

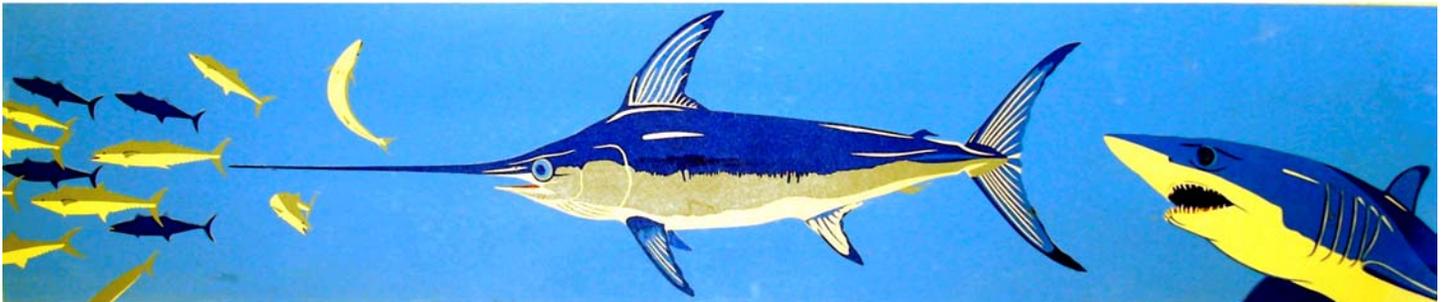


2002 and 2003

ANNUAL SUMMARY:

LARGE PELAGIC SPECIES

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U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
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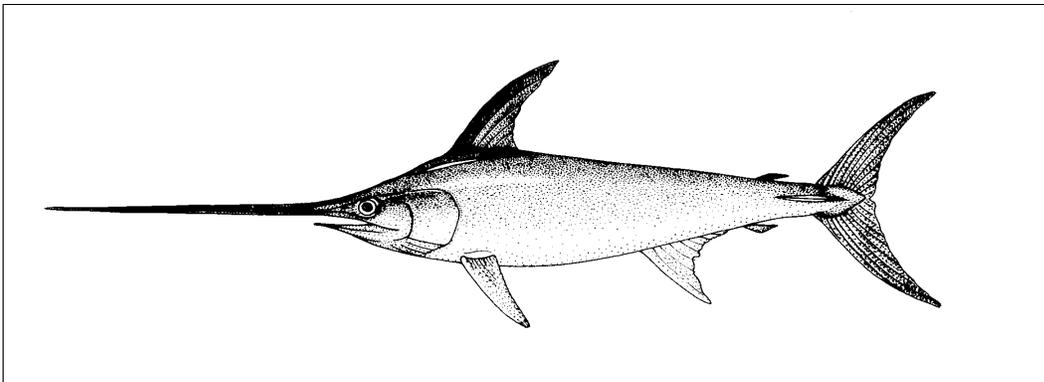
LARGE PELAGIC SPECIES

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February 2005

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INTRODUCTION

The National Marine Fisheries Service (NOAA Fisheries) is responsible for the conservation, protection and management of living marine resources within the 200-mile limits of the United States Exclusive Economic Zone. This stewardship role also extends to cooperation and coordination with other countries and nations that share marine resources that inhabit waters under the jurisdiction of multiple management authorities. One of the multi-national organizations that NOAA Fisheries participates in is the International Commission for the Conservation of Atlantic Tunas (ICCAT). This Commission has the responsibility for managing highly migratory species, such as swordfish, tunas, and sharks in the Atlantic.

Perhaps the most fundamental and important part of the stewardship responsibilities is the collection and processing of fisheries statistics for use in the conservation and management of the resources. Within NOAA Fisheries, these data collection tasks are delegated to various regions. In the Southeast Region, the Southeast Fisheries Science Center (SEFSC) has the responsibility to collect the catch, effort, landings, size frequency and cost information for the U.S. fisheries that harvest highly migratory species in the Atlantic Ocean, Gulf of Mexico and Caribbean. To accomplish these tasks, the SEFSC has established and manages a vessel logbook program, an observer program for at-sea sampling, and a tagging program. The SEFSC also cooperates with the Northeast Regional Office and the state fishery agencies to establish a comprehensive data collection program to report all landings of highly migratory species.

The purpose of this report is to present summaries of the data for Atlantic swordfish and tunas from these data collection programs. This is the thirteenth annual summary of these statistics that the SEFSC has prepared. The report contains data on swordfish landings, size frequency data, catch per unit effort and estimates of bycatch by the fleet of commercial longline vessels that catches these highly migratory species. The report also contains data from the tagging program and information on the cost and expenses that are incurred by large pelagic longline vessels. A review of the types of mandatory reporting required for vessels with commercial permits for swordfish and sharks, and mandatory reporting by dealers with federal permits for these fisheries is also presented.

SWORDFISH LANDINGS

Landings statistics are the quantities (usually recorded in pounds dressed weight) of fish or shellfish that are brought ashore and sold. Landings statistics do not include data on the amounts of the resources that are discarded or otherwise consumed (some species are used as bait) at sea. The landings statistics for swordfish and tunas caught in the North Atlantic (including the Gulf of Mexico and the Caribbean), defined as the area north of 5° N latitude, are compiled by the SEFSC from multiple sources, including the SEFSC's large pelagic logbook program, the NERO's weigh out data and landings statistics from the state fishery agencies along the Atlantic coast and Gulf of Mexico.

The monthly landings of swordfish from the U.S. commercial fleet in the North Atlantic for the period 1991 through 2003 are presented in Table 1. The total annual landings of swordfish from the North Atlantic, in thousands of pounds, for both dressed and whole weights are presented in Table 2. The landings of swordfish decreased each year from 1991 to 1994, increased slightly in 1995, decreased again from 1996 to 2001, and marginally increased in 2002 and 2003. Annual U.S. North Atlantic swordfish landings in years 1992-1994 and 1996-2003 were lower than landings in 1995. These lower levels are, in part, the result of changing abundance of swordfish, vessels leaving the fishery, minimum size

regulations, time/area closures and fishery closures when allowable landing levels for the directed fishery were achieved.

The locations of the fishing effort and catches of highly migratory species are critical information needed for fisheries management for these species. In summary, the area in the western North Atlantic north of 5° N latitude is divided into 10 distinct areas. A map showing these areas is presented as Figure 1. The areas are designated as CAR for the Caribbean, GOM for the Gulf of Mexico, FEC for the Florida East Coast, SAB for the area off of the U.S. Southeastern states, often referred to as the South Atlantic Bight, MAB for the area off the U.S. northern states, also referred to as the Mid Atlantic Bight, NEC for the area off the U.S. New England states known as the Northeast Coast, NED for the Northeast Distant, SAR for Sargasso Sea, NCA for the Central North Atlantic and TUN for the Tuna North. The distributions of the annual swordfish landings for the North Atlantic are presented as percentages for each of the 10 areas in Table 3 for 1998 through 2003. Perhaps the most noticeable change in the distribution of swordfish landings is the decrease in the percent for the Florida East Coast (FEC), and the increases in both the percentages for the Gulf of Mexico (GOM) and the U.S. Southeastern states (SAB). These distribution changes for all three areas are attributable to the Florida East Coast (FEC) now generally being closed to longline fishing.

SWORDFISH SIZE FREQUENCY

Data on the sizes of swordfish and tunas are collected by the SEFSC from the weigh-out or tally sheets that are prepared by the dealers. Tally sheets are a record of the individual weights of each fish as they are being offloaded. Fishermen are required to provide a copy of the tally for each trip along with their vessel logbook submissions. These data provide an excellent source of size frequency data for swordfish and other highly migratory species.

The distributions of the percentages of the annual landings of swordfish in dressed weight by size category are shown in Figure 2 for two time periods: 1991 -1992 and 2002 - 2003. The largest percentage occurred in 1990 (the year prior to minimum size regulations) when 35% of the swordfish landings weighed about 30 pounds. By 1992, the peak percent age of total landings decreased to about 30%, but the weight of these fish increased to about 60 pounds. The increase in the peak size category for swordfish between 1990 and 1992 is due to the promulgation of a 41 pound minimum size limit that was implemented in mid-1991. The size limit was further reduced in 1996 to about 33 pounds. Consequently, the peak percentages have increased for the period 2002-2003 (Figure 2).

The proportion of swordfish landed less than 41 pounds in size frequency samples from U.S. longline vessels (Figure 3a) decreased from 1991 through 1995, then increased from 1996-1998. In 1999, the numbers began to decline slightly, and in 2000 and 2001, they remained constant. However, these numbers showed an increase in 2002 and 2003. The initial decrease resulted from the minimum size measure implemented in mid 1991. The increase since 1996 is probably the result of lowering the minimum size from 41 pounds to approximately 33 pounds in mid-1996. The proportion of swordfish landed less than 33 pounds (dressed weight) from 1991-2003 is shown in Figure 3b. The percentages of landed fish below 33 lbs dressed weight were less than 0.1% in each area from 1998 through 2001. In 2002 and 2003, these percentages increased to 1% and 2%, respectively.

The distributions in the landed catches of small swordfish by area are presented in Tables 4 and 5. The total percentage of swordfish landings below 41 pounds are shown in the far right column of Table 4. The total percentages decrease significantly between 1991 and 1992, but have increased in recent years to about 20%. The distributions of the landings of swordfish less than 41 pounds by area are shown in the

remaining columns of Table 4. Because of the low percentages, the percentages for U.S. Southeastern states (SAB), the Central North Atlantic (NCA), Tuna North and Tuna South are combined with the percents for the Caribbean (CAR). The percents in the area columns add to the total percent for the year.

The percentages of the swordfish landings that are less than 41 pounds (dressed weight) within each area are presented in Table 5. The percentages in this table show the proportion of the landings that were below 41 pounds for the respective areas. For example, in 1989 27% of the swordfish landings in the CAR area were less than 41 pounds (Table 5), while the landings less than 41 pounds from the CAR represented about 5% of the total landings of swordfish (Table 4). The percents in Table 5 show decreases in most areas between 1991 and 1995, but increases from 1996 to 1998, declining in 2000 and 2001, and remaining steady in 2002 and 2003. The highest numbers of small swordfish landed in 2002 and 2003 are from the SAB region (Table 5).

CATCH PER UNIT EFFORT

Although landings statistics are an essential part of the stock assessment and resource management process, the amount and location of fishing effort, as well as the efficiency measure of catch per unit effort, are also critical fisheries data. The effort measurement that is used for this report is numbers of hooks, and the catch per unit effort (CPUE) measurement is numbers of fish per hook. The SEFSC's pelagic longline logbook program is the principal source of catch and effort data for swordfish and yellowfin tuna. Fishermen are asked (required) to report the numbers of fish kept, the numbers of fish discarded, perceived condition of the discards (alive or dead), along with the numbers of hooks for each longline set. Summaries of these data are presented in Table 6a through Table 6d for 2000-2003, respectively. The numbers of fish reported kept, discarded alive, and discarded dead are shown as percentages in this table and are summarized by the eleven areas in the North Atlantic (see Figure 1 for area designations).

The totals reported in Tables 6a-d are different from the totals given in table 7a-d because different criteria were utilized in selecting the records used for each. Tables 6 a-d represents all longline records, except summary report, filed by longline vessels. Tables 7 a-d represents data from pelagic longline vessels only, including summary reports.

The CPUE averages in this report are considered to represent nominal CPUE. That is, no attempt has been made to standardize the data for factors not related to fish abundance, but known to affect the CPUE values. Analyses to standardize CPUE are conducted as part of the stock assessments performed by International Commission for the Conservation of Atlantic Tunas (ICATT) scientists and are not reported here.

Average annual CPUE's for yellowfin tuna are consistently high and increased in the Gulf of Mexico (GOM) from 1996 through 1998 (Bertolino et. al, 2003). Yellowfin CPUEs in the Gulf decreased slightly in 1999 (Bertolino et. al, 2003) and continued to decrease in 2000 and 2001 (Table 6a & 6b). In 2002, the highest yellowfin CPUE (approximately 1.4 fish/100 hooks) reported since 2000 is in the GOM (Table 6c). In 2003, the CPUE for yellowfin in the GOM dropped to approximately 1.0 fish/100 hooks (Table 6d).

The locations of fishing effort (numbers of trips) by the U.S. commercial pelagic longline fleet, as reported to the SEFSC's logbook program, are shown in Figures 4a through 4d for 2000-2003, respectively. Some of the notable trends in this effort include movement of some effort into the North Central Atlantic area (NCA) since 2001, as well as a more evenly distributed effort throughout the

Sargasso (SAR) and Tuna North areas (TUN). Although the Northeast Distant area (NED) was closed to U.S. commercial longline fishing July 15, 2001, the density of effort has increased in the NED since 2001 due to a three-year experimental fishery project that took place during the summer/fall of 2001, 2002 and 2003. The NED Experimental Fishery is discussed in more detail in a later section of this report. The decrease in longline fishing effort off the Florida East Coast was due to the time/area closure of the FEC and may explain some of the increased effort seen for swordfish and yellowfin tuna in the South Atlantic Bight (SAB) and Gulf of Mexico (see Tables 6c - 6d). Fishing effort reported by U.S. flag vessels operating under charter in 2001 shifted from the West African coast to the southern Indian Ocean in 2002 (Figure 4b – 4c).

Fishermen reported catches of approximately 71,000, 55,000, 60,000 and 53,000 yellowfin tuna for the four-year period, 2000-2003. This four-year trend in numbers of yellowfin tuna shows a decrease of approximately 23% from 2000 to 2001, an increase of approximately 9% from 2001 to 2002, and a decline of approximately 11% from 2002 to 2003 (Tables 7a-7d). In the Gulf of Mexico (GOM), the reported catches in numbers of yellowfin tuna increased annually from 1990 through 1992 and decreased annually from 1993-1995; whereas, reported catches in this area increased annually from 1996 through 1999, with the exception of a slight decrease in 1998 (Bertolino et. al, 2003). Yellowfin tuna catches decreased in 2000 and 2001. In 2002, yellowfin tuna catches in the Gulf of Mexico showed a marked increase from the previous two years, before declining again in 2003 (Tables 7a-7d).

In 2000, there were approximately 77,500 swordfish caught, as reported from longline logbook data (where caught is defined as the number kept + number discarded) (Table 7a). There were approximately 60,300 swordfish reported in 2001, 59,800 reported in 2002, and 63,700 reported in 2003 (preliminary) (Table 7b-7d). With the exception of a slight increase in 1998 (Bertolino et. al, 2003), reported swordfish catches have declined annually from 1995 to 2002. In 2003, annual reported swordfish catch showed an increase by approximately 6% from the previous year. The reported fishing effort for 2000-2003 was roughly 7.6, 7.5, 7.0 and 7.2 (preliminary) million hooks, respectively (Tables 7a-7d). The number of reported hooks decreased by 7% in 2002 compared to 2001, while the preliminary number of reported hooks increased by approximately 2% in 2003 when compared to 2002.

BYCATCH ESTIMATION

Bycatch is defined as the discarded catch, retained incidental catch and unobserved mortality of any living marine resource due to a direct encounter with fishing gear (NMFS, 1998). With few exceptions, most commercial and recreational fisheries have an associated bycatch. When the bycatch includes endangered species, regulations are made to reduce or eliminate the bycatch as required by the Magnuson-Stevens Fishery Conservation and Management Act, the Endangered Species Act, the Marine Mammal Protection Act and the Migratory Bird Treaty. In 1996, attention was focused on bycatch with the passage of the Sustainable Fisheries Act which calls for additional research and efforts to reduce bycatch and bycatch mortality when gear interactions are unavoidable.

The observer and logbook records were used to estimate the number of dead discarded fish. In 2002, the number of dead discards include: swordfish (25,000); blue marlin (860); white marlin (1,730); sailfish (480); coastal sharks (2,400); blue sharks (4,300); and pelagic sharks (1,000). The estimated number of dead discards for 2003 are as follows: swordfish (22,600); blue marlin (400); white marlin (870); sailfish (280); coastal sharks (3,500); blue sharks (3,360); and pelagic sharks (980).

REGULATIONS

Regulations that affect pelagic longline fishing for highly migratory species during 2002 and 2003 include: 1- prohibition of the use of live bait on longline gear in the Gulf of Mexico; 2- the requirement to have on board and to use a dipnet and a line clipper to reduce mortality of captured sea turtles and 3- time area closures in the five statistical reporting areas as defined in Figure 5 and described below.

- 1.) The Northeast Distant (NED) area, which includes the Grand Banks, has been closed to U.S. commercial longliners since July 15, 2001. This area is bounded by the following coordinates: 45° 00' N. lat., 49° 00' W. long.; 45° 00' N. lat., 43° 00' W. long.; 43° 00' N. lat., 43° 00' W. long.; 43° 00' N. lat., 47° 00' W. long.; 41° 00' N. lat., 47° 00' W. long.; and 41° 00' N. lat., 49° 00' W. long.
- 2.) The bluefin tuna area is closed during the month of June as of June 1, 1999. This area is a rectangle bounded by the coordinates: 40° 00' N. lat., 68° 00' W. long.; 40° 00' N. lat., 74° 00' W. long.; 39° 00' N. lat., 74° 00' W. long.; and 39° 00' N. lat., 68° 00' W. long.
- 3.) The Charleston Bump area was closed March 1, 2001, through April 30, 2001 (closed February 1 to April 30 thereafter). This area includes the Atlantic Ocean area seaward of the inner boundary of the U.S. EEZ from a point intersecting the inner boundary of the U.S. EEZ at 34° 00' N. lat. near Wilmington Beach, North Carolina, and proceeding due east to connect by straight lines the following coordinates in the order stated: 34° 00' N. lat., 76° 00' W. long.; 31° 00' N. lat., 76° 00' W. long.; then proceeding due west to intersect the inner boundary of the U.S. EEZ at 31° 00' N. lat. near Jekyll Island, Georgia.
- 4.) The Florida East Coast area was closed year-round effective March 1, 2001. This area includes the Atlantic Ocean area seaward of the U.S. EEZ from a point intersecting the inner boundary of the U.S. EEZ at 31° 00' N. lat. near Jekyll Island, Georgia, and proceeding due east to connect by straight lines the following coordinates in the order stated: 31° 00' N. lat., 78° 00' W. long.; 28° 17' N. lat., 79° 12' W. long.; then proceeding along the outer boundary of the EEZ to the intersection of the EEZ with 24° 00' N. lat., then proceeding due west to the following coordinates: 24° 00' N. lat., 81° 47' W. long.; then proceeding due north to intersect the inner boundary of the U.S. EEZ at 81° 47' W. long. near Key West, Florida. (The graphic representation of this area is approximate.)
- 5.) The DeSoto Canyon area is closed year-round as of November 1, 2000. This area, composed of two squares offshore of the west coast of Florida, is defined as the area within the following coordinates: 30° 00' N. lat., 88° 00' W. long.; 30° 00' N. lat., 86° 00' W. long.; 28° 00' N. lat., 86° 00' W. long.; 28° 00' N. lat., 84° 00' W. long.; 26° 00' N. lat., 84° 00' W. long.; 26° 00' N. lat., 86° 00' W. long.; 28° 00' N. lat., 86° 00' W. long.; 28° 00' N. lat., 88° 00' W. long.; 30° 00' N. lat., 88° 00' W. long.

ECONOMIC DATA REPORTING

In 2003, NOAA Fisheries began mandatory collection of cost-earnings information from selected commercial fishermen fishing in the shark and swordfish fisheries. These cost-earnings data are collected on a trip basis (e.g., the price and amount of fuel, bait, lightsticks, ice, and groceries used per trip, the total cost of the trip, the number of crew, the shares the owner, captain, and crew obtained from the trip) and on an annual basis (e.g., cost of repairs and maintenance, all fishing supplies, insurance, purchase of capital, boat dockage, loan payments, and business taxes). These economic data are needed to accurately assess the economic impacts of proposed fishery management regulations on fishermen and their

communities as required by domestic laws including the National Environmental Policy Act (NEPA), Executive Order (E.O.) 12866, the Regulatory Flexibility Act (RFA), and National Standards 7 and 8 of the Magnuson-Stevens Fishery Conservation and Management Act. This economic information collection will allow NOAA Fisheries to better achieve resource conservation goals while mitigating economic impact on the fishermen, the vessel services sector, and dependent communities.

Mandatory collection of trip-specific cost-earnings data is preferable to aggregate annual data for most information because these vessels fish in different areas, use different fishing strategies throughout the year, and target different species during different trips (e.g., swordfish, yellowfin tuna, bigeye tuna, or a mix). These different fishing strategies can result in significant differences in operating costs and gross receipts across trips for the same vessel. Overall, trip level economic data will improve estimates of profitability and cash flow, necessary elements for the regulatory impact analyses required by RFA and E.O. 12866. In addition, these data will improve estimates of the net benefits associated with different fishing areas, which is crucial for assessing effects of area and seasonal closures on fishermen.

At the end of each year, NOAA Fisheries selects, for the following year, 20 percent of the shark and swordfish fishermen to submit this information for all their trips. The selection process is at random and is similar to the process used to select vessels for observer coverage. All fishermen who hold a current directed shark or swordfish permit at the time of the selection and who have reported landing swordfish or sharks in the past are eligible to be selected. The selection process also takes into account effort in the fishery by area. Therefore, areas that have more effort will have more vessels selected to submit this information.

At this time, due to the random nature of the selection program, fishermen who have been submitting this information in the current year may also be selected for the following year. While some degree of overlap is desirable for analytical purposes, in a few years, NOAA Fisheries may decide to exempt fishing vessels that have been selected a number of years in a row. NOAA Fisheries is also considering methods of requiring a similar collection of information from fishermen who hold a Highly Migratory Species (HMS) charter/headboat permit or other HMS permit. For more information about this information collection program, please contact Heather Stirratt or Karyl Brewster-Geisz at (301) 713-2347.

PELAGIC OBSERVER PROGRAM (POP)

The SEFSC continues to conduct scientific observer sampling of the U.S. pelagic fisheries longline fleet, as mandated by the Highly Migratory Species Fisheries Management Plan. Scientific observers are placed aboard vessels participating in the North Atlantic, Gulf of Mexico, and Caribbean large pelagic fisheries. From 1992-2001, the objective of the POP was to cover a 5% cross section of the fishing effort in each statistical reporting area during each of the four calendar quarters of the year. In 2002, the target observer coverage rate was increased to 8%.

Observers placed on board vessels record detailed information regarding gear characteristics, location and time when the gear is set and retrieved, environmental conditions, condition and status of animals caught by the gear (alive or dead; kept or discarded), morphometric measurements (length and weight) and also sex identification when possible.

Observers also record the occasional incidental interaction of marine mammals, sea turtles and sea birds. The collection of biological samples (anal fins, heads, reproductive tissue, vertebral centrae, etc.) from some species are used to support research studies to learn more about fish biology and general life history behavior.

Of the approximately 194,000 fish and protected species recorded by POP observers from 1992-2003 and summarized in various species groups (Figure 6), swordfish was the most frequently caught at approximately 27% of the total catch.

NED EXPERIMENTAL FISHERY

Loggerhead (*Caretta caretta*) and leatherback (*Dermochelys coriacea*) turtles are some of the most common turtle species found in the Northeast Distant (NED) waters of the western North Atlantic, which includes the highly productive fishing grounds of the Grand Banks. Because of the growing concerns about these species interacting with longline fishing gear and the potential impact on sea turtle population recovery, this significant body of water (approximately 26 million square nautical miles) was closed to the U.S. pelagic longline fleet in 2001.

Under special permit authority, NOAA Fisheries, in cooperation with Blue Water Fisherman's Association, conducted a 3 year experimental project (2001-2003) in the NED statistical reporting area to evaluate sea turtle mitigation measures and post-hooking mortality criteria developed for pelagic longline fisheries. The experiment tested several gear modifications that may reduce the rate of interaction and limit the severity of injury to marine turtles incidentally captured by the gear while at the same time minimizing loss of targeted catch. The gear modifications tested included type of baits used (mackerel versus squid), type of hooks used (J-hook versus various sizes of circle hooks), as well as the positioning of gangions relative to surface floats (under floats and away from floats).

During the three-year experiment, 100% observer coverage was mandatory. POP observers spent 2,591 days at sea and recorded data from 1,214 sets made by the 8-14 U.S. pelagic longline vessels participating in the experimental project each year (Watson et. al, 2004). Results of the 2001 and 2002 experiments, and provisional results of the experiment conducted in year 2003, have been made available on the NOAA Fisheries, Pascagoula Laboratory website: (www.mslabs.noaa.gov/mslabs/docs/pubs.html).

Most observed sea turtle deaths that could be attributed to commercial fishing gear were the result of either the gear not being removed from the turtle or gear that was removed improperly. To avoid these situations, NOAA Fisheries, private industry and commercial fishers have developed effective tools (turtle tethers, line cutters and dehookers) to remove hooks and line safely from sea turtles accidentally caught on longline gear.

2003 HIGHLIGHTS FROM THE COOPERATIVE TAGGING CENTER

The Cooperative Tagging Center (CTC), which is located within the SEFSC, was formed in 1992 in response to the expansion of tag release and recapture activities, data requests from other tagging agencies, and domestic and international tagging research needs. The CTC encompasses a variety of functions and is responsible for compiling tagging data reported to its' voluntary tagging program and permanently maintaining it in a computer database called the Cooperative Tagging System (CTS). Although all tagging data received are entered into the CTS, highly migratory species (particularly billfish, swordfish and tuna) have always been the primary targets for the tagging program. The CTC also participates in other research projects such as tag development and performance research.

SWORDFISH

During 2003, fishermen reported tagging and releasing a total of 189 swordfish. Of these swordfish, one was caught with the use of hand lines, 11 were caught using longline gear, 157 were caught using rod and reel gear, and 20 were caught with no gear type listed.

In addition, fishermen reported catching 5 swordfish that had previously been tagged and reported to the CTC. One was recovered with the use of longline gear and 4 were recovered with the use of rod and reel gear. The longest time at-large recorded was 3,583 days (9.81 years) for a swordfish initially released on 3/24/1993 in the Gulf of Mexico off of Naples, Florida (25°N x 84°W) and recaptured on 1/14/2003, off of Fowey Rocks, Miami, Florida (25° N x 80°W). One other recaptured swordfish was reported at large for 3,070 days (8.41 years). The longest distance traveled was approximately 1,000 miles and was recorded for a swordfish tagged in the waters offshore of Virginia and recaptured in the Straits of Florida. This swordfish was at large for approximately 1,601 days (4.38 years).

WHITE MARLIN

Of the 197 white marlin tagged and released in 2003, nine were caught using longline gear, 183 were caught using rod and reel gear, and 5 had no capture gear type listed.

During 2003, three previously tagged white marlin were recaptured and reported to the CTC. One was recovered using rod and reel gear and the other two had no gear type listed but were probably taken with commercial grade gear due to the location of recapture. Although there were only three tagged white marlin recovered, the movement patterns exhibited by each was interesting. The longest period at large reported for 2003 and was 760 days (2.08 years) for a white marlin that only moved approximately twenty miles from initial release location off Virginia (37° x 74°W). Another white marlin was tagged off Virginia and recaptured 150 days later near Grand Cayman (20.7°N x 80.1°W), traveling approximately 2,000 miles in less than half a year. The most remarkable recapture was a white marlin tagged off of Venezuela (10.3°N x 60.6°W) on 11/28/2002 and 70 days later was recaptured off of the Ivory Coast, Africa (06.4°N x 01.4°W), representing a transoceanic movement of approximately 4,500 miles.

SAILFISH

Of the 3,001 tagged and released sailfish reported to the CTC during 2003, 2,108 were caught using rod and reel while 893 were caught with no gear type listed.

Twenty-one sailfish were recaptured during 2003. One sailfish was recaptured using harpoon and fourteen using rod and reel. Although 6 recaptures had no gear type listed, several of these were recovered in waters normally fished with rod and reel gear. Thirteen of the recaptures were caught within 50 miles of the initial release location. However, one sailfish traveled from the waters off of Virginia to Grand Cayman Island in the Caribbean (~1,800 NM) in 128 days (0.35 years). Another sailfish traveled from North Daytona Beach, Florida to the northern tip of Yucatan, Mexico (~1,500 NM) and was at large for 731 days (2.00 years). The longest time at large reported during 2003 was recorded for a sailfish that was initially tagged off of North Key Largo, Florida, and recaptured off of South Elliott Key, Florida, after a period of 2,536 days (6.94 years) and represented a distance of approximately 4 miles.

BLUE MARLIN

There were 962 blue marlin tagged and released in 2003. Of the blue marlin that were tagged and released, five were caught using longline gear, 903 were caught using rod and reel, and 54 had no gear type listed.

There were six blue marlin recaptures reported to the CTC during 2003. At least 83% of the recaptured fish were initially released from a capture event through the use of recreational gear while at least 67% were recaptured with commercial gear. All animals were recaptured in the region where they had been initially released and were at large 544 days (1.49 years) to 1049 days (2.87 years). Their distance traveled ranged from less than 25 miles to roughly 450 miles.

ATLANTIC BLUEFIN TUNA

There were 414 Atlantic bluefin tuna tagged and released in 2003 and all were caught using rod and reel gear.

Of the fourteen Atlantic bluefin tunas that were recaptured during 2003, two were recovered using longline gear, one was recovered with a purse seine, eight were recovered with rod and reel gear, one was recovered with a spear and two had no capture gear listed. The longest time at large reported in 2003 was 3,600 days (9.85 years) for an Atlantic bluefin tuna that traveled from Virginia to Nova Scotia. The shortest time at large was 435 days (1.19 years) where the animal was recaptured in the same general area of initial release location and subsequently retagged with an HM series tag.

There were five fish recaptured off Virginia in the same general area of initial release. Two recaptures moved from Virginia to Nova Scotia and two more moved from New York to Virginia. The longest distance traveled was a fish that moved from North Carolina waters to the Western Gulf of Mexico (1900 miles) after 7.21 years. There were two recaptures that moved from Virginia waters to the mid-Atlantic Ocean. One Atlantic bluefin tuna tagged initially off North Carolina with an electronic archival tag was recaptured in the western Mediterranean Sea. It had traveled 4,250 miles in 1.44 years. There was one other fish recaptured that had initially been tagged with an electronic archival tag and it moved from North Carolina to Virginia waters.

YELLOWFIN TUNA

All 171 yellowfin tuna tagged and released in 2003 were caught using rod and reel gear.

All six yellowfin tuna recaptured during 2003 were recovered using rod and reel gear. The longest time at-large reported in 2003 was for a yellowfin tuna recaptured in Virginia waters that had stayed within 100 miles of its initial release location after 404 days (1.11 years). The shortest time at-large reported in 2003 was 28 days (0.08 years) for a yellowfin tuna recaptured in Virginia waters that traveled only 45 miles (approximate) from its initial release location. Three of the other recaptures were recorded within 5 miles of initial release location while the longest movement recorded was a recapture that traveled from waters off of Texas to Louisiana, approximately 400 miles.

INTERNATIONAL COMMISSION FOR THE CONSERVATION OF ATLANTIC TUNAS (ICCAT) STOCK ASSESSMENTS

The following is an overview of the results of stock assessments conducted by the International Commission for the Conservation of Atlantic Tunas (ICCAT) for swordfish, albacore tuna, bigeye tuna, and yellowfin tuna. The latest assessment of North and South Atlantic swordfish stocks was conducted in 2002. The outlook for the South Atlantic stock is that it is fully fished. The North Atlantic stock was overfished and is in recovery. A new stock assessment was conducted for the South Atlantic stock of albacore tuna in 2003. It was concluded that this stock was not overfished. The most recent North Atlantic albacore stock assessment was conducted in 2000. It was concluded that this stock was overfished and that overfishing was occurring. A bigeye tuna stock assessment was conducted in 2002. The outlook for this stock is that it may be overfished and that overfishing was occurring. This assessment was hampered by the lack of detailed information from some of the major fisheries operating in the Atlantic. A new stock assessment was completed in 2003 for yellowfin tuna using the available catch data through 2001. Unfortunately, at the time of the assessment, only 19% of the 2002 catch had been reported. From the data obtained, this stock was not considered overfished although overfishing may be occurring. For more detailed information, refer to the ICCAT website: www.iccat.es

MANDATORY REPORTING IN THE ATLANTIC LARGE PELAGIC FISHERY

Federal regulations require that both fishermen and dealers assist in the conservation and management of large pelagic species by providing statistics on fishing activity and seafood production. Fishermen are required to submit data on daily fishing activity and catch, which includes individual carcass weights for the swordfish and other large pelagic species. Dealers are required to provide summary data on the landings (purchases) by market size category and the price for the respective categories in bimonthly reports submitted to NMFS. This mandatory reporting of landings by both fishermen and dealers is essential to increase the accuracy of the stock assessments, to establish the health of U.S. fisheries, and to help determine the status of certain species. Both fishermen and dealers are required to maintain active federal permits to fish or purchase large pelagic, highly migratory species.

Fishermen Reporting.

All fishermen that fish for and land large pelagic species are required to have an active permit and report catches from every set or daily trip. In addition to a completed logbook set form for every set made, fishermen are required to submit a copy of the weigh-out or sales receipt that provides the weights for the individual swordfish and other large pelagic species that are caught on the fishing trip. If either of these requirements is not met, the vessel is not in compliance with the mandatory reporting regulations and the vessel's permit can be revoked or denied at annual renewal.

If the vessel did not fish during a calendar month, a "no-fishing" report must be submitted. If logbooks and weighout sheets are not submitted for catch in the 12 months of the reporting period preceding the expiration of the permit, the application for renewal is denied until all reporting is brought up to date.

All logbook reports and weigh-outs are to be submitted to:

Southeast Fisheries Science Center
Logbook Program
P.O. Box 491740
Key Biscayne, Florida 33149-9915

Questions or requests for clarification may be directed to the Logbook Program at the Southeast Fisheries Science Center in writing to the address shown above or by telephone at (305) 361-4581.

As of July 1, 1999, access to swordfish permits is, on the basis of historic catch in the fishery, restricted to only qualifying individuals. During 2002, there were 515 active swordfish vessel permits, and of those, 254 were directed, 146 were incidental, and 116 were hand gear swordfish permits. During 2003, there were 543 active swordfish vessel permits, and of those, 255 were directed, 146 were incidental, and 1,147 were hand gear swordfish permits. These permits were not necessarily active during the entire calendar year, nor did all of these vessels actively fish for or catch large pelagic species.

Numbers of Active Vessels.

A compilation of swordfish landings activity relative to the vessels permitted to harvest large pelagic species during the period 1987 through 2003 is presented in Table 8. By the definition used, there were 150 active vessels fishing for large pelagic species in 2002 and 127 active vessels in 2003. "Fished" implies a vessel submitted at least one positive fishing report during that year that included a large pelagic species. "Caught Swordfish" means the vessel reported catching at least one swordfish during that year and "Caught Swordfish in 5 months" means the vessel 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 effort from gears other than longline. For this reason, these numbers are higher than the numbers in Tables 7a-7d.

Dealer Reporting.

Permitted dealers are required to provide reports twice a month to the Science and Research Director for either the Northeast Region or the Southeast Region, depending on the dealer's geographical location. Complete and timely information from dealers is critical because these data are used to monitor the fishery quotas for swordfish and sharks. Dealers are instructed to provide the U.S. Coast Guard documentation or state registration number for every vessel from which they purchased large pelagic, migratory species during each biweekly reporting period. This information is used to check the dealer data against the daily swordfish and tuna catch data submitted by fishermen. This cross-reference helps determine that all landings are included in the quota monitoring process and it also guards against potential double counting.

Dealers that are located in states from North Carolina through Texas, in Puerto Rico or the U.S. Virgin Islands should mail their reports to:

National Marine Fisheries Service
Southeast Fisheries Science Center
Science and Research Director
Attention: Andy Bertolino
75 Virginia Beach Drive
Miami, Florida 33149

Dealers located in an Atlantic coastal state from Maine to Virginia should report to:

National Marine Fisheries Service Northeast Regional Office
Attention: Greg Power
1 Blackburn Drive
Gloucester, MA 01930

As of September 30, 2003, 544 federal dealer permits had been issued. Of these, 382 included permits for Highly Migratory Species (HMS). Of this total, 101 dealers had their primary location in the Northeast Region and 221 dealers had their primary location in the Southeast Region (which includes the Caribbean). In addition, 60 permits were issued to dealers located in other regions of the United States and were involved in swordfish importing activities.

Overall, compliance with the reporting requirements has been good. However, dealers that do not cooperate with NOAA Fisheries and do not submit the required bimonthly reports will have their application for a permit renewal denied, and NOAA Fisheries Law Enforcement will be notified. It should be noted that a report is required for every biweekly reporting period, even if large pelagic species were not purchased.

INSTRUCTIONS FOR USING THE PELAGIC LOGBOOKS FOR 2005

There are 4 forms used for pelagic logbook reports in 2005: (1) a *trip summary* form, (2) a *cost and earnings* form, (3) a *set* form, and (4) a *no fishing* form.

For every fishing trip where a swordfish and/or tuna are caught and retained on board, a trip summary form must be completed. A set form must be completed every time the gear is set during a trip. The original trip summary, original set form(s) and a weigh-out sheet must be submitted for every completed fishing trip. *Faxes and/or copies of trip summaries and set forms are no longer accepted.*

The cost and earnings form is used to provide information on the costs associated with each fishing trip. Beginning in 2003, this information is mandatory for selected vessels and voluntary for all other vessels.

The No-Fishing form should be used to report occurrences of zero fishing activity in the Swordfish/Tuna (also indicated as Highly Migratory Species), South Atlantic Snapper-Grouper, Gulf of Mexico Reef Fish, Shark, King Mackerel, and Spanish Mackerel fisheries. Check the space by each of the fisheries in which the vessel did not fish. Submit one *NO-FISHING* FORM for each month not fished. Do not check fisheries for which your vessel does not have an active permit.

All forms are to be mailed in the pre-addressed, postage-paid envelopes that are included in the logbook packet.

Forms mailed in envelopes other than those provided should use the following address:

NATIONAL MARINE FISHERIES SERVICE
ATTN: LOGBOOK PROGRAM
P.O. BOX 491500
KEY BISCAWAYNE, FLORIDA 33149-9916

If there are questions regarding completion of these forms, please call (305) 361-4240.

Monthly reporting for individuals holding a swordfish permit will be considered complete and in compliance with federal regulations only if: 1) the trip summary, individual set records and weigh-out sheet(s) for each trip are completed and provided to NMFS during the month in which the trip(s) occurred, or, 2) a no fishing report is provided.

Again, as noted on the 2005 logbook forms, *use of the current year forms is mandatory* for compliance. Furthermore, all old forms *should be destroyed* upon receipt of the 2005 forms.

CONTACT INFORMATION

Any questions concerning Atlantic large pelagic species projects at NOAA Fisheries Southeast Fisheries Science Center can be directed to Dr. Gerald Scott at (305) 361-4220. Questions concerning the processing and analysis of the logbook data can be directed to Andy Bertolino at (305) 361-4240. Information concerning permits can be directed to the NOAA Fisheries Regional Office Fisheries Permits Team in St. Petersburg, Florida at (727) 570-5326. Questions about the observer program should be directed to Dennis Lee or Larry Beerkircher at 1-800-858-0624.

Those in need of 2005 logbooks can contact the logbook program at (305) 361-4581.

***If you have questions or comments regarding this newsletter, contact Debra Abercrombie, NOAA Fisheries, SEFSC, 75 Virginia Beach Drive, Miami, FL 33149.

ACKNOWLEDGMENTS

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APPENDIX A – TABLES

TABLE 1. MONTHLY U.S. NORTH ATLANTIC COMMERCIAL SWORDFISH LANDINGS IN LBS (DRESSED WT.) FOR YEARS 1991-2003 (2003, PRELIMINARY). SOURCE: SOUTHEAST FISHERIES SCIENCE CENTER DOMESTIC LONGLINE DATA.

| YEAR | MONTH | | | | | |
|------|---------|---------|---------|---------|---------|---------|
| | JAN | FEB | MAR | APR | MAY | JUN |
| 1991 | 613,177 | 619,188 | 554,422 | 465,789 | 416,747 | 432,630 |
| 1992 | 514,101 | 575,942 | 520,099 | 374,432 | 358,252 | 317,612 |
| 1993 | 561,698 | 648,585 | 470,918 | 341,690 | 365,752 | 337,134 |
| 1994 | 484,972 | 472,599 | 458,475 | 327,608 | 299,262 | 383,626 |
| 1995 | 889,512 | 811,460 | 630,410 | 488,293 | 554,793 | 467,913 |
| 1996 | 596,262 | 738,304 | 509,953 | 388,765 | 363,694 | 351,284 |
| 1997 | 578,730 | 502,856 | 435,735 | 213,070 | 72,897 | 325,980 |
| 1998 | 456,681 | 541,023 | 547,553 | 145,441 | 170,875 | 285,073 |
| 1999 | 315,097 | 391,668 | 467,724 | 327,471 | 324,915 | 364,551 |
| 2000 | 208,729 | 353,898 | 406,805 | 367,792 | 318,839 | 310,434 |
| 2001 | 265,204 | 326,961 | 232,248 | 310,272 | 358,166 | 248,072 |
| 2002 | 269,825 | 273,687 | 271,330 | 286,501 | 258,257 | 250,872 |
| 2003 | 288,482 | 349,436 | 367,775 | 217,648 | 430,930 | 206,091 |

| YEAR | MONTH | | | | | |
|------|---------|---------|---------|---------|---------|---------|
| | JUL | AUG | SEPT | OCT | NOV | DEC |
| 1991 | 709,718 | 773,515 | 816,558 | 766,909 | 527,175 | 446,311 |
| 1992 | 561,906 | 731,830 | 727,037 | 891,336 | 423,457 | 387,010 |
| 1993 | 582,835 | 585,084 | 647,994 | 755,021 | 589,865 | 387,627 |
| 1994 | 290,811 | 539,202 | 560,993 | 672,465 | 592,585 | 495,542 |
| 1995 | 493,062 | 651,421 | 654,380 | 850,667 | 145,897 | 126,307 |
| 1996 | 370,895 | 568,722 | 635,336 | 525,918 | 455,680 | 384,352 |
| 1997 | 496,323 | 649,695 | 630,832 | 499,048 | 125,042 | 403,040 |
| 1998 | 355,779 | 713,691 | 460,237 | 505,809 | 500,340 | 378,625 |
| 1999 | 395,564 | 520,769 | 436,360 | 351,722 | 540,324 | 347,315 |
| 2000 | 447,465 | 635,918 | 525,254 | 540,394 | 335,448 | 269,125 |
| 2001 | 342,307 | 195,375 | 354,389 | 549,789 | 264,716 | 192,788 |
| 2002 | 231,730 | 409,301 | 638,275 | 405,252 | 372,224 | 247,692 |
| 2003 | 284,529 | 444,123 | 548,921 | 515,118 | 285,417 | 233,825 |

TABLE 2. COMMERCIAL SWORDFISH LANDINGS FROM THE U.S. NORTH ATLANTIC (IN THOUSANDS OF POUNDS DRESSED WT.) FOR YEARS 1991-2003 (2003, PRELIMINARY). SOURCE: NORTHEAST LARGE PELAGIC COMMERCIAL SPECIES DATA, SOUTHEAST FISHERIES SCIENCE CENTER FISHERIES STATISTICS, SOUTHEAST FISHERIES SCIENCE CENTER DOMESTIC LONGLINE DATA.

| Year | Dressed Weight | Whole weight |
|-------------|-----------------------|---------------------|
| 1991 | 7142 | 9499 |
| 1992 | 6383 | 8489 |
| 1993 | 6274 | 8345 |
| 1994 | 5578 | 7419 |
| 1995 | 6764 | 8996 |
| 1996 | 5889 | 7832 |
| 1997 | 4933 | 6561 |
| 1998 | 5061 | 6731 |
| 1999 | 4783 | 6362 |
| 2000 | 4720 | 6278 |
| 2001 | 3640 | 4841 |
| 2002 | 3915 | 5207 |
| 2003 | 4172 | 5549 |

TABLE 3. PERCENTAGE OF ANNUAL U.S. NORTH ATLANTIC COMMERCIAL SWORDFISH LANDED CATCH BY AREA (TOTAL ANNUAL CATCH OF SWORDFISH IN AREA/ TOTAL ANNUAL CATCH OF SWORDFISH IN ALL AREAS) FOR YEARS 1989-2003 (2003, PRELIMINARY). AREAS ARE DEFINED IN FIGURE 1. SOURCE: SOUTHEAST FISHERIES SCIENCE CENTER DOMESTIC LONGLINE DATA.

| YEAR | CAR ¹ | GOM | FEC | SAB | MAB | NEC | NED |
|------|------------------|-----|-----|-----|-----|-----|-----|
| 1989 | 20 | 13 | 21 | 6 | 7 | 8 | 24 |
| 1990 | 15 | 11 | 22 | 4 | 12 | 11 | 25 |
| 1991 | 15 | 19 | 23 | 4 | 10 | 4 | 24 |
| 1992 | 14 | 15 | 18 | 8 | 6 | 8 | 31 |
| 1993 | 18 | 14 | 15 | 10 | 7 | 7 | 30 |
| 1994 | 28 | 10 | 14 | 10 | 10 | 4 | 25 |
| 1995 | 34 | 17 | 10 | 8 | 5 | 5 | 21 |
| 1996 | 32 | 21 | 11 | 14 | 2 | 3 | 16 |
| 1997 | 30 | 19 | 13 | 11 | 4 | 5 | 18 |
| 1998 | 19 | 14 | 14 | 20 | 7 | 7 | 19 |
| 1999 | 13 | 16 | 19 | 22 | 8 | 4 | 18 |
| 2000 | 11 | 17 | 16 | 16 | 8 | 7 | 25 |
| 2001 | 14 | 20 | 7 | 19 | 10 | 14 | 15 |
| 2002 | 16 | 19 | 7 | 18 | 13 | 10 | 18 |
| 2003 | 16 | 19 | 7 | 17 | 13 | 10 | 18 |

1. CAR includes SAR, NCA, TUN, and TUS

TABLE 4. PERCENTAGE OF ANNUAL U.S. SWORDFISH LANDED CATCH < 41 LBS BY AREAS (ANNUAL CATCH OF SWORDFISH < 41 LBS (DRESSED WT.) IN AREA / TOTAL ANNUAL CATCH OF SWORDFISH IN ALL AREAS) FOR YEARS 1989-2003 (2003, PRELIMINARY). AREAS ARE DEFINED IN FIGURE 1. SOURCE: SOUTHEAST FISHERIES SCIENCE CENTER DOMESTIC LONGLINE DATA.

| YEAR | CAR ¹ | GOM | FEC | SAB | MAB | NEC | NED | Total (%) |
|------|------------------|-----|-----|-----|-----|-----|-----|-----------|
| 1989 | 5 | 6 | 11 | 3 | 3 | 2 | 7 | 37 |
| 1990 | 3 | 7 | 12 | 2 | 6 | 3 | 5 | 38 |
| 1991 | 2 | 10 | 9 | 3 | 2 | 0 | 2 | 28 |
| 1992 | 1 | 4 | 4 | 2 | 1 | 1 | 3 | 16 |
| 1993 | 2 | 3 | 2 | 1 | 1 | 1 | 3 | 13 |
| 1994 | 4 | 2 | 2 | 2 | 1 | 0 | 2 | 13 |
| 1995 | 3 | 3 | 1 | 1 | 0 | 1 | 3 | 12 |
| 1996 | 4 | 4 | 3 | 3 | 0 | 0 | 2 | 16 |
| 1997 | 3 | 4 | 3 | 3 | 1 | 1 | 1 | 16 |
| 1998 | 2 | 3 | 4 | 7 | 2 | 2 | 2 | 22 |
| 1999 | 1 | 3 | 5 | 6 | 2 | 1 | 1 | 19 |
| 2000 | 1 | 3 | 4 | 4 | 2 | 1 | 2 | 17 |
| 2001 | 1 | 4 | 2 | 5 | 2 | 2 | 1 | 17 |
| 2002 | 2 | 4 | 1 | 7 | 4 | 2 | 1 | 21 |
| 2003 | 2 | 4 | 1 | 7 | 4 | 2 | 1 | 21 |

1. CAR includes SAR, NCA, TUN, and TUS

TABLE 5. PERCENTAGE OF ANNUAL U.S. COMMERCIAL SWORDFISH LANDED CATCH < 41 LBS (DRESSED WT.) WITHIN AREAS (ANNUAL CATCH OF SWORDFISH < 41 LBS (DRESSED WT.) IN AREA / ANNUAL CATCH OF SWORDFISH IN AREA) FOR YEARS 1989-2003 (2003, PRELIMINARY). AREAS ARE DEFINED IN FIGURE 1. SOURCE: SOUTHEAST FISHERIES SCIENCE CENTER DOMESTIC LONGLINE DATA.

| YEAR | CAR ¹ | GOM | FEC | SAB | MAB | NEC | NED |
|------|------------------|-----|-----|-----|-----|-----|-----|
| 1989 | 27 | 43 | 49 | 41 | 51 | 24 | 29 |
| 1990 | 22 | 60 | 54 | 60 | 52 | 31 | 21 |
| 1991 | 15 | 54 | 39 | 56 | 24 | 10 | 8 |
| 1992 | 10 | 26 | 21 | 23 | 11 | 11 | 11 |
| 1993 | 9 | 20 | 15 | 16 | 14 | 8 | 12 |
| 1994 | 13 | 21 | 15 | 16 | 13 | 11 | 10 |
| 1995 | 10 | 19 | 13 | 15 | 10 | 11 | 13 |
| 1996 | 12 | 20 | 24 | 21 | 19 | 10 | 9 |
| 1997 | 8 | 22 | 26 | 30 | 21 | 13 | 8 |
| 1998 | 8 | 21 | 29 | 35 | 25 | 22 | 13 |
| 1999 | 7 | 18 | 25 | 28 | 28 | 18 | 6 |
| 2000 | 8 | 20 | 24 | 28 | 25 | 21 | 9 |
| 2001 | 10 | 18 | 22 | 28 | 23 | 13 | 5 |
| 2002 | 10 | 20 | 19 | 39 | 35 | 22 | 4 |
| 2003 | 10 | 20 | 19 | 39 | 34 | 22 | 4 |

1. CAR includes SAR, NCA, TUN, and TUS

TABLE 6. YEARLY TABULATIONS FOR U.S. NORTH ATLANTIC COMMERCIAL SWORDFISH AND YELLOWFIN TUNA FOR (a) 2000, (b) 2001, (c) 2002 AND (d) 2003 (PRELIMINARY). THE AREAS ARE DEFINED IN FIGURE 1. INFORMATION INCLUDES EFFORT IN HOOKS (HOOKS); NUMBER OF SETS (N); NUMBER OF FISH KEPT PLUS DISCARDED (K&D); PERCENTAGE KEPT (%K), PERCENTAGE DISCARDED DEAD (%D DEAD); PERCENTAGE DISCARDED ALIVE (%D LIVE); AND THE AVERAGE OF INDIVIDUAL CATCH RATES [AVG(C/E)] WITHIN EACH AREA, EQUIVALENT TO CPUE IN # OF FISH/100 HOOKS. SOURCE: SOUTHEAST FISHERIES SCIENCE CENTER PELAGIC LOGBOOKS.

| 6a. 2000 | | | SWORDFISH | | | | | YELLOWFIN | | | | |
|-----------------|---------|-------|-----------|----|------------|------------|------------|-----------|-----|------------|------------|------------|
| AREA | HOOKS | N | K&D | %K | %D DEAD | %D LIVE | AVG C/E | K&D | %K | %D DEAD | %D LIVE | AVG C/E |
| CAR | 244829 | 410 | 4985 | 92 | 3 | 4 | 2.14656 | 193 | 97 | 1 | 1 | 0.07 |
| GOM | 3502155 | 4582 | 14489 | 66 | 19 | 13 | 0.58837 | 41160 | 97 | 1 | 1 | 1.15 |
| FEC | 687050 | 1956 | 12313 | 76 | 13 | 10 | 2.22068 | 1513 | 96 | 0 | 2 | 0.18 |
| SAB | 869024 | 1343 | 13153 | 78 | 10 | 10 | 1.82302 | 3084 | 62 | 3 | 4 | 0.37 |
| MAB | 1064617 | 1662 | 6606 | 65 | 21 | 13 | 0.65235 | 21006 | 98 | 1 | 0 | 2.90 |
| NEC | 608503 | 742 | 5298 | 81 | 8 | 10 | 0.88844 | 3401 | 98 | 0 | 0 | 0.56 |
| NED | 543699 | 603 | 17162 | 87 | 6 | 6 | 3.14718 | 67 | 97 | 0 | 2 | 0.01 |
| SAR | 7567 | 10 | 49 | 91 | 2 | 6 | 0.62696 | 33 | 100 | 0 | 0 | 0.41 |
| NCA | 80218 | 125 | 1800 | 91 | 5 | 3 | 2.58540 | 99 | 100 | 0 | 0 | 0.10 |
| TUN | 17695 | 21 | 106 | 83 | 3 | 12 | 0.56510 | 149 | 97 | 0 | 2 | 0.86 |
| TUS | 74315 | 84 | 1386 | 84 | 6 | 8 | 1.88964 | 360 | 99 | 0 | 0 | 0.47 |
| TOTAL | 7699672 | 11538 | 77347 | 78 | 11 | 9 | 1.25751 | 71065 | 97 | 1 | 1 | 0.99 |

| 6b. 2001 | | | SWORDFISH | | | | | YELLOWFIN | | | | |
|-----------------|---------|-------|-----------|----|------------|------------|------------|-----------|-----|------------|------------|------------|
| AREA | HOOKS | N | K&D | %K | %D DEAD | %D LIVE | AVG C/E | K&D | %K | %D DEAD | %D LIVE | AVG C/E |
| CAR | 203943 | 306 | 3875 | 85 | 7 | 6 | 2.09261 | 200 | 97 | 0 | 2 | 0.10 |
| GOM | 3499774 | 4659 | 13747 | 64 | 21 | 13 | 0.54098 | 30900 | 96 | 1 | 2 | 0.89 |
| FEC | 453275 | 967 | 3978 | 79 | 11 | 9 | 1.14350 | 1391 | 85 | 13 | 0 | 0.35 |
| SAB | 781381 | 1255 | 10683 | 79 | 10 | 9 | 1.61805 | 4104 | 95 | 1 | 3 | 0.62 |
| MAB | 1116874 | 1650 | 6985 | 63 | 19 | 16 | 0.67924 | 10244 | 98 | 0 | 0 | 1.03 |
| NEC | 825609 | 968 | 7541 | 81 | 10 | 8 | 0.92560 | 5294 | 98 | 0 | 0 | 0.64 |
| NED | 316527 | 334 | 8372 | 83 | 9 | 6 | 2.75983 | 7 | 85 | 0 | 14 | 0.00 |
| SAR | 14287 | 16 | 181 | 96 | 0 | 2 | 1.18514 | 33 | 100 | 0 | 0 | 0.27 |
| NCA | 107233 | 149 | 2331 | 89 | 6 | 4 | 2.37541 | 56 | 100 | 0 | 0 | 0.06 |
| TUN | 42489 | 57 | 1204 | 89 | 7 | 3 | 3.06787 | 320 | 100 | 0 | 0 | 0.69 |
| TUS | 49900 | 42 | 328 | 80 | 5 | 14 | 0.64875 | 230 | 99 | 0 | 0 | 0.514 |
| TOTAL | 7411292 | 10403 | 59225 | 76 | 13 | 10 | 0.94306 | 52779 | 96 | 1 | 1 | 0.74 |

| 6c. 2002 | | | SWORDFISH | | | | | YELLOWFIN | | | | |
|----------|---------|------|-----------|----|------------|------------|------------|-----------|-----|------------|------------|------------|
| AREA | HOOKS | N | K&D | %K | %D DEAD | %D LIVE | AVG C/E | K&D | %K | %D DEAD | %D LIVE | AVG C/E |
| CAR | 167362 | 266 | 4543 | 89 | 6 | 3 | 2.89325 | 177 | 87 | 6 | 6 | 0.11 |
| GOM | 3539284 | 4661 | 13197 | 62 | 23 | 14 | 0.44645 | 42603 | 97 | 0 | 1 | 1.44 |
| FEC | 493731 | 932 | 3952 | 84 | 7 | 8 | 1.02281 | 1605 | 96 | 1 | 1 | 0.35 |
| SAB | 508976 | 855 | 10090 | 83 | 9 | 6 | 2.39650 | 1655 | 96 | 1 | 1 | 0.27 |
| MAB | 1053173 | 1426 | 9226 | 65 | 18 | 15 | 0.90963 | 7642 | 97 | 1 | 1 | 0.85 |
| NEC | 546270 | 664 | 5606 | 81 | 9 | 8 | 1.05330 | 3490 | 97 | 0 | 1 | 0.68 |
| NED | 430120 | 484 | 9189 | 92 | 4 | 3 | 2.15565 | 7 | 85 | 0 | 14 | 0.00 |
| SAR | 108135 | 126 | 1302 | 95 | 1 | 2 | 1.23279 | 89 | 96 | 1 | 2 | 0.08 |
| NCA | 58721 | 84 | 1156 | 90 | 5 | 4 | 2.06684 | 18 | 88 | 11 | 0 | 0.03 |
| TUN | 36924 | 48 | 560 | 84 | 8 | 7 | 1.78311 | 99 | 100 | 0 | 0 | 0.24 |
| TUS | 41978 | 47 | 829 | 94 | 2 | 2 | 2.02262 | 158 | 100 | 0 | 0 | 0.37 |
| TOTAL | 6984674 | 9593 | 59650 | 84 | 8 | 7 | 1.63481 | 57543 | 94 | 2 | 2 | 0.40 |

| 6d. 2003 | | | SWORDFISH | | | | | YELLOWFIN | | | | |
|----------|---------|------|-----------|----|------------|------------|------------|-----------|-----|------------|------------|------------|
| AREA | HOOKS | N | K&D | %K | %D DEAD | %D LIVE | AVG C/E | K&D | %K | %D DEAD | %D LIVE | AVG C/E |
| CAR | 134111 | 217 | 3095 | 90 | 5 | 4 | 2.41647 | 77 | 88 | 1 | 0 | 0.06 |
| GOM | 3804185 | 5082 | 13619 | 69 | 18 | 11 | 0.50810 | 38402 | 95 | 1 | 2 | 1.00 |
| FEC | 493413 | 870 | 4827 | 83 | 9 | 7 | 1.12972 | 1641 | 94 | 1 | 3 | 0.37 |
| SAB | 639725 | 963 | 14737 | 84 | 9 | 6 | 2.89515 | 773 | 92 | 2 | 4 | 0.13 |
| MAB | 731178 | 1006 | 7784 | 73 | 14 | 12 | 1.12910 | 6896 | 96 | 2 | 0 | 1.02 |
| NEC | 438916 | 546 | 5857 | 85 | 8 | 5 | 1.38058 | 2720 | 98 | 0 | 0 | 0.63 |
| NED | 578705 | 538 | 10061 | 91 | 5 | 3 | 1.74895 | 184 | 97 | 2 | 0 | 0.03 |
| SAR | 120159 | 139 | 1253 | 93 | 2 | 3 | 1.06392 | 38 | 94 | 0 | 5 | 0.03 |
| NCA | 132205 | 166 | 1889 | 85 | 9 | 5 | 1.44960 | 2 | 100 | 0 | 0 | 0.00 |
| TUN | 42480 | 43 | 295 | 79 | 12 | 8 | 0.67964 | 278 | 100 | 0 | 0 | 0.62 |
| TUS | 26120 | 25 | 202 | 81 | 14 | 3 | 0.77389 | 366 | 100 | 0 | 0 | 1.39 |
| TOTAL | 7141197 | 9595 | 63619 | 81 | 10 | 7 | 1.05733 | 51377 | 96 | 1 | 2 | 0.73 |

TABLE 7. TOTAL NUMBER OF U.S NORTH ATLANTIC COMMERCIAL SWORDFISH, TUNA, AND BILLFISH REPORTED CAUGHT BY LONGLINE BOATS BY AREA AND EFFORT IN NUMBER OF HOOKS FROM THE SWORDFISH MANDATORY LOGBOOKS FOR (a) 2000, (b) 2001, (c) 2002 and (d) 2003 (PRELIMINARY). NUMBERS CAUGHT REPRESENT KEPT PLUS DISCARDED (DEAD OR ALIVE). SEE FIGURE 1 FOR DESIGNATION OF AREAS. (SWO=SWORDFISH; YFT=YELLOWFIN; BET=BIGEYE; BFT=BLUEFIN; ALB=ALBACORE; WHM=WHITE MARLIN; BUM=BLUE MARLIN; SAI=SAILFISH). SOURCE: SOUTHEAST FISHERIES SCIENCE CENTER PELAGIC LOGBOOKS.

7a. 2000

| Area | SWO | YFT | BET | BFT | ALB | WHM | BUM | SAI | HOOKS | BOATS |
|-------|-------|-------|-------|-----|------|------|------|-----|---------|-------|
| CAR | 4996 | 193 | 285 | 2 | 157 | 82 | 72 | 7 | 244829 | 18 |
| GOM | 14533 | 41280 | 867 | 474 | 131 | 584 | 841 | 355 | 3490005 | 79 |
| FEC | 12325 | 1513 | 3175 | 47 | 627 | 210 | 255 | 230 | 687050 | 52 |
| SAB | 13198 | 3090 | 93 | 15 | 121 | 128 | 135 | 84 | 797504 | 46 |
| MAB | 6629 | 21090 | 3147 | 267 | 4493 | 108 | 27 | 13 | 1018230 | 59 |
| NEC | 5343 | 3423 | 2364 | 115 | 1652 | 62 | 19 | 0 | 608503 | 36 |
| NED | 17162 | 67 | 1670 | 43 | 189 | 4 | 0 | 0 | 543699 | 13 |
| SAR | 49 | 33 | 4 | 0 | 18 | 0 | 0 | 0 | 7567 | 5 |
| NCA | 1811 | 104 | 125 | 1 | 169 | 60 | 64 | 0 | 80218 | 6 |
| TUN | 106 | 149 | 121 | 0 | 10 | 3 | 14 | 4 | 17695 | 5 |
| TUS | 1396 | 365 | 815 | 0 | 29 | 5 | 12 | 14 | 74315 | 3 |
| TOTAL | 77548 | 71307 | 12666 | 964 | 7596 | 1246 | 1439 | 707 | 7569615 | 322 |

7b. 2001

| Area | SWO | YFT | BET | BFT | ALB | WHM | BUM | SAI | HOOKS | BOATS |
|-------|-------|-------|-------|-----|------|-----|-----|-----|---------|-------|
| CAR | 3875 | 200 | 193 | 0 | 91 | 35 | 59 | 12 | 203943 | 18 |
| GOM | 14032 | 32691 | 333 | 215 | 190 | 373 | 348 | 247 | 3526124 | 78 |
| FEC | 3978 | 1391 | 4121 | 23 | 868 | 44 | 118 | 26 | 453275 | 41 |
| SAB | 10672 | 4104 | 134 | 11 | 146 | 97 | 70 | 68 | 780961 | 44 |
| MAB | 6980 | 10233 | 6174 | 84 | 5411 | 163 | 22 | 7 | 1116274 | 58 |
| NEC | 7541 | 5294 | 3015 | 156 | 2381 | 92 | 16 | 1 | 825609 | 40 |
| NED | 8372 | 7 | 1797 | 31 | 432 | 0 | 3 | 0 | 316527 | 9 |
| SAR | 181 | 33 | 41 | 2 | 40 | 0 | 1 | 0 | 14287 | 8 |
| NCA | 2331 | 56 | 260 | 4 | 180 | 38 | 17 | 0 | 107233 | 8 |
| TUN | 1355 | 382 | 591 | 0 | 89 | 36 | 8 | 0 | 61389 | 8 |
| TUS | 966 | 416 | 1471 | 0 | 102 | 0 | 0 | 0 | 117250 | 3 |
| TOTAL | 60283 | 54807 | 18130 | 526 | 9930 | 878 | 662 | 361 | 7522872 | 315 |

7c. 2002

| Area | SWO | YFT | BET | BFT | ALB | WHM | BUM | SAI | HOOKS | BOATS |
|-------|-------|-------|-------|-----|------|------|------|-----|---------|-------|
| CAR | 4543 | 177 | 291 | 0 | 69 | 60 | 55 | 22 | 167362 | 12 |
| GOM | 13320 | 45361 | 723 | 226 | 249 | 812 | 830 | 296 | 3579884 | 69 |
| FEC | 3952 | 1605 | 3325 | 21 | 946 | 164 | 159 | 27 | 493731 | 28 |
| SAB | 10090 | 1655 | 41 | 2 | 42 | 53 | 56 | 22 | 508976 | 40 |
| MAB | 9226 | 7642 | 3966 | 102 | 3258 | 169 | 21 | 3 | 1053173 | 58 |
| NEC | 5606 | 3490 | 1245 | 300 | 1017 | 87 | 11 | 1 | 546270 | 34 |
| NED | 9189 | 7 | 966 | 96 | 369 | 7 | 1 | 0 | 430120 | 15 |
| SAR | 1302 | 89 | 340 | 19 | 229 | 53 | 16 | 1 | 108135 | 10 |
| NCA | 1156 | 18 | 78 | 0 | 152 | 29 | 5 | 0 | 58721 | 5 |
| TUN | 560 | 99 | 478 | 0 | 78 | 2 | 3 | 5 | 36924 | 6 |
| TUS | 829 | 158 | 438 | 0 | 22 | 1 | 1 | 0 | 41978 | 5 |
| TOTAL | 59773 | 60301 | 11891 | 766 | 6431 | 1437 | 1158 | 377 | 7025274 | 282 |

7d. 2003

| Area | SWO | YFT | BET | BFT | ALB | WHM | BUM | SAI | HOOKS | BOATS |
|-------|-------|-------|------|------|------|-----|-----|-----|---------|-------|
| CAR | 3095 | 77 | 187 | 0 | 35 | 39 | 32 | 13 | 134111 | 13 |
| GOM | 13670 | 39913 | 448 | 369 | 162 | 464 | 382 | 170 | 3827686 | 72 |
| FEC | 4827 | 1641 | 2467 | 9 | 1293 | 88 | 115 | 22 | 493413 | 30 |
| SAB | 14737 | 773 | 49 | 19 | 42 | 42 | 40 | 74 | 639725 | 37 |
| MAB | 7784 | 6896 | 1819 | 298 | 1793 | 64 | 8 | 2 | 731178 | 38 |
| NEC | 5857 | 2720 | 561 | 239 | 620 | 81 | 10 | 2 | 438916 | 28 |
| NED | 10061 | 184 | 1013 | 185 | 143 | 5 | 0 | 0 | 578705 | 12 |
| SAR | 1253 | 38 | 318 | 32 | 537 | 23 | 10 | 0 | 120159 | 11 |
| NCA | 1889 | 2 | 48 | 3 | 136 | 9 | 2 | 0 | 132205 | 7 |
| TUN | 295 | 278 | 732 | 0 | 37 | 0 | 2 | 0 | 42480 | 2 |
| TUS | 202 | 366 | 170 | 0 | 48 | 0 | 0 | 0 | 26120 | 1 |
| TOTAL | 63670 | 52888 | 7812 | 1154 | 4846 | 815 | 601 | 283 | 7164698 | 251 |

TABLE 8. NUMBER OF ACTIVE U.S. VESSELS FOR YEARS 1987-2003 WITH SWORDFISH PERMITS.
SOURCE: SOUTHEAST FISHERIES SCIENCE CENTER PELAGIC LOGBOOKS.

| YEAR | FISHED | CAUGHT SWORDFISH | CAUGHT SWORDFISH IN 5 MONTHS | HOOKS REPORTED |
|------|--------|------------------|------------------------------|----------------|
| 1987 | 297 | 273 | 180 | 6,557,776 |
| 1988 | 387 | 337 | 210 | 7,010,008 |
| 1989 | 455 | 415 | 250 | 7,929,927 |
| 1990 | 416 | 362 | 209 | 7,495,419 |
| 1991 | 333 | 303 | 175 | 7,746,837 |
| 1992 | 337 | 302 | 183 | 9,056,908 |
| 1993 | 434 | 306 | 175 | 9,721,036 |
| 1994 | 501 | 306 | 176 | 11,270,632 |
| 1995 | 489 | 314 | 198 | 10,976,048 |
| 1996 | 367 | 276 | 189 | 10,213,223 |
| 1997 | 350 | 264 | 167 | 10,212,823 |
| 1998 | 286 | 231 | 134 | 7,886,088 |
| 1999 | 224 | 199 | 140 | 7,768,790 |
| 2000 | 199 | 181 | 129 | 7,876,642 |
| 2001 | 184 | 168 | 113 | 7,889,137 |
| 2002 | 150 | 139 | 103 | 7,262,384 |
| 2003 | 127 | 119 | 94 | 7,164,698 |

APPENDIX B – FIGURES

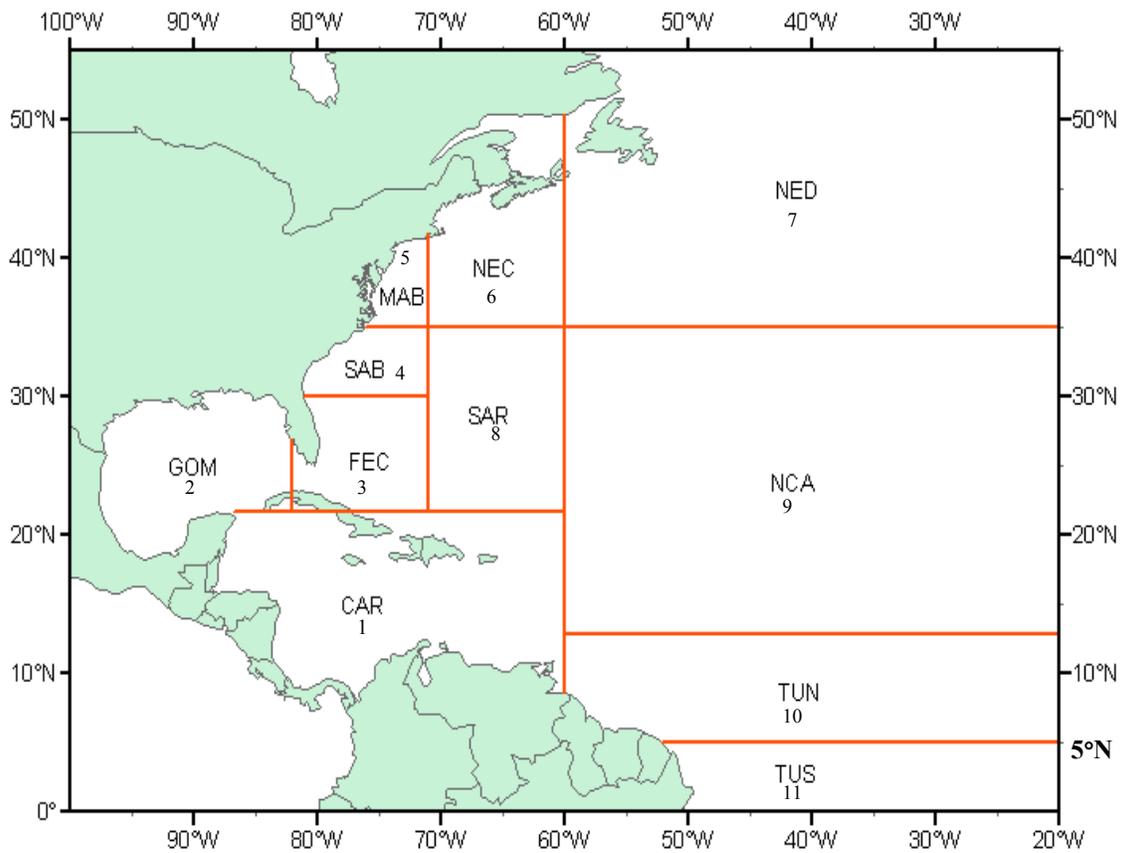


Figure 1. Map designating the eleven areas used in analysis of the swordfish logbook data. Locations of areas are as follows: 1 - Caribbean (CAR), 2 - Gulf of Mexico (GOM), 3 - Florida East Coast (FEC), 4 - South Atlantic Bight (SAB), 5 - Mid Atlantic Bight (MAB), 6 - Northeast Coastal (NEC), 7 - Northeast Distant (NED), 8 - Sargasso (SAR), 9 - North Central Atlantic (NCA), 10 - Tuna North - (TUN), and 11 - Tuna South (TUS). Source: Southeast Fisheries Science Center Sustainable Fisheries Division.

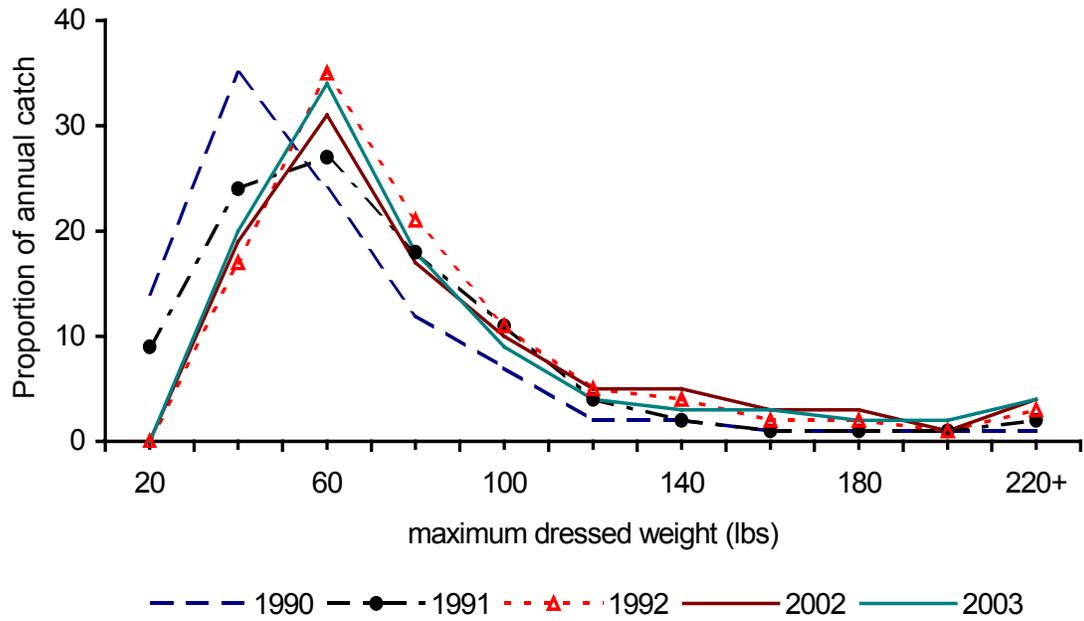


Figure 2. Percentage of swordfish landed by size category (dressed wt.) for years 1990-1992 and 2002-2003. Source: Southeast Fisheries Science Center Domestic Longline Data.

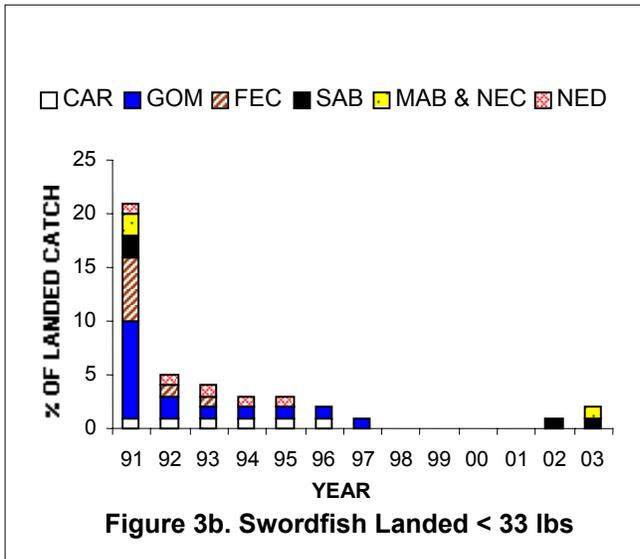
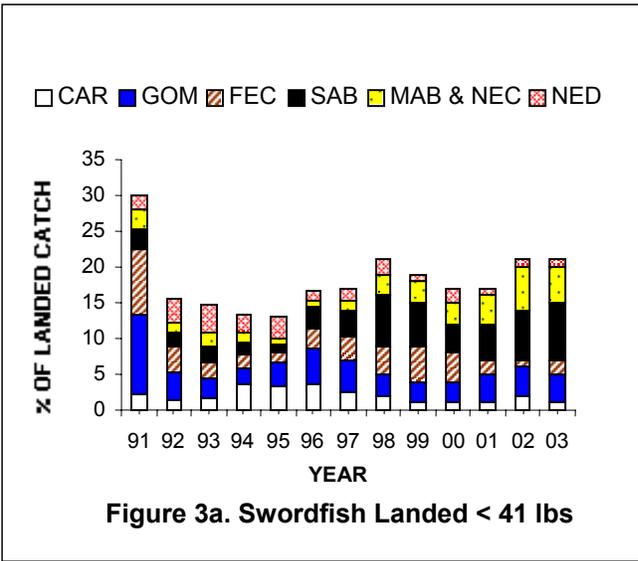


Figure 3. Percentage of swordfish landed between 1989-2003 at a) < 41 lbs (dressed wt.) and b) < 33 lbs. (dressed wt.) Source: Southeast Fisheries Science Center Domestic Longline Data.

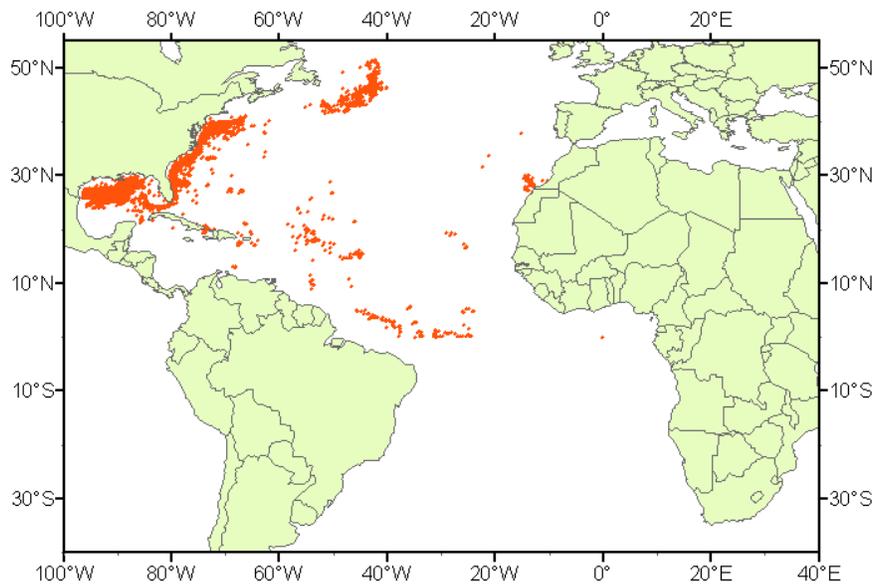


Figure 4a. Location of reported longline effort (numbers of trips) in 2000.
Source: Southeast Fisheries Science Center Pelagic Logbooks.

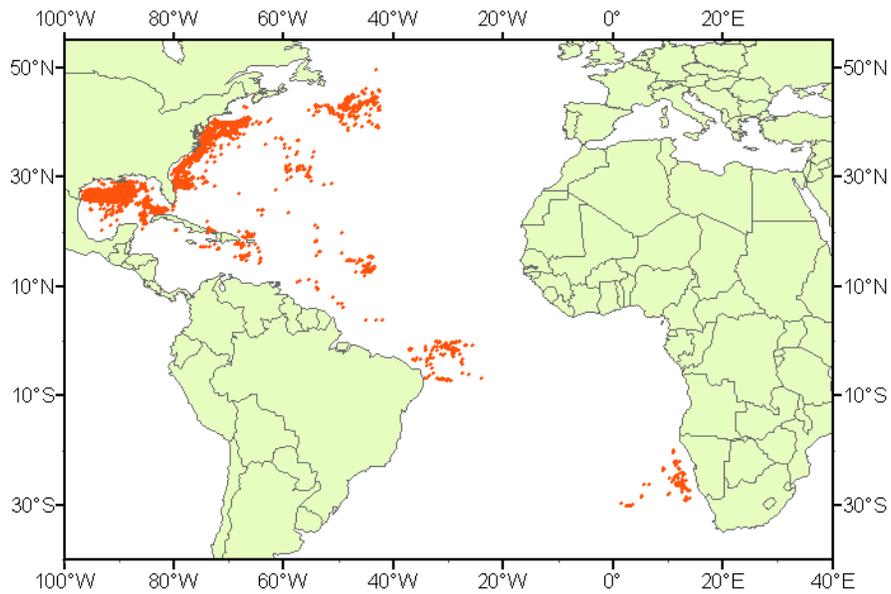


Figure 4b. Location of reported longline effort (numbers of trips) in 2001.
Source: Southeast Fisheries Science Center Pelagic Logbooks.

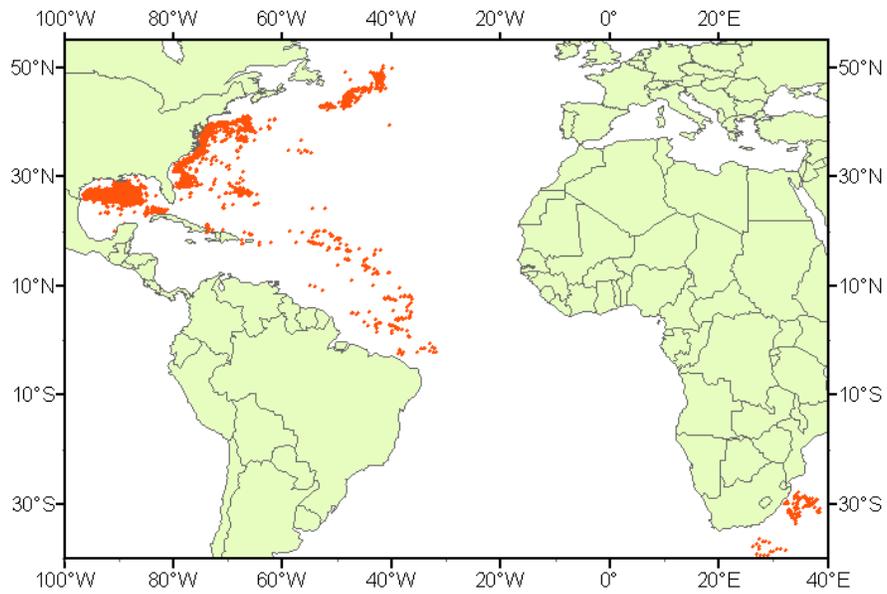


Figure 4c. Location of reported longline effort in (numbers of trips) 2002.
 Source: Southeast Fisheries Science Center Pelagic Logbooks.

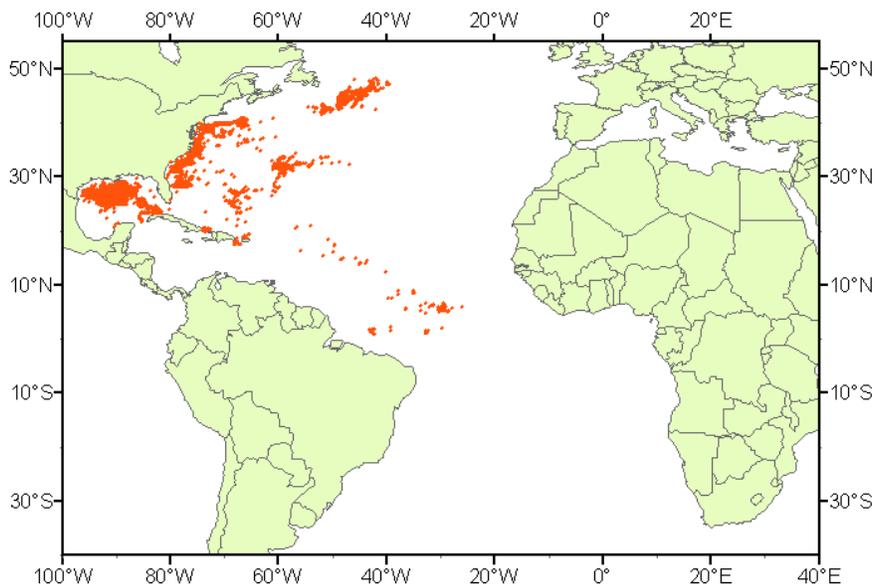


Figure 4d. Location of reported longline effort in (numbers of trips) 2003.
 Source: Southeast Fisheries Science Center Pelagic Logbooks.

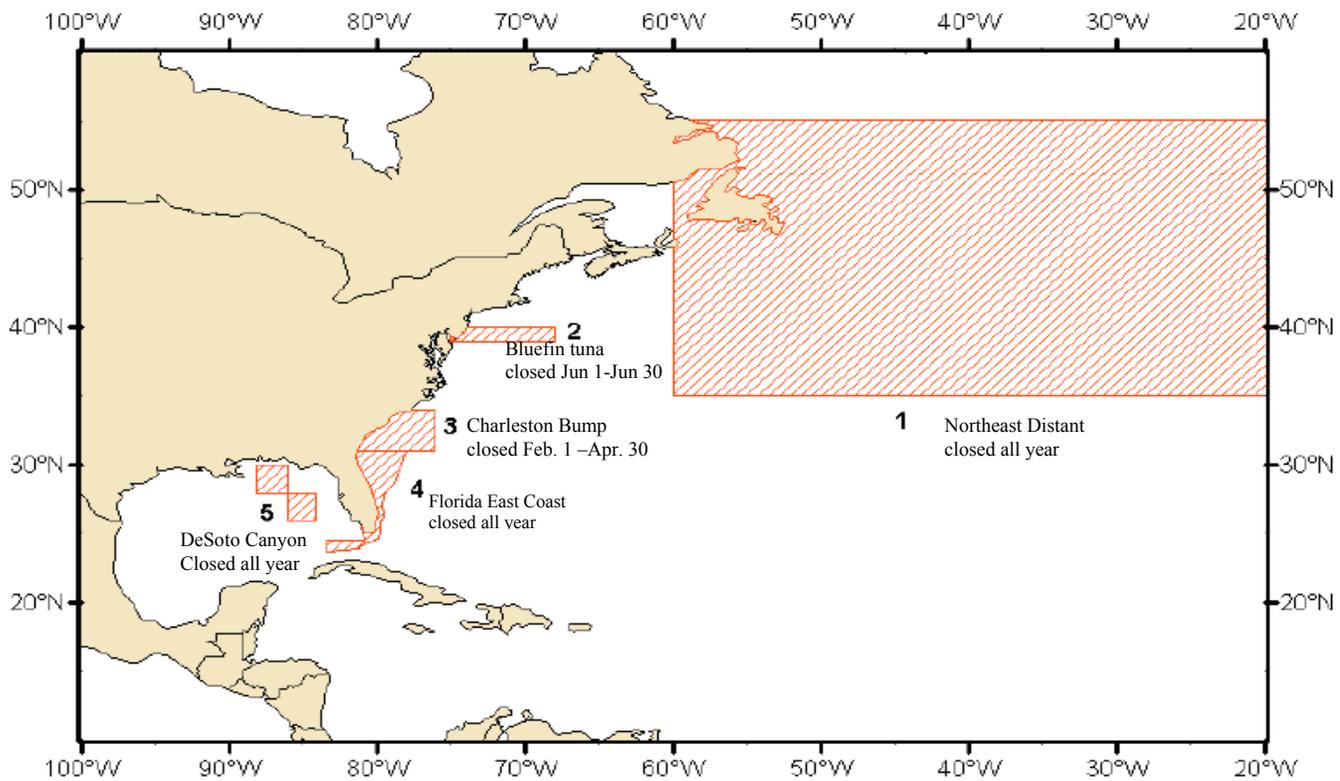


Figure 5. Atlantic pelagic longline fishery time - area closures: 1- Northeast Distant area; 2- Bluefin Tuna area; 3- Charleston Bump area; 4- Florida East Coast (FEC) area; 5- DeSoto Canyon area. For closure duration for each area, see Regulations on page 8. Source: NOAA Fisheries HMS Division Federal Regulations.

1992 - 2003

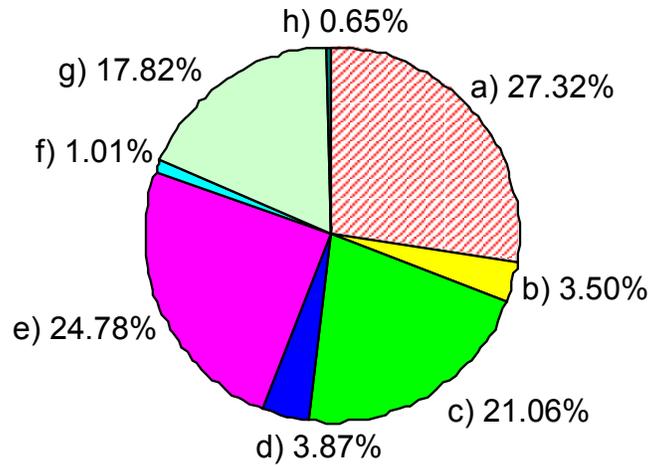


Figure 6. Catch reported by scientific observers on U.S. longline vessels between 1992-2003: swordfish (a); billfish (b); yellowfin, bigeye and bluefin tuna (c); other tunas (d); sharks and rays (e); unknown species (f); finfish (g); marine turtles, marine mammals, and birds (h). Source: Southeast Fisheries Science Center Pelagic Observer Program.