FINAL

FRAMEWORK ADJUSTMENT UNDER THE FISHERY MANAGEMENT PLAN FOR THE COASTAL MIGRATORY PELAGIC RESOURCES (MACKERELS) IN THE GULF OF MEXICO AND SOUTH ATLANTIC REGION

(Including Regulatory Impact Review, Social Impact Assessment/Fishery Impact Statement, and Environmental Assessment)

OCTOBER 2007

South Atlantic Fishery Management Council
4055 Faber Place Drive, Suite 201
North Charleston, South Carolina 29405
(843) 571-4366 / FAX (843) 769-4520
Toll Free (866) SAFMC-10
email: safmc@safmc.net
http://www.safmc.net

Mid-Atlantic Fishery Management Council
Suite 2115 Federal Bldg.
300 S. New Street
Dover, Delaware 19904-6726
(302) 674-2331 / FAX (302) 674-5399
email: info@mafmc.org

National Marine Fisheries Service
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701
(727) 824-5301 / FAX (727) 824-5308
http://sero.nmfs.noaa.gov

This is a publication of the South Atlantic Marine Fisheries Council pursuant to National Oceanic and Atmospheric Administration Award and NA05NMF4410004

Table of Contents

Acronyms/Abbreviations used in this document iii
Executive Summary iv
Environmental Assessment (EA) Cover Sheet vi
Fishery Impact Statement / Social Impact Assessment (FIS/SIA) viii
1 INTRODUCTION 1
1.1 Background 1
1.2 History of Management 1
2 PURPOSE AND NEED 7
3 MANAGEMENT ALTERNATIVES FOR MACKEREL TRIP LIMITS 8
3.1 Action 1 8
4 REGULATORY IMPACT REVIEW 10
4.1 Introduction 10
4.2 Problems and Objectives 10
4.3 Methodology and Framework for Analysis 10
4.4 Description of Fisheries 10
4.5 Impacts of Mackerel Trip Limits 11
4.6 Public and Private Costs of Regulations 11
4.7 Summary of Economic Benefits 11
4.8 Determination of Significant Regulatory Action 12
5 REGULATORY FLEXIBILITY ACT ANALYSIS 13
6 AFFECTED ENVIRONMENT 16
6.1 Physical Environment 16
6.2 Biological Environment 16
6.2.1 Biology and Life History 16
6.2.2 Status of the Stocks 17
6.2.3 Weather Impacts 18
6.3 Current Management 19
6.4 Economic Environment 22
6.4.1 Status of the Fishery 22
6.4.1.1 Commercial Fishery 22
6.4.1.2 Recreational Fishery 28
6.4.1.3 Permit Ownership 34
6.5 Social Environment 37
6.5.1 Measures of Fishing Dependence 37
6.5.2 Mackerel Fishing Communities 37
6.6 Administrative Environment 38
6.6.1 Federal Fishery Management 38
6.6.2 State Fishery Management 39

7 ENVIRONMENTAL CONSEQUENCES 40
7.1 Direct and Indirect Effects on the Biological and Physical Environment 40
7.1.1 Action 1 40
7.2 Direct and Indirect Effects on the Economic Environment 40
7.2.1 Action 1 40
7.3 Direct and Indirect Effects on the Social Environment 41
7.3.1 Action 1 41
7.4 Direct and Indirect Effects on the Administrative Environment 42
7.5 Mitigation Measures 42
7.6 Cumulative Effects 43
7.7 Unavoidable Adverse Effects 43
7.8 Relationship between Short-Term Uses and Long-Term Productivity 44
7.9 Irreversible and Irretrievable Commitments of Resources 44
7.10 Any Other Disclosures 44
8 FINDING OF NO SIGNIFICANT IMPACT 45
9 OTHER APPLICABLE LAW 50
9.1 Administrative Procedures Act 50
9.2 Coastal Zone Management Act 51
9.3 Data Quality Act 51
9.4 Endangered Species Act 51
9.5 Executive Orders 53
9.6 Marine Mammal Protection Act 54
9.7 Paperwork Reduction Act 55
9.8 Small Business Act 55
9.9 Essential Fish Habitat 56
10 LIST OF PREPARERS 58
11 REFERENCES 59
12 APPENDICES
Appendix A. Community Dependence on Mackerel Fisheries A-1

Acronyms/Abbreviations used in this document

ABC	Acceptable Biological Catch
AP	Advisory Panel
B	Biomass
BMSY	Stock biomass capable of producing maximum sustainable yield
CEQ	Council on Environmental Quality
cm	Centimeters
CMP	Coastal Migratory Pelagics
CZMA	Coastal Zone Management Act
DSEIS/SEIS	Draft/Supplemental Environmental Impact Statement
EA	Environmental Assessment
EEZ	Exclusive Economic Zone (also known as federal waters)
EFH	Essential Fish Habitat
F	Rate of instantaneous fishing mortality, a measure of the rate at which fish are removed from the population by fishing.
FL	Fork Length
FMSY	F that can sustain maximum sustainable yield
FMP	Fishery Management Plan
GMFMC	Gulf of Mexico Fishery Management Council
IFQ	Individual Fishing Quota
ITQ	Individual Transferable Quota
m	Meters
MAFMC	Mid-Atlantic Fishery Management Council
MFMT	Maximum Fishing Mortality Threshold
MP	Million Pounds
MSAP	Mackerel Stock Assessment Panel
M-SFCMA	Magnuson-Stevens Fishery Conservation and Management Act
MSST	Minimum Stock Size Threshold
MSY	Maximum Sustainable Yield
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OY	Optimum Yield
RA	Regional Administrator (NMFS Southeast Regional Office) (formerly Regional Director
RFA	Regulatory Flexibility Act of 1980
RIR	Regulatory Impact Review
SAFMC	South Atlantic Fishery Management Council
SERO	Southeast Regional Office
SFD	Sustainable Fisheries Division
SPR	Spawning Potential Ratio
SSC	Scientific and Statistical Committee
SEFSC	Southeast Fisheries Science Center
TAC	Total Allowable Catch
TL	Total Length

Executive Summary

To extend the current trip limits for Spanish mackerel to track the new fishing year as stated in Amendment 15 (in June 2006), the South Atlantic and Mid-Atlantic Councils are proposing to make one change to existing management measures.

This change corrects an unintended inconsistency in Amendment 15. Amendment 15 changed the fishing year to March-February from April-March, but did not specify, contrary to Council intent, that the 3,500-pound trip limit should apply in March-November rather than April-November. The proposed change assures that fishermen will be able to fish under the 3,500-pound trip limit in March when there are few other fishing opportunities. For example, the red porgy fishery is closed January through April, and the gag and black grouper fisheries are closed in March and April.

The purpose of this framework action is to propose a management change to align current trip limits with the new fishing year in the Atlantic Spanish mackerel fishery. The Councils initiated this action in June 2006.

Action 1: Commercial Atlantic migratory group Spanish mackerel trip limits

Alternative 1: No action
Alternative 2: Change the start date for the 3,500 pound trip limit *in the southern zone* to March 1~~ and the end of the fishing year to the end of February~~ **(Preferred)**

Note: The statement *"...and the end of the fishing year to the end of February"* is really unnecessary as part of the alternative. The end of the fishing year was changed in Amendment 15. The current regulations for trip limits for Atlantic migratory group Spanish mackerel at 622.44(b)(1)(ii)(D) state: "After 100 percent of the adjusted quota is taken through the end of the fishing year, in amounts not exceeding 500 pounds." Similarly, in 622.44(b)(2), it continues with "The adjusted quota is ... calculated to allow continued harvests … at the rate of 500 pounds (227 kg) per vessel per day for the remainder of the fishing year after the adjusted quota is reached." Previously, at 622.43(a) (3), which refers to fishery closures, it is stated that: "The closure provisions of this paragraph (a)(3) do not apply to Atlantic migratory group Spanish mackerel, which are managed under the commercial trip limits specified in § 622.44(b) in lieu of the closure provisions of this section."

Alternatives 1 and 2 are identical except that **Alternative 2** specifies for the 3,500 trip limit to begin in March instead of April. The Council chose **Alternative 2** as the preferred. Under **Alternatives 1 and 2**, after December 1st and until 75% of the adjusted allocation is taken, vessels are able to take an unlimited amount on weekdays and 1,500 pounds on weekend days. More restrictive trip limits apply after 75% of the adjusted allocation is taken until the end of the fishing season. **Alternative 2** ensures that fishermen will be able to fish in March under the 3,500-pound trip limit during a month when there are few other fishing opportunities and at a time of year (Lent) when ex-vessel prices are typically at their highest. This provides increased total landings stability for communities and increased financial stability for fishermen and their families.

Alternative 2 is not expected to affect the biological environment because it will not change the methods or gears used for harvest, only the amount landed per trip during the month of March. Changing the trip limit will not impact stock status. Biological protection is provided through setting the TAC and preventing overages. There are no expected changes to the physical environment.

Administrative impacts under **Alternative 2** are expected to be slightly higher than administrative impacts under **Alternative 1**.

Summary of Environmental Consequences

The potential consequences of each alternative within each action are illustrated in the following table. For a full discussion of the environmental consequences, see Section 7. Plus (+) indicates an overall positive benefit, minus (-) indicates an overall negative impact, and "na" indicates not applicable. If an alternative is not expected to have an impact, this is indicated with a "0".

Summary of Environmental Consequences

		Preferred	Biological	Economic	Social	Administrative
Action 1	Alt 1	na	na	na	na	na
	Alt 2 vs Alt 1	**X**	0	+	+	-

Environmental Assessment (EA) Cover Sheet

South Atlantic Fishery Management Council
4055 Faber Place Drive, Suite 201
North Charleston, SC 29405
843-571-4366
843-769-4520 (FAX)
http://www.safmc.net
Contact person: Kate Quigley or Gregg Waugh

National Marine Fisheries Service
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701
727-824-5305
727-824-5308 (FAX)
http://sero.nmfs.noaa.gov
Contact person: Steve Branstetter

Mid-Atlantic Fishery Management Council
Suite 2115 Federal Bldg.
300 S. New Street
Dover, Delaware 19904-6726
302-674-2331
302-674-5399 (FAX)
http://www.mafmc.org

Name of Action
South Atlantic, Gulf of Mexico, and Mid-Atlantic Fishery Management Councils' Mackerel Actions for the Coastal Migratory Pelagics Fishery Management Plan

Type of Action
(X) Administrative
( ) Draft
( ) Legislative
(X) Final

Summary

To extend the current trip limits for Spanish mackerel to track the new fishing year as stated in Amendment 15 (in June 2006), the Councils are proposing to:

1) Change the Atlantic migratory group Spanish mackerel trip limits to track the new fishing year (March 1 – end of February).

Amendment 15 established a new fishing year for Spanish mackerel from April 1 – March 31 to March 1 – end of February. For Atlantic group Spanish mackerel, the change in the fishing year was made to potentially ameliorate the possibility of closures in the mackerel fisheries during the month of March when fisheries for other species, such as some snapper grouper species, are closed. However, when the new fishing year was established, the trip limits were not adjusted to the new fishing year. This framework adjustment proposes extending the southern zone trip limits currently used to track the new fishing year.

Public hearings were held as follows: all hearings began at 6:00 PM.

1. March 6, 2007 - Jekyll Island Club, 371 Riverview Drive, Jekyll Island, GA 31527. 912/635-2600
2. March 12, 2007 - Hampton Inn St. Augustine Beach, 430 A1A Beach Boulevard, St. Augustine, FL 32080; phone 904/471-4000
3. March 13, 2007 – Hutchinson Island Marriott, 555 N.E. Ocean Boulevard, Stuart, FL 34996; phone 772/225-3700
4. March 14, 2007 – Sombrero Cay Club Resort, 19 Sombrero Boulevard, Marathon, FL 33050; phone 305/743-2250
5. March 18, 2007 – Hatteras Civic Center, Highway 12, Hatteras, NC 27943; phone 252/986-2810.
6. March 19, 2007 – Crystal Coast Civic Center, 3505 Arendell Street, Morehead City, NC 28557; phone 252/247-3883
7. March 20, 2007 – Shell Island Resort, 2700 N. Lumina Avenue, Wrightsville Beach, NC 28480; phone 910/256-8696
8. March 21, 2007 – Baywatch Resort, 2701 S. Ocean Boulevard, North Myrtle Beach, SC 29582; phone 843/272-4600
9. March 27, 2007 – Hampton Inn, 678 Citadel Haven Drive, Charleston, SC 29414; phone 843/573-1200

Written comments were accepted in the Council office through 5 p.m. on April 10, 2007.

Public hearing minutes and written comments (including emails) are available from the Council office.

Fishery Impact Statement / Social Impact Assessment (FIS/SIA)

Regulations impose restrictions on fishery participants, which can result in adverse effects on fishermen and fishing communities. This FIS/SIA evaluates the effects of changing when the Atlantic migratory group Spanish mackerel trip limits begin in the southern zone.

Atlantic migratory group Spanish mackerel trip limits

There are two alternative management measures proposed for the Atlantic migratory group Spanish mackerel trip limits. The first alternative would maintain the status quo in the southern zone. The second alternative is exactly the same as **Alternative 1** except that the 3,500 pound trip limit begins in March instead of April in the southern zone. **Alternative 2** enables fishermen in the southern zone to fish under the 3,500-pound trip limit during a month when there are few other fishing opportunities and at a time of year when ex-vessel prices are typically at their highest without risking unlimited catches. This provides increased total landings stability for communities and increased financial stability for fishermen and their families that result in an expected positive social impact.

A more detailed analysis of the impacts on fishery participants and their communities is found in Sections 4, 5, and 7 of this document. Appendix A contains background information on fishing communities.

1 INTRODUCTION

1.1 Background

This framework action proposes one change to the current management of Atlantic migratory groups of Spanish mackerel: an extension of current trip limits in the southern zone to track the new fishing year for Spanish mackerel.

Amendment 15 established a new fishing year for Spanish mackerel from April 1 – March 31 to March 1 – end of February. For Atlantic group Spanish mackerel, the change in the fishing year was made to potentially ameliorate the possibility of a closure in the Atlantic Spanish mackerel fishery during the month of March when fisheries for other species, such as some snapper grouper, are closed. However, when the new fishing year was established, the trip limits were not adjusted to the new fishing year. This amendment proposes extending the southern zone trip limits currently used to track the new fishing year.

To extend the current trip limits for Spanish mackerel to track the new fishing year as stated in Amendment 15 (in June 2006), the Councils are proposing to:

1) Change the Atlantic migratory group Spanish mackerel trip limits to track the new fishing year (March 1 – end of February).

1.2 History of Management

The Coastal Migratory Pelagics FMP, with Environmental Impact Statement (EIS), was approved in 1982 and implemented by regulations effective in February of 1983. Managed species included king mackerel, Spanish mackerel, and cobia. The FMP treated king and Spanish mackerel as unit stocks in the Atlantic and Gulf of Mexico. The FMP established allocations for the recreational and commercial sectors harvesting these stocks, and the commercial allocations were divided between net and hook-and-line fishermen.

<u>Amendments</u>

Amendment 1, with EIS, implemented in September of 1985, provided a framework procedure for pre-season adjustment of Total Allowable Catch (TAC), revised the estimate of king mackerel maximum sustainable yield (MSY) downward, recognized separate Atlantic and Gulf migratory groups of king mackerel (Figure 1), and established fishing permits and bag limits for king mackerel. Commercial allocations among gear users, except purse seines that were allowed 6% of the commercial allocation of TAC, were eliminated. The Atlantic TAC for king mackerel was divided 62.9% recreational and 37.1% commercial. The Gulf TAC for king mackerel was divided into Eastern and Western Zones for the purpose of regional allocation, with 69% of the remaining allocation provided to the Eastern Zone and 31% to the Western Zone. Amendment 1 also established minimum size limits for Spanish mackerel at 12 inches fork length (FL) or 14 inches total length (TL) and for cobia at 33 inches FL or 37 inches TL.

Amendment 2, with environmental assessment (EA), implemented in July of 1987, revised Spanish mackerel MSY downward, recognized two migratory groups (Figure 1b), established allocations of TAC for the commercial and recreational sectors, and set commercial quotas and bag limits. Charterboat permits were required, and it was clarified that TAC must be set below the upper range of Acceptable Biological Catch (ABC). The use of purse seines on overfished stocks was prohibited and their allocation of TAC was redistributed under the 69%/31% split.

Amendment 3, with EA, was partially approved in August 1989, revised, resubmitted, and approved in April 1990. It prohibited drift gill nets for coastal pelagics and purse seines for the overfished groups of mackerels.

Amendment 4, with EA, implemented in October 1989, reallocated Atlantic group Spanish mackerel equally between recreational and commercial fishermen.

Amendment 5, with EA, implemented in August 1990, made the following changes in the management regime:

- Extended the management area for Atlantic groups of mackerels through the –Mid-Atlantic Fishery Management Council's (MAFMC) area of jurisdiction;
- Revised problems in the fishery and plan objectives;
- Revised the fishing year for Gulf Spanish mackerel from July-June to April-March;
- Revised the definition of "overfishing";
- Added cobia to the annual stock assessment procedure;
- Provided that the South Atlantic Fishery Management Council (SAFMC) will be responsible for pre-season adjustments of TACs and bag limits for the Atlantic migratory groups of mackerels while the Gulf of Mexico Fishery Management Council (GMFMC) will be responsible for Gulf migratory groups;
- Continued to manage the two recognized Gulf migratory groups of king mackerel as one until management measures appropriate to the eastern and western groups can be determined;
- Re-defined recreational bag limits as daily limits;
- Deleted a provision specifying that bag limit catch of mackerel may be sold;
- Provided guidelines for corporate commercial vessel permits;
- Specified that Gulf group king mackerel may be taken only by hook-and-line and run-around gill nets;
- Imposed a bag and possession limit of two cobia per person per day; and
- Established a minimum size of 12 inches (30.5 cm) FL or 14 inches (35.6 cm) TL for king mackerel and included a definition of "conflict" to provide guidance to the Secretary.

Amendment 6, with EA, implemented in November of 1992, made the following changes:

- Identified additional problems and an objective in the fishery;
- Provided for rebuilding overfished stocks of mackerels within specific periods;
- Provided for biennial assessments and adjustments;
- Provided for more seasonal adjustment actions;
- Allowed for Gulf king mackerel stock identification and allocation when appropriate;

- Provided for commercial Atlantic Spanish mackerel possession limits;
- Changed commercial permit requirements to allow qualification in one of three preceding years;
- Discontinued the reversion of the bag limit to zero when the recreational allocation is filled;
- Modified the recreational fishing year to the calendar year; and
- Changed the minimum size limit for king mackerel to 20 inches FL, and changed all size limit measures to fork length only.

Amendment 7, with EA, implemented in November 1994, equally divided the Gulf commercial allocation in the Eastern Zone at the Miami-Dade/Monroe County line on the Florida East Coasts. The suballocation for the area from Monroe County through Western Florida is equally divided between commercial hook-and-line and net gear users.

Amendment 8, with EA, implemented March 1998, made the following changes to the management regime:

- Clarified ambiguity about allowable gear specifications for the Gulf group king mackerel fishery by allowing only hook-and-line and run-around gill nets. However, catch by permitted, multi-species vessels and bycatch allowances for purse seines were maintained;
- Established allowable gear in the SAFMC and MAFMC areas as well as providing for the NMFS Regional Administrator to authorize the use of experimental gear;
- Established the Councils' intent to evaluate the impacts of permanent jurisdictional boundaries between the GMFMC and SAFMC and development of separate FMPs for coastal pelagics in these areas;
- Established a moratorium on commercial king mackerel permits until no later than October 15, 2000, with a qualification date for initial participation of October 16, 1995;
- Increased the income requirement for a king or Spanish mackerel permit to 25% of earned income or $10,000 from commercial sale of catch or charter or headboat fishing in 1 of the 3 previous calendar years, but allowed for a 1-year grace period to qualify under permits that are transferred;
- Legalized retention of up to 5 cut-off (damaged) king mackerel on vessels with commercial trip limits;
- Set an optimum yield (OY) target at 30% static spawning potential ratio (SPR) for the Gulf and 40% static SPR for the Atlantic;
- Provided the SAFMC with authority to set vessel trip limits, closed seasons or areas, and gear restrictions for Gulf group king mackerel in the North Area of the Eastern Zone (Miami-Dade/Monroe to Volusia/Flagler County lines);
- Established various data consideration and reporting requirements under the framework procedure;
- Modified the seasonal framework adjustment measures and specifications; and
- Expanded the management area for cobia through the MAFMC's area of jurisdiction (New York).

Amendment 9, with EA, implemented in April 2000, made the following changes to the management regime:

- Reallocated the percentage of the Gulf migratory group king mackerel commercial allocation of TAC for the North Area (Florida east coast) and South/West Area (Florida west coast) of the Eastern Zone to 46.15% North and 53.85% South/West and retained the recreational and commercial allocations of TAC at 68% recreational and 32% commercial;
- Subdivided the commercial hook-and-line king mackerel allocation for the Gulf migratory group, Eastern Zone, South/West Area (Florida west coast) by establishing 2 subzones with a dividing line between the 2 subzones at the Collier/Lee County line;
- Established regional allocations for the west coast of Florida based on the 2 subzones with 7.5% of the Eastern Zone allocation of TAC being allowed from Subzone 2 and the remaining 92.5% being allocated as follows:
    - 50% - Florida east coast
    - 50% - Florida west coast that is further subdivided:
        - 50% - Net Fishery
        - 50% - Hook-and-Line Fishery
- Established a trip limit of 3,000 pounds per vessel per trip for the Western Zone;
- Established a moratorium on the issuance of commercial king mackerel gill-net endorsements and allow re-issuance of gill-net endorsements to only those vessels that: (1) had a commercial mackerel permit with a gill-net endorsement on or before the moratorium control date of October 16, 1995 (Amendment 8), and (2) had landings of king mackerel using a gill net in one of the two fishing years 1995-96 or 1996-97 as verified by the National Marine Fisheries Service (NMFS) or trip tickets from the Florida Department of Environmental Protection (FDEP); allowed transfer of gill-net endorsements to immediate family members (son, daughter, father, mother, or spouse) only; and prohibited the use of gill nets or any other net gear for the harvest of Gulf migratory group king mackerel north of an east/west line at the Collier/Lee County line;
- Increased the minimum size limit for Gulf migratory group king mackerel from 20 inches to 24 inches FL; and
- Allowed the retention and sale of cut-off (damaged), legal-sized king and Spanish mackerel within established trip limits.

Amendment 10, with Supplemental Environmental Impact Statement (SEIS), approved June 1999, incorporated essential fish habitat (EFH) provisions for the SAFMC.

Amendment 11, with SEIS, partially approved in December 1999, included proposals for mackerel in the SAFMC's Comprehensive Amendment Addressing Sustainable Fishery Act Definitions and other Provisions in Fishery Management Plans of the South Atlantic Region.

Amendment 12, with EA, implemented October 2000, extended the commercial king mackerel permit moratorium from its expiration date of October 15, 2000, to October 15, 2005, or until replaced with a license limitation, limited access, and/or individual fishing quota or individual transferable quota system, whichever occurs earlier.

Amendment 13, with SEIS, implemented August 19, 2002, established two marine reserves in the EEZ of the Gulf in the vicinity of the Dry Tortugas, Florida known as Tortugas North and Tortugas South in which fishing for coastal migratory pelagic species is prohibited. This action complements previous actions taken under the National Marine Sanctuaries Act.

Amendment 14, with EA, implemented July 29, 2002, established a 3-year moratorium on the issuance of charter vessel and headboat Gulf migratory group king mackerel permits in the Gulf unless replaced by a comprehensive effort limitation system. The control date for eligibility was established as March 29, 2001. The amendment also included other provisions for eligibility, application, appeals, and transferability.

Amendment 15, with EA, implemented August 8, 2005, established an indefinite limited access program for the king mackerel fishery in the exclusive economic zone under the jurisdiction of the Gulf of Mexico, South Atlantic, and Mid-Atlantic Fishery Management Councils and changed the fishing season to March 1 through February 28/29 for the Atlantic groups of king and Spanish mackerel.

Amendment 16 has been bypassed.

Amendment 17, with EIS, established a limited access system for charter vessel/headboat (for-hire) permits for the coastal migratory pelagic fisheries in the exclusive economic zone (EEZ) of the Gulf of Mexico and continued to cap participation at current levels. In addition, several minor revisions were made to remove outdated regulatory text and to clarify regulatory text.

Amendment 18 is currently being developed to establish two separate fishery management plans with a fixed boundary on the lower Florida East Coast.

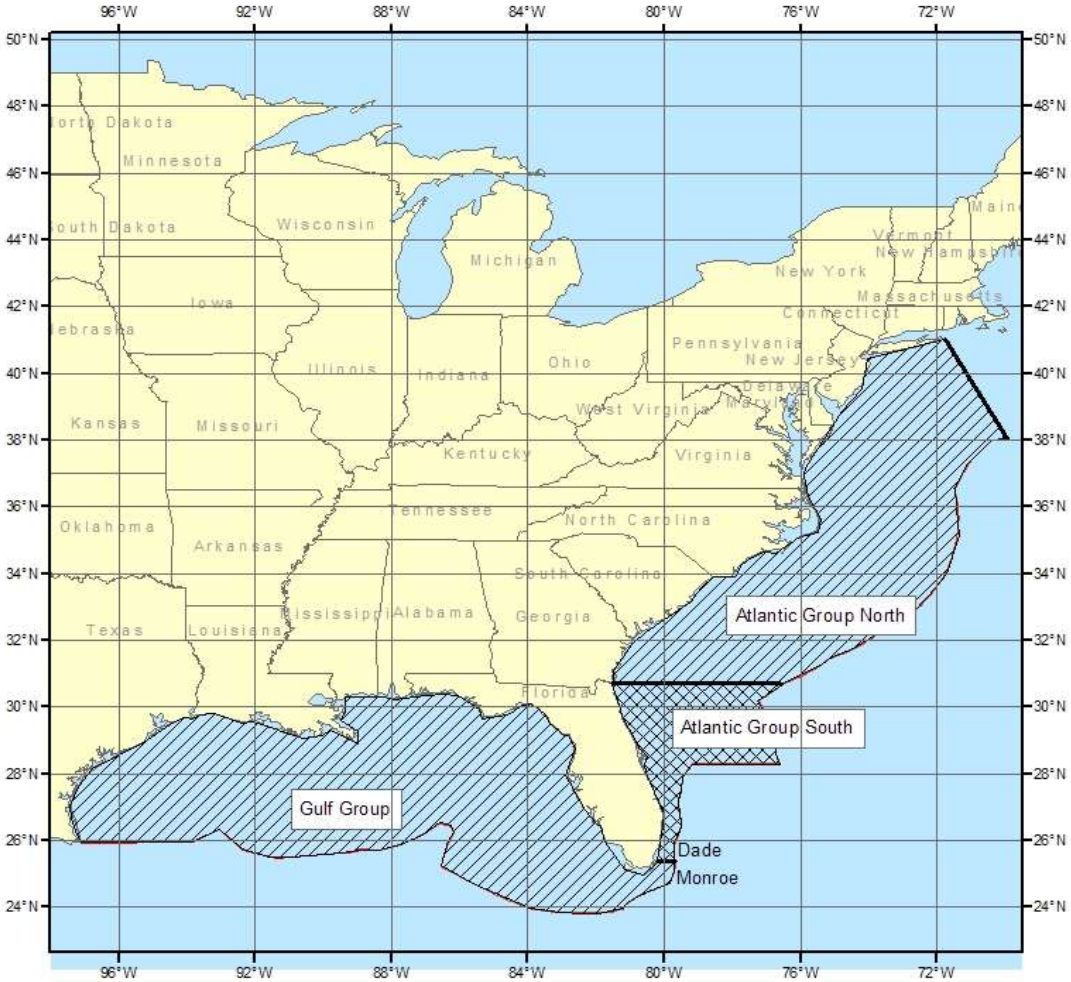


Figure 1. Boundary between Atlantic and Gulf Migratory Groups of Spanish mackerel. (Source: Council Staff)

2 PURPOSE AND NEED

The purpose of this framework adjustment is to align current southern zone trip limits with the new fishing year in the Spanish mackerel fishery. The South Atlantic, Gulf of Mexico, and Mid-Atlantic Fishery Management Councils (Councils) initiated this amendment in June 2006. A March-February fishing year for Spanish mackerel was established from April 1 – March 31 to March 1 – end of February in Amendment 15, replacing an April-March fishing year in order to prevent the possibility of multiple commercial fishery closures at the same time. (For example, the red porgy fishery is closed January through April, and the gag and black grouper fisheries are closed in March and April.) This amendment applies the 3,500-pound trip limit to March-November rather than to April-November and this is consistent with the March-February fishing year.

Changing the period when the 3,500-pound trip limit applies from April-November to March-November supports the redefinition of the fishing year for Atlantic group Spanish mackerel. Extending current trip limits for Atlantic Spanish mackerel to track the new fishing year supports redefinition of the fishing year for Atlantic group Spanish mackerel.

3 MANAGEMENT ALTERNATIVES FOR MACKEREL TRIP LIMITS

3.1 Action 1 - Change the Atlantic Migratory Group Spanish mackerel trip limits to track the new fishing year (March 1 – end of February)

Background for Action 1:
In Amendment 15, the fishing year was changed from April 1 through March 31 to March 1 through the end of February for the Atlantic migratory groups of king and Spanish mackerel. Beginning the fishing year on March 1 ensures the mackerel fisheries in the Atlantic are open during March when several other fisheries are closed. To achieve the objective of making the change in the fishing season, it is necessary to adjust the trip limits to track the new fishing year in the southern zone. The trip limit in the northern zone remains at 3,500 pounds all year. The current trip limit in the southern zone allows for 3,500 pounds per vessel per day April 1 – November 30 and allows for other trip limits following November 30, as described below.

Alternative 1. Status Quo (no action) *for the southern zone* – The possession limits are as follows:

1. April 1 – November 30 – 3,500 pounds per vessel per day.
2. December 1 until 75% of the adjusted allocation is taken:
   Monday – Friday Unlimited
   Other days 1,500 pounds
   (Vessel fishing days begin at 6:00am and extend until 6:00am the following day, and vessels must be unloaded by 6:00pm of that following day.)
3. After 75% of the adjusted allocation is taken 1,500 pounds per vessel per day for all days.
4. When 100% of the adjusted allocation is reached: 500 pounds per vessel per day to the end of the fishing year. Adjusted allocation compensates for estimated catches of 500 pounds per vessel per day to the end of the season; that is, the fishery does not close.

Alternative 2: Change the start date for the 3,500 pound trip limit *in the southern zone* to March 1~~ and the end of the fishing year to the end of February~~ **(Preferred)**

1. March 1 – November 30 – 3,500 pounds per vessel per day.
2. December 1 until 75% of the adjusted allocation is taken:
   Monday – Friday Unlimited
   Other days 1,500 pounds
   (Vessel fishing days begin at 6:00am and extend until 6:00am the following day, and vessels must be unloaded by 6:00pm of that following day.)
3. After 75% of the adjusted allocation is taken 1,500 pounds per vessel per day for all days.
4. When 100% of the adjusted allocation is reached: 500 pounds per vessel per day to the end of the fishing year (end of February). Adjusted allocation compensates for estimated catches of 500 pounds per vessel per day to the end of the season; that is, the fishery does not close.

Discussion – Action 1 - Economic and Social Impacts

Alternative 1 (status quo) specifies 3,500-pound trip limits for April-November in the southern zone (Florida east coast) even though Amendment 15 (implemented August 8, 2005) changed the fishing year from April-March to March-February. After November, other trip limits apply. Despite the inconsistency, which may have implications to the contrary, the fishery appears to have behaved much as it did in the past in terms of landings, landings per trip, and number of trips, judging by available data.

Alternative 1 provides the economic and social basis for comparison to other alternatives. The economic analyses presented below for Alternative 1 are summarized from a more thorough discussion of the methods and economic and social impacts of the proposed change to the Atlantic migratory group Spanish mackerel trip limits in Section 7 of this document.

Preferred **Alternative 2** corrects the inconsistency in Amendment 15. **Alternative 2** specifies 3,500-pound trip limits for March-November in the southern zone (Florida east coast) and is consistent with Amendment 15 (implemented August 8, 2005) which changed the fishing year from April-March to March-February. After December 1st and until 75% of the adjusted allocation is taken, vessels are able to take an unlimited amount on weekdays and 1,500 pounds on weekend days under both alternatives. More restrictive trip limits apply after 75% of the adjusted allocation is taken. After 100% of the adjusted allocation is taken, the trip limit is reduced to 500 pounds in the southern zone through the end of the fishing year, and no closure occurs for the commercial fishery for Atlantic migratory group Spanish mackerel.

Alternative 2 assures that fishermen will be able to fish under the 3,500-pound trip limit in March when there are few other fishing opportunities. It also assures that Spanish mackerel can be harvested during Lent when ex-vessel prices are typically at their highest point of the year. **Alternative 2** is expected to provide increased total landings stability for communities and increased financial stability for fishermen and their families.

Discussion – Action 1 – Biological, Physical, and Administrative Impacts

Changing the trip limit in the southern zone will not impact stock status. Biological protection is provided through setting the TAC and preventing overages. There are no expected changes to the physical environment.

There would be some administrative impacts from implementing the change in trip limits.

4.0 REGULATORY IMPACT REVIEW

4.1 Introduction

Executive Order 12866 requires a Regulatory Impact Review (RIR) for all regulatory actions that are of public interest. The RIR does three things: (1) it provides a comprehensive review of the level and incidence of impacts associated with a regulatory action; (2) it provides a review of the problems and policy objectives prompting the regulatory proposals and an evaluation of the major alternatives which could be used to solve the problem; and (3) it ensures that the regulatory agency systematically and comprehensively considers all available alternatives so that the public welfare can be enhanced in the most efficient and cost effective way.

The RIR also serves as the basis for determining whether any proposed regulations are a "significant regulatory action" under certain criteria provided in Executive Order 12866 (E.O. 12866) and whether the approved regulations will have a "significant economic impact on a substantial number of small business entities" in compliance with the Regulatory Flexibility Act of 1980 (RFA).

4.2 Problems and Objectives

The purpose and need, issues, problems, and objectives of the proposed amendment are presented in Section 2.0 and are incorporated herein by reference. In summary, the purpose of this framework action is to support the goal for implementing the new fishing season for Atlantic migratory group Spanish mackerel in Amendment 15 to the Coastal Migratory Pelagics Fishery Management Plan (CMP FMP).

4.3 Methodology and Framework for Analysis

This RIR assesses management measures from the standpoint of determining the resulting changes in costs and benefits to society. To the extent practicable, the net effects should be stated in terms of producer surplus, changes in profits, employment in the direct and support industries, and participation by commercial fishermen. However, much of this information does not exist for the fisheries that the proposed actions in this document refer to. Therefore, for commercial fishing, the impacts of the proposed actions are described in terms of projected changes in landings and estimated annual revenues. For recreational fishing, the impacts of the proposed actions are described in terms of projected changes in catch.

4.4 Description of Fisheries

The commercial and recreational fishery for Atlantic migratory group Spanish mackerel are described in Section 6.3 and 6.4 and incorporated herein by reference.

4.5 Impacts of Mackerel Trip Limits

This proposed framework action considers two alternatives to set the trip limit for Atlantic migratory group Spanish mackerel. The impacts associated with the alternatives are described in Section 7.2 and 7.3 and incorporated herein by reference. However, a summary is provided for this action.

Atlantic migratory group Spanish mackerel trip limits - Summary: **Alternative 1** (status quo) specifies a 3,500-pound trip limit for April-November in the southern zone (Florida east coast) even though Amendment 15 (implemented August 8, 2005) changed the fishing year from April-March to March-February. **Alternative 2** specifies a 3,500-pound trip limit for March-November in the southern zone (Florida east coast) and is consistent with Amendment 15. Despite the inconsistency in Amendment 15, which may have implications to the contrary, the fishery appears to have behaved much as it did in the past in March, judging by available data. **Alternative 2** assures that fishermen will be able to fish in March under the 3,500-pound trip limit. It is expected to provide increased total landings stability for communities and increased financial stability for fishermen and their families.

4.6 Public and Private Costs of Regulations

The preparation, implementation, enforcement, and monitoring of this or any Federal action involves the expenditure of public and private resources which can be expressed as costs associated with the regulations. Costs associated with this regulatory amendment are shown in Table 1.

Table 1. Administrative cost information associated with the amendment.

Cost	Total
Council costs of document preparation, meetings, public hearings, and information dissemination	$100,000
NOAA fisheries administrative costs of document preparation, meetings and review	$100,000
Annual law enforcement costs	unknown
TOTAL	$200,000

4.7 Summary of Economic Impacts

Action 1. Atlantic migratory group Spanish mackerel trip limit.
The proposed action is expected to have positive economic benefits.

4.8 Determination of Significant Regulatory Action

Pursuant to executive Order (E.O.) 12866, a regulation is considered a "significant action" if it: (1) has an annual effect on the economy of $100 million or more or adversely affects in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, or tribal governments or communities; (2) creates a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) materially alters the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or (4) raises novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in E.O. 12866.

No revenue losses are expected as a result of Action 1. The proposed action will not meet the $100 million threshold, nor are there expected to be any significant adverse effects on prices, employment, or competition. Also, this action is not expected to adversely affect the environment, public health or safety, or state, local, or tribal governments or communities, nor interfere or create inconsistency with any action of another agency, including state fishing agencies. No effects on the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof have been identified. This action represents normal management options or practices and, therefore, does not raise novel legal or policy issues.

Since the proposed regulatory action will not meet any of the conditions listed above, it is determined that the proposed rule, if implemented, would not constitute a significant regulatory action under E.O. 12866.

5 REGULATORY FLEXIBILITY ACT ANALYSIS

Introduction: The purpose of the Regulatory Flexibility Act (RFA) is to establish a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and applicable statutes, to fit regulatory and informational requirements to the scale of businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to ensure that such proposals are given serious consideration. The RFA does not contain any decision criteria; instead, the purpose of the RFA is to inform the agency, as well as the public, of the expected economic impacts of the alternatives contained in the FMP or amendment (including framework management measures and other regulatory actions) and to ensure that the agency considers alternatives that minimize the expected impacts while meeting the goals and objectives of the FMP/amendments and applicable statutes.

With certain exceptions, the RFA requires agencies to conduct a regulatory flexibility analysis for each proposed rule. The regulatory flexibility analysis is designed to assess the impacts various regulatory alternatives would have on small entities, including small businesses, and to determine ways to minimize those impacts. In addition to analyses conducted for the RIR, the regulatory flexibility analysis provides: (1) a description of the reasons why action by the agency is being considered; (2) a succinct statement of the objectives of, and legal basis for the proposed rule; (3) an identification, to the extent practicable, of all relevant Federal rules which may duplicate, overlap, or conflict with the proposed rule; (4) a description and, where feasible, an estimate of the number of small entities to which the proposed rule will apply; (5) a description of the projected reporting, record-keeping, and other compliance requirements of the final rule, including an estimate of the classes of small entities which will be subject to the requirements of the report or record; and (6) a description of significant alternatives to the proposed rule which accomplish the stated objectives of applicable statues and which minimize any significant economic impact of the proposed rule on small entities.

Statement of need for, objectives of, and legal basis for the proposed rule: The purpose and need, issues, problems and objectives of this Framework Adjustment for the Coastal Migratory Pelagics Fishery Management Plan are described in Section 2 and are incorporated herein by reference. In summary, the objectives of the proposed rule are to support the change in the fishing season implemented through Amendment 15 for Atlantic migratory group Spanish mackerel with an extension of current trip limits.

Identification of all relevant Federal rules which may duplicate, overlap or conflict with the proposed rule: No duplicative, overlapping, or conflicting Federal rules have been identified.

Description of the projected reporting, record-keeping and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirement and the type of professional skills necessary for the preparation of the report or records: The proposed rule does not impose any reporting or record keeping requirements.

Description and estimate of the number of small entities to which the proposed rule will apply: One general class of small business entities would be directly affected by proposed Action 1, commercial fishing vessels. The Small Business Administration (SBA) defines a small entity in the commercial fishing sector as a firm that is independently owned and operated, is not dominant in its field of operation, and has annual gross receipts not in excess of $4.0 million.

For the portion of the commercial fishing vessels that harvest Atlantic migratory group king and Spanish mackerel, an analysis of the gross revenue per vessel was conducted using data from the NMFS Southeast logbook program. These vessels also operate in other federally permitted fisheries, some harvests of which are also reported in the Southeast logbook program.

Although some fleet activity may exist in this fishery, the extent of such has not been determined. Thus, all vessels are assumed to be unique business entities. Given the gross revenue profile captured by the Southeast logbook, it is assumed that it is unlikely the SBA revenue benchmark will be exceeded and it is assumed that all vessels are small entities.

An estimated 956 commercial vessels, 177 charter vessels, and 8 headboats were permitted to participate in the Atlantic migratory group Spanish mackerel fishery in January 2006[1,2]. Many of these vessels also participate in the Atlantic migratory group king mackerel fishery as well. In addition, many of the commercial vessels also participate as charter or headboats. Because the data on the number of permits does not distinguish between vessels that fish for Atlantic migratory group species versus Gulf migratory group species, it is necessary to make some assumptions about how many of these permits represent vessels that fish for south Atlantic migratory group Spanish mackerel. For the purposes of this document, it was assumed that permits associated with vessels homeported on the east coast of the U.S. and the east coast of Florida all fish for Atlantic migratory group Spanish mackerel. It was also assumed that 50% of the permits associated with vessels homeported to the west coast of Florida and non-coastal areas fish for Atlantic migratory group Spanish mackerel.

A total of 312 vessels submitted logbooks with Atlantic migratory group Spanish mackerel landings in 2006[3]. Counting the estimated real ex-vessel value of all logbook-reported commercial landings of fish, the average for gross revenue per vessel is $20,752 for the 2005/06 fishing year (median, $11,450; 75th and 99th percentiles, $24,873 and $136,747). In 2001/02 – 2005/06, the annual maximums ranged from approximately $170,000 to $320,000 per vessel. The Spanish mackerel fishery in 2005/06 produced about $2.7 million in ex-vessel revenue. For some vessels, annual revenue from Atlantic migratory group Spanish mackerel is a large portion of their total revenue from fishing. During the 2005/06 season, vessels landing Atlantic

[1] The reader should note that there are also vessels that fish for Atlantic migratory group Spanish mackerel in state waters where federal permits are not required.
[2] Ownership of a federal permit does not indicate that the vessel is active in the fishery.
[3] The reader should note that 312 is an estimate of the number of active participants (vessels) based on the number of logbooks filled out in 2005. There are vessels that fish for Spanish mackerel in state waters where logbooks and federal permits are not required. Therefore, the actual number of vessels fishing for Spanish mackerel in any given year is not known. However, it can be assumed that 312 vessels is likely an underestimate. Also, the reader should note that the revenue, landings, and other values given are associated with the 312 active participants referred to and do not apply to all vessels fishing for Atlantic migratory group Spanish mackerel. The 312 participants are thought to be representative of the entire fleet.

migratory group Spanish mackerel reported that Spanish mackerel comprised, on average, 24% of their total real ex-vessel value of all species caught in 2005/06. The 50th, 75th, and 99th percentile reported revenue from Atlantic migratory group Spanish mackerel as 7%, 38%, and 100% of their total real ex-vessel revenue during 2005/06, respectively.

Substantial number of small entities criterion: The proposed actions will apply to all permitted and/or active vessels in the respective fisheries. Since all vessels in these fisheries are assumed to be small entities, the proposed actions are determined to affect a substantial number of small entities.

Significant economic impact criterion: The outcome of "significant economic impact" can be ascertained by examining two issues: disproportionality and profitability.

Disproportionality: Do the regulations place a substantial number of small entities at a significant competitive disadvantage as compared to large entities?

All vessel operations affected by the proposed regulatory amendment are considered small entities so the issue of disproportionality does not arise in the present case. However, among the small entities in the commercial harvesting sector, there is some degree of diversity in terms of level of engagement in the Spanish mackerel fishery. A description of the heterogeneity in this fishing fleet is contained in Section 6.4.

Profitability: Do the regulations significantly reduce profit for a substantial number of small entities?

Information on the profitability of the commercial Spanish mackerel fishery and for-hire sector is currently not available. However, total ex-vessel revenues can act as a proxy for profit. No revenue losses are expected as a result of Action 1.

Description of Significant Alternatives: Under Action 1, two alternatives were considered. **Alternative 1** (status quo) specifies a 3,500-pound trip limit for April-November in the southern zone (Florida east coast) even though Amendment 15 (implemented August 8, 2005) changed the fishing year from April-March to March-February.

Alternative 2 corrects this inconsistency. It specifies a 3,500-pound trip limit for March-November in the southern zone (Florida east coast) and is consistent with Amendment 15. **Alternative 2** is expected to provide increased total landings stability for communities and increased financial stability for fishermen and their families.

6 AFFECTED ENVIRONMENT

Section 1502.15 of the Council on Environmental Quality (CEQ) regulations states "environmental impact statements shall succinctly describe the area(s) to be affected or created by the alternatives under consideration". A brief description of the affected environment is included herein. The actions reviewed in this Framework Action are directed toward Spanish mackerel and the participants in this fishery in the Atlantic. A detailed description of the physical, biological/ecological, socioeconomic, and administrative environments related to the Atlantic Spanish mackerel fishery is provided in the CMP FMP (as amended) and in the Final EIS for the GMFMC's Generic Essential Fish Habitat (EFH) Amendment. That information is incorporated here by reference and summarized below along with other information from relevant documents, as cited below.

6.1 Physical Environment

The CMP FMP (with EIS), various amendments, and the GMFMC's Generic EFH Amendment provide a review of the habitat of Spanish mackerel, and they are incorporated here by reference.

6.2 Biological Environment

The CMP FMP (with EIS), various amendments, the GMFMC's Generic EFH Amendment, and the 2005 ASMFC Review of the Fishery Management Plan for Spanish Mackerel (ASMFC 2005) provide a review of the biology and habitat of Spanish mackerel, and they are incorporated here by reference. A summary of the biological environment of Atlantic group Spanish mackerel are provided.

6.2.1 Biology and Life History

Spanish mackerel is a marine pelagic species, occurring over depths to 75 meters throughout the coastal zones of the western Atlantic from southern New England to the Florida Keys and throughout the Gulf of Mexico (Collette and Russo 1979). Adults usually are found in neritic waters and along coastal areas. They will inhabit estuarine areas, especially the higher salinity areas, during seasonal migrations, but are considered rare and infrequent in many Gulf estuaries. Spawning occurs along the inner continental shelf from April to September (Powell 1975). Eggs and larvae occur most frequently offshore over the inner continental shelf at temperatures between 20°C and 32°C and salinities between 28 ppt and 37 ppt. They are also most frequently found in water depths from 9 to about 84 meters, but are most common in < 50 meters. Juveniles are most often found in coastal and estuarine habitats and at temperatures >25°C and salinities >10 ppt. Although they occur in waters of varying salinity, juveniles appear to prefer marine salinity levels and generally are not considered estuarine dependent. Adult Spanish mackerel are migratory, generally moving from wintering areas of south Florida and Mexico to more northern latitudes in spring and summer. The Coastal Migratory Pelagics FMP recognizes two migratory groups (Figure 1). Spanish mackerel generally mature at age 1 to 2 and have a maximum age of approximately 11 years (Powell 1975). Spanish mackerel primarily eat other fish species (herring, sardines, and menhaden) and to a lesser extent crustaceans and squid at all

life stages (larvae to adult). They are eaten primarily by larger pelagic predators like sharks, tunas, and bottlenose dolphin.

6.2.2 Status of the Stocks

The Mackerel Stock Assessment Panel (MSAP 2003) conducted a full stock assessment for Atlantic Group Spanish mackerel in 2003, which included data through the 2001/2002 fishing year; projected landings through 2002/2003 also were included. Estimated fishing mortality for Atlantic Group Spanish mackerel has been below F_{MSY} and F_{OY} since 1995. Estimated stock abundance has increased steadily since 1995 and is now at a high for the analysis period. Stock biomass has increased from about 19 million to 24 million fish. Probabilities that Spanish mackerel is overfished are less than 1% and that overfishing has occurred in the most recent fishing year of the assessment are 3%; therefore the MSAP concluded that Atlantic Group Spanish mackerel were not overfished and overfishing did not occur in 2002/2003. Although all measures of stock status are well within desirable ranges, the median estimate of MSY dropped from 6.4 million pounds in the last full assessment in 1998 to 5.2 million pounds in the 2003 assessment. Much of the decline is believed to be due to the lower estimates of recruitment between the 2003 and the 1998 assessments. The MSAP recommended ABC as the median estimate of catch at F 40% SPR, which is 6.7 million pounds (20th –80th percentile range = 5.2 - 8.4 million pounds). The MSAP Report (MSAP 2003) notes:

> *The MSAP cautions the SAMFS, however, that its ABC recommendation based on the median probability of achieving the management target of $F_{40\%SPR}$ exceeds the median estimate of MSY (5.2 MP). While it is unlikely the fishery currently has the capacity to realize a TAC of 6.7 MP, if the fishery developed greater capacity and TAC was realized at a level of 6.7 MP for several years, then fishing mortality rates would increase and eventually may exceed $F_{30\%SPR}$. Furthermore, fishing at that level over time eventually would reduce spawning stock biomass to a level below that which is capable of producing MSY on a continuing basis (i.e., below B_{MSY}).*

The Council staff presented the 2003 MSAP stock assessment and a variety of management options to the South Atlantic Council. The Council voted to defer framework action on Spanish mackerel until after the SEDAR stock assessment. Therefore the existing regulation of a TAC of 7.04 million pounds remained in effect for the 2005/2006 and 2006/07 fishing years. The estimate of landings for the 2000/2001 fishing year was 5.49 million pounds, well below the TAC of 7.04 million pounds. If the fishery developed greater capacity and TAC was realized at a level of 7.04 million pounds for several years, fishing mortality rates would increase and eventually may exceed F 30% SPR. Consequently, fishing at this level over time would eventually reduce spawning stock biomass to a level below that which is capable of producing MSY on a continuing basis.

The Atlantic States Marine Fisheries Commission Plan Review Team (PRT) believes harvest reductions are due to management measures in state and federal waters as well as the recreational fishery targeting other species. The low level of harvest in relation to the stock size is

encouraging for stock rebuilding, which is reflected in the increase in transitional SPR. Cooperative State/Federal management has achieved a successful stock recovery.

TAC is currently 7.04 million pounds, and based on the most recent assessment, the Stock Assessment Panel recommended an ABC range of 5.2 to 8.4 million pounds, with a median value of 6.7 million pounds. This yield would be in excess of the best point estimate of maximum sustainable yield (5.2 million pounds); however, the Atlantic migratory group Spanish mackerel fishery is not overfishing the available stock, and the stock is not overfished. This is because the current biomass is estimated to be above the biomass at MSY. Therefore, the difference in the current stock size and the MSY stock size could be harvested, reducing the stock size to the MSY level.

6.2.3 Weather Impacts

There have been three significant weather events over the past three seasons that have affected species distribution, migrations, and resulting landings (Ben Hartig personal communication 2006).

"Two hurricanes in 2004 passed directly over the center of projection for summer king mackerel and the major overwintering areas for Spanish mackerel in Central and South Florida. I personally missed 2 months of fishing due to weather events in 2004. In 2005, a late October hurricane again passed directly over the major overwintering area for Spanish mackerel. This storm caused significant long-term turbidity, which forced the bulk of overwintering Spanish mackerel much further south off the Delray to Miami area of South Florida, a migratory pattern not seen in at least 30 years. The bottom line is comparing these seasons in both species to those of the recent past is not representative of any season over the past 20 years."

"We haven't had what I would call an 'average' year of production of Spanish mackerel over the past 3 seasons. When we do get back to more 'normal' weather patterns, Spanish mackerel will see significantly shorter seasons in the future. Why do I say this? Because, even with the significant weather events and their effects on production, the commercial allocation has been nearly caught each season."

6.3 Current Management Measures

The fishery for Spanish mackerel is governed by a 7.04 MP TAC in the Atlantic. There are two migratory groups of Spanish mackerel (Figure 1). The TAC is divided 55%/45% for the commercial and recreational fisheries. A minimum size limit of 12 inches FL and a bag/possession limit of 15 are imposed for Spanish mackerel. The fishing season extends from March 1 through February 28/29 of each year, unless there is a quota closure for the commercial fishery.

Trip limit management for Atlantic migratory group Spanish mackerel (Source: consolidated regulations)

Quoting 50 CFR § 622.30(b) (3), which refers to fishing years:

(3) South Atlantic migratory group king and Spanish mackerel–-March through February.

Quoting 50 CFR § 622.43(a) (3), which refers to fishery closures:

(3) King and Spanish mackerel. The closure provisions of this paragraph (a)(3) do not apply to Atlantic migratory group Spanish mackerel, which are managed under the commercial trip limits specified in § 622.44(b) in lieu of the closure provisions of this section.

Quoting 50 CFR § 622.44(b), which refers to commercial fishery trip limits:

(b) Spanish mackerel. (1) Commercial trip limits are established for Atlantic migratory group Spanish mackerel as follows:

(i) North of 30º42'45.6" N. lat., which is a line directly east from the Georgia/Florida boundary, Spanish mackerel in or from the EEZ may not be possessed on board or landed in a day from a vessel for which a permit for Spanish mackerel has been issued, as required under § 622.4(a) (2) (iv), in amounts exceeding 3,500 lb (1,588 kg).

(ii) South of 30º42'45.6" N. lat., Spanish mackerel in or from the EEZ may not be possessed on board or landed in a day from a vessel for which a permit for Spanish mackerel has been issued, as required under § 622.4(a)(2)(iv)--

(A) From April 1 through November 30, in amounts exceeding 3,500 lb (1,588 kg).

(B) From December 1 until 75 percent of the adjusted quota is taken, in amounts as follows:

(1) Mondays through Fridays--unlimited.

(2) Saturdays and Sundays--not exceeding 1,500 lb (680 kg).

(C) After 75 percent of the adjusted quota is taken until 100 percent of the adjusted quota is taken, in amounts not exceeding 1,500 lb (680 kg).

(D) After 100 percent of the adjusted quota is taken through the end of the fishing year, in amounts not exceeding 500 lb (227 kg).

(2) For the purpose of paragraph (b) (1) (ii) of this section, the adjusted quota is 3.62 million lb (1.64 million kg). The adjusted quota is the quota for Atlantic migratory group Spanish mackerel reduced by an amount calculated to allow continued harvests of Atlantic migratory group Spanish mackerel at the rate of 500 lb (227 kg) per vessel per day for the remainder of the fishing year after the adjusted quota is reached. By filing a notification with the

Office of the Federal Register, the Assistant Administrator will announce when 75 percent and 100 percent of the adjusted quota is reached or is projected to be reached.

(3) For the purpose of paragraph (b) (1) (ii) of this section, a day starts at 6 a.m., local time, and extends for 24 hours. If a vessel terminates a trip prior to 6 a.m., but retains Spanish mackerel on board after that time, the Spanish mackerel retained on board will not be considered in possession during the succeeding day, provided the vessel is not underway between 6 a.m. and the time such Spanish mackerel are unloaded, and provided such Spanish mackerel are unloaded prior to 6 p.m.

Table 2 provides ABC, TAC, commercial quota, recreational allocation, and harvest information for Atlantic group Spanish mackerel.

Table 2. Atlantic migratory group Spanish mackerel management regulations. Pounds are in millions.

Fishing Year	ABC Range (M lbs)	TAC (M lbs)	Rec. Allocation (lbs. / numbers)	Rec. Bag Limit	Commercial Quota (M lbs)	Annual Com. (M lbs)	Harvest Rec. (M lbs)	Levels Total (M lbs)
1987/88	1.7 - 3.1	3.1	0.74	4 in FL, 10 GA-NC	2.36	3.475	1.474	4.949
1988/89	1.3 - 5.5	4.0	0.96	4 in FL, 10 GA-NC	3.04	3.521	2.740	6.261
1989/90	4.1 - 7.4	6.0	2.76 / 1,725,000	4 in FL, 10 GA-NC	3.24	3.941	1.569	5.51
1990/91	4.2 - 6.6	5.0	1.86 / 1,216,000	4 in FL, 10 GA-NC	3.14	3.535	2.075	5.61
1991/92	5.5 - 13.5	7.0	3.50 / 2,778,000	5 in FL, 10 GA-NC	3.50	4.707	2.287	6.994
1992/93	4.9 - 7.9	7.0	3.50 / 2,536,000	10 FL - NY	3.50	3.727	1.995	5.722
1993/94	7.3 - 13.0	9.0	4.50 / 3,214,000	10 FL - NY	4.50	4.811	1.493	6.304
1994/95	4.1 - 9.2	9.2	4.60 / 3,262,000	10 FL - NY	4.60	5.254	1.378	6.632
1995/96	4.9 - 14.7	9.4	4.70 / 3,113,000	10 FL - NY	4.70	1.834	1.089	2.923
1996/97	5.0 - 7.0	7.0	3.50 / 2,713,000	10 FL - NY	3.50	3.098	0.849	3.947
1997/98	5.8 - 9.4	8.0	4.00 / 2,564,000	10 FL - NY	4.00	3.057	1.660	4.717
1998/99	5.4 - 8.2	8.0	4.00 / 2,564,000	10 FL - NY	4.00	3.272	0.817	4.089
1999/00	5.7 - 9.0	7.04	3.17 /	10 FL - NY	3.52	2.370	1.505	3.875
2000/01	5.7 - 9.0	7.04	3.17 / 2,032,000	15 FL - NY	3.87	2.794	2.699	5.493
2001/02	5.7 - 9.0	7.04	3.17 / 2,032,000	15 FL - NY	3.87	3.056	2.009	5.065
2002/03	5.7 - 9.0	7.04	3.17 / 2,032,000	15 FL - NY	3.87	3.207	2.072	5.279
2003/04	5.7 - 9.0	7.04	3.17 / 2,032,000	15 FL - NY	3.87	3.742	1.994	5.736
2004/05	5.7 - 9.0	7.04	3.17 / 2,032,000	15 FL - NY	3.87	3.684	1.371	5.055
2005/06	5.7 - 9.0	7.04	3.17 / 2,032,000	15 FL - NY	3.87	3.138	1.985	5.123

Notes: 1) The range has been defined in terms of acceptable risk of achieving the FMP's fishing mortality rate target; the Panel's best estimate of ABC has been intermediate to the end-points of this range; 2) Recreational allocation in numbers is the allocation divided by an estimate of annual average weight (not used prior to fishing year 1989); 3) Sums within rows may not appear to equal the total value shown due to rounding of numbers before printing; 4) Allocations and rec. quota are as revised October 14, 1989; 5) Bag limit not be reduced to zero when allocation reached, beginning fishing year 1992; and 6) Season is April through March for 2001/02 through 2004/05 and March through the end of February for 2005/06.
Source: ALS data, August 9, 2006; Data provided by the Southeast Fisheries Science Center, October 2006.

6.4 Economic Environment

6.4.1 Status of the Fishery

Spanish mackerel remains an important recreational and commercial fishery in South Atlantic waters. Trip limits are used in an attempt to distribute harvest by the commercial fishery throughout the fishing year.

6.4.1.1 Commercial Fishery

Harvest in the Commercial Fishery

For the Spanish mackerel fishery, since 1994/95, commercial landings have been below 4 million pounds. As shown in Table 2, however, commercial landings of Atlantic migratory Spanish mackerel as a whole have exhibited an upward pattern since reaching a low of 1.8 million pounds in 1995/96. They are managed via staged trip limits and have been approximately 0.2 to 0.6 million pounds short of the quota of 3.87 million pounds in the past four years. Prosecuted predominantly in state waters from Virginia to Florida, the majority of the commercial fishery for Spanish mackerel occurs in Florida and North Carolina. Table 3 provides information on Atlantic migratory group Spanish mackerel commercial landings by major area.

Landings of Atlantic migratory group Spanish mackerel occur predominately in Florida (Table 3). North Carolina landings reached a five year low in 2005/06, almost 200,000 pounds less compared to 2001/02.

Table 3. Atlantic migratory group Spanish mackerel commercial landings by area, thousands of pounds, 2001/02 - 2005/06.

	2001/02	**2002/03**	**2003/04**	**2004/05**	**2005/06**
NY – GA	873	852	589	547	454
North Carolina	653	699	457	456	445
Florida east Coast	2,163	2,355	3,152	3,130	3,125
Totals	3,699	3,906	4,198	4,133	4,024

Note: Season is April through March for 2001/02 through 2004/05 and March through the end of February for 2005/06.
Note: South Carolina and Georgia were not included in this table due to confidentiality issues.

Monthly landings of Atlantic migratory group Spanish mackerel on Florida's east coast have changed since the mid-1990s. In particular, monthly landings have not reached the highs of earlier years, and cast nets have become the leading gear, though gillnets are still important. This may be because of changes in state and federal regulations that affect the use of gillnet gear, changes in where and when the fish occur, and other factors. The State of Florida's Constitution Amendment was implemented in July 1995 and it limited the use of gillnets and some other kinds of net gear in commercial fishing in State waters, within 3 nautical miles on the east coast and within 9 nautical miles on the west coast. Consequently, commercial landings of Spanish mackerel were greatly reduced on Florida's west coast, and they appear to have been affected on Florida's east coast, but far less severely.

In addition, the designation of critical habitat for the Atlantic (northern) right whale in June 1994 under the Atlantic Large Whale Take Reduction Plan (ALWTRP) and subsequent regulations that prohibit certain fishing activities may have had some perceived or actual effects on commercial fishing for Spanish mackerel using gillnets on Florida's east coast. During the ALWTRP restricted period, November 15 through March 31, there have been exemptions that allow gillnet fishing for Spanish mackerel, providing conditions in the CMP FMP are met (as indicated in the proposed rule for the ALWTRP, Federal Register, vol. 71, no. 220, November 15, 2006, pp. 66482-66495).

While the inconsistency in regulation left by Amendment 15 may have implications to the contrary, the fishery appears to have behaved much as it did in the recent past. Amendment 15, implemented on August 8, 2005, changed the fishing year from April-March to March-February, but did not change the time frame to which the 3,500-pound trip limit applies from April-November to March-November for the Florida east coast. Very few trips reach 3,500 pounds. As shown in Table 6, 99 percent of the trips (3,085 trips) in 2005/06 had landings of 3,271 pounds or less for the fishery as a whole. For the Florida east coast, trips on Monday-Friday are unlimited from December 1 until 75 percent of the adjusted quota is reached. Then they are reduced to 1,500 pounds, and finally to 500 pounds after 100 percent of the adjusted quota is reached and until the end of the fishing year.

Beginning in the mid-1990s on the Florida east coast, monthly landings of Spanish mackerel in the seasonally higher period, November-February, have tended to be much closer together, especially in the mid-2000s. Annual landings of fish caught with cast nets have surpassed those of fish caught with gillnets since 2001/02, and hand lines have challenged gillnets for second place. Especially in December-February, but sometimes in November and March, cast nets have displaced gillnets as the leading gear.

Traditionally, the much smaller cast nets may be perceived being deployed in shallow, near-shore waters by one person. However, one might suppose deployment of cast nets from a vessel by one or more persons for Spanish mackerel, which have been caught off the Florida east coast in water depths of approximately 25 to 40 feet on average, mostly in depths of 10 to 80 feet (10th and 90th percentiles, respectively, logbook data, as in Table 6). According to an experienced commercial fisherman (Ben Hartig personal communication 2006), the fish are gathered in dense groupings and the cast net is more effective in the last months of the March-February fishing year.

Ex-vessel Prices

Annual real ex-vessel prices (2004 dollars) for Atlantic migratory group Spanish mackerel, during the fishing years 1981/82 through 2005/06 are shown in Table 4 and Figure 2 for the Atlantic coastal states (Maine through Florida east coast). In general, prices have increased since 1981/82, by about 45% for Atlantic migratory group Spanish mackerel. Spanish mackerel prices peaked at $0.82 in the late 1990s. Prices in any one month can be quite variable from year to year, although both prices and landings tend to have seasonal patterns, usually opposite one another. Prices in the high month (usually July) may be approximately twice those in the low month (usually December).

Logbook indicators of commercial fishing activity

Since 1998, fishermen have completed and submitted FMP-mandated logbooks for commercial fishing trips for Spanish mackerel. The data base management systems for fisherman-supplied logbooks and southeast coastal state-collected commercial landings are administered by the NOAA Fisheries Southeast Fisheries Science Center, Miami. Table 5 provides average values for various categories for the Atlantic migratory group Spanish mackerel fishery over the past five years. The reader should note that while all federally permitted vessels are required to fill out and send in logbooks, there are vessels in state waters that fish for Atlantic migratory group Spanish mackerel that are not required to fill out logbooks. Information from vessels fishing in state waters and not required to fill our logbooks for fishing in these areas, has not been incorporated into the data shown below. Therefore, the number of vessels is likely an underestimate of the number of vessels actually fishing for Atlantic migratory group Spanish mackerel. However, the below information is correct for the number of vessels turning in logbooks and these vessels serve as a representation of the entire fleet.

Table 4. Ex-vessel prices for Atlantic migratory group Spanish mackerel (2004 dollars).

Year	Atlantic Spanish mackerel ex-vessel prices
1981/82	$0.52
1982/83	$0.48
1983/84	$0.42
1984/85	$0.41
1985/86	$0.45
1986/87	$0.50
1987/88	$0.57
1988/89	$0.53
1989/90	$0.53
1990/91	$0.51
1991/92	$0.54
1992/93	$0.57
1993/94	$0.55
1994/95	$0.59
1995/96	$0.78
1996/97	$0.64
1997/98	$0.71
1998/99	$0.69
1999/00	$0.82
2000/01	$0.75
2001/02	$0.75
2002/03	$0.73
2003/04	$0.67
2004/05	$0.77
2005/06	$0.73

Note: Season is April through March for 1981/82 through 2004/05 and March through the end of February for 2005/06.

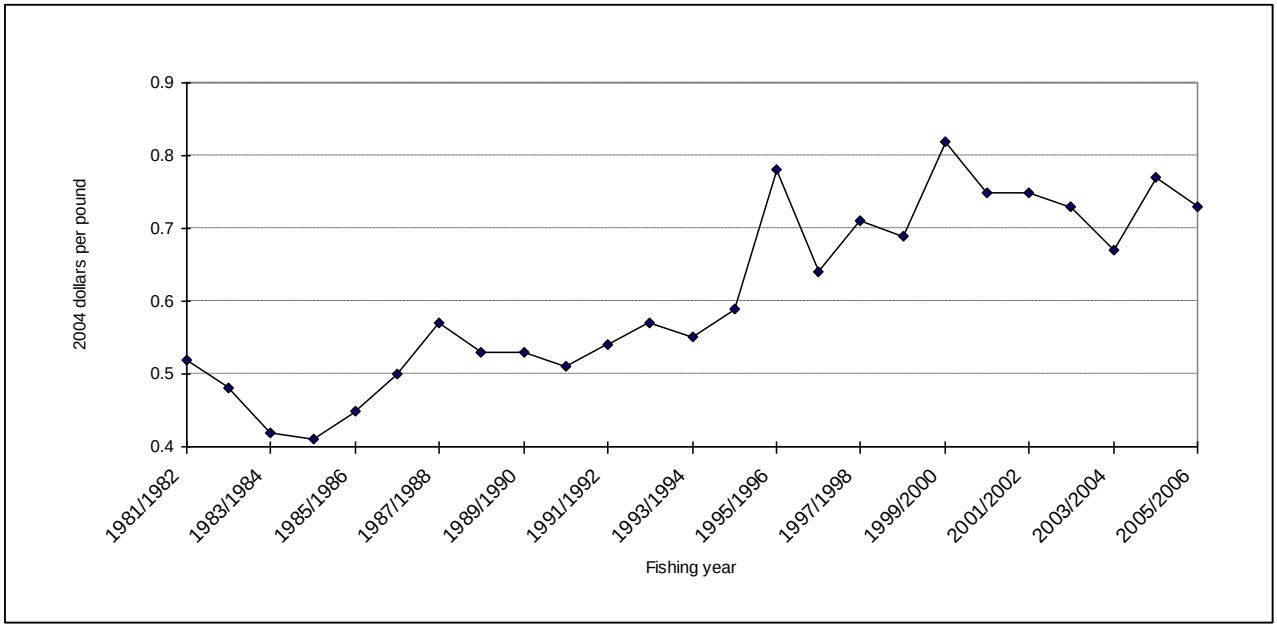


Figure 2. Ex-vessel prices for Atlantic migratory group Spanish mackerel, 1981-2006.

Among the vessels with logbook-reported landings of Atlantic migratory group Spanish mackerel, landings per vessel increased, while the number of vessels declined during the past five years (Table 5). During 2001/02 – 2005/06, both total landings and total ex-vessel revenue for all of the vessels taken together remained approximately the same. On a per trip basis, pounds of Spanish mackerel landed and ex-vessel revenue from all fish landed increased, but fuel prices may have mitigated those increases.

Table 6 provides various statistics regarding landings, revenue, vessel specifications, trips, and crew size for the Atlantic migratory group Spanish mackerel fishery.

The 312 vessels that submitted logbooks with Atlantic migratory group Spanish mackerel landings in 2005/06 were, on average, 30 feet in length, had 295 horsepower, spent 10 days away from port each year fishing for Spanish mackerel, and used 1.5 crew members per trip for Atlantic migratory group Spanish mackerel.

Table 5. Atlantic migratory group Spanish mackerel mean statistics, 2001/02 - 2005/06 (2004 dollars).

	2001	2002	2003	2004	2005
Number of Vessels	348	371	323	310	312
Pounds landed (Spanish mackerel)	4,608	5,019	5,903	5,300	5,391
Pounds landed per trip (Spanish mackerel)	495	498	592	536	545
Real ex-vessel value (Spanish mackerel), 2004 $	$3,323	$3,521	$3,714	$4,012	$3,813
Real ex-vessel value (% all species caught in yr), 2004 $	22.4%	22.7%	22.6%	22.7%	24%
Real ex-vessel value per trip (Spanish mackerel), 2004 $	$357	$349	$372	$405	$386
Real ex-vessel value per trip (% all species), same trips, 2004 $	65%	64%	71%	72%	71%
Number of Trips (Spanish mackerel)	9.3	10.1	10	9.9	9.9
Crew size per trip	1.5	1.5	1.5	1.5	1.5
Days away from port (mackerel)	9.7	10.4	10.3	10.3	10.2
Days away from port (all species)	44	44	47	39	39

Note: Not all vessels providing logbooks provided data for every category included in the table.
Source: NMFS Southeast Coastal Fisheries Logbook, 2005/06. As of May 26, 2006. ALS data accessed August 9, 2006. Note: Does not include non-logbook catches which are expected to be large.

A portion of the vessels fishing for Atlantic migratory group Spanish mackerel obtain a significant portion of total ex-vessel revenue from the species as a percentage of all species caught in the year. The data shows that while the median vessel obtains only 7% of real ex-vessel value from Spanish mackerel as a percentage of all species caught in the year, the 75th – 90th percentile range receives about 38% - 87% of real ex-vessel value from Spanish mackerel as a percentage of all species caught in that year. However, for the 75th - 90th percentile this amounts to only about $3,100 – $12,400 ex-vessel value. On a per trip basis, the 75th – 90th percentile range makes about $550 - $970 ex-vessel per trip from landings of Spanish mackerel and this encompasses 100% of ex-vessel value from all species for those trips. Clearly, fishermen fishing for Atlantic migratory group Spanish mackerel participate in a portfolio of other fisheries and/or supplement their income by other means (second job).

Table 6. Atlantic migratory group Spanish mackerel statistics by vessel, 2005/06 (2004 dollars). The table features data contained in 312 logbooks.

	Mean	25th percentile	50th percentile	75th percentile	90th percentile	99th percentile
Length (ft)	30	25	28	34	40	51
Horsepower	295	200	250	375	454	840
Depth fished for Spanish mackerel (ft)	42.5	20	30	60	80	150
Pounds landed (Spanish mackerel)	5,391	37	487	4,579	16,836	60,674
Pounds landed per trip (Spanish mackerel)	545	37	259	800	1,488	3,271
Real ex-vessel value (Spanish mackerel)	$3,813	$40	$432	$3,120	$12,412	$34,366
Real ex-vessel value (% all species caught in yr)	24%	1%	7%	38%	87%	100%
Real ex-vessel value per trip (Spanish mackerel)	$386	$35	$212	$551	$972	$2,237
Real ex-vessel value per trip (% all species), same trips	71%	38%	95%	100%	100%	100%
Trips (Spanish mackerel)	9.89	2	4	13	25	67
Trips (all species)	36.2	13	27	54	80	120
Crew size per trip	1.5	1	1	2	2	3
Days away from port (mackerel)	10.2	2	5	13	25	67
Days away from port (all species)	39.1	13	29	57	87	157

Note: Not all 312 vessels providing logbooks provided data for every category included in the table.
Source: NMFS Southeast Coastal Fisheries Logbook, 2005/06. As of May 26, 2006. ALS data accessed August 9, 2006.

6.4.1.2 Recreational Fishery

Participation

The number of saltwater anglers in the South Atlantic is shown in Table 7. This includes participants engaged in all fisheries and those anglers who either fished from private/rental boats, from charter boats, or by shore/beach bank mode. Overall, recreational fishing participation increased by about 450,000 (9%) from 2001 to 2005. Most saltwater anglers fish on the east coast of Florida and North Carolina. In Florida, in recent years, recreational participation hit a five year low in 2004 before rebounding in 2005 to rival participation in 2001. In Georgia, participation has increased in the past three years from a low of about 148,000 in 2002. North Carolina participation has increased to reach a five year high in 2005. South Carolina has experienced the largest percentage increase in participation by doubling since 2002.

Anglers target a variety of species including South Atlantic migratory group Spanish mackerel. It is not possible to extract the estimated number of participants who targeted or caught South Atlantic migratory group Spanish mackerel from this dataset. A more specific estimate of recreational activity in the Spanish mackerel fishery can be obtained from the harvest data reported in the latter part of this section.

Table 7. Participants in recreational fisheries by state, 2001-2005.

	2001	2002	2003	2004	2005
FL east coast	2,649,299	2,088,671	2,206,209	1,918,226	2,467,522
Georgia	212,215	147,901	267,641	275,691	247,297
North Carolina	2,006,661	1,765,205	2,102,925	2,055,415	2,261,647
South Carolina	481,426	392,301	571,448	661,772	831,328
Total	**5,349,601**	**4,394,078**	**5,148,223**	**4,911,104**	**5,807,794**

Source: MRFSS, NOAA Fisheries (http://www.st.nmfs.gov/st1/recreational/data.html).

Recreational Fishing Effort

Shore, Charter, Private/Rental Trips

The number of recreational fishing trips made from shore, charter vessel and private or rental vessel over the past five years by state is shown in Table 8. Trips made by headboats are included in the next sub-section. These trips are not species specific since the data set cannot be divided in that manner.

Table 8. Number of trips by state, 2001-2005.

	2001	2002	2003	2004	2005
Florida east coast	12,464,111	10,303,392	11,443,784	10,587,960	11,964,599
Georgia	806,849	619,085	971,208	929,377	859,360
North Carolina	6,649,546	5,586,122	6,733,464	7,024,677	6,822,954
South Carolina	1,675,601	1,254,295	2,097,813	2,235,629	2,188,359
Total	**21,596,107**	**17,762,894**	**21,246,269**	**20,777,644**	**21,835,272**

Source: MRFSS, NOAA Fisheries (http://www.st.nmfs.gov/st1/recreational/data.html).

The number of fishing trips from shore, charter vessels, and through private or rental trips in the South Atlantic reached a five year high in 2005. Florida experiences the most fishing trips with North Carolina experiencing the second largest amount (about half that of Florida). The number of recreational trips in Florida has declined slightly since 2001. The number of trips in Georgia reached almost 1 million in 2004 before declining slightly in 2005. North Carolina trips reached a five year high in 2004 and ended in 2006 with about the same number of trips that occurred in 2001. South Carolina trips have increased since 2001 by about 30%.

Headboat Trips

The total number of angler days for the headboat sector in the U.S. South Atlantic is shown in Table 9. This represents all headboat effort and not only those trips where South Atlantic group Spanish mackerel species were caught. These estimates are calculated from a survey where it is not possible to associate catch with a specific angler on the trip. However, it is expected that a significant portion of these trips target mackerel species.

Table 9. Estimated headboat angler days for the U.S. South Atlantic.

Year	Florida	Georgia	North Carolina	South Carolina	Total
2001	138,390	na	31,779	49,263	**219,432**
2002	125,322	na	27,601	42,467	**195,390**
2003	122,313	na	22,998	36,556	**181,867**
2004	149,542	na	27,255	50,461	**227,258**
2005	145,686	na	31,573	34,036	**211,295**

Source: The Headboat Survey, NOAA Fisheries, SEFSC, Beaufort Lab.
Note: "Na" indicates the data are not available due to confidentiality issues.

Total headboat-angler days have been relatively stable over the past five years (Table 9). With regard to data for Florida, only half of the headboat trips taken from the Florida Keys and Tortugas areas were counted in this table in order to give a better approximation of trips taken that might result in harvest of South Atlantic migratory group Spanish mackerel. Florida trips have increased slightly since 2001 while North Carolina trips have remained almost exactly the same, although a five year low of 23,000 occurred in 2003. The number of South Carolina angler days has decreased 31% since 2001.

Headboat operators usually offer their passengers options for choosing trip packages of different durations. It appears that the majority of headboat trips are of half a day duration in Florida (78%) and South Carolina (59%). In North Carolina and Georgia the majority of trips are full day trips (Table 10).

Table 10. Average number of headboat trips (1999-2003) by trip length and percent of total trips by trip length.

Average Number of trips 1999-2003					Percent of total trips		
State	**Full day**	**¾ day**	**½ day**		**Full day**	**¾ day**	**½ day**
NC	561	17	374		56%	2%	38%
SC	642	110	1,144		33%	6%	59%
GA	152	1	10		93%		6%
FLA	1,972	546	9,038		17%	5%	78%
Total	1,014	123	2,079		23%	5%	72%

Source: The Headboat Survey, NOAA Fisheries, SEFSC, Beaufort Lab.

Harvest in the Recreational Fishery

Shore, Charter, Private/Rental

The amount of Spanish mackerel harvested by the recreational fishery increased in recent years after reaching a low in 1998/99 (Table 2). Harvest of Spanish mackerel by state over the past five years is shown in Table 11. Florida and North Carolina recreationally harvest the majority of Spanish mackerel with the Florida harvest at about three times that of North Carolina. Florida harvest peaked in 2002 at about 1.5 million pounds and reached a five year low in 2004 at about 900,000 pounds. Georgia recreational harvest of Spanish mackerel has fluctuated between about 5,000 pounds and 35,000 pounds over the past five years. North Carolina harvest decreased from 2001 and peaked in 2004 before reaching a five year low in 2005. South Carolina harvest has achieved relatively high levels for the state over the past two years.

Table 11. Recreational harvest (pounds) of Spanish mackerel by state, 2001-2005.

	2001	**2002**	**2003**	**2004**	**2005**
Florida east coast	1,232,506	1,475,232	1,021,204	905,429	1,088,374
Georgia	23,056	4,795	34,855	11,777	15,820
North Carolina	499,829	475,742	446,052	565,352	358,338
South Carolina	46,945	47,057	29,107	145,784	148,667

Source: MRFSS, NOAA Fisheries (http://www.st.nmfs.gov/st1/recreational/data.html).

Headboats

Harvest by headboats over the past five years is shown in Table 12. Harvest for the Florida Keys and Tortugas areas was halved in order to better represent potential harvest of South Atlantic migratory group Spanish mackerel.

Table 12. Headboat harvest (pounds) of Atlantic migratory group Spanish mackerel, 2001-2005.

	2001	**2002**	**2003**	**2004**	**2005**
North Carolina	81	8	51	186	65
South Carolina	9,007	3,670	1,417	10,897	8,512
Georgia	na	na	na	na	na
Florida	2,120	1,825	1,409	4,703	3,157
Total	**11,209**	**5,503**	**2,877**	**15,786**	**11,735**

Source: The Headboat Survey, NOAA Fisheries, SEFSC, Beaufort Lab. Note: "Na" indicates the data is not available due to confidentiality issues.

Total harvest of Spanish mackerel by headboats reached a five year low in 2003 but then recovered to 2001 levels in 2005. Harvest levels varied widely over the past five years for all three states shown (Table 12).

With regard to data for Florida, only half of the headboat trips taken from the Florida Keys and Tortugas areas were counted in this table in order to give a better approximation of trips taken that might result in harvest of South Atlantic migratory group Spanish mackerel.

Characteristics of the Charter and Headboat Sectors

There is no specific economic information on the for-hire sector that currently operates in the South Atlantic snapper grouper fishery. The information presented below comes from two sources. Holland *et al.* (1999) conducted a study of the charterboat sector in 1998 and provided information on charterboats and headboats engaged in all fisheries (Table 13).

Table 13. Charterboats and headboats operating in the South Atlantic during 1998.

State	Number of Headboats	Number of Charter Boats
North Carolina	18	207
South Carolina	18	174
Georgia	2	56
Florida-Atlantic Coast	42	413
Florida –Keys	16	230
Total	**96**	**1,080**

Source: Holland *et al.* (1999).

Holland *et al.* (1999) surmised that charterboats in Florida tend to be less specific in terms of species targeting behavior when compared to charterboats in the other South Atlantic states. In their study 47.7% of all captains in Atlantic Florida said they don't have specific targets but spend their time trolling or bottomfishing for any species. The most popular species for the Florida Atlantic vessels that had specific targets were king mackerel, dolphin, billfish, wahoo, and amberjack.

Economic Value and Economic Impact of the Recreational Fishery

The statistics presented in the preceding section document marine recreational fishing participation, recreational effort, and harvest of South Atlantic migratory group Spanish mackerel. Participation, effort, and harvest are indicators of the value of saltwater recreational fishing. However, a more specific indicator of value is the satisfaction that anglers experience over and above their costs of fishing. The monetary value of this satisfaction is referred to as compensating variation (same as non-market benefit). The magnitude of this non-market benefit derived from the recreational experience is dependent on several quality determinants which include fish size, catch success rate, the number of fish kept, and aesthetics. These quality variables are important not only in their determination of the value of a recreational fishing trip but also in their influence on total demand for recreational fishing trips. For example, as the population of fish increases it is expected that angler success rate would increase and the

marginal value of the fishing trip to the angler would increase provided all other conditions remain the same.

Recent estimates of the economic value of a day of saltwater recreational fishing are available for the South Atlantic from different sources. These estimates are not specific to Spanish mackerel but shed some light on the magnitude of an angler's willingness to pay for this recreational experience. The mean value of access per marine recreational fishing trip was estimated at $109.31 for the South Atlantic (Haab *et al.* 2001). Such values can be considered good estimates of the opportunity cost of time for saltwater recreational fishing.

The valuation estimates previously discussed should not be confused with angler expenditures or economic activity generated as a result of these expenditures. Angler expenditures benefit a number of sectors that provide goods and services for saltwater sport fishing. A study conducted by NOAA Fisheries (Gentner *et al.* 2001) provides estimates of saltwater recreational fishing trip expenditures (Table 14). The average expenditure per trip varies depending on the state, type of trip, duration, travel distance, and other factors. As expected, trip expenditures for non-residents are higher than for in-state residents. Compared to in-state residents, non-residents travel longer distances and incur expenses for food and lodging. Some in-state residents will incur higher trip expenses if they reside far away from the coast. These estimates do not include expenditures on recreational fishing in Monroe County or expenditures made on headboat angler trips.

Table 14. Summary of expenditures on saltwater trips estimated from a 1999 MRFSS add-on survey.

	North Carolina		**South Carolina**		**Georgia**		**Florida**	
Item	**Resident**	**Non Resident**	**Resident**	**Non Resident**	**Resident**	**Non Resident**	**Resident**	**Non Resident**
Shore mode trip expenses	$63.61	$75.53	$54.12	$104.27	$31.78	$115.13	$36.90	$141.30
Private/rental boat trip expenses	$71.28	$92.15	$35.91	$67.07	$161.34	$77.51	$66.59	$94.15
Charter mode trip expenses	$201.66	$110.71	$139.72	$220.97	$152.45	$155.90	$96.11	$196.16
Charter fee-average-per day	$133.76	$70.59	$114.26	$109.97	$73.68	$80.99	$71.37	$100.79

Source: Gentner *et al.* 2001.

Financial Operations of the Charter and Headboat Sectors

Holland *et al.* (1999) defined charterboats as boats for-hire carrying 6 or less passengers that charge a fee to rent the entire boat. Data from their study conducted in 1998 indicated that this trip fee reportedly ranged from $292 to $2,000. The actual cost to the passenger depended on state, trip length, and the variety of services offered by the charter operation. In the South Atlantic, depending on the state, the average fee for a half-day trip ranged from $296 to $360, for a full-day trip the range was $575 to $710, and for an overnight trip the range in average fee was $1,000 to $2,000. Most (>90%) Florida charter operators offered half-day and full-day trips and

about 15% of the fleet offered overnight trips. In comparison, in the other South Atlantic states about 3% of the total charter trips were overnight trips.

Headboats tend to be large, diesel-powered and generally can carry a maximum of around 60 passengers. The average vessel length of the headboats whose owners responded to the survey was around 62 feet. In Florida, the average headboat fee was $29 for a half-day trip and $45 for a full-day trip. For North and South Carolina, the average base fee was $34 per person for a half-day trip and $61 per person for a full-day trip. Most of these headboat trips operated in Federal waters in the South Atlantic (Holland *et al.* 1999).

The demand for charter and headboat trips will depend on the fee charged and the quality of the fishing experience. As noted previously, variables such as catch success rates, bag (keep) limits, and aesthetics are determinants of the quality of the experience to the angler. Profits within the for-hire sector will depend on trip demand, the fee charged, and cost of the fishing operation. It is expected that the cost of fishing will bear some inverse relationship to the population size of the species as it is expected that costs of searching for fish will decrease as the population size increases.

On the east cost of Florida, the average charter vessel length and horsepower was 39 feet and 617 hp respectively. The average vessel length in North Carolina was comparable to Florida. Also, for the other states it appears that charter vessels tended to be smaller than vessels in Florida and North Carolina. Electronics such as global positioning systems (GPS) and fish finders are common on most charter vessels in the South Atlantic. Capital investment in charter vessels averaged $109,301 in Florida, $79,868 for North Carolina, $38,150 for South Carolina, and $51,554 for Georgia (Holland *et al.* 1999). Charterboat owners incur expenses for inputs such as fuel, ice, and tackle in order to offer the services required by their passengers. Most expenses incurred in 1997 by charter vessel owners were on crew wages and salaries and fuel (Holland *et al.* 1999). The average annual charterboat business expenditures incurred was $68,816 for Florida vessels, $46,888 for North Carolina vessels, $23,235 for South Carolina vessels, and $41,688 for vessels in Georgia in 1997. The average capital investment for headboats in the South Atlantic was around $220,000 in 1997. Total annual business expenditures averaged $135,737 for headboats in Florida and $105,045 for headboats in other states in the South Atlantic.

The 1999 study on the for-hire sector in the Southeastern United States presented two sets of revenue estimates for the charter and headboat sectors in the South Atlantic (Holland *et al*. 1999). The first set of average gross revenue per vessel estimates were those reported by survey respondents as follows: $51,000 for charterboats on the Atlantic coast of Florida; $60,135 for charterboats in North Carolina; $26,304 for charterboats in South Carolina; $56,551 for charterboats in Georgia; $140,714 for headboats in Florida; and $123,000 for headboats in the other South Atlantic states (Holland *et al*. 1999). These authors concluded that survey respondents were reluctant to report gross income, and it is possible that these are underestimates of the true income received by these business entities. As a result, a second set of estimates on the for-hire sector was calculated by multiplying the average trip fee by the average number of trips per year for each vessel category. Using this method the average per vessel gross revenue was estimated at $69,268 for charterboats and $299,551 for headboats operating on the Atlantic

coast of Florida (Holland *et al.* 1999). The calculated vessel gross revenue estimate for the charter sector was 22% higher than the reported charter gross revenue per vessel on the east coast of Florida (Holland *et al.* 1999). The calculated vessel gross revenue figure for the headboat sector was 113% higher than the reported headboat gross revenue per vessel on the east coast of Florida (Holland *et al.* 1999). The second set of gross revenue estimates were only calculated for vessels in Florida. To obtain revised estimates for average gross vessel income for the other South Atlantic states, the reported per vessel gross income was multiplied by the percent increase calculated for Florida by sector. The revised estimates of average gross revenue per vessel for the other states are as follows: $73,365 ($60,135 x 1.22) for charterboats in North Carolina, $32,091 ($26,304 x 1.22) for charterboats in South Carolina; $68,992 ($56,551 x 1.22) for charterboats in Georgia; and $261,990 ($123,000 x 2.13) for headboats in the other South Atlantic states.

It must be noted that the study's authors were concerned that while the reported gross revenue figures are underestimates of true vessel income, these calculated values could overestimate gross income per vessel from for-hire activity (Holland *et al.* 1999). Some of these vessels are also used in commercial fishing activities and that income is not reflected in these estimates.

6.4.1.3 Permit Ownership

The number of vessels with the types of permits necessary in 2006 for commercial fishing for king mackerel, commercial fishing for Spanish mackerel, and/or for-hire fishing for coastal migratory species in South Atlantic waters, respectively, is shown by area in Table 15. Exclusive of duplication, there were 2,979 vessels, but summing across last row in Table 15 by "type of permit," one obtains a total of 4,371 vessels; that is, the 2,979 vessels have approximately one and half permits each on average (4,371 / 2,971 = 1.47). It is assumed for our purposes that only 1,862 vessels out of the 2,979 vessels fish in Atlantic waters, specifically those with permit-stated home ports from Maine through Monroe County, Florida, fish in Atlantic waters.

Table 15. Number of vessels by permits type as of January 2006.

Homeport State or Region	Type of Permit			
	King mackerel (limited access)	Spanish mackerel	For-hire, CMP species, South Atlantic waters	Total (excluding duplication)
Maine-Maryland	32	52	38	91
Virginia	9	11	23	34
North Carolina	275	154	289	474
South Carolina	42	12	95	124
Georgia	9	3	30	39
FL-east coast	354	300	222	552
FL-Monroe County	261	277	292	548
Sub-total	982	809	989	1,862
FL-Collier-Escambia	269	234	242	537
FL-non-coastal	220	217	132	368
Alabama-Texas	125	72	69	202
Other	3	1	7	10
Total	1,599	1,333	1,439	2,979

A vessel is counted for a year if: (1) EXPDATE >= January 1 of that year, (2) EDOP <= December 31 of that year, and (3) DOS >= January 1 of that year or DOS has a missing value ('null value in RBASE). Vessel permit (EEZ) data as of 13Oct06.

Regardless of the type of permit(s) issued for a vessel, the permit applicant is asked to indicate one of three "kinds of fishing" that best describes the vessel, as shown in Table 16. Among the 1,862 vessels with permit-stated home ports in Maine through Monroe County, Florida, 979 are "best described" as being engaged in commercial fishing, 837 as engaged in charter-fishing vessels and 37 as engaged in headboat fishing. In summary, approximately half of the 1,862 vessels that are assumed to fish in Atlantic waters are viewed by their owners as commercial fishing vessels and half as for-hire fishing vessels.

Table 16. Number of vessels by "kind of fishing" as reported by permit holder. January 2006.

Homeport State or Region	Vessel is best described as				
	Not specified	Commercial	Charter	Headboat	Total (excluding duplication)
Maine-Maryland	1	53	30	7	91
Virginia		10	23	1	34
North Carolina	2	216	246	10	474
South Carolina		40	79	5	124
Georgia		10	28	1	39
FL-east coast	3	354	188	7	552
FL-Monroe County	3	296	243	6	548
Sub-total	9	979	837	37	1,862
FL-Collier-Escambia		272	255	10	537
FL-non-coastal	2	254	108	4	368
Alabama-Texas		125	75	2	202
Other		2	8		10
Total	11	1,632	1,283	53	2,979

"Kind of fishing" refers to the applicant's selection of one among four choices on the permit form for "vessel is best described as".

6.5 Social Environment

Most fishermen who participate in the Atlantic Spanish mackerel fishery also participate in other fisheries. Even if Atlantic Spanish mackerel fishing only accounts for a portion of the income earned by a fisherman, it is an important part and may mean the difference in someone being able to continue to fish, and the necessity to seek other types of employment. If there are changes made to the current regulations for the Atlantic Spanish mackerel fishery, it is assumed that the regulations would have the most impact in communities where the most mackerel are landed, the most income from mackerel earned, and the most boats are permitted for mackerel. That is, regulations will likely have the greatest impact on the communities that are most dependent on the Atlantic Spanish mackerel resource. The above mentioned data can act as indicators of Atlantic Spanish mackerel dependence. By comparing all of the data, it is possible to determine which counties/communities may be most impacted by changes in regulations that may affect mackerel-dependent fishermen, fishing-dependent businesses, and communities.

6.5.1 Measures of Fishing Dependence

Jepson *et al.* (2006) conducted community profiles for the South Atlantic region. These community profiles provide a snapshot of the community and its involvement in fishing using 2001 as a base year. The profiles provide historical background about the community and its involvement in fisheries or fisheries-related industries. The profiles provide information on community involvement in commercial and recreational fishing as evidenced through various indicators (federal commercial permits, state commercial licenses, federal charter permits, seafood landings, fish processors and wholesale fish houses, recreational docks/marinas, and recreational fishing tournaments). Demographic information on a community basis is also provided to the extent that the data were gathered in a Federal Census[4].

6.5.2 Mackerel Fishing Communities

In general, the community profiles do not provide fishery specific information other than the number of federal and state permits associated with each community. Because not all communities profiled are likely relevant to the action under consideration in this document, profiles that outline homeports for vessels with at least five federal commercial king mackerel, federal commercial Spanish mackerel, and federal charter/headboat permits for coastal pelagics combined, have been included. The last subsection under each state heading summarizes community engagement in that state based on several indicators. These community profiles have been included in **Appendix A**.

[4] The demographics provided for each community help the reader to understand the level of education obtained by community members, the price of housing, and the types of employment available in the community. If fishing regulations change where people can no longer make a living at fishing, the other opportunities that exist in the community will be based on what jobs are available, level of education required, training, and language skills.

6.6 Administrative Environment

6.6.1 Federal Fishery Management

Federal fishery management is conducted under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (M-SFCMA) (16 U.S.C. 1801 et seq.), originally enacted in 1976 as the Fishery Conservation and Management Act. The M-SFCMA claims sovereign rights and exclusive fishery management authority over most fishery resources within the EEZ, an area extending 200 nautical miles from the seaward boundary of each of the coastal states, and authority over U.S. anadromous species and continental shelf resources that occur beyond the EEZ.

Responsibility for federal fishery management decision-making under the CMP FMP is divided between the U.S. Secretary of Commerce (Secretary) and jointly, the GMFMC and SAFMC that represent the expertise and interests of constituent states, as well as the MAFMC in the Atlantic. The Councils developed the original CMP FMP and are responsible for monitoring and revising it as necessary. The Secretary is responsible for collecting the data and conducting the research specified in the FMP and for promulgating regulations to implement proposed management measures based on amendments submitted by the Councils after ensuring that management measures are consistent with the M-SFCMA, and with other applicable laws summarized in Section 9. In most cases, the Secretary has delegated this authority to NOAA Fisheries.

The Councils are responsible for management of CMP fishery resources in federal waters. These waters extend to 200 nautical miles offshore from the 9-mile seaward boundary off the west coast of Florida and Texas, and the 3-mile seaward boundary of the states of Alabama, Mississippi, and Louisiana in the Gulf. Additionally, the SAFMC manages king and Spanish mackerel resources in federal waters off the east coast of Florida, and off the states of Georgia, South Carolina, North Carolina, as well as Virginia, Maryland, Delaware, Pennsylvania, New Jersey, and New York with the Mid-Atlantic Council from the three-mile seaward boundary of these areas/states.

The SAFMC has 13 voting members: 8 public members appointed by the Secretary; one each from the fishery agencies of Florida, Georgia, South Carolina, and North Carolina; and the Regional Administrator for the Southeast Regional Office of NOAA Fisheries.

The Mid-Atlantic Council has 21 voting members: 13 public members appointed by the Secretary; one each from the fishery agencies of New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, and North Carolina; and the Regional Administrator for the Northeast Regional Office of NOAA Fisheries.

Under the FMP, as amended, the GMFMC and SAFMC (in consultation with the MAFMC) can each independently set TAC, commercial quotas, recreational allocation, and other regulations for the Gulf and Atlantic migratory groups of king and Spanish mackerel. All other changes must be approved by each Council.

The public is also involved in the fishery management process through participation on advisory panels and through council meetings that, with few exceptions for discussing personnel matters, are open to the public. The regulatory process is also in accordance with the Administrative Procedures Act, in the form of "notice and comment" rulemaking, which provides extensive opportunity for public scrutiny and comment, and requires consideration of and response to those comments.

Regulations contained within the CMP FMP as amended are enforced through actions of the NOAA's Office of Law Enforcement, the United States Coast Guard, and the various state authorities. To better coordinate enforcement activities, federal and state enforcement agencies have developed cooperative agreements that together provide a coordinated approach to enforce the M-SFCMA.

6.6.2 State Fishery Management

The purpose of state representation at the council level is to ensure state participation in federal fishery management decision-making and to promote the development of compatible regulations in state and federal waters. When adopting management measures the Councils typically ask state authorities to adopt compatible regulations to ease compliance and to ameliorate the enforcement burden. The Councils have also taken action to be consistent with state regulations.

7 ENVIRONMENTAL CONSEQUENCES

This section provides the scientific and analytical basis for comparing the alternatives described in Section 3.0 above. The potential direct, indirect, and cumulative effects on the biological, socioeconomic, and administrative environments for each management alternative are described below. This section also describes: 1) any unavoidable adverse effects resulting from the proposed action, 2) the relationship between short-term uses of the human environment and long-term productivity, and 3) any irreversible or irretrievable commitments of resources resulting from implementation of the proposed action.

The CEQ regulations (40 CFR 1508.8) define direct effects as those "which are caused by the action and occur at the same time and place". Indirect effects are defined as those "which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable". Cumulative effects are defined as "impacts on the environment that result from the incremental impact of the action when added to the other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such actions".

7.1 Direct and Indirect Effects on the Biological and Physical Environment

7.1.1 Action 1

Changing the trip limit in the southern zone will not impact stock status. Biological protection is provided through setting the TAC and preventing overages. There are no expected impacts to the physical environment.

7.2 Direct and Indirect Effects on the Economic Environment

7.2.1 Action 1

Alternative 1 (status quo)
Alternative 1 (status quo) specifies 3,500-pound trip limits for April-November in the southern zone (Florida east coast) even though Amendment 15 (implemented August 8, 2005) changed the fishing year from April-March to March-February. After November, other trip limits apply.

Alternative 2 (**preferred**)
Preferred **Alternative 2** corrects the inconsistency in Amendment 15. **Alternative 2** specifies 3,500-pound trip limits for March-November in the southern zone (Florida east coast) and is consistent with Amendment 15 (implemented August 8, 2005) which changed the fishing year from April-March to March-February.

Under both alternatives, after December 1st and until 75% of the adjusted allocation is taken, vessels are able to take an unlimited amount on weekdays and 1,500 pounds on weekend days. More restrictive trip limits apply after 75% of the adjusted allocation is taken. After 100% of the adjusted allocation is taken, the trip limit is reduced to 500 pounds in the southern zone through the end of the fishing year. No closure occurs for the commercial fishery for Atlantic migratory group Spanish mackerel.

Alternative 2 assures that fishermen will be able to fish in March under the 3,500-pound trip limit. It is expected to provide increased total landings stability for communities and increased financial stability for fishermen and their families.

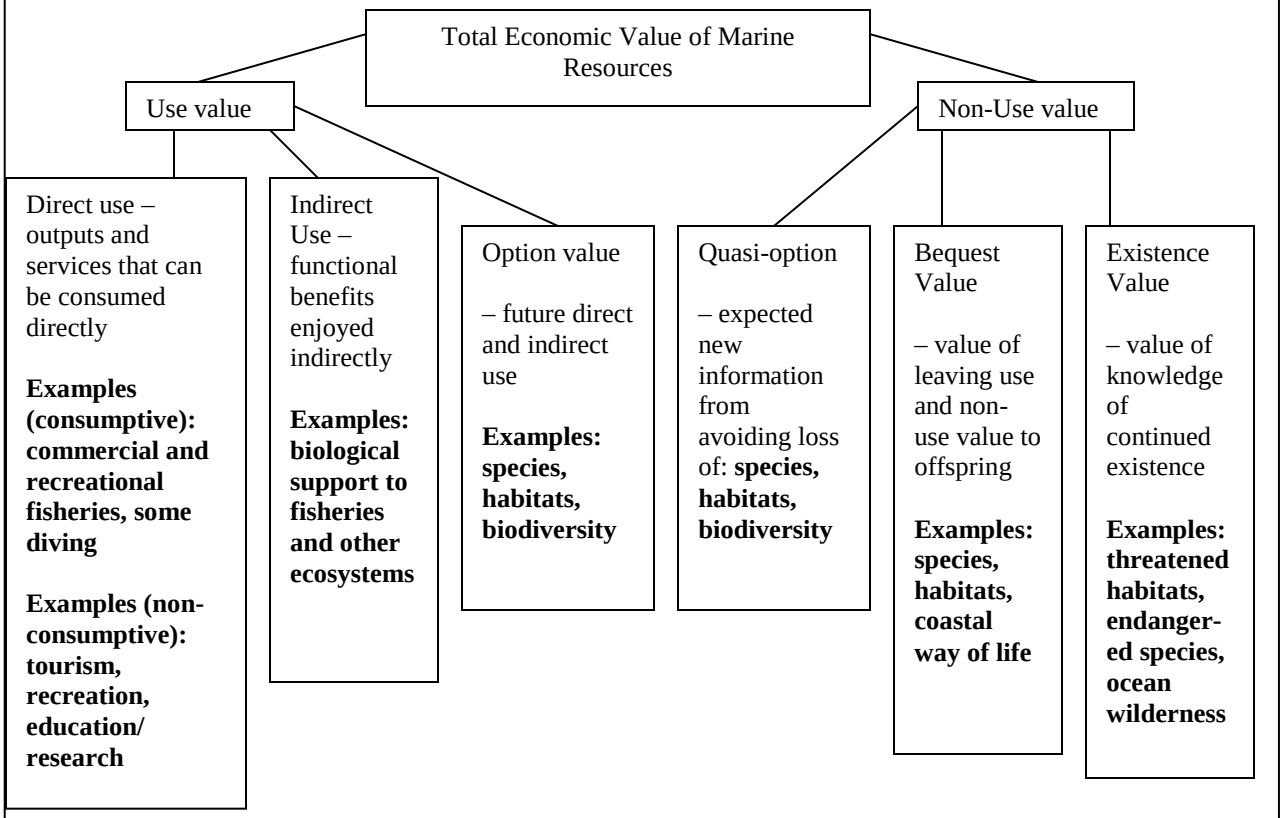
7.3 Direct and Indirect Effects on the Social Environment

Generally speaking, any closure in Spanish mackerel fisheries will directly impact snapper grouper fisheries that remain open at the time of the closures. Fishermen in Florida will target other species if mackerel closes (e.g., gag grouper, golden tilefish, amberjack, or the mixed snapper fishery which exists in Southeast Florida). There would still be economic consequences because an average mackerel trip is more valuable than an average snapper grouper trip. Also, significant trip cost differences exist for each fishery (Ben Hartig personal communication).

7.3.1 Action 1

How different economic values are categorized is shown in Figure 3. Non-use value refers to the value associated with option, bequest, and existence values.

Figure 3. Chart describing how different economic values of marine resources are typically categorized.



Source: Adapted from Scholtz and Fujita (2001).

Alternative 1 (status quo)
Alternative 1 (status quo) specifies 3,500-pound trip limits for April-November in the southern zone (Florida east coast) even though Amendment 15 (implemented August 8, 2005) changed the fishing year from April-March to March-February. After November, other trip limits apply. Despite the inconsistency in Amendment 15, which may have implications to the contrary, the fishery appears to have behaved much as it did in the past in terms of landings, landings per trip, and number of trips, judging by available data.

Alternative 2 (**preferred**)
Preferred **Alternative 2** corrects the inconsistency in Amendment 15. **Alternative 2** specifies 3,500-pound trip limits for March-November in the southern zone (Florida east coast) and is consistent with Amendment 15 (implemented August 8, 2005) which changed the fishing year from April-March to March-February. After December 1st and until 75% of the adjusted allocation is taken, vessels are able to take an unlimited amount on weekdays and 1,500 pounds on weekend days under both alternatives. More restrictive trip limits apply after 75% of the adjusted allocation is taken. After 100% of the adjusted allocation is taken, the trip limit is reduced to 500 pounds in the southern zone through the end of the fishing year, and no closure occurs for the commercial fishery for Atlantic migratory group Spanish mackerel. **Alternative 2** assures that fishermen will be able to fish in March under the 3,500-pound trip limit. It is expected to provide increased total landings stability for communities and increased financial stability for fishermen and their families.

Non-Use Value
Because there are no changes to the TAC implied by Action 1, there are no expected changes to non-use value.

7.4 Direct and Indirect Effects on the Administrative Environment

Alternative 2 compared to **Alternative 1 under Action 1** would require an initial minimal increase in administrative burden associated with changing the current regulations (document revision and review, and information dissemination).

Under the proposed action current administrative burdens include tasks completed by the South Atlantic, Gulf of Mexico, and Mid-Atlantic Fishery Management Councils; NOAA Fisheries; NOAA GC; and law enforcement agencies. The Councils have conducted document preparation, meetings, public hearings, and information dissemination. NOAA Fisheries and NOAA GC have been involved in document preparation, meetings, data analysis, and document review. Law enforcement is involved in various aspects.

7.5 Mitigation Measures

No revenue losses are expected as a result of Action 1 so no mitigation measures are necessary.

7.6 Cumulative Effects

Cumulative impacts are defined as impacts on the environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.

The South Atlantic Fishery Management Council's Amendment 13C to the Snapper Grouper FMP became effective on October 23, 2006. This amendment ends overfishing of snowy grouper, golden tilefish, vermilion snapper, and black sea bass through new regulations for the commercial and recreational fisheries. Some of these proposed management measures will be phased-in over 3 years. These regulations are expected to reduce immediate net revenue to the commercial fishery. However, in the long-term biomass levels are expected to increase resulting in increased economic benefits to harvesters (commercial and recreational), non-consumptive users, and society (as existence and bequest values increase).

Short-term cumulative losses from implementation of the Amendment 13C harvest restrictions are projected to vary from $0.73 to $1.08 million during the first year and third year of implementation respectively. This represents 12.3% and 18.1% of status quo net dockside revenue respectively. Status quo income represents the total revenue earned from all species from trips where any of the four species being regulated under Amendment 13C are harvested. Of the vessels harvesting the four species, 313 to 324 vessels would be expected to incur immediate, short-term losses from the combined effect of the preferred alternatives.

Vessels that fish for snapper grouper also participate in the Atlantic Spanish mackerel fishery. A total 323 people, or 51 percent of individuals with an unlimited snapper grouper permit, also own a Spanish mackerel permit. A majority of these people live in Florida (79 percent) while less than 1 percent, 3 percent, and 16 percent live in Georgia, South Carolina, and North Carolina, respectively. Due to the short-term losses expected for the snapper grouper fishery, it is expected that some snapper grouper fishermen will participate more heavily in the mackerel fisheries than they otherwise would in other years. This Action assures that fishermen will be able to fish under the 3,500-pound trip limit in March when there are few other fishing opportunities. For example, the red porgy fishery is closed January through April, and the gag and black grouper fisheries are closed in March and April.

No revenue losses are expected as a result of Action 1 so no increases in cumulative effects are expected.

7.7 Unavoidable Adverse Effects

The proposed action will not have unavoidable and immediate adverse effects on fishery participants because it will not result in reduced harvest and revenue.

7.8 Relationship between Short-Term Uses and Long-Term Productivity

Assigning catch limits in the southern zone for one month earlier in the year (**Alternative 2, Action 1**) than under status quo (**Alternative 1, Action 1**) should improve short-term economic and social stability in the Atlantic migratory group Spanish mackerel fishery. **Alternative 2 under Action 1** is not expected to alter short- or long-term productivity of the biological resource.

7.9 Irreversible and Irretrievable Commitments of Resources

Irreversible commitments are defined as commitments which cannot be reversed, except perhaps in the extreme long-term, whereas irretrievable commitments are lost for a period of time. There are no irreversible commitments for this framework action.

7.10 Any Other Disclosures

No additional disclosures are needed or known for the actions proposed in this amendment.

8 FINDING OF NO SIGNIFICANT IMPACT

National Oceanic and Atmospheric Administration (NOAA) Administrative Order 216-6 (NAO 216-6) (May 20, 1999) contains criteria for determining the significance of the impacts of a proposed action. On July 22, 2005, NOAA published a Policy Directive with guidelines for the preparation of a Finding of No Significant Impact (FONSI). In addition, the CEQ regulations at 40 C.F.R. Section 1508.27 state that the significance of an action should be analyzed both in terms of "context" and "intensity". Each criterion listed below is relevant to making a finding of no significant impact and has been considered individually, as well as in combination with the others. The significance of this action is analyzed based on the NAO 216-6 criteria, the recent Policy Directive from NOAA, and CEQ's context and intensity criteria. These include:

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

Response: No, the proposed action and its impact on target species are controlled by a quota; when the quota is met, the fishery is closed. The expansion of a 3,500 pound trip limit off Florida to include March, when no trip limit currently exists, may allow the fishery to remain open later in the year.

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

Response: No, the proposed action to adjust the timing of commercial trip limits is administrative in nature. There may be some minor benefit to non-target species. The commercial fishery would be more restricted in its daily effort through a trip limit during the month of March.

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

Response: No, the proposed action is not reasonably expected to cause substantial damage to the ocean and coastal habitats and/or EFH. The conclusion in the EFH Assessment (Section 9.9) is that this action will have no additional impact on EFH. This action will not change the measures put in place under Amendment 10 to reduce impacts on EFH. Specifically, this action does not allow changes in access to essential fish habitat for coastal migratory pelagic species (sandy shoals of capes and offshore bars, high profile rocky bottom and barrier island ocean-side waters, from the surf to the shelf break zone, but from the Gulf Stream shoreward, including *Sargassum*, all coastal inlets, all state-designated nursery habitats of particular importance to coastal migratory pelagics).

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

Response: No, the proposed action is not reasonably expected to have a substantial adverse impact on public safety or health. The proposed action extends catch limits to the first month of the new season, and this is not expected to adversely impact public health or safety.

5) Can the proposed action reasonably be expected to adversely affect endangered or threatened species, their critical habitat, marine mammals, or other non-target species?

Response: No, the proposed action is not expected to adversely affect endangered or threatened species, marine mammals, or critical habitat of these species. Section 9.4 describes potential interactions between endangered species and fishermen that harvest coastal pelagics. Section 9.9 discusses essential fish habitat for coastal migratory pelagics and Section 9.6 discusses potential marine mammal interactions. The proposed action to extend Atlantic migratory group Spanish mackerel trip limits is not expected to adversely affect endangered or threatened species, marine mammals, or critical habitat of these species.

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

Response: No, the proposed action is not expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area. Section 6.1 references descriptions of the affected area including the benthic habitat and biological parameters of the Atlantic migratory group Spanish mackerel resource. Action 1 is largely an administrative change and does not propose changes to fishing mortality levels. Therefore, no additional impacts on biodiversity and ecosystem function are expected as a result of these actions.

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

Response: No, this action does not propose any significant social or economic impacts interrelated with natural or physical environmental effects. Impacts of the proposed action are presented in Section 7.0 of this document. The proposed action improves stability of the Atlantic migratory group Spanish mackerel fishery through extension of trip limits with no change in the TAC. This action does not have significant social or economic impacts interrelated with natural or physical environmental effects.

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

Response: No, the effects on the quality of the human environment are not likely to be highly controversial. The proposed action will extend the trip limits for the Atlantic migratory group Spanish mackerel fishery, which will have positive impacts on the long-term sustainability and stability of the two fisheries. Sections 7.2 and 7.3 assess the economic and social impacts of the proposed action, and Section 7.6 describes the potential cumulative effects of the action on the human environment. Overall, the proposed action is expected to have a positive impact on long-

term economic and social sustainability, and thus, be beneficial for the human environment and is not likely to be highly controversial.

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

Response: No, the proposed action is not reasonably expected to result in substantial impacts to unique areas, park land, prime farmlands, wetlands, wild and scenic rivers, essential fish habitat, or ecologically critical areas. Section 9.9 discusses potential impacts to essential fish habitat and there are no substantial impacts expected as a result of the proposed action. Unique areas, park land, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas are not located within the affected area; therefore, there are no impacts on these components of the environment from the proposed action.

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

Response: No, the effects on the human environment are not likely to be highly uncertain or involve unique or unknown risks. This action proposes an extension of trip limits with no change in the TAC. This action is proposed to increase landings stability. While there is no way to accurately predict the changes fishermen and those affected by the proposed action will react, the effects on the human environment are not highly uncertain, nor do they involve unique or unknown risks. The effects and risks are reasonably well understood. The expected impacts on the human environment are outlined in Sections 7.2 and 7.3 as well as Section 7.6 (Cumulative Effects).

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

Response: No, the proposed action is not related to other actions with individually insignificant but cumulatively significant impacts. Section 7.6 describes the cumulative effects expected on the human environment as a result of the proposed action. The proposed action does not result in cumulative impacts because no decrease in revenue will result. The Atlantic migratory group Spanish mackerel fishery has been impacted by past and present actions and is likely to continue to be impacted by actions in the future. However, the action proposed is expected to improve economic stability.

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

Response: No, the proposed action does not adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places nor is it expected to cause loss or destruction of significant scientific, cultural, or historical resources because they are not located in the affected area.

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

Response: No, the proposed action is not reasonably expected to result in the introduction or spread of a non-indigenous species. The proposed action is not expected to introduce or spread any non-indigenous species more than fishing under current regulations would.

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

Response: No, the proposed action is not likely to establish a precedent for future action with significant effects, and it does not represent a decision in principle about future consideration. The proposed action sets trip limits for future years. However, the availability of new stock assessment information could be used to propose new actions to change the TACs and changing biological and economic understanding of the fishery could prompt the Council to alter trip limits. Therefore, the proposed action is not likely to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration.

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

Response: No, the proposed action is not reasonably expected to threaten a violation of Federal, State, local law, or requirements imposed for the protection of the environment.

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

Response:
No, the proposed action is not reasonably expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species. The direct, indirect, and cumulative impacts of the proposed action have been discussed in Sections 7.1, 7.2, 7.3, and 7.6. In general, this action will maintain sustainable management approaches and increase economic stability, which will have long-term positive impacts on target and non-target species.

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

_____ _____

Regional Administrator Date
Southeast Regional Office
National Marine Fisheries Service

9 OTHER APPLICABLE LAW

The MSFCMA (16 U.S.C. 1801 et seq.) provides the authority for U.S. fishery management. However, fishery management decision-making is also affected by a number of other federal statutes designed to protect the biological and human components of U.S. fisheries, as well as the ecosystems within which those fisheries are conducted. This environmental assessment is an integrated document that combines analyses necessary for the National Environmental Policy Act (NEPA), the Regulatory Flexibility Act (RFA), and Executive Order 12866: Regulatory Planning and Review.

NEPA requires all federal actions such as the formulation of fishery management plans to be evaluated for potential environmental and human environment impacts, and for these impacts to be assessed and reported to the public. NEPA requires federal agencies to evaluate a range of alternatives. For this amendment, the Council conducted an Environmental Assessment, which is a concise statement that determines whether the proposed amendment will have a significant impact on the environment.

The RFA requires federal agencies to assess the impacts of regulatory actions implemented through notice and comment rulemaking procedures on small businesses, small organizations, and small governmental entities, with the goal of minimizing adverse impacts of burdensome regulations and record-keeping requirements on those entities. These analyses, which describe the type and number of small businesses affected, are provided in Section 5 and will be published in the *Federal Register* in full or in summary for public comment and submitted to the chief counsel for advocacy of the Small Business Administration.

To comply with E.O. 12866, NMFS prepares a Regulatory Impact Review (RIR) for all fishery regulatory actions that either implement a new fishery management plan or significantly amend an existing plan. RIRs provide a comprehensive analysis of the costs and benefits to society associated with proposed regulatory actions, the problems and policy objectives prompting the regulatory proposals, and the major alternatives that could be used to solve the problems. These analyses can be found in Section 4 of this amendment.

Other major laws affecting federal fishery management decision-making are summarized below.

9.1 Administrative Procedures Act

All federal rulemaking is governed under the provisions of the Administrative Procedure Act (APA) (5 U.S.C. Subchapter II), which establishes a “notice and comment” procedure to enable public participation in the rulemaking process. Under the APA, NMFS is required to publish notification of proposed rules in the *Federal Register* and to solicit, consider, and respond to public comment on those rules before they are finalized. The APA also establishes a 30-day waiting period from the time a final rule is published until it takes effect.

9.2 Coastal Zone Management Act

Section 307(c)(1) of the federal Coastal Zone Management Act (CZMA) of 1972, as amended, requires that federal activities that affect any land or water use or natural resource of a state's coastal zone be conducted in a manner consistent, to the maximum extent practicable, with approved state coastal management programs. The requirements for such a consistency determination are set forth in NOAA regulations at 15 C.F.R. part 930, subpart C. NMFS has determined that this action is consistent with the Coastal Zone Management programs of the States of Florida, Georgia, South Carolina, and North Carolina to the maximum extent practicable. This determination will be submitted to the responsible state agencies by NMFS under Section 307 of the CZMA during the public hearing stage.

9.3 Data Quality Act

The Data Quality Act (DQA) (Public Law 106-443) effective October 1, 2002, requires the government to set standards for the quality of scientific information and statistics used and disseminated by federal agencies. Specifically, the Act directs the Office of Management and Budget (OMB) to issue government-wide guidelines that "provide policy and procedural guidance to federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information disseminated by federal agencies". Such guidelines have been issued, directing all federal agencies to create and disseminate agency-specific standards to: (1) ensure information quality and develop a pre-dissemination review process; (2) establish administrative mechanisms allowing affected persons to seek and obtain correction of information; and (3) report periodically to OMB on the number and nature of complaints received.

9.4 Endangered Species Act

The Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. Section 1531 et seq.), requires that federal agencies use their authorities to conserve endangered and threatened species. The ESA requires NMFS, when proposing a fishery action that "may affect" critical habitat or endangered or threatened species, to consult with the appropriate administrative agency (itself for most marine species, the USFWS for all remaining species) to determine the potential impacts of the proposed action. Consultations are concluded informally when proposed actions "may affect but are not likely to adversely affect" endangered or threatened species or designated critical habitat. Formal consultations, including a biological opinion, are required when proposed actions may affect and are "likely to adversely affect" endangered or threatened species or adversely modify designated critical habitat. If jeopardy or adverse modification is found, the consulting agency is required to suggest reasonable and prudent alternatives.

An informal Section 7 consultation was conducted on the original Coastal Migratory Pelagic Resources (CMPR) FMP (February, 1983). NOAA Fisheries concluded that the management measures proposed in the CMPR FMP were not likely to adversely affect any listed species under the ESA. The consultation, however, did not analyze the effects of the fishery itself.

The effects of the coastal pelagics fishery on endangered and threatened species were first considered in an April 28, 1989 biological opinion, which analyzed the effects of all commercial

fishing activities in the Southeast Region as part of a formal Section 7 consultation on NOAA Fisheries' Marine Mammal Authorization Program. The biological opinion concluded that commercial fishing activities in the southeastern United States were not likely to jeopardize the continued existence of threatened or endangered species. The incidental take of ten Kemp's ridley, green, hawksbill, or leatherback sea turtles; 100 loggerhead sea turtles; or 100 shortnose sturgeon was allotted to each fishery identified in the Incidental Take Statement (ITS). Pelagic hook-and-line and gill-net fisheries were two of the fisheries identified. The amount of incidental take was later amended by a July 5, 1989 opinion, which reduced the amount of take to only ten documented Kemp's ridley, green, hawksbill, or leatherback sea turtles; 100 loggerhead sea turtles; or 100 shortnose sturgeon for all commercial fishing activities conducted in Atlantic and Gulf of Mexico fisheries combined.

On November 6, 1991, a formal Section 7 consultation on Amendment 6 to the FMP was initiated. The resulting August 19, 1992, opinion on the effects of commercial fishing activities under the Coastal Migratory Pelagic Resources FMP and Amendment 6 found that the regulatory actions were not likely to adversely affect listed species. Additionally, fishing activities conducted under the authority of the FMP may affect, but were not likely to jeopardize, the continued existence of listed sea turtles. An incidental take allowance, with associated reasonable and prudent measures, terms and conditions, and conservation recommendations were issued. Incidental take levels for listed species for all fisheries in the United States established in the July 5, 1989 biological opinion were retained. Nevertheless, consultation was to be reinitiated if the total documented incidental take of Kemp's ridley, green, hawksbill or leatherback turtles meets or exceeds five or twenty-five loggerhead turtles, for the combined gill-net and hook-and-line fisheries for coastal migratory pelagics. The reasonable and prudent measures to minimize the impacts on listed species by hook-and-line and gill-net fisheries for pelagics included:

1. A regional observer program will be implemented to document incidental injury and mortality of listed species. With the exception of off bottom trawls, hook-and-line, and trap fisheries, all southeast U.S. fisheries need additional investigation. This program should emphasize monitoring of gill-net and longline fisheries where the least amount of information is available and the potential for adverse impacts to sea turtles appears the greatest.

2. Regulations should be promulgated to reduce/eliminate mortalities in any fisheries where the take of endangered and threatened species exceeds levels specified in the Incidental Take Statement (ITS).

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

4. 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).

Subsequent consultations conducted on amendments to the CMPR FMP and emergency actions have been informal, finding that the regulatory changes resulting from those actions would not alter the findings under the biological opinion on Amendment 6 to the FMP.

As provided in 50 CFR 402.16, re-initiation of consultation is required if: (1) the amount or extent of taking specified in the incidental take statement is exceeded; (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or (4) a new species is listed, the identified activity is subsequently modified, or critical habitat is designated that may be affected by this activity.

NOAA Fisheries has no data indicating the take specified in the August 20, 1992, incidental take statement has been exceeded. However, over the twelve years that have elapsed since then, new information regarding the status of listed species and the effect actions have on them has become available. Additionally, the fishery for coastal pelagic resources may affect a new species listed as endangered, the smalltooth sawfish. Critical habitat for the northern right whale was also designated after the 1992 consultation (58 FR 28793, June 3, 1994). Based on this information, NOAA Fisheries believes reinitiation of formal consultation is warranted. SERO's SFD will request SERO's PRD conduct a Section 7 consultation under Section 7 of the ESA on the impacts of the actions in Amendment 15. A biological opinion will be developed for Amendment 15 and will include previous actions under the CMP FMP that have occurred subsequent to the last biological opinion.

9.5 Executive Orders

9.5.1 E.O. 12630: Takings

The Executive Order on Government Actions and Interference with Constitutionally Protected Property Rights that became effective March 18, 1988, requires that each federal agency prepare a Takings Implication Assessment for any of its administrative, regulatory, and legislative policies and actions that affect, or may affect, the use of any real or personal property. Clearance of a regulatory action must include a takings statement and, if appropriate, a Takings Implication Assessment. There are no takings implications from the proposed action. This measure is categorically excluded per Attorney General guidelines.

9.5.2 E.O. 13089: Coral Reef Protection

The Executive Order on Coral Reef Protection requires federal agencies whose actions may affect U.S. coral reef ecosystems to identify those actions; utilize their programs and authorities to protect and enhance the conditions of such ecosystems; and, to the extent permitted by law, ensure that actions that they authorize, fund, or carry out do not degrade the condition of that ecosystem. There are no implications to coral reefs by the action proposed.

9.5.3 E.O. 13132: Federalism

The Executive Order on Federalism requires agencies in formulating and implementing policies, to be guided by the fundamental Federalism principles. The Order serves to guarantee the division of governmental responsibilities between the national government and the states. No Federalism issues have been identified relative to the proposed action. Therefore, consultation with state officials under this Executive Order is not necessary.

9.5.4 E.O. 13158: Marine Protected Areas

This Executive Order requires federal agencies to consider whether their proposed action(s) will affect any area of the marine environment that has been reserved by federal, state, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural or cultural resource within the protected area. This action would have no impacts to marine protected areas.

9.6 Marine Mammal Protection Act

The MMPA established a moratorium, with certain exceptions, on the taking of marine mammals in U.S. waters and by U.S. citizens on the high seas, and on the importing of marine mammals and marine mammal products into the United States. Under the MMPA, the Secretary (authority delegated to NMFS) is responsible for the conservation and management of cetaceans and pinnipeds (other than walruses). The Secretary of the Interior is responsible for walruses, sea and marine otters, polar bears, manatees, and dugongs.

Part of the responsibility NMFS has under the MMPA involves monitoring populations of marine mammals to make sure they stay at optimum levels. If a population falls below its optimum level, it is designated as “depleted,” and a conservation plan is developed to guide research and management actions to restore the population to healthy levels.

In 1994, Congress amended the MMPA, to govern the taking of marine mammals incidental to commercial fishing operations. This amendment required the preparation of stock assessments for all marine mammal stocks in waters under U.S. jurisdiction, development and implementation of take-reduction plans for stocks that may be reduced or are being maintained below their optimum sustainable population levels due to interactions with commercial fisheries, and studies of pinniped-fishery interactions.

Under Section 118 of the MMPA, NOAA Fisheries must publish, at least annually, a List of Fisheries (LOF) that places all U.S. commercial fisheries into one of three categories: (1) Frequent (Category I), (2) occasional (Category II), or (3) remote (Category III) based on the level of incidental, serious injury and mortality of marine mammals that occurs in each fishery. The categorization of a fishery in the LOF determines whether participants in that fishery may be required to comply with certain provisions of the MMPA, such as registration, observer coverage, and take reduction plan requirements. The Southeast Atlantic gill-net fishery (i.e., the Florida East Coast king and Spanish mackerel gill-net fishery and the Southeast U.S. Atlantic

coastal shad gillnet fishery) and the Gulf of Mexico gill-net fishery (i.e., the Gulf of Mexico king and Spanish mackerel gill-net fishery, the Gulf of Mexico inshore gill-net fishery, and the Gulf of Mexico coastal gill-net fishery) are both listed as a Category II fisheries (69 FR 48407). No changes in these fishery's classifications were proposed in the 2004 proposed LOF (69 FR 71, April 13, 2004).

The Southeast Atlantic gill-net fishery is regulated in part under the Atlantic Large Whale Take Reduction Plan (ALWTRP), which was finalized in 1999. The ALWTRP was developed to reduce the risk of serious injury and mortality of right, humpback, and fin whales from incidental interactions with commercial fisheries. The ALWTRP was modified in 2002 to prohibit straight sets of gill nets at night in the Southeast U.S. Restricted Area [from 32°00'N (near Savannah, Georgia) south to 27°51'N (near Sebastian Inlet, Florida) from the shore eastward to 80°00'W] from November 15 through March 31 (67 FR 184, September 23, 2002). The Team was recently reconvened and is currently considering further measures to reduce the interaction of large whales with gill nets.

A Bottlenose Take Reduction Team was convened in November 2001 to reduce the risk of serious injury and mortality of bottlenose dolphins from incidental interactions with commercial fisheries. The team agreed upon consensus recommendations on May 7, 2002, with addendum's in April 2003. A draft plan and proposed rule are being prepared, which may include some measures affecting CMP gill-net fisheries in the future (i.e., gear marking).

9.7 Paperwork Reduction Act

The Paperwork Reduction Act (PRA) of 1995 (44 U.S.C. 3501 et seq.) regulates the collection of public information by federal agencies to ensure that the public is not overburdened with information requests, that the federal government's information collection procedures are efficient, and that federal agencies adhere to appropriate rules governing the confidentiality of such information. The PRA requires NMFS to obtain approval from the Office of Management and Budget before requesting most types of fishery information from the public.

Permit application processes are not being changed by this amendment, and no new reporting requirements or burdens are being proposed. Therefore, NMFS does not need to submit an additional request for information collection to the Office of Management and Budget for review.

9.8 Small Business Act

The Small Business Act of 1953, as amended, Section 8(a), 15 U.S.C. 634(b)(6), 636(j), 637(a) and (d); Public Laws 95-507 and 99-661, Section 1207; and Public Laws 100-656 and 101-37 are administered by the Small Business Administration. Because most businesses associated with fishing are considered small businesses, NMFS must make an assessment of how those regulations will affect small businesses. Implications to small businesses are discussed in Section 6, herein.

9.9 Essential Fish Habitat

The amended M-SFCMA included new EFH requirements, and as such, each existing, and any new, FMP must describe and identify EFH for the fishery, minimize to the extent practicable adverse effects on that EFH caused by fishing, and identify other actions to encourage the conservation and enhancement of that EFH. In 1999, a coalition of several environmental groups brought suit challenging the agency's approval of the EFH FMP amendments prepared by the Gulf of Mexico, Caribbean, New England, North Pacific, and Pacific Fishery Management Councils (American Oceans Campaign *et al.* v. Daley *et al.*, Civil Action No. 99-982(GK)(D.D.C. September 14, 2000). The court found that the agency's decisions on the EFH amendments were in accordance with the M-SFCMA, but held that the EAs on the amendments were in violation of the NEPA and ordered NOAA Fisheries to complete new, more thorough NEPA analyses for each EFH amendment in question.

Consequently, NOAA Fisheries entered into a Joint Stipulation with the plaintiff environmental organizations that called for each affected Council to complete EISs rather than EAs for the action of minimizing adverse effects of fishing to the extent practicable on EFH. See AOC v. Evans/Daley *et al.*, Civil No. 99-982 (GK)(D.D.C. December 5, 2001). However, because the court did not limit its criticism of the EAs to only efforts to minimize adverse fishing effects on EFH, it was decided that the scope of these EISs should address all required EFH components as described in Section 303 (a)(7) of the M-SFCMA. To address these requirements the GMFMC has, under separate action, drafted an EIS to analyze within each fishery a range of potential alternatives to: (1) describe and identify EFH for the fishery; (2) identify other actions to encourage the conservation and enhancement of such EFH; and (3) identify measures to minimize to the extent practicable the adverse effects of fishing on such EFH.

The SAFMC's EFH Comprehensive Amendment (FSEIS/EA) was not challenged and included the following EFH and EFH-HAPC designations (Note: The Council completed the document October 1998; the regulations were effective 7/14/00):

Essential fish habitat (EFH) for coastal migratory pelagic species includes sandy shoals of capes and offshore bars, high profile rocky bottom and barrier island ocean-side waters, from the surf to the shelf break zone, but from the Gulf Stream shoreward, including *Sargassum*. In addition, all coastal inlets, all state-designated nursery habitats of particular importance to coastal migratory pelagics (for example, in North Carolina this would include all Primary Nursery Areas and all Secondary Nursery Areas). In addition, the Gulf Stream is an essential fish habitat because it provides a mechanism to disperse coastal migratory pelagic larvae. For king and Spanish mackerel and cobia, essential fish habitat occurs in the South Atlantic and Mid-Atlantic Bights.

Areas which meet the criteria for Essential Fish Habitat – Habitat Areas of Particular Concern (EFH-HAPCs) include sandy shoals of Capes Lookout, Cape Fear and Cape Hatteras from shore to the ends of the respective shoals, but shoreward of the Gulf stream; The Point, The Ten-Fathom Ledge, and Big Rock (North Carolina); The Charleston Bump and Hurl Rocks (South Carolina); The Point off Jupiter Inlet (Florida); *Phragmatopoma* (worm reefs) reefs off the central east coast of Florida; nearshore hard bottom south of Cape Canaveral; The Hump off

Islamorada, Florida; The Marathon Hump off Marathon, Florida; The "Wall" off of the Florida Keys; Pelagic *Sargassum*; and Atlantic coast estuaries with high numbers of Spanish mackerel and cobia based on abundance data from the ELMR Program. Estuaries meeting this criteria for Spanish mackerel include Bogue Sound and New River, North Carolina; Bogue Sound, North Carolina (Adults May-September salinity >30 ppt); and New River, North Carolina (Adults May-October salinity >30 ppt). For cobia they include Broad River, South Carolina and Broad River, South Carolina (Adults & juveniles May-July salinity >25ppt).

The proposed action extends current Atlantic migratory group Spanish mackerel trip limits to March, the first month in the new fishing year. The trip limit changes will not impact the TAC and will have no additional impact on EFH or EFH-HAPCs. Therefore, there are no expectations of adverse effects to EFH in this amendment.

10 LIST OF PREPARERS

South Atlantic Fishery Management Council
Kate Quigley – Fishery Economist
Gregg Waugh – Deputy Executive Director

National Marine Fisheries Service
John Vondruska – Fishery Economist
Stephen Branstetter – Fishery Biologist
Sue Gerhart – Fishery Biologist

11 REFERENCES

ASMFC. 2005. 2005 Review of the Fishery Management Plan for Spanish Mackerel. Prepared by the Spanish Mackerel Plan Review Team. Approved November 1, 2005.

Collette, B. B. and J. L. Russo. 1979. An introduction to the Spanish mackerels, genus *Scomberomorus*. In Nakamura and Bullis (eds.), Proceedings: Colloquium on the Spanish and king mackerel resources of the Gulf of Mexico. Gulf States Marine Fisheries Commission, No. 4. p. 3-16.

Gentner, B., M. Price and S. Steinback. 2001. Marine Angler Expenditures in the Southeast Region, 1999. NOAA Technical Memorandum NMFS-F/SPO-48.

GMFMC/SAFMC. 1985. Final Amendment 1 to the Fishery Management Plan and Final Environmental Impact Statement for the Coastal Migratory Pelagic Resources (Mackerels). Prepared by the Gulf of Mexico and South Atlantic Fishery Management Councils, April 1985. Available from: SAFMC, 4055 Faber Place Drive, Suite 201, North Charleston, SC 29405.

Haab, T. C., J. C. Whitehead, and T. McConnell. 2001. The Economic Value of Marine Recreational Fishing in the Southeast United States. NOAA Technical Memorandum NMFS-SEFSC-466.

Hartig, Ben. September 2006. Personal communication.

Holland, S. M., A. J. Fedler, and J. W. Milon. 1999. The Operation and Economics of the Charter and Headboat Fleets of the Eastern Gulf of Mexico and South Atlantic Coasts. University of Florida Office of research, Technology, and Graduate Education. Report prepared for the National Marine Fisheries Service. Grant Number NA77FF0553.

Jepson, M., K. Kitner, A. Pitchon, W. W. Perry, and B. Stoffle. 2006. Potential Fishing Communities in the Carolinas, Georgia and Florida: An effort in baseline profiling and mapping. South Atlantic Fisheries Management Council. National Oceanic and Atmospheric Administration.

MSAP. (Mackerel Stock Assessment Panel) 1996. 1996 Report of the Mackerel Stock Assessment Panel. Prepared by the Mackerel Stock Assessment Panel.

MSAP. 2003. 2003 Report of the Mackerel Stock Assessment Panel. Prepared by the Mackerel Stock Assessment Panel at the Panel Meeting Held May 19-21, 2003.

Mayo, D. A. 1973. Rearing, growth, and development of the eggs and larvae of seven scombrid fishes from the Straits of Florida. Ph.D. Dissertation, University of Miami, Coral Gables, FL. 138 pp.

McEachran, J. D. and J. H. Finucane. 1979. (Abstract). Distribution, seasonality, and abundance of larval king and Spanish mackerels in the northwestern Gulf of Mexico. In Nakamura and Bullis (eds.), Proceedings: Colloquium on the Spanish and king mackerel resources of the Gulf of Mexico. Gulf States Marine Fisheries Commission, No. 4. p. 3-16.

Powell, D. 1975. Age, growth, reproduction in Florida stocks of Spanish mackerel, *Scomberomorus maculates*. Florida Marine Research Publication No. 5. 21 pp.

Schekter, R. C. 1971. Food habits of some larval and juvenile fishes from the Florida current near Miami, Florida. MS Thesis, University of Miami, Coral Gables. 85 pp.

Scholtz, A. and R. Fujita. 2001. Supplementary Report: Social and Economic implications of a Channel Island Marine Reserve Network. Environmental Defense. Oakland, CA.

Vondruska, J. and W. O. Antozzi. 1999. U.S. markets and trade in king mackerel and other large mackerel. NMFS, Fisheries Economics Office, 9721 Executive Center Drive, North, St. Petersburg, FL 33702-2432, SERO-ECON-99-08. April 13, 1999.

Wollam, M.B. 1970. Description and distribution of larvae and early juveniles of king mackerel, *Scomberomorus cavalla* (Cuvier), and Spanish mackerel, *S. maculatus* (Mitchill); (Pisces: Scombridae); in the Western North Atlantic. Fla. Dept. Nat. Res. Lab. Tech. Serv. 61. 35 pp.

12 APPENDICES

Appendix A. Community Dependence on Mackerel Fisheries

Jepson, et al (2006) conducted community profiles for the South Atlantic region. These community profiles provide a snapshot of the community and its involvement in fishing using 2001 as a base year. The profiles provide historical background about the community and its involvement in fisheries or fisheries related industries. The profiles provide information on community involvement in commercial and recreational fishing as evidenced through various indicators (federal commercial permits, state commercial licenses, federal charter permits, seafood landings, fish processors and wholesale fish houses recreational docks/marinas and recreational fishing tournaments). Demographic information on a community basis is also provided to the extent that the data was gathered in a Federal Census.

In general, the profiles do not provide fishery specific information other than the number of federal and state permits associated with each community where the federal and state permits are categorized by type. Because not all communities profiled are likely relevant to the actions under consideration in this document, the community profiles that discuss communities that are homeports for vessels with at least five federal commercial king mackerel, federal commercial Spanish mackerel, and federal charter/headboat permit for coastal pelagics combined have been included in this section. The last subsection under each state heading summarizes community engagement in that state based on several indicators that data was gathered for.

Note: The following information has been extracted from a community profile covering the entire South Atlantic Council's area of authority. As a result, some of the table numbers are not in numerical order.

Florida

The East coast of Florida landed over 37 million and over 32 million pounds of seafood in 2001 and 2002 respectively. The value of those landings was over 48 million dollars in 2001 and over 38 million dollars in 2002. Florida had one port, Key West, listed in the top 50 U.S. ports in terms of pounds landed and in terms of value of landings there were three ports for Florida: Key West, St. Petersburg and Ft. Myers. According to NMFS (2002) Florida recreational fishermen landed over 68 million pounds of finfish in 2001 and in 2002 that number dropped to just over 59 million pounds for the entire state. There were 93 processors in all of Florida for 2001 with a total of 2,654 employees and 284 wholesale dealers employing 2,485. In the years 2001 and 2002, Florida had approximately 2,136 and 1,934 registered vessels respectively. During those same years there were 5,502 boats registered in 2001 and in 2002 that number was 4,438.

Table 2.1 Number of Federal Permit by Type for Florida (Source: NMFS 2002)

Type of Permit	1998	1999	2000	2001
Total permitted vessels	3384	1949	2432	2311
Commercial King Mackerel	1359	1216	1559	1519
Commercial Spanish Mackerel	1540	1228	1479	1377
Commercial Spiny Lobster	574	457	532	498
Charter/Headboat for Coastal Pelagics	790	275	397	417
Charter/Headboat for Snapper Grouper	401	182	241	257
Snapper Grouper Class 1	83	564	676	641
Snapper Grouper Class 2	48	239	269	258
Swordfish	460	58	79	75
Shark	1039	212	251	242
Rock Shrimp	167	149	176	167

Florida has seen the number of permitted vessels decline over the past four years with a high of 3,384 vessels in 1998 and in 2001 that number dropped to 2311. The majority of those vessels held either of both king mackerel permits or Spanish mackerel permits. The next most commonly held permits were snapper grouper class1 and spiny lobster.

Community Profiles – Fernandina Beach, FL

Fernandina Beach is located in Nassau County, Florida, on the northernmost barrier island (Amelia Island) of the state's east coast. The island extends from the mouth of the St. Mary's River southward to Nassau Sound and is just over thirteen miles long and two miles wide (Jacob *et al.* 2002).

Fishing has had a long history in the community as immigrants in the 1700s were net fishermen seeking mullet, sheepshead, crabs, trout, turtles, drum, oysters and "pogies" (menhaden). Agriculture, forestry, fishing, and tourism were the most prominent industries in the Fernandina Beach area during the early 1900's. Shrimp fishing was developed in 1902 by a Sicilian immigrant living in Fernandina Beach who fished with a small diesel engine on his boat to pull a shrimp seine net across the ocean floor. Commercial shrimp fishing grew substantially when a New England fisherman, who was searching the Florida peninsula for blue fish, began harvesting large quantities of shrimp. Shrimp processing and shipment facilities were soon developed in Fernandina Beach. That fishing heritage has been preserved in Old Town Fernandina Beach, which has been designated a National Historic District. Today, Fernandina's harbor is filled with

commercial and charter fishing boats, shrimp boats and private vessels. Seafood restaurants contribute to the fishing village theme which continues to resonate throughout the community although tourism has become the primary source of economic revenue (Jacob *et al.* 2002).

Population

Table 5.1.2.1. Total Persons and Persons by Age category for Fernandina Beach, Florida 1970-2000. (Source U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Total Persons and Age Category	1970	1980	1990	2000
Total Persons	6955	7224	8765	10242
Persons Age 0-5	586	468	652	682
Persons Age 6-15	1594	1252	1121	1128
Persons Age 16-17	371	351	252	234
Persons Age 18-24	577	723	805	712
Persons Age 25-34	754	1076	1344	1063
Persons Age 35-44	831	786	1457	1565
Persons Age 45-54	755	816	903	1550
Persons Age 55-64	767	878	923	1337
Persons Age 65+	599	791	1308	1971

Housing Tenure

Table 5.1.2.2. Housing Tenure for Fernandina Beach, Florida 1990-2000. (Source: U.S. Census Bureau).

Percent Renter Occupied	1990	2000
	35.2	31.8
Percent Owner Occupied	**1990**	**2000**
	64.8	68.2

Residence in 1985 and 1995

Table 5.1.2.3. Residence in 1985 and 1995 for Fernandina Beach, Florida 1990-2000. (Source: U.S. Census Bureau).

Different House Same County	1990	2000
	1672	1776
Same House	**1990**	**2000**
	3630	4802

Employment/Unemployment

Table 5.1.2.4 Employment and Unemployment for Fernandina Beach, Florida 1990-2000. (Source: U.S. Census Bureau).

Persons 16 yrs and over	1990	2000
Percent in labor force	63.9	58.9
Percent unemployed	4.5	7.1

Race

Table 5.1.2.5. Race for Fernandina Beach, Florida 1970-2000. (Source U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Race	1970	1980	1990	2000
Black Persons	2136	2054	1975	1698
Latino Black Persons	13	61	0	10
Latino Persons	58	248	48	246
White Persons	4819	5158	6739	8434
Latino White Persons	45	187	48	168

Education

Table 5.1.2.6. Years of Education by Category for those 25 Years and Older for Fernandina Beach, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Education	1970	1980	1990	2000
25+ w/ 0-8 years education	1128	796	556	438
25+ w/ 9-11 years education	767	625	754	713
25+ w/ HS diploma	1159	1493	1869	2019
25+ w/ 13-15 years. education	301	707	1071	2140
25+ w/ College Degree	351	726	1371	3145
Drop outs	127	74	67	80

Income and Poverty

Table 5.1.2.7. Average Household Wage/Salary and Persons Below the Poverty Level for Fernandina Beach, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Wage or Salary	1970	1980	1990	2000
Average Household Wage/Salary Income (dollars)	$8499	$19526	$35352	$40893
Poverty Level				
Persons Below Poverty Level	1366	897	1211	1026
Age 65+ Below Poverty Level	214	146	189	158
Households with Public Assistance	145	251	215	97

Industry

Table 5.1.2.8. Employment by Industry for Fernandina Beach, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Industry	1970	1980	1990	2000
Agriculture, Fishing, Mining	79	90	71	25
Construction	169	58	305	341
Business Services	60	68	156	304
Communication/Utilities	63	73	59	161
Manufacturing	921	769	686	442
Financial, Insurance & Real Estate	74	199	220	295
Services	106	186	268	2112
Wholesale/Retail Trade	709	556	1389	1230
Transportation	448	537	916	248

Occupation

Table 5.1.2.9. Employment by Occupation for Fernandina Beach, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Occupation	1970	1980	1990	2000
Sales	95	197	426	-
Clerical	381	3630	440	-
Craft	319	385	491	-
Exec/Managerial	318	363	636	-
Farm/Fish/Forest	22	74	90	12
Household Services	114	63	35	-
Laborer/Handler	235	133	162	-
Operative/Transport	391	190	155	-
Service, except Household	517	601	773	-
Technical	15	108	189	-

Fishing Demographics

Table 5.1.3.1. Number of Federal Permit by Type for Fernandina Beach, Florida (Source: NMFS 2002)

Type of Permit	1998	1999	2000	2001
Total permitted vessels	14	7	9	13
Commercial King Mackerel	1	0	1	1
Commercial Spanish Mackerel	2	0	1	1
Commercial Spiny Lobster	0	0	0	0
Charter/Headboat for Coastal Pelagics	5	0	1	5
Charter/Headboat for Snapper Grouper	3	0	1	3
Snapper Grouper Class 1	1	0	0	0
Snapper Grouper Class 2	0	0	0	0
Swordfish	0	0	0	0
Shark	2	0	0	0
Rock Shrimp	4	7	8	8
Federal Dealers	1	1	1	1

Table 5.1.3.2. Employment in Fishing Related Industry for Fernandina Beach, Florida (Zip code Business Patterns, U.S. Census Bureau 1998)

Category	NAIC Code	Number Employed
Fishing	114100	3
Seafood Canning	311711	0
Seafood Processing	311712	0
Boat Building	336612	7
Fish and Seafoods	422460	0
Fish and Seafood Markets	445220	10
Marinas	713930	10
Total Fishing Employment		30

Community Profiles – Atlantic Beach, FL

St. Augustine has the distinction of being the oldest European city in the United States. First sited by the Spanish explorer Don Juan Ponce de Leon in 1513, it was not settled until 1565 by Don Pedro Menendez de Aviles, a Spanish admiral, in the name of King Phillip II.5 The town's

5 http://www.stjohns.k12.fl.us/history/history.html

boom did not occur until the 1880s with the arrival of Henry M. Flagler. His goal was to turn St. Augustine into a winter resort for wealthy Americans. It was this thinking that transformed the town. The construction of the railroad linked the city with much of the east coast. Flagler built three large hotels to help fulfill his dream of a tourist mecca. By the mid-1900s, St. Augustine's local economy was dominated by tourism.6

The commercial fishing industry began in the St. Augustine/Fernandina area around 1900 with the arrival of a Sicilian immigrant named Sallecito Salvador. He placed an engine on his boat that allowed him to pull a shrimp seine across the ocean floor in 1902, and in 1906, he began his company, S. Salvador & Sons. Salvador moved his business to St. Augustine in 1922, where it thrived until 1929. Shrimp catch levels soared from about 1934 to 1940.7 These stories illustrate the longstanding culture of fishing in the St. Augustine area and the importance it holds for many of the fishing families there. Commercial fishing still continues at the port, the oldest continuously active port in the United States. Boat building, tourism, and recreational activities are also important to St. Augustine's port.8

St. Augustine has seen a steady decline in its population since 1970. Both the percent of population in the labor force and unemployment have remained relatively stable over the years. Average wage and salary has grown steadily, while the number of person living below the poverty level has dropped. The number of people employed in farm, fish and forestry has also dropped significantly over the past three decades, with the most pronounced decline from 1990 to 2000. St. Augustine hs 28 vessels with federal permits and the majority of them have charter permits for either snapper grouper or coastal pelagics (Table 5.3.3.1). There is significant employment in fishing related business as there are over 370 people employed in boat building according to Table 5.3.3.2 and another 75 in the seafood processing sector.

Population

Table 5.3.2.1. Total Persons and Persons by Age category for St. Augustine, Florida 1970-2000. (Source U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Total Persons and Age Category	1970	1980	1990	2000
Total Persons	12352	11985	11692	11512
Persons Age 0-5	676	574	696	560
Persons Age 6-15	2550	1708	1304	1069
Persons Age 16-17	510	425	367	214
Persons Age 18-24	1242	1833	1720	1767
Persons Age 25-34	927	1418	1522	1181
Persons Age 35-44	1181	909	1404	1542
Persons Age 45-54	1300	1114	1163	1760
Persons Age 55-64	1540	1363	1098	1187
Persons Age 65+	2197	2529	2418	2232

6 http://www.ci.st-augustine.fl.us/visitors/history_fullprint.html
7 http://www.fl-seafood.com/water/places/fernidina.htm
8 http://dhr.dos.state.fl.us/maritime/ports/port.cfm?name=St_Augustine

Housing Tenure

Table 5.3.2.2. Housing Tenure for St. Augustine, Florida 1990-2000. (Source: U.S. Census Bureau).

Percent Renter Occupied	**1990**	**2000**
	37.9	40.3
Percent Owner Occupied	**1990**	**2000**
	62.1	59.7

Residence in 1985 and 1995

Table 5.3.2.3. Residence in 1985 and 1995 for St. Augustine, Florida 1990-2000. (Source: U.S. Census Bureau).

Different House Same County	**1990**	**2000**
	2239	2547
Same House	**1990**	**2000**
	5388	5121

Employment/Unemployment

Table 5.3.2.4 Employment and Unemployment for St. Augustine, Florida 1990-2000. (Source: U.S. Census Bureau).

Persons 16 yrs and over	**1990**	**2000**
Percent in labor force	57.3	61.9
Percent unemployed	5.6	5.4

Race

Table 5.3.2.5. Race for St. Augustine, Florida 1970-2000. (Source U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Race	**1970**	**1980**	**1990**	**2000**
Black Persons	2679	2527	2303	1,741
Latino Black Persons	0	45	30	6
Latino Persons	139	367	560	361
White Persons	9673	9383	9154	9,193
Latino White Persons	139	279	438	221

Education

Table 5.3.2.6. Years of Education by Category for those 25 Years and Older for St. Augustine, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Education	**1970**	**1980**	**1990**	**2000**
25+ w/ 0-8 years education	2293	1597	697	519
25+ w/ 9-11 years education	1291	1352	1152	1099
25+ w/ HS diploma	2193	2128	2037	2430
25+ w/ 13-15 years. education	615	1204	1528	2568
25+ w/ College Degree	753	1052	1789	3074
Drop outs	240	165	116	66

Income and Poverty

Table 5.3.2.7. Average Household Wage/Salary and Persons Below the Poverty Level for St. Augustine, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Wage or Salary	**1970**	**1980**	**1990**	**2000**
Average Household Wage/Salary Income (dollars)	$6958	$13757	$26572	$32358
Poverty Level				
Persons Below Poverty Level	2927	1876	1697	1664
Age 65+ Below Poverty Level	760	355	301	200
Households with Public Assistance	275	422	372	125

Industry

Table 5.3.2.8. Employment by Industry for St. Augustine, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Industry	**1970**	**1980**	**1990**	**2000**
Agriculture, Fishing, Mining	142	126	67	19
Construction	259	327	287	353
Business Services	111	127	253	226
Communication/Utilities	149	109	91	202
Manufacturing	522	441	437	423
Financial, Insurance & Real Estate	342	304	292	420
Services	227	193	249	2827
Wholesale/Retail Trade	1622	1237	2203	1941
Transportation	948	1123	1421	225

Occupation

Table 5.3.2.9. Employment by Occupation for St. Augustine, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Occupation	**1970**	**1980**	**1990**	**2000**
Sales	323	510	866	-
Clerical	726	6710	569	-
Craft	568	536	509	-
Exec/Managerial	481	631	536	-
Farm/Fish/Forest	86	141	105	43
Household Services	145	103	36	-
Laborer/Handler	231	220	149	-
Operative/Transport	232	256	175	-
Service, except Household	898	1125	1040	-
Technical	58	124	140	-

Fishing Demographics

Table 5.3.3.1 Number of Federal Permit by Type for St. Augustine, Florida (Source: NMFS 2002)

Type of Permit	1998	1999	2000	2001
Total permitted vessels	34	14	15	28
Commercial King Mackerel	9	8	8	7
Commercial Spanish Mackerel	10	8	8	8
Commercial Spiny Lobster	3	1	2	2
Charter/Headboat for Coastal Pelagics	1	4	5	19
Charter/Headboat for Snapper Grouper	18	4	5	18
Snapper Grouper Class 1	1	7	9	9
Snapper Grouper Class 2	3	3	2	2
Swordfish	2	0	0	0
Shark	3	0	0	0
Rock Shrimp	1	1	1	1
Federal Dealers				

Table 5.3.3.2. Employment in Fishing Related Industry for St. Augustine, Florida (Zip code Business Patterns, U.S. Census Bureau 1998)

Category	NAIC Code	Number Employed
Fishing	114100	0
Seafood Canning	311711	0
Seafood Processing	311712	75
Boat Building	336612	375
Fish and Seafoods	422460	3
Fish and Seafood Markets	445220	0
Marinas	713930	0
Total Fishing Employment		453

Community Profiles – St. Augustine, FL

St. Augustine has the distinction of being the oldest European city in the United States. First sited by the Spanish explorer Don Juan Ponce de Leon in 1513, it was not settled until 1565 by Don Pedro Menendez de Aviles, a Spanish admiral, in the name of King Phillip II.9 The town's boom did not occur until the 1880s with the arrival of Henry M. Flagler. His goal was to turn St. Augustine into a winter resort for wealthy Americans. It was this thinking that transformed the town. The construction of the railroad linked the city with much of the east coast. Flagler built three large hotels to help fulfill his dream of a tourist mecca. By the mid-1900s, St. Augustine's local economy was dominated by tourism.10

The commercial fishing industry began in the St. Augustine/Fernandina area around 1900 with the arrival of a Sicilian immigrant named Sallecito Salvador. He placed an engine on his boat that allowed him to pull a shrimp seine across the ocean floor in 1902, and in 1906, he began his company, S. Salvador & Sons. Salvador moved his business to St. Augustine in 1922, where it

9 http://www.stjohns.k12.fl.us/history/history.html

10 http://www.ci.st-augustine.fl.us/visitors/history_fullprint.html

thrived until 1929. Shrimp catch levels soared from about 1934 to 1940.11 These stories illustrate the longstanding culture of fishing in the St. Augustine area and the importance it holds for many of the fishing families there. Commercial fishing still continues at the port, the oldest continuously active port in the United States. Boat building, tourism, and recreational activities are also important to St. Augustine's port.12

St. Augustine has seen a steady decline in its population since 1970. Both the percent of population in the labor force and unemployment have remained relatively stable over the years. Average wage and salary has grown steadily, while the number of person living below the poverty level has dropped. The number of people employed in farm, fish and forestry has also dropped significantly over the past three decades, with the most pronounced decline from 1990 to 2000. St. Augustine hs 28 vessels with federal permits and the majority of them have charter permits for either snapper grouper or coastal pelagics (Table 5.3.3.1). There is significant employment in fishing related business as there are over 370 people employed in boat building according to Table 5.3.3.2 and another 75 in the seafood processing sector.

Population

Table 5.3.2.1. Total Persons and Persons by Age category for St. Augustine, Florida 1970-2000. (Source U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Total Persons and Age Category	1970	1980	1990	2000
Total Persons	12352	11985	11692	11512
Persons Age 0-5	676	574	696	560
Persons Age 6-15	2550	1708	1304	1069
Persons Age 16-17	510	425	367	214
Persons Age 18-24	1242	1833	1720	1767
Persons Age 25-34	927	1418	1522	1181
Persons Age 35-44	1181	909	1404	1542
Persons Age 45-54	1300	1114	1163	1760
Persons Age 55-64	1540	1363	1098	1187
Persons Age 65+	2197	2529	2418	2232

Housing Tenure

Table 5.3.2.2. Housing Tenure for St. Augustine, Florida 1990-2000. (Source: U.S. Census Bureau).

Percent Renter Occupied	1990	2000
	37.9	40.3
Percent Owner Occupied	**1990**	**2000**
	62.1	59.7

11 http://www.fl-seafood.com/water/places/fernidina.htm
12 http://dhr.dos.state.fl.us/maritime/ports/port.cfm?name=St_Augustine

Residence in 1985 and 1995

Table 5.3.2.3. Residence in 1985 and 1995 for St. Augustine, Florida 1990-2000. (Source: U.S. Census Bureau).

Different House Same County	**1990**	**2000**
	2239	2547
Same House	**1990**	**2000**
	5388	5121

Employment/Unemployment

Table 5.3.2.4 Employment and Unemployment for St. Augustine, Florida 1990-2000. (Source: U.S. Census Bureau).

Persons 16 yrs and over	**1990**	**2000**
Percent in labor force	57.3	61.9
Percent unemployed	5.6	5.4

Race

Table 5.3.2.5. Race for St. Augustine, Florida 1970-2000. (Source U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Race	**1970**	**1980**	**1990**	**2000**
Black Persons	2679	2527	2303	1,741
Latino Black Persons	0	45	30	6
Latino Persons	139	367	560	361
White Persons	9673	9383	9154	9,193
Latino White Persons	139	279	438	221

Education

Table 5.3.2.6. Years of Education by Category for those 25 Years and Older for St. Augustine, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Education	**1970**	**1980**	**1990**	**2000**
25+ w/ 0-8 years education	2293	1597	697	519
25+ w/ 9-11 years education	1291	1352	1152	1099
25+ w/ HS diploma	2193	2128	2037	2430
25+ w/ 13-15 years. education	615	1204	1528	2568
25+ w/ College Degree	753	1052	1789	3074
Drop outs	240	165	116	66

Income and Poverty

Table 5.3.2.7. Average Household Wage/Salary and Persons Below the Poverty Level for St. Augustine, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Wage or Salary	**1970**	**1980**	**1990**	**2000**
Average Household Wage/Salary Income (dollars)	$6958	$13757	$26572	$32358
Poverty Level				
Persons Below Poverty Level	2927	1876	1697	1664
Age 65+ Below Poverty Level	760	355	301	200
Households with Public Assistance	275	422	372	125

Industry

Table 5.3.2.8. Employment by Industry for St. Augustine, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Industry	**1970**	**1980**	**1990**	**2000**
Agriculture, Fishing, Mining	142	126	67	19
Construction	259	327	287	353
Business Services	111	127	253	226
Communication/Utilities	149	109	91	202
Manufacturing	522	441	437	423
Financial, Insurance & Real Estate	342	304	292	420
Services	227	193	249	2827
Wholesale/Retail Trade	1622	1237	2203	1941
Transportation	948	1123	1421	225

Occupation

Table 5.3.2.9. Employment by Occupation for St. Augustine, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Occupation	**1970**	**1980**	**1990**	**2000**
Sales	323	510	866	-
Clerical	726	6710	569	-
Craft	568	536	509	-
Exec/Managerial	481	631	536	-
Farm/Fish/Forest	86	141	105	43
Household Services	145	103	36	-
Laborer/Handler	231	220	149	-
Operative/Transport	232	256	175	-
Service, except Household	898	1125	1040	-
Technical	58	124	140	-

Fishing Demographics

Table 5.3.3.1 Number of Federal Permit by Type for St. Augustine, Florida (Source: NMFS 2002)

Type of Permit	1998	1999	2000	2001
Total permitted vessels	34	14	15	28
Commercial King Mackerel	9	8	8	7
Commercial Spanish Mackerel	10	8	8	8
Commercial Spiny Lobster	3	1	2	2
Charter/Headboat for Coastal Pelagics	1	4	5	19
Charter/Headboat for Snapper Grouper	18	4	5	18
Snapper Grouper Class 1	1	7	9	9
Snapper Grouper Class 2	3	3	2	2
Swordfish	2	0	0	0
Shark	3	0	0	0
Rock Shrimp	1	1	1	1
Federal Dealers				

Table 5.3.3.2. Employment in Fishing Related Industry for St. Augustine, Florida (Zip code Business Patterns, U.S. Census Bureau 1998)

Category	NAIC Code	Number Employed
Fishing	114100	0
Seafood Canning	311711	0
Seafood Processing	311712	75
Boat Building	336612	375
Fish and Seafoods	422460	3
Fish and Seafood Markets	445220	0
Marinas	713930	0
Total Fishing Employment		453

Community Profiles – Ponce Inlet, FL

The town of Ponce Inlet was originally referred to as the port of mosquitoes until the early twentieth century and is located at the southern boundary of Ponce de Leon Inlet. There is some controversy as to whom actually first stepped foot on Ponce Inlet; perhaps it was Ponce de Leon in 1513 that went ashore to high ground to search for a lost vessel. Others believe it may have been Frenchman Jean Ribault in 1563 (Davies, 1995).

Sport fishing became the mainstay for most residents of the Ponce Inlet area. The industry began to grow in the 1950s; however, many found that it was not very profitable. "In the winter the waters were so uncertain that sometimes the boats rocked at the dock for days while the tourist sought other recreation" (Davies, 1995:54). However, when charter fishermen in the Florida Keys heard about the good conditions in the summer months in northern Florida, they would work out of the "growing number of docks from Daytona to the Inlet" (Davies, 1995:55). The arrival of the head boat scared many of the original fishermen because they thought it would ruin the business. Eventually, the locals understood the economic opportunities associated with the head boat. By the 1960s, the sport fishing industry was quite successful for the fishermen of Ponce Inlet (Davies, 1995).

The population of Ponce Inlet has grown over the years, but most of that growth came within the last decade. The percent of population in the labor force has remained around 45 percent and unemployment has dropped to a low of 1.9 in 2000 from 4.5 in 1990. Average wage and salary have risen significantly over the years, but so has the number of persons living below the poverty level. The number of people who work in farm, fish and forestry has dropped to fewer than 3 people according to census measures of occupation and industry. However, Table 5.4.3.1 shows over 25 vessels with federal permits homeported in the community with the majority of those with charter permits for either snapper grouper or coastal pelagics. There is also some fishing related employment according to Table 5.4.3.2 which indicates over 180 people employed in the marinas sector.

Population

Table 5.4.2.1. Total Persons and Persons by Age category for Ponce Inlet, Florida 1970-2000. (Source U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Total Persons and Age Category	1970	1980	1990	2000
Total Persons	.	1003	1704	2514
Persons Age 0-5	.	20	55	37
Persons Age 6-15	.	86	70	184
Persons Age 16-17	.	44	24	52
Persons Age 18-24	.	88	104	83
Persons Age 25-34	.	121	185	131
Persons Age 35-44	.	99	250	266
Persons Age 45-54	.	120	190	450
Persons Age 55-64	.	250	350	542
Persons Age 65+	.	163	476	769

Housing Tenure

Table 5.4.2.2. Housing Tenure for Ponce Inle, Florida 1990-2000. (Source: U.S. Census Bureau).

Percent Renter Occupied	1990	2000
	14.6	9.6
Percent Owner Occupied	**1990**	**2000**
	85.4	90.4

Residence in 1985 and 1995

Table 5.4.2.3. Residence in 1985 and 1995 for Ponce Inle, Florida 1990-2000. (Source: U.S. Census Bureau).

Different House Same County	1990	2000
	274	402
Same House	**1990**	**2000**
	716	1250

Employment/Unemployment

Table 5.4.2.4 Employment and Unemployment for Ponce Inle, Florida 1990-2000. (Source: U.S. Census Bureau).

Persons 16 yrs and over	1990	2000
Percent in labor force	48.1	45.6
Percent unemployed	4.2	1.9

Race

Table 5.4.2.5. Race for Ponce Inlet, Florida 1970-2000. (Source U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Race	1970	1980	1990	2000
Black Persons	.	0	1	14
Latino Black Persons	.	0	1	1
Latino Persons	.	16	21	39
White Persons	.	982	1662	2420
Latino White Persons	.	7	20	36

Education

Table 5.4.2.6. Years of Education by Category for those 25 Years and Older for Ponce Inlet, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Education	1970	1980	1990	2000
25+ w/ 0-8 years education	.	52	40	50
25+ w/ 9-11 years education	.	85	145	118
25+ w/ HS diploma	.	265	463	557
25+ w/ 13-15 years. education	.	184	346	556
25+ w/ College Degree	.	167	326	877
Drop outs	.	7	2	0

Income and Poverty

Table 5.4.2.7. Average Household Wage/Salary and Persons Below the Poverty Level for Ponce Inlet, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Wage or Salary	1970	1980	1990	2000
Average Household Wage/Salary Income (dollars)	.	15923	33162	52112
Poverty Level				
Persons Below Poverty Level	.	66	116	128
Age 65+ Below Poverty Level	.	6	15	24
Households with Public Assistance	.	10	22	0

Industry

Table 5.4.2.8. Employment by Industry for Ponce Inlet, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Industry	1970	1980	1990	2000
Agriculture, Fishing, Mining	.	16	20	0
Construction	.	16	40	71
Business Services	.	26	23	67
Communication/Utilities	.	6	13	26
Manufacturing	.	28	57	99
Financial, Insurance & Real Estate	.	21	31	108
Services	.	49	83	518
Wholesale/Retail Trade	.	69	235	238
Transportation	.	107	211	55

Occupation

Table 5.4.2.9. Employment by Occupation for Ponce Inlet, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Occupation	1970	1980	1990	2000
Sales	.	74	131	-
Clerical	.	510	93	-
Craft	.	25	53	-
Exec/Managerial	.	70	121	-
Farm/Fish/Forest	.	16	20	2
Household Services	.	0	0	-
Laborer/Handler	.	0	26	-
Operative/Transport	.	2	19	-
Service, except Household	.	59	113	-
Technical	.	5	28	-

Fishing Demographics

Table 5.4.3.1. Number of Federal Permit by Type for Ponce Inlet, Florida (Source: NMFS 2002)

Type of Permit	1998	1999	2000	2001
Total permitted vessels	28	13	18	29
Commercial King Mackerel	11	7	10	10
Commercial Spanish Mackerel	12	6	12	11
Commercial Spiny Lobster	4	2	2	2
Charter/Headboat for Coastal Pelagics	21	8	13	25
Charter/Headboat for Snapper Grouper	22	8	12	22
Snapper Grouper Class 1	1	11	12	12
Snapper Grouper Class 2	0	0	0	0
Swordfish	4	0	1	1
Shark	11	5	7	7
Rock Shrimp	0	0	0	0
Federal Dealers	0	0	0	0

Table 5.4.3.2. Employment in Fishing Related Industry for Ponce Inlet, Florida (Zip code Business Patterns, U.S. Census Bureau 1998)

Category	NAIC Code	Number Employed
Fishing	114100	0
Seafood Canning	311711	0
Seafood Processing	311712	0
Boat Building	336612	6
Fish and Seafoods	422460	3
Fish and Seafood Markets	445220	0
Marinas	713930	181
Total Fishing Employment		190

Community Profiles – Merritt Island, FL

Merritt Island's population has grown slowly over the past three decades. The percent of the population in the labor force has dropped slightly over the past ten years, but unemployment has increased slightly. Average wage and salary have increased to over $40,000 for the year 2000, but the number of persons living under the poverty level has also grown considerably. As for most coastal communities the number of people working in the farm, fish and forestry sector of the economy has dropped significantly over the past decade but has shown a steady decline prior to the 2000 census. Merritt Island has only 8 vessels with federal permits and half of them have charter permits (Table 5.5.3.1). There is substantial employment represented in the fishing related sector of boat building with over 1100 persons employed in that sector according to Table 5.5.3.2.

Population

Table 5.5.2.1. Total Persons and Persons by Age category for Merritt Island, Florida 1970-2000. (Source U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Total Persons and Age Category	1970	1980	1990	2000
Total Persons	29233	30708	32886	36091
Persons Age 0-5	2822	1558	2346	2171
Persons Age 6-15	7486	4786	3929	4496
Persons Age 16-17	1095	1380	776	1158
Persons Age 18-24	2343	3448	2476	2191
Persons Age 25-34	4813	3804	5148	3335
Persons Age 35-44	4630	4126	4817	6038
Persons Age 45-54	3170	4308	4278	5182
Persons Age 55-64	1190	3802	4055	4323
Persons Age 65+	1068	3163	5061	7197

Housing Tenure

Table 5.5.2.2. Housing Tenure for Merritt Island, Florida 1990-2000. (Source: U.S. Census Bureau).

Percent Renter Occupied	1990	2000
	27.7	25.1
Percent Owner Occupied	**1990**	**2000**
	72.3	74.9

Residence in 1985 and 1995

Table 5.5.2.3. Residence in 1985 and 1995 for Merritt Island, Florida 1990-2000. (Source: U.S. Census Bureau).

Different House Same County	**1990**	**2000**
	7987	9158
Same House	**1990**	**2000**
	15381	18634

Employment/Unemployment

Table 5.5.2.4 Employment and Unemployment for Merritt Island, Florida 1990-2000. (Source: U.S. Census Bureau).

Persons 16 yrs and over	**1990**	**2000**
Percent in labor force	65.1	58.4
Percent unemployed	4.2	5.0

Race

Table 5.5.2.5. Race for Merritt Island, Florida 1970-2000. (Source U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Race	**1970**	**1980**	**1990**	**2000**
Black Persons	1586	1641	1711	1871
Latino Black Persons	32	3	41	47
Latino Persons	657	759	1067	1381
White Persons	27466	28602	30345	31565
Latino White Persons	520	698	887	995

Education

Table 5.5.2.6. Years of Education by Category for those 25 Years and Older for Merritt Island, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Education	**1970**	**1980**	**1990**	**2000**
25+ w/ 0-8 years education	1601	1878	877	796
25+ w/ 9-11 years education	2018	2282	2512	2858
25+ w/ HS diploma	5899	6905	6328	7416
25+ w/ 13-15 years. education	2936	4294	6082	7020
25+ w/ College Degree	2417	3844	5457	10002
Drop outs	223	191	98	90

Income and Poverty

Table 5.5.2.7. Average Household Wage/Salary and Persons Below the Poverty Level for Merritt Island, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Wage or Salary	1970	1980	1990	2000
Average Household Wage/Salary Income (dollars)	$12011	$20355	$39680	$43532
Poverty Level				
Persons Below Poverty Level	2176	2512	2331	3334
Age 65+ Below Poverty Level	257	260	287	478
Households with Public Assistance	187	409	636	354

Industry

Table 5.5.2.8. Employment by Industry for Merritt Island, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Industry	1970	1980	1990	2000
Agriculture, Fishing, Mining	180	165	298	79
Construction	620	1014	1021	1142
Business Services	983	1001	918	1358
Communication/Utilities	312	416	371	494
Manufacturing	3169	2424	2965	2051
Financial, Insurance & Real Estate	2864	2209	2760	987
Services	357	743	1113	7378
Wholesale/Retail Trade	3156	2188	5105	3750
Transportation	1737	3107	3627	632

Occupation

Table 5.5.2.9. Employment by Occupation for Merritt Island, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Occupation	1970	1980	1990	2000
Sales	677	1805	2231	-
Clerical	1877	22430	2342	-
Craft	1426	1636	1936	-
Exec/Managerial	975	1861	2597	-
Farm/Fish/Forest	89	152	232	79
Household Services	94	13	15	-
Laborer/Handler	220	455	405	-
Operative/Transport	608	449	431	-
Service, except Household	1118	1367	2003	-
Technical	692	793	862	-

Fishing Demographics

Table 5.5.3.1. Number of Federal Permit by Type for Merritt Island, Florida (Source: NMFS 2002)

Type of Permit	1998	1999	2000	2001
Total Permitted Vessels	7	4	7	8
Commercial King Mackerel	3	3	6	5
Commercial Spanish Mackerel	4	3	2	0
Commercial Spiny Lobster	2	0	0	0
Charter/Headboat for Coastal Pelagics	1	0	1	4
Charter/Headboat for Snapper Grouper	0	0	1	4
Snapper Grouper Class 1	0	0	2	2
Snapper Grouper Class 2	0	0	0	0
Swordfish	2	0	0	0
Shark	4	1	1	0
Rock Shrimp	1	0	0	0
Federal Dealers	2	1	1	1

Table 5.5.3.2. Employment in Fishing Related Industry for Merritt Island, Florida (Zip code Business Patterns, U.S. Census Bureau 1998)

Category	NAIC Code	Number Employed
Fishing	114100	3
Seafood Canning	311711	0
Seafood Processing	311712	0
Boat Building	336612	1125
Fish and Seafoods	422460	18
Fish and Seafood Markets	445220	7
Marinas	713930	23
Total Fishing Employment		1176

Community Profiles – Cape Canaveral, FL

Cape Canaveral received its name from the Spanish explorers who found it in the early 1500s. The word "Cape" was used to describe the land formation, and the word "Canaveral" comes from the Spanish word for "canebreak." There is much debate over the exact translation and meaning of the name. A traveling exhibition for the Smithsonian Institute translates Cape Canaveral as "Place of the Cane Bearers," so named by Spanish explorer Francisco Gordillo after he was shot by an Ais Indian arrow made of cane. Others believe it should be translated as "Point of Reeds" or "Point of Canes" because the Spanish mistook some of the indigenous plants for sugar cane. Whatever the exact translation of the name may be, all agree that it is of Spanish origin.13

Even before the area of Cape Canaveral was settled, it was an important landmark for sailors. Once sighted, they would turn northeastward for the journey back to Europe. Douglas D. Dummitt arrived in the area in the 1820s, establishing Dummitt Grove on Merritt Island. He used the Indian River to ship his oranges northward, beginning in 1828. However, the actual

13 http://www.spaceline.org/capehistory/1a.html

geographic area known as Cape Canaveral was not settled until the 1840s. Cut off from the mainland, this small community remained self-reliant until the late 1800s.14

The city of Cape Canaveral really began to expand in the early 1920s when a group of retired Orlando journalists were vacationing in the area and appraising its value. They invested over $150,000 in the surrounding beach areas, calling it *Journalista*, the area today known as *Avon-by-the-Sea*. Instead of the area becoming solely a beach resort for wealthy inland residents and northerners, many fishermen moved into the area as well.15 However, with the establishment and expansion of the space program in the United States in the late 1950s and early 1960s, Cape Canaveral, Titusville, Merritt Island, and the surrounding communities truly began to expand.

Today, the residents of Cape Canaveral and the rest of Brevard County rely on the surrounding waters. Port Canaveral, constructed in the 1950s, is the second busiest cruise port in the world and home to many charter fishing companies in the area.16 The more than three dozen charter fishing boats offer half-day, three-quarter-day, full-day, and gulf stream trips for dolphin, tuna, king and Spanish mackerel, wahoo, redfish, tarpon, snook, snapper, grouper, and many others. Both light tackle flats fishing on the Indian and Banana Rivers and Mosquito Lagoon as well as deep sea fishing are available. Most of the boat captains are second or third generation fishermen. The history of fishing in Brevard County dates back more than 100 years.

Cape Canaveral's population has grown steadily over the years while the percent of the population in the labor force has dropped. Unemployment has also dropped but remains above 5 percent. Average wage and salary has grown while the number of persons living below the poverty level has dropped from a high in 1990 of 1282 to 1035 in 2000. The number of persons working in the fish, farm and forestry sector has dropped significantly to only 17 persons in 2000 for both occupation and industry. Cape Canaveral has 15 vessels with federal permits homeported there (Table 5.6.3.1) with a large portion of the employment in fishing related business in marinas with 125 according to Table 5.6.3.2. with 35 in boat building and 17 in fish and seafood.

14 http://www.spaceline.org/capehistory/1a.html
15 http://fcn.state.fl.us/cape/LocalArea.html
16 http://www.portcanaveral.org/business

Population

Table 5.6.2.1. Total Persons and Persons by Age category for Cape Canaveral, Florida 1970-2000. (Source U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Total Persons and Age Category	1970	1980	1990	2000
Total Persons	4258	5733	8014	8954
Persons Age 0-5	352	251	466	308
Persons Age 6-15	618	444	540	509
Persons Age 16-17	81	100	100	163
Persons Age 18-24	838	1165	789	589
Persons Age 25-34	855	1073	1870	1155
Persons Age 35-44	664	639	1239	1504
Persons Age 45-54	435	552	850	1416
Persons Age 55-64	221	734	867	1138
Persons Age 65+	132	721	1293	2172

Housing Tenure

Table 5.6.2.2. Housing Tenure for Cape Canaveral, Florida 1990-2000. (Source: U.S. Census Bureau).

Percent Renter Occupied	1990	2000
	58.1	50.4
Percent Owner Occupied	**1990**	**2000**
	41.9	49.6

Residence in 1985 and 1995

Table 5.6.2.3. Residence in 1985 and 1995 for Cape Canaveral, Florida 1990-2000. (Source: U.S. Census Bureau).

Different House Same County	1990	2000
	2371	2812
Same House	**1990**	**2000**
	2117	3196

Employment/Unemployment

Table 5.6.2.4 Employment and Unemployment for Cape Canaveral, Florida 1990-2000. (Source: U.S. Census Bureau).

Persons 16 yrs and over	1990	2000
Percent in labor force	70.2	59.6
Percent unemployed	6.8	5.3

Race

Table 5.6.2.5. Race for Cape Canaveral, Florida 1970-2000. (Source U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Race	1970	1980	1990	2000
Black Persons	0	182	277	119
Latino Black Persons	0	0	40	7
Latino Persons	95	159	374	307
White Persons	4242	5410	7545	8,114
Latino White Persons	95	121	300	245

Education

Table 5.6.2.6. Years of Education by Category for those 25 Years and Older for Cape Canaveral, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Education	1970	1980	1990	2000
25+ w/ 0-8 years education	209	280	213	179
25+ w/ 9-11 years education	306	419	814	849
25+ w/ HS diploma	904	1461	1939	2315
25+ w/ 13-15 years. education	458	863	1368	2147
25+ w/ College Degree	430	696	1311	2585
Drop outs	49	58	36	13

Income and Poverty

Table 5.6.2.7. Average Household Wage/Salary and Persons Below the Poverty Level for Cape Canaveral, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Wage or Salary	1970	1980	1990	2000
Average Household Wage/Salary Income (dollars)	$9357	$14616	$27764	$30858
Poverty Level				
Persons Below Poverty Level	332	890	1282	1035
Age 65+ Below Poverty Level	40	52	74	155
Households with Public Assistance	43	115	204	147

Industry

Table 5.6.2.8. Employment by Industry for Cape Canaveral, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Industry	1970	1980	1990	2000
Agriculture, Fishing, Mining	20	32	68	17
Construction	83	276	319	398
Business Services	263	146	309	323
Communication/Utilities	77	89	32	132
Manufacturing	739	584	864	462
Financial, Insurance & Real Estate	722	501	799	283
Services	86	166	201	1722
Wholesale/Retail Trade	656	360	1438	1191
Transportation	327	621	1060	270

Occupation

Table 5.6.2.9. Employment by Occupation for Cape Canaveral, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Occupation	1970	1980	1990	2000
Sales	86	240	638	-
Clerical	492	3840	583	-
Craft	242	410	492	-
Exec/Managerial	175	353	488	-
Farm/Fish/Forest	0	23	123	17
Household Services	0	10	18	-
Laborer/Handler	30	107	143	-
Operative/Transport	119	138	199	-
Service, except Household	216	469	754	-
Technical	137	179	238	-

Fishing Demographics

Table 5.6.3.1. Number of Federal Permit by Type for Cape Canaveral, Florida (Source: NMFS 2002)

Type of Permit	1998	1999	2000	2001
Total permitted vessels	19	6	10	15
Commercial King Mackerel	5	1	1	3
Commercial Spanish Mackerel	8	4	7	8
Commercial Spiny Lobster	1	1	2	3
Charter/Headboat for Coastal Pelagics	2	0	0	3
Charter/Headboat for Snapper Grouper	2	0	0	3
Snapper Grouper Class 1	0	0	1	1
Snapper Grouper Class 2	1	0	0	2
Swordfish	3	0	0	1
Shark	9	1	3	3
Rock Shrimp	10	3	4	4
Federal Dealers	5	2	2	3

Table 5.6.3.2. Employment in Fishing Related Industry for Cape Canaveral, Florida (Zip code Business Patterns, U.S. Census Bureau 1998)

Category	NAIC Code	Number Employed
Fishing	114100	0
Seafood Canning	311711	0
Seafood Processing	311712	0
Boat Building	336612	35
Fish and Seafoods	422460	17
Fish and Seafood Markets	445220	0
Marinas	713930	125
Total Fishing Employment		177

Community Profiles – Sebastian, FL

Sebastian and Vero Beach are two of the five districts that comprise Indian River County. Both communities were first settled in the 1880s. Communication with the rest of the country and even other counties was difficult. Therefore, settlers had to hunt, trap, and fish for everything.

The railroad was completed in time for the Spanish American War, bringing troops to Florida (Newman, 1953). The arrival of the railroad also increased the commercial fishing sector of Sebastian and Vero Beach. Icehouses developed to pack and store the fish around 1900, and the trains exported the products north. The original fish house of one of the very first commercial fishing families still operates today on Indian River Drive in Sebastian.17

Today, recreational fishing, along with commercial fishing, is an important part of the Indian River County culture. The Indian River Lagoon is home to more than 700 species of fresh and saltwater fish.18 Saltwater anglers can fish the Sebastian Inlet and the Sebastian River for snook and red drum in the 20 to 30 pound class. Grouper, snapper, flounder, sheepshead, permit, whiting, blues, and shark can be caught off the Sebastian Inlet pier.19 Deep sea fishing charters also leave from Sebastian and Vero Beach, offering bottom fishing and blue water trolling for dolphin, sailfish, wahoo, grouper, and cobia.

Sebastian has seen moderate population growth since 1990 to 2000 after a large increase from 1980 to 1990. The percent of the population in the labor force has remained relatively stable while unemployment has dropped from 5.7 percent in 1990 to 3.2 in 2000. Average wage and salary have grown steadily over the past few decades, but the number of persons who live under the poverty level has increased dramatically. The number of persons working in the farm, fish and forestry sectors for occupation and industry has fluctuated since 1980, but has dropped in the most recent census. There are 71 commercial vessels with federal permits according to Table 5.7.3.1 and most of those have coastal pelagic permits. Only 12 of those vessels have charter permits. There is not much employment reported in the fishing related sectors of Table 5.7.3.2 with only15 in the marinas sector, 9 in fish and seafood and 3 in fishing.

Population

Table 5.7.2.1. Total Persons and Persons by Age category for Sebastian, Florida 1970-2000. (Source U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Total Persons and Age Category	1970	1980	1990	2000
Total Persons	.	2831	10158	16450
Persons Age 0-5	.	144	762	909
Persons Age 6-15	.	346	1201	1990
Persons Age 16-17	.	66	138	427
Persons Age 18-24	.	208	499	855
Persons Age 25-34	.	324	1475	1279
Persons Age 35-44	.	226	1267	2507
Persons Age 45-54	.	230	928	2145
Persons Age 55-64	.	587	1323	1848
Persons Age 65+	.	682	2565	4490

17 http://www.sebastian.fl.us/chamber
18 http://www.tcrweb.com/einrcir1.html
19 http://sebastian.fl.us/chamber/recreation.htm

Housing Tenure

Table 5.7.2.2. Housing Tenure for Sebastian, Florida 1990-2000. (Source: U.S. Census Bureau).

Percent Renter Occupied	**1990**	**2000**
	19.2	12.8
Percent Owner Occupied	**1990**	**2000**
	80.8	87.2

Residence in 1985 and 1995

Table 5.7.2.3. Residence in 1985 and 1995 for Sebastian, Florida 1990-2000. (Source: U.S. Census Bureau).

Different House Same County	**1990**	**2000**
	1923	2735
Same House	**1990**	**2000**
	3066	7761

Employment/Unemployment

Table 5.7.2.4 Employment and Unemployment for Sebastian, Florida 1990-2000. (Source: U.S. Census Bureau).

Persons 16 yrs and over	**1990**	**2000**
Percent in labor force	51.3	52.0
Percent unemployed	5.7	3.2

Race

Table 5.7.2.5. Race for Sebastian, Florida 1970-2000. (Source U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Race	**1970**	**1980**	**1990**	**2000**
Black Persons	.	0	51	503
Latino Black Persons	.	0	0	12
Latino Persons	.	48	90	625
White Persons	.	2808	9856	14748
Latino White Persons	.	27	51	407

Education

Table 5.7.2.6. Years of Education by Category for those 25 Years and Older for Sebastian, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Education	**1970**	**1980**	**1990**	**2000**
25+ w/ 0-8 years education	.	347	532	401
25+ w/ 9-11 years education	.	413	1473	1986
25+ w/ HS diploma	.	835	2894	4859
25+ w/ 13-15 years. education	.	320	1389	3804
25+ w/ College Degree	.	134	749	2478
Drop outs	.	37	85	52

Income and Poverty

Table5.7.2.7. Average Household Wage/Salary and Persons Below the Poverty Level for Sebastian, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Wage or Salary	**1970**	**1980**	**1990**	**2000**
Average Household Wage/Salary Income (dollars)	.	$13218	$28122	$39327
Poverty Level				
Persons Below Poverty Level	.	290	684	1025
Age 65+ Below Poverty Level	.	48	203	223
Households with Public Assistance	.	65	150	126

Industry

Table 5.7.2.8. Employment by Industry for Sebastian, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Industry	**1970**	**1980**	**1990**	**2000**
Agriculture, Fishing, Mining	.	89	149	82
Construction	.	130	567	602
Business Services	.	34	184	245
Communication/Utilities	.	42	71	222
Manufacturing	.	130	326	408
Financial, Insurance & Real Estate	.	111	264	558
Services	.	77	306	3615
Wholesale/Retail Trade	.	152	1221	1833
Transportation	.	237	1048	171

Occupation

Table 5.7.2.9. Employment by Occupation for Sebastian, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Occupation	**1970**	**1980**	**1990**	**2000**
Sales	.	138	547	-
Clerical	.	1560	620	-
Craft	.	197	591	-
Exec/Managerial	.	76	429	-
Farm/Fish/Forest	.	70	139	50
Household Services	.	2	35	-
Laborer/Handler	.	31	193	-
Operative/Transport	.	94	203	-
Service, except Household	.	114	541	-
Technical	.	12	172	-

Fishing Demographics

Table 5.7.3.1. Number of Federal Permit by Type for Sebastian, Florida (Source: NMFS 2002)

Type of Permit	1998	1999	2000	2001
Total permitted vessels	69	60	74	71
Commercial King Mackerel	51	50	62	61
Commercial Spanish Mackerel	52	46	56	47
Commercial Spiny Lobster	6	2	7	6
Charter/Headboat for Coastal Pelagics	6	5	7	12
Charter/Headboat for Snapper Grouper	5	5	8	12
Snapper Grouper Class 1	1	11	13	15
Snapper Grouper Class 2	2	8	7	6
Swordfish	6	0	1	2
Shark	23	5	6	6
Rock Shrimp	0	1	0	0
Federal Dealers	1	1	1	2

Table 5.7.3.2. Employment in Fishing Related Industry for Sebastian, Florida (Zip code Business Patterns, U.S. Census Bureau 1998)

Category	NAIC Code	Number Employed
Fishing	114100	3
Seafood Canning	311711	0
Seafood Processing	311712	0
Boat Building	336612	0
Fish and Seafoods	422460	9
Fish and Seafood Markets	445220	0
Marinas	713930	15
Total Fishing Employment		27

Community Profiles – Ft. Pierce, FL

The Spanish built Fort Santa Lucia on the Jupiter Inlet in 1565 from which the county now draws its name—St. Lucie County.20 Permanent US inhabitance of Ft. Pierce dates back to the Seminole Indian War. US Army Lt. Col. Benjamin Kendrick Pierce, for whom the town is named, built a fort in 1837 to use as the army's headquarters. The war ended in the early 1840s, making way for settlement and development: "Water transportation, fishing and canning fish were key to the area's early economy."21 The arrival of Henry Flagler's railroad in the early 1900s opened Ft. Pierce's economy to the rest of the east coast. Ft. Pierce beach was used as a naval base during World War II.22

The culture of fishing has been in the area since its inception. Anecdotes passed down from one generation to the next of Ft. Pierce residents describe the abundance of fish in the area in the late 1800s and early 1900s. One such story, told by Newman (1953) in her book, Early Life Along the Beautiful Indian River, tells of a man who bound his shirt at the sleeves and waist and cut a plunging neckline. He would then stand in the water until the shirt was full of fish and then

20 www.rootsweb.com/~flstluci/slchistory.htm
21 http://plato.stlucie.k12.fl.us/html/ft._pierce.html
22 www.cityoffortpierce.com/fp000.html

empty it out into a bucket on the shore. In the late 1800s, a man from the nearby town of Titusville helped to create the commercial fishing sector in Ft. Pierce. He would bring the fish to Titusville for shipping to the rest of the east coast. The first icehouse for packaging fish was built in 1900 (Newman, 1953).

Recreational fishing has also become a popular pastime in Ft. Pierce and the rest of St. Lucie County. This is due in large part to the fleet of Spanish galleons that sunk off the St. Lucie and Martin Counties coastline. These artificial reefs have created excellent fishing and diving spots for locals and tourists. The reefs attract spiny lobsters, marlin, snook, flounder, and grouper.23 Some of the more popular fish in the St. Lucie River include channel bass, snook, ladyfish, jack crevalle, and trout. Black bass is another famous catch in the area.24 Most charter fishing boats in the area offer half, three-quarter, and full-day trips for dolphin, sailfish, wahoo, amberjack, tuna, kingfish, snapper, and grouper.

Fort Pierce has seen moderate population growth over the past three decades while the percent of the population in the labor force has remained around 55 percent while unemployment has dropped from 12.4 percent in 1990 to 8.8 percent in 2000. Average wage and salary has grown slowly over the past ten years while the number of persons living under the poverty level has risen significantly. The number of people working in farm, fish and forestry has remained relatively high for both occupation and industry over the years with both categories having over 1000 persons in each. There are over 100 vessels with federal permits homeported in Ft. Pierce and most of those have coastal pelagic permits (Table 5.8.3.1). There are over 260 persons employed in the boat building sector of fishing related employment according to Table 5.8.3.2.

Population

Table 5.8.2.1. Total Persons and Persons by Age category for Fort Pierce, Florida 1970-2000. (Source U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Total Persons and Age Category	1970	1980	1990	2000
Total Persons	29728	33802	36830	37489
Persons Age 0-5	2825	2672	3770	3319
Persons Age 6-15	6204	5161	5001	5685
Persons Age 16-17	1153	1227	950	961
Persons Age 18-24	3013	4263	3203	3912
Persons Age 25-34	3232	4507	5372	4627
Persons Age 35-44	3038	3110	4245	5004
Persons Age 45-54	3261	3149	3322	4135
Persons Age 55-64	2810	3691	3586	3172
Persons Age 65+	3633	5471	7381	6674

23 www.flausa.com/destinations/location.php/location=ci-fpi
24 http://www.visitstluciefla.com/marinas.html

Housing Tenure

Table 5.8.2.2. Housing Tenure for Fort Pierce, Florida 1990-2000. (Source: U.S. Census Bureau).

Percent Renter Occupied	**1990**	**2000**
	46.7	47.0
Percent Owner Occupied	**1990**	**2000**
	53.3	53.0

Residence in 1985 and 1995

Table 5.8.2.3. Residence in 1985 and 1995 for Fort Pierce, Florida 1990-2000. (Source: U.S. Census Bureau).

Different House Same County	**1990**	**2000**
	10927	10892
Same House	**1990**	**2000**
	15288	16134

Employment/Unemployment

Table 5.8.2.4 Employment and Unemployment for Fort Pierce, Florida 1990-2000. (Source: U.S. Census Bureau).

Persons 16 yrs and over	**1990**	**2000**
Percent in labor force	55.0	55.1
Percent unemployed	12.4	8.8

Race

Table5.8.2.5. Race for Fort Pierce, Florida 1970-2000. (Source U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Race	**1970**	**1980**	**1990**	**2000**
Black Persons	14422	14600	15666	15109
Latino Black Persons	17	63	197	217
Latino Persons	37	736	2168	5629
White Persons	15289	18978	19807	15516
Latino White Persons	20	622	851	3069

Education

Table 5.8.2.6. Years of Education by Category for those 25 Years and Older for Fort Pierce, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Education	**1970**	**1980**	**1990**	**2000**
25+ w/ 0-8 years education	5802	5688	4386	4737
25+ w/ 9-11 years education	3515	3786	5929	7004
25+ w/ HS diploma	3872	5936	6091	6839
25+ w/ 13-15 years. education	1585	2710	3590	5549
25+ w/ College Degree	1200	1808	2691	4229
Drop outs	696	753	612	1025

Income and Poverty

Table 5.8.2.7. Average Household Wage/Salary and Persons Below the Poverty Level for Fort Pierce, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Wage or Salary	**1970**	**1980**	**1990**	**2000**
Average Household Wage/Salary Income (dollars)	$6273	$13564	$23595	$25121
Poverty Level				
Persons Below Poverty Level	10006	9135	10591	11471
Age 65+ Below Poverty Level	1337	1129	1145	1168
Households with Public Assistance	857	1503	1660	863

Industry

Table 5.8.2.8. Employment by Industry for Fort Pierce, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Industry	**1970**	**1980**	**1990**	**2000**
Agriculture, Fishing, Mining	2460	1838	1324	1119
Construction	885	1258	1100	1803
Business Services	260	467	521	388
Communication/Utilities	315	693	463	365
Manufacturing	846	1149	962	1139
Financial, Insurance & Real Estate	342	485	593	625
Services	440	693	661	6453
Wholesale/Retail Trade	3110	1916	4277	3822
Transportation	2405	3005	3387	433

Occupation

Table 5.8.2.9. Employment by Occupation for Fort Pierce, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Occupation	**1970**	**1980**	**1990**	**2000**
Sales	749	1504	1658	-
Clerical	1267	15320	1869	-
Craft	1244	1786	1407	-
Exec/Managerial	891	1104	1072	-
Farm/Fish/Forest	2095	1568	1313	1289
Household Services	368	176	108	-
Laborer/Handler	884	870	805	-
Operative/Transport	876	746	578	-
Service, except Household	1708	1895	2552	-
Technical	54	155	251	-

Fishing Demographics

Table 5.8.3.1. Number of Federal Permit by Type for Fort Pierce, Florida (Source: NMFS 2002)

Type of Permit	1998	1999	2000	2001
Total permitted vessels	88	64	81	100
Commercial King Mackerel	54	52	62	71
Commercial Spanish Mackerel	63	59	72	73
Commercial Spiny Lobster	10	8	9	11
Charter/Headboat for Coastal Pelagics	1	0	0	7
Charter/Headboat for Snapper Grouper	1	0	0	6
Snapper Grouper Class 1	5	13	17	18
Snapper Grouper Class 2	2	6	7	7
Swordfish	18	8	8	11
Shark	46	18	18	24
Rock Shrimp	0	0	0	0
Federal Dealers	4	3	4	2

Table 5.8.3.2. Employment in Fishing Related Industry for Fort Pierce, Florida (Zip code Business Patterns, U.S. Census Bureau 1998)

Category	NAIC Code	Number Employed
Fishing	114100	12
Seafood Canning	311711	0
Seafood Processing	311712	0
Boat Building	336612	265
Fish and Seafoods	422460	7
Fish and Seafood Markets	445220	3
Marinas	713930	21
Total Fishing Employment		308

Community Profiles – Jupiter, FL

The name Jupiter derives from the original inhabitants of the area, the Jeaga Indians. The Native Americans called themselves Jobe, so the Spanish explorers called the inlet the Jobe River. The English settlers who arrived in the 1760s thought the name was Jove, a mythological god also known as Jupiter.25 Jupiter first became famous when Jonathan Dickinson's boat the "Reformation" was shipwrecked along the coast in 1696. However, it was not until 1821 that real development of the area began. Eusebio Gomez was given 12,000 acres in a land grant in 1815. In 1821, he "started the real estate business on Jupiter Island by selling 8,000 of his acres for $8,000" (Reed, 1955:12).

Sport fishermen have been present in the Jupiter Island region since the 1800s. Stanley (1988) lists numerous species of fish that were and still are popular in Jupiter Island. Snook, tarpon, mangrove snapper, and jack crevalle were some of the most desired fish. Later, with the advancement of boat technology, species in the Gulf Stream, such as sailfish, dolphin, wahoo, and King mackerel became popular catches of the local fishermen.

25 http://www.jupiterfl.org/history.htm

Two events of the late 1920s decreased some of the fishing in the area. A hurricane struck Lake Okeechobee in 1928. The devastation it caused led to the Okeechobee Flood Control Project. The project created high levels of silt and mud around Jupiter Island, causing a severe decline in the snapper and grouper populations, "two of the most sought after food fish" (Stanley, 1988:20). However, this did not diminish the appeal of sport fishing. J.D. Bassett moved from Virginia to Palm Beach in 1925. He was one of the most avid fishermen in Jupiter. "He made the trip to and from Palm Beach so often that the captain of his boat said, 'Mr. Bassett, you come up here almost every day. Why don't you just move up here'" (Stanley, 1988:28). Bassett was not the only person drawn to Jupiter's waters.

Many of the fishermen in Jupiter practice catch and release. "In February 1986, three Palm Beach-based sportfishing boats caught and released 72 sailfish in a span of five hours five miles east of the Jupiter Island Beach Club" (Stanley, 1988:21). Many of those who enjoy fishing Jupiter Island today are said to be descended from those families that have been fishing the area for decades.

Jupiter has seen fairly steady population growth with its 2000 population reaching 39,314. The labor force has remained fairly constant with just over 60 percent of the population participating. Unemployment has also remained low at 3.3 percent for both 1990 and 2000. Average wage and salary have risen to a high of $54, 945 and the number of persons living under the poverty level has also climbed to a high of 1885 in 2000. The number of people working in farm, fish and forestry occupations and industry reached a peak in 1990 but has since declined dramatically in 2000. Jupiter has 77 vessels homeported with federal permits as shown in Table 5.9.3.1 and most of them have coastal pelagic permits with 20 holding snapper grouper class 1 permits. There is some fishing related employment according to Table 5.9.3.2 with 40 persons employed in the marinas sector and 16 in fish and seafood.

Population

Table 5.9.2.1. Total Persons and Persons by Age category for Jupiter, Florida 1970-2000. (Source U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Total Persons and Age Category	1970	1980	1990	2000
Total Persons	.	9868	24986	39314
Persons Age 0-5	.	655	1847	2619
Persons Age 6-15	.	1233	2568	4579
Persons Age 16-17	.	284	478	908
Persons Age 18-24	.	1160	1677	2018
Persons Age 25-34	.	1849	4609	4540
Persons Age 35-44	.	1115	4396	6868
Persons Age 45-54	.	902	2328	5939
Persons Age 55-64	.	994	2763	4469
Persons Age 65+	.	1533	4320	7374

Housing Tenure

Table 5.9.2.2. Housing Tenure for Jupiter, Florida 1990-2000. (Source: U.S. Census Bureau).

Percent Renter Occupied	**1990**	**2000**
	28.2	19.2
Percent Owner Occupied	**1990**	**2000**
	71.8	80.8

Residence in 1985 and 1995

Table 5.9.2.3. Residence in 1985 and 1995 for Jupiter, Florida 1990-2000. (Source: U.S. Census Bureau).

Different House Same County	**1990**	**2000**
	7270	8997
Same House	**1990**	**2000**
	7191	18257

Employment/Unemployment

Table 5.9.2.4 Employment and Unemployment for Jupiter, Florida 1990-2000. (Source: U.S. Census Bureau).

Persons 16 yrs and over	**1990**	**2000**
Percent in labor force	66.0	61.7
Percent unemployed	3.3	3.3

Race

Table 5.9.2.5. Race for Jupiter, Florida 1970-2000. (Source U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Race	**1970**	**1980**	**1990**	**2000**
Black Persons	.	90	242	461
Latino Black Persons	.	2	24	19
Latino Persons	.	128	668	2881
White Persons	.	9698	24550	35152
Latino White Persons	.	114	617	2155

Education

Table 5.9.2.6. Years of Education by Category for those 25 Years and Older for Jupiter, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Education	**1970**	**1980**	**1990**	**2000**
25+ w/ 0-8 years education	.	517	494	1153
25+ w/ 9-11 years education	.	1014	1826	2003
25+ w/ HS diploma	.	2712	5498	7725
25+ w/ 13-15 years. education	.	1164	4083	7407
25+ w/ College Degree	.	986	5020	13165
Drop outs	.	88	72	133

Income and Poverty

Table 5.9.2.7. Average Household Wage/Salary and Persons Below the Poverty Level for Jupiter, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Wage or Salary	1970	1980	1990	2000
Average Household Wage/Salary Income (dollars)	.	$19706	$45280	$54945
Poverty Level				
Persons Below Poverty Level	.	506	1450	1885
Age 65+ Below Poverty Level	.	69	259	340
Households with Public Assistance	.	111	194	109

Industry

Table 5.9.2.8. Employment by Industry for Jupiter, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Industry	1970	1980	1990	2000
Agriculture, Fishing, Mining	.	96	286	45
Construction	.	727	1095	1386
Business Services	.	186	705	1686
Communication/Utilities	.	196	494	896
Manufacturing	.	866	1733	1389
Financial, Insurance & Real Estate	.	782	1471	1738
Services	.	542	1487	9725
Wholesale/Retail Trade	.	760	4321	4334
Transportation	.	882	2962	594

Occupation

Table 5.9.2.9. Employment by Occupation for Jupiter, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Occupation	1970	1980	1990	2000
Sales	.	536	2299	-
Clerical	.	8230	1758	-
Craft	.	919	1303	-
Exec/Managerial	.	461	1898	-
Farm/Fish/Forest	.	118	226	58
Household Services	.	6	46	-
Laborer/Handler	.	201	207	-
Operative/Transport	.	184	289	-
Service, except Household	.	579	1764	-
Technical	.	96	535	-

Fishing Demographics

Table 5.9.3.1. Number of Federal Permit by Type for Jupiter, Florida (Source: NMFS 2002)

Type of Permit	1998	1999	2000	2001
Total permitted vessels	66	52	75	77
Commercial King Mackerel	43	46	64	61
Commercial Spanish Mackerel	41	43	57	53
Commercial Spiny Lobster	15	13	17	15
Charter/Headboat for Coastal Pelagics	13	6	9	17
Charter/Headboat for Snapper Grouper	6	4	5	7
Snapper Grouper Class 1	2	19	20	20
Snapper Grouper Class 2	2	8	10	8
Swordfish	10	0	0	0
Shark	20	3	3	4
Rock Shrimp	0	2	1	2
Federal Dealers	0	0	0	0

Table 5.9.3.2. Employment in Fishing Related Industry for Jupiter, Florida (Zip code Business Patterns, U.S. Census Bureau 1998)

Category	NAIC Code	Number Employed
Fishing	114100	6
Seafood Canning	311711	0
Seafood Processing	311712	0
Boat Building	336612	0
Fish and Seafoods	422460	15
Fish and Seafood Markets	445220	0
Marinas	713930	40
Total Fishing Employment		61

Community Profiles – Palm Beach, FL

Palm Beach was originally known as Lake Worth. The name was changed to Palm Beach in the 1900s, when a man from Philadelphia noticed the coconut palm trees growing near the lake. In 1878, a ship named the "Providencia" was sailing from South America back to Barcelona with a shipment of coconuts. The ship wrecked on the beach and hundreds "of the coconuts washed ashore, embedded themselves in the sandy beaches, and sprouted into young trees" (Spencer, 1975:19).

Life for the early settlers was difficult. The only lumber available to build their homes was from wood washed ashore from shipwrecks. Residents of Palm Beach had to sail north to Titusville for supplies, such as flour, meal, and other staples (Spencer, 1975). Most of the original settlers, prior to 1900, were from Michigan, Illinois, Ohio, Iowa, and Wisconsin. A.O. Lang, a German horticulturist and one of the first residents of Palm Beach, planted numerous citrus fruit trees, such as limes, lemons, oranges, and pineapples (First Federal Savings and Loan Association of Lake Worth, 1967).

Citrus groves were not the only source of food and income for the residents of Palm Beach. Fish were plentiful for the early settlers. The importance of fish dates back to the Native Americans who once inhabited the land. They partook in shark-fishing, using the teeth for cutting, the vertebrae as ornaments, and the rest for meat. Shellfish were an important part of the Indians diet as well (McGoun, 1998).

The western part of Palm Beach County was known for its catfish industry. The arrival of Henry Flagler's Florida East Coast Railroad assisted in increasing the profitability of the catfish industry in Palm Beach, making it easier to ship the fish northward (McGoun, 1998). However, during WWII, fishermen were not only retrieving fish from the waters. West Palm Beach was an embarkation point for the Air Force bomber crews. German submarines would sit offshore and sink US military vessels. "In the early days of the war, local fishermen would go out and pick up survivors from these ill-fated ships" (First Federal Savings and Loan Association of Lake Worth, 1967).

The Frontier days of 1873 to 1893, pioneers called the area from Jupiter to Hypoluxo the "Lake Worth Region" and traveled by boat from one homestead to another. H.F. Hammon was the first to claim a homestead in the area that is now Palm Beach. E.N. "Cap" Dimick was the most influential settler by being the first hotelier in Palm Beach and the first Mayor! Most of his family had settled in the area by 1876 and his descendants still remain.

Palm Beach has seen relatively slight population growth over the past two decades. It has a low percentage of its population in the labor force with only 31 percent and Unemployment is low at 3.3 percent. Average wage and salary is extremely high at $94,562 and the number of people living below the poverty line has remained fairly constant at 551. The number of persons working in farm, fish, and forestry occupation and industry has dropped considerably since 1990 as is the case for most coastal communities. Table 5.10.3.1 indicates there are 23 vessels with federal permits and about half of them are holding coastal pelagic permits. There is relatively little fishing related employment according to Table 5.10.3.2 with only 3 in the fishing sector and 3 in marinas.

Population

Table 5.10.2.1. Total Persons and Persons by Age category for Palm Beach, Florida 1970-2000. (Source U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Total Persons and Age Category	1970	1980	1990	2000
Total Persons	.	9729	9814	10374
Persons Age 0-5	.	115	222	302
Persons Age 6-15	.	505	357	644
Persons Age 16-17	.	168	115	78
Persons Age 18-24	.	347	253	121
Persons Age 25-34	.	575	527	456
Persons Age 35-44	.	623	917	744
Persons Age 45-54	.	1148	812	1131
Persons Age 55-64	.	1682	1443	1414
Persons Age 65+	.	4530	5168	5484

Housing Tenure

Table 5.10.2.2. Housing Tenure for Palm Beach, Florida 1990-2000. (Source: U.S. Census Bureau).

Percent Renter Occupied	**1990**	**2000**
	22.5	16.1
Percent Owner Occupied	**1990**	**2000**
	77.5	83.9

Residence in 1985 and 1995

Table 5.10.2.3. Residence in 1985 and 1995 for Palm Beach, Florida 1990-2000. (Source: U.S. Census Bureau).

Different House Same County	**1990**	**2000**
	1763	1826
Same House	**1990**	**2000**
	5853	6236

Employment/Unemployment

Table 5.10.2.4 Employment and Unemployment for Palm Beach, Florida 1990-2000. (Source: U.S. Census Bureau).

Persons 16 yrs and over	**1990**	**2000**
Percent in labor force	35.2	31.6
Percent unemployed	3.5	3.3

Race

Table 5.10.2.5. Race for Palm Beach, Florida 1970-2000. (Source U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Race	**1970**	**1980**	**1990**	**2000**
Black Persons	.	64	52	262
Latino Black Persons	.	7	6	7
Latino Persons	.	272	266	268
White Persons	.	9640	9456	9817
Latino White Persons	.	254	249	232

Education

Table 5.10.2.6. Years of Education by Category for those 25 Years and Older for Palm Beach, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Education	**1970**	**1980**	**1990**	**2000**
25+ w/ 0-8 years education	.	381	148	62
25+ w/ 9-11 years education	.	503	360	319
25+ w/ HS diploma	.	2235	1736	1276
25+ w/ 13-15 years. education	.	2209	2293	2093
25+ w/ College Degree	.	3230	3827	5461
Drop outs	.	13	0	18

Income and Poverty

Table 5.10.2.7. Average Household Wage/Salary and Persons Below the Poverty Level for Palm Beach, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Wage or Salary	1970	1980	1990	2000
Average Household Wage/Salary Income (dollars)	.	$29092	$78972	$94562
Poverty Level				
Persons Below Poverty Level	.	484	577	551
Age 65+ Below Poverty Level	.	155	215	161
Households with Public Assistance	.	133	125	10

Industry

Table 5.10.2.8. Employment by Industry for Palm Beach, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Industry	1970	1980	1990	2000
Agriculture, Fishing, Mining	.	47	16	18
Construction	.	100	121	86
Business Services	.	185	142	469
Communication/Utilities	.	21	11	80
Manufacturing	.	188	222	133
Financial, Insurance & Real Estate	.	100	97	807
Services	.	657	824	956
Wholesale/Retail Trade	.	984	1261	558
Transportation	.	627	596	26

Occupation

Table 5.10.2.9. Employment by Occupation for Palm Beach, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Occupation	1970	1980	1990	2000
Sales	.	659	785	-
Clerical	.	3060	200	-
Craft	.	96	117	-
Exec/Managerial	.	823	815	-
Farm/Fish/Forest	.	10	11	0
Household Services	.	235	157	-
Laborer/Handler	.	43	16	-
Operative/Transport	.	46	15	-
Service, except Household	.	537	361	-
Technical	.	40	46	-

Fishing Demographics

Table 5.10.3.1. Number of Federal Permit by Type for Palm Beach, Florida (Source: NMFS 2002)

Type of Permit	1998	1999	2000	2001
Total permitted vessels	23	12	17	23
Commercial King Mackerel	15	10	14	17
Commercial Spanish Mackerel	16	11	14	16
Commercial Spiny Lobster	6	1	0	1
Charter/Headboat for Coastal Pelagics	4	0	0	2
Charter/Headboat for Snapper Grouper	3	0	0	1
Snapper Grouper Class 1	1	6	5	6
Snapper Grouper Class 2	0	3	4	5
Swordfish	2	0	0	0
Shark	6	0	1	0
Rock Shrimp	0	0	0	0
Federal Dealers	0	0	0	0

Table 5.10.3.2. Employment in Fishing Related Industry for Palm Beach, Florida (Zip code Business Patterns, U.S. Census Bureau 1998)

Category	NAIC Code	Number Employed
Fishing	114100	3
Seafood Canning	311711	0
Seafood Processing	311712	0
Boat Building	336612	0
Fish and Seafoods	422460	0
Fish and Seafood Markets	445220	0
Marinas	713930	3
Total Fishing Employment		6

Community Profiles – Boca Raton, FL

The area of current day Boca Raton was inhabited by Native Americans for nearly 1,000 years before the arrival of the Spanish. The original name given to the area by the Spanish explorers was "Boca de Ratones." In nautical terms, "boca" denotes an inlet. Some of the translations include, "haulage inlet," "inlet of mice," "inlet of sharp-pointed rocks," and "inlet of cowardly thieves." "Rata," not "raton" is the Spanish word for rat (Ashton, 1984).

Captain Thomas Moore Rickards, Sr. of Missouri was one of the first people who wanted to settle the area of Boca Raton. He arrived in Florida in 1876 and became a citrus farmer in Candler. The freeze of 1894-5 forced him farther south to Lake Boca Raton. A year later, the tracks for Henry Flagler's East Coast Railroad were laid in Boca Raton, allowing for easier, faster shipping and more convenient modes of transportation. By the beginning of the 1900s, Boca Raton "came into existence as a little agricultural center of orchards and farms" (Ashton, 1984:3).

In 1904, a Japanese immigrant, Joseph Sakai, established a Japanese farming community of pineapple farmers in Boca Raton. He named the area Yamato.26

The land boom of the 1920s and the arrival of famous architect Addison Mizner helped Boca Raton gain the image it still retains today as that of a luxurious resort town. He had already helped build up Palm Beach and was now aiding in the development of the areas to its south (Ashton, 1984).

Boca Raton has experienced fairly steady population growth reaching 75,594 in 2000. Unemployment has risen slightly in 2000 from 1990 but the percentage of the population in the labor force has remained around 59 percent. The average wage and salary is high being above $60,000 yet the number of persons living below the poverty level has grown steadily since 1970. The number of persons employed in farm, fish and forestry occupations and industry dropped dramatically in 2000 from a high in 1990. There are 8 vessels with federal permits listed in Table 5.11.3.1 but there are no federal dealers in Boca Raton. As far as fishing related employment there are 21 people listed in the fish and seafood sector according to Table 5.11.3.2.

Population

Table 5.11.2.1. Total Persons and Persons by Age category for Boca Raton, Florida 1970-2000. (Source U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Total Persons and Age Category	1970	1980	1990	2000
Total Persons	28542	49505	61491	75594
Persons Age 0-5	1443	1650	3573	4282
Persons Age 6-15	4321	5681	5589	8325
Persons Age 16-17	701	1668	1334	1566
Persons Age 18-24	2901	5249	5241	6284
Persons Age 25-34	2709	5943	9418	7859
Persons Age 35-44	2794	5654	9377	9536
Persons Age 45-54	2835	5173	7155	11508
Persons Age 55-64	3900	6313	6592	8564
Persons Age 65+	6622	11789	13212	15016

Housing Tenure

Table 5.11.2.2. Housing Tenure for Boca Raton, Florida 1990-2000. (Source: U.S. Census Bureau).

Percent Renter Occupied	1990	2000
	25.6	24.3
Percent Owner Occupied	**1990**	**2000**
	74.4	75.7

26 http://www.ci.boca-raton.fl.us/econ/history.cfm

Residence in 1985 and 1995

Table 5.11.2.3. Residence in 1985 and 1995 for Boca Raton, Florida 1990-2000. (Source: U.S. Census Bureau).

Different House Same County	**1990**	**2000**
	11678	15372
Same House	**1990**	**2000**
	26473	35856

Employment/Unemployment

Table 5.11.2.4 Employment and Unemployment for Boca Raton, Florida 1990-2000. (Source: U.S. Census Bureau).

Persons 16 yrs and over	**1990**	**2000**
Percent in labor force	60.1	59.1
Percent unemployed	3.3	5.8

Race

Table 5.11.2.5. Race for Boca Raton, Florida 1970-2000. (Source U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Race	**1970**	**1980**	**1990**	**2000**
Black Persons	730	992	1734	2725
Latino Black Persons	0	22	31	85
Latino Persons	690	2167	3378	6359
White Persons	27781	47930	58008	62925
Latino White Persons	690	2047	2880	4926

Education

Table 5.11.2.6. Years of Education by Category for those 25 Years and Older for Boca Raton, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Education	**1970**	**1980**	**1990**	**2000**
25+ w/ 0-8 years education	2464	2493	1672	1436
25+ w/ 9-11 years education	2591	2982	3615	3988
25+ w/ HS diploma	6051	11947	10984	12037
25+ w/ 13-15 years. education	3720	7748	10352	12509
25+ w/ College Degree	4034	9702	15952	29350
Drop outs	144	320	94	351

Income and Poverty

Table 5.11.2.7. Average Household Wage/Salary and Persons Below the Poverty Level for Boca Raton, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Wage or Salary	**1970**	**1980**	**1990**	**2000**
Average Household Wage/Salary Income (dollars)	$11409	$24986	$54959	$60248
Poverty Level				
Persons Below Poverty Level	1763	2458	3282	4886
Age 65+ Below Poverty Level	399	530	541	716
Households with Public Assistance	120	517	592	389

Industry

Table 5.11.2.8. Employment by Industry for Boca Raton, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Industry	**1970**	**1980**	**1990**	**2000**
Agriculture, Fishing, Mining	148	437	731	60
Construction	764	1775	1889	1875
Business Services	313	1334	1384	3854
Communication/Utilities	223	583	768	1845
Manufacturing	1726	2803	2429	2205
Financial, Insurance & Real Estate	1565	2168	1605	4648
Services	812	2552	4014	16276
Wholesale/Retail Trade	3537	4486	10629	8583
Transportation	1784	4864	8070	821

Occupation

Table 5.11.2.9. Employment by Occupation for Boca Raton, Florida 1970-2000. (Source: U.S. Census Bureau & MARFIN Sociodemographic Database. Louisiana Population Data Center & National Marine Fisheries Service).

Occupation	**1970**	**1980**	**1990**	**2000**
Sales	965	3613	6048	-
Clerical	1754	31030	4074	-
Craft	1012	2226	2183	-
Exec/Managerial	1339	3370	5692	-
Farm/Fish/Forest	51	395	477	43
Household Services	193	158	251	-
Laborer/Handler	280	402	516	-
Operative/Transport	310	541	376	-
Service, except Household	1242	2906	3518	-
Technical	150	834	1203	-

Fishing Demographics

Table 5.11.3.1. Number of Federal Permit by Type for Boca Raton, Florida (Source: NMFS 2002)

Type of Permit	1998	1999	2000	2001
Total permitted vessels	7	2	4	8
Commercial King Mackerel	3	2	3	5
Commercial Spanish Mackerel	3	2	1	2
Commercial Spiny Lobster	1	1	1	1
Charter/Headboat for Coastal Pelagics	2	0	1	4
Charter/Headboat for Snapper Grouper	2	1	1	2
Snapper Grouper Class 1	0	0	0	1
Snapper Grouper Class 2	0	2	2	3
Swordfish	2	0	0	0
Shark	2	0	0	0
Rock Shrimp	0	0	0	0
Federal Dealers	0	0	0	0

Table 5.11.3.2. Employment in Fishing Related Industry for Boca Raton, Florida (Zip code Business Patterns, U.S. Census Bureau 1998)

Category	NAIC Code	Number Employed
Fishing	114100	3
Seafood Canning	311711	0
Seafood Processing	311712	0
Boat Building	336612	0
Fish and Seafoods	422460	21
Fish and Seafood Markets	445220	6
Marinas	713930	9
Total Fishing Employment		39

Florida Fishing Infrastructure and Community Characterization

The following tables provide a general view of the presence or absence of fishing infrastructure located within the coastal communities of Florida with substantial fishing activity. It should be noted that there are many other attributes that might have been included in this table, however, because of inconsistency in rapid appraisal for all communities, these items were selected as the most consistently reported or had secondary data available to determine presence or absence. It should also be noted that in some cases certain infrastructure may exist within a community but was not readily apparent or could not be ascertained through secondary data. Table 5.17.1 offers an overview of the presence of the selected infrastructure items and provides an overall total score which is merely the total of infrastructure present.

Table 5.17.1. Fishing Infrastructure Table for Florida Potential Fishing Communities

Community	Federal Commercial Permits (5+)	State Commercial Licenses (10+)	Federal Charter Permits (5+)	Seafood Landings	Seafood retail markets	Fish processors, Wholesale fish house	Recreational docks / marinas	Recreational Fishing Tournaments	Total
Atlantic Beach	-	+	-	+	+	+	+	-	5
Big Pine Key	+	+	+	+	+	+	+	-	7
Boca Raton	+	+	-	-	+	-	+	-	4
Cape Canaveral	+	+	-	+	+	+	+	+	7
Fernandina Beach	+	+	+	+	+	+	+	+	8
Fort Pierce	+	+	+	+	+	+	+	+	8
Islamorada	+	+	+	+	+	+	+	+	8
Jupiter	+	+	+	+	+	+	+	+	8
Key Largo	+	+	+	+	+	+	+	+	8
Key West	+	+	+	+	+	+	+	+	8
Marathon	+	+	+	+	+	+	+	+	8
Merritt Island	+	+	-	+	+	+	+	-	6
Palm Beach	+	+	-	+	+	-	+	+	6
Ponce Inlet	+	+	+	+	+	+	+	+	8
Sebastian	+	+	+	+	+	+	+	+	8
St. Augustine	+	+	+	+	+	+	+	+	8

In attempting a preliminary characterization of potential fishing communities in Table 5.17.2, we have provided a grouping of communities that appear to have more involvement in various fishing enterprises and therefore are classified as primarily involved. These communities have considerable fishing infrastructure, but also have a history and culture surrounding both commercial and recreational fishing that contributes to an appearance and perception of being a fishing community in the mind of residents and others. The communities are not ranked in any particular order, this is merely a categorization.

Table 5.17.2 Preliminary Characterization of Potential Fishing Communities in Florida

Primarily-Involved	Secondarily-Involved
Fernandina Beach	Atlantic Beach
Fort Pierce	Boca Raton
Islamorada	Palm Beach
Jupiter	
Key Largo	
Key West	
Marathon	
Fernandina Beach	
Fort Pierce	
Islamorada	

Many of these communities are in transition due to various social and demographic changes from coastal development, growing populations, increasing tourism, changing regulations, etc. This preliminary characterization is just that and should not be considered a definite designation as fishing community, but a general guide for locating communities that may warrant consideration as a potential fishing community.