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AMENDMENT NUMBER 11

TO THE

FISHERY MANAGEMENT PLAN FOR THE SHRIMP FISHERY

OF THE GULF OF MEXICO, U.S. WATERS

WITH

ENVIRONMENTAL ASSESSMENT

REGULATORY IMPACT REVIEW AND

INITIAL REGULATORY FLEXIBILITY ANALYSIS

APRIL 2001

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ACRONYMS/ABBREVIATIONS
IN THIS AMENDMENT

BRD	bycatch reduction device
CZMA	Coastal Zone Management Act
Council	Gulf of Mexico Fishery Management Council
CPUE	catch per unit effort
ESA	Endangered Species Act
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
FEIS	Final Environmental Impact Statement
FMP	Fishery Management Plan
GMFMC	Gulf of Mexico Fishery Management Council
GRT	Gross Registered Tonnage
HMS	Highly Migratory Species
IRFA	Initial Regulatory Flexibility Analysis
MP	million pounds
M-SFCMA	Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act)
MSY	maximum sustainable yield
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOVA	Notice of Violation and Assessment
OY	Optimum Yield
RA	Regional Administrator of NMFS
RFA	Regulatory Flexibility Act
RIR	Regulatory Impact Review
SEFSC	Southeast Fisheries Science Center
SEIS	Supplemental Environmental Impact Statement
SFA	Sustainable Fisheries Act
SLF	shrimp landings file
SOC	Secretary of Commerce
SRD	Southeast Regional Director
SSAP	Shrimp Stock Assessment Panel
TAC	total allowable catch
TALFF	total allowable level of foreign fishing
TEDs	turtle excluder device
USCG	U.S. Coast Guard
VOUF	Vessel Operating Units File

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1.0 INTRODUCTION

General Information:

The species of shrimp managed under the "Fishery Management Plan for the Shrimp Fishery of the Gulf of Mexico (FMP) are as follows:

Brown shrimp	*Farfantepenaeus aztecus*
White shrimp	*Litopenaeus setiferus*
Pink shrimp	*Farfantepenaeus duorarum*
Royal Red shrimp	*Hymenopenaeus robustus*

The three species of penaeid shrimp comprise more than 99 percent of the landings in the Gulf of Mexico. In recent years, average annual landings have been approximately 150 million pounds (MP) (tails). Brown shrimp provide the largest portion of annual shrimp landings in the northern Gulf with average landings in the 1990's of approximately 80 MP. This species is distributed from the Mexican border through Apalachicola Bay, Florida (GMFMC 1981). Brown shrimp are caught out to at least 50 fathoms, though most catches are from less than 30 fathoms. White shrimp are the second most abundant species with 1998 and 1999 landings of approximately 55 MP. They are distributed from the Mexican border through Apalachee Bay (Figure 11, GMFMC 1998). Typically, white shrimp are caught inshore of 15 fathoms. Pink shrimp landings were approximately 17 MP in 1995, but dropped to only about 11 MP in 1999. This species is distributed across the northern Gulf from the Florida Keys to Mexico; however, they are most common in the Tortugas and Sanibel areas off Florida (GMFMC 1981). Pink shrimp are usually taken from waters less than 25 fathoms with the majority of catch being harvested in 11 to 15 fathoms. Maximum annual production of royal red shrimp has been on the order of 350,000 pounds (tails); however, landings in recent years have only been around 200,000 to 250,000 pounds. Royal red shrimp are a deep-water shrimp occurring primarily in depths of 140 to 300 fathoms.

Status of the Stocks

The Gulf of Mexico Fishery Management Council (Council or GMFMC) has established an overfished level for each of the 3 penaeid species in terms of a parent stock level as follows:

Brown Shrimp - 125 million individuals, age 7+ months during the November through February period.

White Shrimp - 330 million individuals, age 7+ months during the May through August period.

Pink Shrimp - 100 million individuals, age 5+ months during the July through June year.

The National Marine Fisheries Service (NMFS) has monitored the parent stock levels for all 3 penaeid species since 1970. Since 1991, NMFS has monitored the status of the shrimp stocks using the methodology of Nance et al. (1989), and Klima et al. (1990), as modified by the Shrimp Stock Assessment Panel (SSAP 1993) for white shrimp. The parent stock numbers for

all 3 species have remained above the maximum sustainable yield (MSY) parent stock minimum throughout this monitoring period. Additionally, the yield from the royal red shrimp fishery has remained below the MSY yield level of 392,000 pounds throughout the history of that fishery. Consequently, the shrimp stocks of the Gulf of Mexico are not considered to be overfished or approaching an overfished state.

2.0 HISTORY OF MANAGEMENT

Summary of Previous Management Actions

The Shrimp FMP was prepared by the GMFMC and implemented as federal regulation on May 15, 1981. The original intent of the plan was to enhance yield in volume and value by deferring harvest of small shrimp to allow for growth. Principle actions included: (1) establishing a cooperative Tortugas Shrimp Sanctuary with the state of Florida to close a shrimp trawling area where small pink shrimp comprise the majority of the population; (2) a cooperative 45-day seasonal closure with the state of Texas to protect small brown shrimp emigrating from bay nursery areas; and (3) seasonal zoning of an area of Florida Bay for either shrimp or stone crab fishing to avoid gear conflicts.

Amendment 1, approved later that year, provided the Regional Administrator (RA) of the NMFS with the authority (after conferring with the GMFMC) to adjust by regulatory amendment the size of the Tortugas Sanctuary or the extent of the Texas closure, or to eliminate either closure for one year.

Amendment 2 (1983) updated catch and economic data in the FMP, and Amendment 3 (1984) resolved another shrimp-stone crab gear conflict on the west-central coast of Florida.

Amendment 4, partially approved in 1988 and finalized in 1989, identified problems that developed in the fishery and revised the objectives of the FMP accordingly. The annual review process for the Tortugas Sanctuary was simplified, and the GMFMC's and RA's review for the Texas closure was extended to February 1st. A provision that white shrimp taken in the exclusive economic zone (EEZ) be landed in accordance with a state's size/possession regulations to provide consistency and facilitate enforcement with the state of Louisiana was disapproved. This latter action was to have been implemented at such time when Louisiana provided for an incidental catch of undersized white shrimp in the fishery for seabobs. The NMFS recommended that the proposed action be resubmitted under the expedited 60-day Secretarial review schedule after Louisiana provided for a bycatch of undersized white shrimp in the directed fishery for seabobs. This resubmission was made in February of 1990 and applied to white shrimp taken in the EEZ and landed in Louisiana. It was approved and implemented in May of 1990.

In July 1989, the NMFS published revised guidelines for FMPs that interpretatively addressed the Magnuson-Stevens Fishery Conservation and Management Act (M-SFCMA) National

Standards (50 CFR Part 602). These guidelines required each FMP to include a scientifically measurable definition of overfishing and an action plan to arrest overfishing should it occur.

In 1990, Texas revised its seasonal closure in Gulf waters from the period of June 1 to July 15 to the period of May 15 to July 15. The FMP did not have enough flexibility to adjust the cooperative closure of federal waters to accommodate this change, thus an amendment was required.

Amendment 5, approved in 1991, defined overfishing for Gulf brown, pink, and royal red shrimp and provided for measures to restore overfished stocks if overfishing should occur. Action on the definition of overfishing for white shrimp was deferred, and seabobs and rock shrimp were deleted from the management unit. The duration of the seasonal closure to shrimping off Texas was adjusted to conform with the changes in state regulations.

Amendment 6 (1993) eliminated the annual reports and reviews of the Tortugas Shrimp Sanctuary in favor of monitoring and an annual stock assessment. Three areas within the sanctuary continued to open seasonally, without need for annual action. A proposed definition of overfishing of white shrimp was rejected by the NMFS as not being based on the best available data.

Amendment 7, finalized in 1994, defined overfishing for white shrimp and provided for future updating of overfishing indices for brown, white, and pink shrimp as new data become available. A total allowable level of foreign fishing (TALFF) for royal red shrimp was eliminated; however, a redefinition of overfishing for this species was disapproved.

Amendment 8, submitted in 1995 and implemented in early 1996, addressed management of royal red shrimp. It established a procedure that would allow total allowable catch (TAC) for royal red shrimp to be set up to 30 percent above MSY for no more than two consecutive years so that a better estimate of MSY could be determined. This proposal was subsequently rejected by NMFS because the Sustainable Fisheries Act (SFA) defined exceeding MSY as overfishing.

Amendment 9, approved in May 1998, required the use of a NMFS certified bycatch reduction devices (BRDs) in shrimp trawls used in the EEZ from Cape San Blas, Florida (85˚30' W. Longitude) to the Texas/Mexico border and provided for the certification of the Fisheye BRD in the 30 mesh position. The purpose of this action was to reduce the bycatch mortality of juvenile red snapper by 44% from the average mortality for the years 1984-89. This amendment exempted shrimp trawls fishing for royal red shrimp outside of 100 fathoms, as well as groundfish and butterfish trawls. It also excluded small try nets and no more than two ridged frame roller trawls that do not exceed 16 feet. Amendment 9 also provided mechanisms to change the bycatch reduction criterion and to certify additional BRDs.

Current Reporting Requirements

The current reporting requirements for the shrimp fishery are found in 50 CFR, Part 622.5. They are repeated here as follows:

> The owner or operator of a vessel that fishes for shrimp in the Gulf EEZ or in adjoining state waters, or lands shrimp in an adjoining state, must provide information for any fishing trip, as requested by the Southeast Regional Director (SRD) (also the RA), including but not limited to, vessel identification, gear, effort, amount of shrimp caught by species, shrimp condition (heads on/heads off), fishing areas and depths, and person to whom sold.
>
> A person who purchases shrimp from a vessel, or person, that fishes for shrimp in the Gulf EEZ or in adjoining state waters, or that lands shrimp in an adjoining state, must provide the following information when requested by the SRD:
>
> (1) Name and official number of the vessel from which shrimp were received or the name of the person from whom shrimp were received, if received from other than a vessel;
>
> (2) Amount of shrimp received by species and size category for each receipt; and
>
> (3) Exvessel value, by species and size category, for each receipt.

3.0 PROBLEMS REQUIRING A PLAN AMENDMENT

Currently under the Shrimp FMP, shrimp vessels and boats (craft) and operators of shrimp vessels and boats fishing in the EEZ are not required to have permits issued by the NMFS. Consequently, the only effective means of determining the numbers of craft operating in the EEZ are data files maintained by NMFS, namely the shrimp landings file (SLF) and the vessel operating units file (VOUF), and state license files. Some states require licenses for shrimp vessels and boats while others, like Florida, only license the activity (commercial landings) and thus have state license files. These data sources do not provide an accurate and direct means of determining the numbers or craft participating in the shrimp fishery of the EEZ. An amendment to the Shrimp FMP is needed to implement some type of permitting or registration system/program that would immediately identify and provide an accurate account of the numbers of craft in the shrimp fishery of the Gulf.

There are currently no records of the number of shrimp vessel operators other than those that might be extracted from state license files or the stated captains from the VOUF. Most shrimp boats are probably owner operated; however, there are also large numbers of offshore vessels that are fleet operated, wherein an individual or corporation owns several vessels and hires captains to operate the vessels. Without a knowledge of the number of shrimp boat and vessel operators, it is difficult to develop a sampling universe from which better socioeconomic data on participants and the workings of the industry could be obtained. Also, it is more difficult for enforcement to provide notices of regulations or changes to regulations, as well as to collect judgements and impose sanctions.

The royal red shrimp fishery in the Gulf has traditionally operated as a trawl fishery; however, a recent request to allow trap gear was considered and denied due to potential gear conflicts and

the increased possibility of exceeding MSY as a result of this new effort. This prohibition on the use of traps was implemented through an emergency interim rule; consequently, unless a more permanent prohibition through a plan amendment is implemented, future use of trap gear could be approved under 50 CFR, Part 600.747.

4.0 PURPOSE AND NEED FOR ACTION

The purpose of this amendment is to consider the need for requiring permits or some form of registration of shrimp craft and operators of shrimp craft in the Gulf of Mexico. Mandatory vessel and boat permitting has been shown to be an effective way of obtaining information on the number of potentially active craft and participants in other commercial and for-hire fisheries operating in the Gulf, including the reef fish and coastal migratory pelagics fisheries. These data combined with logbook reporting, observer reports, and other surveys have provided managers with valuable information on effort, catch, bycatch, and other important parameters regarding these fisheries. Having a known universe of craft operating in the shrimp fishery will likely provide the same opportunities for scientists and managers to collect data on effort, catch, bycatch, and other important parameters of both targeted shrimp stocks, as well as bycatch species that may or may not be under separate management regimes. Presently, without permits or registrations, the numbers of craft that could be operating in the shrimp fishery can only be estimated using the SLF, VOUF, or state license files. In addition to the discussion and rationale under Section 6.1 herein, the Council requested that the NMFS provide a report of what data items would be collected under a federal vessel and boat permit system that are not collected by existing data collection programs. Appendix A is the NMFS report.

Shrimp craft operator permits could provide valuable data on the number of potentially participating captains in the shrimp fishery, if the requirement can be appropriately implemented. This information would provide a list of persons to which various information could be disseminated, including notices of regulations and changes to regulations, closures, private aids to navigation agreements, etc. This list could also be used to obtain better estimates of catch and effort; economic analyses; and social analyses, including assistance in identifying fishing communities. Although vessel owners may currently request information on whether a would-be captain has violations of National Oceanic and Atmospheric Administration (NOAA)-enforced laws and regulations, the requirement of operator permits would provide owners with an immediate determination of eligibility, i.e., a valid operator permit. Both shrimp craft and operator permit requirements would also aid enforcement by being able to sanction permits for violations and for unpaid or overdue monetary penalties. On the other hand for fleet vessels, if there are no requirements for obtaining an operator's permit, anyone could obtain one (including deckhands; and the desired data on the number of participating captains (operator's) may be falsely increased. Additionally, if a vessel loses its captain with his operator's permit, the vessel may be rendered inactive for some period before a new permitted captain can be hired.

The royal red shrimp fishery in the Gulf has traditionally operated as a trawl fishery; however, a recent request to allow trap gear was considered and denied due to potential gear conflicts and

the increased possibility of exceeding MSY as a result of this new effort. Because this prohibition on the use of traps was implemented through an emergency interim rule, action through a plan amendment is needed to prevent future use of trap gear that could be approved under 50 CFR, Part 600.747.

The purpose and need for proposed actions as well as impacts of these and other alternatives are more thoroughly discussed under Sections 6.0, 7.0, and 8.0.

5.0 SUMMARY OF PROPOSED ACTIONS

The Council through Amendment 11 to the FMP for the Shrimp Fishery proposes the following requirements:

(1) Require all vessels and boats (craft) harvesting shrimp in the EEZ of the Gulf of Mexico to obtain a federal shrimp craft permit from the NMFS that is renewable annually.

(2) Continue the prohibition on the use of traps in the royal red shrimp fishery of the Gulf of Mexico and prohibit the possession of trap gear and royal red shrimp aboard a vessel as well as transferring royal red shrimp at sea, except in the case of a vessel emergency.

6.0 PERMIT OR REGISTRATION REQUIREMENTS

6.1 Vessel and Boat Permit Requirements

6.1.1 Proposed Alternative - Require all vessels and boats (craft) harvesting shrimp in the EEZ of the Gulf of Mexico to obtain a federal shrimp craft permit from the NMFS that is renewable annually

6.1.2 Rejected Alternative - Require all craft over 30, 40, 50 or 60 feet in length harvesting shrimp in the EEZ of the Gulf of Mexico to obtain a federal shrimp craft permit from the NMFS that is renewable annually

6.1.3 Rejected Alternative - Apply requirements in either 6.1.1 or 6.1.2 to only federally documented vessels

6.1.4 Rejected Alternative - Status Quo - do not require federal shrimp craft permits

Discussion and Rationale: The requirement of permits for shrimp craft operating in the Gulf of Mexico EEZ would provide a more accurate and efficient method of identifying and quantifying the number of such craft, as oppose to the current system using the SLF and VOUF of NMFS and state licensing data. The SLF and VOUF are only estimates, and the VOUF is oftentimes years behind in being updated.

The SLF is derived from dealer records of vessels that landed shrimp in a given year. This count of unique vessel numbers gives a good estimate of the number of active nearshore and offshore vessels. However, a particular vessel has to be active with landings in a given year to have its number recorded. Consequently, the SLF does not include all active vessels because some vessels may only fish inshore, others may not be recorded on a dealer's pack-out records, and still others may not have their landings recorded at a dealer. Thus, the SLF likely underestimates the number of craft that may participate in the shrimp fishery of the EEZ in a given year.

The VOUF is maintained to create a list of all active shrimp vessels during a particular year, with associated vessel characteristic information (i.e., length, age, horsepower, etc.). The VOUF is developed by port agents that keep a list of all the vessels landing or seen with shrimp gear at a particular port each year. These lists include all vessels, whether they fish inshore, nearshore, or offshore. Port agents are reluctant to take vessels off the VOUF even though they may not be physically seen in a given year because the VOUF is primarily used to get data on vessel characteristics. This list of vessels is sent to the Southeast Fisheries Science Center (SEFSC) at the end of each year so that it can be updated; however, there is a lag time before it is updated. Additionally, because the VOUF contains "suspected" vessels that may or may not be active in the shrimp fishery, the VOUF may overestimate the actual number of vessels in the fishery.

The present state licensing and data collection programs, for the most part, cannot separate vessels and boats operating in the EEZ from those operating exclusively in state waters. It is also difficult to use these license files as a universe of shrimp craft because these licenses are required to land shrimp and many wide-ranging vessels have multiple state licenses which results in a large amount of duplication. Additionally, some states' licensing requirements are not readily usable in determining the fishery in which the boat or vessel is operating, e.g., Florida does not have a state license requirement for a shrimp craft. Florida does have a trip ticket program that can be used to determine vessels and boats with shrimp landings; however, these data bases must be manipulated, which is more time consuming than a direct access to a permits file. Similar manipulations may be needed in other states, and one state (Mississippi) does not yet have a trip ticket program. One goal of a program being developed by the Gulf States Marine Fisheries Commission in conjunction with the Gulf states is to have trip ticket programs in operation in all states along with an appropriate data access system. If implemented, this program could provide a highly accurate data base for determining the number of shrimp craft operating in both state and federal waters.

Amendment 9 stated that the number of shrimp vessels declined by approximately 10% from the mid to late 1980s to about 1996; however, for vessels in both the VOUF and SLF, Table 1 shows a reduction of over 20% for this period. From 1996 to 1998, the number of shrimp vessels declined by an additional approximately 7%; however, the 1999 level is only about 15% below that of the mid 1980s (Table 1) (NMFS, unpublished data).

Having a more accurate count of vessels and boats that are operating in the shrimp fishery would also provide greater opportunities (through the use of logbooks, trip tickets, observers, etc.) to assess other characteristics of the industry, including but not limited to fishing locations, vessel length, hull type, fuel capacity, vessel age, freezing capability, gross registered tonnage (GRT), horsepower,

gears and gear configurations, vessel value, types of turtle excluder devices (TEDs) and BRDs used, and percent of time spent fishing in the EEZ. These data could in turn be used to assess fishing power and efficiency and to develop more standardized methods of assessing total effort, catch per unit effort (CPUE), and other aspects of the shrimp fishery, possibly in combination with observers and logbooks (or other reporting requirements). These more accurate data could also be used to design research programs, possibly with surveys and intercepts, to better assess social and economic aspects of the fishery, including but not limited to, costs (insurance, expenses, etc.), prices, producer surplus, and analyses of fishing communities.

Permits could also be used to better determine the amount and type of bycatch being caught by the fleet, geographically (by regions and Gulfwide). This information could then be used to more accurately determine effects on both managed and unmanaged species. With particular regard to red snapper, more accurate counts of the number of shrimp craft operating in the EEZ and estimates of bycatch could result in improved stock assessments. Consequently, the Council would have a better understanding of the red snapper stock and the need for management measures. These data are vitally needed because red snapper are considered to be the most severely overfished stock in the Gulf.

In addition to more accurate and timely data collection, the requirement of shrimp craft permits will improve enforcement thorough the potential of permit sanctions regarding violations. Whether the potential for permit sanctions that could be imposed for violations under permit requirements as specified in Section 6.1.1 through 6.1.3 would result in greater compliance with regulations or increased payments for monetary judgements is unknown. Arguably, there could be a greater incentive for compliance if there is a greater potential for punishment, e.g., sanctions. However, this may not be the case. In FY 2000, there were a total of 91 M-SFCMA and Endangered Species Act (ESA) cases. Of these, 40 involved shrimpers, and 27 of the 40 were ESA cases, primarily involving TED violations. There were 51 other M-SFCMA cases of which at least 35 involved commercially permitted vessels or vessels with permit sanctions (data from NOAA General Counsel). Consequently, shrimp vessels accounted for approximately 44% of the total cases, and violations by other permitted/sanctioned vessels accounted for approximately 39%.

On the other hand, the estimated number of shrimp vessels from the shrimp landings file (1999) is 3,598, and the estimated number of shrimp boats in the Gulf from state license files is 13,163. Obviously, some percentage of these shrimp boats also operate in the EEZ during some portion of the shrimp season; consequently, if shrimp craft are required to have permits, the number permitted craft would likely be somewhat greater than 3,600 and could be nearly twice that number (based on present estimates of 3,000 to 7,000). The present number of other permitted commercial vessels (other than Highly Migratory Species [HMS] and primarily reef fish and mackerel) is estimated at 3,174. Therefore, the number of presently permitted vessels amounts to less than half (47%) of the potentially permitted vessels with the addition of shrimp vessels, and probably is much lower when additional boats would be permitted.

A rough noncompliance estimate can be obtained by dividing the number of violations by the number of permittees or would-be permittees for other fisheries and shrimp, respectively. Based on

these estimates, the number of violations per number of vessels for shrimp and other permitted vessels (primarily reef fish and mackerel) are virtually identical at 1.1%. Furthermore, this estimate for shrimp craft could be lower if some of the state licensed boats became permitted, as would be expected. Assuming that these estimates of vessels/boats and violations are correct and that they are representative of typical years' activities (compliance, arrest rates, encounters, percentages of successful prosecutions, etc.), then the presence or absence of a permit along with the ability to sanction that permit does not appear to increase compliance. This determination is, however, not conclusive because of the numerous assumptions.

In the case of recovering monetary judgements that have not been paid, the ability to sanction a shrimp craft permit for nonpayment would obviously result in greater recovery of these fines. Based on data provided by NOAA General Counsel, in FY 2000, 40 cases involved shrimp-related violations, and by mid October 2000 approximately 35 had been finalized. Of the 35 finalized cases, 15 had not paid adjudications or made arrangements to pay. Additionally, of the approximately 109 open cases (includes M-SFCMA and Atlantic Tuna Convention Act) that have been finalized at this time, about 67 or 61% involve shrimpers, and the money owed from these cases totals over $300,000. Consequently, the potential for sanctions could greatly increase payment of imposed monetary fines.

Biological Impacts: More accurate estimates of the number of craft and the effective effort in the shrimp fishery would allow for a more accurate measure of the biological impacts of shrimp trawling. Random sampling from a known universe of boats and vessels (using observers, logbooks, or other methods) would provide an accurate means of assessing the effects of shrimp trawling on nontargeted stocks. As documented in Amendment 9 and previous stock assessments for red snapper and coastal migratory pelagic species, shrimp trawl bycatch results in mortality of many finfish stocks. Some of these stocks, namely red snapper and Gulf group king mackerel are considered to be overfished. Estimates of bycatch mortality have played a major role in the stock assessment and subsequent management measures for red snapper, and it was determined in previous stock assessments and reported in Amendment 9 that the stock could not recover from an overfished condition without a reduction in shrimp trawl bycatch. Subsequently, BRDs were required. The requirement of BRDs in the EEZ was determined to reduce mortality on red snapper, king mackerel, and other finfish stocks; however, without a more precise estimate of the number of vessels and boats, quantification of this reduction is difficult.

In addition to providing a better understanding of the nature and status of shrimp trawl bycatch species, a more precise identification of the number of shrimp vessels and boats will provide a more accurate data base from which to develop estimates of CPUE, size distribution, and other parameters related to the shrimp stocks in the Gulf. These data would, in turn, allow for more accurate stock assessments for the 3 penaeid shrimp stocks.

Socioeconomic Impacts: Table 1 shows the latest count on the number of shrimp vessels in U.S. Gulf ports based on the NMFS' SLF and VOUF. The SLF contains information on pounds, dollar values, and to some extent fishing effort for vessels that harvest shrimp in the Gulf of Mexico by U.S. Coast Guard (USCG) vessel documentation number. The VOUF contains information about

individual vessel characteristics, such as length and tonnage, indexed by the USCG vessel documentation or identification number. Based on records for the 1990s (Table 1), about 3,500 to 5,000 shrimp vessels may be affected by the permitting requirement.

Potential additions to the above number would be boats (fishing crafts not registered by the USCG) that fish for shrimp in state and/or federal waters. Data from state license files indicates there are 13,163 shrimp boats in the Gulf (Table 2). It is very likely that most of these boats fish only in state waters, but there is the possibility that some of the bigger boats may also fish in the EEZ at certain times of the year. Shrimp boat owners may apply for federal permits if only to keep open the opportunity of also fishing in the EEZ. In addition, there is the possibility of speculators applying for vessel permits with the expectation that they may acquire a larger vessel in the future to which the permit might be transferred or that some type of access limitation may be adopted in the future. It cannot be ascertained, however, how many of these boats will apply for the federal permit, although one can surmise it would be much lower than 13,000.

Current information suggests that the number of permit applications could be as low as 3,500 and as high as 5,000, or possibly up to 7,000+ with the inclusion of boat owners and speculators. Since only minimal requirements would be set for securing permits, most applicants would likely be granted the permits.

The direct benefits of permitting shrimp fishing craft would be in terms of enhancing the management of the shrimp fishery and other fisheries indirectly related to shrimp, such as the reef fish and king mackerel fisheries. This is due to the informational and enforcement aspects of the permitting requirement.

Certain information useful to management can be collected directly or indirectly through the permitting system. Information on the number of shrimp fishing craft and their physical characteristics can be directly generated from the permit applications and renewals. Although the SLF and VOUF contain some information regarding the number of shrimp vessels in the Gulf, there are some inherent problems with these data files. Travis (2000) noted that the SLF presumably reports all trips on which shrimp were landed, but the identification number of the landing vessel is not always known. The Southeast VOUF is presumably an inventory of all commercial fishing vessels operating in the Southeast Region, but the number of active shrimp vessels indicated by this file differs significantly from that suggested by the SLF (see Table 1). One major source of this discrepancy is the fact that some vessels indicated as being active in the VOUF have no recorded landings in the SLF. Another reason for the discrepancy is that some vessels in the SLF have no identification numbers, and thus cannot be matched with information from the VOUF to provide the number of unique vessels. State license files and trip ticket systems in some states offer the potential for determining the number of fishing craft that operate in the Gulf. However, a considerable amount of relatively specialized work may have to be expended every time one has to generate the information on the number of fishing craft and their corresponding physical and fishing characteristics. With permitting on the other hand, the determination of the number of shrimp fishing craft would become less of a problem, as is the case with reef fish and mackerel.

The information on the number of shrimp fishing craft and their physical characteristics can greatly assist researchers and managers in finding resolutions to some of the contentious issues in shrimp fishery management, such as bycatch considerations. The number of vessels is directly correlated with effort, and effort in turn is directly correlated with bycatch. Although there would still be some remaining issues regarding the estimation of effort in the fishery and bycatch, such estimation could be greatly improved with information collected through the permitting system. For example, Griffin and Shah (1995) in attempting to estimate standardized effort in the shrimp fishery mentioned as one stumbling block the lack of information on vessel characteristics. With the permitting system in place, this information can be collected on a relatively routine basis.

Other specialized data may be collected using the list of shrimp fishing craft as a sampling frame and some information about these fishing craft as a guide to fine tune sample selection. This way of collecting data could provide some indications of the statistical validity of the derived information. Additionally, if logbooks are utilized to generate information on harvests and other fishing information, the permitting system could help in identifying vessels and in ensuring a high compliance rate for logbook submissions. In the latter case, logbook submission may be required as a condition for permit renewal, as is the case with the permit renewal in the reef fish fishery.

Permitting also provides a better enumeration of businesses potentially affected by fishery regulations, as well as a more complete and accurate list of persons that the Council and NMFS can use to disseminate proposed and approved regulatory changes affecting the shrimp fishery in the Gulf. This becomes of particular interest if some form of effort limitation is considered for the shrimp fishery in the future.

In principle, a permit that can be sanctioned provides regulators with additional means of exacting greater compliance with regulations, including the payment of outstanding fines and submission of required information such as logbooks. However, the effectiveness of this means, as with all other regulations, still depends on the fishermen's calculation of costs and benefits. From an economics standpoint, a fisherman is deemed to carry on his fishing activities by trying to maximize profits[1]. This motivation does not change when regulations, such as TEDs, BRDs, or permits, are imposed. Regulations, including a permit requirement, only serve as constraints to that profit maximizing behavior. Regulations may be violated to the extent that a fisherman perceives that the expected additional cost is less than the expected additional revenue. In this situation, a permit sanction may be considered as an additional cost in the event a fisherman violates any regulations. The higher the penalty associated with permit sanctions, the less the economic incentive to violate regulations becomes.

Closely associated with rule violations are "avoidance activities". These activities generally come in two types, namely, actions that would lessen the ability of enforcement personnel to detect

[1]Arguably, there other objectives, both economic and non-economic, that fishermen may be pursuing in the conduct of their shrimp fishing business. But the major assumption taken in this discussion is that of a profit maximizing behavior.

violations and actions that would impair the information collected for management purposes. The first type of activities may include landing in ports that are less likely to be monitored by enforcement people where the catch may be a combination of legal catch of shrimp and illegal catch of finfish. The second type may involve, in the event logbooks are required, improper reporting of catches. The cost of avoidance activities is implicit in the sense that resources producing goods and services elsewhere in the economy are directed to the fishery, and this cost has no net offsetting benefits (Anderson 1987). Avoidance activities also lead to less than full realization of the benefits from the management program. To some extent, minimization of such implicit cost and of such reduction in benefits from the management program depend on the level at which vessel permitting is enforced and on the level of avoidance activities exercised in relation to a vessel permitting requirement.

Although permitting of shrimp fishing craft may improve fishery management, it does impose certain costs on shrimping operations. A relatively minor cost is the cost of the permit itself (about $50 per permit) and burden time for completing and mailing application papers (about 20 minutes per permit application), although this cost has to be considered in conjunction with other federal and state permits/licenses. In combination, all these permit costs can become a substantial component of total fixed costs of shrimping operations.

One other cost item associated with vessel permitting is the administrative cost of the system. Although the NMFS' costs of administering a vessel permitting system are offset by permit fees, such administrative costs mean a reallocation of existing funds from one budget item to another. If 7,000 fishing crafts are permitted at a cost of $50 per permit, the permitting system would require budget re-allocation amounting to $350,000. In addition to this recurring cost item, there are costs involved in initially setting up the permitting system, such as postage, temporary labor, equipment, and supplies (see Section 10.5).

The various permitting alternatives differ mainly in the number of fishing operations that may be affected by the regulation. In such a case, the impacts of the various permitting alternatives would differ mainly in magnitude, with the largest impacts exercised by Proposed Alternative 6.1.1, followed by Rejected Alternative 6.1.2, and then by Rejected Alternative 6.1.3. As discussed above, the number of craft that may be affected by Proposed Alternative 6.1.1 would range from 3,500 to 7,000. For Rejected Alternative 6.1.2, the number of craft affected depends on the vessel length chosen. Information from Amendment 9 indicates that the average length of shrimp vessels in the Gulf from 1973 to 1992 was slightly over 50 feet. A 30 or 40 foot cut-off would likely include most shrimp vessels and some shrimp boats. A higher cut-off level would substantially reduce the number of fishing boats affected. Table 1 basically lists the number of federally documented shrimp vessels. Thus, permitting all federally documented vessels, as per one of the sub-options of Rejected Alternative 6.1.3, would affect 3,500 to 5,000 vessels. A subset of these vessels would be affected by the other sub-option of Alternative 6.1.3. For example, a 50-foot cut-off level would probably affect 1,750 to 2,500 shrimp vessels.

6.2 Vessel and Boat Registration Requirements*

6.2.1 Rejected Alternative - Require all vessels and boats (craft) harvesting shrimp in the EEZ of the Gulf of Mexico to obtain a federal shrimp craft registration from the NMFS for the sole purpose of identifying vessels

6.2.2 Rejected Alternative - Shrimp craft registrations shall be issued to a vessel or boat in the name of the owner. Such registrations shall be permanent as long as the vessel or boat operates as a shrimp craft in the EEZ of the Gulf of Mexico, and the Secretary of Commerce (SOC) shall not revoke, suspend, deny, or impose other conditions or restrictions on such registrations

6.2.3 Rejected Alternative - Require all craft over 30, 40, 50, or 60 feet in length harvesting shrimp in the EEZ of the Gulf of Mexico to obtain a federal shrimp craft registration from the NMFS for the sole purpose of identifying vessels

6.2.4 Rejected Alternative - Apply registration requirements to only federally documented vessels

6.2.5 Rejected Alternative - Status Quo - do not require federal shrimp craft registrations in the Gulf of Mexico

***Note: NOAA General Counsel has advised the Council that a registration system that is implemented as a condition for participation in the shrimp fishery would likely be no different from a permit (Section 6.1) and could include sanctions. The Biological Impacts and Economic Impacts that are provided below were based on the Discussion and Rationale for these alternatives and assumed that there was a difference in permit and registration. Consequently, the Discussion and Rationale, Biological Impacts, and Economic Impacts of a registration system that follow may or may not be effective or implementable. Because the Council was considering alternatives of a permit requirement as opposed to a registration requirement and selected as its Proposed Alternative a permit requirement, these aforementioned alternatives and the following discussions are included here for the purpose on recording that they were considered.**

Discussion and Rationale: Through Section 401 of the M-SFCMA, Congress directed the SOC to develop recommendations for the implementation of a standardized fishing vessel registration and information management system on a regional basis. This registration system was proposed for the primary purpose of gathering information on the participants in the fisheries (owners and operators), number of vessels participating, characteristics of vessels, gear used, fishing locations and seasons, and other pertinent information such as that indicated in Section 303 (a)(5). The SOC has submitted the required report; however, no additional action has been taken to implement such a registration system.

From the standpoint of data collection, the requirement of a registration system would be the same as that for the permitting system previously discussed. The major difference in a registration system, as contemplated here and in Section 401, and a permitting system as proposed in the Council's proposed alternative is denoted by Section 401(d) of the M-SFCMA which states: "Any registration recommended under this section shall not be considered a permit for the purposes of this Act, and

the Secretary may not propose to revoke, suspend, deny, or impose any other conditions or restrictions on any such registration or the use of such registration under this Act." As such, the major difference, if not the only difference, between implementing a vessel registration system (as contemplated) versus a vessel permit system (as proposed) would be that enforcement actions imposed by the SOC under registrations would be limited to fines and other actions that would not result in revocation or suspension. Consequently, such registration requirements would not allow for their most effective use as an enforcement tool by the SOC to collect fines from previous violations and to potentially deter violations through the potential for permit sanctions or removal of vessels by such sanctions for violations of federal laws and regulations.

Biological Impacts: The biological impacts would probably be the same as discussed under Section 6.1 above. As noted in the discussion under Section 6.1, it is questionable whether the potential for sanctions would result in increased compliance. Furthermore, existing federal regulations for closed areas and seasons are primarily designed to address social and economic problems (Shrimp/Stone Crab Closed areas and Texas Seasonal Closure), and the presence or absence of these closures would have little impact on biological catch. If compliance increased (primarily with regard to the use of BRDs and TEDs), it could have some positive biological impacts, primarily to bycatch species. Based on observed compliance rates, these benefits would probably be minimal because the compliance rates for the use of these devices in federal waters is high - approximately 97% for TEDs and 90% for BRDs for fiscal year 2000 (USCG, unpublished data). Additionally, there is more than enough available effort to fully harvest the available shrimp stock because there is enough residual capital and thus potential for increasing effective effort in order to maintain full harvest potential. Consequently, although increased compliance with the use of these devices would result in some additional loss of shrimp along with the increase in bycatch reduction, effort could simply be increased thus negating any perceived changes. As previously mentioned, the major biological benefit from permits or registration would come from being able to more accurately estimate shrimp catch parameters, bycatch reduction, and turtle exclusion from a more precise data base of shrimp craft.

Socioeconomic Impacts: Considering the fact that there is no difference between a permit system and a registration system from the standpoint of data collection and enforcement, the two systems may be considered to have identical economic impacts as discussed under the permit system alternatives.

6.3 Vessel and Boat Registration Program

6.3.1 Rejected Alternative - Request that the SOC implement a shrimp craft registration program in accordance with Section 402 (a) of the M-SFCMA for the purpose of identifying all shrimp vessels and boats that operate in the EEZ of the Gulf of Mexico, and from which data are needed on shrimp catch, effort, and bycatch as previously discussed in Sections 6.1 and 6.2. Other information would also be collected through surveys as discussed under Section 6.1 and 6.2

6.3.2 Rejected Alternative - Request that the information collection program specified in Section 6.3.1 apply only to vessels and boats over 30, 40, 50, or 60 feet in length harvesting shrimp in the EEZ of the Gulf of Mexico

6.3.3 Rejected Alternative - Request that the program specified in either Section 6.3.1 or 6.3.2 apply to only federally documented vessels

6.3.4 Rejected Alternative - Status Quo - do not request that the SOC implement a shrimp craft registration program in accordance with Section 402 (a) of the M-SFCMA

Discussion and Rationale: The primary purpose of this amendment as stated herein is to obtain a more accurate count of the number of vessels and boats operating in the federal shrimp fishery of the Gulf of Mexico. Whether implemented through Council's actions under a permit or registration system or through a Secretarial program, the identification of the number of craft actively participating in this fishery is needed in order to have a universe from which to sample and collect data on the directed fishery and its bycatch in a timely manner, as previously discussed.

Biological Impacts: The biological impacts would be the same as discussed under Section 6.2.

Economic Impacts: The economic impacts would be the same as discussed under Section 6.1.

7.0 SHRIMP VESSEL AND BOAT OPERATOR PERMIT

7.1 Permit Requirements

7.1.1 Rejected Alternative - Beginning 180 days (or other period) following the implementation of this amendment, require the master or individual in charge of the vessel/boat (operator) of federally permitted (or registered) shrimp craft in the Gulf of Mexico to obtain a federal shrimp craft operator's permit from the NMFS

7.1.2 Rejected Alternative - Require at least one person on board all federally permitted (or registered) shrimp craft in the Gulf of Mexico while the vessel or boat is at sea or engaged in offloading to possess a valid federal shrimp craft operator's permit issued by the NMFS

7.1.3 Rejected Alternative - Beginning with the effective date of implementation of the requirement for shrimp craft operator permits, require that vessel and boat owners insure that their vessel or boat is operated by an individual with a valid shrimp craft operators permit

7.1.4 Proposed Alternative - Status Quo - do not require federal shrimp craft operator's permits in the Gulf of Mexico

Discussion and Rationale: At present there is no accurate method of identifying the operators of commercial shrimp vessels and boats operating in the EEZ of the Gulf. Most of these operators are probably the owners of their own boats; however, many large vessels that operate almost exclusively in the EEZ are corporately owned, and a single owner/corporation may own several boats. As such, operators may move about the Gulf and Atlantic and operate various vessels over a period of time. The purposes of these movements may simply be to increase their experience and improve their earnings power; however, some moves are the result of being fired due to violations in which the owner and operator are cited. In some of these cases, the operator moves on, and the owner is required to pay fines and incur other costs/losses from these violations. Operator permits may provide a deterrent to future violations because of the ability to sanction and invalidate such permits. As a result of such sanctions, fleet and corporate owners would have an immediate knowledge of whether an applicant for captain aboard one of their vessels was qualified, and they could also use the operator permits to more easily conduct background checks. Whether or not the ability to sanction operator permits would result in a reduction in the overall number of violations is unknown.

Additionally, in the case of a notice of violation and assessment (NOVA), both the owner and operator are charged. Because repeat offenses typically result in more stringent penalties, operator permits would be important to insure that operators are equally subject to permit sanctions as are vessel owners, and they are proportionately held accountable for their actions should such permits be required.

In addition to being able to identify and sanction violators, operator permits could provide a means of preventing non-U.S. masters from participating in the fishery. Since captains of documented U.S. vessels are required to be U.S. citizens, the application process for operator permits should preclude non-U.S. citizens from obtaining the permit to operate documented vessels. Additionally, Alternative 7.1.3 would require the owner to make sure that captains have valid operator permits.

Operator permits, if appropriately implemented, would also provide a data base from which other information can be collected and disseminated. This data base could be used by scientists to distribute questionnaires and other queries in social and economic studies and to collect other biological, social, and economic data. It could also be used to distribute information regarding changes to regulations, newly certified BRDs and TEDs, private aids to navigation notices, and other materials.

For vessel and boat owners in some areas, the operator permit requirement could be problematic if and when operators have to be replaced. Depending on the procedure for issuing operator permits, there could be a period of time during which a vessel or boat may not be able to operate while a would-be operator completes the necessary procedure to acquire an operator permit. Additionally, operators could refuse to fish unless given special or additional compensation. Depending on the time of year that these events may occur, the shrimp craft and its owner could lose substantial operating time and revenues.

Additionally, if there are no requirements for obtaining an operator permit, other than possibly citizenship, all persons (captains and deck hands) may obtain operator permits. If this occurs, the number of operators in the shrimp fishery could be significantly and erroneously elevated. Consequently, the data base of operators that was sought through a shrimp craft operator permit could become inaccurate.

Biological Impacts: There should be no biological impacts associated with requiring operator permits. To the extent that operator permits provide a better sampling universe from which to collect biological information about shrimp stocks and bycatch species, including but not limited to catch and effort data, positive biological impacts would be expected. To the extent that the ability to sanction operator permits results in greater compliance with regulations, some positive biological impacts are possible; however, any such benefits are likely to be minimal (see discussion under Section 6.1).

Socioeconomic Impacts: Although not all shrimp vessels and boats are likely to be active at the same time, it is reasonable to expect that the number of operator permits that may be issued would be at least equal to the number of shrimp craft permits that may be issued, i.e., 3,500 to 7,000. There is a probability that the number of operator permits issued may far exceed the number of shrimp craft permits, given the relatively non-restrictive conditions for securing the permit (see Section 7.2). Potential applicants for the operator's permit include the captains and crew of shrimp, and even other fishing vessels and boats, provided they are U.S. citizens. Thomas et al. (1995) reported an average of 1.6 crew members per vessel. An average crew of 2 was also reported in Amendment 9. In this case, the potential number of applicants for shrimp operator's permits could easily be twice the number of shrimp craft permits, or 7,000 to 14,000[2].

Just like permitting of vessels and boats, permitting of operators would provide direct information that can be used by fishery managers. It would provide a better enumeration of operators potentially affected by regulations. Additionally, it would provide a means for collecting specialized information that would be useful in assessing the impacts of regulations on operators of fishing vessels and on the fishing communities where operators reside. Moreover, this permitting system would reinforce the shrimp craft permitting system in ensuring that their operations comply with existing fishing regulations. Both permitted operators and owners of permitted vessels and boats would have the strong incentive to comply with existing regulations as both would be exposed to the risk of permit sanctions in the event of rule violations. Operators, in particular, would be prompted to comply with fishing rules since the permitting system would limit their flexibility of transferring from one shrimping operation to another if their permits are revoked or suspended.

To the extent that U.S. citizenship is required to secure an operator's permit, owners of shrimp boats that fish in both state and federal waters may be faced with less flexibility in selecting

[2]NMFS commented that VOUF information indicates that the average crew size for Gulf shrimp trawl vessels operating in the EEZ is three, so that the potential number of applicants for an operator permit could be as high as 21,000.

captains/operators. In effect, this citizenship requirement could force some boats to operate only in state waters. The number of these fishing operations and potential revenue reductions cannot be estimated.

As may be expected, permitting of operators imposes certain costs. There is a cost of the permit itself ($50 per permit) and burden time for completing and mailing application papers (60 minutes per permit). Although this cost may appear relatively small, it could comprise a major cost item for small owner-operated shrimp fishing craft, especially when taken in combination with federal and state fishing craft permits. But, a potential major cost would come in the form of permit revocation or non-renewal due to rule violations. This would be particularly onerous to people who have spent most of their working lives harvesting shrimp. It may be worth noting that an operator's permit also serves as an additional monitoring device for vessel owners so that enforcement of an operator's permit is enhanced. Needless to say, this monitoring function would not hold true for owner-operated shrimp vessels and boats.

Another cost item associated with operator's permit is the administrative cost of the system. While relative to the entire federal government, the costs of administering a vessel and boats permitting system are offset by permit fees, relative to the administering agency (i.e., NMFS), such administration costs mean a reallocation of existing funds from one budget item to another. Assuming operators' permits range from 7,000 to 14,000, the recurring cost of permit administration could amount to $350,000 to $700,000 (every 3 years under one scenario of Alternative 7.3.1). In addition, there are costs incurred in setting up the permitting system (see Section 10.5).

7.2 Operator Permit Qualifications

7.2.1 Rejected Alternative - Shrimp craft operator permit applicants must be U.S. Citizens

7.2.2 Rejected Alternative - Do not establish qualifications for a shrimp craft operator permit

Note: Because the Council's Proposed Alternative is to not require shrimp craft operator permits, alternatives for qualifications along with the following Discussion and Rationale, Biological Impacts, and Socioeconomic Impacts are moot. They are retained here for the purpose of showing that these alternatives were considered.

Discussion and Rationale: Currently, all vessels operating in the shrimp fishery are required to be documented by the U.S. Coast Guard and as a condition of that documentation the vessel operator must be a U.S. citizen. Most of the shrimp fishing craft that presently operate in the EEZ of the Gulf of Mexico are documented vessels, and the requirement of citizenship for their captains would have no effect on either the vessel or operators qualifications. There are, however, over 13,000 boats that participate in the shrimp fishery of the Gulf and have U.S. Gulf ports (Table 2). Some unknown portion of these boats probably operates in the EEZ at least during a portion of the shrimping season.

Under Section 7.1.1, these boats would be required to have a federally permitted operators. Section 7.2.1 would extend the requirement of citizenship to the operators of these boats.

Biological Impacts: To the extent that the requirement of citizenship reduces the number of craft operating in the EEZ, there could be some reduction in catch and particularly bycatch that results in beneficial biological impacts. Any reduction in this fleet is likely to be small, and because there is presently more than enough potential effort to harvest the available crop each year, effort could easily be increased, negating any reduction from the loss of boats.

Socioeconomic Impacts: The U.S. citizenship requirement in Alternative 7.2.1 would likely have little impact on vessel operators currently operating in the EEZ since this requirement is already in effect for documented vessels. However, this provision may have adverse impacts on shrimp boats that also fish in the EEZ. These boats are currently not required to have only U.S. citizens as operators. In the present economic condition with a relatively tight labor market, this specific condition could force some boats to limit fishing to state waters. The number of these boats and the extent of potential revenue reductions cannot be estimated.

7.3 Operator Permit Application, Issuance, Renewal, and Other Requirements and Procedures

7.3.1 Rejected Alternative - Authorize the Regional Administrator of NMFS to establish a protocol for the application, issuance, and renewal of shrimp craft operator permits and such permits shall be renewable every 3 (or other) years from the date of issuance. Also authorize the Regional Administrator to develop other criteria as part of the protocol for the replacement, transfer, display, and alteration of permits

7.3.2 Rejected Alternative - Status Quo - do not authorize the Regional Administrator to establish such a protocol

Note: Because the Council's Proposed Alternative is to not require shrimp craft operator permits, alternatives to establish a protocol for the application, issuance, and renewal of shrimp craft operator permits and to develop other criteria for the replacement, transfer, display, and alteration of permits, along with the following Discussion and Rationale, Biological Impacts, and Socioeconomic Impacts are moot. They are retained here for the purpose of showing that these alternatives were considered.

Discussion and Rationale: Operators of fishing craft in the American lobster, sea scallop, mackerel, squid, butterfish, scup, and black sea bass fisheries in the New England area of the EEZ are currently required to have a valid operator permit issued by the Regional Administrator of NMFS under provisions of 50 CFR, Parts 648 and 649. These regulations include provisions for applications, conditions, information requirements, fees, issuance, expiration, replacement, transfer, changes to application information, alteration, display, sanctions, and owner responsibilities. These existing

procedures could be used by the Regional Administrator to tailor a set of procedures applicable to the shrimp craft operators in the Gulf if such permits are required.

Biological Impacts: There should be no biological impacts from authorizing or not authorizing the Regional Administrator to establish a protocol for the application, issuance, and renewal of shrimp craft operator permits or from authorizing the development of other criteria as part of the protocol for the replacement, transfer, display, and alteration of permits.

Socioeconomic Impacts: Alternative 7.3.1 is mainly administrative in nature, and thus is expected to have no direct impacts on fishing participants. The burden of issuing operator permits is discussed above under Section 7.1; however, it is noted here that the longer the timeframe between reissuances the lesser the administrative burden for such reissuances on both the NMFS and the operator. On the other hand, a longer timeframe between reissuances of permits would reduce the reliability of the data and thus lessen the effectiveness of using the permitting system for data collection.

8.0 GEAR RESTRICTIONS

8.1 Proposed Alternative - Continue the prohibition on the use of traps in the royal red shrimp fishery of the Gulf of Mexico and prohibit the possession of trap gear and royal red shrimp aboard a vessel as well as transferring royal red shrimp at sea, except in the case of a vessel emergency

8.2 Rejected Alternative - Traps may be used in the royal red shrimp fishery following compliance with 50 CFR, Part 600.747

Discussion and Rationale: In July 2000, the Council considered a notification/request in accordance with 50 CFR, Part 600.747, Guidelines and Procedures for Determining New Fisheries and Gear for the use of trap gear in the royal red shrimp fishery of the Gulf of Mexico. Under this section, if a gear is not listed on the list of approved gear for a fishery (50 CFR, Part 600.725[v]), it may not be used without complying with a notification procedure to the appropriate council and regional administrator. Following the notification procedure, the appropriate council may recommend approval or disapproval of the use of such gear to NMFS, and NMFS will subsequently approve or disapprove the use of such gear by appropriate publications in the *Federal Register*.

In considering the request/notification for the use of trap gear in the royal red shrimp fishery, the Council noted that there was a strong possibility that this gear would conflict with the presently authorized trawl gear being used in the fishery. This fishery operates a great distances from shore compared with other managed species and at depths in excess of 100 fathoms. As such, it is unlikely that trawl gear would be able to avoid trap lines, even with radar detectable buoys, as outlined in the request for the use of trap gear. The Council also noted that there have been similar gear conflicts between royal red shrimp trawlers and golden/red crab traps, and the Council is proceeding with development of a golden and red crab FMP to address gear conflicts among other concerns. The

Council also expressed concern that the allowance of traps in this historically trawl fishery could increase catches to levels above the MSY of 392,000 pounds. If this catch were to continue, the stock would be considered as undergoing overfishing and potentially could become overfished.

Based on these concerns and in accordance with the procedures outlined in 50 CFR, Part 600.747, the Council requested that: (1) the NMFS not proceed with amending the authorized list of gear that can be used in the royal red shrimp fishery; (2) the NMFS not develop or publish a proposed rule for such purpose because this fishery is very small with very few participants, and public comments would probably not provide any new information; and (3) the NMFS immediately promulgate emergency or interim measures to prohibit the use of trap gear in the royal red shrimp fishery of the Gulf of Mexico. Subsequently, an emergency interim rule was published in the *Federal Register* effective September 14, 2000 prohibiting the use of trap gear in the royal red shrimp fishery.

Biological Impacts: The biological information regarding the royal red shrimp stocks in the Gulf of Mexico is very sparse. Although the level of participation in this fishery has been relatively low, landings of royal red shrimp increased dramatically from 1991 to 1993 reaching levels near the MSY of 392,000 pounds in 1993 and 1994 (around 335,000 pounds). Landings dropped to around 200,000 pounds in 1996, 1997, and 1998 and rebounded to slightly less than 245,000 pounds in 1999. Based on the previous proposal, a single vessel would be able to deploy approximately 3,000 traps, and each trap could harvest approximately one pound of shrimp. Assuming that this information is correct, it would only take 20 trap deployments by one vessel to exceed MSY while also assuming a trawl catch equal to the 1994 level. Consequently, there is a good chance that allowing this gear could result in future catches exceeding MSY and overfishing occurring.

Socioeconomic Impacts: The royal red shrimp fishery in the Gulf is a relatively small fishery. The established MSY of 392,000 has never been reached, although the landings in 1993 and 1994 came close to the MSY level. About 10 vessels were in the fishery during these two years. More recent landings are placed at about 200,000 to 245,000 pounds, with reportedly 3 to 6 vessels operating in the fishery. Jones et al. (1994) noted that fluctuations in landings for royal red shrimp are more likely due to market than resource availability. Given this condition and the fact that the fishery is managed as an open access fishery, vessels may enter and exit depending on the strength of market demand. There is then, a good possibility that MSY would be taken if market demand were strong enough.

Under the described conditions, any introduction of a new gear type, such as traps, in the fishery may only increase the chances of reaching MSY, with a consequent fishery closure until the following fishing season. Because this fishery operates primarily at depths greater than 100 fathoms, it is unlikely that trap gear would be more practicable than trawl gear. At any rate, if one assumes that traps are more efficient than trawls, the possibility is open for this gear to eventually become dominant, displacing traditional trawl gear and fishermen. In this case, the alternative to ban the use of traps may result in forgoing the benefits of a more efficient fishery. These benefits would naturally not last long because of the open access nature of the fishery. In addition, the benefits from using a more efficient gear have to be compared with the loss in benefits when MSY is reached and the fishery closes early in the season.

The simultaneous use of traps and trawls in the same fishing grounds would inevitably lead to some type of conflict similar to that experienced in the shrimp and stone crab fisheries. Traps could get entangled in trawls which could be disruptive to both trap and trawl fishing operations. The ban on the use of traps may be more socially acceptable, especially since only one individual has to date indicated the desire to use traps in the royal red shrimp fishery. On the other hand, there are about 3 trawl vessels that appear to consistently operate in the fishery, and other trawl vessels have historically entered the fishery when the market for royal red shrimp is strong or when penaeid shrimp prices and/or abundance are low.

One other issue that may arise with the use of traps in the royal red shrimp fishery is the potential for some traps to be lost. But to what extent would this eventuality occur is unknown. Also unknown is the extent of potential impacts of lost traps on habitat and on fish species that might be caught by these lost traps.

9.0 DESCRIPTION OF FISHERY

The Final Environmental Impact Statement (FEIS) for the original FMP and the FMP as revised in 1981 contain a description of the Gulf shrimp fishery. In its appendix, the FEIS of February 1981 includes the Habits, Distribution, and Incidental Capture of Sea Turtles. This material is incorporated by reference and is not repeated here in detail.

As an overview, the management unit of this FMP consists of brown, white, pink, and royal red shrimp. Seabobs and rock shrimp occur as incidental catch in the fishery.

Brown shrimp is the most important species in the U.S. Gulf fishery with principal catches made from June through October. Annual commercial landings in recent years range from 70 to 100 million pounds of tails depending on environmental factors that influence natural mortality. The fishery extends offshore to about 40 fathoms.

White shrimp, second in value, are found in nearshore waters to about 20 fathoms from Texas through Alabama. There is a small spring and summer fishery for overwintering individuals, but the majority are taken from August through December. Recent annual commercial landings are about 50 million pounds of tails.

Pink shrimp are found off all Gulf states but are most abundant off Florida's west coast and particularly in the Tortugas grounds off the Florida Keys. Most landings are made from October through May with annual commercial landings of about 10 million pounds. In the western Gulf states, pink shrimp are landed mixed with browns. Most catches are made within 30 fathoms.

The commercial fishery for royal red shrimp has expanded in recent years with the development of local markets. This deep-water species is most abundant on the continental shelf from about 140 to 275 fathoms east of the Mississippi River. Thus far, landings have not reached the MSY, optimum yield (OY), and TAC estimate of 392,000 pounds of tails in any year.

The three principal species (penaeids) are short-lived and provide annual crops; however, royal red shrimp live longer, and several year classes may occur on the grounds at one time. The condition of each shrimp stock is monitored annually, and none has been classified as being overfished.

Brown, white, and pink shrimp are subjected to fishing from inland waters and estuaries, through the state-regulated territorial seas, and into federal waters of the EEZ. Royal red shrimp occur only in the EEZ. Management measures implemented under the M-SFCMA apply only to federal waters in the EEZ. Cooperative management occurs when state and federal regulations are consistent. Examples are the seasonal closure off Texas, the Tortugas Shrimp Sanctuary, and the shrimp/stone crab seasonally closed zones off Florida.

The NMFS has classified commercial shrimp vessels comprising the nearshore and offshore fleet into size categories from under 25 feet to over 85 feet. More than half fall into a size range from 56 to 75 feet.

Federal permits for shrimp vessels are currently not required, and state license requirements vary. Many vessels maintain licenses in several states because of their migratory fishing strategy. The number of vessels in the fishery at any one time varies due to economic factors such as the price and availability of shrimp and cost of fuel. The NMFS maintains two types of vessel files, both of which are largely dependent on port agent records. One is for vessels that are recorded as landing shrimp; the other is the VOUF that lists vessels observed at ports. The number of commercial vessels participating in the Gulf shrimp fishery is not known but is believed to be between about 3,500 and 4,500.

The NMFS estimates fishing effort independently from the number of vessels fishing. The NMFS uses the number of hours actually spent fishing from interview data with vessel captains to develop reports as 24-hour days fished. These estimates have been controversial and not well understood because the effort reported does not necessarily reflect the number of active vessels in the fleet.

A recreational shrimp trawl fishery occurs seasonally and almost entirely in the inside waters of the states. There are about 8,000 small boats participating using trawls up to 16 feet in width. About half the boats are licensed in Louisiana.

Bait landings of juvenile brown, pink, and white shrimp, occur in all states and are not routinely included in the NMFS statistics. Estimates from the original FMP suggest landings of about 5 million pounds (whole weight) in 1980.

Various types of gear are used to capture shrimp including but not limited to cast nets, haul seines, stationary butterfly nets, wing nets, skimmer nets, traps, and beam trawls. The otter trawl with various modifications, is the dominant gear used in offshore waters. A basic otter trawl consists of a heavy mesh bag with wings on each side designed to funnel the shrimp into the

codend or tail. A pair of otter boards or trawl doors positioned at the end of each wing hold the mouth of the net open by exerting a downward and outward force at towing speed.

The two basic otter-trawl designs used by the Gulf shrimp fleet are the flat and the semi-balloon trawls (Klima and Ford 1970). The mouth of the flat trawl is rectangular in shape, whereas the mouth of the semi-balloon design forms a pronounced arch when in operation.

Try nets are small otter trawls about 12 to 16 feet in width that are used to test areas for shrimp concentrations. These nets are towed during regular trawling operations and lifted periodically to allow the fishermen to assess the amount of shrimp and other fish and shellfish being caught. These amounts in turn determine the length of time the large trawls will remain set or whether more favorable locations will be selected.

Until the late 1950s, most shrimp vessels pulled single otter trawls ranging from 80 to 100 feet in width (Idyll, 1963). Double-rig trawling was introduced into the shrimp fleet during the late 1950s. The single large trawl was replaced by two smaller trawls, each 40 to 50 feet in width, towed simultaneously from stoutly constructed outriggers located on the port and starboard sides of the vessels. The port trawl was towed about 150 feet in back of the starboard trawl to prevent fouling. The advantages of double-rig trawling include: (1) increased catch per unit of effort, (2) fewer handling problems with the smaller nets, (3) lower initial gear costs, (4) a reduction in costs associated with damage or loss of the nets, and (5) greater crew safety (Idyll, 1963).

In 1972, the quad rig was introduced in the shrimp fishery, and by 1976 it became widely used in the western Gulf. The quad rig consists of a twin trawl pulled from each outrigger. One twin trawl typically consists of two 40-foot trawls connected to a center sled and spread by two outside trawl doors. Thus, the quad rig with two twin trawls has a total spread of 160 feet versus the total spread of 110 feet in the old double rig of two 55-foot trawls. The quad rig has less drag and is more fuel efficient. For some designs, a lower opening reduces fish bycatch (David Harrington, personal communication).

10.0 REGULATORY IMPACT REVIEW

10.1 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 so that the public welfare can be enhanced in the most efficient and cost-effective way.

The RIR also serves as the basis for determining whether 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 alternatives in this plan amendment to the Shrimp FMP would have on the commercial shrimp industry.

10.2 Problems and Issues in the Fishery

The specific problems addressed by this proposed plan amendment are enumerated and discussed in Section 3 and are incorporated here by reference. The major issues identified for this plan amendment are: (1) permit requirement for shrimp vessels and boats; (2) registration requirement for shrimp vessels and boats; (3) permit requirement for operators of shrimp vessels and boats; and, (4) gear restriction in the harvest of royal red shrimp.

10.3 Objectives

Section 4 of this document discusses the specific need for this plan amendment and is incorporated here by reference.

10.4 Impacts of Management Measures

The discussions under the “Socioeconomic Impacts” sub-heading in Sections 6, 7 and 8 comprise the bulk of the impact analysis for RIR purposes and are incorporated here by reference..

10.5 Private and Public Costs

The preparation, implementation, enforcement, and monitoring of this or any federal action involves the expenditure of public and private resources that can be expressed as costs associated with the regulations. Costs associated with this specific action include:

Council costs of document preparation, meetings, public hearings, and information dissemination $35,000

NMFS administrative costs of document preparation, meetings, and review	15,000
Law enforcement costs	none
Public burden associated with fishing craft permits or registration and data collection	350,000
NMFS costs associated with fishing craft permits or registration and data collection	350,000
Public burden associated with operators' permits or registration and data collection	700,000
NMFS costs associated with operators' permits or registration and data collection	700,000
TOTAL	$2,150,000

The Council and NMFS 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 and data collection costs at the federal level with this plan amendment. Checking for permits would be part of the routine enforcement activities, although this would mean some reallocation of enforcement activities. In their review of this amendment, the Council's Law Enforcement Advisory Panel advised that there are undetermined enforcement costs associated with any additional regulations that reduce efficiency and contacts. A further study needs to made to flush out these costs. The private and public costs of the permit refer to the administrative fees and burden time in filing or processing permit applications. The major assumption here is that about 7,000 fishing craft permits and 14,000 operators' permits would be processed and issued by NMFS at the uniform cost of $50 per permit. It should be noted here that the number of applicants for an operator permit could be as high as 21,000. While the NMFS costs for the permit system are exactly offset by public costs, they are listed here to stress the fact that permit fees revert to the General Treasury and are not retained by NMFS. In addition to the above costs, NMFS would have to incur initial costs for setting up the permit system. Preliminary estimates place this cost at approximately $174,000. The estimated burden time on fishermen for permit application is estimated at 20 minutes per permit, or 2,333 hours for 7,000 fishing craft permits and 14,000 hours for 14,000 operators' permits. At a labor cost of $10 per hour, the dollar value of burden time would be $23,300 for fishing craft permits and $140,000 for operators' permits. It is felt that the identified costs comprise the major cost items for the preparation and implementation of this amendment.

10.6 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 rule that may: (1) have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, or tribal governments or communities; (2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of the recipients thereof; or (4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in E.O. 12866.

Any of the alternatives to require shrimp craft permits, operator's permits, vessel and boat registration, or gear restriction in the royal red shrimp fishery would not reduce the current number of vessels participating in the fishery or their total landings. The operator's permit may force some boats to fish only in state waters. The consequent reduction in catches and revenues cannot be estimated. It is very likely then, that any of those alternatives is not expected to have an effect on the economy of $100 million or more.

The costs to federal government agencies of formulating and implementing vessel and boat permits, operator's permits, vessel and boat registration, or gear restriction in the royal red shrimp fishery appear to be relatively large; however, these are generally offset by permit fees. There are no expected cost increases to be borne by state and other local governments from implementing any of the alternatives in this amendment. Also, there are no expected cost or price increases in the geographic region where shrimp is a major fishery, primarily because no reduction in shrimp landings are expected. Since the permitting or registration requirement would not reduce the current number of participant craft in the shrimp fishery, no significant adverse effects on competition, investment, productivity, innovation, or the competitive status of the domestic fishery, vis-a-vis its foreign rivals, would arise. It should be noted, however, that an unknown number of boats may experience some reduction in employment if an operator's permit is required. The alternative to ban the use of traps in the royal red shrimp fishery is expected to affect the prospective entry of only one individual.

Any of the alternatives considered in this amendment is not expected to impact entitlements, grants, user fees, or loan programs or the rights and obligations of the recipients thereof. In a sense, an operator's permit is a relatively new consideration especially for the shrimp fishery, but it may not be deemed to raise any novel legal or policy issues considering that permit requirements are not new in the Gulf fishery as a whole.

It is, therefore, determined that any of the alternatives considered in this amendment, or any combination thereof, would not constitute a major regulatory action as stipulated under E.O. 12866.

10.7 Initial Regulatory Flexibility Analysis

Introduction

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

With certain exceptions, the RFA requires agencies to conduct an Initial Regulatory Flexibility Analysis (IRFA) for each proposed rule. The IRFA is designed to assess the impacts various regulatory alternatives would have on small entities, including small businesses, and to determine ways to minimize those impacts. An 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 Regulatory Impact Review (RIR), the IRFA provides: (1) a description of the reasons why action by the agency is being considered; (2) a succinct statement of the objectives of, and legal basis for, the proposed rule; (3) a description and, where feasible, an estimate of the number of small entities to which the proposed rule will apply; (4) a description of the projected reporting, record-keeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirements of the report or record; and, (5) an identification, to the extent practicable, of all relevant Federal rules, which may duplicate, overlap, or conflict with the proposed rule.

Description of the reasons why action by the agency is being considered: The need and purpose of the actions are set forth in Section 4 of this document. This particular section is included herein by reference.

Statement of the objectives of, and legal basis for, the proposed rule: The specific objectives of this action are enumerated in Section 4 of this document. This section is included herein by reference. The Magnuson-Stevens Fishery Conservation and Management Act, as amended, provides the legal basis for the rule.

Description and estimate of the number of small entities to which the proposed rule will apply: There are about 3,500 to 5,000 shrimp vessels and 13,000 shrimp boats in the Gulf, of which about 3,500 to 7,000 fishing craft may be affected by the proposed regulations. Some description of these affected entities can be found in Section 9 of this document and is included herein by reference. Additional descriptions are noted below in the discussion of the substantial number of small entities criterion.

Description of the projected reporting, record-keeping and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirement and the type of professional skills necessary for the preparation of the report or records: The permitting requirements in this amendment would require boat and vessel owners and operators to apply for permits. The burden time for these permits has been estimated at 20 minutes per permit. Specialized skills are generally not needed for permit application. An unknown amount of burden time may be expended by vessel owners in ensuring that only properly permitted individuals serve as masters or operators of the shrimp fishing craft.

Identification of all relevant Federal rules which may duplicate, overlap or conflict with the proposed rule: No duplicative, overlapping, or conflicting Federal rules have been identified. In fact the actions in this amendment would place the shrimp fishery on par with other commercial fisheries in the Gulf with respect to permitting requirements. As with permits in other Gulf fisheries, the shrimp fishing craft permit would be required in addition to state permits.

Substantial Number of Small Entities Criterion

Generally, a fish-harvesting business is considered a small business if it is independently owned and operated and not dominant in its field operation, and if it has annual receipts not in excess of $3.0 million. Although there are several fleet operations in the shrimp fishery, their actual number is not known. Considering the low likelihood that these operations are dominant in the harvesting sector of the shrimp fishery, the gross receipts criterion may be used to define small business in the shrimp fishery.

Based on SLF and VOUF, the number of shrimp vessels in the Gulf ranges from approximately 3,500 to 5,000. State license files indicate that there are 13,163 shrimp boats in the Gulf. The proposed fishing craft permit would be required on all shrimp fishing craft fishing in the EEZ. This would affect practically all shrimp vessels and some shrimp boats. The number of affected shrimp boats is unknown, but it is anticipated to possibly reach a maximum of 2,000.

Ward et al. (1995) reported that the average gross revenues for shrimp vessels are around $82,000 (converted to 1999 prices using producer price index for all commodities). One standard deviation from this average provides a range of $16,000 to $425,000. Considering that even the upper limit of the revenue range is well below the $3.0 million threshold, all shrimp vessel operations, and expectedly also all shrimp boat operations, may be considered small business entities. Thus, the substantial number criterion would be met.

Significant Economic Impact Criterion

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

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

All the commercial entities potentially affected by the proposed rule are considered small entities so that the issue of disproportionality does not arise in the present case. Within these small entities, there are significant variations among fishing operations in terms of revenues by size of vessels and revenues by homeport state. Ward et al. (1995) estimated that average annual revenues of shrimp vessels in the Gulf by length of vessel are: $4,000 for vessels less than 25 feet, $23,000 for vessels between 25 and 50 feet and, $198,000 for vessels greater than 50 feet. Broken down by homeport state, the average annual revenues of shrimp vessels are: $112,000 for Alabama, $106,000 for Florida, $9,000 for Louisiana, $45,000 for Mississippi, and $192,000 for Texas.

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

Ward et al. (1995) estimated the profits (total revenues less total costs) of shrimp vessels in the Gulf. Revenues were defined as revenues from the sale of shrimp plus revenues from sale of other fish. Total costs included fuel cost, supplies, maintenance, overhead, interest, depreciation, insurance, and crew shares. The average revenues for a shrimp vessel in the Gulf are approximately $12,000. Average profit for vessels by vessel length are: $1,598 for vessels less than 25 feet, $7,949 for vessels between 25 and 50 feet, and $8,457 for vessels greater than 50 feet. Broken down by homeport state, average profits are: $4,769 for Alabama, $29,832 for Florida, $3,286 for Louisiana, $13,876 for Mississippi, and $11,452 for Texas. As indicated earlier, the cost of a vessel permit is $50 and that for an operator's permit would also be $50, or $100 for an owner-operated vessel (although operator permits were not approved). For an owner-operated fishing vessel, the permit costs as a percent of profit would be approximately 6 percent for vessels less than 25 feet, 1.2 percent for vessels between 25 and 50 feet, and 1.1 percent for vessels greater than 50 feet.

Since the permit costs and burden time are the only costs imposed by the permitting requirement, the proposed rule may be considered not to effect a significant reduction in vessel profits, except possibly for vessels in the less-than-25-foot category. On this basis, the proposed rule may be adjudged not to have a significant economic impact on a substantial number of small entities.

Description of significant alternatives to the proposed rule and discussion of how the alternatives attempt to minimize economic impacts on small entities:

On vessel permitting, three alternatives (other than the Proposed Alternative) are considered. One of three alternatives is the status quo (Alternative 6.1.4). The status quo would not suffice to meet the objectives of collecting important information about the fishery and of enhancing the enforcement of regulations, including the effective collection of fines. The other alternatives would limit the coverage of the permitting system to certain types of vessels, but the nature of impacts on the covered vessels would be similar to those discussed above. Alternative 6.1.2

would limit the permitting system to vessels of certain length. A higher cut-off level, such as 50 feet in length, would substantially reduce the number of vessels covered by the permitting system. Smaller vessels and most boats would not bear the costs imposed by the proposed rule. Alternative 6.1.3 would affect about 3,500 to 5,000 shrimp vessels, if applied to federally documented vessels. About half of these boats would be exempt from the permitting requirement, if a 50-foot vessel is the cut-off level. When certain vessels are exempted from the permitting requirement, the informational aspect of the proposed rule would be impaired and enforcement would become complicated.

The vessel and boat registration alternatives would differ from the permitting alternatives only if permit sanctions were not allowed under the registration system. Under this circumstance, the effects of these would be less than those for the permitting system. In fact, a vessel and boat registration that cannot be sanctioned would not result in a significant economic impacts on a substantial number of small entities. The NOAA General Counsel concluded that a nonsanctionable registration was not within the Council's authority, and the Council did not choose registration as its proposed alternative.

The only significant alternative under the operator's permit section is the requirement for an operator's permit. The Council's proposed alternative in this section is the status quo. This proposed approach would not impose any additional cost on operators.

With respect to the alternatives for the royal red shrimp fishery, the only alternative to the proposed one is to allow the use of traps in this fishery. Allowing traps in this fishery would likely pose certain conflicts with the trawl segment of the fishery. In addition, if traps were more efficient than trawls, an increase in trap use may be expected. This would increase the probability of conflict with the trawl segment of the fishery, and would potentially result in reaching the existing commercial quota for royal red shrimp, with a consequent fishery closure.

11.0 ENVIRONMENTAL ASSESSMENT

This section reviews and discusses the biological, physical, and human environment of the shrimp fishery of the Gulf of Mexico.

11.1 Biological Environment

The Shrimp FMP (with FEIS), Amendment 9 (with Supplemental Environmental Impact Statement [SEIS]), and the Generic Essential Fish Habitat (EFH) Amendment provide a review of the biology and habitat of shrimp, and they are incorporated here by reference. No new information that would appreciably change these discussions is available. The biological effects, if any, of the proposed actions are discussed immediately following each section herein. As

discussed, there should be very little, if any, impact on the biological environment as a result of permitting or registration requirements. Impacts of a continued prohibition on trap gear in the royal red shrimp fishery are discussed immediately following that section. As noted there would be no changes to the biological environment by continuing this prohibition because traps have never been used in this fishery. Additionally and as noted, this continued prohibition may avoid changes to the biological environment that might occur from allowing this gear. These discussions are incorporated here by reference.

11.2 Physical Environment

The alternatives proposed in this amendment will not have a negative impact on the physical environment. A permitting requirement for vessels and boats in the shrimp fishery would have no effect; and since trap gear have never been employed in the royal red shrimp fishery, its continued prohibition would likewise have no effect on the physical environment. Continuing studies have provided no new information beyond that already contained in the FMP, as amended, that would change this determination. The relationship between shrimp stocks and their habitats, including the physical requirements, are contained in the Shrimp FMP, as amended, the original EIS and SEIS in Amendment 9, and in the Councils' Generic EFH Amendment. Additionally, subsequent studies have not provided new or different information that could be used to further define relationships or alter the aforementioned conclusions. These documents, accompanying discussions, and conclusions are incorporated here by reference.

11.2.1 Effect on Wetlands: Based on the review of documents listed in Section 11.2, it has been determined that the proposed action will have no effect on flood plains, rivers, creeks, or other streams and tributaries to the marine environment or their associated wetlands.

11.2.2 Effect on Essential Fish Habitat: Based on the review of documents listed in Section 11.2, it has been determined that the proposed action will have no effect on EFH.

11.2.3 Mitigating Measures: Based on the review of documents listed in Section 11.2, it has been determined that no mitigating measures related to the proposed action are necessary because there are no harmful impacts on the environment.

11.2.4 Unavoidable Adverse Affects: Based on the review of documents listed in Section 11.2, it has been determined that the proposed action does not create unavoidable adverse affects on the environment.

11.2.5 Irreversible and Irretrievable Commitments of Resources: There are no irreversible commitments of resources other than costs of administering and enforcing the proposed rule resulting from implementation of this amendment.

11.2.6 Relationship Between Short-Term Uses and Long-Term Productivity: There should be no differences between short-term uses and long-term productivity as a result of the permitting alternatives or the prohibition of trap gear in the royal red shrimp fishery.

None of these fisheries are overfished or undergoing overfishing, and there are no allocations of the resources involved.

11.2.7 Impacts on Other Fisheries: Based on a review of the alternatives proposed in this amendment as compared with other fisheries, the alternatives do not directly affect other fisheries. However, the vessel permitting proposed alternative could provide additional information that may be useful in managing other fisheries.

11.3 Human Environment

11.3.1 Description of the Fishery: The original FMP and subsequent Amendments 1 through 9, including accompanying Environmental Impact Statements or Environmental Assessments along with Section 9.0 herein describe the shrimp fishery in the Gulf. They are incorporated here by reference.

11.3.2 History of Management: The management history is described in Section 2.0, and incorporated here by reference.

11.3.3 Economic and Social Assessment: The economic and social effects of this amendment are discussed in detail in the discussions following each set of alternatives in Sections 6.0, 7.0, and 8.0, and incorporated here by reference.

11.4 Finding of No Significant Environmental Impact

I have reviewed the environmental assessment and determined that the proposed action will not significantly affect the physical or human environment, including EFH, and that preparation of an environmental impact statement is not required.

_____ _____

Assistant Administrator for Fisheries Date

12.0 OTHER APPLICABLE LAW

12.1 Vessel Safety

The proposed alternatives do not impose requirements for use of unsafe (or other) gear nor do they direct fishing effort to periods of adverse weather conditions. On the contrary, prohibiting trap gear in the royal red shrimp fishery could prevent gear conflicts that could arise between

vessels wanting to use trap gear and those in the traditional trawl fishery. To the extent that such accidents are avoided, the effect would be an increase in vessel safety.

12.2 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, its collection, and record keeping 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 proposed action is expected to increase paperwork requirements. Completion of the shrimp fishing craft permit application is expected to take 20 minutes. Completion of the operator permit application (although not proposed) would be expected to take 1 hour, because of the need for the applicant to obtain passport-size photographs. The NMFS expects to spend 20 minutes processing each fishing craft permit application and (although not proposed) would also spend 20 minutes processing an operator permit application.

12.3 Coastal Zone Management Consistency

The Council have determined that actions to require or not require federal permits or registration of shrimp vessels, boats, and operators to participate in the shrimp fishery of the EEZ in the Gulf of Mexico would not have any impact on the coastal zone management programs of the 5 Gulf states. Likewise, prohibiting or not prohibiting trap gear in the royal red shrimp fishery in the EEZ would not have any bearing on these programs. Consequently, the proposed actions will be implemented in a manner that is consistent to the maximum extent practicable with the approved coastal zone management programs of the Gulf states. This determination has been submitted for review and concurrence by the Gulf states under Section 307 of the Coastal Zone Management Act (CZMA).

12.4 Effect on Endangered Species and Marine Mammals

Amendment 9 contains a list of endangered and threatened species in the Gulf, as well as a detailed account of the Section 7 consultations and biological opinions that have been issued for the shrimp fishery in the Gulf since 1980. These consultations and opinions generally concluded that the management actions that have effected the shrimp fishery were not likely to jeopardize the continued existence of any endangered species, and they are incorporated here by reference. Amendment 9 provided additional protection for endangered and threatened sea turtles by requiring BRDs in shrimp trawls. Permits, registrations, or prohibition of trap gear would not have any impact on marine mammals or threatened and endangered species.

12.5 Scientific Data Needs

To monitor stocks to determine whether overfishing occurs, the Southeast Fisheries Science Center (SEFSC) of NMFS currently monitors catch by size and location, effort (CPUE),

recruitment, and other stock assessment parameters. Although this amendment would not require the collection of additional scientific data, the alternatives, other than "status quo", for vessel and boat permits presented in Section 6.0 and 7.0 would improve data collection programs for the shrimp fishery and for other fisheries through increased abilities to monitor shrimp catch and bycatch. They would also provide a universe of participants from which other socioeconomic information could be gathered (see discussions under Section 6.0 and 7.0). Operator permits, though not proposed, could also provide additional scientific data if they could be effectively implemented.

12.6 Federalism

This proposed amendment does not contain policies with federalism implications sufficient to warrant preparation of a federalism assessment under E.O. 12612.

13.0 LIST OF AGENCIES, ORGANIZATIONS AND PERSONS TO WHOM COPIES OF THE AMENDMENT/ENVIRONMENTAL ASSESSMENT ARE SENT.

Gulf of Mexico Fishery Management Council
Law Enforcement Advisory Panel
Shrimp Advisory Panel
Standing Scientific and Statistical Committee (SSC) and Special Shrimp SSC

Coastal Zone Management Offices
Alabama, Mississippi, Louisiana, Florida, Texas

Other Agencies, Organizations, and Persons
Alabama Cooperative Extension Service
Alabama Department of Conservation and Natural Resources, Marine Resources Division
Center for Marine Conservation
Coastal Conservation Association
Environmental Defense Fund
Florida Department of Environmental Protection
Florida Fish and Wildlife Conservation Commission
Florida Sea Grant
Gulf Restoration Network
Gulf and South Atlantic Fisheries Foundation, Inc.
Louisiana Cooperative Extension Service
Louisiana Department of Wildlife and Fisheries
Mississippi Cooperative Extension Service
Mississippi Department of Marine Resources
Monroe County Commercial Fishermen's Association
Monroe County Cooperative Extension Service
National Marine Fisheries Service Southeast Regional Office

National Marine Fisheries Service Southeast Fisheries Center
National Marine Fisheries Service Washington Office
National Marine Fisheries Service Law Enforcement
National Fisheries Institute
Organized Fishermen of Florida
Recreational Fishing Alliance
ReefKeeper International
Southeastern Fisheries Association
Southern Offshore Fishermen's Association
Texas America Vietnamese Association
Texas Cooperative Extension Service
Texas Parks and Wildlife Department
Texas Shrimp Association
United States Fish & Wildlife Service
United States Coast Guard

14.0 PUBLIC HEARING LOCATIONS AND DATES

The following public hearings were held beginning at 7:00 p.m. In addition, public testimony was accepted at the Council meeting in Biloxi, Mississippi, on November 15, 2000.

Monday, October 2, 2000
Laguna Madre Learning Center
Port Isabel High School
Highway 100
Port Isabel, TX 78578

Wednesday, October 4, 2000
Palacios Recreation Center
2401 Perryman
Palacios, TX 77465

Thursday, October 5, 2000
The Victorian Hotel & Conference Center
6300 Seawall Boulevard
Galveston Island, TX 77551

Friday, October 6, 2000
Police Jury Annex
Courthouse Square
110 Smith Circle
Cameron, LA 70631

Monday, October 9, 2000
Larose Regional Park
2001 East 5th Street
Larose, LA 70373

Tuesday, October 10, 2000
MS Department of Marine Resources
1141 Bayview Drive
Biloxi, MS 39530

Tuesday, October 10, 2000
New Orleans Airport Hilton
901 Airline Drive
Kenner, LA 70062

Wednesday, October 11, 2000
Adam's Mark Hotel & Resort
64 South Water Street

Mobile, AL36602

Thursday, October 12, 2000
Franklin County Courthouse
33 Market Street
Apalachicola, FL 32320

Monday, October 23, 2000
Holiday Inn Beachside
3841 North Roosevelt Boulevard
Key West, FL 33040

Wednesday, October 25, 2000
Edison Community College
Lee Campus
Corbin Auditorium, Room J-103
8099 College Parkway
Fort Myers, FL 33919

Thursday, October 26, 2000
Ramada Hotel & Conference Center
5303 West Kennedy Boulevard
Tampa, FL 33609

Additional public hearings were held at the following locations and times. Public testimony was also received at the Council's meeting on January 17, 2001 in Galveston, Texas, and additional public letters were accepted through January 5, 2001.

Wednesday, January 3, 2001, 7:00 p.m.
Laguna Madre Learning Center
Port Isabel High School
Highway 100
Port Isabel, TX 78578
956-943-0052

Thursday, January 4, 2001, 7:00 p.m.
Palacios Recreation Center
2401 Perryman
Palacios, TX 77465
361-972-3821

Monday, January 8, 2001, 6:00 p.m.
Department of Marine Resources
1141 Bayview Drive
Biloxi, MS 39530
228-374-5000

Tuesday, January 9, 2001, 7:00 p.m.
Bayou La Batre Community Center
Padgett Switch Road
Bayou La Batre, AL 36509
334-824-7918

Wednesday, January 10, 2001, 7:00 p.m.
New Orleans Airport Hilton
901 Airline Drive
Kenner, LA 70062
504-469-5000

Wednesday, January 10, 2001, 7:00 p.m.
Madeira Beach City Hall
300 Municipal Drive
Madeira Beach, FL 33708
727-391-9951

15.0 LIST OF PREPARERS

Dr. Richard L. Leard, Senior Fishery Biologist
Dr. Antonio Lamberte, Economist

16.0 REFERENCES

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Table 1. Number of shrimp vessels in U.S. Gulf ports by year, 1965 to 1999.

YEAR	Vessels in Operating Units File (OUF) (1)	Vessels in Shrimp Landings File (SLF) (2)	Vessels in Both OUF and SLF (3)	Vessels in SLF but not in OUF (4)	SLF Vessels in Coast Guard File (CG) (5)	SLF Vessels not in CG (6)	Vessels in Either OUF or SLF (7)	Vessel in Column 7 Less Vessels in Column 6 (8)
1965	2,848	2,796	2,796	0			2,848	
1966	2,946	2,907	2,907	0			2,946	
1967	3,150	3,088	3,088	0			3,150	
1968	3,414	3,311	3,309	2			3,416	
1969	3,582	3,346	3,344	2			3,584	
1970	3,605	3,262	3,252	10			3,615	
1971	3,527	3,246	3,226	20			3,547	
1972	3,715	3,308	3,298	10			3,725	
1973	4,150	3,400	3,393	7			4,157	
1974	3,811	3,217	3,215	2			3,813	
1975	3,754	2,702	2,699	3			4,188	
1976	4,195	2,114	2,109	5			4,200	
1977	4,402	2,361	2,355	6			4,408	
1978	4,696	2,453	2,446	7			4,703	
1979	5,127	2,605	2,551	54			5,181	
1980	5,298	3,036	2,964	72			5,370	
1981	5,494	3,954	3,904	50			5,544	
1982	5,369	3,889	3,846	43			5,412	
1983	5,482	3,705	3,672	33			5,512	
1984	5,821	3,992	3,947	45			5,866	
1985	5,898	4,319	4,241	78			5,976	
1986	5,848	4,111	4,060	51			5,899	
1987	6,008	4,486	4,434	52			6,054	
1988	6,104	4,250	4,218	32			6,136	
1989	6,166	4,057	4,057	0			6,166	
1990	5,828	3,866	3,865	1			5,829	
1991	5,066	3,818	3,794	24			5,090	
1992	5,106	3,641	3,625	16			5,154	
1993	4,836	3,700	3,475	225			5,061	
1994	5,063	4,007	3,522	485	3407	600	5,548	4,948
1995	4,555	3,946	3,323	623	3340	606	5,178	4,572
1996	4,216	3,893	3,078	815	3311	582	5,031	4,449
1997	4,048	3,753	2,962	791	3292	461	4,839	4,378
1998	3,988	3,697	2,852	845	3220	477		
1999		3,598	3,598		3108	490		

Table 2. Number of shrimp boats in U.S. Gulf ports
(Sources: State license files)

State	Number of Shrimp Boats
Alabama	**1,421**
Florida	**1,772**
Louisiana	**8,648**
Mississippi	**521**
Texas	**770**
Other States	**5**
Unknown	**26**
TOTAL	**13,163**

Notes:

1. Number of boats is based on license files from various states for the period 1997-1999, except that for Mississippi only the 1998 and 1999 files are used.
2. Boats showing up in a state license file for any one year are included in the total boat count for that state.

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APPENDIX A