Annual Report of the United States
U.S. Department of Commerce, NOAA Fisheries

1. NATIONAL FISHERIES INFORMATION

Total (preliminary) reported U.S. catch of tuna and swordfish, including dead discards, in 2007 was 12,021 MT, a decrease of about 10% from 13,437 MT in 2006. Estimated swordfish catch (including estimated dead discards) increased from 2,508 MT in 2006 to 2,665 MT in 2007, and provisional landings from the U.S. fishery for yellowfin decreased in 2007 to 5,559 MT from 7,090 MT in 2006. U.S. vessels fishing in the northwest Atlantic landed in 2007 an estimated 848 MT of bluefin, an increase of 234 MT compared to 2006. Provisional skipjack landings increased by 5.3 MT to 66.4 MT from 2006 to 2007, estimated bigeye landings decreased by 469 MT compared to 2006 to an estimated 523 MT in 2006, and estimated albacore landings increased from 2006 to 2007 by 132 MT to 531.6 MT.

2. STATISTICS AND RESEARCH

2.1 Fisheries Statistics

2.1.1 Tropical Tuna Fishery Statistics

Yellowfin Tuna. Yellowfin is the principal species of tropical tuna landed by U.S. fisheries in the western North Atlantic. Total estimated landings decreased to 5,559 MT in 2007, from the 2006 landings estimate of 7,090 MT (Appendix Table 2.1-YFT). The 2007 estimate is considered provisional and may change owing to incorporation of late reports of commercial catches as they become available and to possible revisions in estimates of rod & reel catches made by recreational anglers. A high proportion of the estimated landings were due to rod & reel catches of recreational anglers in the NW Atlantic (2,756 MT). Estimates of U.S. recreational harvests for tuna and tuna-like species continue to be reviewed and this may result in the need to report additional revisions to the available estimates in the future. In the case of commercial landings, the highest proportion of estimated landings corresponded to the US longline fleet operating in the Gulf of Mexico (1,377 MT). Nominal catch rate information from logbook reports (longline catch per 1,000 hooks) for yellowfin by general fishing areas is shown in Appendix Figure 2.1-YFT.

Skipjack Tuna. Skipjack tuna are also caught by U.S. vessels in the western North Atlantic but it is a minor component of the U.S. total tuna landings. Total reported skipjack landings (preliminary) increased from 61 MT in 2006 to 66.4 MT in 2007 (Appendix Table 2.1-SKJ). Estimates of recreational harvests of skipjack continue to be reviewed and could be revised again in the future. Appendix Figure 2.1-SKJ presents nominal catch rate information (longline catch per 1,000 hooks) based on logbook reports.

Bigeye Tuna. The other large tropical tuna reported in catches by U.S. vessels in the western North Atlantic is bigeye tuna. Total reported catches and landings (preliminary) for 2007 decreased by approximately 468 MT from 991 MT in 2006 to 523 MT (Appendix Table 2.1-BET). Note that like yellowfin, the estimates of rod & reel catch are considered provisional and may be revised based on results of a future review of recreational harvest estimates. Appendix Figure 2.1-BET presents nominal catch rates (longline catch per 1,000 hooks) estimated from logbook reports.

2.1.2 Temperate Tuna Fishery Statistics

Bluefin Tuna. The U.S. bluefin fishery continues to be regulated by quotas, seasons, gear restrictions, limits on catches per trip, and size limits. To varying degrees, these regulations are designed to restrict total U.S. landings and to conform to ICCAT recommendations. U.S. 2007 provisional estimated landings and discards from the northwest Atlantic (including the Gulf of Mexico) were approximately 758 MT and 90 MT, respectively. Those estimated landings and discards represent an increase of 234 MT from the 2006 estimates, and are about the same as the 2005 estimates. The 2007 landings by gear were: 28 MT by purse seine, 23 MT by harpoon, 634 MT by rod and reel, and 151 MT by longline (including discards) of which 81 MT were from the Gulf of Mexico.

In response to 1992 regulations limiting the allowable catch of small fish by U.S. fishermen, in conformity with ICCAT agreements, enhanced monitoring of the rod and reel fishery was implemented in 1993 for the purpose of providing near real-time advice on catch levels by this fishery. This monitoring activity has continued and has included estimation of catches by finer scale size categories than reported above. The preliminary estimates for the 2007 rod and reel fishery off the northeastern U.S. (including the North Carolina winter fishery) for landings in several size categories were 52 fish < 66 cm, 6110 fish 66-114 cm, 6565 fish 115-144 cm and 1549 fish 145-177 cm (an estimated 0.2, 155, 239, and 112 MT, respectively). Note that additional rod and reel landings of bluefin >177 cm SFL, monitored through a sales reporting system, are included in Appendix Table 2.2-BFT.

Albacore. Albacore are landed by U.S. vessels; however, historically, albacore has not been a main focus of the U.S. commercial tuna fisheries operating in the North Atlantic. Reported commercial catches were relatively low prior to 1986; however, these catches increased substantially and have remained at higher levels throughout the 1990s, with nearly all of the production coming from the northeastern U.S. coast. The U.S. landings from the Caribbean increased in 1995 to make up over 14% of the total U.S. harvest of albacore, but have since remained below 4% of the total. Nominal catch rate information from U.S. longline logbook reports are shown in Appendix Figure 2.1-ALB. Estimated total catches of albacore were 532 MT in 2007, an increase of 132 MT from 2006 (Appendix Table 2.2-ALB).

2.1.3 Swordfish Fishery Statistics

For 2006, the provisional estimate of U.S. vessel landings and dead discards of swordfish was 2,665 MT (Appendix Table 2.3-SWO). This estimate represents an increase from the 2006 estimate of 2,058 MT. The provisional landings, excluding discard estimates, by ICCAT area for 2007 (compared to 2006) were: 407 MT (284 MT) from the Gulf of Mexico (Area 91); 1,685 MT (1,128 MT) from the northwest Atlantic (Area 92); 27 MT (88 MT) from the Caribbean Sea (Area 93); and 334 MT (372 MT) from the North Central Atlantic (Area 94A).

U.S. swordfish landings are monitored in-season from reports submitted by dealers, vessel owners and captains, NOAA Fisheries port agents, and mandatory daily logbook reports submitted by U.S. vessels permitted to fish for swordfish. The U.S. swordfish longline fishery is also being monitored via a scientific observer sampling program, instituted in 1992. Approximately 8% of the longline fleet-wide fishing effort is randomly selected for observation during the fishing year. The observer sampling data, in combination with logbook reported effort levels, support estimates of approximately 17,426 fish discarded dead in 2006. For the North Atlantic, the estimated tonnage discarded dead in 2007 is 146 MT, of which 144 is estimated due to longline gear. Overall, the estimates of dead discarded catch increased by about 27 MT compared to the 2006 levels, and decreased from about 10% to 9% of the landed catch.

Total weight of swordfish sampled for sizing U.S. landings by longline, trawl, and handline was 3,639 MT, 10 MT, and 205 MT in 2007. The weight of sampled swordfish landings in 2006 was 98%, 91%, and 96% of the U.S. total reported annual landings of swordfish for longline, trawl, and handline, respectively. Again, incorporation of late reports into the estimated 2007 landings figure will likely result in changes in the sampled fraction of the catch. Recent estimates of rod and reel landings of swordfish based on surveys of recreational anglers, range from about 5-68 MT per year within the period 1996-2007.

2.1.4 Marlins and Sailfish Fishery Statistics

Blue marlin, white marlin, and sailfish are landed by U.S recreational rod and reel fishermen and are a discarded by-catch of the U.S. commercial tuna and swordfish longline fisheries. The Final Consolidated Atlantic Highly Migratory Species Fishery Management Plan (HMS FMP) was implemented in October 2006. The Plan allows billfish that are caught by recreational gear (rod and reel) to be landed only if the fish is larger than the minimum size specified for each species covered by the Plan. Recreational landings of each billfish species can be estimated using: (a) the SEFSC Recreational Billfish Survey (RBS) which provides the number of billfish caught during tournaments held along the southeastern U.S. coast (south of 35^0 N latitude), in the Gulf of Mexico, and U.S. Caribbean Sea regions (i.e., U.S. Virgin Islands and Puerto Rico); (b) the Large Pelagics Recreational Survey (LPS) conducted by the National Marine Fisheries Service which provides estimates of recreational billfish harvest from waters along the northeastern U.S. (north of 35^o N latitude); (c) Marine Recreational Fishery Statistics Survey (MRFSS); (d) a Headboat survey (large multi-party charter boats); (e) non-tournament landed billfish and swordfish that are reported electronically or called-in; and/or (e) a coastal sportfishing survey of the Texas recreational fishery (TPW). Studies conducted indicate that use of a time-series running average from the U.S. general marine recreational fishing survey (MRFSS) in combination with data from the RBS or other surveys may provide the most reliable estimates of overall recreational catch and landings for marlins. These methods have been applied for white marlin and sailfish.

Due to concerns over estimates of rod and reel catches landings of marlins, estimates for 2003 and 2004 were reviewed by a scientific committee convened to advise on the appropriateness of the methods and data used and to recommend future improvements needed to reduce uncertainty in the estimates. The preliminary estimates of 2007 U.S. rod and reel landings for these billfish species, combining the geographical areas of the Gulf of Mexico (Area 91), the northwestern Atlantic Ocean west of the 60ºW longitude (Area 92), and the Caribbean Sea (Area 93) are: 10 MT for blue marlin, 0.9 MT for white marlin, and 0.03 MT for sailfish. The estimates for 2006 were: 17 MT for blue marlin, 1.1 MT for white marlin, and 0.08 MT for sailfish.

In addition to restrictions on U.S. recreational harvest, the Management Plan also imposed regulations on commercial fisheries by prohibiting retention and sale of the three species at U.S. ports. For this reason, there are no U.S. commercial landings for any of the three Atlantic species. However, estimates of by-catch mortality in the U.S. longline fleet are made using the data from mandatory pelagic logbooks and scientific observer data collected on this fleet. The procedure for estimating the historical by-catch of blue marlin, white marlin, and sailfish was detailed in SCRS/96/97-Revised. This procedure was implemented for estimating by-catch mortalities from the U.S. longline fleet. Revisions to historical landings of billfish previously reported to ICCAT were based on review of the estimates conducted at the 1996 ICCAT Billfish Workshop held in Miami, FL (USA). Estimates of the billfish bycatch discarded dead in the U.S. commercial longline and other commercial fisheries for 2007 were 38 MT for blue marlin, 7 MT for white marlin, and 7 MT for sailfish. The estimated 2006 U.S. discarded dead bycatch was 35 MT, 9 MT, and 5 MT, respectively for the three species.

2.1.6 Shark Fishery Statistics

The U.S. Federal Fisheries Management Plan (FMP) implemented in 1993 (NMFS 1993) identified three management groups: large coastal sharks, small coastal sharks, and pelagic sharks. The pelagic complex included ten species: shortfin mako (*Isurus oxyrinchus*), longfin mako *(Isurus paucus*), porbeagle (*Lamna nasus*), thresher (*Alopias vulpinus*), bigeye thresher (*Alopias superciliosus*), blue (*Prionace glauca*), oceanic whitetip (*Carcharhinus longimanus*), sevengill (*Heptranchias perlo*), sixgill (*Hexanchus griseus*), and bigeye sixgill (*Hexanchus vitulus*). The 1993 FMP classified the status of pelagic sharks as unknown because no stock assessment had been conducted for this complex. The Maximum Sustainable Yield (MSY) for pelagic sharks was set at 1,560 MT dressed weight (dw), which was the 1986-1991 commercial landings average for this group. In 1997, as a result of indications that the abundance of Atlantic sharks had declined, commercial quotas for large coastal, small coastal, and pelagic sharks were reduced. The quota for pelagic sharks was set at 580 MT. In 1999, the U.S. FMP for Atlantic Tunas, Swordfish, and Sharks (NMFS 1999) proposed the following measures affecting pelagic sharks: 1) a reduction in the recreational bag limit to 1 Atlantic shark per vessel per trip, with a minimum size of 137 cm fork length for all sharks, 2) an increase in the annual commercial quota for pelagic sharks to 853 MT dw, apportioned between porbeagle (92 MT), blue sharks (273 MT dw), and other pelagic sharks (488 MT dw), with the pelagic shark quota being reduced by any overharvest in the blue shark quota, and 3) making the sixgill, bigeye sixgill, sevengill, bigeye thresher, and longfin mako sharks prohibited species that cannot be retained. Regulations on prohibited species went into effect in 2000, whereas those on pelagic shark quotas were enacted in 2001.

Stock assessments for shortfin mako and blue sharks were conducted by the ICCAT SCRS in 2005. A porbeagle shark stock assessment was completed by the Canadian Department of Fisheries and Oceans in 2005. Regulations for pelagic sharks were modified because of the porbeagle, and other, shark stock assessments. Amendment 2 to the HMS FMP implemented changes to shark management including reducing the quota for porbeagle sharks from 92 mt/year to 1.7 mt/year. Other regulation changes affecting pelagic sharks in Amendment 2 included changing seasons from trimesters to an annual season and requiring that all sharks be landed with all fins attached to the carcass through offloading.

Landings of sharks by U.S. longline fishermen holding permits to land and sell swordfish caught in the Atlantic and dead discards of sharks in the U.S. longline fleet targeting tunas and tuna-like species are monitored and reported to ICCAT. There are also additional catches and landings of Atlantic pelagic sharks across the range of U.S. fleets that harvest them, including recreational fisheries, that are updated annually. These total catches are updated herein through 2007 (data for 2007 are preliminary and subject to change). Commercial landings of pelagic sharks in weight steadily increased from the early 1980s, peaked in 2004, and declined in 2005-2007 (Appendix Table 2.1.6a-SHK). Recreational catches in numbers estimated from the MRFSS survey during 1981-2007 peaked to a maximum of 93,000 fish in 1985, and showed a declining trend since that year, fluctuating between about 42,600 fish in 1986 to about 3,800 fish in 2001. Catches increased in the last two years of data, most notably in 2006, as a result of an unusually high estimate for thresher sharks (Appendix Table 2.6a-SHK). Estimates of pelagic longline dead discards also fluctuated between 1987 and 2007, but generally declined from a maximum of 30,500 fish in 1993 to a minimum of about 1,200 fish in 2003. Total catches ranged from about 12,600 fish in 1981 (no commercial landings or discard estimates were available for that year) to about 95,000 fish in 1985, as a result of the peak in recreational landings that year.

Blue shark (*Prionace glauca*) commercial landings were generally very low (Appendix Table 2.6b-SHK). Recreational catches in numbers ranged from 0 fish in several years to over 20,000 fish in 1987. Pelagic longline discards reached 29,000 fish in 1993, but otherwise oscillated between a minimum of about 400 fish in 2006 to a maximum of about 19,000 fish in 1996. In general, there was a decreasing trend in estimated dead discards of blue sharks, but the (preliminary) 2007 value was the largest since 2001 (Appendix Table 2.6b-SHK). The trends in recreational catches and dead discards were very similar from 1992 to 1997. Total catches ranged from 0 fish in 1982 (a year in which no commercial or recreational landings were reported) to about 43,500 fish in 1993, the year in which dead discard estimates peaked (Appendix Table 2.6b-SHK).

Shortfin mako (*Isurus oxyrinchus*) commercial landings never exceeded 11,000 fish according to available estimates and assumptions about average weights (Appendix Table 2.6c-SHK). Most of the landings were attributable to the recreational fishery, whose catches in numbers peaked in 1985 to about 80,000 fish, and ranged from less than 1,400 fish to over 31,000 fish in the remaining years. Pelagic longline discards of shortfin makos were negligible since the meat of this species is highly valued. Total catches ranged from about 5,600 fish in 1998 to almost 80,000 fish in 1985, when recreational catches peaked (Appendix Table 2.6c-SHK).

Catches of other pelagic species, such as longfin mako (*Isurus paucus*), oceanic whitetip shark (*Carcharhinus longimanus*), porbeagle (*Lamna nasus*), bigeye thresher (*Alopias superciliosus*), and thresher shark (*Alopias vulpinus*) were very small. Total catches of thresher sharks peaked at about 5,200-5,600 fish in 1984, 1999 and 2007, and showed a high peak in 2006, as a result of an unusually high estimate of recreationally caught thresher sharks. A maximum of about 1,500 fish was estimated to have been landed by the commercial fishery in 1997, the maximum estimate of dead discards from the pelagic longline fishery was about 700 fish in 1989, and never exceeded about 630 fish thereafter. Total catches of longfin makos in any given year were under 450 fish. Very few longfin makos were landed by the commercial fishery, there were no reported catches from recreational fisheries, and only some fish were reported discarded dead from 1992 to 1995. Very few oceanic whitetip sharks were landed by the commercial fishery, except for two peaks of about 1,250 and 1,800 fish in 1983 and 1998, respectively, but otherwise total catches never exceeded 450 fish. Total reported catches of porbeagle, and especially bigeye thresher, were also very low.

2.2. Research Activities

2.2.1 Bluefin Tuna Research

As part of its commitment to the Bluefin Year Program, research supported by the United States has concentrated on ichthyoplankton sampling, growth and reproductive biology, methods to evaluate hypotheses about mixing and movement patterns, spawning area fidelity, stock structure investigations and population modeling analyses.

Ichthyoplankton surveys in the Gulf of Mexico during the bluefin spawning season were continued in 2007 and 2008. Data resulting from these surveys, which began in 1977, are used to develop a fishery-independent abundance index of spawning for western Atlantic bluefin tuna. This index has continued to provide one measure of bluefin abundance that is used in SCRS assessments of the status of the resource (SCRS/2008/086). In addition to the regular survey which occurs over a fixed spatial grid, adaptive sampling was carried out in 2008 to better understand larval distribution in relation to oceanographic features. Neuston and bongo samples were taken across the Loop Current and adjacent mesoscale structures to sample for larval bluefin tuna during the time period 1-8 May, 2008. Transects were selected to provide high resolution physical and biological mapping of larval scombrids in relation to rapidly changing current flows and gyre movement. The larvae are being sorted and preliminary results are expected to be made available to SCRS in 2009.

Scientists from the Virginia Institute of Marine Science continue to investigate the stock composition of small bluefin tuna caught off the northeastern U.S. and larger bluefin caught in the Gulf of Mexico and off Canada. Genetic markers derived from young of the year bluefin caught in the Mediterranean Sea and the Gulf of Mexico are being used to assign origin.

Scientists from the University of Maryland initiated a study to age bluefin tuna sampled from the Gulf of Mexico and elsewhere. Part of this research was conducted jointly with Canadian scientists who have developed validated age readings. A new growth model was fit for recent year-classes (after 1970) for western captured, western-origin Atlantic bluefin tuna, which results in expected lengths that differ substantially from the model adopted by SCRS for fish ages 12 and older (SCRS/2008/084). Future priority on age determinations may be given to samples from the Mediterranean population and historical samples from the Gulf of Mexico population.

Scientists from Texas A & M University and the University of Maryland continue to study the stock structure of bluefin tuna using otolith chemistry particularly focusing on large bluefin from the Gulf of Mexico and the Mediterranean Sea. This research is greatly facilitated through continued collaboration with Canadian, Italian, and Spanish scientists. Results from stable isotope analysis of otoliths provide strong evidence for natal homing by two populations of Atlantic bluefin tuna each with discrete centers of origin (Mediterranean Sea and Western Atlantic). As more samples are analyzed, it is possible that this type of information will feed directly into stock assessments.

Scientists at Stanford University and the TAG-A-Giant research team continued to deploy electronic tags in the western Atlantic in 2007 and 2008 (n=67 deployments). Three additional bluefin were fitted with pop-up satellite archival tags in the Mediterranean Sea off the coast of France. These efforts brought the total number of electronic tags deployed on Atlantic bluefin by the TAG team to nearly 1000. Tagging in the Gulf of St. Lawrence revealed a strong linkage between fish there and the Gulf of Mexico spawning grounds (SCRS/2008/092), corroborating findings from otolith studies. In collaboration with scientists from the University of British Columbia, a new stock assessment model is being developed (Multi-Stock Age-Structured Tag-Integrated stock assessment model, or MAST) that models eastern and western Atlantic bluefin tuna stocks simultaneously but includes different growth, movement, maturity and natural mortality parameters for each stock, season and age group. The model includes four areas and quarterly time steps (SCRS/2008/097). Model revision and simulation testing are now underway.

Researchers at the University of New Hampshire continue to engage in ecological analyses seeking to identify the underlying dynamics of Atlantic bluefin migration, maturity schedules and reproduction, age and growth, and forage relationships. In 2006, the UNH-DFO electronic tagging program included release of 26 PSATs on giant bluefin (24 in Canadian waters, 2 by US longliners), and 10 in 2007 (all in Canadian waters), and continuation of the Tag a Tiny juvenile tagging program in 2007, when over 25 miniature PSATs, or X-tags, were deployed on juvenile bluefin in the New England region, and implanted archival tagging of school bluefin continues. A study is also underway on shifts in oceanographic regimes and possible impacts on bluefin tuna and their prey.

Scientists at the National Marine Fisheries Service have developed a VPA model that estimates the degree of intermixing between two stocks based on conventional tagging data, electronic tagging data, and new data on the proportion of the catch that comes from each stock (as deduced from genetic and otolith microconstituent analyses). The new model was applied to bluefin tuna stocks in collaboration with scientists from other ICCAT nations during the 2008 assessment meeting.

From early March through mid June 2008, the National Marine Fisheries Service conducted extensive observations of the pelagic longline fishery in the Gulf of Mexico, as a continuation of a similar effort undertaken in 2007. Roughly 75% of known fishing trips and a higher percentage of total effort was observed. During that sampling more than 3,305 yellowfin, about 3,774 swordfish, 347 bluefin, 97 shortfin mako and 32 bigeye were observed. Fifty of the bluefin were landed, 201 were released dead, 72 were released alive and 24 broke off. Various tissues were taken from the bluefin including otoliths, gonads and muscle. Contracts were awarded to conduct research on bluefin stock structure, growth, gender determination and reproduction.

At the same time as the extended coverage observer program, the National Marine Fisheries Service has been assessing the efficacy of new technologies and changes in fishing practices in reducing the bycatch mortality of bluefin tuna in the directed yellowfin tuna fishery in the Gulf of Mexico. The 2008 pilot study was a continuation of research conducted in April, 2007 to examine “weak link” concepts which would allow bluefin tuna to escape capture on pelagic longlines, while retaining yellowfin tuna. Results to-date are encouraging, suggesting that retention of yellowfin is not reduced. There are plans to continue this research in 2009.

2.2.2 Swordfish Research

In late 2007, the National Marine Fisheries Service issued an Exempted Fishing Permit to three U.S. vessels in order to allow them to fish in portions of areas currently closed to pelagic longlining off the coast of the Southeastern U.S. In addition, NMFS contracted with Nova Southeastern University to conduct a study on these vessels in order to evaluate the catch rates of target and bycatch species inside the closed areas compared to open fishing areas. Evaluation of bycatch reduction and immediate mortality reduction using 18/0 non-offset circle hooks on various species (particularly undersize swordfish) may also be possible. The vessels began conducting the study in February of 2008 and are expected to continue until spring of 2009.

The National Marine Fisheries Service also continues to tag swordfish with pop-up tags to better understand their behavior. Ten and three swordfish were released with these tags in 2007 and 2008, respectively. In addition, 172 swordfish have been released with conventional tags in 2007 and 2008.

2.2.3 Tropical Tunas Research

U.S. scientists participated in the ICCAT SCRS Yellowfin and Skipjack stock assessment session of the Tropical Species Group, held in Florianopolis, Brazil, 21-29 July, 2008. U.S. scientists also participated in the Tropical Species Group meeting (Madrid, Spain Sept. 24-26, 2008) where the recent work of the Group in evaluating alternative measures to protect juvenile tropical tunas was continued.

In 2008, U.S. scientists have presented several papers to the SCRS consisting of indices of abundance and length-frequencies of yellowfin and skipjack tuna from U.S. fisheries. U.S. scientists have also pursued research to develop demographically-based prior distributions for the intrinsic rate of population increase for tropical tunas. These prior distributions were essential input into Bayesian and non-Bayesian surplus production modeling conducted during the 2008 skipjack tuna assessment.

U.S. scientists from the University of Miami's Rosenstiel School of Marine and Atmospheric Science collaborated with EC scientists on an EU-funded FEMS project regarding management strategy evaluations related to tropical tuna fisheries. U.S. scientists have continued to conduct cooperative research with scientists from Mexico, combining observer data collected from each nation's longline fleets in the Gulf of Mexico, pursuing the development of indices of abundance for species of concern to ICCAT as well as descriptive analyses of that fishery. U.S. and Mexican scientists collaboratively calculated abundance indices for the 2008 yellowfin tuna stock assessment using the combined database. U.S. scientists also collaborated with EU scientists to calculate skipjack abundance indices from the Azorean baitboat fishery as well as in the estimation of potential trends in catchability in the European purse seine fleet.

2.2.4 Albacore Research

U.S. National Marine Fisheries Service scientists continue to be involved in the development of alternative, more detailed statistical-based models, in efforts to evaluate more fully the relationship between this species' population dynamics and associated fishery operations (i.e., areas of uncertainty in an overall stock assessment). In addition, research is being conducted to improve the implementation of the stochastic approach being used currently to estimate catch-at-age for northern albacore. It is envisioned that these analyses will be completed in time for the 2009 albacore assessment.

2.2.5 Mackerels and Small Tunas Research

In 2008, scientists from the National Marine Fisheries Service carried out assessments of king mackerel for two stocks that are exploited in U.S. waters (in the southeastern United States and in the Gulf of Mexico). The assessment was subjected to peer review through the SEDAR process. Results are available from:
http://www.sefsc.noaa.gov/sedar/Sedar_Workshops.jsp?WorkshopNum=16

2.2.6. Shark Research

The ICCAT Shark Species Group conducted a data preparatory meeting for assessment of blue sharks and shortfin makos in Punta del Este, Uruguay, in June 2007. Scientists from the U.S. delegation contributed 4 working documents for this meeting on catches and indices of relative abundance of pelagic sharks and acted as rapporteurs for several sections of the meeting report. A cooperative shark research project between Brazil (Universidade Federal Rural de Pernambuco) and the U.S. (NOAA Fisheries and the University of Florida's Florida Museum of Natural History) has been initiated. The main goal of this cooperative project is to conduct simultaneous research on pelagic sharks in the North and South Atlantic Ocean. Central to conducting the research is development of fisheries research capacity in Brazil through graduate student training and of stronger scientific cooperation between Brazil and the U.S. Electronic equipment (hook-timer recorders and temperature and depth recorders [TDRs]) was sent from the U.S. to Brazil for deployment aboard commercial longline fishing vessels to investigate preferential feeding times of pelagic sharks and associated fishing depths and temperatures for potential use in habitat-based models and estimation of catchability. Five pop-off satellite archival tags have also been deployed to date (2 oceanic whitetip sharks, 2 bigeye threshers and a longfin mako) in U.S. Atlantic waters.

2.2.7. Billfish Research

The NMFS SEFSC again played a substantial role in the ICCAT Enhanced Research Program for Billfish in 2007, with U.S. scientists acting as general coordinator (Dr. David Die) and coordinator for the western Atlantic Ocean (Dr. Eric Prince). Major accomplishments in the western Atlantic in 2007 were documented in SCRS/07/144. Highlights include 11 at-sea sampling with observers on Venezuelan industrial longline vessels through September 2007. Of the trips accomplished, 4 observer trips were on Korean type vessels fishing under the Venezuelan flag. Most of these vessels are based out of Cumana targeting tuna, swordfish, or both at the same time. Biological sampling of swordfish, Istiophorids, and yellowfin tuna for reproductive and age determination studies, as well as genetics research were continued during the 2007 sampling season. These included 536 blue marlin, 588 white marlin, and over 1,000 sailfish and spearfish. Shore-based sampling of billfish landings for size frequency data, as well as tournament sampling was obtained from Venezuela, Grenada, U.S. Virgin Islands, Bermuda, Barbados, and Turks and Caicos Islands. Program participants in Venezuela, Grenada, and Barbados continued to assist in obtaining information on tag-recaptured billfish, as well as numerous sharks, in the western Atlantic Ocean during 2007; a total of 97 tag recovered billfish and sharks were submitted to the Program Coordinator in 2007. Age, growth, and reproductive samples (Bermuda) from several very large billfish were obtained during 2007.

A study was initiated by the Virginia Institute of Marine Science (VIMS) on U.S. longline vessels in late 2006 to evaluate post release survival of sailfish in the western Atlantic Ocean. These data were published during 2007. In addition, SEFSC continues to conduct pelagic longline research to evaluate gear behavior, and the effects of gear modification on catch rate and survival of target and non-target species. The first of a series of peer review papers on this topic was published in the fall, 2007. The SEFSC also finalized PSAT research of sailfish and blue marlin in the eastern and western north Atlantic during 2007. Several of these papers were also published in peer review journals during 2007. Preliminary results of this work were presented to an international symposium on the use of electronic tags to monitor the movements of marine species in San Sebastian, Spain, in the fall of 2007.

The cooperative billfish research between U.S. and Brazilian scientists that was initiated in 2005 continued in 2006 and 2007. Additional research in Brazil will also focus on PSAT tagging of billfish and the collection of biological materials for ageing and molecular genetic analyses. The Fishery Management Group of the University of Miami is carrying out research on Atlantic billfish on three areas: population parameter estimation, population modeling and development of socio-economic indicators. Others at the University of Miami’s Rosenstiel School and elsewhere are conducting research on early life history, reproductive biology and ecology of billfishes, as well as age and growth estimation. U.S. scientists attended an intersessional ICCAT meeting on tagging in Madrid during 2007.

2.2.8 Seabird research

The Southeast Fisheries Science Center, through contractor David Lee, has developed a draft “prioritized list” of seabirds in the Western North Atlantic. The list was a follow-up on the 2007 Marine Bird Workshop and has been circulated among attendees at the workshop for comment. A seabird manual with summary information about more than 60 WNA seabirds is being developed by David Lee for use by observers, Councils, managers, and other interested parties. This work could potentially complement the activities of the ICCAT Ecosystem Sub-committee gathering information to assess the vulnerability of seabird populations. A Virginia Polytechnic Institute team is exploring various alternative statistical techniques for estimating the seabird bycatch of the U.S. pelagic longline data.

The University of Washington Sea Grant Program continues to develop a streamer line system for application to world high-seas pelagic longline fisheries as the cornerstone of seabird bycatch mitigation in these extensive, multi-national fisheries targeting tuna and billfish worldwide. The design will focus on: 1) engineering widely applicable and easy to use deployment, retrieval and rigging systems, as well as towed devices that minimize the fouling of streamer lines on gear to maximize practical application by crews; and 2) identifying optimal streamer line materials, configuration, and performance standards that minimize seabird attacks on baited hooks. Testing will entail measuring the behavioral response of “worst case” seabirds to alternative designs in “worst case” locations in cooperation with partner scientists and organizations. Research results will be directly applicable to ICCAT's implementation of its seabird resolution (02-14).

The IUCN Marine Programme continues a Hawaii-based project to assess the efficacy and practicability of alternative weight designs to improve vessel crew safety and reduce the bycatch of sensitive species groups in pelagic longline fisheries. Placing weights near hooks in pelagic longline fisheries can reduce seabird, sea turtle, shark and billfish bycatch. However, vessels that do not use a wire leader on branch lines, such as in the Hawaii-based longline swordfish fishery, do not place weights close to the hook, or use any weights on their branchlines, in part, due to safety concerns: If branchlines break during hauling, which frequently occurs when sharks are caught and bite off the terminal tackle, the weight can fly back at the vessel at extremely high velocity, infrequently causing serious injury, and in very rare cases, killing crew. A dockside trial and research fishing trip on a Hawaii longline swordfish vessel was conducted to assess the efficacy and commercial viability of two experimental designs of safer weights. Results from the dockside trial indicate that the two experimental weights present a substantially reduced risk of injury to crew relative to conventionally employed line weights. Results from one experimental fishing trip demonstrated that an experimental weight performed as designed, however, the sample size was too small to demonstrate a significant difference in weight behavior after lines brake during gear retrieval between the control and experimental weight. Additional research and development is needed to overcome identified practicality issues (threading one of the experimental weights onto the line, gear tangling due to absence of a swivel), and durability of the experimental weights, while keeping the per-unit cost low enough to be economical and competitive with conventional lead center swivels. All problems encountered with the two experimental leads are likely possible to overcome. With additional research and development, it will be possible to develop a simple, inexpensive, and durable safer lead weights for use in pelagic longline gear. Research results could be directly applicable to ICCAT's implementation of its seabird resolution (02-14).

For additional information on the U.S Plan of Action for reducing seabird bycatch, see Appendix 2.2.8.

2.2.9 Tagging

Participants in the Southeast Fisheries Science Center's Cooperative Tagging Center (CTC) and the Billfish Foundation Tagging Program (TBF) tagged and released 3,647 billfishes (including swordfish) and 583 tunas in 2007. This represents a decrease of [38.0%] for billfish and an increase of [14.9%] for tunas from 2006 levels. There continues to be several electronic tagging studies involving bluefin tuna and billfish in the Atlantic Ocean and adjacent waters during 2007. These are discussed in the bluefin and billfish research sections above. There were 26 billfish recaptures from the CTC and TBF projects in 2007. This represents a decrease of 31.6% from 2006. These recaptures were 19 sailfish, two white marlin and five swordfish. A total of 12 tunas were recorded as recaptures in 2007. These were all bluefin. This recapture level was a decrease of 33.3% from the 2006 values. The ICCAT Enhanced Research Program for Billfish (IERPBF) in the western Atlantic Ocean has continued to assist in reporting tag recaptures to improve the quantity and quality of tag recapture reports, particularly from Venezuela, Barbados, and Grenada.

2.2.10 Fishery Observer Deployments

Domestic Longline Observer Coverage.

In accordance with ICCAT recommendations, randomized observer sampling of the U.S. large pelagic longline fleet was continued into 2007 (see Appendix Figure 2.2-Observers). Representative scientific observer sampling of this fleet has been underway since 1992. The data collected through this program have been used to quantify the composition, disposition, and quantity of the total catch (both retained and discarded at sea) by this fleet which fishes in waters of the northwest Atlantic Ocean, Gulf of Mexico, and the Caribbean Sea. Selection of the vessels is based on a random sampling of the number of sets reported by the longline fleet. The percent of fleet coverage through 2006 ranged from 2.5% in 1992 to 10.8% in 2007. The targeted sampling fraction of the U.S. pelagic longline fleet was increased in to 8% in 2002.

A total of 10,252 sets (7,434,6117 hooks) were recorded by observer personnel from the Southeast Fisheries Science Center (SEFSC) and Northeast Fisheries Science Center NEFSC programs from May of 1992 to December of 2007. During the period, observers recorded over 362,423 fish (primarily swordfish, tunas, and sharks), in addition to marine mammals, turtles, and seabirds during this time period. Document SCRS/04/168 provided a more detailed summary of the data resulting from observer sampling between 1992 and 2002. From 15 April through 15 June, 2007 the longline pelagic observer program increased the coverage of the longline fleet operating in the Gulf of Mexico. The goal of this increase was to collect data to better characterize the interaction between the longline fleet and bluefin tuna during the spawning season. A total of 410 longline sets were observed (302,886 hooks) from 31 vessels which accounted for approximately 67% of the trips during that period.

Southeast U.S. Shark Gillnet Fishery Observer Coverage

The directed shark gillnet fishery operates year round in coastal waters off the US southeast coast. Sharks are the primary target species but at times other species are targeted within the same trip. Gillnets are set either in a drift, strike, or sink fashion. On-board observers have conducted observations of this fishery from 1993-1995 and 1998-present and reports of the catch and bycatch from these observations are available. All vessels that have an active directed or indirect shark permit and fish with gillnet gear are selected for coverage. In 2007, a total of 5 drift and 112 sink gillnet vessels were observed on 11 trips and 29 trips, respectively. No vessels were observed making strikenet sets for sharks. Trips targeted primarily sharks but trips targeting Spanish and king mackerel, kingfish, and multiple teleost species were also observed. Depending on gear and target, total observed catch composition varied from 77-99% shark, 1-99% teleosts and 1-3% batoids.

U.S. Shark Bottom Longline Observer Coverage

The shark bottom longline fishery is active in the Atlantic Ocean from about the Mid-Atlantic Bight to south Florida and throughout the Gulf of Mexico. The bottom longline gear targets large coastal sharks, but small coastal sharks, pelagic sharks, and dogfish species are also caught. Observations of the Atlantic shark directed bottom longline fishery have been conducted since 1994-2004 by the Commercial Shark Fishery Observer Program, Florida Museum of Natural History, and the University of Florida, (Gainesville, FL). Since 2005, responsibility for the fishery observer program was transferred to National Marine Fisheries Service, Southeast Fisheries Science Center, Panama City Laboratory. All vessels that have an active directed shark permit and fish with bottom longline gear are selected for coverage. Consequently, observers also board trips that target a combination of shark and grouper, and shark and tilefish. In 2007, the shark bottom longline observer program covered a total of 42 trips on 25 vessels with a total of 264 hauls observed. Depending on target, the catch was comprised of 12-96% shark, 3-87% teleost, and 1-2% batoids.

Part II (Management Implementation)

Section 3: U.S. Implementation of ICCAT Conservation and Management Measures

3.1 Catch Limits and Minimum Sizes

3.1.1 Program for West Atlantic Bluefin Tuna (Rec 98-7; 02-7; Rec. 06-06)
Recommendation 06-06 revised the annual WBFT quota for the United States to 1,190.12 mt, including 25 mt to account for bycatch related to directed longline fisheries in the vicinity of the management area boundary. Recommendation 06-06 also eliminated the dead discard allowance, and limits the amount of underharvest that is carried forward to the next year, i.e., not to exceed 50 percent of a Contracting Party's current initial Total Allowable Catch. Accordingly, underharvest from the 2006 fishing year (1 June 2006 through 31 May 2007) was applied to the 2007 fishing year (1 June 2007 through 31 December 2007) resulting in an adjusted 2007 fishing year quota of 1,629.2 mt. The 2007 quota was distributed over this 7-month period because effective January 2008, the U.S. BFT fishery is now managed on a calendar year basis. Application of the Recommendation 06-06 resulted in an adjusted quota of 1,668.9 mt for the 2008 fishing year (1 January 2008 through 31 December 2008). The United States must report dead discard estimates to ICCAT annually and account for this mortality as part of the quota specification calculation process. During the 2007 calendar year, the United States landed an estimated 848.7 mt of BFT, which includes an estimated 90.5 mt of dead discards.

3.1.2. Recommendation to Establish a Multi-annual Recovery Plan for Bluefin Tuna in the Eastern Atlantic and Mediterranean (Recs. 06-05; 07-04; 07-05)
As discussed in Section 3.3, the United States has implemented the Bluefin Tuna Catch Documentation Program (Rec. 07-10) to monitor all bluefin tuna imports, including those from the Eastern Atlantic and Mediterranean.

3.1.3. Resolution By ICCAT on Fishing Bluefin Tuna in the Atlantic Ocean (06-08)
Resolution 06-08 requests CPCs to refrain from increasing effort by large-scale tuna longline vessels North of 10 degrees North and between 35 degrees and 45 degrees West longitude from the 1999/2000 level. Consistent with resolution 06-08, the United States has reduced effort by large scale tuna longline vessels in the vicinity of the 45 degree West boundary line for Eastern and Western BFT since 1999/2000 through implementation of a limited access program and fishing gear restrictions.

3.1.4. Recommendation to Establish a Plan to Rebuild Blue Marlin and White Marlin Populations (Rec 06-09)
Phase I of the ICCAT rebuilding plan requires countries to reduce commercial landings of Atlantic white marlin captured in pelagic longline and purse seine fisheries by 67 percent and reduce blue marlin landings by 50 percent from 1996 or 1999 landings (whichever is greater) through 2010. The United States has prohibited all commercial retention of billfish since 1988. For its part of the rebuilding program, the United States agreed to maintain regulations that prohibit all landings of marlins by U.S. pelagic longline fishermen, and to continue 10% scientific observer coverage levels of billfish tournaments through 2010. The United States currently meets or exceeds these observer requirements. The United States also agreed to limit annual landings by U.S. recreational fishermen to 250 Atlantic blue and white marlins, combined. Catch and release rates in the U.S. recreational fishery for Atlantic marlin are estimated to be very high (90 – 99%) based on tournament data, and minimum sizes have been established at 168 cm (66 inches) for white marlin and 251 cm (99 inches) for blue marlin.

A final rule was published in October 2006 that codified the ICCAT 250 marlin limit and established procedures to remain within the limit; prohibited the retention of billfish on commercial vessels; and established a permit condition requiring that recreational vessels possessing an HMS permit abide by Federal regulations regardless of where fishing, unless a state has more restrictive regulations. In addition, since 1 January, 2008, all anglers participating in Atlantic billfish tournaments have been required to use only non-offset circle hooks when deploying natural baits or natural bait/artificial lure combinations. These management measures are expected to substantially reduce marlin mortality. The United States is also working to resolve uncertainty pertaining to estimation methodologies for rod and reel catches and landings of marlins. Preliminary 2008 calendar year data indicate landings of 42 blue marlin and 19 white marlin from recreational fishing activities. Preliminary 2007 calendar year data from all data sources indicate landings of 59 blue marlin and 39 white marlin from recreational fishing activities. Please refer to the U.S. Compliance Table for final aggregate U.S. landings.

The United States implemented a mandatory reporting program for billfish landed by recreational anglers who are not participating in registered tournaments in March 2003. In addition, the United States has taken steps to improve statistical information collection on recreational fishing in the Commonwealth of Puerto Rico and the U.S. Virgin Islands. These efforts have resulted in qualitative information that indicates that billfish landings may have been underestimated in past years. Efforts to produce quantitative historical estimates of non-tournament billfish landings for both U.S. mainland and Caribbean ports have been problematic due to estimation techniques that are subject to imprecision and bias. To increase the accuracy of landing estimates, the United States has worked to improve data collection in Puerto Rico, and to increase enforcement activities in response to reports of illegal sales, unregistered tournaments, and fishing by non-permitted anglers. This effort resulted in the registration of all identifiable tournaments in Puerto Rico during 2007.

3.1.5 Recommendation to Establish a Rebuilding Program for North Atlantic Swordfish (Rec 06-02)
Recommendation 06-02 established a catch limit of 3,907 mt ww for the United States for 2007 and 2008, and included a provision allowing up to 200 mt of U.S. North Atlantic swordfish quota to be caught between 5 degrees North latitude and 5 degrees South latitude, and a provision to transfer 25 mt to Canada. The recommendation also limited carryover of unused quota to 50 percent of the baseline quota. The United States is providing 1,345 mt of unused quota each year for 2007 and 2008 from the 2003 – 2006 management periods for use by developing states. The United States transitioned from a 1 June – 31 May fishing year management cycle to a calendar year fishing year management cycle in 2007. Due to the switch to calendar years, 2007 was an abbreviated fishing year, from 1 June, 2007 through 31 December, 2007. Starting 1 January, 2008, the United States will manage NSWO and SSWO on a calendar year management cycle. During the 2006 fishing year (1 June, 2006 – 31 May, 2007), there was an underage that was added to the landings quota for the 2007 fishing year. Landings and discard estimates for the 2006 fishing year and 2007 calendar years are provided in the U.S. Compliance tables. The United States has a minimum size of 33 lb (15 kg) dressed weight, and a required minimum size of 29” (73 cm) cleithrum to caudal keel length or 47” (119 cm) lower jaw fork length, which are designed to correspond to the 119 cm minimum size limit, with zero tolerance. Information on compliance with the minimum size is provided in the U.S. compliance tables. The United States codified 2007 and 2008 swordfish quotas, as identified in paragraph 3 c), in the fall of 2007.

3.1.6 Recommendation on South Atlantic Swordfish (06-03)
This recommendation establishes catch allocations for the United States of 100 mt ww each year for the period 2007 – 2009, inclusive, and allowed up to 100 mt ww of underharvest to be carried forward by the United States each of these years. The United States landed 0.0 mt of South Atlantic swordfish in 2006. Landings for 2007 are provided in the compliance tables.

3.1.7 Recommendation on the Southern Albacore Catch Limits (Rec. 07-03)
The United States was subject to a catch limit of 100 mt in 2007; however, the United States does not have a directed fishery for southern albacore. U.S. landings of southern albacore tuna were 0 mt in calendar year 2006 and landings for the 2007 calendar year are provided in the U.S. Compliance tables.

3.1.8. Recommendation on North Atlantic Albacore Catch Limits (Recs. 03-06; 06-04; 07-02)
The 2003 recommendation, which applied for 2004 through 2006, was extended to cover 2007 by Recommendation 06-04. The United States was allocated a landings quota of 607 mt for 2006, which is a level consistent with average landings for the United States during the mid-1990s. The United States landed 396 mt during the 2006 calendar year. The 2007 calendar year landings are given in the U.S. Compliance tables. Recommendation 07-02 applies for 2008 and 2009 and sets the annual U.S. landings quota at 538 mt. The recommendations provided that overages/underages of annual catch limits should be deducted from, or added to, specific future catch limits, and the 2007 recommendation limits carryover of underharvest to 25 percent of the initial U.S. catch quota.

In addition, pursuant to ICCAT’s recommendation concerning the limitation of fishing capacity on North Atlantic albacore (1998), the United States submits the required reports providing a list of U.S. vessels operating in the fishery on an annual basis. The 2008 submission indicated that there were 245 vessels authorized to harvest North Atlantic albacore in the convention area.

3.1.9. Recommendation by ICCAT on the Bigeye Tuna Conservation Measures for Fishing Vessels Larger than 24M Length Overall (98-03)
The operative paragraphs of Recommendation 98-03, paragraphs 1 and 2, do not apply to the United States per paragraph 3, as the annual average catch of BET by the U.S. was below 2000 MT for the prescribed 5 year period.

3.1.10 Recommendation on Bigeye Tuna Conservation Measures (Recs. 02-01; 03-01; 04-01)
No catch limits apply to the United States, since 1999 catch was less than 2,100 mt. The United States has implemented a higher minimum size than that required by ICCAT, which provides additional protection for juvenile bigeye tuna. This minimum size of 27 inches (approximately 6.8 kg) applies to all U.S. fisheries landing bigeye tuna, both commercial and recreational. The United States landed 987 mt in calendar year 2006, and 2007 calendar year landings are given in the U.S. Compliance tables.

3.1.11 Recommendation on Yellowfin Size Limit (Recs. 72-01; 05-01)
In 2005, ICCAT repealed the minimum size limit of 3.2 kg that had been in place since 1972. The United States maintains a minimum size limit of 27 inches fork length in both recreational and commercial fisheries for yellowfin tuna.

3.1.12 Recommendation by ICCAT on Supplemental Regulatory Measures for the Management of Atlantic Yellowfin Tuna (93-04)
The United States has implemented a number of regulatory measures that ensure consistency with Recommendation 93-04, which prohibits increases in effective fishing effort for Atlantic YFT over 1992 observed levels. The United States implemented a limited access program for pelagic longline vessels in 1999, which has resulted in a decrease in the number of vessels commercially permitted to fish for Atlantic tunas by approximately 70 percent from the early 1990s. The United States also implemented a retention limit of three fish per angler per trip in the recreational and charter/headboat fisheries in 1999. In 2000 and 2001, the United States closed three large areas to pelagic longline fishing in the U.S. Atlantic EEZ (including the Gulf of Mexico), which had demonstrable YFT effort and catches. In 2004, the U.S. also implemented circle hook requirements in the pelagic longline fishery in which YFT are caught which contributes to reducing post-release mortality of small, and the United States has maintained a minimum size for retaining YFT despite the repeal of a minimum size by ICCAT.

3.1.13 Resolution on Atlantic Sharks (01-1; 03-10; 07-06)
The 2001 shark resolution calls for the submission of catch and effort data for porbeagle, shortfin mako, and blue sharks; encourages the release of live sharks to the extent possible; encourages the minimization of waste and discards in accordance with the Code of Conduct for Responsible Fisheries; and calls for voluntary agreements not to increase fishing targeting Atlantic porbeagle, shortfin mako, and blue sharks until an assessment can be conducted. The 2003 shark resolution requested ICCAT parties and cooperating parties to provide the SCRS bycatch committee with information on shark catches, effort by gear type, and landings and trade of shark products, and called for the full implementation of National Plans of Action (NPOAs) by ICCAT parties and cooperating parties, in accordance with the Food and Agriculture Organization's (FAO) International Plan of Action (IPOA) for the Conservation and Management of Sharks.

In 2002, pursuant to the 2000 Shark Finning Prohibition Act, the United States banned the practice of finning nationwide (67 FR 6194, 11 February, 2002), to reduce discards and waste associated with finning. Additionally, the United States adopted a National Plan of Action for the Conservation and Management of Sharks in February 2001, consistent with the International Plan of Action for Sharks, which calls for management measures to reduce waste to the extent practicable and to protect vulnerable life history stages, such as juveniles.

The United States has managed sharks in the Atlantic Ocean under domestic fishery management plans (FMP) since 1993. The 1993 FMP, among other things, established a fishery management unit for Atlantic sharks, prohibited shark finning by requiring that the ratio between wet fins/dressed carcass not exceed 5 percent, and established other commercial and recreational shark management measures. The 1999 Atlantic Highly Migratory Species FMP established further management measures for Atlantic sharks, including a limited access permit system, recreational retention limits, reduced commercial quotas, and expansion of the prohibited shark list to 19 species. In 2003, the United States again amended its shark management measures and addressed, among other issues, commercial quotas, quota management and administration, a time/area closure for sandbar and dusky shark nursery and pupping areas, and vessel monitoring system requirements for shark vessels to facilitate enforcement of closed areas.

A new Consolidated Fishery Management Plan (FMP) was completed in 2006, which among other actions, contained measures to enhance U.S. data collection efforts by improving identification of dressed shark carcasses. These measures prohibit removal of the 2nd dorsal and anal fin from sharks prior to landing, and require all U.S. shark dealers to attend shark identification workshops. At present, NMFS has proposed an amendment to the 2006 FMP, which would restructure U.S. shark management and includes proposed provisions to require fishermen to land sharks with fins on and to prohibit the take of porbeagle sharks.

To date, the United States has not conducted a stock assessment on porbeagle sharks. NMFS has reviewed the 2005 Canadian Stock Assessment and Recovery Assessment report on porbeagle sharks, which indicates that they are overfished and overfishing is not occurring. NMFS has deemed the Canadian Assessment to be the best available science and appropriate to use for U.S. domestic management purposes.

NMFS recently modified domestic shark management measures consistent with several stock assessments by implementing Amendment 2 to the HMS FMP. Revised management measures for Atlantic sharks in domestic waters as a result of this FMP, include, but are not limited to: requiring all sharks to be landed with all fins attached, revised quotas and retention limits in commercial and recreational fisheries, revised prohibited species for the commercial and recreational sectors, and establishing a shark research fishery. The quota for porbeagle sharks was reduced from 92 mt/year to 1.6 mt/year in Amendment 2 to the HMS FMP.

Consistent with 07-06 and other recommendations, the United States continues to submit all Task I and Task II data for sharks on an annual basis and has catch limits in place for pelagic sharks, including, Atlantic porbeagle, shortfin mako, and blue sharks. Furthermore, U.S. scientists are actively engaged in shark research, including research that may identify potential nursery areas for pelagic sharks. U.S. scientists participate in all ICCAT sanctioned shark assessment meetings.

3.1.14. Recommendation by ICCAT (05-05) to Amend Recommendation 04-10 Concerning the Conservation of Sharks Caught in Association with Fisheries Managed By ICCAT (Rec 04-10;05-05; 06-10)

The original 2004 Recommendation established a timeline for review of the shortfin mako population assessment and development of recommendations for management alternatives (2005), as well as reassessment of blue sharks and shortfin mako (2007) by SCRS. Following the 2005 assessment, Recommendation 04-10 was amended to include additional requirements for CPCs to implement and report on measures taken to reduce fishing mortality of North Atlantic shortfin mako sharks. The United States currently tracks the annual quota for pelagic sharks, which includes landings of shortfin mako, to ensure that catches of these species are under the designated quota. Tracking of the pelagic shark quota in recent years indicates that pelagic sharks, including shortfin makos, do not constitute a significant portion of U.S. shark landings. The United States has catch limits in place for Atlantic porbeagle, shortfin mako, and blue sharks and will continue to submit catch and effort data for sharks.

Recommendation 04-10 also included reporting requirements for shark catches, including available historical data on catches; full utilization of shark catches; a requirement that CPCs prevent their vessels from having shark fins onboard that total more than 5% of the weight of sharks; a requirement that the ratio of fin-to-body weight of sharks be reviewed by the SCRS by 2005; and prohibitions on fishing vessels retaining, transshipping or landing any fins harvested in contravention to the Recommendation. In addition, the Recommendation encourages the release of live sharks, especially juveniles in fisheries not directed at sharks, as well as additional research to improve the selectivity of fishing gears and identify shark nursery areas. Recommendation 05-05 required CPCs to implement the provisions of Recommendation 04-10 for North Atlantic shortfin mako shark populations. The United States continues to fulfill the requirements of these recommendations through data collection programs and a variety of fishery restrictions including the Shark Finning Prohibition Act of 2000. This law prohibited the practice of finning nationwide and the possession or landing of shark fins without the corresponding carcass (67 FR 6194, 11 February, 2002). At present, NMFS is proposing an Amendment to the 2006 FMP which proposes to require fishermen to land sharks with all fins attached. Additionally, the United States adopted a National Plan of Action for the Conservation and Management of Sharks in February 2001, consistent with the International Plan of Action for Sharks, which calls for management measures to reduce waste to the extent practicable and to protect vulnerable life history stages, such as juveniles. The United States also currently enforces a minimum size limit and bag limits for recreationally caught sharks, commercial trip limits, and has established a time/area closure for shark bottom longline fishing in the mid-Atlantic to protect sharks in the nursery grounds. Recommendation 06-10 scheduled the next assessment for shortfin mako and blue sharks for 2008. U.S. scientists are participating in this assessment.

3.2 Closed Seasons

3.2.1. Domestic Time/Area Closures for ICCAT Species

At present, the Atlantic pelagic longline fishery of the United States is subject to several discrete time/area closures that are designed to reduce bycatch in the pelagic longline fishery by prohibiting pelagic longline fishing for ICCAT species in those areas during specified times. These closures affect offshore fishing areas up to 200 nautical miles (nm) from shore (see Figure 3.2.1). Those closures are as follows: (1) Florida East Coast: 50,720 nm^2 year-round; (2) Charleston Bump: 49,090 nm^2 from February through April each year; (3) DeSoto Canyon: 32,860 nm^2 year-round; and (4) the Northeastern United States: 21,600 nm^2 during the month of June each year. Effective 1 January, 2005, the United States implemented a Mid-Atlantic shark closed area for bottom longline gear from January through July of each year to protect dusky shark and juvenile sandbar sharks in pupping and nursery areas. In addition, all HMS gear types are prohibited year-round, except for surface trolling only from May through October, in the Madison Swanson and Steamboat Lumps Marine Reserves (Figure 3.2.2). These closures were implemented for the protection of spawning aggregations of gag grouper, and the HMS management measures will expire on 1 June, 2010, consistent with Gulf of Mexico Fishery Management Council recommendations. Both of these reserves are located shoreward of the Desoto Canyon Closed Area (Figure 3.2.2). The Madison-Swanson Marine Reserve is 115 nm^2 in size, and the Steamboat Lumps marine reserve is 104 nm^2 in size. Additionally, on 7 February, 2007, NMFS published a final rule (72 FR 5633) that complements regulations that the Caribbean Fishery Management Council (CFMC) implemented on 28 October, 2005 (70 FR 62073), that closed six small distinct areas off of Puerto Rico and the U.S. Virgin Islands to bottom longline gear, year-round. The purpose of these closed areas is to protect essential fish habitat of reef-dwelling species. These areas are defined in Title 50, section 622.33 (a) of the Code of Federal Regulations. Finally, NMFS published a final rule on 24 June, 2008 (73 FR 35778) and a correction was published on 15 July, 2008 (73 FR 40658), to complement regulations being implemented by the South Atlantic Fishery Management Council (SAFMC). A proposed rule for the SAFMC's Amendment 14A to the Snapper Grouper Fishery Management Plan was published on 16 July, 2008 (73 FR 40824). In the proposed rule, the SAFMC is proposing to implement eight Type II MPAs from North Carolina to the Florida Keys. Type II MPAs are closures throughout the year to most gear types except some fishing, such as trolling for HMS and other coastal pelagic species. The SAFMC has requested NMFS to backstop these closures because of enforcement issues; many shark and snapper grouper fishermen possess the same permits and the gear is indistinguishable between the two fisheries. Therefore, NMFS has closed the eight MPAs to shark bottom longline gear.

The Northeast Distant Statistical Sampling Area (NED) (2,631,000 nm^2), which had been closed year-round (per regulations at 50 CFR part 223 and 635) from 2001 through mid-2004, has been reclassified as a gear restricted area. Pelagic longline vessels may only fish for highly migratory species in this area if they observe strict circle hook and bait restrictions and use approved sea turtle release gear in accordance with release and handling protocols. Outside of the NED, the U.S. HMS pelagic longline fishery is required to use circle hooks with certain bait combinations, depending on the region, as well as the required, approved sea turtle release gear and release and handling protocols. NMFS published a final rule on 7 February, 2007 (72 FR 5633), that requires participants in the Atlantic shark bottom longline fishery to possess, maintain, and utilize the same equipment and follow the same protocols for the safe handling and release of sea turtles and other protected species as required in the pelagic longline fishery.

The National Marine Fisheries Service issued Exempted Fishing Permits to three pelagic longline vessels to conduct research in portions of the Charleston Bump and Florida East Coast Closed Areas. This research, which is being carried out with academic partners, would allow NMFS to determine the relative effectiveness of the closed areas under current fishery conditions and provide data which could help NMFS make determinations about whether modifications to the existing closed areas are warranted.

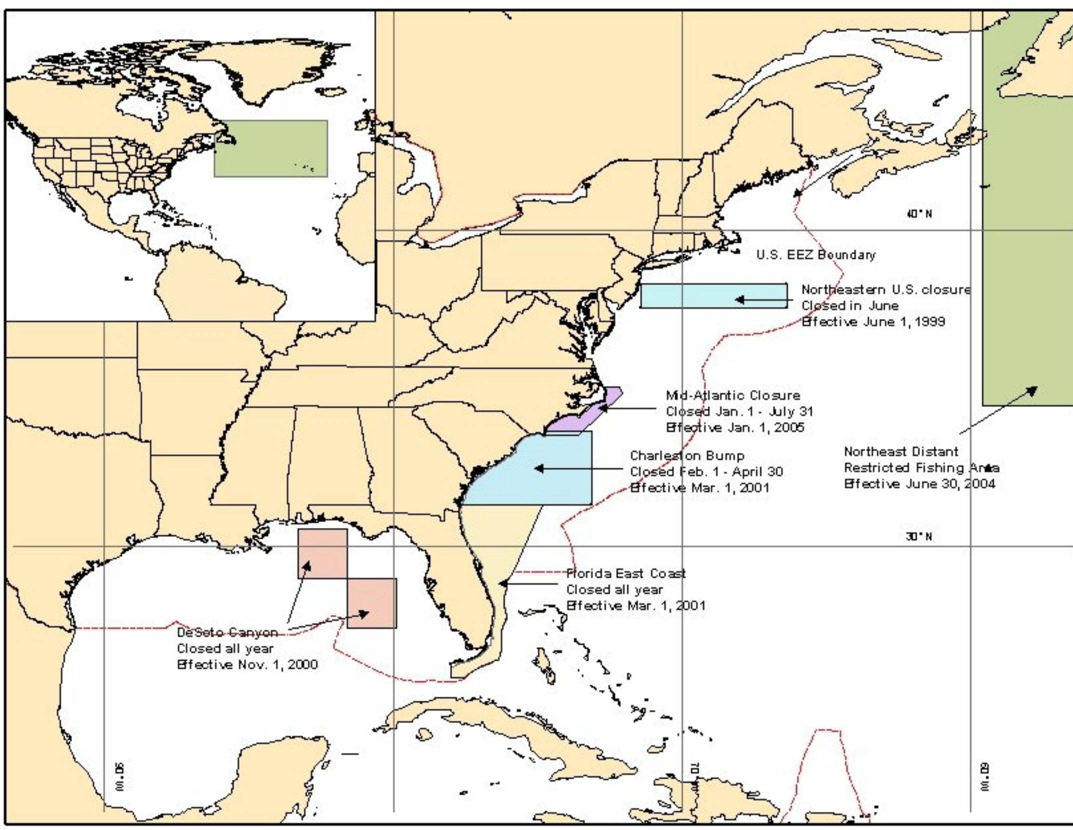


Figure 3.2.1. Existing U.S. time/area closures in HMS fisheries. Inset shows extent of the Northeast Distant restricted fishing area. All closures except the Mid-Atlantic are applicable to PLL gear only. The Mid-Atlantic Closure is applicable to bottom longline gear only. Note: the Northeast Distant (NED) was a closed area to all vessels as of 2001. It became the NED Restricted Fishing Area on 30 June, 2004, when it was opened to those participating in the NED experiment. Madison-Swanson, Steamboat Lumps, and Caribbean bottom longline closures not included.

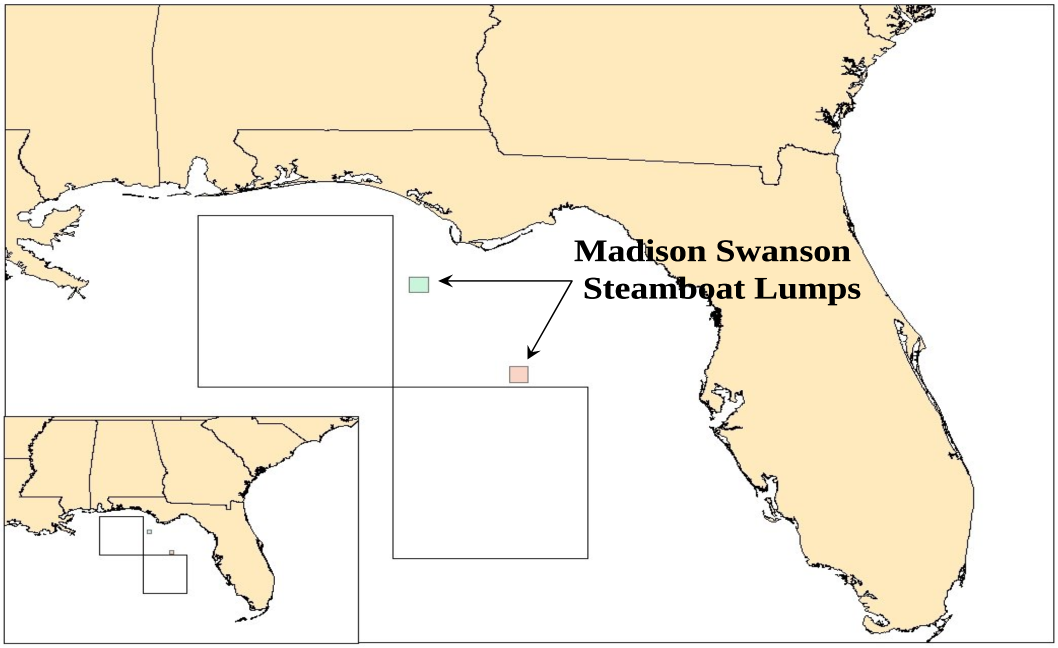


Figure 3.2.2. Madison-Swanson (upper left) and Steamboat Lumps (lower right) Marine Reserves. The Desoto Canyon closure is also shown for reference.

3.3 Ban on Imports

3.3.1. Trade Restrictve Recommendations (Recs 02-17 and 03-18)
No trade restrictive measures were passed by the Commission at the 2007 annual meeting. The trade restrictive measures that are currently in effect prohibit the importation of bigeye tuna from Bolivia (02-17) and Georgia (03-18). These measures were implemented by the United States on 6 December, 2004 (69 FR 70396).

3.3.2. Recommendation By ICCAT Concerning Trade Measures (Rec 06-13)
Recommendation 06-13 directs CPCs that import products of tuna and tuna-like species to collect relevant import, landings, or associated data on such products in order to allow for submission of that information to the ICCAT Secretariat. The United States collects relevant information through a combination of programs, including the bluefin tuna catch documentation program, bigeye and swordfish statistical document programs, and through domestic Customs programs.

3.3.3. Bluefin Tuna Catch Documentation Program (Rec. 07-10)
On 2 June, 2008 (73 CFR 31380), the United States published final regulations effective 2 July, 2008, implementing the ICCAT bluefin tuna catch documentation program. This program repeals the pre-existing statistical document program and now tracks bluefin tuna landings and international trade using a bluefin tuna catch document. The U.S. program continues to require that bluefin tuna are fitted with a tail tag upon sale to a domestic dealer, and the tag (or tag number in the case of a cut carcass) must remain with the fish, thus tracking bluefin tuna from domestic harvest to international markets. The first annual bluefin tuna catch documentation report is due 1 October, 2009 and will cover the time period from 1 July, 2008 through 30 June, 2009. The United States continues to work towards implementation of an electronic reporting system for imports covered by RFMO consignment document programs.

3.3.4. Swordfish and Bigeye Tuna Statistical Document Programs (Recs 00-22, 01-21, 01-22, 03-19)
The U.S. Bluefin Tuna Statistical Document program, which was implemented in the 1990s, was replaced in 2008 by the Bluefin Tuna Catch Documentation program (see above). Statistical document programs for swordfish and frozen bigeye tuna were implemented by the United States in 2005. As required under the statistical document programs, the United States submits reports to ICCAT twice yearly, providing information on import, export and re-export activity involving these

species products. The last statistical document reports for swordfish and bigeye tuna were submitted to the ICCAT Secretariat on 30 September, 2008 for the period covering January 2008 through June 2008.

3.4 Observer Programs

The U.S. observer program currently meets two main objectives: monitoring of interactions between fishing gear and protected species (marine mammals, sea turtles, and to a lesser degree, sea birds), and monitoring of fishing effort and catch (estimation of total landings of target species and/or bycatch of non-target or prohibited species). An overview of observer programs in the United States can be found online at: http://www.st.nmfs.noaa.gov/st4/nop/index.html. The United States achieved 11.7 percent observer coverage expressed as a proportion of reported hooks, and 10.8 percent as a proportion of reported sets of Atlantic pelagic longline fishing effort for highly migratory species during calendar year 2007. Click on the pelagic longline link on the map on the National Observer Program web page at: http://www.st.nmfs.noaa.gov/st4/nop/index.html for information regarding the different observer programs. NMFS coordinates observer program management through its Office of Science and Technology/National Observer Program at the headquarters office outside of Washington, D.C. Observers for U.S. vessels in ICCAT fisheries are deployed from regional programs in Miami, Florida and Panama City, Florida.

3.5 Vessel Monitoring

3.5.1 Recommendation Concerning Minimum Standards for the Establishment of a Vessel Monitoring System (VMS) in the ICCAT Convention Area (Rec 03-14, 04-11; 07-08)
The United States implemented a fleet-wide VMS requirement in the Atlantic pelagic longline fishery effective 1 September, 2003 (June 25, 2003, 68 FR 37772), consistent with the terms of recommendations 03-14 and 04-11. The United States is in compliance with these recommendations. In addition to what is required for these recommendations, the United States issued a rule in December of 2003 (24 December, 2003, 68 FR 74746), requiring VMS for bottom longline vessels operating near a time/area closure and for shark gillnet vessels operating during the right whale calving season. This rule was implemented in December 2003 for purposes of domestic Atlantic shark management. Recommendation 07-08 only applies to vessels fishing for bluefin tuna in the Eastern Atlantic Ocean and Mediterranean Sea.

3.6 ***Measures to Ensure Effectiveness of ICCAT Conservation and Management Measures and to Prohibit Illegal, Unreported and Unregulated Fishing***

3.6.1 Management Standard for the Large-Scale Tuna Longline Fishery (Resolution 01-20)
In 2001, ICCAT resolved that minimum management standards should be established for issuance of fishing licenses to tuna longline vessels greater than 24 meters in overall length and that an annual report should be submitted to ICCAT using a specific format. The United States issued permits to 23 pelagic longline vessels over 24 meters in overall length in 2007. The U.S. submission is provided in the Appendix 3.6.1.

3.6.2 Recommendation by ICCAT Concerning the Duties of Contracting Parties and Cooperating Non-Contracting Parties, Entities, Fishing Entities in relation to their vessels in the ICCAT Convention Area (03-12)
The United States currently implements all elements of this measure. A list detailing the enforcement actions taken on ICCAT species is provided in Appendix 3.6.2.

3.6.4 Recommendation to Establish a List of Vessels Presumed to Have Carried Out Illegal, Unreported, and Unregulated Fishing Activities (06-12)
The United States generally prohibits the landing of any foreign fishing vessels in its ports. Rulemaking to clarify domestic procedures for denying port access to vessels is ongoing and will be implemented in 2009.

3.6.5 Recommendation by ICCAT to Promote Compliance By Nationals of Contracting Parties, Cooperating Non-Contacting Parties, Entities, or Fishing Entities with ICCAT Conservation and Management Measures (06-14)
This recommendation requires CPCs to take appropriate measures in accordance with their applicable laws and regulations to investigate and respond to allegations and verifiable incidents of IUU fishing activities by their nationals, cooperate with the relevant agencies of other CPCs, and to report to ICCAT on actions and measures taken in accordance with the recommendation, effective July 2008. The United States already fully complies with the requirements of this recommendation by pursuing reports of illegal fishing activities by its citizens. A report of enforcement related activities pertaining to ICCAT species, which includes any IUU related enforcement actions, can be found in Appendix 3.6.2, NOAA Enforcement Actions Taken on ICCAT Species.

3.6.6 Recommendation by ICCAT on Additional Measures for Compliance with the ICCAT Conservation and Management Measures (06-15)
Under the United States Bluefin Tuna Statistical Document and domestic management programs, the United States is able to closely monitor domestic landings and exports of Atlantic bluefin tuna to ensure that exports do not exceed landings. Each commercially harvested Atlantic bluefin tuna landed in the United States is tagged with a uniquely numbered tail tag, and reported to NMFS within 24 hours of landing. Landings are tracked to ensure the U.S. fishery remains within its quota. Unique tail tag numbers must remain with Atlantic bluefin tuna carcasses until consumed, and are required for exports of domestically landed Atlantic bluefin tuna. In addition, United States regulations require that statistical documents accompany all imports of bluefin tuna.

3.6.7 Recommendation by ICCAT Amending ICCAT's List of Fishing Vessels Presumed to be engaged in Illegal, Unreported and Unregulated (IUU) Fishing Activities in the ICCAT Convention Area and Other Areas (07-09)
As with Recommendation 06-12, the United States generally prohibits the landing of any foreign fishing vessels in its ports. The United States currently implements the elements of this measure.

3.6.8. Resolution by ICCAT Further Defining the Scope of IUU Fishing (01-18)
IUU fishing is the focus of growing attention in the United States, due to its adverse impacts on target fish stocks, habitat, fish markets, bycatch, and competition with legal fishing. The United States has taken action to implement this resolution, which calls upon CPCs to take every possible action, consistent with relevant laws, to instruct importers, transporters, and others in the fishing industry to refrain from engaging in transaction and transshipment of tunas and tuna-like species caught by fishing vessels that have been engaged in IUU fishing activity. Specifically, the U.S. fishing industry has been advised to consult the IUU vessel lists of Regional Fishery Management Organizations before making commercial arrangements with vessels. The U.S. industry has been advised that the penalties for noncompliance may include restricted port access or unloading prohibitions.

3.6.9. Recommendation by ICCAT to Adopt Additional Measures Against Illegal, Unreported and Unregulated (IUU) Fishing (03-16)
This recommendation requires CPCs to take the necessary measures to prohibit landings, placing in cages for farming, and/or transshipment of tunas or tuna-like species that were caught by fishing vessels engaged in IUU fishing activity. The United States has taken several steps to implement this recommendation. First, under new domestic authority to combat IUU fishing, the United States is required to produce a biennial report that lists countries which the United States has identified as having vessels engaged in IUU fishing activity. Under this authority, the United States is developing regulatory procedures to certify whether identified countries are taking appropriate corrective action to address IUU fishing activity. Lack of progress by such nations to address IUU fishing may lead to prohibitions on the importation of certain fisheries products into the United States and other measures.

Additionally, as an increasing number of Regional Fishery Management Organizations have adopted IUU vessel lists and call upon member countries to deny port access and services to vessels identified on such lists, the United States is currently designing a system that will implement its obligations to apply these measures.

3.7 Other Recommendations

3.7.1 Recommendation by ICCAT on Vessel Chartering (02-21,03-21)
A final rule was published on 6 December, 2004 (69 FR 70396), to implement recommendation 02-21 concerning vessel chartering. NMFS is currently considering an administrative modification to the vessel chartering regulations. Recommendation 03-21 implemented monitoring measures for contracting parties, including maintaining up to date records of fishing vessels entitled to fly its flag and/or authorized to fish species managed by ICCAT in the convention area, which is an integral component of vessel chartering arrangements. The United States is complying with these recommendations by collecting all relevant information for monitoring before issuing the permits necessary to engage in vessel chartering arrangements. The United States issued one chartering permit in late 2004 which authorized chartering activities to take place in the ICCAT convention area during 2005.

3.7.2 Recommendation by ICCAT Concerning the Recording of Catch by Fishing Vessels in the ICCAT Convention Area (03-13)
The United States requires all commercial fishing vessels over 24 m in length to maintain logbooks specified by NMFS. For information on the implementation of this recommendation relative to recreational fishing vessels, see the section below entitled *Resolution on Improving Recreational Fishery Statistics (Rec 99-07).*

3.7.3 Resolution on Improving Recreational Fishery Statistics (Rec 99-07)

Recreational landings are estimated through a combination of tournament surveys (the Recreational Billfish Survey), the Large Pelagic Survey (LPS), the Marine Recreational Fishing Statistics Survey (MRFSS), mandatory non-tournament landings reporting requirements for Atlantic blue and white marlins, sailfish, swordfish, and bluefin tuna, as well as state landings data. Final regulations adopted in 1999 require selected HMS charter/headboat vessels that do not already complete a logbook to do so. Registration of all recreational fishing tournaments for Atlantic highly migratory species has been required since 1999. All tournaments for Atlantic highly migratory species are required to submit landing reports, if selected. Currently, 100 percent of billfish tournaments are selected for reporting. All non-tournament landings of Atlantic billfish and swordfish are required to be reported to the National Marine Fisheries Service within 24 hours of landing. In the fall of 2007, the United States enhanced recreational reporting by implementing a new internet based non-tournament reporting system for Atlantic billfish, including swordfish.

3.7.4 Recommendation by ICCAT Concerning the Establishment of an ICCAT Record of Vessels over 24 Meters authorized to operate in the Convention Area (Rec 02-22)

The United States submitted the list of vessels required, pursuant to this recommendation, to the Secretariat in June, 2008. At that time, there were 238 U.S. vessels that met the appropriate criteria.

3.7.5 Resolution on Sea Turtles (03-11)

The 2003 resolution on sea turtles encourages ICCAT parties and cooperating parties to collect and provide the SCRS with information on interactions with sea turtles in ICCAT fisheries, including incidental catches and other impacts on sea turtles. The measure also encourages the release of all sea turtles that are incidentally caught alive and to share information, including technical measures, to reduce the incidental catch of sea turtles, and to ensure the safe handling of all turtles that are released to improve their survivability. The resolution also calls for the development of data collection and reporting methods for the incidental by-catch of sea turtles and to support efforts by the FAO to address the conservation and management of sea turtles. The United States complies with all of these requests.

In addition to the above activities, the United States has undertaken extensive research activities in its longline fleet for ways to reduce sea turtle interactions and increase survivability of sea turtles incidentally caught in longline fisheries. Results from U.S. research in the Atlantic Ocean have shown that larger circle hooks significantly reduce turtle catches in the pelagic longline fishery (e.g. with mackerel bait, the number of loggerhead turtles caught was reduced by 65%). Unlike “J” hooks, which are often swallowed, circle hooks often become anchored in the mouth, and therefore hook extraction is easier and safer for sea turtles. A number of devices tools are being used to remove line, hooks, or the barb or eye of hooks on boated turtles. Long handled line cutters and long handled de-hookers are used to remove gear from turtles too large to be boated. The Epperly Biopsy Pole is used with a stainless steel corer to take tissue samples for genetics. Short handled de-hookers are used to remove hooks from animals that are boated. A dip net is used to bring small (<50 kg) turtles aboard. Mouth openers and gags are used on boated turtles to allow access to internally lodged hooks. U.S. gear experts have presented this bycatch reduction technology and data from the research activities at approximately 15 international events that included fishing communities and resource managers between 2002 and mid-2005.

In 2004 (6 July, 2004; 63 FR 40734), the United Stated codified regulations that implemented measures to reduce sea turtle bycatch in Atlantic PLL fisheries for highly migratory species. These measures pertain to the entire U.S. Atlantic pelagic longline fishery, and include: mandatory bait specifications depending on fishing locale, use of circle hooks (size of hook depending on fishing locale), and the mandatory possession and use of sea turtle handling and release gear on board all vessels with pelagic longline gear. While exhibiting annual fluctuations, the U.S. pelagic longline fleet has seen a significant overall decline in the number of sea turtle interactions since implementation of the circle hook regulations in mid-2004. U.S. pelagic longline leatherback sea turtle interactions have ranged from an estimated 1,362 in 2004 to 368 in 2005 to 415 in 2006; loggerhead sea turtle interactions have fluctuated from an estimated 734 in 2004, to 283 in 2005 to 561 in 2006. As new technological solutions are discovered, the United States will continue to help share these innovations with other fishing nations.

3.7.6 Recommendation by ICCAT Establishing a Programme for Transshipment by Large-Scale Longline Fishing Vessels (06-11)

This recommendation establishes a program of transshipment affecting tuna longline and carrier vessels, including the establishment of an ICCAT record of authorized carrier vessels, documentation requirements, and extensive obligations and procedures pertaining to transshipment to assist in combating IUU fishing, ensure adequate monitoring of transshipment activities, and collecting catch data from large-scale vessels. No U.S. action is necessary on this recommendation, as current U.S. regulations prohibit transshipment of HMS products in the convention area.

3.7.7 Recommendation by ICCAT for a Revised Port Inspection Scheme (97-10)

The U.S does not

3.7.7 Recommendation by ICCAT on Compliance with Statistical Reporting Obligations (05-09)
Recommendation 05-09 is intended to address compliance issues with statistical reporting obligations. It requires the Secretariat to identify data gaps, the SCRS to evaluate the impacts of data gaps on stock assessments and formulation of management advice, and for Contracting parties and CPCs, to provide explanations regarding reporting deficiencies and data gaps along with plans for corrective action. The United States has been compliant with its statistical reporting obligations for 2006 and 2007.

3.7.8 Recommendation by ICCAT on Bluefin Tuna Farming (06-07)
Atlantic bluefin tuna have not been farmed in U.S. waters. The U.S. Bluefin Tuna Statistical Document program applies to farmed as well as wild-caught product, so statistical documents are required for imports of all farmed product. In a rulemaking scheduled to be implemented in 2008, the United States is considering options for ensuring that farmed products are only imported from farms listed on the ICCAT record of farming facilities.

3.7.9 Electronic Statistical Document Program (06-16)
The United States continues to implement an electronic system for the collection and dissemination of trade information. The International Trade Data System is a requirement under U.S. domestic legislation aimed at improving the efficiency of import and export processes as well as ensuring compliance with obligations to monitor the origin and safety of products. Given the domestic requirement to collect information from the trade community (shipper, carriers, brokers, etc.) in an electronic format, the U.S. is investigating ways to integrate ICCAT's statistical document programs into the internet-based electronic portal. As of September 2008, NMFS has catalogued all of the information collection requirements and the respective data elements for the several seafood trade monitoring programs established either by U.S. domestic law or by the RFMOs to which the US is a party. These requirements have been communicated to U.S. Customs and Border Protection through a Concept of Operations document. Once the Concept of Operations is approved by Customs, NMFS will begin the process of issuing regulations to implement the electronic collection of trade data for the subject seafood products. NMFS will consult with U.S. importers and exporters from ICCAT parties to determine the most efficient means of collecting the required data in electronic format to support admissibility decisions. More detailed information on the U.S. International Trade Data System can be found on the www.itds.gov internet site.

3.7.10 Recommendation by ICCAT on Reducing Incidental Bycatch of Seabirds in Longline Fisheries (07-07)
The U.S. does not have any vessels actively participating in ICCAT-managed fisheries south of 20 degrees S longitude. A description of U.S. implementation of other measures called for in the recommendation can be found in Appendix 2.2.8

3.7.11 Non-applicable resolutions and recommendations
The following recommendations were not addressed, as the U.S. does not participate in the relevant fishery or does not participate in specific activities covered by the recommendations:

- [03-04] Recommendation by ICCAT Relating to Mediterranean Swordfish
- [07-01] Recommendation by ICCAT on Mediterranean Swordfish
- [96-14] Recommendation by ICCAT Regarding Compliance in the Bluefin Tuna and North Atlantic Swordfish Fisheries
- [97-01] Recommendation by ICCAT to Improve Compliance with Minimum Size Regulations
- [99-03] Recommendation on the Establishment of a Closed Area/Season for the Use of Fish-Aggregation Devices

3.7.12. U.S. Enforcement Actions
A summary of U.S. enforcement actions taken in ICCAT fisheries is provided in Appendix 3.6.2.

4. Other Activities

Recent U.S. management action for Atlantic HMS can be found online at: http://www.nmfs.noaa.gov/sfa/hms

Federal register notices containing the full text of proposed and final regulations can be found at: http://www.gpoaccess.gov/fr/index.html.

Appendix Table 2.1-YFT. Annual Landings (MT) of Yellowfin Tuna from 2003 to 2007

Area	Gear	2003	2004	2005	2006	2007
NW Atlantic	Longline	**275.3**	**658.9**	**394.2**	**701.7**	**752.8**
	Gillnet	**0.9**	**3.2**	**0.1**	**4.7**	**4.2**
	Handline	**149.1**	**213.2**	**105.1**	**105.1**	**118.1**
	Trawl	**2.2**	**1.6**	**0.2**	**0.7**	**2.4**
	Trap	**0.3**	**0.0**	**0.01**	**0.0**	**0.0**
	Rod and Reel*	**4,672.1**	**3,433.7**	**3,504.8**	**4,649.2**	**2,756**
	Unclassified	**0.1**	**10.6**	**3.8**	**3.9**	**7.0**
Gulf of Mexico	Longline	**1,835.8**	**1,811.9**	**1,210.9**	**1,128.5**	**1,377.7**
	Handline	**39.9**	**28.3**	**45.5**	**49.9**	**34.3**
	Rod and Reel	**640.0**	**247.1**	**146.9**	**258.4**	**227.6**
	Unclassified	**0.0**	**0.0**	**0.3**	**0.0**	**0.0**
Caribbean	Longline	**5.6**	**4.5**	**140.6**	**179.7**	**255.6**
	Trap	**0.2**	**0.1**	**0.001**	**0.4**	**0.0**
	Gillnet	**0.02**	**0.06**	**0.0003**	**0.0**	**0.0**
	Handline	**10.7**	**7.0**	**9.7**	**7.8**	**9.1**
	Rod and Reel*	**16.0**	**78.7**	**5.5**	**0.0**	**12.4**
NC Area 94A	Longline	**5.2**	**0.08**	**0.5**	**0.0**	**1.8**
SW Atlantic	Longline	**42.0**	**16.8**	**0.0**	**0.0**	**0.0**
	TOTAL	**7,695.4**	**6,515.7**	**5,568.1**	**7,090.0**	**5,559.0**

* Rod and Reel catches and landings represent estimates of landings and dead discards based on statistical surveys of the U.S. recreational harvesting sector.

Appendix Table 2.1-SKJ. Landings (MT) of Skipjack Tuna from 2002 to 2006						
Area	Gear	2003	2004	2005	2006	2007
NW Atlantic	Longline	0.9	0.1	0.05	0.04	0.0
	Gillnet	0.9	16.7	2.2	0.2	0.05
	Handline	0.2	0.6	0.9	0.2	0.3
	Trawl	0.5	0.2	0.07	0.7	0.005
	Trap	1.5	0.006	0.0	0.3	0.0
	Pound net	0.1	0.0	0.0	0.5	0.002
	Rod and Reel*	34.1	27.3	8.1	34.6	27.4
	Unclassified	0.1	0.2	0.01	0.06	0.6
Gulf of Mexico	Longline	0.05	0.3	0.3	0.0	0.0
	Handline	0.04	0.2	0.02	0.0	0.2
	Rod and Reel*	11.1	6.3	3.1	6.4	23.9
Caribbean	Longline	0.4	0.3	0.2	0.2	0.002
	Trap	0.2	0.02	0.1	0.05	0.0
	Gillnet	0.4	0.3	0.06	0.02	0.0
	Handline	12.9	9.6	10.9	10.0	13.7
	Rod and Reel*	15.7	40.4	3.9	7.7	0.2
	TOTAL	79.1	102.5	29.9	61.0	66.4

* Rod and Reel catches and landings represent estimates of landings and dead discards based on statistical surveys of the U.S. recreational harvesting sector.

Appendix Table 2.1-BET. Annual Landings (MT) of Bigeye Tuna from 2003 to 2007						
Area	Gear	2003	2004	2005	2006	2007
NW Atlantic	Longline	**169.2**	**267.0**	**272.9**	**469.4**	**325.7**
	Gillnet	**0.07**	**0.0**	**0.0**	**0.2**	**1.0**
	Handline	**6.0**	**3.3**	**6.2**	**21.5**	**17.8**
	Harpoon	**0.0**	**0.0**	**0.0**	**0.2**	**0.0**
	Trawl	**0.03**	**0.9**	**0.6**	**0.0**	**0.4**
	Trap	**0.0**	**0.3**	**0.0**	**0.0**	**0.0**
	Rod and Reel*	**188.5**	**94.6**	**165.0**	**422.3**	**126.8**
	Unclassified	**0.0**	**0.5**	**0.6**	**0.8**	**0.9**
Gulf of Mexico	Longline	**26.2**	**20.2**	**25.2**	**37.7**	**37.0**
	Handline	**0.3**	**0.2**	**0.1**	**1.5**	**1.2**
	Rod and Reel	**0.0**	**6.0**	**0.0**	**24.3**	**0.0**
Caribbean	Longline	**7.0**	**3.5**	**6.9**	**10.5**	**3.4**
	Handline	**0.0**	**0.0**	**0.04**	**0.0**	**0.0**
	Rod and Reel	**3.6**	**0.06**	**0.0**	**0.0**	**0.0**
NC Area 94A	Longline	**36.9**	**5.0**	**6.9**	**3.0**	**8.4**
SW Atlantic	Longline	**44.6**	**14.4**	**0.0**	**0.0**	**0.0**
	TOTAL	**482.4**	**416.0**	**484.4**	**991.4**	**522.6**

* Rod and Reel catches and landings represent estimates of landings and dead discards based on statistical surveys of the U.S. recreational harvesting sector.

Appendix Table 2.1-BFT. Annual Landings (MT) of Bluefin Tuna from 2003 to 2007						
Area	Gear	2003	2004	2005	2006	2007
NW Atlantic	Longline**	**36.1**	**106.2**	**72.7**	**104.4**	**70.7**
	Handline	**2.5**	**1.5**	**2.3**	**0.3**	**0.0**
	Harpoon	**87.9**	**41.2**	**31.5**	**30.3**	**22.5**
	Purse seine	**265.4**	**31.8**	**178.3**	**3.6**	**27.9**
	* Rod and reel (>145 cm LJFL)	**676.4**	**387.4**	**170.4**	**217.2**	**235.4**
	* Rod and reel (<145 cm LJFL)	**314.6**	**329.0**	**254.4**	**158.2**	**398.6**
	Unclassified	**0.0**	**0.2**	**0.0**	**0.0**	**0.0**
Gulf of Mexico	Longline**	**80.0**	**151.5**	**118.5**	**88.1**	**81.2**
	Rod and Reel	**0.0**	**0.0**	**0.0**	**0.6**	**0.0**
NC Area 94A	Longline**	**17.8**	**17.7**	**20.3**	**12.1**	**12.4**
	TOTAL	**1480.7**	**973.0**	**848.4**	**614.8**	**848.7**

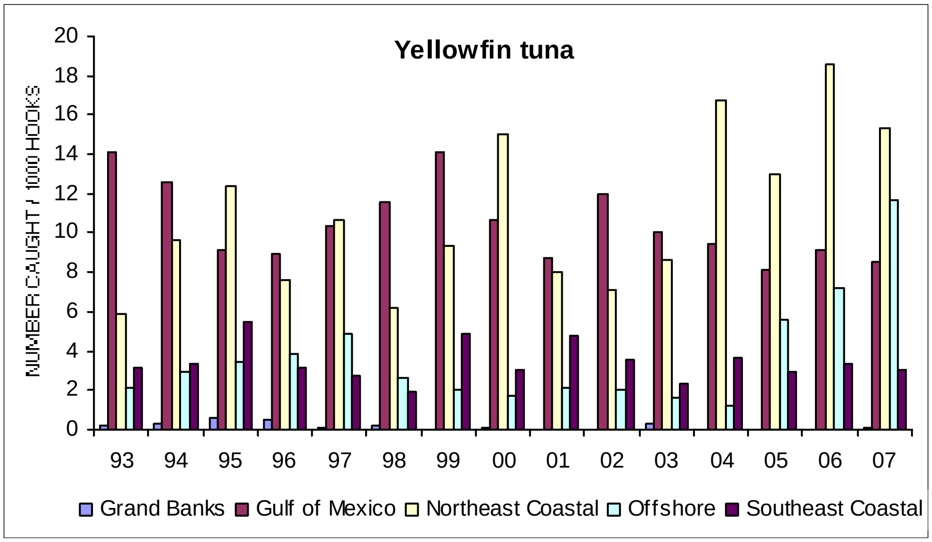
Appendix Table 2.1-ALB. Annual Landings (MT) of Albacore Tuna from 2003 to 2007						
Area	Gear	2003	2004	2005	2006	2007
NW Atlantic	Longline	**95.7**	**106.6**	**88.9**	**84.8**	**109.4**
	Gillnet	**0.1**	**4.9**	**6.0**	**2.1**	**1.0**
	Handline	**1.7**	**6.1**	**3.0**	**2.6**	**5.6**
	Trawl	**0.02**	**2.7**	**1.7**	**1.1**	**0.3**
	Trap	**0.4**	**6.3**	**1.7**	**0.5**	**0.4**
	Rod and Reel*	**333.8**	**500.5**	**356.0**	**284.2**	**393.6**
	Unclassified	**0.0**	**3.6**	**9.9**	**5.6**	**4.2**
Gulf of Mexico	Longline	**4.4**	**9.9**	**6.9**	**7.6**	**15.2**
	Handline	**0.01**	**0.0**	**0.1**	**0.07**	**0.2**
Caribbean	Longline	**3.9**	**3.2**	**12.1**	**10.5**	**1.2**
	Trap	**0.2**	**0.0**	**0.0**	**0.0**	**0.0**
	Gillnet	**0.04**	**0.005**	**0.002**	**0.0**	**0.0**
	Handline	**2.6**	**2.1**	**1.1**	**0.4**	**0.2**
NC Area 94A	Longline	**1.6**	**0.2**	**0.6**	**0.03**	**0.3**
SW Atlantic	Longline	**2.0**	**0.5**	**0.0**	**0.0**	**0.0**
	TOTAL	**446.5**	**646.6**	**488.0**	**399.5**	**531.6**

* Rod and Reel catches and landings represent estimates of landings and dead discards when available based on statistical surveys of the U.S. recreational harvesting sector.
** includes *landings* and *estimated discards* from scientific observer and logbook sampling programs

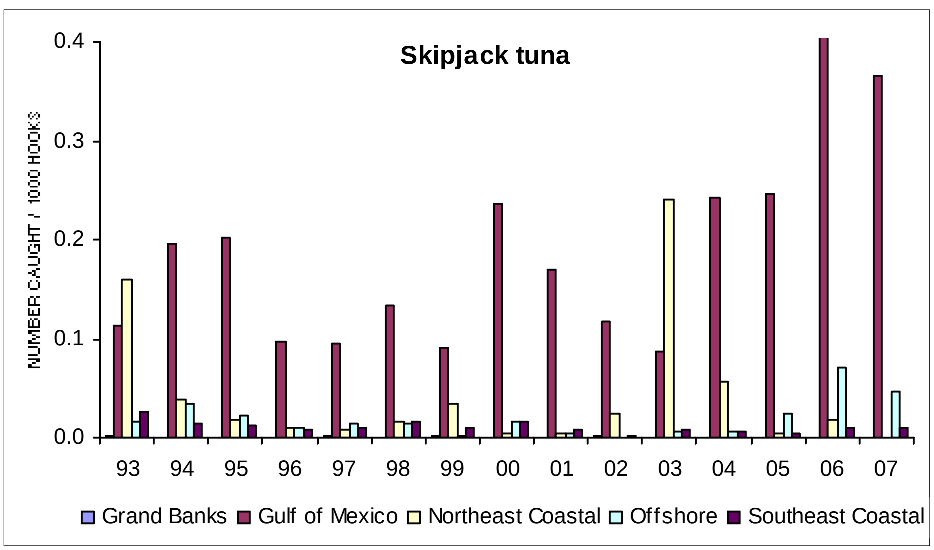
Appendix Table 2.1-SWO. Annual Landings (MT) of Swordfish from 2003 to 2007

Area	Gear	2003	2004	2005	2006	2007
NW Atlantic	Longline**	**1,341.3**	**1,169.7**	**1,096.2**	**1,165.2**	**1,630.8**
	Gillnet	**0.0**	**0.05**	**0.0**	**0.0**	**0.2**
	Handline	**10.8**	**18.7**	**34.4**	**32.5**	**126.0**
	Harpoon	**0.0**	**0.5**	**0.0**	**0.3**	**0.0**
	Trawl	**5.6**	**8.3**	**8.2**	**3.5**	**6.5**
	Trap	**0.06**	**0.0**	**0.0**	**0.0**	**0.0**
	Rod and Reel*	**5.9**	**24.3**	**53.1**	**50.6**	**65.9**
	Unclassified	**0.0**	**0.0**	**0.5**	**0.2**	**0.2**
	Unclassified discards	**1.6**	**3.9**	**4.2**	**5.1**	**2.3**
Gulf of Mexico	Longline**	**507.6**	**453.0**	**480.9**	**328.1**	**455.7**
	Handline	**9.8**	**4.0**	**0.3**	**0.1**	**3.1**
	Rod and Reel	**0.03**	**0.5**	**1.5**	**2.1**	**2.3**
	Unclassified	**0.0**	**0.0**	**0.2**	**0.0**	**0.0**
	Unclassified discards	**3.4**	**0.03**	**3.9**	**2.7**	**5.4**
Caribbean	Longline**	**274.6**	**295.9**	**143.5**	**88.9**	**27.7**
	Trap	**0.01**	**0.0**	**0.0**	**0.0**	**0.0**
	Rod and Reel	**0.0**	**0.4**	**6.6**	**0.0**	**0.0**
	Handline	**0.02**	**0.006**	**0.0**	**0.0**	**0.0**
	Unclassified discards	**0.2**	**0.08**	**0.7**	**0.0**	**0.0**
NC Area 94A	Longline**	**632.8**	**599.9**	**552.2**	**378.6**	**338.8**
	Unclassified discards	**0.3**	**0.1**	**1.2**	**0.0**	**0.5**
SW Atlantic	Longline**	**20.5**	**15.7**	**0.0**	**0.0**	**0.0**
	Unclassified discards	**0.4**	**0.0**	**0.0**	**0.0**	**0.0**
	TOTAL	**2,814.9**	**2,595.1**	**2,387.6**	**2,057.9**	**2,665.4**

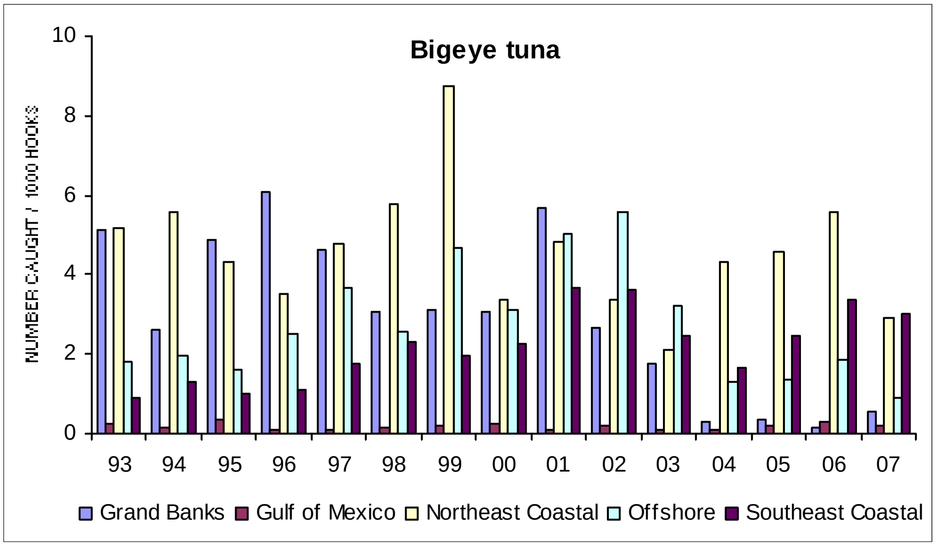
* Rod and Reel catches and landings represent estimates of landings and dead discards when available based on statistical surveys of the U.S. recreational harvesting sector.
** includes *landings* and *estimated discards* from scientific observer and logbook sampling programs



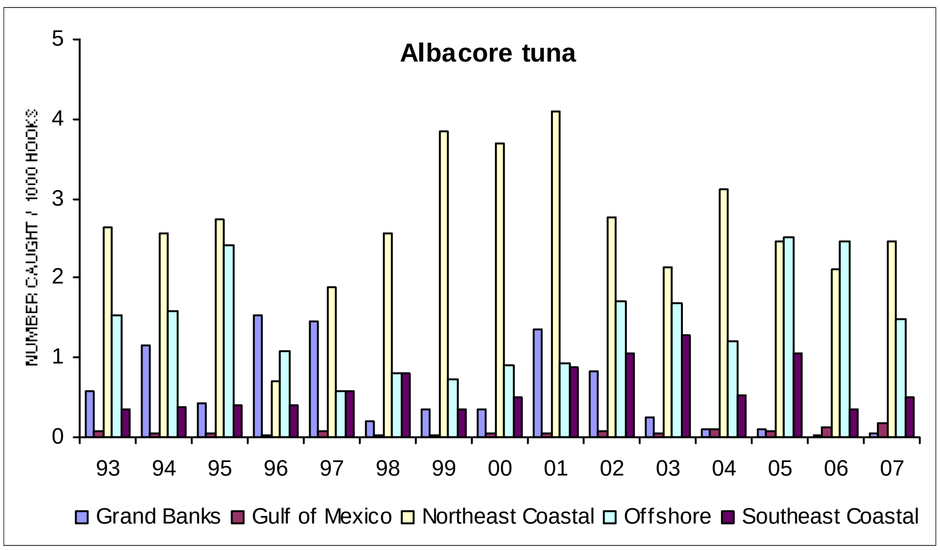
Appendix Figure 2.1 – YFT. *Nominal catch rates for YFT in U.S. pelagic longline logbook reports.*



Appendix Figure 2.1 – SKJ. *Nominal catch rates for SKJ in U.S. pelagic longline logbook reports.*



Appendix Figure 2.1 – BET. *Nominal catch rates for BET in U.S. pelagic longline logbook reports.*



Appendix Figure 2.1 – ALB. *Nominal catch rates for ALB in U.S. pelagic longline logbook reports.*

APPENDIX 2.2.8

THE U.S. NATIONAL PLAN OF ACTION FOR REDUCING THE INCIDENTAL CATCH OF SEABIRDS IN LONGLINE FISHERIES (NPOA): ITS IMPLMENTATION IN THE U.S. ATLANTIC TUNA, SWORDFISH, AND SHARK LONGLINE FISHERIES

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Report to
NOAA FISHERIES NATIONAL SEABIRD PROGRAM

September 2008

ICCAT Resolution on Incidental Mortality of Seabirds

The incidental catch of non-target marine species such as marine mammals, sea turtles, and seabirds has generated growing concern over the long-term ecological effects of bycatch in longline and other fisheries conducted in many parts of the world's oceans. Incidental catches of non-target species of seabirds with low population numbers could contribute to declines of populations also affected by habitat loss, disturbance at nesting sites, pollution, marine debris, disease, and shifting patterns of food availability. Losses of seabirds in the Western-Central North Atlantic could occur without notice despite monitoring efforts because population numbers of some species are so low, seabird catches are such rare events that they both escape notice and defy statistical treatments, and the identification of species is poor, although improving.

ICCAT adopted Resolution 02-14 on Incidental Mortality of Seabirds at its 2002 annual meeting. This resolution urges parties to inform the Commission and its Standing Committee on Research and Statistics (SCRS) on the status of their National Plans of Action for Reducing Incidental Catches of Seabirds in Longline Fisheries (NPOA-Seabirds) and to implement such plans, where appropriate. The resolution encourages parties to collect and provide to SCRS all available information on interactions with seabirds, including incidental catches in all fisheries under the ICCAT purview. The resolution called for an assessment, by SCRS, of the impact of incidental catch of seabirds resulting from the activities of all the vessels fishing for tunas and tuna-like species in the Convention Area. The ICCAT website at http://www.iccat.es/ provides additional information and a copy of the resolution.

The *International Plan of Action for Reducing the Incidental Catch of Seabirds in Longline Fisheries* (IPOA-S) applies to "States" (hereafter Countries) in whose waters longline fishing is being conducted by their own or foreign vessels, and to Countries that conduct longline fishing on the high seas and in the exclusive economic zones (EEZs) of other Countries. The IPOA-S calls on Countries to voluntarily: (1) assess the degree of seabird bycatch in their longline fisheries; (2) develop individual national plans of action to reduce seabird bycatch in longline fisheries that have a seabird bycatch problem; and (3) develop a course of future research and action to reduce seabird bycatch. The IPOA-S calls for each Country to develop and implement a national plan consistent with the FAO *Code of Conduct for Responsible Fisheries* (FAO 1999) and all applicable rules of international law, and in conjunction with relevant international organizations.

The assessment of the impact of fisheries on seabirds that was requested in the Resolution has been undertaken by the SCRS Sub-committee on Ecosystems, which is using information on seabird bycatch submitted by the various member Countries and other information that can be gathered on seabird population numbers and population dynamics. This information is being organized in an ecological risk assessment framework.

NPOA-Seabird Executive Summary

The United States voluntarily developed the U.S. *National Plan of Action for Reducing the Incidental Catch of Seabirds in Longline Fisheries* (NPOA-S in a collaborative effort between the National Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service (FWS) and the Department of State (DOS), carried out in large part by the Interagency Seabird Working Group (ISWG) consisting of representatives from those three agencies. All three agencies have management authorities covering seabird interactions with longline fisheries. NMFS manages U.S. fisheries under the authority of the Magnuson-Stevens Fishery Conservation and Management Act and the High Seas Fishing Compliance Act. FWS manages birds predominately under the authority of the Endangered Species Act and the Migratory Bird Treaty Act. DOS has the lead role in international negotiations on fisheries conservation and management issues. The collaborative effort between NMFS and FWS on development of the U.S. NPOA has increased communication between seabird specialists and fishery managers, which is viewed as a high priority for both agencies.

The NPOA-S contains the following themes:

1.) Action Items: NMFS, with the assistance of the Regional Fishery Management Councils (Councils), the NMFS Regional Science Centers, and FWS, as appropriate, should conduct the following activities:

- Detailed assessments of its longline fisheries for seabird bycatch within 2 years of the adoption of the NPOA-S;

- If a problem is found to exist within a longline fishery, measures to reduce this seabird bycatch should be implemented within 2 years. These measures should include data collection, prescription of mitigation measures, research and development of mitigation measures and methods, and outreach, education, and training about seabird bycatch; and
- *In collaboration with the appropriate Councils and in consultation with FWS, prepare an annual report on the status of seabird mortality for each longline fishery, including assessment information, mitigation measures, and research efforts. FWS will also provide regionally-based seabird population status information that will be included in the annual reports.*

2.) Interagency Cooperation: The continuation, wherever possible, of the ongoing cooperative efforts between NMFS and FWS on seabird bycatch issues and research.

3.) International Cooperation: The United States' commitment, through the DOS, NMFS and FWS, to advocate the development of National Plans of Action within relevant international forums.

In development of the NPOA-S, the agencies recognized that all U.S. longline fisheries have unique characteristics and that the solution to seabird bycatch issues will likely require a multi-faceted approach requiring different fishing techniques, the use of mitigating equipment, and education within the affected fisheries. The NPOA-S does not prescribe specific mitigation measures for each longline fishery; rather, the NPOA-S provides a framework of actions that NMFS, FWS, and the Councils, as appropriate, should undertake for each longline fishery. By working cooperatively, fishermen, managers, scientists, and the public may use this national framework to achieve a balanced solution to the seabird bycatch problem and thereby promote sustainable use of our nation's marine resources.

Detailed assessments should address the following:

- Criteria used to evaluate the need for seabird bycatch mitigation and management measures
- Longline fishing fleet data (numbers and characteristics of vessels)
- Fishing techniques data (demersal, pelagic, and other pertinent technical information)
- Fishing areas (by season and geographic location)
- Fishing effort data (seasons, species, catch, number of sets, and number of hooks/year/fishery)
- Status of seabird populations in the fishing areas, if known
- Estimated total annual seabird species-specific catch and catch-per-unit-effort (number/1,000 hooks set/species/fishery)
- Existing area and species-specific seabird bycatch mitigation measures and their effectiveness in reducing seabird bycatch
- Efforts to monitor seabird bycatch (e.g., observer program and logbooks), and
- Statement of conclusions and decision to develop and implement mitigation measures as needed.

NOAA Fisheries developed a report entitled "Evaluating Bycatch: A National Approach to Standardized Bycatch Monitoring Programs." Published in 2004 as NOAA Technical Memorandum NMFS-F/SPO-66 (NMFS 2004), it was an initial effort toward meeting the above objectives. Researchers at NMFS and universities continue to work toward further improvements in bycatch estimation methods.

The United States included information on the seabird bycatch of the U.S. pelagic longline fishery in the Western North Atlantic in its National Reports to ICCAT in 2004 through 2007. The present report is an update of this information.

Progress in FY 2008

1) Interagency: Several statements of work were prepared by NMFS, FWS, and NGO's in 2008 to carry out a multiagency Action Plan developed in January 2007 at a Marine Bird Meeting convened by the Atlantic Marine Bird Conservation Cooperative. The Workshop and subsequent plan focused on seabirds in their marine environment. Bycatch, Distribution and Abundance, and Oil Spills were the three main workshop topics. The bycatch group, led by Dr. Kim Rivera, head of the NOAA Fisheries National Seabird Program, Juneau, Alaska, developed an action

plan that focused on the following categories: a) improved and more extensive data analysis to estimate bycatch and identify fishing practices and bird characteristics that influence seabird bycatch; b) improved information obtained by observers, including more specific identification of the birds caught; c) collection of information on bird bycatch throughout the world and population assessments and other key information about WNA seabirds, (d) development of a "priority species" list; e) finalization of the FWS Waterbird Bycatch Policy's implementation plan, and f) improved coordination between fishery managers and bird managers. Other elements in the bycatch action plan are development of a "summary threat assessment" for the Atlantic coast; outreach, education, and cooperation with stakeholders; bycatch reduction; increased observer coverage in hotspots (specifically, the Outer Banks of North Carolina); and exploration of a possible Outer Banks National Marine Sanctuary that would include areas in which seabird species diversity, frequency, and relative abundance are exceptionally high.

2) International: Atlantic bird assessment by the ICCAT SCRS-subcommittee on ecosystems.

A second meeting of the ICCAT sub-committee on ecosystems, which presently is focusing on seabirds interacting with fisheries, was held in Madrid in 10-14 March 2008 and was attended by four scientists from the U.S. CSIRO scientists presented a preliminary population dynamics model that incorporated information from nesting, satellilte tracking, and seabird bycatch rates to vulnerability of seabird populations to the longline fisheries. The convening scientists discussed the need for more detailed and more reliable information on which to base models of this type. The first meeting of this group, held in Madrid in February 2007, discussed a risk-assessment approach to organizing information and evaluating the potential for significant population losses. The proposed framework for conducting risk assessments was as follows: 1) identify seabird species most at risk from fishing in the ICCAT Convention Area, 2) collate available data on at-sea distribution of these species, 3) analyze the spatial and temporal overlap between species distribution and ICCAT longline fishing effort, 4) review existing bycatch rate estimates for ICCAT longline fisheries, 5) estimate total annual seabird bycatch (number of birds) in the ICCAT Convention Area, and 6) assess the likely impact of this bycatch on seabird populations. The meeting discussed the general need, Atlantic-wide, for improved information on both seabird bycatch in longline fisheries and seabird population assessments to use as data input to risk assessments.

3) Other: Fishery Ecosystem Management Plans

A narrative on birds as part of the fishery ecosystem was included in the protected species section of the Plan Fishery Ecosystem Plan of the South Atlantic Fishery Management Council. Oceanic and coastal shelf species are the major emphasis of bird component of the Plan, shorebirds, waterfowl, wading birds, and marsh birds are also being included. The Fishery Ecosystem Plan of the South Atlantic Fishery Management Council will be presented to the Council members for approval in December 2008.

<u>Bycatch of Seabirds in Atlantic Tuna, Swordfish, and Shark Longline Fisheries</u>

The Highly migratory species (HMS) are managed by the Secretary of Commerce under the Fishery Management Plan for Atlantic Tunas, Swordfish, and Sharks. The HMS FMP includes five Atlantic tuna species (bluefin, yellowfin, albacore, bigeye, and skipjack), swordfish, and 39 species of sharks in the Atlantic Ocean, Gulf of Mexico, and Caribbean Sea.

Description of the Fisheries

Longline fisheries for Atlantic HMS species include the pelagic longline fishery for Atlantic tunas and swordfish and the bottom longline fishery for sharks. Shark longline fisheries include vessels that also fish for grouper and vessels that also fish for tilefish.

Commercial pelagic longline fishing occurs throughout the Gulf of Mexico, along the entire U.S. Atlantic coast over the continental shelf and slope, and in distant water areas, including the central North Atlantic, the Canadian Grand Banks, and parts of the Caribbean Sea (Figure 1). NMFS observer coverage (by number of sets) covered approximately three to 5 percent annually between 1992 and 2000. Increased sampling in 2001, particularly in the Northeast Distant (NED) area, raised the sampling fraction to over 6 percent. Observer coverage in 2003 outside of the NED experimental fishery was approximately 6.5 percent with 100 percent observer coverage in the NED. From 2004 through 2006, observer coverage continued to grow, reaching 10% in 2005, 10.4% in 2006, and 10.7% in

2007. A description of the Pelagic Observer Program (POP), as it relates to the incidental take of sea turtles and marine mammals can be read in Garrison (2005).

Beginning in 2004, observers have been receiving training in seabird identification. Two training sessions involving approximately 28 observers were conducted in 2008. Line drawings of life-sized head profiles, as well as photos, colored pictures, and mounted birds borrowed from museums were used in the training. A bycatch form requiring information specific to birds was introduced into the POP in January 2007 for use in recording data on each bird caught. A data entry form has been prepared for entry of data from the bird form into an ACCESS database. Observers also are asked to photograph birds that are caught so that identifications can be confirmed by an expert. Fishermen are required to submit logbooks for every trip but are not required to report seabird bycatch.

The shark bottom longline fishery is active in the Atlantic Ocean from about the Mid-Atlantic Bight to south Florida and throughout the Gulf of Mexico. The objective of the bottom longline operation is to catch large coastal sharks, but small coastal sharks, pelagic sharks, and dogfish species are also caught. There currently are about 100 active vessels in this fishery, out of about 250 vessels that possess directed shark fishing permits (Hale and Carlson 2007)..

Observations of the bycatch of the Atlantic shark-directed bottom longline fishery started in 1994 and were conducted by the Commercial Shark Fishery Observer Program, Florida Museum of Natural History, University of Florida, Gainesville. Responsibility for the program was transferred to National Marine Fisheries Service, Southeast Fisheries Science Center, Panama City Laboratory (Florida) beginning in the 2nd trimester season of 2005. All vessels that have an active directed shark permit and fish with bottom longline gear are selected for coverage. Consequently, observers also board trips that target a combination of shark and grouper, and shark and tilefish.

The longline observer programs operated by the Southeast Fisheries Science Center have a consistent data collection protocol. The observer completes three data forms: Longline Gear Characteristic Log, Longline Haul Log, and Individual Animal Log. The Longline Gear Characteristic Log is used to record, for example, the type and length of mainline used, number and length of gangions, and make and model of hook. The Longline Haul Log is used to record the length, location, time, and duration for each set and haul-back, as well as environmental information and the type(s) of bait used. The Individual Animal Log records all species caught, condition of the catch (e.g. alive, dead, damaged, or unknown) when brought to the vessel, and final disposition of the catch (e.g. kept, released, finned, etc.). When an animal is brought onboard the vessel, the observer records the species identification, sex (sharks only), and length information. If a protected resource (e.g. sea bird, sea turtle, or marine mammal) is encountered, the observer is required to fill out additional form(s). If any species identification is questionable, the observer is instructed to take several digital pictures of the specimen for further review by SEFSC staff or contracted experts. Observers are contract staff. Data are submitted to SEFSC on a per trip basis, entered and reviewed by SEFSC staff, and reviewed with contract observer staff to resolve any questions.

Seabird Bycatch Assessment.

Atlantic pelagic longline fishery

From 1992 through 2007, a total of 141 seabird interactions were observed, with 101 seabirds (71.63 percent) observed killed, in the Western North Atlantic pelagic longline fishery. A total of 117 U.S. pelagic longline vessels operated in the Atlantic Ocean, Gulf of Mexico, and Caribbean Sea in 2007. Total logbook effort has been lower in recent years (1992-2007) than it was previously (1986-1991), however total logbook effort increased from 2006 to 2007, amounting to 8,840 sets, involving 1,507 trips.

Observed bycatch has ranged from 1 to 18 seabirds observed dead per year and 0 to 15 seabirds observed released alive per year from 1992 through 2007 (Table 1). In 2007, six great black-backed gulls were caught, and all of them were dead. All six were caught on the same trip on five sets. Through 2004, almost half of the seabirds observed (58) were not identified; however, beginning in 2005, observers have obtained species identification on all seabirds caught. Of those seabirds identified to family at least to family level, gulls represent the largest group (42), followed by shearwaters (32). Of those identified to species, there were 28 greater shearwaters, 8 northern gannets, 10 great black-backed gulls, and 8 herring gulls (Table 2). The shearwater taxa experienced the highest mortality (87.5 percent), followed by gulls (76.2 percent). Northern gannets had the lowest mortality rate (12.5 percent). Regionally, the highest number of birds caught was in the Mid-Atlantic Bight (MAB), followed by the Northeast

Coastal Area (NEC) (Table 3). Fewer birds were observed caught in Northeast Distant (NED) and the South Atlantic Bight (SAB), but mortality rates were higher in the SAB than in any other region. Fifteen of the 29 NED birds were reported caught in a special experimental program in which observers covered 100% of the pelagic longline effort. Seabird catches have been extremely low in the Gulf of Mexico (GOM)). Seabird catches have never been observed in the Caribbean (CAR), Florida East Coast (FEC), North-Central Atlantic (NCA), Sargasso Sea (SAR), Tuna-North (TUN), or Tuna-South (TUS) regions. The FEC has been closed to pelagic longline fishing since March, 2001 however fishery independent research vessels were operating in the area in 2007.

The distribution of effort among regions, as percent of total effort, varied somewhat between the two periods, 1986-1991 and 1992-2007, the percent in CAR and FEC declining and the percent in GOM, MAB, and SAB increasing (Table 4). The percent of effort in NCA, SAR, TUN, and TUS has always been low. The decline in percent effort in the FEC from the earlier to the later period was due to the closure of the FEC to longline effort beginning in March 2001.

Observer coverage, shown for 1992-2007 only (Table 5), is unevenly distributed across regions relative to longline effort, ranging from 7.23% in the NEC to 2.40% in the TUS. In the five areas where seabirds have been caught, the observer coverage for 1992-2007 has varied from 4.11 percent (in the NEC) to 17.59 percent (in the NED). The coverage in the NED is 6.51 percent if the 2001-2003 experiment is excluded. Thus the rate of seabird catches reported (Table 6) could potentially be affected not only by the distribution of seabirds relative to longline effort but also by the distribution of observer effort relative to longline effort. Experiments, in which observer coverage was 100%, were conducted 9 March-9 June 2007 in the GOM. An experiment with fishery-independent research vessels was conducted in 2007 in the FEC.

The delta-log normal method described by Yeung (1999), observer data for the period 1992-2004, and logbook data for the period 1992-2006 were used to estimate the bycatch, by species, or species group, and year, from 1992 to 2006 (Tables 7 and 8). As extrapolated, the seabird catch varied substantially among years and was highest in 1997. The extrapolated catch was relatively low in 2005 and 2006.

Current Seabird Mitigation Efforts

There are no specific mitigation efforts regarding seabird bycatch in the U.S. Atlantic pelagic longline fisheries; however management measures recently implemented to protect other species (Watson et al. 2005) may also provide protection for seabirds. Circle hooks became the required gear in summer 2004, replacing J-shaped hooks, which caught more turtles (Watson et al. 2005), and fewer birds may be caught on circle hooks than on J-shaped hooks (Hata and Browder, in review). Added weights may also reduce the bird bycatch (Hata and Browder, in review). Time/area closures for the pelagic longline fishery are in place in the Desoto Canyon area of GOM (since November 2000), in the FEC (since March 2001), in the Charleston Bump (seasonally, from February through April, since March 2001), in the NED, and in June in a strip off New Jersey in the MAB (since June 1999). In addition, there is a bottom longline time/area closure off North Carolina, effective from January-June, to protect juvenile and adult dusky sharks and juvenile sandbar sharks. Closures in areas of high use by birds may reduce opportunities for seabird interactions with the gear.

Conclusion

Specific mitigation measures for seabirds are not proposed at this time for either the pelagic longline fishery or the bottom longline shark fishery because the estimated seabird bycatch is relatively small—averaging about 210 per year since 1992 and only 40 per year for 2005-2007. While seabird catches are rare events in the fishery, they may have significant impacts on birds belonging to very small populations. Therefore it is critically important to accurately identify the birds that are caught. Therefore, NMFS intends to improve the accuracy and specificity of the seabird bycatch identified in the observer program. Present methods of extrapolating the bird bycatch from observer information to the full fleet are problematic because of the rarity of catch events and their tendency to be clustered. Therefore, NMFS will explore new methods for their potential use in estimating the total bird bycatch based on observer and logbook data.

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Table 1. **Seabird Bycatch in the U.S. Atlantic Pelagic Longline Fishery, 1992-2007**
Source: NMFS Pelagic longline fishery observer program (POP).

		Status	
Year	**Type of Bird**	**Alive**	**Dead**
1992	Gull		4
1992	Greater Shearwater		2
1993	Black-backed Gull	1	3
1993	Gull	1	
1993	Northern Gannet	4	
1994	Herring Gull		7
1994	Gull		4
1994	Greater Shearwater		4
1995	Gull	1	
1995	Northern Gannet	2	
1995	Storm Petrel		1
1995	Seabird		6
1997	Seabird	15	18
1998	Seabird		8
1999	Seabird		1
2000	Laughing Gull	1	
2000	Northern Gannet		1
2001	Greater Shearwater		8
2001	Seabird		1
2002	Laughing Gull		1
2002	Gull	6	1
2002	Northern Gannet	1	
2002	Greater Shearwater	1	4
2002	Shearwater		2
2002	Seabird	3	2
2003	Seabird	1	2
2004	Gull		5
2004	Greater Shearwater	1	4
2004	Seabird		1
2005	Herring Gull		1
2005	Cory's Shearwater		1
2005	Greater Shearwater	1	1
2006	Greater Shearwater		2
2006	Shearwater	1	
2007	Great Black-backed Gull		6
	Total	40	101

Note: This tabulation includes the 15 birds (5 alive, 10 dead) caught in the Northeast Distant (NED) Experiment, 2001-2003 (Watson et al. 2005).

Table 2. **Status of Seabird Bycatch in the U.S. Atlantic Pelagic Longline Fishery, 1992-2007.** Source: NMFS Pelagic longline fishery observer program (POP).

Species	Release Status Dead	Release Status Alive	Total	Percent Dead
Greater shearwater	25	3	28	89.29
Cory's shearwater	1		1	100.00
Unidentified shearwater	2	1	3	66.67
Herring gull	8		8	100.00
Great black-backed gull	9	1	10	90.00
Laughing gull	1	1	2	50.00
Unidentified gull	14	8	22	63.64
Northern gannet	1	7	8	12.50
Storm petrel	1		1	100.00
Unidentified seabird	39	19	58	67.24
Grand Total	101	40	141	71.63

Note: This table includes the 15 birds total, 10 dead) of the 2001-2003 NED Experiment (Watson et al. 2005).

Table 3. **Seabird bycatch in the U.S. Atlantic Pelagic Longline Fishery by area, 1992-2007.** Source: NMFS Pelagic longline fishery observer program (POP).

Region	All	Dead	Percent dead
CAR	0	0	
FEC	0	0	
GOM	2	1	50.00
MAB	62	50	80.65
NCA	0	0	
NEC	43	24	55.81
NED	17	12	70.59
SAB	17	14	82.35
SAR	0	0	
TUN	0	0	
TUS	0	0	
Total	141	101	71.63

CAR – Caribbean, FEC – Florida East Coastal, GOM - Gulf of Mexico, MAB - Mid Atlantic Bight, NCA – North Central Atlantic, NEC – Northeast Coastal, SAB - South Atlantic Bight, NED - Northeast Distant, SAB – South Atlantic Bight, SAR – Sargasso Sea, TUN – Tuna-North, TUS – Tuna-South

Note: This table includes the 15 birds total, 10 dead) of the 2001-2003 NED Experiment (Watson et al. 2005)

Table 4. ***Pelagic longline effort (number of sets), 1986-1991, 1992-2007, and total period, as number and percent in each region.***

Region	Number of sets		Percent of total	
	Period		Period	
	1986-1991	1992-2007	1986-1991	1992-2007
CAR	8,806	9,784	10.11	5.05
FEC	19,124	24,385	21.96	12.59
GOM	26,464	69,993	30.39	36.14
MAB	10,670	30,360	12.25	15.68
NCA	445	4,567	0.51	2.36
NEC	7,788	14,666	8.94	7.57
NED	6,928	10,343	7.96	5.34
SAB	5,395	21,386	6.20	11.04
SAR	308	1,834	0.35	0.95
TUN	582	2,321	0.67	1.20
TUS	174	1,456	0.20	0.75
UNK	397	2,551	0.46	1.32
Total	87,081	193,646	100.00	100.00

Note: This table includes the observed effort (1,225 sets) of the 2001-2003 NED Experiment (Watson et al. 2005)

Table 5. ***Observer coverage in relation to pelagic longline effort (sets), by region, 1992-2007, without and with NED Experiment of 2001-2003, in which observers covered 100% of effort.***

Region	Logbook sets (w/o NED 2001-2003)	Observed sets		Logbook sets (incl NED 2001-2003)	Observed sets	
		Number	Percent		Number	Percent
CAR	9,784	281	2.87	9,784	281	2.87
FEC	24,385	850	3.49	24,385	850	3.49
GOM	69,993	3,639	5.20	69,993	3,639	5.20
MAB	30,360	1,346	4.43	30,360	1,346	4.43
NCA	4,567	330	7.23	4,567	330	7.23
NEC	14,666	603	4.11	14,666	603	4.11
NED	9,118	594	6.51	10,343	1,819	17.59
SAB	21,386	922	4.31	21,386	922	4.31
SAR	1,834	112	6.11	1,834	112	6.11
TUN	2,321	56	2.41	2,321	56	2.41
TUS	1,456	35	2.40	1,456	35	2.40
UNK	2,551	0	0.00	2,551	0	0.00
Total	192,421	8,768	4.56	193,646	9,993	5.16

Note: In the NED Experiment, 2001-2003, observers covered 100% of effort, 1,225 sets.

Table 6. **Observed seabird catch rate in the U.S. Atlantic pelagic longline fishery, 1992-2007 (excluding the NED experiment of 2001-2003, in which coverage was 100%, differing from the rest of Pelagic Observer Program).**

			Number of seabirds		Number of occurrences		Catch rate	
Year	Sets	Hooks	All	Dead	All	Dead	per set	per 1000 hooks
1992	329	194,706	6	6	1	1	0.018	0.031
1993	817	526,501	9	3	5	2	0.011	0.017
1994	650	411,996	15	15	6	6	0.023	0.036
1995	686	472,105	10	7	6	5	0.015	0.021
1996	356	220,223	0	0	0	0	0	0
1997	451	311,520	33	18	11	8	0.073	0.106
1998	287	175,408	8	8	2	2	0.028	0.046
1999	424	285,083	1	1	1	1	0.002	0.004
2000	465	312,574	2	1	2	1	0.004	0.006
2001	398	284,198	8	8	4	4	0.02	0.028
2002	344	260,632	8	2	5	2	0.023	0.031
2003	551	427,575	2	1	2	1	0.004	0.005
2004	702	524,182	11	10	6	5	0.016	0.021
2005	796	577,354	4	3	3	2	0.005	0.007
2006	568	419,233	3	2	3	2	0.005	0.007
2007	944	734,110	6	6	5	5	0.006	0.008
Total	8,768	6,137,400	126	91	62	47	0.014	0.021

Table 7. Expanded estimates of seabird bycatch (alive and dead) in the U.S. Atlantic pelagic longline fishery, 1986-2007..

Taxa	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Ave.
Gulls	160	84	199	24					22		248		77	8		54	55
Gannets		83		48					22								10
Seabirds				140		1,109	380	28			36	39	6				109
Shearwaters	80		74							283			75	31	27		36
Storm-petrels				24													2
All	240	167	273	236	0	1,109	380	28	44	283	284	39	158	39	27	54	210

Table 8. Expanded estimates of dead seabird bycatch in the U.S. Atlantic pelagic longline fishery, 1986-2007.

Taxa	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Ave.
Gulls	160	50	199	0					0		36		77	8		54	37
Gannets		0		0					22								1
Seabirds				140		623	380	28			36	20	6				77
Shearwaters	80		74							283			61	19	16		33
Storm-petrels				24													2
All	240	50	273	164	0	623	380	28	22	283	72	20	144	27	16	54	150

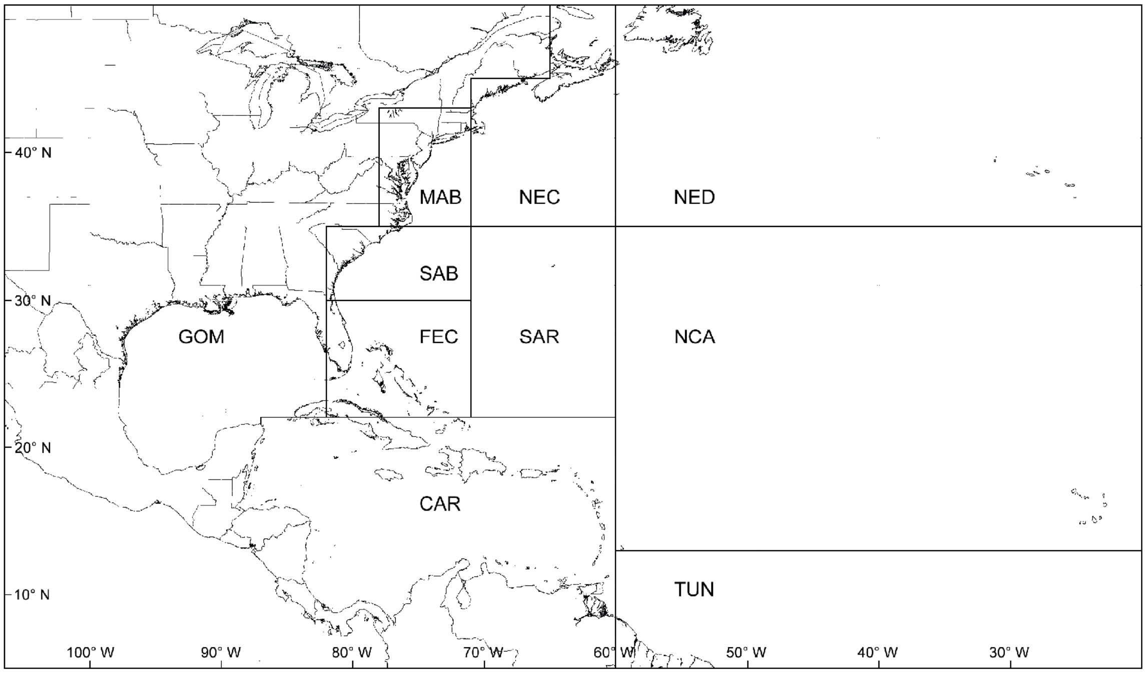

Figure 1. Map indicating National Marine Fisheries Service fishing regions used in analyses of pelagic longline data. The regions illustrated are: Caribbean (CAR), Gulf of Mexico (GOM), Florida East Coast (FEC), Middle Atlantic Bight (MAB), North-Central Atlantic (NCA), Northeast Coastal (NEC), Northeast Distant (NED), Sargasso Sea (SAR), South Atlantic Bight (SAB), and Tuna-North (TUN). The Tuna-South (TUS) region not depicted is south of the TUN.

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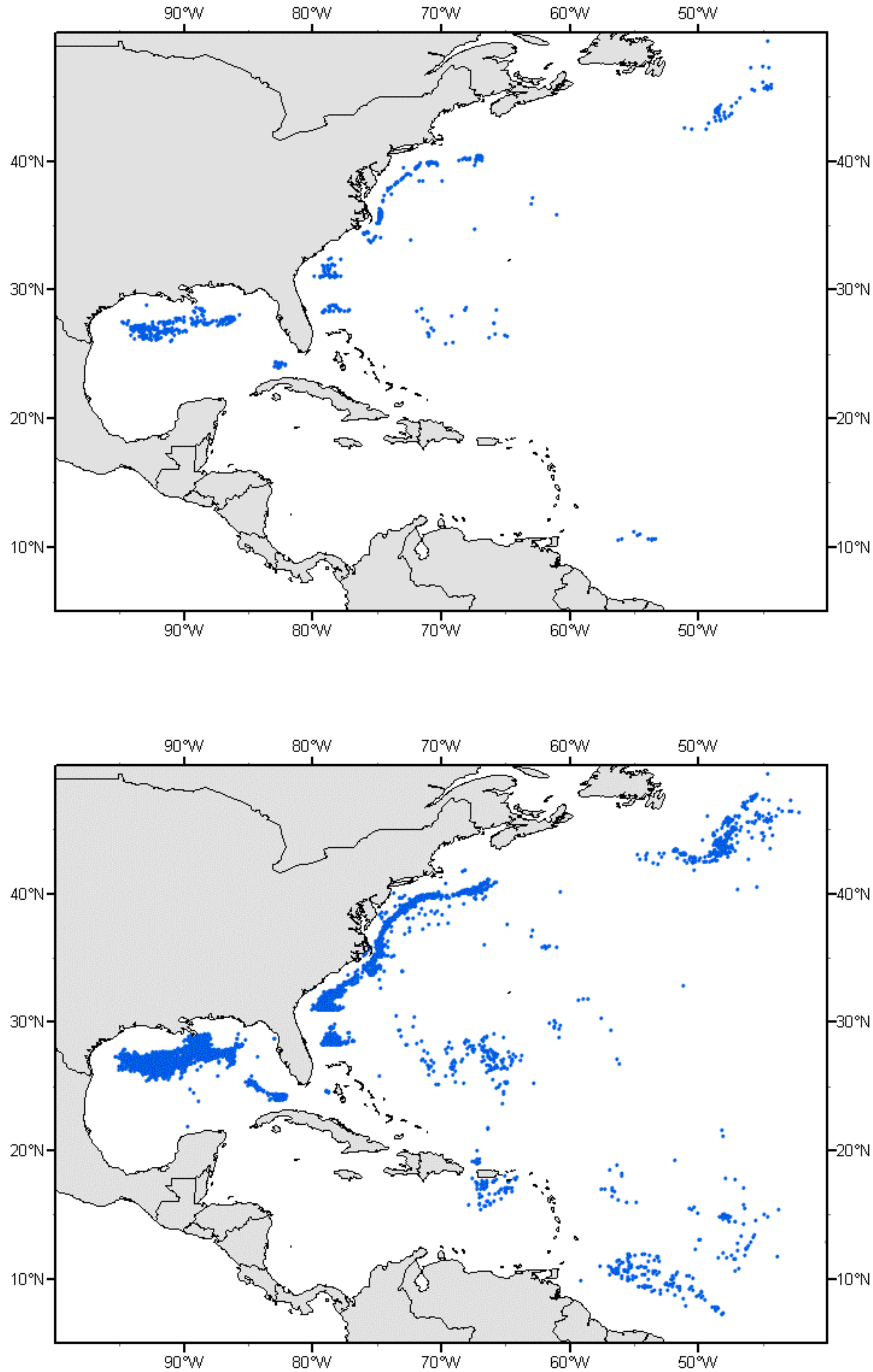
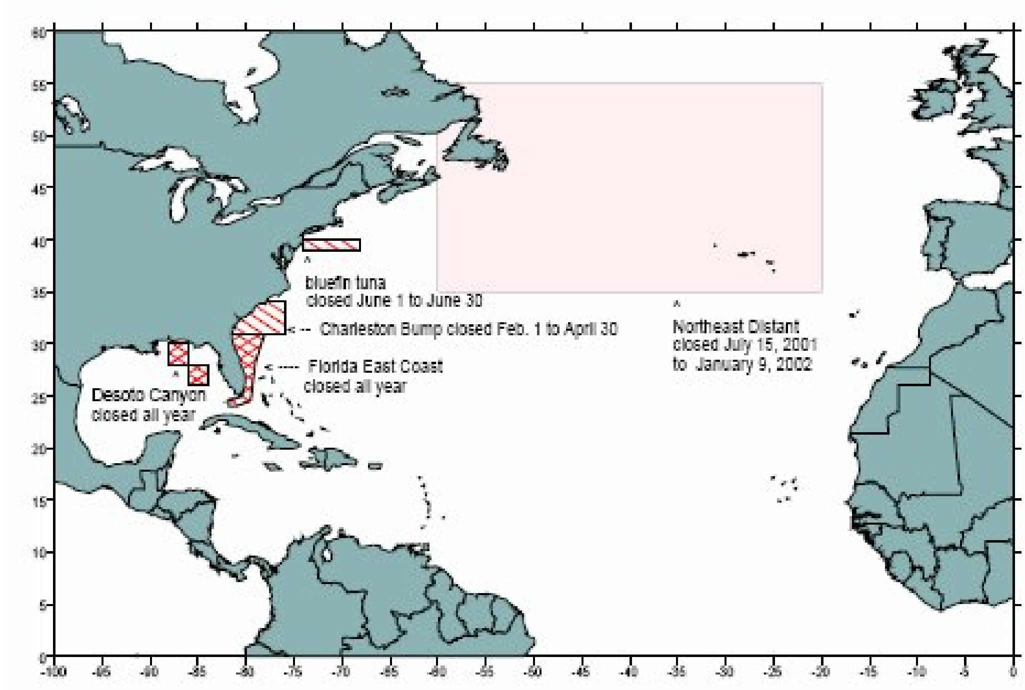


Appendix Figure 2.2 – *Position of longline sets as reported in logbooks (upper panel) and observed by the U.S. pelagic observer program (lower panel) in 2007.*



Appendix Figure 2.3- Time/area closures for the U.S. longline fishery in 2007. Note that the Northeast Distant area is currently open for fishing activities.

***Appendix*. *Affect of time/area closures on U.S. swordfish catch*.**
Beginning in the year, 2001, U.S pelagic longline fishing was prohibited or restricted in the five areas and times shown in Figure 1. The three southern areas, (Charleston Bump, Florida East Coast, and Desoto Canyon), were selected, at least in part, to reduce the catch of swordfish < 125 cm and other bycatch. The bluefin tuna area was closed primarily to reduce the catch of bluefin smaller than legal size for sale by U.S. fishers. Longline vessels were allowed to fish in the Northeast Distant area if they participated in a turtle study and carried an observer. In 2002 the Northeast Distant area was closed all year to vessels not participating in the turtle study but it was reopen to the entire fleet in 2004.

The number of longline vessels in the U.S. fishery targeting swordfish has declined steadily since the mid 1990's. Reported effort (hooks) declined initially but has remained fairly stable since 1998 (Table 1)**.** The percentage effort in hooks and the catch of swordfish < 125 cm in numbers (reported) and in metric tons (estimated) in 2005, 2006, and 2007 are compared to the average effort and catch from 1997 through 1999 (Table 2). There was some overall reduction in effort, reported in hooks fished. Some of the effort previously reported from the Florida East Coast fishing area appears to have redistributed into the Gulf of Mexico and up to the south Atlantic and Mid Atlantic Bights. The years 2005, 2006, and 2007 and the average (1997-1999) catch of swordfish < 125 cm in numbers (reported) and in metric tons (estimated) and effort in hooks are reported by area and time/area status in Table 3. Although the metric tons of swordfish < 125 cm estimated caught increased in some areas compared to the 1997-99 average, notably the Caribbean and the Gulf of Mexico, the overall change in estimates was a reduction of approximately 50% in the years since implementation**.**

Year	Vessels	Vessels that caught SWO	Vessels that caught SWO in 5 month period	Hooks reported
1988	388	338	210	7,009,358
1989	456	415	251	7,927,401
1990	419	363	209	7,500,095
1991	342	308	176	7,754,127
1992	340	304	184	9,076,717
1993	435	306	177	9,735,806
1994	501	306	176	10,351,805
1995	489	314	198	11,270,539
1996	367	275	194	10,944,660
1997	352	265	167	10,213,780
1998	288	233	139	8,120,273
1999	226	200	143	7,996,685
2000	206	185	135	8,158,390
2001	185	168	114	7,897,037
2002	149	140	107	7,107,958
2003	123	119	94	6,862,091
2004	117	114	96	7,345,048
2005	112	108	79	5,973,150
2006	103	102	77	5,764,251
2007	117	114	85	6,088,389

Table 1. *Numbers of Active Vessels.* "Vessels" indicates the number of vessels that submitted at least one positive fishing report during that year, "Vessels that caught SWO" corresponds to the number of vessel that reported catching at least one swordfish during that year and "Vessles that caught SWO in 5 month period" indicates the number of vessels that reported catching at least one swordfish per month in at least five months of that year. "Hooks Reported" includes all submitted logbooks whether or not they represented single pelagic longline sets, summary records, bottom longline records, or sets with less than 100 hooks fished.

	Number of SWO				Number of Hooks				Metric tons			
	Mean	2005	2006	2007	Mean	2005	2006	2007	Mean	2005	2006	2007
CAR	433	46%	13%	11%	235,268	71%	31%	14%	6	44%	12%	12%
FEC	2,488	6%	3%	7%	607,495	48%	35%	49%	37	3%	4%	2%
GOM	1,806	110%	91%	124%	2,822,528	92%	80%	85%	17	124%	90%	107%
MAB	1,195	89%	85%	118%	990,152	74%	99%	128%	18	89%	80%	123%
NEC	767	23%	20%	20%	754,283	42%	50%	42%	11	22%	20%	22%
NED	972	8%	8%	27%	496,306	86%	68%	56%	13	8%	90%	29%
SAB	2,394	51%	44%	66%	585,496	65%	69%	103%	39	50%	47%	67%

Table 2. Catch in numbers (reported) and in metric tons (estimated) of swordfish < 125 cm and reported number of hooks in years 2005-2007 by longline gear expressed as percentage of the mean from years 1997-1999 by area Caribbean (CAR), Florida East coast (FEC), Gulf of Mexico (GOM), Mid Atlantic Bight (MAB), Northeast Central (NEC), Northeast Distant (NED), and South Atlantic Bight (SAB).

		Number of SWO				Number of Hooks				Metric tons				Change in mt.		
		Mean	2005	2006	2007	Mean	2005	2006	2007	Mean	2005	2006	2007	2005	2006	
CAR	Open	433	199	58	48	235,268	166,830	72,934	32,650	6	3	1	0.8	-3	-5	-5
FEC	Closed	2,362	0	0	0	465,346	193,285	155,225	188,667	35	2	1	0.0	-35	-35	-35
FEC	Open	126	69	26	45	142,149	97,310	55,526	106,689	2	16	0	0.7	-1	-1	-1
GOM	Closed	1,019	2	5	10	234,433	5,980	3,020	5,250	10	0	0	0.1	-10	-10	-10
GOM	Open	787	1985	1,639	2,229	2,588,096	2,602,964	2,247,385	2,392,489	8	21	16	18.3	14	8	11
MAB	Open	1,194	1058	1,018	1,416	985,985	735,289	975,715	1,266,281	18	16	14	21.7	-2	-3	4
NEC	Closed	0	0	0	1	41,600	0	0	1,000	0	0	0	0.0	0	0	0
NEC	Open	760	177	157	154	726,550	315,617	376,399	313,296	11	2	2	2.4	-8	-9	-8
NED	Open	972	82	73	263	496,306	425,910	338,914	277,380	13	0	1	3.7	-12	-11	-9
SAB	Closed	935	0	3	26	214,186	1,360	1,420	6,947	15	0	0	0.4	-15	-15	-15
SAB	Open	1,459	1,225	1,060	1,552	371,310	378,246	403,595	593,542	23	19	18	25.3	-4	-6	2

Table 3. Catch in numbers (reported) and in metric tons (estimated) of swordfish < 125 cm and number of hooks reported by longline gear in year 2002-2004 and the average for years 1997-1999 by area Caribbean (CAR), Florida East coast (FEC), Gulf of Mexico (GOM), Mid Atlantic Bight (MAB), Northeast Central (NEC), Northeast Distant (NED), and South Atlantic Bight (SAB) and status of time/area closure.

Appendix Table 2.6a-SHK. Estimates of commercial and recreational landings and dead discards for pelagic sharks in the U.S. Atlantic, Gulf of Mexico, and Caribbean.

	Commercial					Recreational			Discards			Total		
Year	mt (ww)[1]	mt (dw)[2]	lb (dw)[3]	av. weight[4]	number[5]	number[6]	av. weight[7]	lb (dw)	number	mt (ww)	lb (dw)[8]	number	lb (dw)	mt (ww)
1981						12,603	50.035	630,591				12,603	630,591	561
1982	45.41	23.17	51,077		1,354	20,015	50.996	1,020,685				21,369	1,071,762	953
1983	51.89	26.48	58,367		1,627	21,968	117.64	2,584,316				23,595	2,642,683	2,349
1984	49.12	25.06	55,250		1,538	23,295	67.489	1,572,156				24,833	1,627,406	1,447
1985	57.99	29.59	65,227		1,969	92,998	38.224	3,554,756				94,967	3,619,982	3,218
1986	68.50	34.95	77,049		2,385	42,572	65.631	2,794,043				44,957	2,871,091	2,553
1987	87.46	44.62	98,375		2,786	37,153	39.002	1,449,041	13,092	560.64	630,606	53,031	2,178,022	1,936
1988	129.48	66.06	145,639		3,915	32,993	41.271	1,361,654	13,655	468.74	527,237	50,563	2,034,530	1,809
1989	141.36	72.12	159,001		4,937	18,255	73.228	1,336,777	13,480	538.21	605,376	36,672	2,101,155	1,868
1990	102.74	52.42	115,566		3,274	11,630	41.246	479,691	13,955	795.97	895,300	28,859	1,490,557	1,325
1991	114.32	58.33	128,587		3,290	10,070	62.061	624,954	17,232	813.21	914,695	30,592	1,668,236	1,483
1992	139.81	71.33	157,258	34.896	4,111	16,304	39.219	639,427	8,939	298.31	335,538	29,354	1,132,222	1,007
1993	387.30	197.60	435,638	26.133	5,278	29,162	50.988	1,486,912	30,545	1191.52	1,340,217	64,985	3,262,767	2,901
1994	513.46	261.97	577,535	24.003	6,688	5,638	68.28	384,963	13,410	637.71	717,294	25,736	1,679,791	1,493
1995	393.93	200.98	720,219	39.054	18,442	32,673	47.629	1,556,182	10,864	710.27	798,909	61,979	3,075,310	2,734
1996	402.03	205.12	760,364	68.569	11,089	18,534	33.697	624,540	22,153	949.22	1,067,682	51,776	2,452,586	2,180
1997	381.08	194.43	739,486	35.926	20,584	8,743	54.834	479,414	7,754	250.42	281,671	37,081	1,500,571	1,334
1998	267.07	136.26	624,483	66.054	9,454	11,762	35.977	423,161	6,002	280.09	315,044	27,218	1,362,688	1,211
1999	113.10	57.70	376,471	40.925	9,199	11,122	48.304	537,237	3,464	117.63	132,310	23,785	1,046,018	930
2000	191.15	97.53	407,647	35.402	11,515	13,353	16.749	223,649	7,495	216.13	243,102	32,363	874,399	777
2001	193.58	98.77	411,574	18.746	21,955	3,777	83.938	317,034	6,158	155.75	175,187	31,890	903,795	804
2002	174.06	88.81	533,247	18.450	28,902	4,673	87.152	407,261	2,330	143.30	161,179	35,905	1,101,687	979
2003	155.55	79.36	641,044	19.911	32,195	4,282	35.88	153,638	1,239	108.13	121,624	37,716	916,306	815
2004	203.61	103.88	808,791	33.874	23,876	5,052	55.796	281,881	3,748	153.42	172,566	32,676	1,263,239	1,123
2005	194.87	99.42	421,115	46.239	9,107	5,392	31.204	168,252	2,260	130.99	147,337	16,759	736,704	655
2006	134.49	68.62	270,212	33.056	8,174	16,053	66.229	1,063,174	1,834	147.08	165,435	26,061	1,498,821	1,333
2007	219.60	112.04	376,045	37.355	10,067	8,991	38.975	350,424	4,276	120.94	136,033	23,334	862,502	767

[1] In whole weight from weighout data sheets; [2] Whole weight to dressed weight conversion ratio is 1.96; [3] 1982-1994 data are from weighout data sheets, 1995-2007 data are the sum of the southeast quota monitoring program/southeast general canvass and the northeast general canvass/dealer weighout data; [4] In pounds dressed weight from the pelagic longline observer program; [5] 1982-1994 data are taken directly from weighout data sheets, 1995-2007 data obtained by dividing values in fourth column (lb dw) by those in fifth column (av. weight); [6] Almost all recreational landings are from the MRFSS survey; [7] In pounds dressed weight; [8] Whole weight to dressed weight conversion ratio is 1.96.

Appendix Table 2.6b-SHK. Estimates of commercial and recreational landings and dead discards for blue sharks in the U.S. Atlantic, Gulf of Mexico, and Caribbean.

	Commercial					Recreational			Discards			Total		
Year	mt (ww) [1]	mt (dw) [2]	lb (dw) [3]	av. weight [4]	number [5]	number [6]	av. weight [7]	lb (dw)	number	mt (ww)	lb (dw) [8]	number	lb (dw)	mt (ww)
1981						4,925	45.435	223,765				4,925	223,765	199
1982	0.00	0.00	0		0	0	45.435	0				0	0	0
1983	0.00	0.00	0		0	14,593	45.435	663,027				14,593	663,027	589
1984	0.00	0.00	0		0	2,579	45.435	117,176				2,579	117,176	104
1985	0.00	0.00	0		0	11,621	33.003	383,528				11,621	383,528	341
1986	0.40	0.20	450		6	18,898	66.182	1,250,707				18,904	1,251,157	1,112
1987	0.00	0.00	0		0	20,683	47.545	983,373	12,506	526.20	591,868	33,189	1,575,241	1,400
1988	0.10	0.05	112		4	12,235	32.62	399,106	12,934	421.16	473,719	25,173	872,937	776
1989	0.00	0.00	0		0	7,419	41.011	304,261	12,525	480.00	539,902	19,944	844,163	751
1990	0.25	0.13	286		6	1,745	56.134	97,954	13,141	741.33	833,845	14,892	932,084	829
1991	0.00	0.00	0		0	6,643	52.12	346,233	16,562	772.32	868,702	23,205	1,214,936	1,080
1992	0.47	0.24	529	16.100	14	5,853	41.191	241,091	7,043	184.39	207,401	12,910	449,021	399
1993	7.88	4.02	8,860	16.100	85	14,114	53.567	756,045	29,329	1136.33	1,278,139	43,528	2,043,044	1,816
1994	7.82	3.99	8,796	15.600	105	507	45.435	23,035	11,986	572.24	643,653	12,598	675,485	601
1995	3.61	1.84	7,162	19.400	369	464	45.435	21,082	9,725	618.15	695,293	10,558	723,536	643
1996	5.40	2.76	24,005	44.400	541	9,150	34.070	311,741	18,996	710.69	799,381	28,687	1,135,127	1,009
1997	1.42	0.72	2,491	28.700	87	4,236	55.740	236,115	6,614	184.61	207,643	10,937	446,249	397
1998	2.87	1.46	3,925	47.100	83	6,085	45.435	276,469	5,295	195.25	219,616	11,463	500,011	445
1999	0.16	0.08	1,048	19.900	53	5,218	45.435	237,078	2,772	98.96	111,310	8,043	349,435	311
2000	0.61	0.31	4,124	11.700	352	7,011	45.435	318,542	6,298	137.19	154,311	13,661	476,977	424
2001	3.09	1.58	3,548	10.500	338	950	45.435	43,163	5,219	105.87	119,082	6,507	165,793	147
2002	0.20	0.10	228	14.400	16	0	45.435	0	1,472	54.46	61,256	1,488	61,484	55
2003	1.43	0.73	7,932	15.200	522	376	45.435	17,083	645	16.12	18,132	1,543	43,147	38
2004	6.96	3.55	7,834	18.248	429	0	45.435	0	2,717	49.12	55,250	3,146	63,084	56
2005	1.78	0.91	2,006	13.516	148	31	45.435	1,408	1,407	52.06	58,557	1,586	61,971	55
2006	1.70	0.87	2,506	18.561	135	980	45.435	44,526	438	4.82	5,422	1,553	52,453	47
2007	0.59	0.30	661	16.586	40	1,622	45.435	73,695	3,554	45.14	50,773	5,216	125,129	111

[1] In whole weight from weighout data sheets; [2] Whole weight to dressed weight conversion ratio is 1.96; [3] 1982-1994 data are from weighout data sheets, 1995-2007 data are the sum of the southeast quota monitoring program/southeast general canvass and the northeast general canvass/dealer weighout data; [4] In pounds dressed weight from the pelagic longline observer program; [5] 1982-1994 data are taken directly from weighout data sheets, 1995-2007 data obtained by dividing values in fourth column (lb dw) by those in fifth column (av. weight); [6] Almost all recreational landings are from the MRFSS survey; [7] In pounds dressed weight; [8] Whole weight to dressed weight conversion ratio is 1.96.

Appendix Table 2.6c-SHK. Estimates of commercial and recreational landings and dead discards for shortfin makos in the U.S. Atlantic, Gulf of Mexico, and Caribbean.

	Commercial					Recreational			Discards			Total		
Year	**mt (ww) [1]**	**mt (dw) [2]**	**lb (dw) [3]**	**av. weight [4]**	**number [5]**	**number [6]**	**av. weight [7]**	**lb (dw)**	**number**	**mt (ww)**	**lb (dw) [8]**	**number**	**lb (dw)**	**mt (ww)**
1981						7,678	56.395	433,001				7,678	433,001	385
1982						13,522	50.996	689,568				13,522	689,568	613
1983						7,375	51.597	380,529				7,375	380,529	338
1984						15,474	67.531	1,044,975				15,474	1,044,975	929
1985						79,912	41.487	3,315,309				79,912	3,315,309	2,947
1986						20,792	70.107	1,457,665				20,792	1,457,665	1,296
1987						14,809	35.069	519,337			0	14,809	519,337	462
1988						19,998	44.693	893,771			0	19,998	893,771	795
1989						8,367	90.117	754,009			0	8,367	754,009	670
1990						8,509	35.483	301,925			0	8,509	301,925	268
1991						3,422	69.02	236,186			0	3,422	236,186	210
1992				64.400	3,782	8,382	33.589	281,543	437	25.57	28,761	12,601	310,304	276
1993	281.09	143.41	316,164	35.800	4,044	15,034	49.883	749,941	460	19.85	22,327	19,538	1,088,432	968
1994	324.66	165.64	365,177	39.100	4,623	4,496	79.296	356,515	487	18.03	20,280	9,606	741,972	660
1995	288.83	147.36	460,767	52.700	8,743	31,212	51.227	1,598,897	446	28.44	31,989	40,401	2,091,653	1,860
1996	238.05	121.46	427,020	87.000	4,908	8,618	30.265	260,824	0	0.00	0	13,526	687,844	612
1997	245.46	125.23	446,305	44.000	10,143	3,025	60.839	184,038	0	0.00	0	13,168	630,343	560
1998	199.76	101.92	401,491	72.600	5,530	5,633	29.590	166,680	0	0.00	0	11,163	568,171	505
1999	90.05	45.94	217,867	47.000	4,635	1,383	51.597	71,359	0	0.00	0	6,018	289,226	257
2000	166.74	85.07	286,764	44.200	6,488	5,813	51.597	299,934	0	0.00	0	12,301	586,698	522
2001	182.02	92.87	347,844	50.700	6,861	2,827	83.938	237,293	0	0.00	0	9,688	585,137	520
2002	165.59	84.48	314,736	38.900	8,091	3,206	87.152	279,409	0	0.00	0	11,297	594,145	528
2003	140.80	71.84	285,222	40.000	7,131	3,906	35.880	140,147	0	0.00	0	11,037	425,369	378
2004	188.31	96.07	392,628	40.023	9,810	5,052	55.796	281,881	0	0.00	0	14,862	674,509	600
2005	186.03	94.91	341,391	61.576	5,544	3,857	31.204	120,354	0	0.00	0	9,401	461,745	411
2006	129.67	66.16	232,757	37.556	6,198	3,352	53.232	178,434	0	0.00	0	9,550	411,191	366
2007	214.88	109.63	352,905	47.920	7,364	2,556	38.975	99,620	0	0.00	0	9,920	452,525	402

[1] In whole weight from weighout data sheets; [2] Whole weight to dressed weight conversion ratio is 1.96; [3] 1982-1994 data are from weighout data sheets, 1995-2007 data are the sum of the southeast quota monitoring program/southeast general canvass and the northeast general canvass/dealer weighout data; [4] In pounds dressed weight from the pelagic longline observer program; [5] 1982-1994 data are taken directly from weighout data sheets, 1995-2007 data obtained by dividing values in fourth column (lb dw) by those in fifth column (av. weight); [6] Almost all recreational landings are from the MRFSS survey; [7] In pounds dressed weight; [8] Whole weight to dressed weight conversion ratio is 1.96.

FORM: COMP-017-LSTLV

APPENDIX 3.6.1

MODEL FORMAT FOR ANNUAL REPORTING OF IMPLEMENTATION OF THE ICCAT MANAGEMENT STANDARD FOR LARGE-SCALE TUNA LONGLINE VESSELS

REPORTING FLAG.			
YEAR.			
REPORTING AGENCY	**PERSON IN CHARGE**		
ADDRESS	**TEL:**	**FAX:**	**EMAIL:**

a Management in the fishing grounds

	Surveillance & at-sea inspection by patrol boats	*Scientific Observer boarding*	*Satellite-based vessel monitoring system by management areas*	*Tags to differentiate catches by management areas*	*Real time catch report*	*Entry/Exit report*
Yes, No	YES	YES	YES	YES	YES	YES
Note	1140 boats (<65 feet) 148 cutters (>65 feet) 1288 total	10.8%	100% of pelagic longline vessels	Bluefin Tuna	Atlantic Bluefin Tuna	Vessel Logbook Program
Total number of patrol days at fishing grounds	2319.5 cutter days in support of domestic fisheries within U.S. Atlantic and Gulf of Mexico EEZ					

b Management of transshipment (from the fishing grounds to the landing ports)

	Transshipment report	*Port inspection*	*Statistical document program*
Yes, No	NO	YES	YES
Note	Transshipment Prohibited	As noted, transshipment is prohibited. However, the United States has port sampling agents stationed at major ports along its Atlantic and Gulf of Mexico coasts to collect biological samples and size frequency, age-at-length, catch per unit of effort, and catch composition data. Port samplers also routinely visit major fish dealers and randomly sample catches.	Bluefin Tuna Bigeye Tuna--frozen Swordfish

c. Management at landing ports

	Landing inspection	*Landing reporting*	*Cooperation with other Parties*
Yes, No	YES	YES	Yes
Note	Port Sampling Program. See <u>Table b</u> above for a more complete description.	Vessel Logbook Dealer Reporting Program	

APPENDIX 3.6.2

NOAA ENFORCEMENT ACTIONS TAKEN ON ICCAT SPECIES
1 September, 2007 – 31 August, 2008

During this reporting period, enforcement efforts consisted of dockside monitoring of offloads at major landing facilities in conjunction with dealer record checks, as well as at-sea boardings and visits to a limited number of concerned recreational marinas. Enforcement officials detected the following violations:

ENFORCEMENT ACTIONS	#
CASES OPENED THIS REPORTING PERIOD	**115**
REMAINING OPEN	**76**
CASES COMPLETED	**39**
WARNINGS ISSUED	**28**

<u>VIOLATION</u> **<u>CASE NUMBER</u>**

General Requirements of the Atlantic Tunas Convention Act (ATCA) and Magnuson-Stevens Act (MSFCMA) **14**

<u>General Prohibitions under the ATCA and MSFCMA to include:</u>

Falsification of permit application information **2**

Fishing, catching, possessing, retaining Atlantic Highly Migratory Species without a valid permit **14**

Purchase, receipt, transfer, or attempts to do so, for commercial purposes, Atlantic HMS landed by non-permitted vessels, or without a valid dealer permit.. **3**

Sale, transfer or attempted sale or transfer of Atlantic tuna, shark or swordfish to other than a permitted dealer **2**

Falsification or failure to record required information **8**

Falsification or failure to display and maintain vessel and gear Identification as specified **1**

Failure to comply with at-sea observer coverage requirements **2**

Fail to install, activate, repair or replace a VMS unit prior to leaving port **2**

Tamper with, or fail to operate and maintain a vessel monitoring system **2**

Failure to maintain an Atlantic HMS in the form specified **7**

Fish for, catch, retain or possess an Atlantic HMS at less than its specified minimum size limit **13**

Disposal of fish in any manner after approach by or communication from an authorized officer **1**

Land, transship, transport, purchase, sell, offer for sale, import, export, or have in custody possession or control any fish regulated pursuant to a recommendation of ICCAT that was harvested, retained, or possessed in a manner contrary to the regulations of another country **5**

Deploy or fish with any fishing gear from a vessel or anchor a fishing vessel required to be permitted, in any closed area **1**

Deploy or fish pelagic longline with live bait affixed to the hooks or use a live bait well in the Gulf of Mexico.. **6**

Failure to carry required sea turtle bycatch mitigation gear **6**

Fish with bottom or pelagic longline and shark gillnet gear while failing to adhere to gear operation or deployment restrictions **1**

Fish without being certified for completion of a NMFS protected species safe handling, release, and identification workshop.. **1**

Fish without having a valid protected species workshop certificate issued to the vessel owner and operator on board the vessel as required……………………………………………………………...**1**

Specific Prohibitions for Atlantic Tunas:

Fish for, retain, possess, or land a BFT when the fishery is closed …………………………………………….**1**

Fail to comply with the restrictions on sale and purchase of Atlantic tuna …………………………………….**1**

Exceeding the catch limit for BFT as specified for the appropriate permit category …………………………..**1**

Refusal to provide information requested by NMFS personnel, or collected on the behalf of NMFS …………**1**

Specific Prohibitions for Billfish:

Retain a billfish harvested by gear other than rod and reel, or retain a billfish without a valid angling or Charter/Headboat permit ………………………….....………......……………......…………..…………..**1**

Fail to maintain a billfish in the form specified …………………………………………………………………**2**

Unauthorized sale or purchase of a billfish …...…………………………...…………..……...……………...**2**

Fail to report a billfish as specified (vessel owner) …………………………………………………………...**1**

Specific Prohibitions for Sharks:

Exceeding a recreational retention limit for shark ………………………………………………………………**7**

Failure to maintain a shark in its proper form ………………………………………………………………...**1**

Sale or purchase of shark fins that are disproportionate to the weight of shark carcasses ………………………**1**

Retention, possession, take, purchase or sale of a prohibited shark ……………………………………………..**1**

Specific Prohibitions for Swordfish

Purchase or trade swordfish without a dealer permit …………………………………………………………….**1**

Prohibited transfer of swordfish at sea ……………………………………………………………………...**1**

Fail to comply with the restrictions on the sale and purchase of swordfish ……………………………………...**1**