# **AMENDMENT 5**

# TO THE

# FISHERY MANAGEMENT PLAN

# FOR THE STONE CRAB FISHERY OF

# THE GULF OF MEXICO

(Includes Environmental Assessment and Regulatory Impact Review)



813-228-2815

May 1994



# Abbreviations Used in this Document

AP	Advisory Panel
Council (or GMFMC)	Gulf of Mexico Fishery Management Council
CPUE	Catch Per Unit Effort
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
FDEP	Florida Department of Environmental Protection (formerly Department of Natural Resources)
FMFC	Florida Marine Fisheries Commission
IRFA	Initial Regulatory Flexibility Analysis
NMFS	National Marine Fisheries Service
OFF	Organized Fishermen of Florida
RD	Regional Director, NMFS
RIR	Regulatory Impact Review
SAFMC	South Atlantic Fishery Management Council
SEFSC	Southeast Fisheries Science Center
SSC	Scientific and Statistical Committee
State	State of Florida (FDEP and/or FMFC)

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## **1. PUBLIC REVIEW**

A total of five public hearings were held to obtain public comments on this plan amendment with one additional final hearing held during the Gulf Council meeting in Corpus Christi, Texas on May 11, 1994. The public comment period for this amendment ended on April 29, 1994.

Public hearings are scheduled during the following locations from 7:00 p.m. to 10:00 p.m.

April 18, 1994 Regional Service Center State Building, Suite 104 2796 Overseas Highway (U.S. Highway 1) Marathon, Florida	April 19, 1994 Naples Depot Civ 1051 5th Avenu Naples, Florida	vic-Cultural Center e, South	April 27, 1994 Steinhatchee Community Ce State Highway 51 Steinhatchee, Florida	enter
April 20, 1994 Plantation Inn and Golf Resort 9301 West Fort Island Trail Crystal River, Florida 2. LIST OF AGENCIES AND F	April 21, 1994 La Quinta Inn-So 2850 Apalachee Tallahassee, Flor PERSONS TO BE (	uth Parkway (U.S. Highw ida CONSULTED	ay 27)	
Gulf of Mexico Fishery Management Council:		Standing and Speci Statistical Committee Stone Crab Advisory	al Stone Crab Scientific s Panel	and
Coastal Zone Management Pro	ograms:	Florida		
National Marine Fisheries Service:		Southeast Fisheries S Southeast Regional C	cience Center ffice	

# 3. LIST OF PREPARERS

Gulf of Mexico Fishery Management Council

- Wayne Swingle, Biologist
- Antonio Lamberte, Economist
- National Marine Fisheries Service
  - Stephania Bolden Fishery Biologist

## 4. HISTORY OF MANAGEMENT

The Fishery Management plan for the Stone Crab Fishery of the Gulf of Mexico (FMP) was implemented on September 30, 1979 (44 FR 53519). The FMP resolved an armed conflict over competing gear use between stone crab and shrimp fishermen operating in the EEZ off southwest Florida and extended Florida's rules regulating the fishery into the EEZ. The management area of the FMP is limited to the EEZ seaward of the west coast of Florida in the Gulf of Mexico (Gulf). The FMP has been amended four times. Amendment 1 was implemented on November 8, 1982 (47 FR 41757), and specified a procedure for evaluating the zoned area to resolve the conflict. Amendment 2 was implemented on Augus 31, 1984 (47 FR 30713), and established procedures for resolving gear conflicts in central west Florida. Amendment 3 was implemented on September 25, 1986 (51 FR 30663), and included management measures to enhance survival of crabs held on board and prohibited harvest of egg-bearing female crabs. Amendment 4 was approved on February 19, 1991 (56 FR

6837), and contained provisions for adding a scientifically measurable definition of overfishing and an action plan to arrest overfishing, should it occur, as required by the Magnuson Act National Standards (50 CFR 602), a section on vessel safety considerations, and a revised habitat section as required by the Magnuson Act.

### 5. DESCRIPTION OF FISHERY AND UTILIZATION PATTERNS

The FMP, as amended, provides for management of the fishery in the EEZ off the west coast of Florida. The fishery is managed jointly by the State of Florida and the Gulf of Mexico Fishery Management Council (Council). The fishery is largely commercial with limited recreational participation confined to the near-shore waters within state jurisdiction.

The fishery is unique in that only the claws are harvested, and the live crabs with one or both claws removed are returned to the water. Data from Florida Department of Natural Resources (FDNR) studies indicate 3 to 8 percent of these crabs regenerate claws that may be harvested in a subsequent season (Amendment 3). Claws regenerate to approximately 70 percent and 100 percent of their original (preautotomy) size one and two molts after de-clawing, respectively (Restrepo, 1989).

The Florida stone crab (Menippe mercenaria and M. adina) commercial fishery has rapidly increased in both landings and economic value in recent years. From 1985 through 1991, the stone crab has consistently ranked as the fourth most valuable marine species landed on Florida's west coast, being surpassed only by shrimp, spiny lobster, and grouper. In 1992 the stone crab became the third most valuable marine species by surpassing grouper. This increase in ranking may be partly the result of regulations placed on the grouper fisheries limiting landings, as 1992 stone crab landings increased by only 400,000 pounds from 1991. Regardless, the stone crab fishery is becoming more and more important in landings and value. The annual stone crab ex-vessel value landed at Florida Gulf ports ranged from \$7.9 million to \$15.9 million from 1985 - 1992 and averaged \$12.1 million.

Stone crabs are principally caught by commercial trap fishermen in the Gulf of Mexico waters off southwestern Florida. Until the 1960's, the Florida stone crab fishing area was mostly in the shallow waters of Monroe, Collier, Manatee and Pinellas Counties. In more recent years, the fishery area has expanded to include deeper waters for most Gulf coastal counties from Monroe to Franklin. The original market for stone crab was consumers in the immediate fishing area. The current market is broader and is still mostly composed of seafood restaurants, local retail outlets, hotels and specialty food stores.

Joint regulation between the Gulf of Mexico Fishery Management Council (Council) and Florida Marine Fisheries Commission (FMFC) requires that only claws larger than 7 cm (2.75 inches) in propodus length (Claw length from the tip of the lower finger to the elbow) can be legally harvested and that live, declawed crabs be returned to the water. Based on age/growth results of Lindberg and Marshall (1983), this minimum claw size regulation ensures at least one reproductive season before the female crab enters the fishery (see Amendment 4). Although there is high mortality associated with declawed crabs (Davis et al., 1979), some survive and regenerate new claws. Mortality of declawed stone crabs was further discussed by Bolden and Harper (1992). Other management regulations intended to provide for stock conservation include: 1) prohibiting the harvest of egg bearing females, 2) moistening and shading captured crabs prior to claw removal in order to enhance survival of released crabs, and 3) closing the fishing season (May 16 to October 14) during the time of peak spawning activity.

The Southeast Fisheries Science Center (SEFSC) has periodically summarized commercial stone crab landings along Florida's Gulf coast (Zuboy and Snell, 1980, 1982; Phares, 1982, 1985; Sutherland, 1988, 1989; Powers, 1990; Harper et al., 1991; Bolden and Harper, 1992; Bolden, 1993). Restrepo

(1990) produced a simulation model of fishing on yield per recruit and egg production for the stone crab fishery (see Amendment 4).

Stone crab landings at Florida gulf coast ports for 1985 through 1992 are summarized by season, month, and claw size (Table 1). Landings for the 1992 fishing season are preliminary and subject to change. During the 1985-1992 period, about 49 percent of the landed claw weight was classified as large, 30 percent medium, 7 percent small, 4 percent jumbo, and 12 percent upgraded by claw size.

The commercial landings and ex-vessel value of stone crabs are presented in Figure 1. Ex-vessel value has steadily increased from \$196,100 in 1962 to \$15.8 million in 1990. In 1991, the ex-vessel value dropped to \$12.4 million, a decrease of \$3.5 million over one year. A decrease of 50,208 pounds from 1990 to 1991 alone cannot account for the drastic decrease (\$3.5 million) in ex-vessel value. Bolden (1993) suggested the decline was due to market saturation during the first few months of the season however, no economic studies have examined this or possible effects of the 1991 recession. The 1992 ex-vessel value of \$15.7 million was slightly below the \$15.9 million reported in 1990. Bolden (1992) suggested it should not be concluded from Figure 1 that the stone crab fishery is leveling off in terms of market value as the 1992 season was impacted by two major storms. Hurricane Andrew hit late august 1992, damaging some traps as they were being prepared for the season. A "super-storm" of 13 March 1993 displaced or damaged such a great number of stone crab traps that many fishermen pulled the traps they could locate and quit the season (G. Pizzuti and T. Herbert, NMFS, SEFSC, Fishery Reporting Specialists, personal communication). This coupling of pre-season trap damage and the voluntary early season abandonment may have decreased landings, nevertheless total landings were the highest ever reported and a near record in ex-vessel value.

Monthly estimates of mean CPUE (total pounds of claws/trip) are shown for trips where stone crabs were the primary species landed (Fig. 2). In general, landings were highest during the beginning of a fishing season and then rapidly declined. the 1987 season was the only season in which catch per trip declined in each successive month. Only December 1988, October 1990, and October 1992 have recorded monthly mean CPUE over 200 pounds (202.9, 203.3 and 202.9, respectively) since FDEP trip tickets were used to measure catch and effort. The 1985 - 1992 mean seasonal catch per trip was 125.5 pounds, the preliminary 1992 data indicate an increase of about a pound and a half per trip with a mean of 127.2 pounds. This increase for 1992 is partly because the high monthly mean CPUE reported for October. Figure 3 depicts the monthly CPUE by claw size during the 1985 through 1992 fishing seasons for stone crab landings at Florida Gulf ports. Large claws dominated the landings throughout all fishing seasons, but medium claws became a larger component of the landings during January and February when landings of large claws began to decline. CPUE for jumbo claws increased from 1988 to 1989 and continued to the present.

Previously, the number of traps hauled (lifted) per stone crab fishing trip were voluntarily reported on about 20 percent (18,867 of 94,341) of the FDEP trip tickets (1985-1991). However, the 1985-1992 number of reported trap hauls was nearly 30 percent; this is due to the doubling of fishermen/seafood dealers voluntarily reporting.

The mean number of traps hauled (lifted) during each fishing trip was plotted by month (Fig. 4). For all seasons except 1989, the mean traps hauled per trip declined as the season progressed. This trend reversed in 1989 when effort (number of traps hauled per trip) generally increased and the season progressed. The seasonal range for mean number of trap hauls per trip is greater for the 1989 to present fishing seasons than those prior to 1988 (Fig. 4). However, it does appear that mean trap hauls per trip is once again stabilizing, but at higher levels, as the preliminary 1992 data reveal a trend similar to that of 1985-1988 (Fig. 4).

The total number of traps hauled per month was estimated by multiplying the mean number of trips per month by the mean number of traps hauled per trip based on the voluntarily reported data (Fig. 5). The number of trap hauls per season is increasing as an estimated 3.6, 4.4, 4.9, 5.3, 7.7, 8.4, and 7.7 million trap hauls were made from 1985 through 1992, respectively. The 1992 decline is probably an effect of the aforementioned storms. CPUE (Fig. 2) declines more rapidly during each season than the number of traps hauled per month (Fig. 5). Total estimated monthly trap hauls during the last month of the fishing season (May), was considerably less than that of the first month for most seasons (Fig. 5). Fishing effort for the 1992 season, although preliminary, appears to follow the general trend of the other seasons as number of trap hauls greatly declines toward the end of the season.

The 1964-1992 monthly landings show a greater portion of the total catch was caught during the early months of the fishing season (Fig. 6). Since 1983, elevated landings have occurred during the first few months of each season, followed by sharp declines in succeeding months. Until this past fishing season, the number of traps in the fishery have remained relatively stable since around 1985. However, the 1992 season reported 686,260 traps in the fishery, an increase of 57,760 traps over one fishing year (Table 2 and Fig. 7). It is anticipated that the number of traps in the 1993 season was probably lower than the 1992 level due to a large percentage of traps damaged/lost by the March 1993 storm. However, many fishermen did apply for available SBA loans in order to replace lost traps which may, in fact, elevate the already high trap number.

The Scientific and Statistical Committee (SSC) in reviewing data in Amendment 4 concluded that increases in traps beyond the 1981 level (approximately 350,000 traps) in addition to not significantly increasing landings probably would not increase fishing mortality (see Restrepo, 1989 and Bert et al., 1986). Essentially, the increases in trap numbers just further overcapitalized the industry through gains in excess fishing capacity without impacting the resource. The SSC indicated that total traps deployed in the fishery was a poor bench mark for examining CPUE trends since many fishermen fished the spiny lobster fishery in the first part of the stone crab season. Also as indicated by the Stone Crab Advisory Panel (minutes, 1983), fishermen tend to deploy excess traps in certain areas to reserve fishing areas weeks before the crabs migrate into that area or the traps are fished.

Total landings have steadily increased from a low of 0.30 million pounds of claws in 1962 to a maximum of 3.4 million pounds of claws in 1992 (Table 2 and Fig. 8). Although the 1992 data are preliminary, it appears to be a peak landing year. Annual landings averaged 2.6 million pounds for 1985-1992. Catch/trap rapidly decreased from 1962 to 1974, then fluctuated but remained fairly stable around 6.5 lbs/trap from 1974 until 1982 (Fig. 9). Mean catch rates declined from a high of 23.3 lbs/trap in 1963 to a low of 3.5 lbs/trap in 1987 (Fig. 9). Catch/trap steadily increased from 1987 to 1990 (5.1 lbs/trap) remained stable for 1991, but decreased slightly to 4.6 lbs/trap in 1992.

Monthly catch (pounds) per trap was calculated for the peak stone crab fishing months of November to January 1964-1992 (Fig. 10). Since the 1987 low of 0.5 lbs/trap the average monthly landings index, for the seasonal peak, have increased and remained relatively stable at about 0.8 lbs/trap since 1988. Landings dropped to 0.7 lbs/trap in 1992, perhaps due to the January lapse.

## 6. PURPOSE AND NEED FOR ACTION

## Moratorium on Permits

In 1985, The Council was requested by the stone crab advisory panel (AP) to develop alternative limited access systems for review by the industry. A notice of a control date for entry into the fishery was published effective January 15, 1986 (51 FR 5714), but efforts to develop limited access alternatives for industry review were delayed. More recently (1992-1994), the Organized Fishermen of Florida (OFF) has resumed discussions with the industry, a large number of whom

are members of OFF. OFF has introduced before the Florida Legislature a bill<sup>1</sup> placing a moratorium on issuing additional permits to participate in the fishery while the industry considers an effort limitation program.

The fishery currently has more participants and stone crab traps than are necessary to harvest the optimum yield (OY) from the fishery. The number of commercial vessels has increased by 249 percent and number of traps by 257 percent since the 1977-1978 season (Table 2). The fishery historically was characterized as an expanding fishery with yield (landings) increasing in a direct linear fashion with effort (number of traps) through the mid-1980's, fluctuating thereafter. Currently, there are more than 680 thousand traps deployed in the fishery (Table 2).

Since the current fishing fleet is capable of harvesting the entire stone crab OY, additional fishing effort would lead to harvesting inefficiencies and further management constraints, but probably not to increased conservation risks (see Section 5). The OFF and industry propose to address this problem by examining alternatives for additional controls on fishing effort. Such controls contemplated may include those that control access to the stone crab fishery resource.

The Council intends through this amendment, to place a temporary moratorium on federal vessel registration<sup>2</sup> in the stone crab fishery in order to discourage speculative entry into the fishery while potential effort or access control management regimes are developed by the industry for consideration by the state of Florida and Council. From implementation of the FMP to the present, no one has applied to the NMFS to register a vessel.

#### Enhanced Cooperative Management

The stone crab fishery managed under the FMP is entirely located off the state of Florida. Florida has managed the fishery from 1929 to the present. The FMP was implemented in 1979, principally because Florida was unable to regulate the activities of shrimp vessels registered in other states that were involved in a gear conflict with stone crab fishermen (FMP and Amendment 2). The FMP, as amended, resolved these conflicts and extended Florida rules for stone crab into the EEZ. These rules were based on very conservative management information, resulting in a fishery very resilient to overfishing (see Amendment 4).

Almost all research on the fishery has been carried out by state of Florida institutions, principally the FDEP. The federal activity has principally been in summarizing fishing statistics and preparing stock assessments. Similarly, almost all rules were developed by the state (FDEP and FMFC). The Council has periodically amended the FMP to promulgate these rules, which is a time-consuming and relatively expensive process. The FMFC on its creation in 1983, was charged by the legislature to systematically review existing statutes and rules and to revise and/or rescind them based on better information. The FMFC is currently reviewing stone crab rules.

Because the fishery involves a single state, which has typically managed the fishery, there is a need to provide a more flexible, coordinated federal and state management system that minimizes regulatory delay and can rapidly adapt to changes in resource abundance, scientific information and fishing patterns.

<sup>&</sup>lt;sup>1</sup> The legislative bill was passed by the Florida House of Representatives and Senate committees, but was not acted upon by the Senate in the final days of the legislative session. OFF will resubmit the bill in the 1995 session.

<sup>&</sup>lt;sup>2</sup> Registration means the vessel would be issued an identification number and color code which identifies it and allows operation in the EEZ fishery.

### 7. PROBLEMS REQUIRING A PLAN AMENDMENT

The original FMP requires vessels operating in the fishery must be registered by the appropriate state or federal agency and assigned an identification number and color code for vessel and gear. 50 CFR Part 654 provides that if a vessel permit (and color code) cannot be obtained from Florida, that the Regional Director (RD) of NMFS may issue the number and color code for operation in the EEZ. In order for the state moratorium on issuance of vessel permits to be effective, this provision of the FMP must be modified or persons will circumvent the state moratorium by registering vessels with the RD. From the implementation of the FMP to the present no one has applied to NMFS to register a vessel.

The FMFC will begin a series of workshops on the stone crab fishery and the existing laws and rules that may result in promulgation of additional or revised rules. For instance, stone crab traps are not defined by the state or FMP. There is a need for a procedure for implementing compatible FMP rules for the EEZ by regulatory amendment, such as has been implemented under the Spiny Lobster FMP (see Amendment 2). The procedure under this amendment is limited to only the types of rules listed under parts A and B on page 10. All other types of rules must be implemented by FMP amendment by the Council.

### 8. PROPOSED ACTIONS

### A. MORATORIUM ON VESSEL REGISTRATION

<u>Preferred Alternative</u>: Revise the FMP to place a temporary moratorium on registration<sup>2</sup> of stone crab vessels by the RD. Such moratorium shall be for 4 years duration beginning on July 1, 1994.

<u>Alternative 1</u>: Implement the moratorium on registration as above. Such moratorium shall be for 3 years beginning on the effective date of this amendment.

### Alternative 2: No action - Do not implement a FMP moratorium on stone crab vessel registration.

<u>Discussion</u>: The FMP provides for registration of vessels and issuance of registration number and color code if a person cannot obtain a Florida stone crab permit. Since implementation of the FMP in 1979 no one has requested the RD register a vessel. However, the Organized Fishermen of Florida (OFF) have introduced state legislation<sup>1</sup> to place a moratorium on issuance of state permits while the industry examines provisions of effort limitation programs and the desirability of implementing a program via subsequent state legislative bill. General knowledge of the state legislation could result in a significant level of speculative entry into the fishery under the FMP provisions, which will exacerbate industry efforts to develop an equitable effort limitation system.

The preferred alternative would place a temporary moratorium on registering vessels to participate in the fishery under the FMP while OFF resubmits their moratorium bill. This moratorium would last for no more than four years. If state legislation for an effort limitation system is implemented prior to the expiration of the moratorium the effect would be that entry to the fishery would occur only under the state system, until the FMP is amended.

<sup>&</sup>lt;sup>2</sup> Registration means the vessel would be issued an identification number and color code which identifies it and allows operation in the EEZ fishery.

<sup>&</sup>lt;sup>1</sup> The legislative bill was passed by the Florida House of Representatives and Senate committees, but was not acted upon by the Senate in the final days of the legislative session. OFF will resubmit the bill in the 1995 session.

The FMP moratorium would be for four years and becomes effective July 1, 1994.

Alternative 1 would provide the FMP moratorium for three years beginning on the effective date of rules for this amendment. Although all of the moratoriums placed on issuance of permits in other fisheries by the Council have been for three-year duration, the four-year period of the preferred alternative is more appropriate since that is the time the industry estimates as necessary to develop the effort limitation system and to have it implemented by the Florida Legislature. Setting the effective date to be July 1, 1994 (Appendix B) is warranted since the affected public will be advised of that action through the proposed rule and have been notified through public hearings and by notices and news releases of the public hearings.

<u>Biological Impacts</u>: The moratorium should have little effect on biological resources. As indicated in Section 5, the SSC concluded that additional traps probably will not result in additional landings and should not increase fishing mortality (in contrast to the spiny lobster fishery). This is because stone crabs can exit and migrate between traps. Essentially the fishery is operating at MSY and increases in number of traps just further overcapitalizes the industry in gains in excess fishing capacity without impacting the resource. Without the moratorium, increases in traps would likely result in increased incidental harvest of bycatch species.

<u>Socioeconomic Impacts</u>: Without the moratorium on FMP vessel registration and subsequent state moratorium, additional persons are likely to enter the fishery for speculative purposes and fish traps to establish a landing record of participation in the fishery. This would adversely affect existing participants, if significant entry occurs, by reducing their respective shares of harvest. The fishery is already overcapitalized in terms of gear deployed with approximately 690,000 traps deployed in 1992 (Table 2). Gains in landings have not been very significant since 1982, when 350,000 traps were deployed (Fig. 1, Table 2).

### **B. ENHANCED COOPERATIVE MANAGEMENT SYSTEM**

The stone crab fishery is managed cooperatively by the state of Florida and Council. The Council relies on the state for research, data gathering and for development and promulgation of rules for the fishery. The state system for promulgation of rules is not only duplicative of the Council system, but also includes opportunities for greater public participation (see Appendix A). Under the FMFC system and state Administrative Procedures Act (APA), workshops to discuss issues, problems and solutions are held. These are followed by public hearings and comment period, a final hearing before the FMFC and a hearing before the state Governor and Cabinet before rules are approved. The Council has utilized this type of system to provide for enhanced cooperative management of the spiny lobster fishery by providing for implementation of compatible EEZ rules by regulatory amendment (GMFMC and SAFMC 1989). The Stone Crab FMP also provides very broad authority for the RD to address gear conflicts by emergency rule or regulatory amendment.

### **FMP Management Objectives:**

Management objectives of the FMP as amended are:

- 1. Provide for orderly conduct of the stone crab fishery in the management area in order to reduce conflict between stone crab fishermen and other fishermen in the area.
- 2. Establish an effective fishery statistical reporting system for monitoring the stone crab fishery.
- 3. Attain full utilization of the stone crab resource in the management area.
- 4. Promote uniformity of regulations throughout the management area.

Preferred Alternative: Include new objective.

5. Provide for a more flexible management system that minimizes regulatory delay to assure more effective, cooperative state and federal management of the fishery.

### Rejected Alternative: No action - do not include objective 5.

<u>Discussion</u>: The preferred alternative would institute policy consistent with alternative 1 of the following section and enhance cooperative management of the resource.

<u>Biological Impacts</u> - No impacts are directly related to establishment of the objective, but would instead be related to actions taken under the protocol and procedures of the subsequent section.

<u>Socioeconomic Impacts</u> - No impacts are directly related to establishment of the objective, but would be instead related to actions taken under the protocol and procedures of the subsequent section.

### Protocol and Procedure for an Enhanced Cooperative Management System:

Under this regulatory amendment procedure each proposed rule or set of rules must be adopted by the State through their hearing process and be submitted to NMFS and the Council along with socioeconomic analyses, hearing summaries, and other supporting information. The Council and NMFS must concur that the proposed rule is consistent with the FMP objectives and other federal law. NMFS, the Council staff and FMFC staff will prepare the regulatory amendment and supporting documentation. This documentation will include an EA and RIR which examine in detail the environmental, social and economic impacts of each proposed rule and the alternatives to the rule. The rules implemented will be subject to approval by NMFS after review of public comment submitted directly to NMFS during the comment period on the regulatory amendment. The procedure under this amendment is limited to only the types of rules listed under parts A and B on page 10. All other types of rules must be implemented by FMP amendment by the Council.

## PROTOCOL:

The Council, FMFC and NMFS hereby adopt the following protocol which describes the roles of the federal and State governments:

- 1. The Council and NMFS acknowledge that the fishery is a Florida (State) fishery (which extends into the EEZ) in terms of current participants in the directed fishery, major nursery, fishing, and landing areas, historical regulation of the fishery, and is a fishery requiring cooperative State/federal efforts for effective management through a FMP.
- 2. The Council and NMFS acknowledge that the State is managing and will continue to manage the resource to protect and increase the long-term yields and prevent depletion of the stone crab stocks and that the State Administrative Procedure Act and rule implementation procedures, including final approval of the rules by Governor and Cabinet provide ample and fair opportunity for all persons to participate in the rulemaking procedure. (See Appendix A)
- 3. FMFC acknowledges that rules proposed for implementation under this amendment must be consistent with the management objectives of the FMP, the National Standards, the Magnuson Act and other applicable federal law. Federal rules will be implemented in accordance with regulatory amendment procedures.

- 4. The Council and NMFS agree that for any of the rules defined within this amendment that the FMFC may propose the rule directly to NMFS, concurrently informing the Council of the nature of the rule and that NMFS will implement the rule within the EEZ provided it is consistent under protocol number 3. If the Council informs NMFS of their concern over the rule's inconsistency with protocol number 3, NMFS will not implement the rule until the Council, FMFC, and NMFS or their representatives meet and resolve<sup>3</sup> the issue.
- 5. The State (FDEP and FMFC) will have the responsibility for collecting and developing the information upon which to base the fishing rules, with assistance, as needed by NMFS and cooperatively share the responsibility for enforcement with federal agencies.
- 6. FMFC will provide to NMFS, and to the Council written explanations of its decisions related to each of the rules (including a statement of the problem that the rulemaking addresses, how the rule will solve the problem, and how interested parties were involved in the rulemaking), summaries of public comments, biological, economic and social analyses of the impacts of the proposed rule and alternatives, and such other information that is relevant.
- 7. The rules will apply to the EEZ management area off Florida.
- 8. The NMFS agrees that its staff will prepare the proposed federal rule. The Council agrees that its staff with assistance by the staffs of FMFC and NMFS will prepare the EA/RIR and other documents required in support of the rule.

# PROCEDURE:

- 1. This procedure will function under and be governed by the protocols for cooperative management agreed upon by the FMFC, the Council, and NMFS.
- 2. Based on the best available scientific information, the FMFC will develop alternative proposed rules and socioeconomic analyses on the effects of these alternatives, hold public hearings (as required by Florida's Administrative Procedure Act), and at a final hearing select each preferred alternative rule for recommendation to the Florida Governor and Cabinet for implementation. After approval of the rule or rules by the Governor and Cabinet, the FMFC will advise the Council and Regional Director (RD), NMFS of the recommended rule(s) and proposed implementation date and will provide to the RD and to the Council the analyses of the effects and impacts of the recommended and alternative rules and summaries of public comment. For rules to be implemented by the start of the fishing season (currently October 15), FMFC must complete these actions on or before February 1. The Council will submit the rule and supporting analyses to the SSC who will advise the RD, through the Council, of the scientific validity of the analyses. The Council will also submit the rule and supporting analyses to the store comment and recommendations.
- 3. The RD will review the recommended rule, analyses, and public record, and if he preliminarily determines that the rule is consistent with the objectives of the FMP, the National Standards, and other applicable law, he will notify the Council and FMFC of his intent to implement the rule in the EEZ. If in the judgment of the RD, the rule or its supporting record are not consistent with these statutory criteria or the FMP objectives, he will immediately notify the Council and the FMFC of the deficiencies in the rule or supporting record. The FMFC may submit additional information or analyses to correct the deficiencies in the record.

<sup>&</sup>lt;sup>3</sup> The issue will not be resolved until the Council has withdrawn their objections.

- 4. When in the judgment of the Council the rule is not consistent with the Magnuson Act or the objectives of the FMP, they will inform the RD and FMFC. In this case the RD will not proceed with implementation of the rule until this issue has been resolved.<sup>3</sup>
- 5. When the RD has preliminarily concluded the rule is acceptable, he will draft and publish the proposed rule for implementation by regulatory amendment. Based on FMFC analyses of impacts, the Council's staff, with assistance from FMFC, will prepare the supporting documentation [EA/RIR, etc.] that accompany the proposed rule. The effective date of rules promulgated under this procedure will be the starting date of the next fishing season following approval of the regulatory amendment unless otherwise agreed upon by FMFC, the Council, and the RD. A reasonable period for public comment on the proposed rule shall be provided.

After reviewing public comment if the RD has concluded the rule is not consistent with the FMP objectives, the National Standards, other applicable law, or <u>the provisions of this</u> <u>procedure</u>, he will notify the Council and FMFC of the fact and/or the need for proceeding with implementation by FMP amendment. If the supporting record is still deficient, he will delay taking action until the record has been supplemented by FMFC and/or Council staffs. If the RD has concluded the rule is consistent, he will publish the final rule.

# 6. PART A (GEAR RESTRICTIONS)

Appropriate rules or regulatory changes that can be implemented under this part include:

- a. Limiting the number of traps that may be fished by each vessel.
- b. Describing the construction characteristics of traps.
- c. Specification of gear and vessel identification requirements.
- d. Specification of gear that may be utilized or prohibited in directed fishery and specification of bycatch levels of stone crabs that may be taken as incidental catch in non-directed fisheries.
- e. Changes to soak or removal periods and requirements for traps.

## 7. PART B (HARVEST RESTRICTIONS)

Appropriate rules or regulatory changes that can be implemented under this part include:

- a. Changes in fishing season.
- b. Limitations on use, possession, and handling aboard vessels of stone crab.
- c. Changes in minimum legal size.

## **<u>Preferred Alternative</u>**: Adopt the protocol and procedure.

# Rejected Alternative: No action.

<u>Discussion</u>: The Council feels that utilizing a regulatory amendment procedure approach for implementation by the RD of certain types of rules adopted by the state under oversight by the Council, AP, and SSC has the following advantages:

• provides a more flexible and timely system that should result in compatible rules between State and federal jurisdictions;

<sup>&</sup>lt;sup>3</sup> The issue will not be resolved until the Council has withdrawn their objections.

- provides ample and fair opportunity for public input into the rulemaking process through State hearings and workshops (see Appendix A), Council oversight, and to NMFS during the public comment period on the proposed rule;
- is more cost-effective: 1) allowing the Council and RD to utilize public hearing information and comments gathered by the State and utilize socioeconomic analyses prepared by the State, 2) reduces enforcement cost and increases effectiveness through compatible rules, and 3) through agreed upon protocol, shifts the data gathering and management interpretation costs and enforcement costs to the State;
- provides the Council with opportunity to review each rule for consistency with the FMP objectives and the Magnuson Act and to cease the implementation process until issues over consistency have been resolved;
- in no way prohibits the Council from exercising the amendment or public hearing authority for changes to the FMP;
- provides the State with a more responsive management system for a fishery that is largely
  a State fishery (all permits are issued by the state), whereas previously by virtue of the
  localized geographical scope of the fishery the Council placed higher priorities on amending
  other FMPs with regional application, thereby delaying implementation of compatible rules
  and impacting effective management of the fishery; and
- assures that the management objectives of the Council and FMFC are most effectively carried out in a manner that benefits the resource and user groups and within standards of the Magnuson Act and standards of the FMFC.

A possible disadvantage is that there is no statutory time period specified under the Magnuson Act for processing of regulatory amendments by NMFS. Therefore, the implementation period may, on occasion, exceed that for FMP amendments, depending on the NMFS workload. Also, the opportunity for public comment at the federal level could be somewhat reduced; however, the Council can schedule additional hearings if it determines the issue is controversial.

Parts A and B of the procedure limit the type of regulatory actions that can be addressed to the issues most likely to be addressed by the State in fine tuning regulations. Other issues cannot be addressed through the procedure and would require a FMP amendment..

<u>Biological Impacts</u>: This action, in itself, has no impact but merely provides a procedure for implementing future regulatory changes. Actions that may be implemented under the procedure will have biological impacts which will be described in the regulatory amendment for that action.

<u>Socioeconomic Impacts</u>: The principal economic impacts related to the preferred alternative are to defer some of the federal costs to the state. These include much of the data collection, research, stock assessment, and enforcement costs of NMFS and the plan amendment development and public hearing costs of the Council as well as some of the costs associated with reviews by the Council's Scientific and Statistical Committee (SSC) and Advisory Panel (AP).

The socioeconomic impacts of any actions implemented under the procedure will be described in the regulatory amendment/EA/RIR for that action.

# 9. REGULATORY IMPACT REVIEW (RIR)

# 9.1 Introduction

The National Marine Fisheries Service (NMFS) 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 proposed or final regulatory action, 2) it provides a review of the problems and policy objectives prompting the regulatory proposals and an evaluation of the major alternatives that could be used to solve the problem, and 3) it ensures that the regulatory agency systematically and comprehensively considers all available alternatives os 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 the proposed regulations are a "significant regulatory action" under the criteria provided in Executive Order 12866 and whether the proposed regulations will have a significant economic impact on a substantial number of small entities in compliance with the Regulatory Flexibility Act of 1980 (RFA). The primary purpose of the RFA is to relieve small businesses, small organizations, and small governmental jurisdictions (collectively: "small entities") of burdensome regulatory and recordkeeping requirements. The RFA requires that if regulatory and recordkeeping requirements are not burdensome, then the head of a federal agency must certify that the requirement, if promulgated, will not have a significant effect on a substantial number of small entities.

This RIR analyzes the probable impacts that the proposed alternatives for Amendment 5 to the Stone Crab FMP would have on the commercial stone crab industry.

# 9.2 **Problems and Issues in the Fishery**

The general problems in the fishery are enumerated in the section <u>Problems in the Fishery</u> of the Stone Crab Fishery Management Plan (FMP), as amended. The specific problems addressed by this proposed plan amendment are enumerated and discussed in Sections 6 and 7. There are two issues identified for plan amendment: 1) moratorium on vessel registration; and, 2) enhanced cooperative management system for the fishery.

## 9.3 Objectives

The general management objectives are enumerated in the section Management Objectives of the Stone Crab Fishery Management Plan, as amended (see also Section 8.B). This amendment is intended to address the two major problems and issues identified for the fishery.

# 9.4 Management Measures

The proposed actions and specific management measures are fully stated and discussed in Section 8. There are two sets of management actions considered corresponding to the two problems identified. These are restated or described in the following section where their potential impacts are analyzed.

### A. MORATORIUM ON VESSEL REGISTRATION

<u>Preferred Alternative</u>: Revise the FMP to place a temporary moratorium on registration<sup>2</sup> of stone crab vessels by the RD. Such moratorium shall be for 4 years duration beginning on July 1, 1994.

<u>Alternative 1</u>: Implement the moratorium on registration as above. Such moratorium shall be for 3 years beginning on the effective date of this amendment.

<u>Alternative 2</u>: No action - Do not implement a FMP moratorium on stone crab vessel registration.

As discussed in Section 5, the stone crab fishery in the Gulf is essentially a Florida fishery. In the past the fishing area was mostly in the shallow waters off Monroe, Collier, Manatee, and Pinellas Counties, but in recent years fishing expanded to areas in deeper waters for most Gulf coastal counties from Monroe to Franklin. In addition to resolving gear conflict between shrimp and stone crab fishermen the FMP, as amended, simply extends the Florida rules into the EEZ. In addition the FMP's management area is limited to the EEZ seaward of the west coast of Florida.

Under the Florida rules, a permit is required to commercially fish for stone crabs. While a state permit is sufficient to fish in both state and EEZ waters, the NMFS Regional Director (RD) is also authorized to issue a vessel an identification number to allow fishing in the EEZ, but only to those who cannot secure a state permit. Florida is now in the process of adopting a moratorium rule on the issuance of commercial permit for stone crab fishing so that the current proposed alternatives for the current FMP amendment would mainly extend such moratorium to EEZ waters. The main intent of the moratorium is to provide a non-increasing number of participants while a limited access system is being considered for the fishery.

Currently, there are two moratoria in effect in the Gulf reef fish fishery, namely, a moratorium on the issuance of commercial permit for reef fish and a moratorium on the issuance of fish trap permits by instituting an endorsement system. The intent of the reef fish moratorium is to prevent an influx into the fishery of more vessels while a limited access system is considered. To date, only a limited access system for the red snapper component of the reef fish industry is being contemplated. The moratorium for the issuance of fish traps is intended to prevent the fishery from expanding while fish trap fishing is being studied for its ecological and environmental effects. A moratorium has also been adopted or is being considered in several fisheries in the U.S. federal waters. The Western Pacific Fishery Management Council imposed a license moratorium on western Pacific pelagics to be eventually replaced with a limited entry program. The Mid-Atlantic Fishery Management Council approved a license moratorium on the summer flounder fishery and is also considering a similar moratorium on mackerel, squid, and butterfish. The same council imposed a ten-year license moratorium on the surf clam fishery before implementing an ITO system. The North Pacific Fishery Management Council has been for some time considering a license moratorium on the groundfish fishery and on king and tanner crab fisheries. Lastly, the Pacific Fishery Management Council imposed a license moratorium before adopting a limited entry on the Pacific groundfish fishery. These moratoria have been adopted or are being considered as a pre-condition for a limited access system for the subject fisheries.

Through a short-term contract with the Pacific Fishery Management Council, Higgs (1978) studied the probable socioeconomic effects of a moratorium then proposed for the groundfish fishery. His major conclusions were: 1) slight deterioration in the efficiency of resource use; 2) an increase in the number of licensed gear operators; 3) small proportional increase in effort; 4) an increase in the market value

<sup>&</sup>lt;sup>2</sup> Registration means the vessel would be issued an identification number and color code which identifies it and allows operation in the EEZ fishery.

of licenses; 5) no significant effects on prices of fish, on participation in alternative fisheries, on alternative employment, on incomes of operators, on the value of vessels and gear, and on the activity in boat building, service industries, and coastal communities; 6) slight increase in social conflict among fishermen; 7) some restriction on the independent way of life in the fishery; 8) certain distributional effects; and, 9) a possible substantial increase in management and enforcement costs; The Pacific Council's Statistical and Scientific Committee (SSC) determined that these effects were mainly shortterm in nature and were not determined in the context of either the long-term or a succeeding limited entry system. The SSC, however, agreed with the Higgs report in its assertion that a moratorium not followed by an effective limited entry system would result in adverse consequences. This committee concluded further that greater social and economic costs would occur upon implementation of a limited entry program which was not preceded by a moratorium. Since the current moratorium proposal may be viewed as a prelude to a limited access system in the fishery, it appears more appropriate to consider mainly the short-term effects along the lines determined by Higgs for the Pacific groundfish fishery. With respect to the long-term effects, it is deemed sufficient to reiterate the Pacific Council's SSC conclusion that adverse consequences are bound to occur if a moratorium is not followed by an effective limited access system.

#### No Action versus Moratorium

Table 2 and Figure 1 depict a historically growing stone crab fishery. Harvest increased from less than a million pounds (MP) in 1962 to slightly over 3 MP in 1992 and exvessel value rose from a few thousand dollars to over 15 million dollars for the same period. Traps, the gear type used in the fishery, increased from about 14.6 thousand in 1962 to about 686.3 thousand in 1992. Commercial fishing boats and vessels (crafts) also increased from 260 in 1977 to 647 in 1992. The small increases in total catch accompanying increases in traps and fishing crafts in the 1990s are partly indicative of sufficient capitalization in the fishery relative to the resource. Relative to the no action alternative, a moratorium can prevent a further increase in fishery capitalization and in this manner may be deemed to be a relatively effective approach in preventing a further deterioration in the efficiency of the fishing industry.

One can infer from Table 2 that an increase in fishing crafts and traps may be expected in the near future. Whether such an increase will be exacerbated or prevented by a moratorium depends on the effective date of the moratorium. As will be pointed out below in the discussion of various moratorium alternatives, a later effective date is bound to result in an increase of licensed fishing crafts than an earlier one.

Since the moratorium affects only the entrance of additional vessels and not the deployment of traps, there is still some possibility that fishing effort may increase beyond current level even with the moratorium in place. A significant increase in traps has a high likelihood of neutralizing the mentioned efficiency effects of the moratorium.

Under a moratorium, licenses will command values well above the cost of obtaining them, and this value will increase with increases in the demand for stone crabs. Adams and Prochaska (1992) conducted both long-term and short-term ex-vessel price analyses for stone crab in Florida. While they found that ex-vessel prices are significantly related to claw landings and income over the short- and long-term period, such prices are not very responsive to changes in claw landings. Prices, nonetheless, were found to be relatively responsive to income changes. Thus, growth in income, particularly over the long-run, would exert an upward pressure on prices. A major implication of these findings is that over the long run when income increases, value of licenses under a moratorium would increase. Nonetheless, the realization of such increased license value will depend on the nature of license transferability during the moratorium and the duration of the moratorium. If licenses are not

transferable during the moratorium, except perhaps on hardship cases, any value accruing to the licenses may not be converted to cash.

A slightly similar situation to licenses occurs with respect to the value of the fishing crafts. A moratorium may increase the value of fishing crafts but only in a very small proportion relative to the increase in the value of licenses. Such increase may occur in the event that only those fishing crafts that receive permits at the start of the moratorium may be employed in the fishery. Most likely, however, such value increase will be included in the license value in the event of transfer by sale. In a situation where licenses may be transferred to vessels not originally licensed at the start of the moratorium, no such increase in vessel value will ensue. Since the moratorium does not apply to traps, no increases in the value of traps may be expected from implementation of a moratorium.

The current level of harvest capacity in the fishery is deemed to be sufficient to harvest the resource so that a moratorium that does not result in a substantial reduction of current participants is not bound to result in any supply shortage. As will be discussed below any of the alternatives for a moratorium is not expected to substantially reduce the number of current participants. Under such condition, any changes in prices for stone crabs may then be brought about either by changes in demand or changes in harvest conditions such as the change in stock levels or fishing conditions. In this sense, both the moratorium and the no action alternatives would have similar effects on the ex-vessel price for stone crabs.

Since none of the alternatives for a moratorium is expected to substantially reduce the current number of fishery participants, implementation of a moratorium is not expected to affect participation in alternative fisheries, alternative employment, and incomes of operators. Naturally, those who are not currently in the fishery, be they prior or prospective participants, would face restrictions on their fishing and employment opportunities. The extent of such restriction cannot be assessed with existing information. With respect to incomes of operators, a moratorium may be expected, at the least, to limit the likelihood of existing operators experiencing a reduction in incomes since new entrants would be practically disallowed in the fishery. To a certain extent, this condition could result in redistribution of wealth from those excluded to those who would receive licenses, although very likely such redistributive effect would be relatively small. While a moratorium may be expected to limit activities in boat building, service industries, and affected coastal communities, it is believed that the extent of such effects is relatively small since the potential limitation resulting from a moratorium would be relevant only to future changes in these activities which are likely to be relatively small considering the changes in the industry in the last three to five years.

There is a possibility that a moratorium may give rise to conflicts between those included and those excluded, but the experience in the reef fishery does not appear to confirm this possibility. One may note though that one major motivation for the formulation of the stone crab FMP was to resolve the conflict between shrimp and stone crab fishermen fishing in the same areas in the EEZ (see Section 4). One of major causes of such conflict was the increasing number of stone crab and shrimp fishermen fishing in the same areas, with the influx of newcomers not knowledgeable about existing fishing arrangements contributing to the heightening of the conflict (Overbey, 1987). This conflict has been resolved and both types of fishermen are greatly aware of the limits of their respective fishing activities. By limiting the number of stone crab fishermen, especially the new entrants, a moratorium offers a good chance of ensuring that the previous conflict between the two types of fishermen would not affect the number of shrimp fishermen entering the fishery and fishing in the same areas.

In assessing the importance of tradition as a rationale for government intervention in fisheries management, Cicin-Sain (1978) remarked that the tradition of individual freedom of choice is as equally important as the tradition of economic efficiency. A moratorium may be seen as a first step toward

limiting individual freedom in stone crab fishery. While prevention of the re-occurrence of conflict between shrimp and stone crab fishermen may be enhanced through the moratorium, the acceptability of the moratorium may partly depend on how strongly it is perceived as a first step toward limiting individual freedom in the stone crab fishery. It appears that acceptability of a moratorium is relatively high as partly evidenced by effort of the industry (mainly OFF) to institute a moratorium at the state level. In addition, a telephone poll of the Gulf Council's Advisory Panel for stone crab indicates support of this action by those polled. It is not unexpected that a contrary position would be taken by those who would be potentially excluded from the fishery by the moratorium.

The moratorium itself is not expected to incur substantial additional management and enforcement costs. Currently participants in the stone crab fishery can secure state permits allowing them to commercially fish in state and EEZ waters, or if they cannot secure state permits they may obtain vessel registration from the RD allowing them to fish in the EEZ. Under the moratorium, state licenses will continue to be issued but this time limited to initial participants of the moratorium or at most to the same number of participants if transfer of licenses is allowed. The RD may no longer register stone crab vessels allowing them to fish in the EEZ. An additional cost may be incurred if transfer is allowed and such transfer is governed by certain stringent conditions. Beyond the moratorium and into the limited access regime, we can expect additional management costs for the proper functioning of the system. But this cost item is more appropriately treated at the time a more specific form of limited access system is being considered.

### Moratorium Alternatives

There are two sets of moratorium alternatives, one for the effective date and the other for the duration of the moratorium.

The nature of all the moratorium alternatives is such that a reduction in the number of current fishery participants will ensue. In fact, a moratorium, especially when viewed as an initial step toward a limited access system, is expected to induce an increase in the number of participants in the fishery, and the later the effective date of the moratorium the greater will be the increase in number of participants. It is very likely that the first alternative for moratorium effectivity, i.e., effective date of this amendment, will result in a later starting date than the preferred alternative, One point worth noting here is the fact that since the implementation of the FMP, no one has applied to NMFS for vessel registration in the stone crab fishery. This implies that the state moratorium will be the sole major defining factor for the increase in fishery participants. The only time a federal moratorium becomes a binding constraint is when it is implemented before or at the same time as the state moratorium.

Since the major rationale for a federal moratorium is to support the state moratorium proposed by OFF, both moratoria should to the extent possible be of the same duration. This is best accomplished under the second than under the first alternative for the duration of the moratorium. A better alternative would have been to adopt an indefinite period but coincident with the state moratorium, but understandably this is not a legally iable alternative.

## B. ENHANCED COOPERATIVE MANAGEMENT SYSTEM

There are two sets of alternatives in this section. The first one relates to the addition of an objective in the FMP to address the issue of enhanced federal and state cooperative management of the stone crab fishery. The second relates to the protocol in which such state-federal cooperative management may be carried out.

# Addition of Objective

Preferred Alternative: Include new objective.

5. Provide for a more flexible management system that minimizes regulatory delay to assure more effective, cooperative state and federal management of the fishery.

# Rejected Alternative: No action - do not include objective 5.

The stone crab FMP, as amended, contains four objectives which have been enumerated above (see Section 8.B). The proposed fifth objective is an explicit recognition of developing a system that facilitates the enactment of regulatory measures for the stone crab fishery at the state and federal level. While maintaining the status quo does not preclude an effective state-federal cooperative management, the addition of the proposed objective provides a target for ensuring that state and federal rule making with respect to the stone crab fishery is well coordinated. Being mainly concerned with a general policy statement, either alternative does not have any social and economic effects.

# Protocol and Procedure for Cooperative Management

<u>Preferred Alternative</u>: Adopt the protocol and procedure.

# Rejected Alternative: No action.

The protocol and procedure for cooperative management system are fully described in Section 8.B. The protocol subsection contains, among others, the necessary provisions for ensuring that both state and federal conservation and management objectives are achieved and that the measures implemented are consistent with the National Standards and other applicable laws and statutes. Such provisions are important because it can happen that state and federal interests would be divergent although such divergence happens more likely with respect to economic than with respect to biological considerations. The procedure subsection also enumerates the type of management measures that can be implemented through the established procedure for rule making. Both the advantages and disadvantages of adopting the protocol and procedure are also enunciated in Section 8.B.

In and by themselves, the protocol and procedure do not have any direct social and economic impacts on the fishery participants so that both alternatives are the same in this regard. The major factor to consider with the preferred alternative is that the major cost items in formulating regulations, including gathering of background information, will be borne by the state. Although it really does not matter whether the state or the federal government bears the mentioned cost since any type of costs will have to be considered in determining whether regulations are likely to result in net benefit to the nation, adoption of the proposed protocol and procedure would tend to avoid duplication of activities that entail cost to the government. It is from this standpoint that the preferred alternative may be ranked higher than the no action alternative.

# 9.5 Private and Public Costs

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 specific action include:

ouncil costs of document preparation, leetings, public hearings, and information issemination
MFS administrative costs of document reparation, meetings and review\$ 3,500
aw enforcement costs
ublic burden associated with data collection
MFS costs associated with data collection
TOTAL \$12,000

The Council and Federal costs of document preparation are based on staff time, travel, printing and any other relevant items where funds would be expended directly for this specific action. There are no additional law enforcement costs with this plan amendment. The data collection action imposes costs on the public and NMFS. The NMFS costs associated with the data collection include those that would be expended for compiling information. It is felt that the identified costs comprise the major cost items for the preparation and implementation of this amendment.

#### 9.6 Summary of Regulatory Impacts

Relative to the no action alternative, a moratorium offers a better chance of preventing a further deterioration in the efficiency of resource use in the stone crab fishery, but such efficiency effects depend largely on the effective date of the moratorium. A moratorium, especially when viewed as a first step to a limited access system, may be expected to invite more participants to the industry so that a later date of effectivity may allow more entrants to the fishery as to further overcapitalize the fishery. An increase in effort mainly due to the deployment of more traps could result from the moratorium. A moratorium may also result in an increase in the value of licenses more than an increase in value of fishing crafts. Since any of the moratorium alternatives would not reduce the number of current participants in the fishery, an increase in the price of stone crabs due to an artificial supply shortage is very unlikely. A moratorium would not affect participation in alternative fisheries, alternative employment, and incomes of operators of those who are currently in the fishery, but it would limit the activities of prospective entrants to the fishery. By limiting new entrants, a redistribution of wealth from those excluded to those included in the moratorium would ensue. The experience in the reef fish fishery indicates that a conflict between those included and excluded from the fishery due to the moratorium is unlikely. In fact, a moratorium in the stone crab fishery may partly By obviate the re-occurrence of previous conflict between stone crab and shrimp fishermen. disallowing new entrants into the fishery, a moratorium may restrict individual freedom of fishermen, but such restriction may not be strongly opposed by current participants in the fishery. The moratorium is expected to incur only minimal administration and enforcement cost, although a later limited access system may involve substantial cost for the effective functioning of the system.

Among the alternatives for the effective date of the moratorium, the one that renders federal and state moratorium coincident may be ranked the highest mainly because the state moratorium is the more binding of the two moratoria. With respect to the duration of the moratorium, an alternative that renders state and federal moratoria to be of the same duration may be ranked the highest. Between the two alternatives proposed for the duration of the moratorium, the one that could potentially achieve the same duration for state and federal moratoria (i.e., Preferred Alternative) may be deemed superior.

Alternatives regarding the addition of objectives and adoption of protocol and procedure for a cooperative management system do not have economic and social impacts.

### 9.7 Determination of a Significant Regulatory Action

Pursuant to E.O. 12866, a regulation is considered a "significant regulatory action" if it is likely to result in: a) an annual effect on the economy of \$100 million or more; b) a major increase in costs or prices for consumers, individual industries, federal, state, or local government agencies, or geographic regions; or c) significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets. Only the set of moratorium alternatives have the potential of affecting any of these items, and so is the only set of alternatives considered for the purpose of determining a significant regulatory action.

The proposed moratorium would not restrict the current number of participants in the fishery, and so is not expected to have an effect on the economy of \$100 million or more. In addition, the stone crab fishery had an ex-vessel value of only about \$15.7 million in 1992. The highest recorded value was in 1990 and was only about \$15.9 million. Since the moratorium would also not restrict the harvest in the fishery, no major cost or price increases for consumers and stone crab and related industries would result from its implementation. The costs to federal and state government agencies of formulating and implementing the moratorium are expected to relatively small since it would mainly restrict the issuance of licenses to new entrants. There are no expected cost or price increases in

geographic region where stone crab is a major fishery. To the extent that the proposed moratorium would not reduce the current number of participants in the stone crab fishery, no significant adverse effects on competition, investment, productivity, innovation or the competitive status of domestic fishery vis-a-vis its foreign rivals would arise from the implementation of a moratorium. Employment in the fishery of prospective entrants would be limited under a moratorium, but the extent of this probable effect cannot be determined.

On the basis of the foregoing discussion, it is determined that the proposed regulation would not constitute a major regulatory action as stipulated under E.O. 12866.

### 9.8 Determination of the Need for Initial Regulatory Flexibility Analysis (IRFA)

### Introduction

The purpose of the <u>Regulatory Flexibility Act</u> (RFA) is to relieve small businesses, small organizations, and small governmental entities from burdensome regulations and record keeping requirements. The category of small entities likely to be affected by the proposed plan amendment is that of commercial and for-hire businesses currently engaged in the stone crab fishery. The impacts of the proposed action on these entities have been discussed above. The following discussion of impacts focuses specifically on the consequences of the proposed action on the mentioned business entities. An Initial Regulatory Flexibility Analysis (IRFA) is conducted to primarily determine whether the proposed action would have a "significant economic impact on a substantial number of small entities." In addition to analyses conducted for the RIR, the IRFA provides an estimate of the number of small businesses affected, a description of the small businesses affected, and a discussion of the nature and size of the impacts.

### Determination of Significant Economic Impact on a Substantial Number of Small Entities

In general, a "substantial number" of small entities is more than 20 percent of those small entities engaged in the fishery (NMFS, 1992). In 1992, a total of 647 boats and vessels were recorded to have participated in the stone crab fishery. The Small Business Administration (SBA) defines a small business in the commercial fishing activity as a firm with receipts of up to \$2.0 million annually. Practically all current participants of the stone crab fishery readily fall within such definition of small business. Since the proposed action will affect all current participants, the "substantial number" criterion will be met.

Economic impacts on small business entities are considered to be "significant" if the proposed action would result in any of the following: a) reduction in annual gross revenues by more than 5 percent; b) increase in total costs of production by more than 5 percent as a result of an increase in compliance costs; c) compliance costs as a percent of sales for small entities are at least 10 percent higher than compliance costs as a percent of sales for large entities; d) capital costs of compliance represent a significant portion of capital available to small entities, considering internal cash flow and external financing capabilities; or e) as a rule of thumb, 2 percent of small business entities being forced to cease business operations (NMFS, 1992). Only the set of moratorium alternatives have the potential to affect any of these items, and so is the only set of alternatives considered in determining a significant economic impact on small entities.

Since the proposed moratorium would not result in any reduction of current fishery participants or in any reduction of harvest, annual gross revenues to any fishing entity would not be affected. The proposed moratorium would not affect in any manner the production and compliance cost to fishing participants nor would it require capital investment to comply with the rules. None of the current participants is expected to be forced to cease business by the moratorium. With respect then to current participants the proposed regulation is determined not to effect a significant economic impact on small business entities, since none of the mentioned criteria will be met.

It may be noted that the proposed moratorium would exclude additional participants, be they prior or new entrants to the fishery. However, the state legislation provides that permits not renewed can be reissued to new applicants (Appendix B). Prospective re-entrants to the fishery may experience some forgone revenues if they are unsuccessful in securing permits. More importantly, however, they would stand to lose their investment on vessels and gear if excluded from the fishery, and they could be forced to cease business entirely. However, it is not possible to determine the extent of such potential losses.

## Explanation of Why the Action is Being Considered

Refer to the section on Problems and Issues in the Fishery in the RIR, and references thereat to Sections 6 and 7 of the amendment text and the FMP, as amended.

## Objectives and Legal Basis for the Rule

Refer to the section on Objectives in Section 8.B, with references thereat to the FMP, as amended. The Magnuson Fishery Conservation and Management Act of 1976 provides the legal basis for the rule.

## Demographic Analysis

Refer to the FMP, as amended.

# Cost Analysis

Refer to the section on Private and Public Costs and Summary of Regulatory Impacts in the RIR.

## Competitive Effects Analysis

In view of the fact that the industry is essentially composed of small businesses, the impacts of the measures considered under this amendment are deemed not to involve disproportional small versus large business effects.

## Identification of Overlapping Regulations

The proposed action does not create overlapping regulations with any state regulations or other federal laws.

## **Conclusion**

The proposed regulation has been determined to have no significant economic impacts on a substantial number of small business entities in the reef fish fishery. The foregoing information and pertinent portions of the RIR are deemed to satisfy the analysis required under the RFA.

# **10. AFFECTED ENVIRONMENT<sup>4</sup>**

# **10.1 Description of Stone Crab Habitat**

Adult stone crabs burrow under rock ledges, coral heads, dead shell, or grass clumps. In seagrass flats (primarily <u>Thalassia testudinum</u>) and along the sides of tidal channels they inhabit burrows which may

<sup>&</sup>lt;sup>4</sup> Summarized principally from FMP which cites references.

extend 127 cm (50 in.) into the substrate. They occasionally inhabit oyster bars and rock jetties. Flocculent sand is the least preferred habitat.

Juveniles (less than 30 mm carapace width, CW) do not dig burrows; they utilize readily available hiding places that offer close proximity to food items. Juveniles have been reported to be abundant on shell bottom, sponges, and <u>Sargassum</u> mats as well as in channels and deep grass flats. Young crabs, after attaining a true crab form, are found under shell fragments in deep waters of harbor channels. After reaching a width of about one-half inch (12.5 mm), the crabs lived among oyster shells and rocks in shallow parts of estuaries. There are numerous reports of large juveniles - small adults (up to 60 mm CW) being abundant on oyster reefs.

Unlike the benthic dwelling adults and juveniles, stone crab larvae are planktonic (drifting with water currents). Although they are capable of feeble swimming, they are essentially at the mercy of water currents. Adults and juveniles appear to be hardy: they tolerate most environmental extremes within their distributional range and are capable of surviving salinities considerably higher or lower than 33 ppt. However, stone crab larvae require warm water 30°C (86°F) and high salinity (30-35 ppt) for most rapid growth. Larval survival and growth rates decline rapidly below 25°C (77°F) and 25 ppt. Thus in certain broad areas of shallow water where salinity and temperature can dramatically fluctuate, such as upper Florida Bay, larvae may have high mortality rates due to these factors alone.

### **10.2 Habitat Along the West Coast of Florida**

The broad, gently sloping continental shelf and numerous estuarine systems of west Florida, particularly in the south-west, provide extensive habitat for stone crabs. The gentle slope of the shelf, and presence of numerous barrier islands, tend to dampen wave energy a considerable distance from the shoreline, allowing development of extensive offshore seagrass flats. In most areas there is only a thin veneer of sediment overlying bedrock, and there are numerous limestone outcroppings which support sponge and coral communities.

In the lower Florida Keys, the southernmost limit of the commercial fishery, stone crabs are taken from soft coral and sponge bottom in shallow water among the Keys. Few are caught commercially along the Atlantic side of the Keys.

The most productive habitat by far is found in the Everglades - Florida Bay area. Stone crabs are sought in shallow Florida Bay and offshore from Cape Sable to Cape Romano out to a water depth of 15 to 18 m (50-60 ft). The shoreline in this area is characterized by a broad maze of mangrove swamp, with extensive oyster reef development in the Ten Thousand Islands area. Extensive turtle grass flats occur from Cape Sable northward to Cape Romano Shoals. However, in the area of Cape Romano Shoals, the bottom is characterized by "flocculent sand" and mud and is not commercially fished. Offshore of the turtle grass habitat (along the west coast of Florida turtle grass is found to a maximum depth of 6 to 9 m (20-30 ft); hard packed sand with scattered shell and patches of hard bottom with attached soft coral and sponge communities typifies stone crab habitat.

North of Cape Romano to Tarpon Springs, the coast is characterized by a series of barrier islands. Wave energy conditions are higher here than to the south or north due to a greater offshore ramp slope. There is usually 20 feet or more of water within one-third to one-half mile from shore. Extensive grass flats prevail in sheltered areas, especially in lower Charlotte Harbor, lower Tampa Bay and Anclote Estuary. Offshore outcroppings are particularly numerous in the sponge grounds off Tarpon Springs.

In the Cedar Key Region (Pasco, Hernando, Citrus, Levy, Dixie, and Taylor Counties) the land grades into the sea through an extensive development of <u>Spartina</u> tidal flats, and in areas of reduced salinity,

oyster bars flourish. There are extensive areas of shallow water, with depth in offshore areas increasing about one foot per mile. In this area, seagrass beds may form a bank that is 10 to 15 miles wide. As is common along the west Florida coast, subdued rock outcroppings are found offshore.

In the Panhandle region of Florida stone crab landings are small compared to landings in the Everglades-Florida Bay area. Barrier islands occur along the Apalachicola delta and the offshore area is characterized by shoaling and offshore rock outcrop.

### **10.3 Factors Affecting Habitat Productivity and Probable Future Condition**

The productivity of west Florida's coastal waters, which supports stone crabs in commercial quantities, is basically dependent upon the estuaries and seagrass beds that abound along the coast. Nutrient rich, freshwater runoff flowing into the estuaries fertilizes the seawater, resulting in high seagrass and phytoplankton productivity. Lower salinity (which can often exclude predators) and plentiful phytoplankton are ideal for oysters, worms and other organisms. These provide abundant food and shelter for juveniles and adult stone crabs. Seagrasses and mangrove forests, often the dominant features in near-shore and estuarine environments, and the epiphytic algae on them are generally considered to be the major producers of organic matter in coastal ecosystems. They provide protective covering, and along with the phytoplankton in the surrounding water, support the food items of the stone crab.

However, coastal development by man, with ensuing pollution and dredge and fill operations, can reduce the productivity of coastal ecosystems. To date, the undeveloped nature of the lower west Florida coast and the habitat and stock protection provided by Everglades National Park appears to have maintained a healthy system. Also, there are a number of state and federal laws which are intended to eliminate or minimize environmental damage caused by coastal development in the future.

The rapid growth of Florida's population (expected to reach 14.0 million by the year 2000), with onehalf of its new residents settling in the coastal zone, can be expected to put more demands on the coastal ecosystem. The Big Cypress Swamp, which protects a significant portion of the watershed flowing into the Ten Thousand Island Region, receives some protection from the state areas of critical concern program, and by establishment of the Big Cypress Natural preserve. Also, although Florida has planned many habitat protection programs, all of which have not yet been formally approved.

The diversion of water flow from the Lake Okeechobee/Kissimmee River drainage from Everglades National Park (ENP) for agricultural, municipal and navigational use has adversely affected the Florida Bay area. These effects have resulted in greater salinity levels in the nearshore Florida Bay and more recently massive algal blooms have occurred along with die-offs of grass beds, sponges and other live bottom organisms. Natural production of pink shrimp has been reduced by about 50 percent for the last five years (1988-1993). This apparently has not affected stone crab production or catches (see Table 2).

A federal and state interagency coordinating task team has been formed to assess the impacts of this freshwater diversion and agriculture enrichment of the ENP ecosystem. All federal and state agencies with jurisdictions or regulatory authority are involved in exploring alternatives necessary to restore these ecosystems. The Florida legislature appropriated \$600 million for this purpose.

### 10.4 Habitat Areas of Particular Concern

Apparently, shallow, inshore grass flats serve as important spawning areas. Females spawn in shallow, grassy areas during the spring, and summer with peak numbers of ovigerous females occurring in July and September. During the summer, females dominated the grass flat stone crab

population, with males being more abundant in channels. Conditions on the grass flats during the summer are optimum for spawning females and stone crab larvae. Food is abundant for reproductively active females and prevailing high temperature and salinity are optimum for larval growth and development.

Furthermore, these same shallow grass flats are important mating areas. Several investigators and fishermen have noted an inshore movement of stone crabs, especially males, after the spawning season. Evidently, a large population of males move into the shallow grass flats to mate with resident female crabs and young recently matured females that move onto nearshore areas earlier in the summer. It has been suggested that two stone crab populations exist: an offshore population, comprised mostly of males, which migrates inshore in the early winter for mating; and an inshore population, comprised mostly of females, which remains inshore all year and spawns from March to October. This observation contrasts with observations by commercial fishermen.

The nursery areas for juveniles are not yet clearly defined. Observations suggest oyster bars support populations of large juveniles and small adults. Conditions in such areas appear to be ideal for young stone crabs. Shelter is abundant for young, non-burrowing stone crabs and food is plentiful to ensure rapid growth and development. However, other observations have also noted an abundance of juveniles on deep grass flats. Many juveniles may simply remain in hiding among scattered debris and seagrasses until they reach sexual maturity.

These observations on spawning, mating, and nursery areas all point to the importance of grass beds and inshore oyster bar habitat to the life history of the stone crab. Therefore they should be considered as particularly important to the stone crab fishery. More specifically, it is significant to note that, there is extensive oyster bar habitat in the Ten Thousand Island Region of southwest Florida. This area may be a vital nursery area that significantly contributes to the offshore stone crab fishery. A large portion of this area is protected by Everglades National Park and Big Cypress National Preserve and if the integrity of the Park is maintained a large part of the area will remain intact (see preceding section).

## 10.5 Effects of the Fishery

Gear used in the fishery consists principally of traps constructed of wooden slats, with top entrance funnel. Some plastic traps with wooden degradable panels are used. Typically these traps are 16x16x11 inches and the wooden traps are weighted by concrete. Some wire blue crab traps are used in the northern area, i.e. Cedar Key, Florida north.

The wooden traps deteriorate usually by the end of the second season to a point the crabs may crush the wooden slats. Crabs apparently can enter and leave traps as evidenced by movement of tagged crabs between traps (see Section 5). Therefore, ghost fishing effects from lost traps on stone crab are likely minimal or nonexistent.

Principal bycatch species include black sea bass and grunts that are either harvested or used for bait. Fishermen indicate such catches per trap is usually small, largely because of the small size of the traps but cumulatively provide important supplemental income during certain portions of the year. In some years octopus are commonly taken as bycatch in significant quantities and enter traps presumably to feed on stone crabs. There are not directed fisheries for any of these species other than black sea bass.

Traps are baited generally with fish portions (e.g. grouper heads) and bycatch. Traps are removed at the end of each season and stacked ashore or discarded (i.e., rules require all traps be removed).

As pointed out by the SSC (see Section 5) the development of excessive numbers of traps apparently has no adverse effect on the stone crab stock, but simply results in overcapitalization and decreased CPUE per trap. Continual entrance of new fishermen exasperates this problem and the economic effectiveness of individual fishing operations. The minimum size limit assures both males and females are sexually mature for one to two years before harvest, resulting in a fishery very resilient to overfishing (see Amendment 4).

# 11. ENVIRONMENTAL CONSEQUENCES

# **11.1** Physical Environment

The actions presented in this amendment will have no impact on the physical environment since they are primarily related to revision of the FMP administrative system for managing the fishery. One of the actions is to establish a federal moratorium on registering vessels, which considering that no vessels have ever been so registered has no effect. In conjunction with the proposed state moratorium it would limit participants but not gear. The other establishes a procedure for implementing new rules adopted by the State. The effects of such rules will be evaluated in the EA accompanying the regulatory amendment. Traps deployed in the fishery are set on the bottoms, soaked for several days and retrieved with hydraulic winches. The effects on the physical environment of the fishing practices has not been evaluated, but is anticipated to be not very significant, e.g. temporary deployment on some sponges or other live bottom organisms.

# **11.2** Fishery Resources

The alternatives for revising of the FMP administrative system will have no impact on the stone crab fishery resources (see Discussion under Section 10).

## **11.3 Human Environment**

Institution of a moratorium on vessel registration under the FMP, concurrently with state moratorium on issuance of permits, would preclude additional participants from entering the fishery for the duration of such moratoriums. This is likely to primarily impact persons who would have entered for speculative purposes. Conversely, the moratoriums will benefit the historical and existing participants by preventing additional overcapitalization of the fishery in terms of gear deployed, thereby preventing reduction in harvest level for these participants and the associated adverse socioeconomic impacts.

## **11.4 Impact on Other Fisheries**

The proposed moratorium contained in this amendment may result in additional participants entering other fisheries. Currently an effort limitation (or trap certificate) system exists for spiny lobster and a moratorium on reef fish vessel permits. Persons may enter those fisheries only by purchasing spiny lobster trap certificates or a reef fish vessel permit. Entry into other state or federal fisheries is not similarly constrained. In the absence of the moratorium, more traps may be fished and more bycatch species (principally grunts and sea bass) may be taken. Persons potentially could enter federal or state fisheries for sharks, mackerels, or shrimp; all of which are overcapitalized. With sufficient capital resources they could enter offshore fisheries for tuna and for red and golden crabs which are not overcapitalized. They could also enter a number of state fisheries that principally use nets.

# **11.5** Effect on Endangered Species and Marine Mammals

A Section 7 consultation has been completed by NMFS indicating no impact of proposed actions in Amendment 5.

# **11.6** Effect on Wetlands

The actions presented in this amendment have no effect on wetlands.

# 11.7 Conclusion

Mitigation measures related to the proposed action and fishery: No significant environmental impacts are expected; therefore, no mitigating actions are proposed. Unavoidable adverse effects with implementation of the proposed actions and any negative net economic benefits are discussed in the Regulatory Impact Review. Irreversible and irretrievable commitment of resources involved with government costs are those related to preparation and approval of the amendment but are mainly one-time expenditures.

# **11.8** Finding of No Significant Environmental Impact

In view of the analysis presented in this document, I have determined that the fishery and the proposed action in this amendment to the Fishery Management Plan for the stone crab fishery of the Gulf of Mexico would not significantly affect the quality of the human environment with specific reference to the criteria contained in NDM 02-10 implementing the National Environmental Policy Act. Accordingly, the preparation of a Supplemental Environmental Impact Statement for this proposed action is not necessary.

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Assistant Administrator for Fisheries

Date

# **12. OTHER APPLICABLE LAW**

# 12.1 Habitat Concerns

Stone crab habitats and related concerns are discussed in Section 10 and were described in the FMP and updated in Amendments 2 and 4. The actions in this amendment do not affect the habitat.

# **12.2 Vessel Safety Considerations**

Actions proposed in the amendment have been reviewed by the U.S. Coast Guard and have no effect on vessel safety.

## **12.3 Coastal Zone Consistency**

Section 307(c)(1) of the Federal Coastal Zone Management Act of 1972 requires that all federal activities which directly affect the coastal zone be consistent with approved state coastal zone management programs to the maximum extent practicable. The proposed changes in federal regulations governing reef fish in the EEZ of the Gulf of Mexico will make no changes in federal regulations that are inconsistent with either existing or proposed state regulations.

It is the goal of the Council to have complementary management measures with those of the states.

This amendment is consistent with the Coastal Zone Management program of the state of Florida, to the maximum extent possible; Texas does not have an approved Coastal Zone Management program and other Gulf states are not affected. This determination has been submitted to the responsible state agency under Section 307 of the Coastal Zone Management Act administering approved Coastal Zone Management programs in the state of Florida.

### **12.4 Paperwork Reduction Act**

The purpose of the Paperwork Reduction Act is to control paperwork requirements imposed on the public by the Federal Government. The authority to manage information collection and record keeping requirements is vested with the Director of the Office of Management and record keeping requirements is vested with the Director of the Office of Management and Budget. This authority encompasses establishment of guidelines and policies, approval of information collection requests, and reduction of paperwork burdens and duplications.

The Council proposes, through this amendment, to establish no additional permit or data collection programs.

### 12.5 Federalism

As the amendment document currently stands, no federalism issues have been identified relative to the actions proposed in this amendment. Therefore, preparation of a federalism assessment under Executive Order 12612 is not necessary.

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