

DRAFT

ENVIRONMENTAL ASSESSMENT

AND

REGULATORY IMPACT REVIEW

ON A PROPOSED RULE
TO IMPLEMENT REGULATORY MEASURES TO IMPROVE
MONITORING AND MANAGEMENT OF HIGHLY MIGRATORY SPECIES
RECREATIONAL FISHERIES

NOVEMBER 2001

United States Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Highly Migratory Species Management Division

Proposed Rule to Implement Regulatory Measures to Improve Monitoring and Management of Highly Migratory Species Recreational Fisheries

Proposed Actions: A mandatory toll-free call-in recreational landings reporting system for Atlantic billfish and swordfish is proposed to meet International Commission for the Conservation of Atlantic Tunas obligations. Furthermore, in light of the growing recreational swordfish fishery along the U.S. Atlantic coast, a bag limit for swordfish is also proposed.

Type of statement: Environmental Assessment and Regulatory Impact Review

Lead Agency: National Marine Fisheries Service

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Abstract: In November, 2000, the International Commission for the Conservation of Atlantic Tunas (ICCAT) developed a two-phase rebuilding program for overfished stocks of Atlantic blue and white marlin. The role of the United States in Phase I of the rebuilding plans is to monitor the landings of billfish tournaments through scientific observer coverage of at least 5% that includes collection of data on marlin landings from each observed billfish tournament, and endeavor to attain 10% scientific observer coverage on billfish tournament landings by the end of 2002. The 2001 ICCAT recommendation also limited the United States to 250 recreationally-caught Atlantic blue and white marlin, combined, on an annual basis for the period 2001 through 2002. This document examines the impacts of implementing a mandatory call-in system to improve monitoring of HMS recreational fisheries for Atlantic blue and white marlin to ensure compliance with Phase I of the 2000 ICCAT Atlantic marlin rebuilding plan. The United States also has an on-going ICCAT commitment to monitor and account for recreational North Atlantic swordfish landings. Furthermore, the need exists for improved recreational landings data for West Atlantic sailfish. Therefore, North Atlantic swordfish and West Atlantic sailfish recreational landings would be included in the mandatory call-in system.

In consideration of the increasing recreational swordfish fishery along the U.S. East Coast, NMFS is also proposing to implement a swordfish recreational bag limit to restrict mortality levels of this overfished resource. Implementing a retention limit at the initial phase of this growing fishery will help prevent incentive for illegal recreational sale of swordfish, establish long-term stability within the recreational swordfish fishery, as well as ensure that the North Atlantic swordfish stock continues to rebuild and that the accrued conservation benefits from recent management measures, such as the longline closures in the Atlantic and Gulf of Mexico, are not compromised.

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1.0. PURPOSE AND NEED FOR ACTION

1.1 Introduction

Atlantic blue marlin (*Makaira nigricans*), Atlantic white marlin (*Tetrapturus albidus*), and West Atlantic sailfish (*Istiophorus platypterus*) are managed by the United States under the Fishery Management Plan for Atlantic Billfish (Atlantic Billfish FMP), while North Atlantic swordfish (*Xiphias gladius*) are managed under the Fishery Management Plan for Atlantic Tunas, Swordfish, and Sharks (HMS FMP); both management plans are implemented under the authority of the Magnuson-Stevens Fisheries Conservation and Management Act (Magnuson-Stevens Act) at 50 CFR part 635. Additionally, Atlantic blue marlin, Atlantic white marlin, West Atlantic sailfish, and North Atlantic swordfish are managed by the International Commission for the Conservation of Atlantic Tunas (ICCAT), of which the United States is a member. The Secretary of Commerce has the authority under the Atlantic Tunas Convention Act (ATCA) to implement ICCAT-approved recommendations.

1.2 Background

In 1997, the National Marine Fisheries Service (NMFS) listed Atlantic blue marlin, Atlantic white marlin and North Atlantic swordfish as overfished. Amendment One to the Atlantic Billfish FMP (Billfish Amendment) and the HMS FMP were completed in 1999 to meet mandates of the Magnuson-Stevens Act for overfished fishery resources. Several international actions have also been undertaken to address overfishing concerns. During 1997, ICCAT made several recommendations to recover billfish resources throughout the Atlantic Ocean, including reduction of Atlantic blue and white marlin landings by at least 25 percent from 1996 levels, starting in 1998, to be accomplished by 1999. A 1998 ICCAT recommendation extended the effective period of the landing reductions through 2000. A rebuilding plan for North Atlantic swordfish was developed and adopted by ICCAT in 1999. At the November 2000 annual meeting, ICCAT provided several additional recommendations in developing a two-phased rebuilding plan for Atlantic blue and white marlin (Appendix). The impetus for producing a strong rebuilding strategy for Atlantic blue and white marlin was founded on the results of the most recent stock assessments completed by ICCAT's Standing Committee for Research and Statistics (SCRS), which indicated that marlin stocks are not rebuilding and continue to be overfished.

Phase I of the ICCAT Atlantic marlin rebuilding plan requires that countries capturing marlins commercially reduce white marlin landings from pelagic longline and purse seine fisheries by 67 percent and blue marlin landings by 50 percent from 1999 levels; the United States has prohibited commercial retention of billfish since implementation of the 1988 Atlantic Billfish FMP. For ICCAT members other than the United States, the plan also requires the release of all live marlins taken as bycatch in commercial fisheries, but does provide an allowance for landing of fish unavoidably killed provided that they are not sold. For its part of the rebuilding program, the United States agreed to maintain regulations that prohibit retention of marlins by U.S. pelagic longline fishermen, and continue monitoring of billfish tournaments through scientific observer coverage of at least 5 percent

initially, with an objective of 10 percent coverage by 2002. The United States currently exceeds these observer requirements. The United States also agreed to limit annual landings by U.S. recreational fishermen to 250 Atlantic blue and white marlin, combined, for 2001 and 2002. The key element in complying with this portion of Phase I of the Atlantic blue and white marlin rebuilding plan is to develop a comprehensive monitoring program for all recreational landings of marlin, particularly outside of fishing tournaments which are currently monitored through the Recreational Billfish Survey (RBS). Billfish landings outside of tournaments are rarely encountered by standardized recreational fishing surveys such as the Marine Recreational Fisheries Statistical Survey (MRFSS) and the Large Pelagic Survey (LPS). Landings by U.S. vessels outside the U.S. EEZ are also not regularly monitored.

The Highly Migratory Species Advisory Panel (HMS AP) addressed the enhancement of Atlantic billfish monitoring, as well as the issue of the expanding U.S. recreational swordfish fishery during its annual meeting held April 2-4, 2001. Concern was expressed by the HMS AP regarding the adequacy of current NMFS programs and the development of sufficient monitoring tools for both Atlantic marlin and swordfish. As noted for Atlantic marlin, existing survey strategies generally do not identify landings of swordfish which anecdotally appear to be frequent. It is vital to develop a mechanism to monitor recreational landings which are counted against the Incidental swordfish quota. The HMS AP also indicated that additional management measures should be considered to develop reasonable limitations to recreational swordfish landings to avoid an unchecked expansion within this revitalized fishery, and to remove any incentive for illegal sales of swordfish by recreational fishermen.

The recreational swordfish fishery in the North Atlantic Ocean has been expanding in recent years, probably due to an increase in availability which has resulted in an increased interest in this sport. Fishermen typically fish off the east coast of Florida and off the coasts of New Jersey and New York. In the past, the New York fishery for swordfish has occurred incidental to overnight yellowfin tuna trips. This appears to have evolved into a directed fishery year-round off Florida and during the summer months off New Jersey. There have also been reports that recreational swordfish are frequently foul-hooked as a result of their feeding behavior. While many are released alive, there may be sufficient physical damage that could impair recovery or lead to death. With the successful implementation of the ICCAT North Atlantic swordfish rebuilding program and the recent closure of nursery waters off the east coast of Florida to pelagic longline fishing activities on April 1, 2001 (65 FR 47214; 66 FR 8903), it is likely that further increases in recreational landings of swordfish, particularly juveniles, could occur along the U.S. Atlantic coast. However, without developing or expanding monitoring efforts, the extent and magnitude of these potential increases in recreational landings will remain unknown.

1.3 Objectives

The objectives of these management measures are designed to comply with Phase I of the ICCAT Atlantic marlin rebuilding plan, and to conserve and manage the recreational North Atlantic swordfish fishery as follows:

- Maintain an annual recreational landings limit of 250 Atlantic blue and white marlin during 2001 and 2002.
- Implement a monitoring system for recreationally-caught Atlantic blue and white marlin to ensure ICCAT compliance with the annual landings limit of 250 marlin during 2001 and 2002, West Atlantic sailfish to improve recreational landings data, and North Atlantic swordfish to better monitor the recreational fishery against the Incidental quota.
- Prevent the illegal sale of recreationally-caught North Atlantic swordfish.
- Prevent an unrestricted expansion of the recreational North Atlantic swordfish fishery, in order to ensure the long-term availability of the resource and provide long-term stability within the recreational swordfish fishery.

2.0. MANAGEMENT ALTERNATIVES

1. Preferred Alternative: Status Quo Atlantic Marlin Landing Restrictions

The status quo is the preferred alternative which would retain the current minimum size limits (Atlantic blue marlin - 99 inches LJFL; Atlantic white marlin - 66 inches LJFL).

2. Not Preferred: Increase the Minimum Size Limits of Atlantic Blue Marlin to 105 Inches LJFL and Atlantic White Marlin to 68 Inches LJFL

This alternative would increase the minimum size of Atlantic blue marlin from 99 inches to 105 inches and increase the minimum size of Atlantic white marlin from 66 inches to 68 inches.

3. Not Preferred: Allocation of 250 Atlantic Marlin Landing Tags

This alternative is based on creating a landing tag system as part of an overall program to improve monitoring of recreational landings of Atlantic billfish. The Atlantic marlin fishery would be closed upon submission of the 250 landing tags.

4. Preferred Alternative: Telephone System for Reporting Recreational Landings of Atlantic Billfish and North Atlantic Swordfish

Under this alternative, all recreational, non-tournament landings of Atlantic billfish (blue marlin, white marlin, and sailfish) or North Atlantic swordfish landed by U.S. citizens would be required to be reported via a toll-free telephone line (1-800-894-5528).

5. Not Preferred: Required Use of Landing Tags to Monitor Atlantic Marlin and North Atlantic Swordfish Recreational Landings

The purpose of landing tags would be to provide a count of every Atlantic marlin (outside of a registered fishing tournament) and North Atlantic swordfish landed by U.S. recreational anglers. This alternative would allow NMFS to more closely monitor the actual number of marlin and swordfish landed by individual recreational fishermen, as well as provide valuable biological information. Under this alternative, there is no limit to the amount of available tags and there is no intent to close the fishery.

6. Not Preferred: Status Quo Recreational Monitoring of Atlantic Marlin

Under this alternative, recreational monitoring would be limited to the Recreational Billfish Survey (RBS) and the Marine Recreational Fisheries Statistical Survey (MRFSS).

7. Not Preferred: Require an HMS Recreational Fishing Permit

This alternative would require a recreational fishing permit for all vessels fishing for HMS.

8. Preferred Alternative: Implement a Recreational Bag Limit of 1 Swordfish Per Vessel Per Trip

This management alternative would establish a bag limit of one North Atlantic swordfish recreational landing, per vessel, per trip. This bag limit would apply to all private vessels and vessels with an HMS charter/headboat permit.

9. Preferred Alternative: Outreach Program on the Use and Benefits of Circle Hooks for Directed Recreational Swordfish Angling

This alternative would promote the use of circle hooks for directed recreational swordfish angling, versus the “J”-style hooks commonly used in recreational fisheries.

10. Not Preferred: Status Quo Recreational Swordfish Retention Restrictions

Under this alternative, only current HMS regulations would apply to restricting recreational landings of swordfish: minimum size limit of 47 inches LJFL and the Incidental quota.

3.0 AFFECTED ENVIRONMENT

3.1 Atlantic Billfish and Swordfish

A summary of the life history information for Atlantic billfish and North Atlantic swordfish is provided in the Billfish Amendment (NMFS, 1999a), HMS FMP (NMFS, 1999b), and the 2001 HMS SAFE report (NMFS, 2001). All four species are overfished and overfishing continues internationally. The 2001 HMS SAFE report provides a full description of the most recent ICCAT Billfish stock assessment that was held in Miami, Florida, during July 2000. The most recent

swordfish stock assessment was discussed in detail in the 2000 HMS SAFE report (NMFS, 2000a).

The ICCAT Atlantic marlin rebuilding plan, negotiated during the November 2000 annual meeting in response to the July 2000 SCRS assessment, indicated that Atlantic blue marlin stocks are about 40 percent of the level needed to achieve maximum sustainable yield (MSY). While this statement appears to be more optimistic than the 1996 assessment where biomass levels were projected to be at 24 percent of MSY, relative Atlantic-wide blue marlin fishing mortality rates (F/F_{MSY}) have increased from 2.87 in 1996 to 4.0 in 2000. The assessment for Atlantic white marlin indicated that the Atlantic stock has been reduced from 23 percent of MSY in 1996 to less than 15 percent of the level needed to achieve MSY in 1999. Relative fishing mortality rates for Atlantic white marlin have also increased from 1.96 to greater than 7.0.

North Atlantic swordfish biomass at the beginning of 1996 was estimated to be 58 percent of the biomass needed to produce MSY. In 1999, assessments for North Atlantic swordfish indicated that the decline in biomass has been slowed or arrested (NMFS, 1999b), and the SCRS (2000) estimated the biomass of North Atlantic swordfish to be 65 percent of the biomass needed to produce MSY. While there have been gains in MSY, the SCRS cautioned that the North Atlantic recovery plan is very sensitive to any overharvests. With the recent closures in the Atlantic and Gulf of Mexico to pelagic longline fishing, in part due to the abundance of small swordfish, there is reason for concern regarding the recent expansion of the recreational swordfish fishery. Increased pressure from an expanding recreational fishery may potentially negate some of the conservation benefits expected from the longline closures and slow stock recovery.

3.2 Non-Target Finfish and Protected Species

This rulemaking affects recreational fishing activities for Atlantic billfish and North Atlantic swordfish. A description of non-target finfish, such as wahoo, dolphin, king mackerel, and some species of sharks (some of which are overfished) caught in the recreational fishery is included in the Billfish Amendment (NMFS, 1999).

At a recent sub-group meeting of the Atlantic States Marine Fisheries Commission, NMFS and state agency staff discussed the need for collecting information about protected species bycatch in recreational fisheries. The sub-group recommended that agencies should investigate options for quantifying fisheries interactions with recreational gear. The impetus for the recommendation was based on the perception that there may be an increasing problem of interactions (i.e., entanglements) between recreational fishing gear and marine mammals. Although stranding data are preliminary, there is some evidence of protected species entanglements (primarily bottlenose dolphin) with recreational fishing gear (primarily monofilament line and fishing lures). Neither the states nor NMFS have any directed monitoring program to identify recreational fishing interactions with protected species. Interactions between recreational anglers and sea birds has also been noted as a potential area of concern.

3.3 Description of the Human Environment

History of Exploitation

Atlantic billfish and swordfish have historically supported important recreational fisheries along the Atlantic coast of the United States, including the Gulf of Mexico and Caribbean Sea. The Billfish Amendment (NMFS, 1999a) and the HMS FMP (NMFS, 1999b) provide a complete review of these recreational fisheries. Atlantic billfish have also historically been landed as incidental catch by foreign and domestic commercial pelagic longline vessels, or in directed recreational and subsistence handline fisheries. Since the majority of marlin fishing mortality in the Atlantic Ocean is part of international commercial pelagic fisheries (see Table 4.1, 2001 HMS SAFE report; NMFS, 2001), billfish catch estimates have risen and fallen with the overall catch estimates for pelagic fisheries. A complete discussion of the historical catch history is provided in the Billfish Amendment (NMFS, 1999a). North Atlantic swordfish, unlike Atlantic billfish, also support a vital commercial fishery, with a long history in U.S. and international waters. The United States currently receives 29 percent of the North Atlantic swordfish ICCAT quota (for 1999, total North Atlantic swordfish reported catch was 11,914 mt, with U.S. landings totaling 2,908 mt with and additional 494 mt of discards).

Current Domestic Fishing Activities and Economic Aspects of the Fishery

Domestic fishing activity directed on Atlantic billfish is limited to recreational fishing. A description of this fishery, including participating user groups, historical descriptions, and social and economic values of the fishery is described in the Billfish Amendment (NMFS, 1999a) and the 2001 SAFE report (NMFS, 2001). Recreational catches of billfish are difficult to accurately assess because billfish are relatively rare in comparison with other species targeted by marine anglers, and because there are relatively few billfish fishermen. These characteristics challenge the use of traditional recreational angler surveys for monitoring billfish catches.

Indices of abundance for Atlantic blue and white marlin were recently calculated by Ortiz and Farber (2000) using standardized recreational catch rates from fishing tournaments. They used an index of weight caught per 100 hours of fishing reported through tournament operators and NMFS observers through the RBS program. The RBS database included a total of 11,066 records of information for each tournament day surveyed (from a total of 459 tournaments) between 1973 and 1999, including species, disposition (lost, released, tagged, or boated), and morphometric information (size, weight) for billfish that were landed. Ortiz and Farber noted that the average catch rate of blue marlin was 307.5kg/100 hours of fishing effort between 1973 and 1999. In recent years, there has been a trend to an increase in the mean size of blue marlin reported by recreational tournaments, most likely a reflection of the recent increase in the minimum size limit from 86 inches lower jaw-fork length (LJFL) to 99 inches LJFL. However, using the number of fish caught per 100 hours of fishing metric, they noted that recent catch rates have been below average levels. Catch rates trends in number landed/effort for blue marlin are shown in Figure 1. Likewise, catch trends for white marlin are declining under the number per unit effort analyses by Ortiz and Farber. Since 1985, catch rates have been below the overall mean (Figure 2).

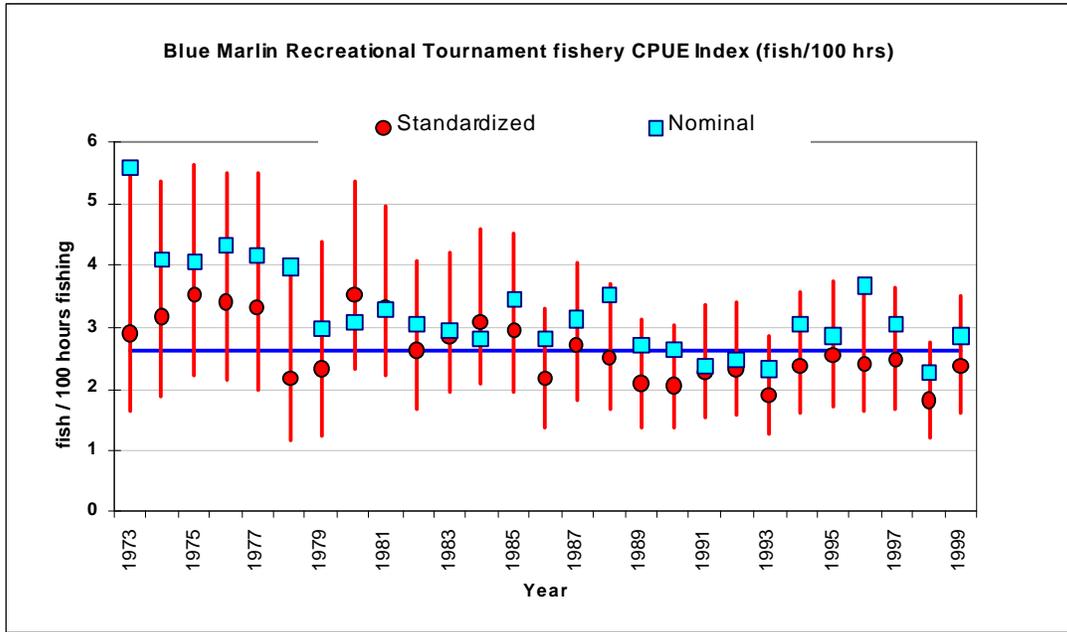


Figure 1. Standardized catch rates by numbers (CPUE) of blue marlin (1973-1999) from recreational tournaments ($\pm 95\%$ CI). Solid line represents the overall average for the standardized catch rates (Ortiz and Farber, 2000).

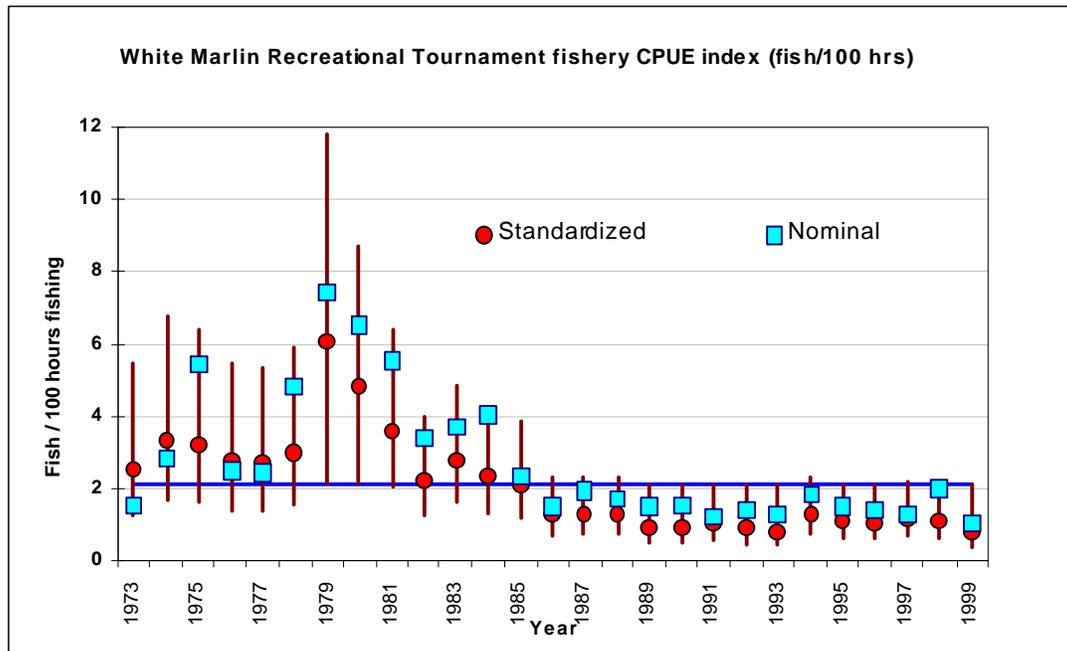


Figure 2. Nominal and standardized catch rates by numbers (CPUE) of white marlin (1973-1999) from recreational tournaments ($\pm 95\%$ CI). Solid line represents the overall average for the standardized catch rates (Ortiz and Farber, 2000).

Recreational activities by U.S. recreational anglers are generally monitored by the MRFSS, including HMS recreational fisheries. A complicating factor limiting the ability of NMFS to monitor billfish landings, as well as recreational swordfish landings, is the infrequency of Atlantic blue marlin, Atlantic white marlin, West Atlantic sailfish, and North Atlantic swordfish landings over a wide geographic range of fishing effort. When landings of species occur as a relatively “rare event,” whether due to spatial (Atlantic-wide effort) or temporal (swordfish recreational landings generally occur during nighttime hours) constraints, the MRFSS sampling program may not provide a robust estimate of recreational fishing activity. This problem was addressed in the bluefin tuna recreational fishery by developing the LPS program, which operates within the U.S. EEZ northward of the North Carolina coast, and augmenting it with tagging and call-in systems.

In addition, Atlantic billfish are monitored through the RBS which began in 1971 in the Gulf of Mexico and was expanded to the U.S. East Coast and U.S. Caribbean in 1972. The RBS data are almost exclusively derived from recreational billfish fishing tournaments or recreational tuna fishing tournaments that also have a reward category for billfish. Few data from non-tournament sources are included in the RBS, although some non-tournament data are normally included each year. The tournaments sampled by the RBS do not represent a census of all billfish tournaments that include U.S. citizen participants. Therefore, the sampled catch (i.e., boated fish) and effort represent minimum estimates and cannot be extrapolated to estimate a total catch. The Billfish Amendment (NMFS, 1999) established a regulatory requirement for billfish tournaments to register with NMFS at least four weeks prior to the event to improve on the robustness of the RBS. A partial indication of the impact of the tournament registration requirement may be gleaned from the fact that the number of billfish tournaments reported in 1999 (N=157) was greater than those that reported in 1996 (N=116). While landings reporting for HMS tournaments is becoming more comprehensive, a significant amount of recreational fishing effort for Atlantic HMS still occurs outside of the tournament context.

Compilation of recreational landings for Atlantic blue and white marlin for the 1999 fishing year (June 1999 through May 2000) and preliminary values for calendar year 2000 have recently been completed by the NMFS Southeast Fishery Science Center (SEFSC), and are provided in Table 1. From the information provided in this table, annual U.S. recreational landings of Atlantic marlin are below the 250 threshold for both 1999 (calendar year and fishing year) and 2000. The drop off in marlin landings between 1999 and 2000 (Table 1) may partially be due to better adherence of increases in minimum size limits that were finalized on May 28, 1999 (64 FR 29090). For example, based on information from the RBS, if the minimum size limit for Atlantic blue marlin had been “perfectly implemented” for 1999 (calendar year), then landings would have only been 25.47 mt (128 fish) rather than 32.8 mt (177 fish) as noted by Farber and Venizelos (2000).

Although the MRFSS, LPS and RBS provide some estimate of HMS recreational activities, many landings may still go undetected. Some additional improvement in monitoring of recreational billfish landings will likely be experienced as the charter/headboat permit, logbook and observer programs that were developed as part of the HMS FMP and Billfish Amendment are implemented during 2001 and beyond. However, it is unlikely that these programs will be sufficient to adequately address the

monitoring caveats associated with recreational Atlantic billfish and North Atlantic swordfish angling due to the operational behavior of these recreational fisheries, thus the precision of current landing estimates is a matter of concern. Therefore, some additional monitoring program must be developed to determine the magnitude of landings from private vessels, charter boats and other platforms, both inside the U.S. EEZ and throughout the Atlantic Ocean (range of Atlantic billfish stocks) to comply with the 2000 ICCAT recommendation for Atlantic marlins and for North Atlantic swordfish for quota monitoring responsibilities.

Year	Number of Blue Marlin	Number of White Marlin	Total
1996	208	74	282
1999 (Calendar Year)	177	36	213
1999 (Fishing Year, June 99 - May 2000)*	155	36	191
2000 (Calendar Year)	106	8	114

* The U.S. reports ICCAT compliance with the marlin cap based on fishing year estimates.

Table 1. U.S. recreational landings of Atlantic blue and white marlin. Numbers for 2000 are preliminary (Eric Prince, SEFSC, pers. comm.).

The recreational swordfish fishery in the North Atlantic Ocean has been expanding in recent years, probably due to increased availability leading to an increased interest in this sport. Fishermen typically fish off the east coast of Florida and off the coasts of New Jersey and New York. In the past, the New York fishery for swordfish has occurred incidental to overnight yellowfin tuna trips. During the day, fishermen targeted tunas, while at night they fished deeper for swordfish. This appears to have evolved into a directed fishery year-round off Florida and during the summer months off New Jersey and New York.

Existing survey strategies do not pick up recreational landings of swordfish which anecdotally appear to be frequent. These landings are counted against the Incidental quota. The 2001 SAFE report (NMFS, 2001) indicated that estimates of recreational landings of swordfish had increased from 4.7 mt (10,400 lbs) in 1998 to 21.32 mt (47,000 lbs) in 1999. However, data on actual landing levels, as well as economic components associated with this growing fishery, are unknown at this time. Concern was expressed by the HMS AP at the April 2001 annual meeting regarding anecdotal reports of the growth of recreational swordfish landings, particularly along the east coast of Florida, and the possible illegal entry of these fish into the commercial market.

4.0. ENVIRONMENTAL CONSEQUENCES OF MANAGEMENT ALTERNATIVES

4.1 Compliance with ICCAT Recommendation to Limit Annual U.S. Recreational Landings to 250 Atlantic Blue and White Marlin

The success of the ICCAT rebuilding plan will be predicated primarily on international cooperation in reducing Atlantic blue and white marlin landings. In fact, the magnitude of required mortality reductions to rebuild these overfished stocks are such that if all sources of U.S. mortalities of Atlantic blue and white marlin were eliminated (i.e., both recreational and commercial), in light of actions already taken by the United States (e.g., prohibition of commercial retention of Atlantic billfish, extensive time/area closures along U.S. Atlantic coast, gear restrictions), the cumulative impact would not be sufficient to effect any perceptual benefit to the rebuilding plan. Therefore, the brunt of the reductions required to rebuild overfished Atlantic blue and white marlin stocks will fall on the countries with the greatest landings. To that end, ICCAT members, not including the United States, will be required to implement a 50 percent reduction in Atlantic blue marlin landings from 1999 levels and a 67 percent reduction in white marlin landings from 1999 levels. Currently, Japan, Chinese-Taipei, Brazil, Cote D'Ivoire, and Venezuela account for over 80 percent of the Atlantic marlin landings. Limiting annual U.S. recreational landings to 250 Atlantic blue and white marlin during 2001 and 2002 is another component of Phase I of the ICCAT Atlantic marlin rebuilding plan.

Preferred Alternative: Status Quo Atlantic Marlin Landing Restrictions

The status quo is the preferred alternative which would retain the current minimum size limits (Atlantic blue marlin - 99 inches LJFL; Atlantic white marlin - 66 inches LJFL). Reported marlin landings for 1999 (Table 1; N=213 Atlantic marlin), particularly if landings are adjusted to account for "perfect implementation" of the minimum size limits for Atlantic marlin in which fish below the minimum size limit are removed from the landings for the 1999 calendar year (Farber and Venizelos, 2000), would yield an "adjusted" count of 128 blue marlin and 36 white marlin, yielding a total of 164 Atlantic marlin. Furthermore, preliminary landings information for 2000 of 114 Atlantic marlin landings (Table 1) are well under the 250 annual limit of the 2000 ICCAT recommendation. Although the status quo is the preferred alternative to limit landings to 250 fish, enhanced monitoring is needed. Additional measures may be necessary if non-tournament landings indicate higher than expected U.S. recreational Atlantic blue and white marlin landings.

Ecological Impacts

The preferred alternative would have no ecological impact beyond the current regulatory constraints placed on the U.S. recreational marlin fishery.

Economic Impacts

The economic importance and value of the recreational marlin fishery is discussed in the Billfish Amendment (NMFS, 1999a) and the 2001 SAFE report (NMFS, 2001). Compliance with the ICCAT recommendation to limit annual recreational landings to 250 Atlantic blue and white marlin under the preferred alternative would have no economic impact on the U.S. recreational marlin fishery.

Social Impacts

The status quo alternative would not have any negative social impacts on the recreational HMS fishing community.

Not Preferred: Increase the Minimum Size Limits of Atlantic Blue Marlin to 105 Inches LJFL and Atlantic White Marlin to 68 Inches LJFL

The Billfish Amendment used increases in the minimum size limits of Atlantic blue marlin (from 86 inches LJFL to 99 inches LJFL) and Atlantic white marlin (from 62 inches LJFL to 66 inches LJFL) as the primary mechanism to comply with the 1997 and 1998 ICCAT recommendations to reduce Atlantic landings by 25 percent from 1996 levels. This philosophy was preferred in public comment as compared to bag limits or other management alternatives that restrict recreational landings by U.S. citizens. By further increasing the minimum size limits for Atlantic blue and white marlin, this alternative would follow the strategy established in the Billfish Amendment to control recreational landings resulting in a precautionary measure to ensure that annual recreational landings would not likely exceed 250 marlin in either 2001 or 2002. Increasing the minimum size of Atlantic blue marlin to 105 inches LJFL would potentially reduce blue marlin landings by approximately 40 percent from 1999 levels (Table 2), while a reduction in white marlin landings of over 50 percent would be expected with an increase in the minimum size limit to 68 inches LJFL (Table 3). However, as discussed at the April 2-4, 2001, HMS AP meetings, recent landings of Atlantic blue and white marlin have already been significantly reduced from 1999 levels (40 percent and 78 percent, respectively), therefore implementing further increases in the minimum size limit is not currently a preferred management alternative.

Ecological Impacts

Further increasing the minimum size for Atlantic blue (Table 2) and white marlin (Table 3) to effect greater reductions in recreational landings would have little or no impact on the Atlantic-wide rebuilding plan for these species.

LJFL inches	Number Expected to be Landed	Total Expected Landings (mt)	Percent Reduction from 1999 levels*
Baseline Data (Observed Numbers)			
86 (1996)	208	32.4	
99 (1999; 2 months 86 inches)	177	32.8	
Projected Reductions in Atlantic blue marlin Landings			
99	128	25.47	-13.4
102	104	22.04	-25.0
104	89	19.37	-34.1

LJFL inches	Number Expected to be Landed	Total Expected Landings (mt)	Percent Reduction from 1999 levels*
105	81	17.93	-39.0
106	70	15.85	-46.1
108	52	12.42	-57.8
110	39	9.69	-67.0

* Estimates based on perfect implementation of 99 inch LJFL regulation.

Table 2. Expected percent reductions in recreational landings of Atlantic blue marlin from 1999 levels at each respective increase in minimum size (inches LJFL).

LJFL inches (avg. weight at length)	Number Expected to be Landed	Total Expected Landings (mt)	Percent Reduction from 1999 levels
Baseline Data (Observed Numbers)			
62	74	1.99	
66	36	0.95	
Projected Reductions in Atlantic blue marlin Landings			
67	26	0.70	-26.5
68	17	0.47	-51.0
69	13	0.35	-63.2
70	4	0.12	-87.7

Table 3. Expected percent reductions in recreational landings of Atlantic white marlin from 1999 levels at each respective increase in minimum size (inches LJFL).

Economic Impacts

The economic importance and value of the recreational marlin fishery is discussed in the Billfish Amendment (NMFS, 1999a) and the 2001 SAFE report (NMFS, 2001). The economic impact of additional increases in minimum size limits through the management strategy is uncertain, but as discussed under a similar action taken in the Billfish Amendment when minimum sizes of Atlantic blue and white marlin were increased (13 inches LJFL and 4 inches LJFL, respectively), it is not anticipated that further changes would reduce angler participation resulting in a negative economic impact on associated support industries. Evidence supporting this conclusion can be gleaned from the fact that as many, if not more, tournament events are now being held, albeit with lower numbers of marlin landed, than occurred prior to when final regulations increasing the minimum size limits became effective (May 29, 1999; 64 FR 29090). The enforcement cost of minimum size increases should not increase since size limits already exist under current regulations. However, there would

be some short-term increases in management costs associated with communicating new size limits to the recreational fishing community.

Social Impacts

The social impact of an increase in the minimum sizes for Atlantic marlin on various sectors of the recreational fishing industry is uncertain. However, based on responses received on the August 9, 2000, Advanced Notice for Proposed Rulemaking (ANPR; 65 FR 48671), it is anticipated that any additional increase in size limits could have a negative social impact on U.S. Atlantic marlin anglers. Further increases in Atlantic marlin minimum size were also addressed at the April 2-4, 2001, joint HMS/Billfish AP meetings held in Silver Spring, MD, and were generally not well supported. Although an increase in size limits was suggested, particularly for white marlin, most AP members indicated that since tournaments often have larger minimum size limits than currently required by law and the reduced number of tournament-landed marlin (106 blue marlin and 8 white marlin in 2000), further changes in size limits would not be effective. Comments received on potential measures in the ANPR, as well as from AP discussions, indicate that recreational marlin anglers voluntarily release a very high percentage of all marlin caught, and while they are supportive of conservation measures, further increases in size limits imposed as a result of the 1999 Billfish Amendment (NMFS, 1999) would be perceived as punitive management against the recreational fishing community.

Not Preferred: Allocation of 250 Atlantic Marlin Landing Tags

This alternative is based on creating a landing tag system as part of an overall program to improve monitoring of recreational landings of Atlantic marlin (see Alternative 1 under Section 4.2). A U.S. citizen fishing anywhere within the management unit (Atlantic Ocean) would be required to affix a landing tag on any Atlantic blue or white marlin upon landing. Under this alternative, there would either be a limit of 250 landing tags provided to U.S. recreational marlin anglers for the Atlantic, or alternatively, no limit on the number of available tags but further recreational landings would be prohibited once 250 Atlantic blue and white marlin landings tags have been submitted for the year. This alternative is not preferred at this time.

Ecological Impacts

Developing a landing tag system for use in monitoring and/or limiting the U.S. recreational Atlantic marlin fishery would also have no measurable ecological impact beyond ensuring compliance with the ICCAT recommendation.

Economic Impacts

The economic importance and value of the recreational marlin fishery is discussed in the Billfish Amendment (NMFS, 1999a) and the 2001 SAFE report (NMFS, 2001). Establishing a limit on the absolute number of Atlantic blue and white marlin that can be landed by U.S. recreational anglers through a limit of 250 landing tags or by prohibiting landings once 250 tags have been reported could have significant negative economic impacts on the recreational marlin industry. Tournaments and

charter vessel fishing trips that occur near the end of the fishing year could be differentially impacted should they be unable to land an Atlantic blue or white marlin that met minimum size requirements.

Social Impacts

Using landing tags to control the number of Atlantic marlin landed by U.S. anglers, whether through limiting the number of tags to 250 or through closure of fishery landings once the 250 threshold has been achieved, would likely be strongly opposed and have significant negative social impacts, due to geographic and seasonal biases (e.g., tournaments or anglers desiring to land fish near the end of the fishing year when the potential would be highest for a fishery closure). The AP members also indicated that any measure limiting access to recreational landings would likely lead to negative social consequences resulting from fairness and equity issues relating to allocating a valuable, wide-ranging resource.

Other Alternatives Considered but Rejected

One alternative to ensure that U.S. recreational landings of marlin do not exceed the 250 landings limit would be to prohibit all Atlantic blue and white marlin landings by U.S. recreational anglers outside of fishing tournaments because current monitoring of billfish landings are mainly focused on tournaments; landings data indicate that less than 250 marlin are landed annually during fishing tournaments. NMFS also considered allowing only catch-and-release formats for all Atlantic billfish tournaments and a prohibition on any recreational landings of Atlantic blue and white marlin.

Ecological Impacts

These alternatives would likely have no measurable ecological impact beyond ensuring compliance with the ICCAT recommendation.

Economic and Social Impacts

Prohibiting non-tournament landings was considered in the Billfish Amendment, but was rejected because of potential economic and social impacts on private vessel owners and the charter vessel industry that provide fishing opportunities for anglers that either do not wish to participate in tournament fishing or who can not afford entry fees. The alternatives of allowing only catch-and-release for Atlantic billfish tournaments and prohibiting any recreational landings of Atlantic blue and white marlin could lead to various, and potentially excessive, negative economic impacts, as discussed in the Billfish Amendment (NMFS, 1999a). Tournaments requiring landings as part of the criteria used to determine winners and trophy anglers (e.g., for a marlin mount) would be prohibited from landing a Atlantic blue or white marlin, which may reduce angler participation resulting in economic losses to associated businesses.

4.2. Monitoring of Atlantic Billfish and North Atlantic Swordfish Recreational Landings

Preferred Alternative: Telephone System for Reporting Recreational Landings of Atlantic Billfish and North Atlantic Swordfish

Under this alternative, all recreational, non-tournament landings of Atlantic billfish or North Atlantic swordfish landed by U.S. citizens would be required to be reported via a toll-free telephone line (1-800-894-5528). Monitoring of Atlantic billfish (non-tournament) and swordfish recreational landings through a self-reporting method that is easy to use and operative over a wide geographic range would provide a cost-effective mechanism to determine compliance with ICCAT obligations. West Atlantic sailfish are included for mandatory reporting due to the fact that they are generally caught along with Atlantic marlin, there is a need for improved sailfish recreational landings data, and that the call-in system will already be established for Atlantic marlin and North Atlantic swordfish landings.

The toll-free call would take less than 5 minutes for each response, including name, contact number, and number, size and species caught. NMFS would then call back each reporting angler to obtain specific catch information, as well as provide the angler with a confirmation number which will be for enforcement purposes. The toll-free call-in system requirement for non-tournament landings would be widely advertised through public outreach with constituent groups, sport fishing magazines, fishing tournaments, Fishery Management Councils, and Billfish Advisory Panel members. It is anticipated that compliance would be high with this requirement based on the conservation ethic and interest in this resource by recreational HMS anglers. This alternative would apply only to non-tournament recreational landings to avoid duplicative reporting by the RBS program. This is the preferred alternative for improving HMS recreational monitoring based on current NMFS resources.

Ecological Impacts

Improvements in monitoring of recreational Atlantic billfish and swordfish landings outside of registered tournaments is necessary for the United States to meet ICCAT obligations and to support conservation of these species. Furthermore, it is particularly vital to initiate a swordfish monitoring program at this point in time when the U.S. recreational swordfish fishery is beginning to undergo an increase in angler success and participation. Additionally, improved monitoring will enhance precision of future SCRS stock assessments. Monitoring programs would have some ecological impact if landings of Atlantic billfish and/or swordfish were far in excess of anticipated levels, requiring additional landing restrictions to further minimize mortality rates.

Economic Impacts

Recreational encounters with billfish and swordfish are generally rare, and landings are even less frequent (generally 95 to 99 percent of all Atlantic marlin are released), which makes scientifically-based sampling programs difficult to design and expensive to operate. The toll-free HMS recreational landing monitoring call-in system would have minimal economic impact on the recreational community (no cost for the call and likely less than 3 to 5 minutes to report).

Administrative costs would also be minimal since the toll-free system is already in place, with some expenditures associated with calling anglers back to obtain catch-specific information and to provide confirmation numbers. Database maintenance would also increase costs to the government. However, an enhancement of recreational monitoring of Atlantic billfish and North Atlantic swordfish recreational landings by U.S. anglers is necessary to comply with ICCAT obligations. Furthermore, continued inadequate monitoring of Atlantic billfish and swordfish could negatively impact international rebuilding programs, which could lead to long-term recreational dissatisfaction and negative net economic benefits based on limited or reduced recreational encounters.

Social Impacts

The call-in monitoring program is not expected to have any significant social impacts on the U.S. recreational Atlantic billfish or North Atlantic swordfish anglers in the short or long-term.

Not Preferred: Required Use of Landing Tags to Monitor Atlantic Marlin and North Atlantic Swordfish Recreational Landings

The challenge of monitoring recreational HMS landings was addressed in the August 9, 2000, ANPR (65 FR 48671), and included the use of landing tags as one of the potential management alternatives to be considered to improve monitoring of recreational landings of swordfish, as well as marlin outside of tournaments. Although not all 12 written responses received on the ANPR addressed landing tags, there was mixed support for developing such a system, with some suggestions that this program would best be accomplished in coordination with state fisheries agencies. Use of landing tags for monitoring of Atlantic marlin was also discussed at the April 2-4, 2001, AP meeting.

The purpose of landing tags would be to provide a count of every Atlantic marlin (outside of a registered fishing tournament) and North Atlantic swordfish landed by U.S. recreational anglers. This alternative would allow NMFS to more closely monitor the actual number of marlin and swordfish landed by individual recreational fishermen, as well as provide valuable biological information (size frequencies, growth, movement patterns, etc.). The management mechanisms of the marlin landing tag could follow the tarpon program utilized by the State of Florida, or the bluefin tuna tagging programs currently used in Maryland and North Carolina. Any Atlantic marlin or North Atlantic swordfish taken into possession from its management unit for the intent of recreational landing would be required to have a tag attached to the fish. Atlantic marlin landed as part of a registered billfish tournament would be exempt from the tag requirement. The tag would remain with the fish through final processing of the fish (i.e., smoking, filleting, or taxidermy). The number of tags would not be limited, as opposed to Alternative 2 under Section 4.1, and would be readily available to recreational fishermen. Furthermore, the tags would be transferrable as long as reporting requirements are met. NMFS would keep a record of the name, address, and number of tags sent to each angler. Included with the tag would be a self-addressed reporting form that would be mailed to NMFS. The reporting form would include mandatory information (e.g., name, address, species, location of catch, length, weight), as well as optional data (e.g., sex of fish, manner of fishing). A report would also be submitted to NMFS within seven days of the end of the calendar year accounting for all unused tags.

Failure to submit required reports would disqualify an individual from receiving tags from NMFS in the next calendar year.

Ecological Impacts

Improved monitoring will enhance precision of future agency and SCRS stock assessments. Monitoring programs would have some ecological impact if landings of Atlantic marlin and/or swordfish were far in excess of anticipated levels, requiring additional landing restrictions to further minimize mortality rates.

Economic Impacts

The economic impacts of instituting a landing tags program were addressed in the Billfish Amendment (NMFS, 1999a). The cost per tag would be approximately \$20 to \$30, therefore, the short-term economic impacts to recreational anglers of this alternative are minimal. However, both short-term and long-term administrative and enforcement costs would likely be extensive since the purchase of a tag could not be used to defray the cost of the tag, to administer the tag program, or used to enforce a landing tags program. Furthermore, the administrative costs would not diminish over time as annual efforts would be required to track unused tags, provide new tags, and manage the database. Therefore, this alternative is not currently preferred due to the costs associated with implementing, managing, and enforcing the landings tag program.

Social Impacts

It is difficult to determine the social impacts of requiring a landing tag for Atlantic marlin and swordfish as simply a quantitative method to enumerate recreational landings, and not as a method to restrict or limit landings. Although there was support for this management measure from the Billfish AP during development of the Billfish Amendment and during discussion of the use of landing tags as a monitoring tool at the April 2-4, 2001, joint AP meeting, a mixed response was received during the public comment period on the need for improved monitoring in the August 9, 2000, ANPR. In evaluating potential social consequences of a landing tag requirement in the Billfish Amendment (NMFS, 1999), a study by Fisher and Ditton (1992) was cited, noting that nearly 75 percent of recreational anglers were either neutral or supportive of a billfish “stamp” or tag.

Not Preferred: Status Quo Recreational Monitoring

This alternative is not preferred because current monitoring is not be adequate to ensure compliance with the 2000 ICCAT recommendation for Atlantic marlin and do not currently encounter nighttime landings of swordfish. The RBS provides tournament landings information, but the rare nature of Atlantic blue and white marlin landings make established recreational monitoring program ineffective for the level of monitoring required. Even considering the charter/headboat requirements (permits, logbooks, and observers) scheduled to become effective during 2001, U.S. citizens recreationally fish and land Atlantic blue and white marlin outside the survey areas covered by these various programs, but the ICCAT recommendation applies to U.S. recreational fishing activities throughout the

management unit of these species. Therefore, the status quo alternative for monitoring recreational landings is not preferred at this time.

Ecological Impacts

The ecological impacts of the status quo alternative are negligible, except if large numbers of Atlantic blue and white marlin, and North Atlantic swordfish are being landed.

Economic Impacts

There would be no economic impacts associated with the status quo alternative, aside from those impacts incurred from current monitoring. Negative economic impacts may occur over the long-term if large numbers of marlin and swordfish landings are not being accounted for by current monitoring and drastic management measures must be implemented in the future.

Social Impacts

The status quo alternative is not expected to have any significant social impacts on the U.S. recreational Atlantic blue and white marlin, or North Atlantic swordfish anglers in the short or long-term.

Not Preferred: Institute an HMS Recreational Fishing Permit

This alternative was considered during development of the HMS FMP and Billfish Amendment, but was rejected. It is being reconsidered as a tool to improve existing surveys by providing a known universe of recreational vessels. Instituting a recreational fishing permit is being considered at this time for Atlantic billfish and North Atlantic swordfish only, in order to develop a pool of fishery participants from which to survey by telephone in order to estimate numbers of recreational billfish and swordfish landings. Recreational tuna anglers (i.e., bluefin, bigeye, albacore, yellowfin, and skipjack tunas) are already required to obtain a recreational fishery permit which is used for similar monitoring purposes. The vessel permit would also provide additional information to support the development of recreational fishery management policy. Additional information on the number and location of vessels participating in HMS recreational fisheries would improve NMFS' ability to analyze impacts of potential management measures on small businesses. Although a recreational Atlantic billfish and North Atlantic swordfish permit may augment monitoring of the recreational fishery, this alternative is not preferred at this time due to the increased administrative costs associated with the implementation of this management action.

Ecological Impacts

Improved monitoring will enhance precision of future SCRS stock assessments. Monitoring programs would have some ecological impact if landings of Atlantic billfish and/or swordfish were far in excess of anticipated levels, requiring additional landing restrictions to further minimize

mortality rates.

Economic Impacts

Developing a recreational permit for HMS anglers would increase the regulatory burden on recreational fishermen by requiring that they participate in an annual permit process. However, the regulatory burden for both anglers and NMFS could be significantly reduced if HMS permitting were incorporated into the existing Angling category permit for Atlantic tunas. Tuna anglers are already required to hold a recreational permit. Many saltwater fishermen target multiple HMS; for example, some who target billfish also catch other large pelagic species like tuna and sharks. The permit application and renewal process could be automated, eliminating paperwork and mailing time for forms, which would lower the associated burden on government-related costs. An HMS permit would cost approximately \$30 which would be negligible, especially considering the average expenditures associated with HMS angling or the average income of HMS tournament participants (Ditton et al. 2000). The universe of affected anglers could include the following: the approximately 10,000 vessel owners currently holding Atlantic tunas permits in the Angling (recreational) category and approximately 10,000 billfish anglers (minimum estimate based on the number of billfish tournament anglers from Fisher and Ditton, 1992). However, there is no available estimate of the number of swordfish anglers. The extent of overlap between these groups is unknown, but is likely to be significant. Thus, the universe of affected vessel owners is likely to be smaller than the sum of the above estimates, as only one permit would be required for participation in any HMS recreational fishery.

Social Impacts

Extension of the tuna recreational vessel permit requirement to include Atlantic billfish and North Atlantic swordfish would likely have negative social impacts. Saltwater anglers have historically opposed recreational permits for fishing in open ocean environments, and, while unlikely, may ultimately result in reduced recreational angler participation.

4.3 Recreational Angling Regulations for North Atlantic Swordfish

Preferred Alternative: Implement a Recreational Bag Limit of 1 Swordfish, Per Vessel, Per Trip

This preferred management alternative would establish a bag limit of one North Atlantic swordfish recreational landing, per vessel, per trip. This bag limit would apply to all private vessels and vessels with an HMS charter/headboat permit. The purpose of implementing a recreational bag limit for North Atlantic swordfish would be to prevent an unrestricted expansion of this fishery in light of reports of increased recreational swordfish activity along the eastern seaboard, to remove an incentive for the sale of recreationally-caught swordfish and to establish long-term stability within the recreational swordfish fishery. NMFS is particularly concerned about increasing mortality of undersized swordfish. The HMS FMP (NMFS, 1999b) rejected an alternative to establish a retention limit for recreational harvest of swordfish, but did include this option under the framework provisions

(HMS FMP, section 3.10) noting that “should recreational catch rates increase and participation as well, retention limits may be useful in the future to slow catch rates.” NMFS has also received reports that some recreationally-caught swordfish are entering commercial markets. Establishment of a recreational bag limit may also provide assistance to NMFS enforcement by reducing the likelihood of illegal sale of recreational swordfish.

Ecological Impacts

Successful implementation of the swordfish rebuilding program and pelagic longline closures along the southeastern coast of the United States will likely lead to further availability of swordfish to recreational anglers. Therefore, in addition to improved monitoring, the establishment of a one fish bag limit, per vessel, per trip will prevent an overexpansion of this fishery which may greatly increase juvenile swordfish mortality, thereby reducing the effectiveness of the swordfish rebuilding plan and bycatch reduction measures developed in the August 1, 2000, final rule (65 FR 47214).

Economic Impacts

Implementing a one swordfish, per vessel, per trip bag limit for recreational swordfish landings should not have any significant economic impact on recreational anglers or associated support industries. Considering the relatively large size of most recreationally-landed fish (often 50 to in excess of 200 pounds), a one fish, per vessel, per trip bag limit should be sufficient. The recreational swordfish fishery is currently experiencing an increase in angler participation and success, with only limited regulatory constraints on fishing activities (minimum size limit; quota; no sale, barter, or trade). As swordfish become increasingly available due to international and domestic fishery management measures, it is imperative that management actions be taken to avoid uncontrolled expansion and to minimize economic impacts at this stage of revitalization of this recreational fishery along U.S. coastal waters.

Social Impacts

A swordfish recreational bag limit was supported by the joint HMS and Billfish AP at a meeting held April 2-4, 2001 in Silver Spring, MD. Recreational anglers that are targeting swordfish at the present time under the current limited regulatory restrictions may not support a bag limit. However, as more anglers become aware of this fishery through newspaper and sport magazine articles, as well as sportfishing seminars, a bag limit may be perceived as a reasonable management measure for a fishery that is currently overfished, but experiencing rebuilding through international cooperative efforts. Implementing a possession limit during the initial rebuilding of the recreational fishery would minimize the negative social impacts associated with limiting catches of swordfish, and is considered a prudent and proactive management alternative. Establishing stable recreational fishery conditions during the early rebuilding stages of the recreational swordfish fishery may improve angler support of management, as compared to reactionary management that may potentially impose more extensive social and economic impacts on an expanded and recovered recreational fishery sector.

Preferred Alternative: Outreach Program on the Use and Benefits of Circle Hooks for Directed Recreational Swordfish Angling

Recreational swordfish angling requires employing a fishing technique that specifically targets swordfish. The recreational swordfish fishery generally has a minimal bycatch of other species with the possible exception in the mid-Atlantic of bigeye or yellowfin tuna. NMFS has received information indicating that use of “J”-style hooks in the recreational fishery is resulting in foul-hooked fish (either in the fins or body) due to swordfish feeding behavior. Foul-hooked fish can receive sufficient damage to impair health or even lead to increased mortality levels. This is particularly problematic because the south Florida fishery is operating in an area with many under-sized swordfish, which may be more vulnerable to post-release mortality. Use of circle hooks in other large pelagic recreational fisheries has been shown to reduce foul-hooking, with a greater percentage of fish being hooked in the mouth.

Ecological Impacts

As discussed in the Billfish Amendment (NMFS 1999a), circle hooks are believed to minimize hook damage, thus increasing survival of billfish and other pelagic species. Due to the depths targeted during swordfish angling, circle hooks may improve the survivability of swordfish that may otherwise succumb due to the combined stress of being foul-hooked and exertion during its escape run from depth. Circle hooks are already being used to some extent within the recreational fishery due to their recognized ecological benefits.

Economic and Social Impacts

Attendance at workshops by charter vessel operators and recreational anglers would not be mandatory, but would be encouraged and promoted through various constituent groups (e.g., CCA, IGFA, RFA), trade publications and federal and state agencies (e.g., NMFS Office of Intergovernmental and Recreational Fisheries). There would be an increase in cost for management to develop, promote and conduct educational workshops, as well as the outreach materials (e.g., pamphlets, videos, etc.). It is difficult to estimate the total cost of an outreach program, but it is possible that costs could be shared among various agencies and constituency groups.

Not Preferred: Status Quo Recreational Swordfish Retention Restrictions

The only current HMS regulations applying to restricting recreational landings of swordfish is the minimum size limit of 47 inches LJFL and the Incidental quota. All recreationally-landed swordfish must be kept whole or in dressed form through landing (“dressed” means a headed and/or gutted fish with some or all fins removed). Recreational anglers may not possess pieces of swordfish while aboard fishing vessels. Furthermore, U.S. citizens are not permitted to sell, barter, or trade Atlantic swordfish without possessing a valid commercial swordfish permit (directed, incidental or handgear). This alternative is not currently preferred because further regulatory restrictions are needed to limit

recreational landings of swordfish, in order to ensure a stable recreational swordfish fishery.

Ecological Impacts

There would be no ecological impacts associated with the status quo alternative. However, this alternative offers fewer conservation benefits than more restrictive alternatives.

Economic Impacts

The economic impact of the status quo alternative would be negligible, except if the fishery expands unchecked, potentially resulting in negative impacts on localized swordfish populations. Negative economic impacts may occur in the long-term, should more extensive management measures be required within the recreational swordfish fishery due to this unchecked expansion.

Social Impacts

The status quo alternative would not have any negative social impact on the recreational swordfish angling community.

4.4 Impacts on Other Finfish Species

Any of the alternatives that impact the number of recreational landings or the monitoring of landings of Atlantic billfish and/or North Atlantic swordfish will likely have little impact on other species. It is not anticipated that recreational fishing effort directed toward Atlantic billfish or swordfish by U.S. anglers will be reduced under any of the proposed alternatives considered, therefore, species generally caught in association with these offshore pelagic fisheries (e.g., yellowfin tuna, wahoo, dolphin) would also remain unchanged.

4.5 Impacts to Protected Species

None of the alternatives considered would likely have any effect on protected species. Recreational fishing interactions with protected species (e.g., marine mammals, sea turtles, sea birds) are not widely monitored as discussed in section 3.2, but are receiving increased attention by various management entities including NMFS. Furthermore, because fishing effort is not likely to change under any of these alternatives, interactions with protected species are unlikely to change.

4.6 Impacts to Essential Fish Habitat (EFH)

The Billfish Amendment (NMFS, 1999a) provides a description of Atlantic marlin EFH, indicating that marlin occupy pelagic oceanic environments through all phases of their life histories. Likewise, North Atlantic swordfish EFH is comprised of oceanic environments, but with more clearly defined nursery areas. These nursery areas are located along the Florida east coast and northeastern Gulf of Mexico, including areas encompassed in the pelagic longline closures, as described in Regulatory Amendment One of the HMS FMP (NMFS, 2000) and the EFH section of the HMS FMP (NMFS,

1999b). The proposed measures to enhance monitoring of the Atlantic billfish and North Atlantic swordfish recreational fisheries, and to establish swordfish recreational catch restrictions will likely have no impacts on nursery or pelagic EFH utilized by these or other species.

4.7 Mitigating Measures

The United States is obligated, under ATCA, to implement ICCAT recommendations. Failure to execute these actions in a timely manner would also increase the need for more restrictive measures in the future. No significant environmental or economic impacts are expected to result from the proposed actions, therefore mitigating measures are not required or necessary.

4.8 Unavoidable Adverse Impacts

No adverse impacts are expected under the proposed alternatives, however, any short-term adverse impact imposed by the proposed regulations are essential as a component of the first phase of the Atlantic blue and white marlin rebuilding plan established by the 2000 ICCAT recommendation, and for monitoring of swordfish recreational landings as part of the U.S. North Atlantic swordfish quota.

4.9 Irreversible and Irrecoverable Commitment of Resources

No irreversible or irretrievable commitments of resources are expected if the preferred alternatives are implemented.

4.10 Environmental Justice Considerations

Executive Order 12898 requires that federal actions address environmental justice in the decision-making process. In particular, the environmental effects of the proposed actions should not have a disproportionate effect on minority and low-income communities. The preferred alternatives would not have any significant effects on human health. The economic and social effects, if any, will be most significant in communities associated with recreational angling of Atlantic billfish and North Atlantic swordfish.

5.0 ECONOMIC CONSIDERATIONS

Before implementing management measures, NMFS must consider their economic impacts in accordance with two pieces of legislation: the Regulatory Flexibility Act (as amended by the Small Business Regulatory Enforcement and Fairness Act) and Executive Order 12866 (E.O. 12866). Both the Regulatory Flexibility Act and E.O. 12866 require a description of the need for the action, the management objectives, and a description of the expected economic impacts. They also require an analysis of each alternative, the expected effects, and a description of the reasons why an action is being taken. The main difference between the Regulatory Flexibility Act and E.O. 12866 is the focus of the analysis. While the Regulatory Flexibility Act focuses on individual businesses, E.O. 12866 focuses on the entire fishery.

The analyses required under the Regulatory Flexibility Act and E.O. 12866 are included in Sections 3, 4 and 6 of this document. Further information about the Regulatory Flexibility Act, E.O. 12866, and economic impacts can be found in the Billfish Amendment (NMFS, 1999).

5.1 Regulatory Flexibility Act

The purpose of the Regulatory Flexibility Act is to require agencies to assess impacts of their proposed regulations on small entities, and to encourage Federal agencies to utilize innovative administrative procedures when dealing with small entities. If an action is believed to have a significant impact on a substantial number of small entities, the Regulatory Flexibility Act requires agencies to perform an Initial Regulatory Flexibility Analysis (IRFA) during the proposed rule stage and, after considering public comment, a Final Regulatory Flexibility Analysis (FRFA) during the final rule stage.

In a regulatory flexibility analysis, the focus is on small businesses and the effect of regulatory measures on their revenues and/or costs. The analyses should contain sufficient information to make a determination of whether the rule has a “significant economic impact on a substantial number of small entities” under the Regulatory Flexibility Act. While the current NOAA guidelines for the Regulatory Flexibility Act focus primarily on impacts on either revenues and/or costs (depending upon the measure being considered as well as available data), the financial condition of affected firms (i.e., the net effect of revenue and cost changes) is also an important consideration in these analyses.

The definition of a “small entity” includes small businesses, small organizations, and small governmental jurisdictions. The Small Business Administration considers a small business to be a firm with annual receipts, averaging over three years, of up to three million dollars annually. For processors, a small business is one with 500 or fewer employees; the wholesale industry size standard is 100 or fewer employees. A small organization is defined as any non-profit enterprise that is independently owned and operated and is not dominant in its field. NMFS believes that all participants in the recreational Atlantic marlin and North Atlantic swordfish fisheries can be defined as small entities.

5.2 Executive Order 12866

In compliance with E.O. 12866, the Department of Commerce and NOAA require the preparation of a Regulatory Impact Review (RIR) for all regulatory actions that either implement a new FMP or significantly amend an existing plan, or may be significant in that they reflect agency policy concerns and are of public interest. The RIR is part of the process of preparing and reviewing FMPs and regulatory actions and is intended to provide a comprehensive review of the changes in net economic benefits to society associated with regulatory actions. Thus, the focus of the RIR is on the net economic benefit from the entire fishery, not the net economic benefit from individual fishermen. The analysis also 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 those problems.

The purpose of the analysis is to ensure 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.

5.3 General Considerations

Net economic benefits, angler consumer surplus, and economic impacts for Atlantic billfish are discussed in the Billfish Amendment (NMFS, 1999a), while the limited information available for North Atlantic swordfish is discussed in the HMS FMP (NMFS, 1999b). Updates to the information provided in the FMPs are provided in the 2001 Stock Assessment and Fisheries Evaluation (SAFE) report (NMFS, 2001). These economic measurements help NMFS to evaluate the economic importance of a fishery and the related industries, and facilitate assessment of the impacts of proposed regulations.

6.0. DRAFT REGULATORY IMPACT REVIEW

6.1 Identification and Analysis of the Problem

For a description of the problem, please see Section 1.2 of this document. For a description of the fisheries, please see the HMS FMP (NMFS, 1999), the SAFE report (NMFS, 2001), and the FSEIS (NMFS, 2000).

6.2 Description of the Management Objectives

For a description of the objectives of the proposed management measures, please see Section 1.3 of this document.

6.3 Evaluating the Economic Importance of a Fishery

There are two types of economic statistics that are used in evaluating the economic importance of a fishery, and it is important to be able to distinguish between the two statistics types, to avoid abuse of the term "economic importance." The first type of statistic is economic impact, which often interests both commercial and recreational fishermen, referring to the money generated by their activity. In the commercial fishery, economic impact may include expenditures (bait, tackle, labor, etc.) and/or ex-vessel value of landings, plus value added in processing and distribution. In the recreational fishery, economic impact includes the money spent by anglers, such as charter boat fees, bait, fuel and tackle, travel (lodging, gas, hotels, restaurants, etc.). Conservationists may refer to the economic activity generated by non-consumptive uses of a resource (e.g. whale watching).

The second type of statistic is net economic benefit, which is the sum of producer and consumer surplus associated with the fishery. In the commercial fishery, economic benefit is profits, that is, the difference between total revenues and total costs. For species that are consumed domestically, the consumer surplus must also be added to profits. For the recreational fishery, net economic benefit is the sum of charter/party vessel profits plus angler consumer surplus. The angler consumer surplus

essentially measures the maximum amount that an angler is willing to pay for the experience of catching and/or landing a fish. Angler consumer surplus is not a measure of the costs associated with fishing such as gear, fuel, food, and charter costs. Instead, it measures what the angler is willing to pay for the fishing experience beyond the costs associated with the trip, perhaps better described as a way of placing a monetary value on the pleasure that anglers get from participating in their fisheries. Conservationists who place a value on the survival of a species also "benefit" from the fishery; sometimes this is referred to as "existence value," a different kind of consumer surplus.

In previous management of Atlantic billfish, the focus was on anglers' expenditures (i.e., the first type of economic measures discussed above) as a measure of the economic effect of the recreational fishery (Ditton 1996; Ditton et al. 2000); the economic value of the recreational Atlantic billfish fishery was not previously considered. No economic assessment is available for the recreational swordfish fishery. The net economic value of a recreational activity is measured in terms of the net value of the activity to the participants over and above costs, which is its value to the nation. Economic impact is not the same as the economic value, because if recreationists cannot spend their money on a particular recreational activity, that money will be spent in another sector of the national economy. In the case of forgone recreational fishing activity, while the nation as a whole might not suffer economic loss, the coastal communities and businesses frequented by saltwater anglers may be negatively impacted by decreased fishing activity. Billfish fishing is also generally favored by persons with personal incomes that are far above the average U.S. per capita income (Ditton and Stoll, 1998), which means that these anglers can afford to take their fishing activities to other countries, potentially decreasing the benefit of saltwater angling to the United States.

6.4 Economic Importance of the Recreational Billfish and Swordfish Fisheries

The economic benefit of the Atlantic billfish fishery in the United States stems solely from the recreational sector since the 1988 Atlantic Billfish FMP prohibited commercial sale of Atlantic billfish from its management unit. However, as pointed out by Ditton (1996), the economic value of the recreational billfish fishery was not adequately established in the 1988 Atlantic Billfish FMP. The number of billfish anglers is relatively small in comparison to other angler groups, and is generally characterized as a "rare event" fishery, both in terms of the number of participants and the number of fish caught and/or landed (Fedler and Ditton 1990). The Billfish Amendment (NMFS, 1999) and the 2001 SAFE report (NMFS, 2001) provide a summary of all pertinent economic information relative to the U.S. Atlantic recreational billfish fishery. Although the recreational swordfish fishery has historical importance, the growth of the current recreational fishery has mainly transpired after the development of the HMS FMP (NMFS, 1999b). The focus of the economic assessments included in the HMS FMP was on the commercial fishery and related impacts of various swordfish rebuilding scenarios. The 2001 SAFE Report (NMFS, 2001) provides some limited information on the growth of the recreational swordfish fishery, particularly along the east Florida coast and off the New Jersey coast, but there is no available information regarding the economic parameters associated with these developing recreational activities.

6.5 Economic Effects on the Recreational Billfish and Swordfish Fisheries

The economic effects of the proposed actions are provided in Sections 4.1 - 4.3. Based on the definition of “significant regulatory action” in Section 3(f) of E.O. 12866, it is concluded that this agency action is not significant.

6.6 Summary of Net Benefits and Costs

NMFS does not believe that the national net benefits and costs would change significantly in the long-term as a result of implementation of the preferred alternatives for improving monitoring of Atlantic billfish and North Atlantic swordfish recreational landings. The costs of requiring all recreational landings of an Atlantic billfish and North Atlantic swordfish to call into a toll-free telephone system is minimal, taking less than 3 to 5 minutes for each no-cost report. It is expected that an additional 3 to 5 minutes would be required during a confirmation call-back by the NMFS. This is a cost-effective system which would address the monitoring objectives. It is also anticipated that the recreational bag limit for swordfish will not result in any significant changes in net benefits or costs. In the long-term, the preferred alternatives included as part of the Atlantic-wide reductions in Atlantic billfish and swordfish landings by other ICCAT member entities should help rebuild the overfished stocks. Table 4 indicates possible changes as a result of each alternative.

Alternative	Benefits	Costs
Alternatives to Comply with ICCAT Recommendation to Limit Recreational Landings to 250 Marlin		
<u>Preferred Alternative.</u> Status quo.	Current recreational landing levels appear to be within the limits prescribed by the 2000 ICCAT recommendations.	No change.
Alternative 1. Increase the minimum size limits for Atlantic blue and white marlin (not preferred).	In the long-term, management measures signals to the international community that the U.S. is serious about conservation. International cooperation may increase recreational satisfaction and increase revenue.	Further increases in minimum size may reduce angler satisfaction and reduce participation in tournaments and charter vessel industries.
Alternative 2. Allocate 250 landing tags; fishery would be closed when all tags have been used (not preferred).	Would provide for an absolute accounting for all sources of recreational landings, depending on the level of compliance by the recreational fishing community, ensuring compliance with ICCAT recommendations.	Program would require increased costs and burden on the public, and may result in negative economic impacts for tournaments and charter vessels near the end of the fishing year if the recreational fishery were to close. Would also necessitate a substantial increase in governmental expenditures.
Alternative to Improve Monitoring of Recreational Landings of Billfish and Swordfish		

Alternative	Benefits	Costs
<u>Preferred Alternative.</u> Self reporting call-in system	Enhances monitoring of recreational landings of Atlantic billfish; promotes compliance with ICCAT.	Compliance rates with a self-reporting system may be lower than other systems that are more readily enforceable, but is a low-cost alternative to enhancing monitoring of recreational landings of multiple HMS species.
Alternative 1. Landing tags (not preferred)	Enhances monitoring, particularly for non-tournament landings, which will benefit SCRS stock assessments and promotes compliance with ICCAT.	Cost of a landing tag is estimated to be approximately \$20 - \$30 per tag for U.S. anglers wanting to land a marlin or swordfish. A landing tag would also likely increase costs of management and enforcement.
Alternative 2. Status quo (not preferred)	No change.	No improvement on monitoring of non-tournament marlin landings or recreational swordfish landings toward compliance with ICCAT obligations which may have long-term conservation consequences. No increase in management or enforcement costs.
Alternative 3. HMS recreational vessel permit with billfish, swordfish, and tuna endorsements (not preferred)	Enhances monitoring and improves data collection from the entire HMS recreational fishing community.	Cost of permit would be estimated to be approximately \$28, with species endorsements about \$15 per species. The application of recreational vessel permits beyond the current tuna permit may result in increased costs and burden to the public.
Recreational Angling Regulations for North Atlantic Swordfish		
<u>Preferred Alternative.</u> Recreational retention limits for Atlantic swordfish	Reduces incentive for illegal sale. Provides a mechanism to control expanding recreational landings of overfished and rebuilding fishery resource.	Increases costs for enforcement of a primarily nighttime fishery with remote landing locations. Bag limit may reduce angler participation/satisfaction and reduce net benefits.
<u>Preferred Alternative.</u> Outreach Program on the Use and Benefits of Circle Hooks for Directed Recreational Swordfish Angling	Reduced incidence of foul-hooked fish and post-release mortality.	Outreach materials will increase management costs, although cost-sharing collaborations may mitigate impact.

Alternative	Benefits	Costs
Alternative 2. Status quo (not preferred)	No change.	No retention limit may result in vessels landing multiple swordfish and incentive to sell illegally. No restrictions on expanding recreational fishery may negate conservation benefits from recent management measures (i.e., longline closed areas).

Table 4. Summary of benefits and costs for each alternative.

7.0 PUBLIC COMMENTS

A total of 12 written comments from an August 9, 2000, ANPR (65 FR 48671) were received, including several suggestions on potential methods to improve monitoring of non-tournament landings of Atlantic billfish and recreational landings of swordfish. Comments on improving monitoring of recreational landings of Atlantic billfish and North Atlantic swordfish were also garnered from ICCAT regional meetings held prior to the ANPR comment deadline (September 25, 2000) and from the joint HMS and Billfish AP meeting held April 2-4, 2001 in Silver Spring, MD. There is a 60-day comment period on this proposed rule.

8.0 LIST OF AGENCIES AND PERSONS CONSULTED IN FORMULATING THE PROPOSED RULE

Discussions pertinent to formulation of the proposed action involved input from a variety of scientific and constituent interest groups including the U.S. delegation to ICCAT (included commercial and recreational fishermen, and environmental advocates), ICCAT's SCRS, ICCAT (27 member states), and staff from the International Fisheries Division of NMFS.

9.0 LIST OF PREPARERS

This document was prepared by a team of individuals from the HMS Division, Southeast Regional Office, National Marine Fisheries Service.

10.0 FINDING OF NO SIGNIFICANT ENVIRONMENTAL IMPACT

The HMS Division submitted the attached Proposed Rule to implement regulatory measures to improve monitoring and management of HMS recreational fisheries for Secretarial review under procedures of the Magnuson-Stevens Fishery Conservation and Management Act. An Environmental Assessment (EA) and Regulatory Impact Review was completed which documents the effects of the proposed management measures. Copies of the EA are available from the HMS Division at the following address:

Highly Migratory Species Division
9721 Executive Center Drive North
St. Petersburg, Florida 33702

Following is a description of the following proposed actions:

- a requirement for all recreational landings of Atlantic billfish and North Atlantic swordfish to be reported via a toll-free telephone reporting system, and
- implementing a recreational bag limit of 1 swordfish per vessel per trip.

The EA considers information contained in the HMS FMP, Billfish Amendment, HMS SAFE report, and public comment from an August 9, 2000, ANPR (65 FR 48671). NMFS has reviewed these actions, as well as the comprehensive analyses in the EA and supportive analyses are herein incorporated by reference.

Based on the following summary of effects, I have determined that implementation of the proposed measures will not have significant effect on the human environment.

Summary of Effects - Rationale

Reporting of Recreational Billfish/Swordfish Landings: the requirement to report all non-tournament recreational landings of Atlantic billfish and North Atlantic swordfish is preferred in comparison to alternatives that would allocate landing tags for billfish and swordfish. The status quo recreational monitoring would not produce the required information to monitor marlin landings, as required under ICCAT recommendations (p. 17). Instituting a recreational HMS fishing permit was not preferred at this time due to the increased administrative costs associated with the implementation of this option (p.18). A call-in system provides the necessary information to monitor the discrete number of landings allowed under the ICCAT marlin cap.

Because the call-in monitoring system does not alter fishing methods or gears, there would be no negative impacts to the biological or physical environment from the proposed action. Potential benefits would be derived from having accurate landings from the recreational billfish and swordfish fisheries, which, in turn, would allow a better estimate of biological impacts within these fisheries.

Recreational encounters with billfish and swordfish are generally rare, and landings are even less frequent (the recreational marlin fishery is predominantly catch-and-release). With no cost to the public and likely less than 3 to 5 minutes expended to report, the proposed action would not have a significant economic impact on any small entity.

Swordfish Possession Limit: a bag limit of one fish per vessel, per trip, is the preferred management action, as opposed to the status quo (i.e., no bag limits). With the continued expansion of the recreational swordfish fishery off the Florida East Coast, a proactive bag limit will help to ensure a

stable recreational fishery. Increased pressure from an expanding and unrestricted recreational fishery may potentially negate some of the conservation benefits expected from the longline closures, and slow stock recovery. Furthermore, introducing a bag limit will help remove the incentive to sell recreationally-landed swordfish.

Implementing a one swordfish, per vessel, per trip bag limit for the recreational fishery should not have any significant economic impact on recreational anglers or associated support industries. The swordfish fishery is a rare event fishery, characterized by a low CPUE. Furthermore, considering the large size of most recreationally-landed fish (50-200+ pounds), a one fish, per vessel, per trip bag limit should be sufficient for personal consumption.

Conclusion

Section 1508.27(b) of the implementing regulations for the Council for Environmental Quality identifies 10 concepts for evaluation of significance.

(1) *Beneficial and Adverse Impacts*: Implementation of the proposed actions would have both beneficial and adverse impacts, and I have determined that the balance of the effects will be beneficial. The benefits of developing a call-in reporting system for Atlantic marlin, West Atlantic sailfish, and North Atlantic swordfish far outweighs the minimal impacts of public burden when reporting. The benefits of the possession limit, which would help ensure a long-term and stable recreational fishery, as well as eliminating any incentive to sell recreationally-caught swordfish, outweighs the minor social and economic impacts that may be experienced within the recreational fishery.

(2) *Public Safety*: The proposed actions have no real benefit or adverse impact on public safety.

(3) *Unique geographic areas*: The proposed actions would not affect park lands, prime farmlands, wetlands, or wild and scenic rivers because those resources are onshore and nearshore, not in the EEZ.

(4) *Controversial Effects on the Human Environment*: NMFS considers the proposed actions to be non-controversial because the fishing community perceives that the proposed action would impact the quality of the human environment. While some recreational fishermen may be opposed to the swordfish possession limit, others support it. Furthermore, the possession limit will help to ensure a long-term and stable recreational fishery, whereas an open fishery may jeopardize that stability. Additionally, NMFS has determined that the benefits of a call-in monitoring system for recreational Atlantic marlin, West Atlantic sailfish, and North Atlantic swordfish landings far outweighs the minimal impacts of reporting experienced by the public.

(5) *Uncertain, Unknown, or Unique Risks*: There are no effects on the human environment that are highly uncertain or that involve unique or unknown risks.

- Billfish Conservation. *In: Planning the Future of Billfishes: Research and Management in the 90s and Beyond. Part 2. Marine Recreational Fisheries.* R.H. Stroud (ed.) National Coalition for Marine Conservation, Savannah, GA. pp 263-267.
- Fisher, M. R. and R. B. Ditton. 1992. Characteristics of Billfish Anglers in the U.S. Atlantic Ocean. *Marine Fisheries Review* 54(1): 1-6.
- NMFS. 1999a. Amendment One to the Atlantic Billfish Fishery Management Plan. 386 pp. + Appendices. April 1999.
- NMFS. 1999b. Final Fishery Management Plan for Atlantic Tunas, Swordfish and Sharks. Three Volumes. April 1999.
- NMFS. 2000. Regulatory Amendment One to the Atlantic Tunas, Swordfish and Sharks Fisheries Management Plan. 195 pp. + Appendices. June 2000.
- NMFS. 2001. 2001 Stock Assessment and Fishery Evaluation for Atlantic Highly Migratory Species. 206 pp.
- Ortiz, M. and M. I. Farber. 2000. Standardized Catch Rates for Blue Marlin and White Marlin from the U.S. Recreational Tournament Fishery in the Northwest Atlantic and Gulf of Mexico. SCRS/00/58. 19 pp.
- SCRS. 2000. Report of the Standing Committee on Research and Statistics, ICCAT SCRS, October 16-20, 2000.

12.0 APPENDIX: 2000 ICCAT RECOMMENDATIONS FOR ATLANTIC BLUE AND WHITE MARLIN

The 2000 ICCAT recommendation to establish a plan to rebuild Atlantic blue and white marlin populations:

Understanding that the landings reductions required by ICCAT's Recommendation Regarding Atlantic Blue Marlin and Atlantic White Marlin, adopted in 1997, extended in 1998, and in effect through 2000, though accomplished, *are not sufficient to rebuild these stocks* (emphasis added) and that, according to the SCRS, the assessments conducted in 2000 indicate that the stock of blue marlin has been reduced to a level of 40 percent of that needed to produce MSY that the stock of white marlin has been reduced to a level of 15 percent of that needed to produce MSY, although these estimates particularly for white marlin are uncertain, and that neither stock is likely to recover if the current levels of mortality continue in the future;

Taking into account that the SCRS recommended, after considering the high uncertainty involved in the stock assessment, that the Commission take steps to reduce the catch of blue marlin and white marlin as much as possible;

Recalling that the objective of the Convention is to maintain populations of tuna and tuna-like species in the Atlantic Ocean at levels that will permit the maximum sustainable catch (usually referred to as MSY) for food and other purposes;

Recognizing that the great diversity of gears and fleets by which these species are caught, both as target species and a by-catch, makes it necessary to establish a general regulatory framework valid for developing and implementing domestic regulatory measures in each case, with the aim of seeking the maximum efficiency for the adequate management of these species.

The International Commission for the Conservation of Atlantic Tunas Recommends That:

1. A two phase program be undertaken to rebuild blue marlin and white marlin populations to levels sufficient to support MSY. Phase I measures are to commence in 2001 and apply through 2002, with re-evaluation and adjustment in 2002 for the beginning of Phase II.
2. All Contracting Parties, Non-Contracting Parties, Entities, and Fishing Entities shall take steps aimed at reducing the uncertainty in the SCRS stock status evaluations by substantial investment into SCRS research on blue and white marlin habitat requirements and further verification of the historical catch and effort data for these species from all fisheries.

Phase I

3. During Phase I, the annual amount of blue marlin that can be harvested in years 2001 and 2002 by pelagic longline and purse seine vessels and retained for landing must be no more than 50% of the 1999 landing levels. During Phase I, for white marlin, the annual amount of

white marlin that can be harvested by pelagic longline and purse seine vessels and retained for landing must be no more than 33% of the 1999 landing levels. All blue and white marlin brought to pelagic longline and purse seine vessels alive shall be released in a manner that maximizes their survival. The provisions of this paragraph shall not apply to marlin that are dead when brought along side of the vessel and that are not sold or entered into commerce.

4. During Phase I:
 - (a) All Contracting Parties, Non-Contracting Parties, Entities, and Fishing Entities shall maintain daily records of live and dead releases of blue and white marlin from longline and purse seine vessels, by area no greater than 5 degrees by 5 degrees;
 - (b) To improve information for future stock assessments of blue and white marlin, all Contracting Parties, Non-Contracting Parties, Entities, and Fishing Entities shall establish or maintain systems to collect scientific information on total catch composition and the release of marlin through new or on-going observer programs for their industrial and recreational fleets. The purse seine and longline fleets will aim to have coverage at levels recommended by SCRS;
 - (c) The United States shall monitor the landings of billfish tournaments through scientific observer coverage of at least 5% that includes collection of data on marlin landings from each observed billfish tournament. The United States shall endeavor to attain 10% scientific observer coverage on billfish tournament landings by the end of 2002. The United States shall limit its landings to 250 recreationally-caught Atlantic blue and white marlin combined on an annual basis for the period 2001 through 2002;
 - (d) All Contracting Parties, Non-Contracting Parties, Entities, and Fishing Entities other than the United States shall adopt domestic regulations that establish minimum size limits for landings of blue and white marlins in their recreational fisheries, such as, for example, blue marlin not smaller than 251 cm LFJL and white marlin not smaller than 168 cm LJFL.
 - (e) All Contracting Parties, Non-Contracting Parties, Entities, and Fishing Entities shall require nationals to maintain records (in terms of weight or number) of landings of blue and white marlin. Such countries shall collect catch and effort data on all marlins landed, and size data on at least 50% of the landings.
 - (f) The SCRS shall present at the 2001 Commission meeting, work plans to achieve Phase II
5. Contracting Parties, Non-Contracting Parties, Entities, and Fishing Entities shall encourage the initiation of research programs on technological improvements in the various fishing gears which promote the maximum reduction in mortality of these species, for example, the use of circle hooks as a means of minimizing post-release mortality of marlins;
6. Contracting Parties, Non-Contracting Parties, Entities, and Fishing Entities shall develop intensive research programs during 2001 and 2002 to reduce the uncertainties identified in the scientific assessments of both species, with special attention to the habitat requisites of

both species, the historical records of catch, effort and catch per unit effort of the various fleets.

Phase II

7. The SCRS shall conduct stock assessments of Atlantic blue and white marlins in 2002.
8. For blue and white marlins at the 2002 Commission meeting, the SCRS shall present its evaluation of specific stock recovery scenarios that take into account the new stock assessments, any new information and any re-evaluation of the historical catch and effort time series.
9. Based on SCRS advice, at its 2002 meeting, the Commission shall, if necessary, develop and adopt programs to rebuild blue and white marlins to levels that would support MSY. Such rebuilding programs shall include a timetable for recovery to a scientifically derived goal consistent with the objectives of the Convention, with associated milestones and biological reference points. This objective could be reached through general plans of monitoring of effort and/or time-area closures and/or other measures practical to apply by the various Contracting Parties, Non-Contracting Parties, Entities, and Fishing Entities, taking the specific characteristics of their fisheries into account.