experts and NMFS scientists. The Review Committee issued its final report on November 23, 1992 (Report of the Atlantic Coastal Shark Fishery Analysis Review, November 23, 1992).

The Review Committee reported evidence of overfishing for the large coastal group during 1986 through 1992 (except for 1987 and 1990). The Review Committee recommended that the calendar year 1993 landings for the large coastal species group be reduced below the calendar year 1991 landings level of 4,319 mt dressed weight. The Committee Report establishes three options for the calendar year 1993 landings limit (recreational and commercial combined) for the large coastal group. Each option provides a specific degree of conservation and economic benefits.

Under the Committee's first option for the 1993 calendar year total landings (3,520 mt dressed weight), the large coastal stock

would not rebuild to the MSY level (14,900 mt). To ensure that the large coastal group is rebuilt to the MSY level, NMFS has selected the Committee's recommended second option (Option 2--see Table 4 of the Committee Report) establishing 1993 total landings of 2,900 mt dressed weight (a 34 percent reduction from the 1991 landings; a 29 percent reduction from the 1986-91 annual average landings). Under this option, NMFS has determined that stock abundance will rebuild 5 percent each year back to the MSY level (estimated by NMFS to be 14,900 mt dressed weight) by 1995. The Review Committee's rebuilding schedule shows that annual fishery yields would increase about 5 percent each year but would not equal MSY until 1999. Option 3 of the Committee Report requires a 1993 landings limit of 2,311 mt (a 50 percent reduction from the 1991 level; a 44 percent reduction from the 1986-91 annual average). This option achieves a 10 percent annual increase in stock abundance until the MSY level is reached. NMFS determined that this option would cause unacceptable short-term costs in lost fishery revenues, and is not necessary to achieve stock rebuilding in a reasonable time period. While NMFS adopted option 2 for stock rebuilding and will implement the recommended calendar year total landings (and derived calendar year commercial quotas) from 1993 to 1995, NMFS believes that the large coastal species group will be rebuilt by 1995 (contrasted with the rebuilding schedule contained in the Committee Report) and at that point the stock size should be sufficient to provide MSY. Based on Center information, NMFS believed that a modification of the Committee's rebuilding schedule is justified. NMFS noted that under the Committee's schedule, the large coastal species group would not yield MSY until 1999.

The 1993 and 1994 calendar year commercial quotas for the large coastal group is determined based on the historical commercial average annual share (percentage of average total annual landings) for the period 1986 through 1991; this average annual share is 84 percent. The same approach was used in the proposed FMP to determine commercial and recreational fishery shares. The recreational share of the total 1993 landings is also based on the historical average annual percentage share from 1986 through 1991; this value is 16 percent. The recreational fishery limits (trip limit for large coastal and pelagic species group and bag limit for small coastal species group) have been changed to ensure that 1993 commercial and recreational landings are reduced by approximately the same percentage (29 percent) below their respective recent annual averages.

The commercial quota for the pelagic group is changed from the quota in the proposed FMP based on revised landings statistics and on several years' additional data; the 1993 calendar year commercial fishery quota is now established at 580 mt dressed weight. Combining this commercial quota with the estimated recreational fishery share (under the bag limits) of 980 mt

dressed weight, the total 1993 landings for the pelagic group are established at 1,560 mt dressed weight.

As in the proposed FMP, no quotas are established for the small coastal species group. The MSY remains unchanged because NMFS had no new information upon which to base the MSY estimate.

MSY estimates for the three species groups have been reevaluated. Based on the Committee Report, NMFS estimates that the MSY for the large coastal species group is 3,800 mt dressed weight. (The MSY stock biomass level is estimated to be about 14,900 mt dressed weight). Due to revised landing statistics, the MSY for the pelagic species group is changed from 2,800 mt whole weight (corrected to 3,000 mt whole weight or 2,158 mt dressed weight) in the proposed FMP to 1,560 mt dressed weight in the final FMP. This change was necessary since the pelagic species MSY is determined based on the average annual landings (recreational and commercial combined) during the period January 1, 1986, to January 1, 1992. These landings have been revised. Significant landings of large coastal species were incorrectly included in the pelagic species group in the proposed FMP. Refer to the tables below that illustrate changed values from the proposed FMP and that summarize commercial quotas for calendar years 1993 and 1994.

LARGE COASTAL SPECIES GROUP REBUILDING SCHEDULE
ANNUAL STOCK YIELD AND STOCK BIOMASS SIZE
(values in metric tons, dressed weight (mt dw))

Year	Stock Biomass	Yield
1993	13,824	2,900
1994	14,515	3,060
1995	15,241	3,800[1]

Footnotes:

1 Annual stock yield should reach the MSY level (estimated at 3,800 mtdw by the Southeast Fisheries Science Center (SEC)) by 1995 based upon an expected rebuilding of the stock biomass to 14,900 mt dw (stock size estimated by SEC to produce MSY).

CY 1994 COMMERCIAL QUOTAS, RECREATIONAL FISHERY SHARE
(mt dw)

	Small Coastal	Large Coastal	Pelagic
Comm. quota	No quota	2,570	580
Rec. land.	No est.	490	980
Total land.	2,590	3,060	1,560

PROPOSED AND FINAL COMMERCIAL QUOTAS AND MSY ESTIMATES

MSY Estimates, CY 1993 Commercial Quotas, Expected 1992 Total Landings (proposed FMP), Expected 1993 Total Landings (final FMP), Recreational Fishery Share
(mt dw)

	Small Coastal		Large Coastal		Pelagic	
	Proposed	Final	Proposed	Final	Proposed	Final
Comm. quota	No quota	No quota	1,043	2,436	1,151	580
Rec. land.	No est.	No est.	324	464	978	980
Total land.	2,590	2,590	1,367	2,900	2,158	1,560
MSY Est.	2,590	2,590	2,226	3,800	2,158	1,560

2. Approach to implementing commercial quota during the first several years

NMFS intends to implement commercial quotas for the large coastal and pelagic groups during the first several years of FMP implementation (1993 and 1994) in a manner somewhat different from that presented in the proposed FMP.

The Southeast Fisheries Center has advised that retention of the proposed fishing year of July 1 through June 30 (with associated fishing year commercial quotas) could (1) encourage rapid expansion of a new shark fishery in the previously unfished area off the northeastern states and, as such, be potentially destructive to already overfished shark resources--a growing new fishery on an overexploited resource in a previously unfished area, and (2) damage the historic fishery off the southern states by allowing the new northern fishery to take an unfair share of the annual quota. Also, the Review Committee's stock rebuilding schedule and NMFS' collection of fishery statistics are both based on a calendar year. Implementing calendar year quotas while retaining a July 1 through June 30 fishing season poses several problems that are difficult to resolve.

NMFS considered how to resolve these problems. As a best compromise solution, NMFS decided to establish calendar year commercial quotas. Each annual quota is divided into two equal halves applying respectively to the two fishing periods of January 1 through June 30 and July 1 through December 31. This approach to applying the commercial quotas should spread the commercial fisheries in both southern and northern areas reasonably equally throughout the year, as well as address the Centers' specific concerns. Also, this approach should not eliminate the historic peak months of the established southern fisheries while ensuring an open season and a new, unfished quota for the peak fishing months of a new, expanding fishery in the northeast. The framework regulatory adjustment mechanism would allow expedited modification of fishing season dates.

Specific commercial quotas for 1993 and 1994 are derived from the Review Committee's rebuilding schedule which provides total annual landings (recreational and commercial combined) for these years. The annual commercial quota is divided into two equal parts assigned respectively to the fishing periods January 1 through June 30 and July 1 through December 31.

Large Coastal Group

The Review Committee's report recommended total landings of 2,900 mt, dressed weight, under the second option for stock conservation. Based on the historical shares of recreational and commercial landings during the period 1986-1991, the commercial quota for the large coastal group is 84 percent of 2,900 mt or

2,436 mt. For the period from January 1, 1993, through June 30, 1993, the commercial quota for the large coastal group is established at 50 percent of this amount or 1,218 mt dressed weight. When this amount is taken or projected to be taken prior to June 30, 1993, the large coastal fishery will be closed until the beginning of the next fishing period opening on July 1, 1993. A possible late spring closure would serve to protect female sharks during the spawning season. As explained above, the quota for the six month period beginning July 1, 1993, and ending December 31, 1993, will be 1,218 mt. The commercial quota for each six month fishing period will be adjusted to reflect any overruns or unused portions of the quota for the preceding six month period, with the limitation that annual landings will not exceed the level allowed. Such adjustments will be implemented through a notice published in the Federal Register.

The Review Committee's recommended total landings for calendar year 1994 are 3,062 mt dressed weight. The commercial quota is 84 percent of this or 2,572 mt dressed weight. Therefore, each of the quotas for the two six month fishing periods in 1994 is 1,286 mt. Again, the second half year quota will be adjusted to reflect any quota overruns or unused portions during the first half of the year.

The above method of establishing fishing season quotas will continue for subsequent years, unless modified by the Assistant Administrator under the framework regulatory adjustment procedure, and will closely follow the Review Committee Report. The Operations Team will review this method and the Committee's recommended rebuilding program and make appropriate recommendations for changes.

Pelagic Group

The same approach used for implementing the large coastal species quota will be used for implementing the quotas for the pelagic species group during 1993 and 1994. The Review Committee Report did not contain any recommendations for this species group since this resource is not considered to be overfished.

The table below illustrates the implementation of 1993 and 1994 quotas.

CALENDAR YEAR 1993 AND 1994 COMMERCIAL QUOTAS
Six Month Fishing Period Quotas 1/
Large Coastal and Pelagic Species Groups
(mt dw)

Calendar Year Fishing Period	Large Coastals	Pelagics
1/1/93--6/30/93	1,218	290
7/1/93--12/31/93	1,218	290
1993 Total	2,436	580
1/1/94--6/30/94	1,285	290
7/1/94--12/31/94	1,285	290
1994 Total	2,570	580

[1] Overruns or unused portions of the quota for any given 6 month fishing period will be compensated for adjustments to the quota for the following 6 month period.

Resources and the Fisheries

Sharks have existed for over 400 million years. They have survived competition and evolved into large and aggressive predators inhabiting all the oceans. They are a diverse group of some 350 species that range in size from the gigantic whale shark at 12 meters to the tiny pygmy shark that is fully grown at only a few centimeters. Sharks generally grow very slowly, take many years to reach maturity, and produce few young (with a high survival rate) after long reproductive cycles. In summary, sharks have a very low reproductive potential when compared to other fish.

Most species of sharks are migratory, and a few species may range widely across the oceans. Their migrations are tuned to temperature and to their reproductive cycles. Adult sharks may congregate in certain areas for mating, and females generally travel to specific nursery areas to give birth to their young. With just one or two exceptions, sharks are predators or top predators armed with extremely acute senses that make them very effective at locating prey. These traits have contributed to the evolutionary success of sharks. The appearance of a formidable new predator, man, confronts sharks with higher mortalities than they may be able to withstand.

Historically, there have been few shark fisheries in North America. While small, localized shark fisheries existed throughout the Southeast for many years, sharks were under utilized until the late 1930s. Starting in 1938, intensive shark fisheries developed in several states, sparked by the high demand for the vitamin A-rich shark livers. These fisheries ceased to operate due to a combination of factors; i.e. synthesis and importation of vitamin A, low demand for other shark products, and overfishing. New shark fisheries developed in the 1980s fueled by a domestic demand for shark meat and a foreign demand for shark fins that led to the controversial practice of "finning." Finning involves removing the valuable fins from sharks and discarding the carcass. Although the extent of finning is unknown, this practice is perceived as wasteful and has brought considerable outcry from the public.

Major FEIS Conclusions

The FEIS concludes that management of sharks is necessary to protect and conserve this resource. The management measures will have no adverse effects on the physical environment, public health, or safety. They will have positive impacts on shark resources in that they will assist with the rebuilding of the overfished large coastal resource and with the prevention of overfishing of the small coastal, and pelagic species exploited by the directed and incidental commercial and recreational

fisheries. The management measures are also designed to obtain necessary data to monitor the condition of, and impose appropriate restrictions on all shark resources after an estimate of MSY is calculated. There will be a minimal negative impact as economic benefits to fishermen and consumers of shark products are reduced as a result of the imposition of the quotas and anti-finning measures. However, this is eventually expected to be offset when MSY is achieved and maximum yields can be sustained indefinitely.

Sharks consume mammals, reptiles (e.g., sea turtles), and fish. Interactions between predator and prey are unavoidable. Sharks are consumed or killed by other sharks, killer whales, dolphins, and some large fish species. These interactions are also considered unavoidable. The fishing gear used to catch sharks, longlines and gillnets, are known to kill protected and endangered species. The extent of such mortality is unknown. The Shark FMP provides a procedure to obtain such information (onboard observers) and provides for fishing gear limitations if deemed necessary. Sharks are killed in the non-directed shrimp trawl, swordfish and tuna fisheries, and also purposely by some recreational and commercial fishermen who feel that "the only good shark is a dead shark." The management measures, together with other regulations, such as the mandatory use of turtle excluder devices (TEDs) (which also exclude sharks) in the shrimp trawl fishery, will reduce overall shark mortality.

Alternatives Considered

Several alternatives to the proposed actions (see Section 9.3.4.3) were considered and were rejected. The no-action alternative would create the conditions for a collapse of shark resources and violate the purpose and intent of the Magnuson Act. It is unknown what ecological results would occur from drastically reducing the numbers of top predators in the oceans. Addressing the finning problem by emergency action was rejected as it was considered a stop-gap measure that would not correct the overfishing or waste problems. Closing fisheries which kill sharks as bycatch was deemed inappropriate because of the value of those fisheries. The value of shark fishery is approximately $8 million, while the combined value of shrimp, tuna, and swordfish fisheries is about $470 million. Prohibiting shark gillnets to protect marine mammals and endangered species was rejected because of their relatively small incidental take. Other rejected measures included:

1. Limit harvest to male sharks only.

2. Allocate commercial quotas by geographic region.

3. Close shark nursery areas to fishing.

4. Establish size limits for sharks.

5. Establish a recreational bag limit of one shark per person per trip in the EEZ.

6. Require annual permits for dealers; i.e., persons who purchase shark meat and fins from fishermen who fish in the EEZ.

7. Establish different earned income alternatives for holders of the annual commercial permits. Such measures may be considered in the future if additional information is acquired that dictates a need for such action.

Environmental Impacts

General

The assessment of the environmental impacts of the FMP indicates the following: (1) no adverse environmental effects of the management measures: (2) short-term economic costs to the direct shark fishery in the Atlantic, Gulf of Mexico, and Caribbean Sea; (3) certain adverse effects of the shark fishery on the environment, particularly on marine mammals and protected species (see discussion below). The full discussion of environmental effects of the final and alternative management measures considered is contained in sections 7 and 9 of the FMP and in the full FEIS.

Effects on Endangered Species and Marine Mammals

Approximately 100+ commercial fishing vessels operating in U.S. waters of the Atlantic Ocean, Gulf of Mexico, and Caribbean spend a portion of their time targeting sharks. The 1988 shark longline fishery caught 80 percent of commercial landings, or 4,215 mt. About 15 net gear vessels caught the remaining 1,061 mt. The net gear consisted of drift gillnets, purse seines, and otter trawls. Of this, drift gillnetters targeting schools of blacktip and operating in state and federal waters, landed about 750 mt in Florida in 1988 (Schaefer, 1990). An estimated 50 percent, or 500 mt, of net gear landings occur in federal waters.

Longlines and net gear are known to kill marine mammals and sea turtles (Witzell, 1984). Components of the shark fishery are known to or suspected of interacting with marine mammals. With respect to the drift gillnet fishery that targets schooling blacktip sharks, no data presently exist as to the exact number of marine mammals or listed species are incidentally captured in this fishery.

The bottom longline fishery for snapper-grouper and other reef fish (including sharks) in the South Atlantic and Gulf of Mexico and the pelagic hook-and-line fishery in the Gulf of Maine, southern New England, and the Mid-Atlantic for tuna, shark, swordfish are listed as Category III fisheries (*Federal Register*, Vol. 56, No. 26, February 7, 1991). These fisheries are required to report any lethal takes to NMFS within 10 days of the interaction. Components of the shark fishery listed as Category II are the Florida east coast gillnet fishery and the Atlantic Ocean, Caribbean, and Gulf of Mexico tuna, shark, swordfish longline fishery. They are required to register their vessels in the Marine Mammal Exemption Program and to complete vessel owner logs which document the daily fishing effort as well as any marine mammal interactions. Vessels are required to carry observers in the Category 1 Atlantic Ocean, Caribbean, and Gulf of Mexico swordfish, tuna, and shark drift gillnet fishery, if requested by NMFS. Registration and reporting requirements for Category I vessels are the same as for Category II.

On July 5, 1989, NMFS issued a Biological Opinion (BO) on the implementation of the Marine Mammal Exemption Program (MMEP). The impacts of all U.S. fisheries on threatened and listed species were assessed. The BO concluded that the continued activities of U. S. fisheries would not jeopardize the existence of threatened and endangered species but may adversely affect these species. An Incidental Take Statement (ITS) was given that allowed the take of sea turtles and shortnose sturgeon. The requirements of the ITS included observer coverage and documentation of any takes. NMFS has implemented some of these requirements through the MMEP logbook and observer program.

In September of 1989, an informal Section 7 consultation was conducted by the SEO regarding the management measures proposed by the initial draft of the Shark FMP. The consultation concluded that the proposed measures would not adversely affect threatened or endangered species but that the fisheries being managed might adversely affect listed species. The changes in the Shark FMP since the 1989 draft have increased the regulations to these fisheries. These changes do not change the determinations of the September 1989 consultation.

A Biological Assessment (BA) discussing the effects of the fisheries involved in the Shark FMP was submitted by the SEO on April 2, 1991, with a request for initiation of consultation pursuant to Section 7 of the ESA. The BA concluded that the continued activities of the directed fisheries would not jeopardize the recovery or existence of any endangered or threatened species, or their habitat. The resulting BO considers the effects of the fisheries on the listed species in the area. Listed species under the jurisdiction of the NMFS that occur in the Atlantic Ocean, Gulf of Mexico and the Caribbean and may be affected by the shark fishery include:

WHALES:

(1) the endangered northern right whale - Eubalaena glacialis
(2) the endangered humpback whale - Megaptera novaeangliae
(3) the endangered fin whale - Balaenoptera physalus
(4) the endangered sei whale - Balaenoptera borealis
(5) the endangered sperm whale - Physeter macrocephalus

SEA TURTLES:

(6) the endangered Kemp's ridley turtle -Lepidochelys kempii
(7) the endangered leatherback turtle - Dermochelys coriacea
(8) the endangered hawksbill turtle - Eretmochelys imbricata
(9) the endangered/threatened green turtle - Chelonia mydas
(10) the threatened loggerhead turtle - Caretta caretta

Green turtles in U.S. waters are listed as threatened except for the Florida breeding population which is listed as endangered.

FISH:

(11) the endangered shortnose sturgeon - Acipenser brevirostrum

Additional species known to occur in the EEZ of the U.S. in the Atlantic Ocean, Gulf of Mexico and Caribbean Sea:

(1) the endangered blue whale - Balaenoptera musculus

NMFS has determined that the proposed activities are not likely to affect this species.

Based on data from logbooks and observer reports, NMFS anticipates that the direct and indirect fisheries for sharks may result in the injury or mortality of loggerhead, leatherback, and green turtles. NMFS also believes that Kemp's ridley and hawksbill turtles and shortnose sturgeon may also be injured or killed by these fisheries. Therefore, NMFS has established a low level of incidental take and terms and conditions necessary to minimize and monitor this impact. An incidental take (by injury or mortality) level of ten (10) shortnose sturgeons, two (2) Kemp's ridley, two (2) hawksbill, four (4) green, four (4) leatherback, or ten (10) loggerhead turtle mortalities is set pursuant to pursuant to Section 7(b)(4) of the ESA. If the incidental take meets or exceeds this level, consultation must be reinitiated and area closures, seasonal closures, or gear restrictions may be necessary.

Reasonable and prudent measures that NMFS believes are necessary to minimize the impacts of the shark fisheries on listed species are listed below as well as the measures to document the incidental take, should such take occur:

1. Regional observer programs will be implemented to document incidental capture, injury, and mortality of listed species. This program should emphasize monitoring of gill

net and longline fisheries that take sharks directly or indirectly.

2. All incidents of take of endangered or threatened species will be reported within 10 days of the take. The report shall include a description of the animal's condition at the time of release.

3. Any sea turtle incidentally taken must be handled with due care to prevent injury to live specimens, observed for activity, and returned to the water as provided in 50 CFR Part 227.72(e)(1)(i).

4. Regulations should be considered to reduce/eliminate mortalities where the take of threatened or endangered species exceeds levels specified in this incidental Take Statement.

On October 13, 1992, (57 FR 46815) NMFS established a temporary observer requirement in the shark gillnet fishery. This rule was in effect from October 7 through November 5, 1992. In July 1992, the shark gillnet fishery came under suspicion of taking sea turtles when over 20 loggerhead turtles stranded on Cumberland Island, Georgia during a 10-day period. Three shark gillnet vessels were reportedly fishing off this island during this period. Under this regulation, NMFS could place observers on these vessels to determine whether these vessels take turtles. The accompanying biological opinion analyzed the impact of this fishery on threatened and endangered sea turtles. That opinion reemphasized the need for an observer program to determine the impact of this fishery on seas turtles and established an incidental take statement that allowed the documented take by injury or mortality of: one Kemp's ridley, or one green, or one hawksbill, or one leatherback turtle, or two loggerhead turtles.

Implementation of the Shark FMP will reduce fishing effort. A reduction in marine mammal and endangered species mortality should occur with a reduction of shark fishing effort. The presence of onboard observers will help quantify the impact of shark fishing on these species.

The Shark FMP recognizes the need to assess possible gear restrictions to reduce bycatch mortality in the future. At present, information on which to base restrictions does not exist. The gear restriction issue will be addressed by the OT after the Shark FMP is implemented.

Areas of Controversy

The principal controversy was over the adequacy of the data upon which the initial draft Shark FMP was developed. Fishermen

questioned stock estimates that indicated a problem existed. Many believed there were more sharks than ever. As a result of these and other concerns, a second draft of the Shark FMP was prepared. It was based on the results of a 1990 shark stock assessment prepared by the Southeast Fisheries Center to confirm or revise the initial (and dated) stock assessments on which the October 20, 1989 draft Shark FMP conclusion of overfishing was based. The new stock assessment confirmed overfishing is occurring and that better fishery and resource information is needed to improve the effectiveness of the management measures.

Issues to be Resolved

It is believed that all significant problems and issues associated with the proposed management action have been identified and assessed, or resolved to the extent practicable.

There is a need for cooperative and coordinated management since sharks migrate between state, federal, and international jurisdictions. For the recreational sector, the different federal and state jurisdictions complicate management of the resource. This need is identified in the final FMP and several states are expected to adopt compatible regulations. For the commercial sector the differences between regulatory jurisdictions is minimal since the permit condition requires the permittee to agree to adhere to the federal regulations regardless where fishing. Finally, coordinated management with foreign nations targeting migrating shark resources is critical and should be pursued through existing cooperative agreements. A shark import problem could develop when the U.S. shark fishery is closed for conservation purposes and foreign interests harvest migrating sharks for importation back to the United States.

Mitigation

No mitigation measures need to be taken at the present time. Alternative management measures were considered and rejected during the development of the Shark FMP including public hearings. The Operation Team (OT) will review potential mitigating measures as new information required by the Shark FMP becomes available.

PURPOSE OF AND NEED FOR ACTION

The Magnuson Fishery Conservation and Management Act of 1976, as amended, requires the preparation and implementation of FMPs for U.S. offshore resources in need of conservation. In recent years, species of sharks have been heavily exploited as a result of increased demand for both their meat and fins. In addition, pelagic sharks are discarded dead or partially used (i.e., "finned") after being caught as bycatch in the swordfish and tuna fisheries. Large numbers of small sharks are also discarded dead in the shrimp trawl fishery. Sharks are often purposely killed and discarded by recreational and commercial fishermen out of ignorance and the widely held belief that "the only good shark is a dead shark." Sharks have a low reproductive capability. When coupled with high fishing mortality levels, they are very susceptible to serious stock depletion. The Shark FMP determined that the large coastal species group is overfished, while the pelagic and small coastal species group are fully utilized. These conditions will eventually cause a collapse of the stocks that could take the fishery decades to recover from.

A management program is necessary to prevent overfishing, to rebuild overfished stocks, and to ensure that sharks are conserved and maintained to provide optimum yields on a continuing basis. A data collection system, and a cooperative approach to management by affected states and foreign nations is essential to provide optimum yields on a continuing basis.

ALTERNATIVES INCLUDING PROPOSED ACTIONS

While a few alternatives do exist and are discussed in this section, the following proposed actions are the preferred agency alternative.

Proposed Actions

The proposed actions will meet the intent of the Magnuson Act by placing the 73 species of sharks which inhabit U.S. waters under federal management. The proposed management measures follow. Pertinent discussion and references to appropriate sections in the Shark FMP are included.

1. Commercial Fishing Year and Quotas

A. Revised stock assessment and new MSY estimates, optimum yields, commercial quotas, and bag limits.

During the public comment period held on the proposed FMP and on the proposed implementing rule, significant new fishery information was received from fishermen, fish dealers/processors, and several state fishery agencies. This new information included: (1) data showing fishery removals in recent years higher than those used as a basis for determining MSY and stock conditions in the May 1990 stock assessment; (2) records on the size frequency of shark species caught in commercial fisheries; and (3) information on the commercial fishing fleet. NMFS reviewed this new information and determined that incorporation of these new data in the stock assessment could result in conclusions about the abundance, productivity, and condition of the managed shark species significantly different from those listed in the proposed FMP (dated October 28, 1991).

To ensure that all FMP management measures are based upon the best scientific information available, a revised assessment of the condition of the large coastal species group was completed by the NMFS Southeast Fisheries Science Center. The revised assessment was reviewed by a scientific peer committee consisting of both outside scientific experts and NMFS scientists. The Review Committee issued its final report on November 23, 1992 (Report of the Atlantic Coastal Shark Fishery Analysis Review, November 23, 1992).

The Review Committee reported evidence of overfishing for the large coastal group during 1986 through 1992 (except for 1987 and 1990). The Review Committee recommended that the calendar year 1993 landings for the large coastals be reduced below the calendar year 1991 landings level of 4,319 mt dressed weight. The Committee Report establishes three options for the calendar

year 1993 landings limit (recreational and commercial combined) for the large coastal group. Each option provides a specific degree of conservation and economic benefits.

Under the Committee's first option for the 1993 calendar year total landings (3,520 mt dressed weight), the large coastal stock would not rebuild to the MSY level (14,900 mt). To ensure that the large coastal group is rebuilt to the MSY level, NMFS has selected the Committee's recommended second option (Option 2--see Table 4 of the Committee Report) establishing 1993 total landings of 2,900 mt dressed weight (a 34 percent reduction from the 1991 landings; a 29 percent reduction from the 1986-91 annual average landings). Under this option, NMFS determined that stock abundance will rebuild 5 percent each year back to the MSY level (estimated by NMFS to be 14,900 mt dressed weight) by 1995. The Review Committee's rebuilding schedule shows that annual fishery yields would increase about 5 percent each year but would not equal MSY until 1999. Option 3 of the Committee Report requires a 1993 landings limit of 2,311 mt (a 50 percent reduction from the 1991 level; a 44 percent reduction from the 1986-91 annual average). This option achieves a 10 percent annual increase in stock abundance until the MSY level is reached. NMFS determined that this option would cause unacceptable short-term costs in lost fishery revenues, and is not necessary to achieve stock rebuilding in a reasonable time period. While NMFS adopted option 2 for stock rebuilding and will implement the recommended calendar year total landings (and derived calendar year commercial quotas) from 1993 to 1995, NMFS believes that the large coastal species group will be rebuilt by 1995 (contrasted with the rebuilding schedule contained in the Committee Report) and at that point the stock size should be sufficient to provide MSY. Based on Center information, NMFS believed that a modification of the Committee's rebuilding schedule was justified. NMFS noted that under the Committee's schedule, the large coastal species group would not yield MSY until 1999.

The 1993 and 1994 calendar year commercial quotas for the large coastal group is determined based on the historical commercial average annual share (percentage of average total annual landings) for the period 1986 through 1991; this average annual share is 84 percent. The same approach was used in the proposed FMP to determine commercial and recreational fishery shares. The recreational share of the total 1993 landings is also based on the historical average annual percentage share from 1986 through 1991; this value is 16 percent. The recreational fishery limits (trip limit for large coastals and pelagics and bag limit for small coastals) have been changed to ensure that 1993 commercial and recreational landings are reduced by approximately the same percentage (29 percent) below their respective recent annual averages.

The commercial quota for the pelagic group is changed from the quota in the proposed FMP based on revised landings statistics and on several years' additional data; the 1993 calendar year commercial fishery quota is now established at 580 mt dressed weight. Combining this commercial quota with the estimated recreational fishery share (under the bag limits) of 980 mt dressed weight, the total 1993 landings for the pelagic group are established at 1,560 mt dressed weight.

As in the proposed FMP, no quotas are established for the small coastal species group. The MSY remains unchanged because NMFS had no new information upon which to base the MSY estimate.

MSY estimates for the three species groups have been reevaluated. Based on the Committee Report, NMFS estimates that the MSY for the large coastal species group is 3,800 mt dressed weight. (The MSY stock biomass level is estimated to be about 14,900 mt dressed weight). Due to revised landing statistics, the MSY for the pelagic species group is changed from 2,800 mt whole weight (corrected to 3,000 mt whole weight or 2,158 mt dressed weight) in the proposed FMP to 1,560 mt dressed weight in the final FMP. This change was necessary since the pelagic species MSY is determined based on the average annual landings (recreational and commercial combined) during the period January 1, 1986, to January 1, 1992. These landings have been revised. Significant landings of large coastal species were incorrectly included in the pelagic species group in the proposed FMP. Refer to the tables below that illustrate changed values from the proposed FMP and that summarize commercial quotas for calendar years 1993 and 1994.

LARGE COASTAL SPECIES GROUP REBUILDING SCHEDULE
ANNUAL STOCK YIELD AND STOCK BIOMASS SIZE
(mt dw)

Year	Stock Biomass	Yield
1993	13,824	2,900
1994	14,515	3,060
1995	15,241	3,800[1]

Footnotes:

1 Annual stock yield should reach the MSY level (estimated at 3,800 mt dw by the Southeast Fisheries Science Center (SEC)) by 1995 based upon an expected rebuilding of the stock biomass to 14,900 mtdw (stock size estimated by SEC to produce MSY).

CY 1994 COMMERCIAL QUOTAS, RECREATIONAL FISHERY SHARE
(mt dw)

	Small Coastal	Large Coastal	Pelagic
Comm. quota	No quota	2,570	580
Rec. land.	No est.	490	980
Total land.	2,590	3,060	1,560

PROPOSED AND FINAL COMMERCIAL QUOTAS AND MSY ESTIMATES

MSY Estimates, CY 1993 Commercial Quotas, Expected 1992 Total Landings (proposed FMP), Expected 1993 Total Landings (final FMP), Recreational Fishery Share (mt dw)

	Small Coastal		Large Coastal		Pelagic	
	Proposed	Final	Proposed	Final	Proposed	Final
Comm. quota	No quota	No quota	1,043	2,436	1,151	580
Rec. land.	No est.	No est.	324	464	978	980
Total land.	2,590	2,590	1,367	2,900	2,158	1,560
MSY Est.	2,590	2,590	2,226	3,800	2,158	1,560

B. Approach to implementing commercial quota during the first several years

NMFS intends to implement commercial quotas for the large coastal and pelagic groups during the first several years of FMP implementation (1993 and 1994) in a manner somewhat different from that presented in the proposed FMP.

The Southeast Fisheries Center has advised us that retention of the proposed fishing year of July 1 through June 30 (with associated fishing year commercial quotas) could: (1) encourage rapid expansion of a new shark fishery in the previously unfished area off the northeastern states and, as such, be potentially destructive to already overfished shark resources--a growing new fishery on an overexploited resource in a previously unfished area, and (2) damage the historic fishery off the southern states by allowing the new northern fishery to take an unfair share of the annual quota. Also, the Review Committee's stock rebuilding schedule and NMFS' collection of fishery statistics are both based on a calendar year. Implementing calendar year quotas while retaining a July 1 through June 30 fishing season poses several problems that are difficult to resolve.

NMFS considered how to resolve these problems. As a best compromise solution, NMFS decided to establish calendar year commercial quotas. Each annual quota is divided into two equal halves applying respectively to the two fishing periods of January 1 through June 30 and July 1 through December 31. This approach to applying the commercial quotas should spread the commercial fisheries in both southern and northern areas reasonably equally throughout the year, as well as address the Center's specific concerns. Also, this approach should not eliminate the historic peak months of the established southern fisheries while ensuring an open season and a new, unfished quota for the peak fishing months of a new, expanding fishery in the northeast. The framework regulatory adjustment mechanism would allow expedited modification of fishing season dates.

Specific commercial quotas for 1993 and 1994 are derived from the Review Committee's rebuilding schedule which provides total annual landings (recreational and commercial combined) for these years. The annual commercial quota is divided into two equal parts assigned respectively to the fishing periods January 1 through June 30 and July 1 through December 31.

Large Coastal Group

The Review Committee's report recommended total landings of 2,900 mt dressed weight, under the second option for stock conservation. Based on the historical shares of recreational and

commercial landings during the period 1986-1991, the commercial quota for the large coastal group is 84 percent of 2,900 mt or 2,436 mt. For the period from January 1, 1993, through June 30, 1993, the commercial quota for the large coastal group is established at 50 percent of this amount or 1,218 mt dressed weight. When this amount is taken or projected to be taken prior to June 30, 1993, the large coastal fishery will be closed until the beginning of the next fishing period opening on July 1, 1993. A possible late spring closure would serve to protect female sharks during the spawning season. As explained above, the quota for the six month period beginning July 1, 1993, and ending December 31, 1993, will be 1,218 mt. The commercial quota for each six month fishing period will be adjusted to reflect any overruns or unused portions of the quota for the preceding six month period, with the limitation that annual catches do not constitute overfishing. Such adjustments will be implemented through a notice published in the Federal Register.

The Review Committee's recommended total landings for calendar year 1994 are 3,062 mt dressed weight. The commercial quota is 84 percent of this or 2,572 mt dressed weight. Therefore, each of the quotas for the two six month fishing periods in 1994 is 1,286 mt. Again, the second half year quota will be adjusted to reflect any quota overruns or unused portions during the first half of the year.

The above method of establishing fishing season quotas will continue for subsequent years, unless modified by the Assistant Administrator under the framework regulatory adjustment procedure, and will closely follow the Review Committee Report. The Operations Team will review this method and the Committee's recommended rebuilding program and make appropriate recommendations for changes.

Pelagic Group

The same approach used for implementing the large coastal species quota will be used for implementing the quotas for the pelagic species group during 1993 and 1994. The Review Committee Report did not contain any recommendations for this species group since this resource is not considered to be overfished.

The table below illustrates the implementation of 1993 and 1994 quotas.

CALENDAR YEAR 1993 AND 1994 COMMERCIAL QUOTAS
Six Month Fishing Period Quotas 1/
Large Coastal and Pelagic Species Groups
(mt dw)

Calendar Year Fishing Period	Large Coastals	Pelagics
1/1/93--6/30/93	1,218	290
7/1/93--12/31/93	1,218	290
1993 Total	2,436	580
1/1/94--6/30/94	1,285	290
7/1/94--12/31/94	1,285	290
1994 Total	2,570	580

[1] Overruns or unused portions of the quota for any given 6 month fishing period will be compensated for adjustments to the quota for the following 6 month period.

2. No Sale Provision

The prohibition on the sale of shark or shark products by recreational fishermen will have a minor impact. It is estimated that 10 percent of the recreational-caught sharks are sold. If fishermen have sold their catch in the past, and can meet the income requirement for a federal permit, they may continue to sell sharks but, in fact are commercial fishermen. The prohibition on recreational sales is consistent with the growing philosophy in the recreational fishing community that sport anglers should not sell their catch, and that a clear separation between commercial and recreational user groups will minimize conflicts between those who fish for a living and those who fish for fun.

3. Finning

Finning, i.e., removing the valuable fins and discarding the carcass, will be prohibited. Fins may be sold, traded, or bartered at the first point of landing, but only in proper proportion to carcasses sold, traded, or bartered, with the ratio of fins per dressed carcass weight not exceeding 5 percent. Fins may not be stored aboard the vessel after associated carcasses are sold, traded, or bartered. These measures will stop the practice of finning even though some discarding may still occur, particularly on those vessels that catch sharks as bycatch.

Six alternative ways of controlling finning were considered and rejected. First, all fins must be attached to the carcass at the time of landing, except for the caudal fin that could be removed to bleed the carcass and help ensure product quality. Second, fishermen could land up to four fins per carcass landed. Third, fishermen could land up to five fins per carcass landed. Fourth, all sharks must be landed with the fins attached to the carcasses. Fifth, fishermen could land shark parts up to a 6 percent ratio of wet fins per dressed carcass weight. Sixth, fishermen could land shark parts up to a 10 percent ratio of wet fins per dressed carcass weight. Fishermen favored the adopted measure.

4. Release Condition

Sharks not retained as part of a commercial fishery or for domestic consumption, must be released uninjured by cutting the line near the hook, with the shark in the water, or for net-caught sharks, by returning the shark to the water quickly in a manner that minimizes injury. This provision was recommended during public comment on the initial draft of the Shark FMP as a means of reducing shark mortality. It is estimated that mortality may be reduced by as much as 50 percent with this measure.

5. Charter Vessel/Headboat Sale of Catch

Charter vessel and headboat operators, who qualify for the commercial shark fishing permit and wish to sell sharks, may continue that practice as long as the commercial fishing season is open. This measure essentially continues a practice that is common in the northern Atlantic region.

6. Federal Commercial Fishing Permits and Reporting

Vessel owners or operators must purchase a federal permit to fish for sharks in federal waters. There are several conditions to the permit. At least 50 percent of the applicants' earned income must have been derived from the sale of fish or fish products or from charter vessel or headboat operations, or $20,000 from the sale of fish or seafood products during any of one of three years preceding the permit application. All applicants must agree to stop fishing in all waters (EEZ, international, and state waters) when the fishery is closed; and they must report on their fishing operations to NMFS. The purpose of these conditions is to discourage new entries into the directed fishery, prevent overfishing, and improve management in all U.S. waters.

A 10-percent earned income requirement was considered and rejected because of public opposition during the public hearing process. The eligibility period was changed from one to three years before the date of application to provide greater flexibility in dealing with hardship cases such as loss of a vessel due to storms. This approach is also a move towards standardizing the earned income requirements throughout all of the fisheries with a federal permit managed under the NMFS Southeast Regional Office.

Trip reporting and logbook keeping by commercial fishermen is essential to obtain biological and economic information necessary to manage shark resources. An owner or operator of a vessel, which a permit has been issued, under must submit copies of logbook reports and sales receipts (trip tickets) that record the weights of fish sold from any trip from which a shark is off-loaded. Initially, all permit holders will be selected, however, information may become available that would enable random sampling of the universe. Such logbook reports and sales receipts must be submitted as follows.

(a) The owner or operator of a vessel that has been selected by the Science and Research Director, Southeast Fisheries Science Center to maintain and submit the logbook forms must submit the copies of the sales receipts attached to such logbook forms.

(b) The owner or operator of a vessel that has not been selected to submit the logbook forms but has been selected to maintain and submit logbook forms to the Science and Research

Director, Southeast Fisheries Science Center in a fishery other than shark must attach the copies of the sales receipts to the logbook forms for that other fishery and submit them in the time frame required for those logbook forms.

(c) The owner or operator of a vessel that has not been selected to submit logbook forms to the Science and Research Director in any fishery must submit the copies to the Science and Research Director, Southeast Fisheries Science Center postmarked not later than the third day after sale of the fish off-loaded from a trip.

Additional data (Trip Interview Program) will be collected by authorized statistical reporting agents, as designees of the Science and Research Director, Southeast Fisheries Science Center, and by authorized officers. An owner or operator of a fishing vessel and a dealer are required to make sharks available for inspection by the Science and Research Director or an authorized officer and to provide data on catch and effort, as requested. There are no acceptable alternatives to this requirement.

The permit fee is necessary to cover the administrative expense of issuing the permit. Fees for federal permits are becoming standard practice for NMFS and expected by the fishing community. The $53 fee is not expected to discourage entry into the fishery.

8. Tournament Reporting

A person conducting a shark tournament who is selected by the Science and Research Director must maintain and submit a record of catch and effort on forms available from the Science and Research Director, Southeast Fisheries Science Center. Completed forms must be submitted to the Science and Research Director postmarked not later than 7 days after the conclusion of the tournament and must be accompanied by a copy of the tournament rules. This information is necessary for shark management.

9. Observers

Vessel owner/operators selected by NMFS must accommodate a NMFS observer aboard their vessel. The observers will monitor and document interaction of shark fishing with listed and protected species, and problems associated with bycatch. Such information is necessary to meet the intent of the Marine Mammal Protection Act and Endangered Species Act, and to obtain better data on the extent of bycatch discards for shark management.

10. Framework Procedure and Operational Team

The Assistant Administrator for Fisheries, NOAA (Assistant Administrator) will be responsible for monitoring the Shark FMP.

An OT appointed by the Assistant Administrator and headed by his designee, will recommend adjustments to the management measures through the framework regulatory adjustment procedure. The OT will include representatives from the NMFS Northeast and Southeast Regional Offices, and the Washington Office, a member and/or a staff person from each of the five Councils, and a scientist from NMFS Southeast and Northeast Fisheries Science Centers. During the adjustment process, the OT will interact with the public, fishermen, and other interested entities.

Rejected Actions

1. No-Action Alternative

The option of taking no conservation and management action was considered and rejected. To take no action would violate the purpose and intent of the Magnuson Act. The most recent stock assessment indicated that the large coastal species group is overfished, while the pelagic and small coastal species groups are fully utilized.

Before the development of the stock assessments, the five Regional Fishery Management Councils responsible for developing FMPs in the Atlantic Ocean recognized the potential danger of overfishing sharks and requested the Secretary (through NMFS) to develop a Shark FMP as soon as possible. Without management, there is a distinct potential for long-term damage, or worse, collapse of the shark stock complex or targeted species. The rapid increase in commercial shark landings in U.S. waters; the rising price of fins, and unknown extent and perceived waste from finning; and the unique biology of sharks, characterized by a low number of births, long reproductive cycles and slow sexual maturation, dictate a critical need for management.

2. Address the Finning Problem Under Emergency Action

The practice of finning was, in part, a driving force for bringing sharks under management. A considerable and vocal U.S. public sector is strongly against this practice and is calling for action to prohibit it. The Secretary has the authority to take emergency action under the Magnuson Act; however, the law limits such action to 90 days, with a possible extension of another 90 days. The emergency action alternative was rejected because the finning issue is just one of the problems facing the fishery, and a 180-day period of protection was perceived as merely a stop-gap measure. Long-term resolution of this problem is required.

3. Closing Fisheries That Kill Sharks as Bycatch

Pelagic sharks are taken on longlines as bycatch in the swordfish and tuna fisheries. When sharks come up dead or alive on the

longline, it is presumed that fins of valuable species are retained for sale and that carcasses are discarded at sea. It is unknown how many sharks are released alive and how many are finned. Generally, vessel hold space is reserved for valuable, targeted species. Consideration was given to evaluating the feasibility of closing the swordfish and/or tuna fishery to protect sharks, but was rejected because of the importance of these fisheries and the fact that some management measures will reduce shark discards; i.e., the quota on pelagic species, the prohibition of finning, and the "must release" provision. The level of mortality reduction will not be known until the proposed reporting system is operational and possibly not until onboard observers are used to document fishery activities.

The shrimp trawl fishery results in shark discards estimated at 2,800 mt yearly, consisting mostly of sharpnose sharks in the Gulf of Mexico. Closing or restricting the shrimp fishery was considered but rejected because of the importance of that fishery. Further, the mandatory use of TEDs is expected to largely reduce shark mortality. Also, it is anticipated that, beginning in 1994, fish excluder devices may be required as a management measure to protect red snapper stocks. Such action, if adopted, would further reduce shark mortality.

Closing the shrimp, swordfish, or tuna fisheries, which kill sharks incidentally, would result in major negative impacts. The 1989 landings value of Gulf of Mexico and Atlantic shrimp is estimated at $435 million, swordfish at $32 million, and tuna at $52 million. The value of shark landings is approximately $8 million. The management measures are expected to reduce shark bycatch mortality.

4. Federal Dealer Permits and Reporting

Federal dealer permits and reporting were considered but rejected in favor of less burdensome requirements. First, commercial shark fishermen must attach a copy of their sales receipt or weigh-out slip to the real-time logbook report containing landings data. This data will: (1) better enable the Southeast Fisheries Science Center to monitor the quota and to calculate when fishery closures occur; and (2) allow scientists to match fishing effort information with specific size and species composition data that are critical to estimating stock abundance. Second, this improved data collection procedure reduced the proposed reporting burden on the dealers by eliminating the needs for mandatory reporting burden on the dealers by eliminating the needs for mandatory reporting and federal permits that were proposed under the draft Shark FMP. The present voluntary dealer reporting system is not affected by these changes.

5. Prohibiting Shark Gillnets to Protect Marine Mammals and Species Listed as Threatened or Endangered

Approximately 15 of the 100+ vessels that seasonally target sharks use drift gillnets near shore, primarily on blacktip sharks, in the late summer and early autumn. Some of these boats are less than 30 feet in length. The degree of turtle or dolphin loss is unknown. Florida, whose waters yield the majority of blacktip landings, has passed emergency legislation to reduce the number of listed species taken by limiting the lengths and numbers of gillnets that can be used in commercial fishing operations on the east coast of Florida, and requires that the nets be tended. Florida also recently adopted a 6-in maximum-mesh size limit on gillnets. It is expected that losses of listed species will be reduced. Consideration was given to imposing a prohibition on the use of gillnets in federal waters but was rejected because of inadequate information on their impact on listed species. A provision in the Shark FMP is for the OT to assess gear restrictions, including the use of observers to verify impacts of gillnet gear. Gillnets are an efficient gear for harvesting schooling blacktip sharks and insufficient evidence presently exits to warrant prohibiting their use.

The impact of eliminating approximately 15 gillnet vessels from the shark fishery would be significant. Almost 20 percent of the total catch is landed with gillnets (less than 10 percent in federal waters). It is unknown to what extent marine mammals and species listed as threatened or endangered are killed in the gillnet fishery. Also, it is unclear to what extent displaced gillnetters would convert to longline gear or redirect efforts to other fisheries. The measure requiring onboard observers on selected vessels will enable NMFS to assess the impacts of gillnets on listed species. As noted in the Shark FMP, gillnets are suspected of interacting with marine mammals. The Marine Mammal Protection Act lists the Florida east coast gillnet fishery as Category II. Accordingly, vessels must be registered in the Marine Mammal Exemption Program and complete marine mammal logs which document the vessel's daily fishing effort as well as any marine mammal interactions.

On September 7, 1989, a Section 7 consultation of the ESA was conducted on the potential impacts of the management action proposed in the initial draft Shark FMP. It concluded that the proposed management measures would not jeopardize the continued existence of threatened or endangered species, but that the fishery itself may adversely affect listed species.

On April 2, 1991, an Endangered Species Act Section 7 consultation concluded that neither the fishery nor this action are likely to jeopardize the continued existence of endangered or

threatened species such as sea turtles in the Atlantic Ocean but the shark fisheries may adversely affect listed species.

On October 13, 1992, (57 FR 46815) NMFS established a temporary observer requirement in the shark gillnet fishery. This rule was in effect from October 7 through November 5, 1992. In July 1992, the shark gillnet fishery came under suspicion of taking sea turtles when over 20 loggerhead turtles stranded on Cumberland Island, Georgia, during a 10-day period. Three shark gillnet vessels were reportedly fishing off this island during this period. Under this regulation, NMFS could place observers on these vessels to determine whether these vessels take turtles. The accompanying biological opinion analyzed the impact of this fishery on threatened and endangered sea turtles. That opinion reemphasized the need for an observers program to determine the impact of this fishery on seas turtles and established an incidental take statement that allowed the documented take of by injury or mortality of: one Kemp's ridley, or one green, or one hawksbill, or one leatherback turtle, or two loggerhead turtles.

Implementation of the Shark FMP will reduce fishing effort. A reduction in marine mammal and endangered species mortality should occur with a reduction of shark fishing effort. The presence of onboard observers will help quantify the impact of shark fishing on these species.

AFFECTED ENVIRONMENT

Sharks are found in all oceans of the world. Of the approximately 350 species found worldwide, about 73 species inhabit the waters along the east coast of the United States, including the Gulf of Mexico and the waters around Puerto Rico and the Virgin Islands. Of the 73 species, 39 are included in the Shark FMP management unit. Others may be added if management becomes necessary. Virtually all shark species are migratory. Some move between shallow and deep water, while others move extensively along the coasts. Still others are highly migratory, crossing the entire Atlantic Ocean. The Shark FMP encompasses all U.S. waters, including state jurisdictions (from shore outward to three nautical miles [most states] or out to nine nautical miles [Texas, west coast of Florida, and Puerto Rico]; and the U.S.EEZ (from where state jurisdiction ends [the inner boundary of the EEZ] to 200 nautical miles offshore). However, the Shark FMP does not preempt state authority or impose management measures in state waters, even though 14 percent of the commercial landings and 64 percent of the recreational landings occur there. Rather, it is expected that state and international shark management will result through cooperative arrangements with NMFS.

Sharks are apex predators known to prey on fish, mammals, and reptiles (exceptions are the whale sharks, basking sharks, and megamouth sharks, which are filter feeders). The extent of predation is unknown. Sharks usually select weak, sick, injured, or dying prey because such prey is easier to overcome than healthy individuals. Despite being aggressive predators, sharks are preyed upon as well. Sharks prey on other sharks, and other species such as killer whales, dolphins, wreckfish, and grouper are known to kill or prey on sharks. The extent of such predation is unknown. The ecological relationships of sharks are also unknown. The effects of sharks on other fish stocks are poorly understood, although some studies suggest that the removal of large sharks from an area results in proliferation of smaller species of sharks.

Shark fishermen, shark fin dealers, and persons consuming shark products will be affected by the proposed actions. Peripheral users such as medical researchers studying immunity of sharks to cancer, shark-skin dealers, and pharmaceutical interests that use shark parts will be affected by management. Oceanic and coastal habitat is not expected to be significantly impacted by shark fishing activities. The shark fishery is relatively small and the gear used generally does not measurably affect ecologically sensitive habitats.

Humans in marine waters undoubtedly think about the possibility of a shark attack. Unrealistic fears are heightened by "extreme"

movies. In the U.S., the number of shark attacks remains constant (about 20-25 a year, with an annual average of less than one death per year) despite increased human-in-the-water hours.

Marine mammals and endangered species, primarily dolphins and sea turtles, are known to be killed by longlines and gillnets. The extent of the mortality is unknown. The requirement for observers aboard selected vessels participating in the shark fishery will help quantify these unknowns.

Physical Environment

There will be no adverse effects on the physical environment.

Public Health and Safety

There will be no effect on public health and safety resulting from the proposed management measures. The proposed management regime will not force any operator or owner of a vessel to fish in unsafe conditions. No significant increase is expected in the number of shark "attacks" (human-shark interactions) as these events are mainly dependent on human behavior rather than shark abundance.

Shark Fishery Resource

The proposed actions will place shark resources under management. Finning will be controlled and the fishery will eventually be maintained at maximum sustainable yield levels. Other proposed actions provide for the acquisition of critical data and information to improve future shark management. A framework adjustment procedure is incorporated in the Shark FMP to allow changes to be made in the management measures as new and better information is acquired. It is important to note that the cooperation of state governments is essential if sharks are to be successfully managed throughout their range. Further, coordinated international management of sharks needs to be pursued since many species migrate across international boundaries and are consequently subject to international jurisdiction.

Social and Economic Impacts

The proposed actions, primarily the commercial quotas, anti-finning measures, will effect the commercial fishermen and the consumer. The quotas will limit the amount of sharks that fishermen may land. The anti-finning measures may cause some fishermen to reduce the length of their trips due to the need to land the previously discarded carcasses. Based on information from the data collection program, NMFS will review situation and make adjustments through the regulatory framework adjustment procedure.

Recreational catch has declined in recent years. The proposed measures, primarily the bag limits, no-sale, and live-release measures, are not expected to significantly affect recreational landings. These measures should promote a conservation ethic among anglers and thus provide benefit to the nation. Shark tournaments have declined in number as abundance of large coastal

species has diminished. Effective management should reverse this situation.

Sharks benefit the human environment in many, little-known ways. Shark tissues and cartilage are studied because of their immunity to cancer, and a variety of shark products, including pharmaceutical drugs, vitamins, hides, and curios are produced from sharks, in addition to meat and fins. A collapse of the shark fishery will result in a reduction or loss of these benefits to society.

Impact of Shark FMP on Other Fisheries

The proposed actions are not expected to: (1) have an impact on other commercial or recreational fisheries; or (2) divert fishermen to other fisheries.

Impact of Sharks and Shark Fishing on Protected Species

Sharks are apex predators that consume dolphins, whales, seals, and sea turtles to an unknown extent. It is assumed that sharks prey on weak and impaired creatures, similar to other predators. If the level of protected species mortality is related to shark population size, then as shark stocks become more abundant as a result of the management measures, increased predation on prey species may occur. Given the congressional mandate to prevent overfishing (which the Shark FMP does), there will be a continuous, unavoidable interaction between prey and predator species.

Components of the shark fishery are known to or suspected of interacting with marine mammals and endangered species. The management measures and the fishery itself are not expected to jeopardize the recovery or continued existence of threatened or endangered species. The extent of mortality is not well documented. The Shark FMP requires that onboard observers be accommodated on shark fishing vessels when requested by NMFS. The results of observer studies may dictate the need to modify or prohibit some gear types. An amendment to the Shark FMP is necessary to restrict gear used in the fishery. Other options acknowledged in the Shark FMP as ways to promote conservation are closures of fishing areas or closed seasons.

Impact of Sharks on Other Species

Sharks consume other fish as well as being the primary predator on other sharks. The effects of sharks on other fish are not known although some studies suggest that the removal of large sharks from an area results in a proliferation of small shark species.

Impact of Other Species on Sharks

The effect on sharks of other predators such as killer whales and dolphins is unknown. Large grouper and wreckfish are known to prey on smaller sharks. The extent of such predation and interactions is unknown.

Impact of Non-directed Fisheries on Sharks

The shrimp trawl fishery kills large quantities of sharks, principally small sharpnose sharks in the Gulf of Mexico. TEDs presently being used and fish excluder devices anticipated to be used in the future will significantly reduce shark mortality. The swordfish and tuna fisheries take extensive shark bycatch. Thus, mortality is unavoidable. Proposed management measures, specifically the finning prohibition, must-release provision, and quotas, will minimize waste of shark resources.

Alternative Actions

The Shark FMP considered restrictions on finning (Section 7.1.2.1), shark release conditions (Section 7.1.2.2), mako minimum size limit (Section 7.1.2.3), no-sale of recreational catch (Section 7.1.2.4), boat and headboat sale of catch (Section 7.1.2.5), commercial permits (Section 7.1.3.1), commercial vessel owner and operation reporting requirements (Section 7.1.3.2) and tournament reporting requirements (Section 7.1.3.3). The Shark FMP also considered and rejected alternatives such as: no-action alternative (Section 7.3.1), addressing the finning problem under emergency action (Section 7.3.2), harvesting male sharks only (Section 7.3.3), allocation of commercial quotas (Section 7.3.4), closure of the commercial fishery for large coastal sharks upon plan implementation until the start of the new fishing year (Section 7.3.5), closing the directed commercial fisheries for sharks (Section 7.3.6), closing nursery areas to fishing (Section 7.3.7), alternative recreational bag limits (Section 7.3.8), alternative ways to control finning (Section 7.3.9), closure of recreational fisheries (Section 7.3.10), size limits for sharks other than makos (Section 7.3.11), closing fisheries that kill sharks as bycatch (Section 7.3.12), prohibiting shark gillnets to protect marine mammals and listed species (Section 7.3.13), and dealer permits (Section 7.3.14), and mandatory dealer reporting (Section 7.3.15).

Mitigation Measures Related to the Proposed Actions

No mitigation measures related to the proposed actions are recommended at this time but may become necessary as additional data are acquired.

Unavoidable Adverse Impacts

There will be some short-term adverse impacts to resource-user groups. However, these impacts are unavoidable and necessary to prevent overfishing and shark fishery collapse. An unknown number of protected species, principally dolphins and turtles, will be killed by shark fishing gear. This loss is unavoidable, but possibly correctable, as better information is acquired through onboard observers and possible future gear restrictions. Shark mortality in the shrimp, swordfish, and tuna fisheries is unavoidable, but is expected to be reduced.

Irreversible and Irretrievable Commitment of Resources

There will be no irreversible and irretrievable commitment of financial and personnel resources.

LIST OF PREPARERS

The Shark FMP, referenced in the Final Environmental Impact Statement, was prepared by a task team of individuals from the National Marine Fisheries Service.

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The Task Team received assistance and guidance from many people within NMFS and outside the agency. Among these were statisticians, managers and scientists from NMFS' offices; NOAA's General Counsel; and concerned citizens, fishermen and industry officials. In addition, the five Councils, operating through a Shark Advisory Committee, provided the Task Team with guidance and support.

LIST OF AGENCIES, ORGANIZATIONS, AND PERSONS TO WHOM COPIES OF THE STATEMENT ARE SENT

U.S. Army Corps of Engineers
U.S. Department of Agriculture
U.S. Department of Commerce
   Office of Ocean and Coastal Resource Management
U.S. Department of Energy
U.S. Department of the Interior
   Mineral Management Service
U.S. Department of State
U.S. Department of Transportation
U.S. Coast Guard
U.S. Environmental Protection Agency
U.S. Food and Drug Administration
U.S. Small Business Administration
Regional Fishery Management Councils
State of New Hampshire
State of Massachusetts
State of Connecticut
State of New Jersey
State of New York
State of Maine
State of Rhode Island
State of Pennsylvania
State of Delaware
State of Maryland
State of Virginia
State of North Carolina
State of South Carolina
State of Georgia
State of Florida
State of Alabama
State of Mississippi
State of Louisiana
State of Texas
Commonwealth of Puerto Rico
U.S. Virgin Islands
State of California
State of Oregon

New England Hand-Gear Alliance
American Society for the Prevention of Cruelty to Animals
Blue Water Fishermen's Association
Florida Conservation Association
Delaware Captains Association
Pensinular Saltwaters Sport Association
Massachusetts South Shore Gillnetters Association
Montauk Boatmen & Captains Association
Jersey Anglers Association
International Game & Fish Association

Marine Gillnetters Association
Blue Water Fishermen's Association
Southern Offshore Fisherman's Association
New Jersey Commercial Fishermen's Association
Cape Ann Gillnetters Association
Louisiana Gulf Coast Conservation Association
Bluewater Fisherman's Association
National Aquarium in Baltimore
Auburn Marine Extension & Research Center
Babylon Tuna Club
Berkeley Striper Club
Stuart Sailfish Club
Saco Bay Tackle Co.
Harbor Fish and Oyster Co.
Clifford Marine Co.
Union Fish Company
Walt Disney World Company
R.J. Peacock Canning Company
National Coalition for Marine Conservation
Center for Marine Conservation
Yankee Fishermen's Cooperative
Portsmouth Fishermen's Cooperative
Miridon Corporation
Zapata Haynie Corporation
Fish & Wildlife Information & Exchange
National Wildlife Federation
New York Sport Fishing Federation
Atlantic Flying Fish
Inlet Fisheries
Gulf City Fisheries
Star Fisheries
Atlantic Cape Fisheries
Organized Fishermen of Florida
World Wildlife Fund
GEOCEAN
New York Sea Grant
Aquatic Resources Conservation Group
Bellmore Rod & Gun Club, Inc.
Cox Wholesale Seafood, Inc.
Tri-Coastal Cooperative, Inc.
Atlantic Flying Fish, Inc.
Shinnecock Marlin & Tuna Club, Inc.
Gulf Star Seafood, Inc.
Jersey Coast Shark Anglers, Inc.
Downeast Marine Seafood, Inc.
FS Fisheries, Inc.
Rabait Community Fisheries, Inc.
Shinnecock Marlin & Tuna Club, Inc.
Cormorant Sport Fishing, Inc.
McAnliffe Fishing Inc.
Sundancer Fisheries, Inc.
Pocahontas, Inc.

Ardea Enterprises, Inc.
Portland Fish Exchange, Inc.
Trans Ocean Inc.
My Lady, Inc.
Southeast Seafood Inc.
D.A.C. Sportfishing, Inc.
A&C Southeast Seafood, Inc.
Sportfishing Institute
Florida Marine Research Institute
National Cancer Institute
World Watch Institute
Seabrook Marine Laboratory
Moss Landing Marine Laboratory
Mote Marine Laboratory
Associated Fisheries of Maine
The Cumberland Island Museum
South Africa Museum
Florida State Museum
U.S. Naval Observatory
Cape May County Extension Office
Green Peace
Institute Nacional de Pesca
Coastal Management Program
Sea Grant Program
Virginia Institute of Marine Science
Lee County Marine Sciences
Dick's Seafood
Save-On Seafood
Kiaweh-Seabrook Seafood
Sea Grant Advisory Service
American Elasmobranch Society
National Audubon Society
Chicago Zoological Society
American Littoral Society
Salt Water Sportsman
Pacific Marine Technology
Seaworld of Texas
Steinhart Aquarium
Mystic Marine Life Aquarium
New England Aquarium
New England Aquarium
National Aquarium in Baltimore
Auburn Marine Extension & Research Center
Paul Hoff, Garvey, Schubert and Barer
Eldon Greenberg, Galloway & Greenberg
Demere Mason, Jackson & Mason
John C. Sullivan, Jr., Sullivan & Sullivan
Larry Morgan, *Caller-Times*
Sid F. Cook, *Chondros*
Glen Martin, *San Francisco Chronicle*
Chris Conway, *Philadelphia Inquirer*
Sharon Henson, *Islander*

Charles Squires, *News Journal*
Jeff Merrill, *The Fisherman Magazine*
Nic Stubbs, *Suncoast News*
Janice Plante, *Commercial Fisheries News*
Mark Ippolito, *Wilmington Star News*
Gaynell Terrell, *Houston Post*
Chris Dummit, *Palm Beach Post*
Maxwell C. Wheat, Jr., *Ripples*
Cyril T. Zaneski, *The Virginian-Pilot & The Ledger Star*
Bruce Reid, *Baltimore Sun*
Terry Tomlin, *St. Petersburg Times*
Gene Mueller, *The Washington Times*
Mark Schexnayder, *Tampa Tribune*
The Port LaVaca Wave
Paul Fortney, *LaVaca Wave*
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W. Borden Wallace
Hans Walters
R. R. Warny
Diane Watson
Mike Weber
Dick Weber
Richard Weissmans
Robert West
Pam Whitman
Paul Wiener
Daniel Wiest

Joan M. Winblad
Christina Wilkins
Page S. Williams
Tamara Williams
Charles Witek
Barbara Wombles
Claudia Wong
Prof. John Wourms
Edward J. Zinke
George Zorzi
Juan Zumbado

Summary of Public Comments Received on the Proposed Fishery Management Plan for Sharks of the Atlantic Ocean and on the Proposed Implementing Regulations

General Summary

The proposed FMP was released for public review and comment from January 8 through March 8, 1992. Proposed regulations were published in the Federal Register for public review and comment from June 5 through July 23, 1992 (57 FR 24222 and 57 FR 29859). During these comment periods, NMFS received written comments from some 1,159 entities. Commenters included: (1) numerous individuals with a variety of views (e.g., recreational and commercial fishermen, fish dealers or processors, charter vessel and headboat owners, and interested citizens); (2) many groups or organizations representing diverse fishery interests including commercial and recreational sectors, fish processing, export-import businesses, environmental conservation and animal rights, and scientific research; (3) State and Federal agencies; and (4) Regional Fishery Management Councils.

NMFS has evaluated the public comments received and presents the following summary of the public concerns raised below. In terms of number of comments, some 57 times more commenters supported management of Atlantic Ocean sharks than opposed it and some 5 times more commenters supported implementation of the FMP than opposed it. Support for the FMP was from a broad cross section of constituents including citizens, commercial and recreational fishermen, many coastal states, and the Councils. Opposition to the FMP came primarily from several commercial fishermen associations, the State of North Carolina and certain North Carolina shark fishermen, and individual shark dealers/processors along the Atlantic and Gulf of Mexico coasts. Table A presents general summary information regarding the public comments received. Table B lists those commenters representing constituent groups, states, councils, or other organized entities or institutions.

Table A Number of commenters supporting and opposing management of Atlantic Ocean sharks and FMP implementation.

Commenters	Number	Percentage
Support Shark Management	1,030	98
Opposed Shark management	18	2
Total	1,048	100
Support FMP Implementation	765	81
Opposed FMP Implementation	175	19
Total	940	100

Table B List of major organizations that commented on Fishery Management Plan for Sharks of the Atlantic Ocean

Recreational

International Game Fish Association
Jersey Coast Shark Anglers Inc.
Jersey Coast Anglers Association
Maryland Saltwater Sportfishermen's Association, Inc.
New York Sportfishing Federation
Peninsula Salt Water Sport Fisherman's Association

Congressional

Rep. James Saxton

Environmental/Academic/Scientific Groups

American Littoral Society
American Elasmobranch Society
Center for Marine Conservation
Fund for Animals
Herpetologist's League
Mote Marine Laboratory
National Coalition for Marine Conservation
National Audubon Society
National Aquarium in Baltimore
Society for Animal Protective Legislation

Federal/State Comments

Connecticut
Florida
Louisiana
Mississippi
New York
New Jersey
North Carolina
Puerto Rico
Virginia
U.S. Small Business Administration
U.S. Coast Guard
U.S. Environmental Protection Agency
U.S. Department of Interior
U.S. Department of State

Dealer/Processor Interests

Blue Water Fishermen's Association
Commercial Fishermen's Interest
Commercial Anglers Association
Directed Shark Fisheries Association
Maine Fishermen's Wives Association
New Jersey Commercial Fishermen's Association
North Carolina Fisheries Association, Inc.
Seafood Consumers and Producers Association, Inc.

Charter Vessel and Headboat Interests

Greater Point Pleasant Charter Boat Association
Montauk Boatmans and Captains Association
New York Sportfishing Federation

Regional Management Council

Caribbean Fishery Management Council
Gulf of Mexico Council
Mid-Atlantic Fisheries Council
New England Fishery Management Council
South Atlantic Fishery Management Council

Evaluation of the Public Comments--Specific Issues and Concerns

Numerous issues and concerns were raised by the public comments. Many comments were supportive of all or specific FMP management measures. However, many comments also were critical of the FMP generally or of specific measures. NMFS identified 23 major public issues/concerns in the public comments regarding the FMP that are stated below under the appropriate FMP management measures or management objective. Some of these publically expressed issues/concerns represent endorsement of the proposed FMP objective or measure, but many voice disagreements with the subject FMP objective, measure, or other area indicated. Agency responses to these comments (major issues/concerns) and other comments (significant but less critical issues/concerns) are provided below.

Summary of Major Public Comments and NMFS Responses

1. Objective: Prevent overfishing of shark resources.

a. Comment: We support management of Atlantic Ocean shark resources.

Response: NMFS acknowledges this support.

b. Comment: We support implementation of proposed FMP.

Response: NMFS acknowledges this support.

c. Comment: We agree with the FMP's assessment of the fishery problem of overfishing.

Response: NMFS acknowledges this agreement and notes that the revised NMFS stock assessment altered somewhat the FMP's conclusions about the condition of large coastal species group. While this species group is still considered overfished, the time required for stock rebuilding to the MSY level should be less than indicated in the proposed FMP.

During the public comment periods for the FMP and the proposed rule, significant new fishery information was received from fishermen, dealers/processors, and several state fishery management agencies. This new information included the following: (1) data showing higher fishery removals in recent years than those used as a basis for determining maximum sustainable yield (MSY) and stock conditions in the NMFS 1990 stock assessment for Atlantic coast sharks (the

assessment used as a basis for commercial quotas and recreational bag limits in the proposed FMP); (2) two additional years' landings data, (3) records on the sizes of landed sharks; and (4) information on the numbers of commercial fishing vessels targeting sharks. NMFS reviewed this new information and determined that it could result in significantly revised conclusions about the abundance, productivity, and condition of the managed shark species from those presented in the proposed FMP; the latter were based on the 1990 NMFS stock assessment for Atlantic coast sharks.

To ensure that all FMP management measures are based upon the best scientific information available, a revised assessment of the condition of the large coastal species group was completed by the NMFS Southeast Fisheries Science Center, using the new or corrected information. The revised assessment was reviewed by a scientific peer committee consisting of both outside scientific experts and NMFS scientists (Review Committee). The Review Committee issued its final report on November 23, 1992 (Report of the Atlantic Coastal Shark Fishery Analysis Review, November 23, 1992).

The Review Committee reported evidence of overfishing for the large coastal species group during 1986 through 1992 (except for 1987 and 1990). The Review Committee recommended that the calendar year 1993 landings for the large coastal species group be reduced below the calendar year 1991 landings level of 4,319 mt dressed weight. The Committee Report identifies three options for the calendar year 1993 landings limit (recreational and commercial combined) for the large coastal species group. Each option provides a specific degree of conservation and economic benefits.

Under the Review Committee's first option for the level of 1993 calendar year total landings (3,520 mt dressed weight), the large coastal species group stock would remain overfished and the abundance would not rebuild to the MSY biomass level (estimated by NMFS to be 14,900 mt dressed weight). NMFS estimates MSY for the large coastal species group to be 3,800 mt dressed weight. To ensure that the large coastal species group stock is rebuilt to the MSY level, NMFS has selected the Review Committee's recommended

second option (Option 2--see Table 4 of the Review Committee Report) that would establish 1993 total landings of 2,900 mt dressed weight (a 34 percent reduction from the 1991 landings; a 29 percent reduction from the 1986-91 annual average landings). Under this option, NMFS has determined that stock abundance will rebuild. NMFS's conclusions about stock rebuilding differ from the Review Committee's rebuilding schedule, which shows that annual fishery yields would increase about 5 percent each year but would not equal MSY until 1999. Option 3 of the Review Committee Report requires a 1993 landings limit of 2,311 mt (a 50 percent reduction from the 1991 level; a 44 percent reduction from the 1986-91 annual average). This option achieves a 10 percent annual increase in stock abundance until the MSY level is reached. NMFS has determined that this option would cause unacceptable, short-term costs in lost fishery revenues, and is not necessary to achieve stock rebuilding within a reasonable time period.

While NMFS adopted the Review Committee's Option 2 for stock rebuilding and will implement the recommended calendar year total landings (and derived calendar year commercial quotas) from 1993 to 1995, NMFS believes that the large coastal species group will be rebuilt by 1995 (contrasted with the longer rebuilding schedule contained in the Review Committee Report). At that point, NMFS believes that the stock size should be sufficient to provide MSY on a continuing basis and, based on available information, that a modification of the Review Committee's rebuilding schedule is justified. It is noted that closure of the fishery for the large coastal species group immediately upon FMP implementation, as contemplated by the proposed FMP and regulations, will not be necessary if implementation occurs early in 1993.

The 1993 and 1994 calendar year commercial quotas for the large coastal species group were determined based on the historical commercial average annual share (percentage of average total annual landings) for the period 1986 through 1991; this average annual share is 84 percent. The same approach was used in the proposed FMP to determine commercial and recreational fishery shares. The recreational share of the total 1993 landings is also based on the historical average

annual percentage share from 1986 through 1991; this value is 16 percent. Recreational fishery limits (a trip limit for the large coastal and pelagic species groups and a bag limit for the small coastal species group) have been changed to ensure that 1993 commercial and recreational landings are reduced by approximately the same percentage (29 percent) below their respective recent annual averages.

The commercial quota for the pelagic group is changed from the quota in the proposed FMP based on revised landings statistics and on several years' additional data; the 1993 calendar year commercial fishery quota is now established at 580 mt dressed weight. Combining this commercial quota with the estimated recreational fishery share (under the bag limits) of 980 mt dressed weight, the total 1993 landings for the pelagic group are established at 1,560 mt dressed weight. As in the proposed FMP, no quotas are established for the small coastal species group.

The estimates of MSY for the three species groups have been reevaluated. Based on the Review Committee Report, NMFS estimates that the MSY for the large coastal species group is 3,800 mt dressed weight. (The MSY stock biomass level is estimated to be about 14,900 mt dressed weight). Due to revised landings statistics, the MSY for the pelagic species group is changed from 2,800 mt whole weight (corrected to 3,000 mt whole weight or 2,158 mt dressed weight based on corrected data) in the proposed FMP to 1,560 mt dressed weight in the final FMP. This change was necessary since the pelagic species MSY is determined based on the average annual landings (recreational and commercial combined) during the period January 1, 1986, to January 1, 1992. These landings have been revised because significant landings of large coastal species were incorrectly included in the pelagic species group in the proposed FMP. The MSY estimate for the small coastal species group remains unchanged because NMFS did not have any new information.

d. Comment: We agree with FMP's conclusion that the large coastal species group is overfished.

Response: See response to comment 1.c. above.

2. Objective: Encourage consistent management of shark resources throughout their oceanic ranges.

a. Comment: While domestic management of the shark fisheries is a good first step, it is imperative that consistent international management be undertaken. Otherwise, costs to U.S. fishermen from restrictive quotas will not be justified if there are no restraints on foreign harvest from the same resources. Both the economic costs and benefits of conserving oceanic shark resources should be shared by foreign fishermen using the same resources; this must involve bilateral or multilateral agreements among harvesting nations and might involve adding sharks to management under the International Convention for the Conservation of Atlantic Tunas (ICCAT).

Response: NMFS agrees that consistent international management is necessary to maximize the conservation benefits from the management of highly migratory (oceanic) shark species. Other nations have expressed interest in this FMP. As appropriate, NMFS and the United States will encourage other nations to adopt compatible conservation measures for the management of sharks, either independently or through ICCAT.

3. Objective: Establish a shark resource and fishery data collection, research, and monitoring program.

a. Comment: NMFS should require dealer/processor permits for those who purchase sharks and shark fins along with mandatory dealer/processor reporting. This information is critical to ensure reliable information on total fishing mortality by species required for stock assessments and to provide important economic information needed for economic impact analyses.

Response: NMFS believes that the reporting measures pertaining to fishermen and recreational tournament operators in this rule initially will provide adequate information to monitor and assess the fishery and shark resources, and to enforce quotas and bag limits. However, as discussed under the section "Other Matters," NMFS is considering adding a mandatory dealer permitting and reporting system that could significantly improve the reliability of fishery data on annual catches by species as well as total catches. Also, NMFS will direct the OT to

review the benefits from this additional reporting system.

4. Objective: Increase the benefits from shark resources to the U.S. while reducing waste, consistent with the other management objectives.

a. Comment: Numerous commenters agreed with the FMP's assessment of the problems with finning.

Response: NMFS acknowledges this agreement.

5. Measure: Fishery management unit consists of 39 species grouped by small coastal, large coastal, and pelagic species groups.

a. Comment: There were numerous objections to the grouping of 39 species into the proposed three resource categories; there were many suggestions for different groupings or different assignments of a given species to a different group. For example, it was recommended that bignose and silky sharks be moved from the large coastal species group to the small coastal species group. It is noted that the latter group does not have restrictive commercial quotas.

Response: NMFS acknowledges the suggestions for different species groupings but has decided to make no changes at this time. The three resource categories are not intended to represent ecologically distinct groups of species. Rather, the species groups are based on what species are caught predominately in which fisheries. Since a given species may occur in several fisheries (e.g., in both inshore and offshore fisheries), it could have been assigned to several species groups (e.g., to both large coastal and pelagic species groups). However, for management and assessment purposes, a given species is listed under only one species group. The OT will review the three species groups and the assignment of individual species, and may recommend changes. Such changes, if approved by NMFS, could be implemented through the framework regulatory adjustment procedure.

b. Comment: It will be difficult for many fishermen to distinguish species and, accordingly, to know what quotas or bag limits apply.

Response: NMFS will encourage fishermen to identify sharks. Field guides for identifying sharks are available in local stores. As appropriate, NMFS will supply information to interested fishermen.

c. Comment: The placement of the whale shark, basking sharks, and other similar species in the large coastal species group (which has a commercial quota) will not provide necessary protection for these species. NMFS should undertake an aggressive rebuilding program for the populations of these species.

Response: NMFS believes that the measures in this rule provide adequate protection. However, if new information indicates that these species need additional protection, the OT may consider recommending changes. NMFS is interested in reviewing any specific data bearing on the condition of these species.

d. Comment: Management units should be revised by establishing specific commercial quotas on individual shark species. NMFS should modify the large coastal and pelagic species groups to reflect what fishermen catch, and the different abundances in species.

Response: NMFS does not agree that sufficient information is available on the biology of individual shark species that would allow management through individual species commercial quotas. The OT may consider this management approach when the necessary information becomes available.

6. Measure: Fishing year from July 1 through June 30.

a. Comment: Some commenters supported the proposed fishing year of July 1 through June 30; others objected to it (see also comment 6.b.).

Response: NMFS acknowledges this support. However, the proposed fishing year was changed to a calendar year. This was based on several considerations: adoption of the Review Committee's recommended rebuilding schedule which is based on calendar year; a revised NMFS stock assessment with all estimates of fishing mortality, stock abundance,

and yield based on a calendar year; and a determination by NMFS that a calendar fishing year with semi-annual quotas will ensure equal access to available harvests for all coastal areas while still being consistent with the Review Committee's stock rebuilding schedule. Also, NMFS believes that the retention of the proposed fishing year of July 1 through June 30 (with full fishing year commercial quotas) could (1) encourage rapid expansion of a new shark fishery in the previously unfished area off the northeastern states, and, as such, be potentially destructive to already overfished shark resources, and (2) damage the historic fishery off the southern states by allowing the new northern fishery to take an unfair share of the annual quota.

For the above reasons, NMFS decided to establish calendar year commercial quotas for the large coastal and pelagic groups during the first several years of FMP implementation (1993 and 1994). Each calendar year quota is divided into halves, each half applying respectively to the fishing periods of January 1 through June 30 and July 1 through December 31. This approach to applying the commercial quotas should spread the fisheries in both southern and northern areas reasonably even throughout the year. Also, this approach should not eliminate the historic peak months of the established southern fisheries in the Gulf of Mexico and South Atlantic while still ensuring an open season and an unfished quota for the peak fishing months for the Northeast and Mid-Atlantic fisheries.

b. Comment: There were objections to the proposed fishing year based on alleged geographic discrimination regarding access to available commercial quotas. Alternative fishing years suggested included January 1 through December 31, November 1 through October 31, and April 1 through March 31.

Response: See response to comment 6.a. above.

c. Comment: NMFS should start the fishing year on April 1 or September 1 to allow fishermen off North Carolina to harvest large coastal species during the two peak fishing periods of March-June and October-December. A July 1 start date would allow fishermen more to the south an unfair advantage in harvesting available quotas.

Response: NMFS was aware of North Carolina's concerns throughout the development of the FMP and has tried to ensure that the measures do not discriminate against the residents of any particular state(s). NMFS believes that the costs as well as benefits of the final FMP are distributed equally across all states and that no state bears an unfair burden of the conservation measures (reduced landings, fishery closures, etc.). In establishing season dates and commercial quotas in both the proposed and final FMPs, NMFS's objective is to provide equitable access to the allowable fishery harvest for all coastal states without adopting a more complicated system for geographic allocations. NMFS believes that the final FMP measures meet this objective.

NMFS adopted a calendar year (CY) for the fishing year based on the following considerations: (1) data are collected on CY basis; (2) biological model used to assess the resource is based on data collected on a CY; (3) biological conclusions and the rebuilding schedule are based on CY data; (4) NMFS scientists indicate that the Review Committee's rebuilding schedule cannot be easily changed from a CY basis to a different basis; and (5) retaining the proposed fishing year beginning July 1 may, based on new information, encourage development of a new shark fishery in the northeast--this new fishery would be exploiting an overfished resource in new area and could adversely affect the data base used by NMFS for assessing the condition of the large coastal species group.

NMFS decided on a split fishing year and semi-annual quotas (January-June and July-December) based on the following considerations: (1) The shark fishery occurs primarily in waters off the coastal states bordering the Gulf of Mexico and the Atlantic Ocean south of Virginia. The split fishing year and the semi-annual quotas should prevent the residents of those states from taking most of the annual quota; (2) the July-December season should enable the coastal states north of Virginia to obtain a fair share of the resource while yet retarding the development of new fisheries on the overfished large coastal species resource within this area; (3) NMFS's review of the landings data in 1991, the latest year with reliable statistics, shows that while North

Carolina has spring and fall season peaks for its fishery, so do other regions, particularly the Gulf of Mexico. While the semi-annual quotas, split season dates, and possible fishery closures may reduce North Carolina landings, it is not clear that North Carolina fishermen will suffer impacts greater than fishermen from any of the other states. NMFS concludes, at this time, that the split seasons and associated semi-annual quotas will serve to ensure that each coastal region receives a fair share of the available resource. In summation, NMFS believes that the calendar fishing year and the associated semi-annual commercial fishing quotas will provide equitable access to available quotas for all coastal fishermen.

7. Measure: Annual commercial fishing quotas.

a. Comment: The proposed estimates of MSY are too low and the commercial quotas, particularly the quota for the large coastal species group, are unreasonably low and are not justified based on conservation grounds.

Response: The estimates of MSY, as well as the commercial quotas, were changed in the final FMP based on the NMFS revised stock assessment and on the Review Committee Report. See response to comment 1.c. above.

b. Comment: Commercial fishing for sharks should be eliminated by Federal regulations.

Response: NMFS does not agree. One of the objectives of any FMP, as mandated by the Magnuson Act, is to obtain the optimum yield from the fishery. Optimum yield refers to a harvest of fish that will provide the greatest overall benefit to the nation, with particular reference to food production and recreational opportunities. All sectors of the commercial and recreational fishing interests are treated equally, sharing the shark resources landings based upon historical shares and fishing practices.

c. Comment: The FMP is a pro-commercial fishery management plan, favoring commercial fishing over recreational fishing and over conserving the shark resources.

Response: NMFS does not agree. See response to comment 7.b. above. Commercial quotas and recreational bag limits were adjusted so that both sectors' landings would be reduced annually over their recent historical average annual levels by about the same percentage (29 percent), and so that they would retain their relative recent historical shares (84 percent for commercial and 16 percent for recreational). The average annual commercial and recreational landings for the period 1986 through 1991 were used to determine recent historical levels and shares.

d. Comment: The fishery for the large coastal species should be closed immediately upon FMP implementation to protect this overfished species group.

Response: NMFS does not agree. See response to 1.c. above. The best available scientific information indicates that the large coastal species group is overfished, but that it can support commercial harvests while rebuilding to the MSY level by 1995.

e. Comment: The fishery for the large coastal species should not be closed immediately upon FMP implementation because these species are not overfished and such closure would be too disruptive for the fresh shark meat market.

Response: The subject fishery will not be closed immediately upon FMP implementation assuming that this FMP is implemented in early 1993. NMFS is establishing a restrictive annual commercial quota and bag limits that will prevent further overfishing and that should allow rebuilding the large coastal species group to the MSY level by 1995.

f. Comment: NMFS should review the quota for the pelagic species in view of the FMP's acknowledged problems with the data base. The quota for this species group is based directly on recent reported landing information that may not accurately reflect actual landings.

Response: The NMFS quota for the pelagic species group was reviewed and changed based upon the latest available scientific information. These changes included adjustments for previous errors in landings statistics. See response 1. c. above.

g. Comment: Separate quotas should be established for each of the three species groups for vessels in (1) the directed commercial shark fishery, (2) the incidental catch fishery, and (3) the charter/headboat fishery to ensure equitable allocation of available catches based on historical participation by these different user groups.

Response: NMFS does not believe sufficient, reliable fishery information currently exists to establish separate quotas for these fishery elements. The OT and NMFS will consider this proposal in the future when more data are available.

8. Measure: Recreational fishery bag limits.

a. Comment: NMFS should establish one bag limit for all recreational vessels (private and charter vessel/headboat alike) and for all species. For example, the bag limit could be two sharks per vessel per trip, irrespective of the type of vessel or species of shark. This approach would be easier to enforce and would not require fishermen to identify species and determine which bag limit applies.

Response: NMFS may consider this suggestion in the future when more data are available. The present recreational bag limits were determined based on the condition of the several species groups, achieving approximately equal landing reductions in both recreational and commercial fisheries, and general support from the fishing community. Also, it was assumed that recreational anglers know, or will be able to learn, how to differentiate between a small coastal species and the large coastal or pelagic species.

b. Comment: FMP is pro-recreational, favoring recreational fishing over legitimate commercial interests.

Response: NMFS does not agree. See response to comment 7.b., above.

c. Comment: The FMP should contain a specific recreational fishery quota for each of the three species groups just as is applied to the commercial fisheries.

Response: NMFS does not agree. Use of bag limits will control the fishery and prevent overfishing of the resource. As part of standard procedure, the OT will review the effectiveness of the bag limits for controlling the recreational catch before recommending use of a quota.

d. Comment: The FMP should establish a recreational bag limit for mako sharks of two per trip for swordfish and tuna longline vessels to reduce incidental fishing mortality on this valuable and heavily exploited resource.

Response: The best available scientific information does not support this type of bag limit.

e. Comment: Commenters indicated general support for bag limits, but a number of alternatives were proposed. These included: (1) one shark per vessel per trip; (2) two sharks per vessel per day with exception for Atlantic sharpnose (5 per angler per day); (3) one shark from the large coastal species group per vessel per trip during April through June spawning season; (4) revised bag limits for headboats allowing anglers to catch and retain more large coastal or pelagic species; and (5) two sharks per vessel per trip for private recreational or charter vessels.

Response: NMFS and the OT may consider these alternative measures after more data are gathered. If the OT recommends any of these alternatives, NMFS could implement them through the framework regulatory adjustment procedure. This procedure provides an opportunity for public review and comment on proposed measures before they are implemented.

9. Measure: Prohibition on finning (proposed as five fins per carcass landed).

a. Comment: The FMP's anti-finning measure should be based on a ratio by weight of total fins to total carcasses landed because it would either allow landing more than 5 fins per carcass or be easier to measure (ratio of two total weight measurements) while still preventing finning. Several specific percentages were suggested including the 10 percent weight ratio used by Virginia and North Carolina (currently 7 percent) and the 6 percent ratio recommended by several dealers/processors. Some commenters objected to the proposed measure (5 fins per carcass landed)

alleging that it would not adequately prevent finning since it would allow mixing large fins and small carcasses.

Response: NMFS has changed the finning measure to require that the total weight of wet fins not exceed 5 percent of the total weight of dressed carcasses at point of first landing. NMFS determined that the 5 percent by weight is appropriate and is supportable based on samples of sharks dressed at sea under commercial fishing conditions. NMFS believes that the fins-to-carcasses weight ratio will be easier to enforce and will better prevent finning.

b. Comment: There was universal and strong support for a measure to prohibit the wasteful practice of finning. Support was generally unqualified from parties not involved in commercial fishing.

Response: NMFS believes that finning is wasteful of valuable shark resources and poses a threat to attaining the conservation objectives of fishery management under the Magnuson Act. The FMP should minimize the waste of shark resources while still allowing fishermen to sell fins from legally landed sharks.

c. Comment: Some commercial fishermen and fishermen's organizations and some dealers/processors opposed the finning prohibition, indicating an important need to land fins taken from dead sharks and from certain species with limited markets for the meat (e.g., hammerhead sharks).

Response: NMFS does not agree that finning should be allowed for dead sharks or for species with limited markets for the meat. Allowing this would create a regulatory loophole making enforcement of the general finning prohibition very difficult.

10. Measure: Release sharks not retained by commercial fishermen under the quotas or by recreational fishermen under the caught bag limits in manner maximizing survival chances.

a. Comment: If a shark will not be landed by a commercial fishermen or consumed by a recreational angler, the fisherman should tag and release the shark without additional injury.

Response: NMFS agrees that sharks caught and not retained should be released in a manner that will ensure maximum probability of survival, but does not agree that all such released sharks must be tagged. A mandatory tag and release program would be expensive and difficult to enforce. NMFS will encourage a voluntary tagging program for both commercial and recreational fisheries.

11. Measure: Mako minimum size limit (66 inches).

a. Comment: Commenters from a wide cross section of constituent interests expressed general support for the mako minimum size measure, but some objected to the different application in the commercial and recreational fisheries.

Response: NMFS reevaluated this measure based on the public comment and on available biological data. The proposed minimum size limit is less than the smallest size at which shortfin mako become reproductively mature. Additionally, information for determining size-at-maturity does not exist for longfin mako sharks. Adequate scientific information is unavailable to assess the condition of mako stocks or to predict the stock conservation results of the proposed minimum size limit. Therefore, NMFS is reserving this measure until sufficient information is available to support this or other size limit measures.

b. Comment: The size limit measure was criticized for being unenforceable and having no legitimate biological basis.

Response: NMFS acknowledges these objections and decided, in part because of them, to reserve the mako size limit at this time.

c. Comment: There was general opposition to the proposed provision of the mako minimum size measure that allowed permitted commercial fishermen to retain and land dead, undersized makos, while recreational fishermen were prohibited from retaining dead, undersized makos. Arguments were made that all small mako sharks on the line would be considered dead and be retained; therefore, the conservation benefits would be lost. Arguments were made that the rationale of preventing waste (allowing small, dead sharks to be retained) is at the cost of favoritism for commercial fishermen. One state commented that

the exception for commercial fishermen is inconsistent with the conservation objectives of its approved coastal zone management plan.

Response: NMFS acknowledges these criticisms of this measure, and has decided to reserve the mako minimum size limit at this time for lack of adequate supporting scientific information.

12. Measure: No sale of recreational catch; exception for permitted charter vessels and headboats allowing sale of their catch within applicable bag limits.

a. Comment: Many commenters objected to prohibiting the sale of recreational caught fish.

Response: The FMP clearly differentiates between recreational and commercial fishermen. Allowing recreational fishermen to sell their catch would undermine the commercial allocation and enforcement of the commercial quotas. It could also limit the achievement of the conservation objectives of the FMP, including preventing overfishing and rebuilding the overfished large coastal species group stock. Owners or operators of permitted charter vessels and headboats are allowed to sell their shark catch, subject to the cumulative bag limits applicable to the vessel, as long as the relevant commercial quotas are unfilled. Catches sold by these permitted vessels will be counted against the relevant commercial quotas. See also the response to comment 13.a. below.

13. Measure: Mandatory commercial fishing permits.

a. Comment: Commercial permits should be available to anyone if the applicant pays a flat fee; there should be no criteria limiting such commercial permits to those meeting some percentage of previously earned income from commercial fishing. The flat fee permit would allow the individual to fish commercially and sell his/her catch.

Response: NMFS does not agree. The life history of shark resources makes these fish particularly vulnerable to overfishing. The best available information indicates that certain Atlantic shark species are overfished. Accordingly, restrictive commercial quotas are required. The earned income requirement for a permit will exclude recreational and part-time commercial fishermen

from participating in the commercial shark fishery and thereby lessen the impact of the restrictive commercial quotas on those who rely on fishing for their primary income.

b. Comment: There was wide support from diverse fishery interests for the FMP's proposed requirement that the sale of sharks be limited to commercial fishermen holding a Federal fishing permit. Some fishery interests opposed limiting the sale of sharks to those holding commercial permits and wanted to allow recreational fishermen to sell their catch, particularly to defray the costs of a fishing trip.

Response: No new information was provided to NMFS that would justify allowing the sale of recreational catches (other than by permitted charter vessels and headboats). See response to comment 13.a..

c. Comment: Commenters suggested different income criteria be used to qualify for a commercial permit such as the Gulf of Mexico Fishery Management Council's proposal that would allow qualifying on any one of two previous year's fishing income.

Response: NMFS agrees that different income criteria should be used and adopted revised criteria. In the preamble to the proposed rule, alternative earned income criteria for commercial vessel permits were discussed and comments on them were specifically requested. The discussion of alternatives included: (1) adding $20,000 in gross sales of fish as an alternative to the 50 percent earned income from fishing requirement to qualify for a vessel permit; and (2) increasing the time frame for having met the required level of earned income/gross sales. These changes would ensure that an owner/operator was not unfairly excluded from renewing a vessel permit based on a poor year. Since the proposed rule was published, an earned income criterion has been developed and applied to nearly all the vessel permit applications processed by the Director, Southeast Region, NMFS. The final criterion, a variation of one discussed in the preamble to the proposed rule, requires that the applicant must have derived during one of the three years preceding the permit application, at least 50 percent of earned income from commercial, charter, or headboat fishing, or that gross sales of fish must have exceeded $20,000.

This criterion is more liberal than that contained in the proposed rule and is contained in the regulatory text of this final rule.

While there was general public support for the commercial fishing income requirement for qualifying applicants for a commercial permit, NMFS received numerous comments objecting to the proposed income criterion as well as to the alternatives discussed in the proposed rule preamble. These objections included: (1) the criterion will eliminate many legitimate, part time fishermen who need to supplement their overall income; (2) recreational fishermen should be able to sell their shark catch to defray the costs of a fishing trip; and (3) some owners or operators of charter vessels or party boat do not want to be bound by the recreational bag limits for sharks landed even though they understand that they can sell shark catches if they have a Federal commercial permit. As a result of these public comments, and because of NMFS's intention to adopt standardized commercial permit criteria across several fisheries for purposes of administrative efficiency in issuing many Federal permits each year (e.g., same criterion applies in FMP as applies for Gulf of Mexico reef fish and South Atlantic snapper/grouper), NMFS modified the final income criterion. Under the final measure, a vessel owner or operator may qualify in any one of three previous years. NMFS is still interested in receiving additional public comment on this measure during the public comment period on the interim final rule, and is particularly interested in any data showing significant economic harm to commercial fishermen not meeting the income criterion.

d. Comment: Commenters suggested different criteria be used to qualify for a commercial permit such as no qualifying income level or at least a level well below the proposed 50 percent level. These commenters alleged that the proposed criteria discriminated unreasonably against many legitimate part-time or seasonal shark fishermen (e.g., those earning something below 25 percent of their income from fishing).

Response: NMFS does not agree. See response to comment 13.a. above.

e. Comment: The FMP should contain a multi-tiered permit system providing separate permits (and separate harvesting quotas) for vessels in the directed commercial shark fishery, the incidental commercial fishery, and in the charter/headboat fishery. Separate permits and quotas would reduce user conflicts, simplify business planning, and ensure equitable allocation of available catches to these different groups.

Response: NMFS and the OT may consider this measure for future implementation.

f. Comment: The permit condition that the recipient agrees to abide by Federal measures regardless of where a vessel fishes for or catches sharks (inside or outside EEZ) preempts the states' authority to manage resources and fishermen in their waters.

Response: NMFS reviewed the provisions of the FMP and regulations, and has made a change in section 678.4(a)(4) regarding the permit condition wherein the recipient of a Federal permit is to agree that the vessel's fishing, catch, and gear will be subject to Federal shark fishing regulations regardless of where the fishing occurs (e.g., in state, Federal, or international waters). To ensure that the FMP's management measures can be effectively implemented and enforced as well as to avoid diminishing any state's management authority within its waters, section 678.4(a)(4) has been revised to require that a Federal permit recipient must agree that the vessel's fishing, catch, and gear will be subject to the Federal shark fishing regulations regardless of where the fishing occurs, with the exception that if a permitted vessel fishes only in state waters on a given trip, the vessel's fishing, catch, or gear may be subject to the more restrictive state requirements for that trip. Any state regulations limiting the landing or possession of sharks by commercial fishermen fishing legally in the waters of another state, in the EEZ, or outside the EEZ in a more restrictive manner than Federal requirements would frustrate the intent of the FMP to allow a commercial fishery in the EEZ. Permitted fishermen who fish for sharks in state waters during a closure of the shark fishery in the EEZ would violate a condition of the permit, not state law. Neither the final FMP, nor its Federal fishing permit conditions established by

this final rule, preempt state management authority of shark resources or fishing by state residents solely in state waters. The subject Federal permit condition is considered by NMFS to be essential for effective implementation of the FMP, including enforcement of any fishery closure in the EEZ. State residents who are unwilling to accept the Federal permit condition may still fish for sharks solely in state waters subject to state regulations.

14. Measure: Commercial vessel owner and operator reporting requirements.

a. Comment: Much better catch and effort data are needed for the commercial fishery; particular emphasis should be given to fishing mortality by species by gear type. Also attention should be given to improving the ability of pelagic longline fishermen targeting swordfish or tuna as well as bottom longline fishermen to identify shark species caught incidentally or directly as appropriate.

Response: NMFS agrees. Effective management of the shark fishery requires the receipt of timely catch and effort data from participants in the fishery. NMFS considers these reports to be of such importance to effective management that an applicant's submission of all required reports is necessary for renewal of a permit. An applicant for renewal of a permit who is deficient in a required report will be given an opportunity to correct the deficiency.

15. Measure: Tournament reporting requirements.

a. Comment: Much better data on numbers and weights by species landed are needed in the recreational fisheries.

Response: NMFS agrees and will obtain catch and effort information from selected shark fishing tournaments.

b. Comment: Much better catch and effort data are needed for the recreational fishery (from private, tournament, charter vessel, and headboat fishermen). Particular emphasis should be given to catch and effort data by species by areas. Also, education is required to improve anglers' ability to differentiate between various species.

Response: NMFS agrees with this point. NMFS has recently improved the quality of its recreational fisheries statistics program through increases in survey sample sizes; greater statistical confidence in survey results is expected. NMFS will continue to develop better sampling methodologies to improve the quality of the data collected.

16. Measure: No foreign fishing in EEZ (zero total allowable level of foreign fishing (TALFF)).

a. Comment: Commenters expressed strong support for prohibiting foreign shark fishing in U.S. waters.

Response: Since there is no surplus allowable catch over what domestic fishermen are able to harvest, the TALFF in the EEZ is zero.

17. Measure: Vessel observers required at the direction of the NMFS Science and Research Director.

a. Comment: NMFS should pay for the costs of mandatory observers on fishing vessels that catch sharks either in a directed or incidental fishery.

Response: Under current agency policy, NMFS pays for salary and benefits for government employees. Vessel owners and operators must provide accommodations and food.

b. Comment: NMFS should resolve the issue of who is liable for injuries to observers while on duty.

Response: The vessel owner or operator is liable and should be insured accordingly.

18. Measure: Framework regulatory adjustment procedure.

Comment: None received except those bearing on the authority of the Assistant Administrator to make management adjustments (see also comment 19 below).

19. Measure: The OT and FMP monitoring and changes.

a. Comment: The Assistant Administrator for Fisheries has too much authority under the FMP to accept or reject the OT's recommendations, and to make management adjustments (regulatory actions) independent of the OT.

Response: NMFS disagrees. Management actions of the Assistant Administrator are subject to the terms of the FMP and its implementing regulations and to the requirements of the Magnuson Act, E.O. 12291, and all other applicable Federal administrative and legal requirements. The Assistant Administrator does not have the authority to make regulatory changes without following such requirements. In addition, the framework regulatory adjustment procedure provides for notice and comment, which will provide an opportunity for public participation.

b. Comment: The scope of the OT's recommendations should be limited to measures in the current FMP and not additional measures (e.g., trip limits, size limits for other species) that should be incorporated only by FMP amendment process and not through a framework regulatory adjustment mechanism.

Response: NMFS does not agree. The OT, composed of representatives of NMFS, the five Councils (including Council members, staff, and advisory panel or scientific committee members), and the ICCAT Advisory Committee, is the primary group with responsibility to recommend regulatory improvements. The regulatory process for implementing the proposed regulation differs according to the type of change. Complex and contentious changes to the management regime will involve plan amendments while less complex changes will involve the regulatory adjustment process outlined in the FMP.

c. Comment: The OT should include members from industry, environmental groups, or other constituent interests who are not already affiliated with the Regional Fishery Management Councils.

Response: While NMFS seeks information and recommendations from all those knowledgeable of and experienced with the Atlantic shark fisheries, NMFS is restricted by Federal law in its use of non-

Federal or outside advisors. In part to avoid statutory limitations at this time, NMFS is establishing an OT that will utilize knowledgeable and experienced Council members, staff, and advisory panel or scientific and statistical committee members as members. Also, NMFS will include an ICCAT Advisory Committee member on the OT. NMFS will ensure that either the OT or NMFS consult with appropriate representatives of all major fishery interests including recreational and commercial fishermen, fish dealers and processors, scientific experts, and the environmental or natural resources conservation community. In amending the FMP, NMFS will follow the procedures set forth in its published final process for the management of Atlantic highly migratory species.

20. Supporting Environmental Impact Statement (EIS) and Regulatory Impact Review (RIR).

a. Comment: The EIS requires additional information regarding the fishery data collection process and need for baseline catch data, potential impacts of foreign fleets, shark finning, and exploitation of small coastal species. This information is required to explain adequately why certain adverse environmental impacts could not be avoided or reduced. The FMP does not assess a wide enough range of alternatives, including prohibiting commercial shark fishing.

Response: In developing an initial shark management program, NMFS considered and rejected numerous alternatives for addressing identified problems with the fishery and shark resources. These alternative measures are discussed in the FMP, EIS, and RIR. Prohibiting commercial fishing was not considered to be a reasonable or appropriate management alternative, considering historical fishing practices and the overall condition of the shark resources. The OT could review this alternative at a future date, if there is new information. In time, through international agreements and associated data collection programs, NMFS may be able to determine the impact of different nations' fishing activities on the shark resources that move across international boundaries.

b. Comment: The regulatory impact review (RIR) is deficient because it: (1) is based on erroneous information about the true volume and value of recent shark landings; (2) underestimates the magnitude of adverse economic impacts on fishermen and dealers/processors by the restrictive quotas and probable fishery closures, particularly over the long term; and (3) does not adequately evaluate regional impacts of initial closures and market disruptions.

Response: The proposed FMP (dated October 28, 1991) was based on the best available scientific information at the time of its preparation. The final FMP was prepared based on a revised stock assessment that reflects the best available information at the close of 1992. See response to comment 1.c. above. Consistent with the above changes, the RIR was modified to include the new fishery information.

21. Habitat.

a. Comment: NMFS should review all available habitat information and determine if specific actions should be undertaken to protect and/or enhance shark habitat. The section on habitat should reflect such considerations.

Response: As part of FMP development, NMFS included what it believed to be all relevant information on shark habitat including a discussion of certain possible habitat protection/enhancement measures, such as closing nursery areas to fishing. NMFS is not aware of any information that would lead to specific actions to protect and/or enhance shark habitat not already discussed in the FMP. NMFS will assess new habitat information as it becomes available.

22. FMP consistency with state coastal zone management plans.

a. Comment: New Jersey stated that the FMP was not consistent with its coastal zone management plan because of the proposed different application of the mako minimum size measure to the recreational and commercial fishery sectors conflicted with its plan.

Response: This issue is resolved since NMFS is not implementing the mako minimum size limit at this time.

b. Comment: Ten coastal states concluded that the proposed FMP measures were consistent with their respective coastal zone management plans.

Response: NMFS acknowledges the responses from these states.

23. Other.

a. Comment: Approval and implementation of the FMP conflicts with the Presidential Moratorium on New Regulations.

Response: NMFS does not agree. First, the Presidential Moratorium ended with the recent change in the Administration. Second, approval and implementation of the FMP would not have conflicted with the Presidential Moratorium on New Regulations because the FMP will prevent overfishing and maintain the shark stocks at MSY levels. These management results should ensure continuation of viable recreational and commercial fisheries, create additional employment over the long term, and promote economic growth. Regulations promoting economic growth were generally exempted from the Presidential Moratorium.

b. Comment: NMFS should delay implementation of the FMP until implementation of the agency's proposed public process for preparing and amending fishery management plans for Atlantic highly migratory species, as defined in the 1990 Fishery Conservation Amendments.

Response: NMFS does not agree. The FMP was developed with substantial public participation and as such is consistent with the principles for preparing fishery management plans for Atlantic highly migratory species as set forth in the agency's proposed process.

c. Comment: NMFS should develop and implement a fishery management plan for Pacific ocean sharks.

Response: NMFS has reviewed these comments and forwarded them to the three west coast fishery management Councils for their consideration. These Councils have responsibility under the Magnuson Act for preparing management plans for Pacific sharks.

d. Comment: The finning prohibition poses vessel safety problems because it requires that heavy carcasses be carried on board, which make vessels less seaworthy. Finning should be allowed to prevent these safety problems.

Response: NMFS does not agree. There are strong rationales to prohibit finning. It is up to each Master to ensure safe operation of his vessel while fishing within the law.

e. Comment: NMFS should adopt and implement an FMP with measures similar to those applied by North Carolina and Virginia including trip limits, year round fisheries with no closures, fins-to-carcass weight ratio of 10 percent with a 10 percent tolerance applied, etc.

Response: NMFS does not agree. The proposed Federal regulations are generally more conservative than those implemented by the above states. Therefore, overfishing is more likely to be prevented. NMFS will work with the states toward conforming regulations.

f. Comment: FMP should contain trip limits that would prevent fishery closures and dampen market fluctuations in supply.

Response: NMFS considered and rejected this type of measure for the initial shark management program as not supportable based on available fishery information and too difficult to enforce at this time. The OT may consider this measure for implementation at a later date.

g. Comment: FMP should contain specific provisions for a spawning season closure to protect pregnant females and pups from fishing mortality.

Response: The OT may consider this measure for implementation at a later date when more data are available.

h. Comment: FMP should consider a management alternative that would close all fisheries (recreational and commercial) that kill sharks.

Response: NMFS does not agree. This alternative was considered and rejected. Available scientific information does not support this alternative.

i. Comment: FMP should establish a control date to be used later as a basis for determining historical fishery participation if a limited entry or other limited access system is to be implemented.

Response: NMFS will consider establishing a control date.

j. Comment: FMP should be amended to establish an ITQ system.

Response: The OT may consider this measure for implementation at a later date. Amending the FMP at this point to establish any ITQ system would cause long delays. FMP implementation and significant conservation benefits, including rebuilding overfished resources, would be delayed or lost.

k. Comment: Species other than mako should be managed through use of minimum size limit.

Response: The OT may consider this measure for implementation at a later date.

l. Comment: NMFS should consider issuing commercial and recreational permits by lottery.

Response: NMFS does not agree. The Magnuson Act does not allow this as a sole means of allocating permits.

m. Comment: NMFS should consider limiting entrants by increased user fees.

Response: NMFS does not agree. The Magnuson Act limits fees to the administrative costs.