



NOAA Technical Memorandum
NMFS-SEFSC-433

**LARGE PELAGIC LOGBOOK
NEWSLETTER - 1998**

Jean Cramer and Heather Adams

**U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Fisheries Science Center
75 Virginia Beach Drive
Miami, Florida 33149**

January 2000

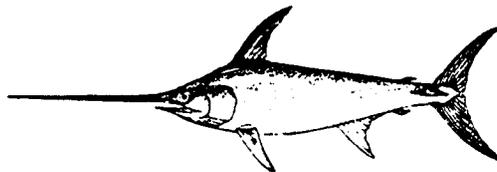


NOAA Technical Memorandum
NMFS-SEFSC-433

LARGE PELAGIC LOGBOOK NEWSLETTER - 1998

by

Jean Cramer and Heather Adams



U.S. DEPARTMENT OF COMMERCE
William M. Daley, Secretary

National Oceanic and Atmospheric Administration
D. James Baker, Under Secretary For Oceans and Atmosphere

National Marine Fisheries Service
Penelope D. Dalton, Assistant Administrator for Fisheries

January 2000

This Technical Memorandum series is used for documentation and timely communication of preliminary results, interim reports, or similar special-purpose information. Although the memoranda are not subject to complete formal review, editorial control, or detailed editing, they are expected to reflect sound professional work.

NOTICE

The National Marine Fisheries Service (NMFS) does not approve, recommend or endorse any proprietary product or material mentioned in this publication. No reference shall be made to NMFS, or to this publication furnished by NMFS, in any advertising or sales promotion which would indicate or imply that NMFS approves, recommends, or endorses any proprietary product or proprietary material mentioned herein or which has as its purpose any intent to cause directly or indirectly the advertised product to be used or purchased because of this NMFS publication.

Contribution-SDF-99/02-77 from the Southeast Fisheries Science Center, Sustainable Fisheries Division

This report should be cited as follows:

J. Cramer and H.M Adams. 2000. Large Pelagic Logbook Newsletter - 1998. NOAA Technical Memorandum NMFS-SEFSC-433 , p. 25

Copies may be obtained by writing:

Dr. Jean Cramer
National Marine Fisheries Service
Southeast Fisheries Science Center
Miami Laboratory
75 Virginia Beach Drive
Miami, FL 33149
Jean.Cramer@noaa.gov

National Technical Information Service
5825 Port Royal Road
Springfield, VA 22161
(800)553-6847
(703)605-6007
<http://www.ntis.gov>

This is the ninth annual Large Pelagic Logbook Newsletter. The primary purpose of this report is to summarize data and activities related to the mandatory large pelagics logbook and observer programs. This newsletter serves as a vehicle for dissemination of information to those directly involved in the fishery. In addition to updating catch, effort, CPUE, and location information, and detailing revisions to logbook reporting in 2000, this year's newsletter includes sections pertaining to swordfish, yellowfin, bigeye and albacore stock status, bycatch, mandatory dealer reporting, the longline observer program, and other related studies.

Comments and suggestions are invited; see section "WHOM TO CONTACT FOR WHAT."

COMPARISON OF 1996 - 1998 LOGBOOK CATCH AND EFFORT DATA

Nine summary tables are included in this newsletter. The numbers of swordfish, tunas, and billfish reported caught, by area, for 1996, 1997 and 1998 (preliminary) are given for longline (Tables 1a-1c) and gillnet (Tables 2a-2b). Longline effort is reported in hooks and numbers of boats and gillnet effort is reported in sets and numbers of boats. The longline boat statistics are from logbook reports that were considered to represent all pelagic longline sets including summary records; bottom longline records were excluded. Exclusion of bottom longline records does not exclude all set targeting species other than swordfish and tuna.

Between 1997 and 1998 reported longline effort (hooks set) decreased in all areas except the MAB and NCA. The only increased reported effort was for the NCA and this may reflect a shift of effort from the SAR rather than an actual increase in overall fishing effort.

Total reported longline effort for 1998 was lower than reported for 1997. The total number of longline boats decreased in 1998 from the levels reported in 1996 and 1997.

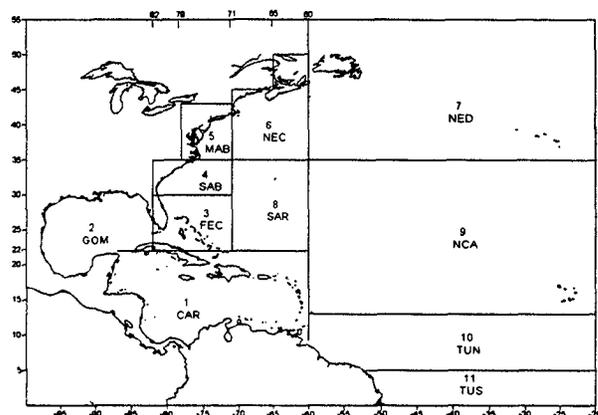


Figure 1. Map designating the eleven areas used in analysis of the swordfish logbook data.

Locations of areas are shown in Figure 1. Definitions are as follows: area 1 - Caribbean¹ (CAR), area 2 - Gulf of Mexico (GOM), area 3 - Florida East Coast¹ (FEC), area 4 - South Atlantic Bight¹ (SAB), area 5 - Mid Atlantic Bight¹ (MAB), area 6 - Northeast Coastal¹ (NEC), area 7 - Northeast Distant¹ (NED), area 8 - Sargasso¹ (SAR), area 9 - North Central Atlantic¹ (NCA), area 10 - Tuna North¹ - (TUN), and area 11 - Tuna South¹ (TUS).

The reported yellowfin tuna catch for the three-year period was approximately 65,000 (1996), 75,000 (1997), and 55,000 (1998) fish, respectively. Numbers of yellowfin tuna reported caught decreased by 27% from 1997 to 1998 (Tables 1a-1c).

In the GOM, the reported catch of yellowfin in numbers increased annually from 1990 through 1992 and decreased annually from 1992 to 1995. GOM catches of yellowfin increased annually from 1996 through 1997, but have declined slightly in 1998. In the MAB, the reported yellowfin catch in numbers generally increased until 1998 when the number caught decreased by 24%. In 1996 yellowfin catches decreased and remained at that level in 1997. Yellowfin tuna catches in 1998 decreased from 1996 and 1997 (Tables 1a-1c).

footnote¹
These are arbitrary areas and do not constitute official geographic areas.

In 1996 there were approximately 96,000 swordfish tabulated from longline records (caught = kept + discarded). There were approximately 89,000 swordfish reported in 1997; and 91,000 reported in 1998 (preliminary). Reported swordfish catch declined annually from 1995 to 1997. In 1998 swordfish catch increased slightly from 1997. The corresponding reported fishing effort for the three years was roughly 10.2, 9.5, and 7.7 (preliminary) million hooks, respectively (Tables 1a-1c). The preliminary number of reported hooks fished decreased by 19%, in 1998 compared to 1997.

Vessels operating in the CAR, GOM, SAR, TUN and TUS (Tables 1a-1c), reported decreases in annual swordfish catch by longline boats in 1998 compared to 1997. All other areas reported an increase in annual swordfish catch in 1998.

The gillnet fishery was closed from December 1996 through July 1998 in order to address a suite of fishery management issues including the reduction of marine mammal interactions. Table 2a and 2b contain the reported gillnet effort and catch for 1996 and 1998.

REPORTED FISHING LOCATIONS IN 1996, 1997, AND 1998

The location of reported commercial pelagic fishing effort by year for 1996-1998 is shown in Figures 2-4. The general pattern for reported sets is similar across the three years along the U.S. coastline. Fishing effort increased and expanded geographically in the southern offshore areas in 1996. Overall reported effort was reduced in 1998 with the greatest reductions in the offshore areas (NED, SAR, TUN, and TUS).

CPUE DATA

Tables 3a-3c represent 1996, 1997, and 1998 (preliminary) data, respectively, for swordfish and yellowfin tuna. These data are yearly totals, by areas as (defined in Figure 1) for: number of fish Kept; number Discarded dead and Discarded alive; Kept+Discarded; effort in HOOKS; the Number of sets; and the average of

the individual catch rates, $AV(C/E)$ (equivalent to average CPUE). This summary includes all gears that reported fishing with hooks that were not thought to be summary records. As such, this would include effort directed at species other than swordfish or tunas.

The totals reported in Tables 1a through 1c are different from the totals in Tables 3a through 3c because different criteria were used in selecting the records to be used. Tables 1a through 1c represent data from longline boats only, including summary reports filed by longline boats. Tables 3a through 3c represent all records that reported hooks except summary reports. Gears represented include, but are not limited to, longline, bottom longline, and rod and reel boats.

The data summarized here are considered to represent nominal CPUE. No attempt has been made in this summary to standardize the data for factors not related to fish abundance, but known to affect the CPUE values. Those analyses are carried out for the purpose of stock assessments, and are reported elsewhere.

The reported swordfish catch rates in 1996 for the CAR, FEC, SAB, NED and the NCA were, respectively, approximately 2.0 fish/100 hooks, 2.7 fish/100 hooks, 1.2 fish/100 hooks, 2.5 fish/100 hooks and 1.4 fish/100 hooks (Table 3a); in 1997 approximately 2.0 fish/100 hooks, 2.1 fish/100 hooks, 1.5 fish/100 hooks, 2.1 fish/100 hooks and 1.6 fish/100 hooks (Table 3b); and in 1998 (preliminary) approximately 2.0 fish/100 hooks, 2.8 fish/100 hooks, 3.2 fish/100 hooks, 3.2 fish/100 hooks and 1.9 fish/100 hooks (Table 3c).

The highest reported 1998 swordfish catch rates (3.2 fish/100 hooks) were in the NED and SAB.

Average reported CPUEs for yellowfin, on an annual basis, have been consistently high and increasing in the GOM fishery since 1996. The reported catch rates in the GOM in 1996 were approximately 1.1 fish/100 hooks (Table 3a); in 1997 approximately 1.3 fish/100 hooks (Table 3b); and in 1998 approximately 1.5 fish/100 hooks (Table 3c). The highest CPUE reported for 1998 was 2.8 fish/100 hooks in the MAB.

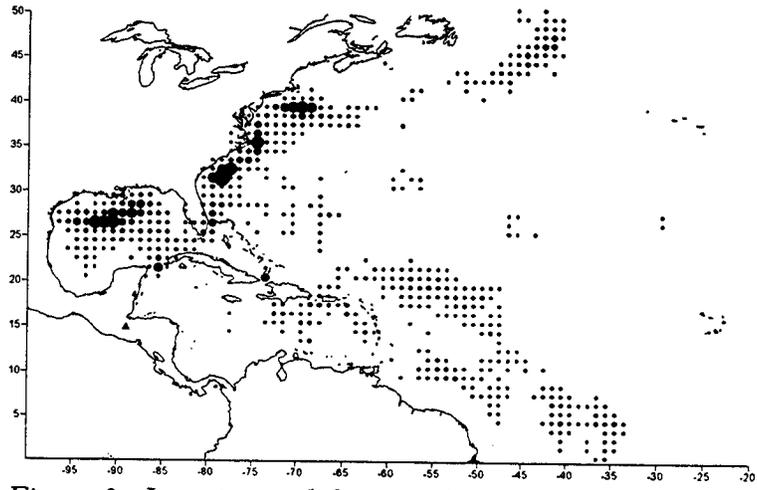


Figure 2. Location and density of reported longline effort in 1996.

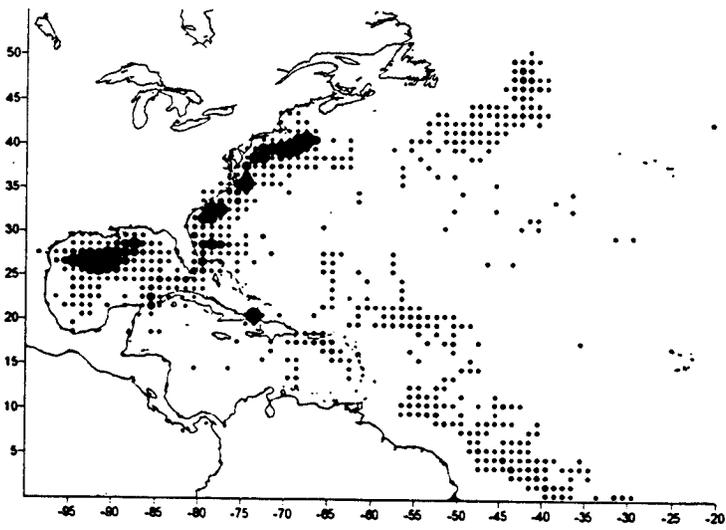


Figure 3. Location and density of reported longline effort in 1997

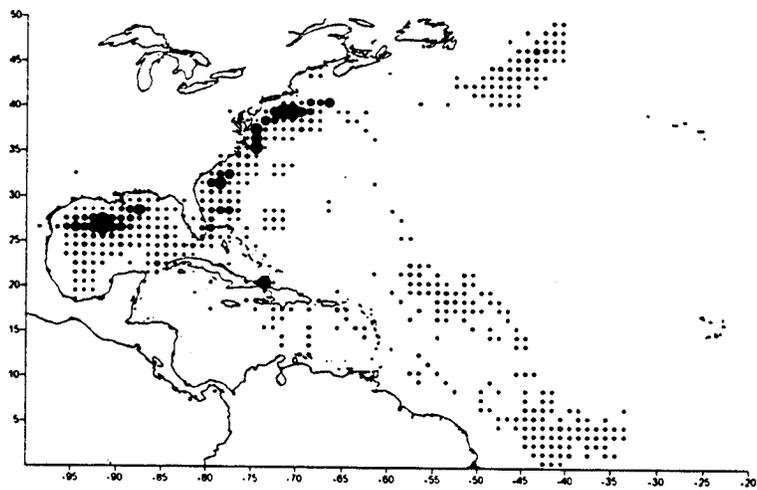
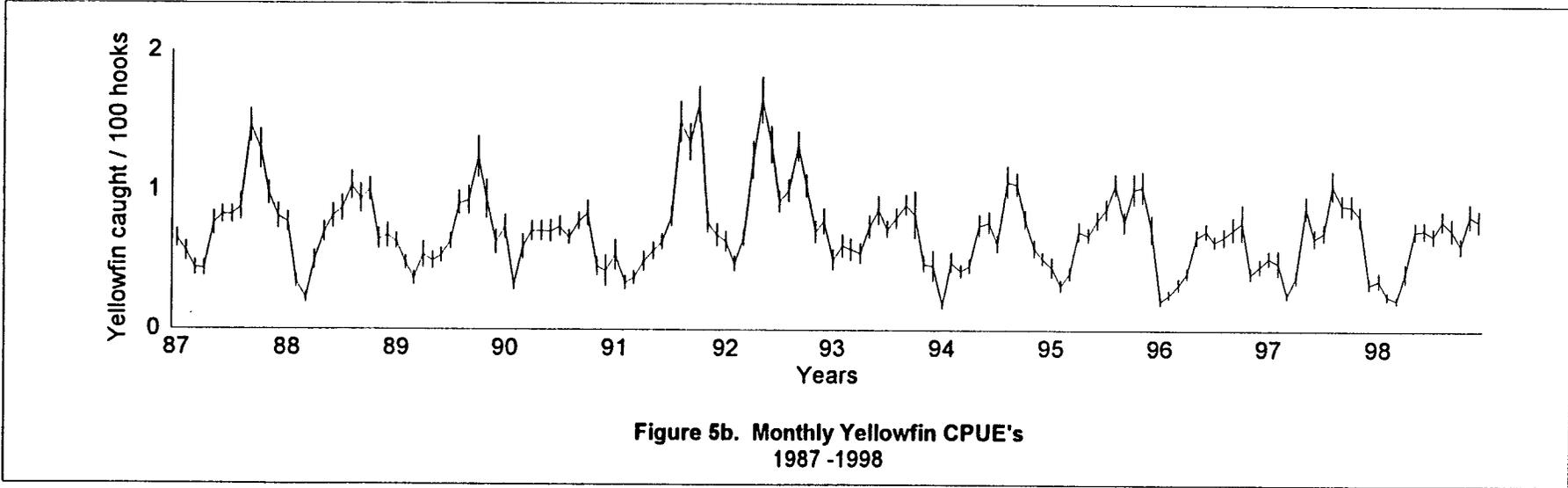
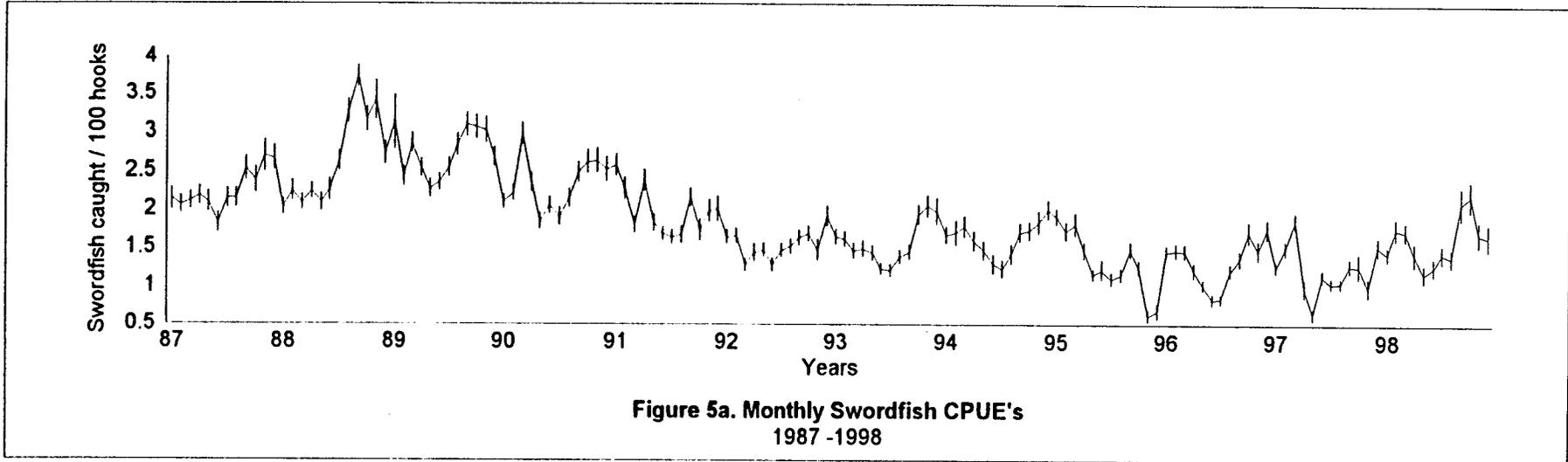
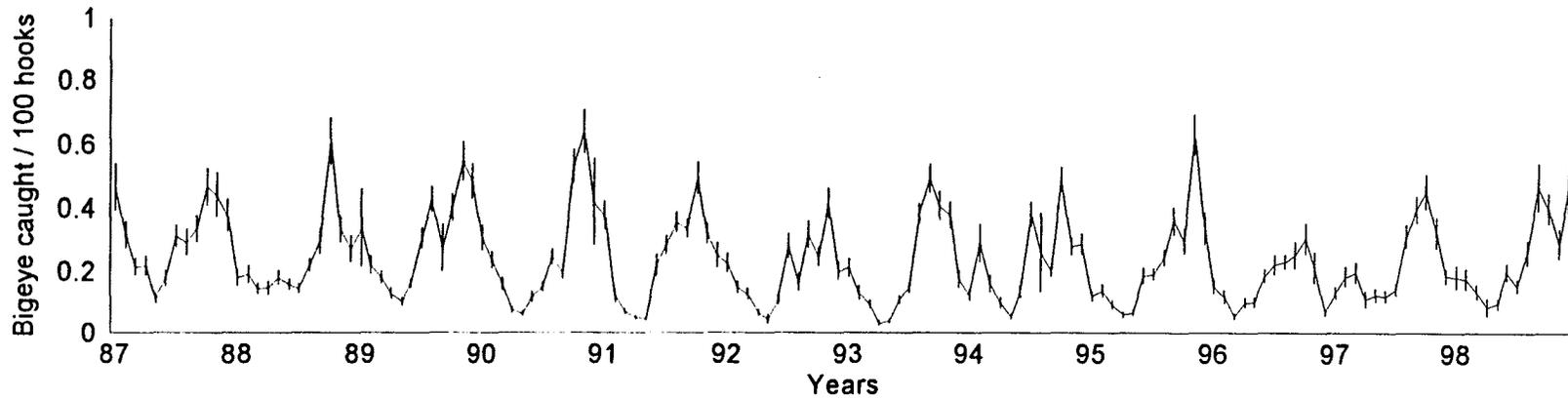
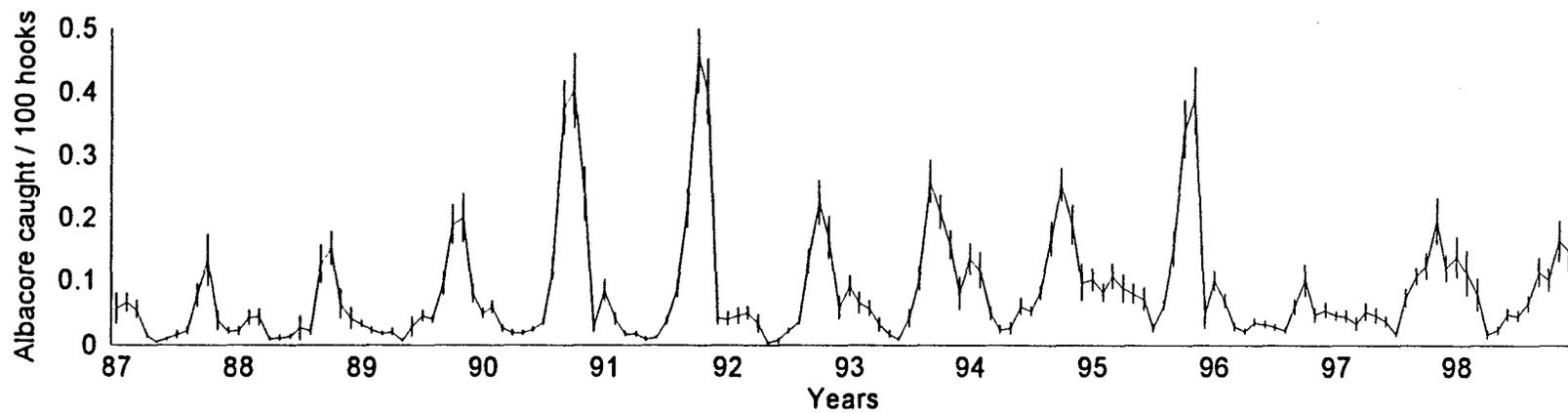


Figure 4. Location and density of reported longline effort in 1998





**Figure 5c. Monthly Bigeye CPUE's
1987 -1998**



**Figure 5d. Monthly Albacore CPUE's
1987 -1998**

Monthly reported CPUEs for swordfish, yellowfin, bigeye, and albacore from 1987 to 1998 are shown in Figures 5a -5d. The error bars represent + 2 standard errors from the mean.

SWORDFISH STOCK STATUS

Sex and age specific (north Atlantic) and biomass standardized catch rates (north and south Atlantic) were updated and northern and southern Atlantic swordfish stocks were assessed in 1999. A summary of these assessments are shown in the Table 4.

The base case assessments for north Atlantic swordfish indicate that recent reductions in reported catch have slowed or arrested the decline in swordfish biomass. Furthermore estimated high recruitment could promote improvement in future spawning stock biomass, if these year classes are not heavily harvested. Biomass at the beginning of 1999 was estimated to be 65% (range: 51 to 105%) of the biomass needed to produce MSY, and the 1998 fishing mortality rate was estimated to be 1.34 (range: 0.84 to 2.05) times the fishing mortality at MSY. The replacement yield for the year 2000 was estimated to be about 11,700 MSY. Anticipated 1999 catches are expected to be close to replacement levels given the recent fishery performance and current regulations. Recovery is likely to occur when catches are below replacement level.

The base case assessment for the South Atlantic stock assumption indicated that the biomass at the beginning of 1999 was estimated to be 110% (range: 84% to 104%) of the biomass needed to produce MSY, and the 1998 fishing mortality rate was estimated to be 0.81 (range: 0.47 to 2.54) times the fishing mortality at MSY. However, some of the sensitivity analyses were much more pessimistic than the base case. The status of the south Atlantic stock is more uncertain than the status of the north Atlantic stock due to the limitations of the indices of abundance and the absence of age and growth data.

ALBACORE STOCK STATUS

No new stock assessment for albacore was conducted in 1999. However, relevant catch and fishery information were updated. A summary of these updates and the 1998 assessments are shown in the Table 5.

Equilibrium yield per recruit and spawning potential ratio analysis made by the SCRS in 1998 indicated that the northern stock is not growth overfished. Equilibrium yield analyzes, made on the basis of an estimated relationship between stock size and recruitment, indicated that current fishing mortality may be about 25% higher than that which would generate MSY. ICCAT concluded that the northern stock is probably fully-exploited, but neither the possibility that it is over-exploited nor the impact of environmental variation should be dismissed.

The base case results from the 1998 assessment of south Atlantic albacore were different from the 1997 results. The main difference being that the 1998 results indicate a stock at biomass levels above those at MSY, whereas previous results indicated that the stock was below the biomass level at MSY. Since the variability associated with both estimates and the uncertainties of the assessments was large the 1988 Committee could not reach a definite conclusion on the status of this resource.

BIGEYE STOCK STATUS

An Atlantic bigeye stock assessment was conducted in 1999. A summary of the resource status from that assessment is shown in the Table 6.

Results of the production model analysis indicate that the estimated current biomass is likely to be below biomass at MSY. The VPA's indicated that the spawning stock biomass has rapidly and substantially declined over the past 5 years and fishing mortality rates have increased quickly since the early 1990s.

Yield-per-recruit analyses suggests that there is no substantial increase in yield by intensifying fishing effort of any sector, however, yield -per-recruit can be increased by a reduction of fishing effort in the small-fish fisheries.

Although the outlook for this stock is highly uncertain, the trends suggest that the stock will continue to go down if the current catch levels are maintained.

YELLOWFIN STOCK STATUS

No new assessment was conducted for yellowfin tuna in 1999. A summary of the 1998 assessment and updated yields are shown in the Table 7.

The 1998 production model analyzes imply that although yellowfin tuna catches are slightly lower than equilibrium MSY levels, effort may be either above or below the MSY level. VPA analyses indicate that fishing mortalities on juvenile yellowfin exhibited a pronounced increasing trend in the late 1980's and early 1990's, but estimates for recent years are uncertain. Preliminary deterministic projections from two of the VPA runs indicated that current catches are sustainable if recruitment continues at or above the average magnitude observed over the last decade. Yield-per-recruit analyses indicate that current (1997) fishing mortality may be close to the level of F_{max} and that an increase in effort is likely to decrease the yield-per-recruit, while reductions in fishing mortality on fish less than 3.2 kg could result in substantial gains in yield-per-recruit and modest gains in spawning biomass -per-recruit.

In summary, yellowfin landings appear to be close to MSY level and fishing effort and fishing mortality may be in excess of the levels associated with MSY. It is important to ensure that effective effort does not increase further.

MANDATORY REPORTING IN THE ATLANTIC LARGE PELAGIC FISHERY

Federal regulations require that both fishermen and dealers assist the conservation and

management of large pelagic species by providing statistics on fishing activity and seafood production respectively. 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 or size category and the price or value for the respective categories. Both fishermen and dealers are required to maintain an active Federal permit to fish for or purchase swordfish.

Fishermen Reporting.

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

If the vessel did not fish during a calendar month, a "no-fishing" report must be submitted.

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

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

Questions or requests for clarifications can be directed to Logbook Program at the Southeast Fisheries Science Center, telephone number (305) 361-4581.

During 1998, an active permit for the large pelagic fishery was issued to 1,152 vessels. 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. If logbooks and weighouts were not submitted for the catch of the 12 months in the reporting period prior to the expiration of the permit, the application

for renewal was denied until all reporting was brought up to date.

As of July 1, 1999 access to swordfish permits was restricted to individuals qualifying on the basis of historic catch in the fishery. As of November 29, 1999, 239 directed, 205 incidental, and 43 hand gear swordfish permits have been issued.

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 quota for swordfish. Dealers are instructed to provide the U.S. Coast Guard documentation or state registration number for every vessel from which they purchased swordfish during each two week reporting period. This information is used to check the dealer data against the daily catch data submitted by fishermen. This cross reference helps the SEFSC determine that all landings are included in the quota monitoring process and it also guards against potential double counting.

Reports should be mailed to:

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

except for a dealer whose principal place of business is in an Atlantic coastal state from Maine through Virginia. The appropriate address for those dealers is:

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

For most dealers in the Northeast Region, NMFS port agents contact and collect the dealer reports.

At sometime during calendar year 1998, a Federal dealer permit was held by 255 dealers. Of this total, 73 dealers had their primary location in the Northeast Region and the remaining 182 dealers had their primary location in the Southeast Region, which includes the Caribbean. Overall, compliance with the reporting requirements has been good in this area. However, dealers that do not cooperate with the NMFS and do not submit the required bi-monthly reports will have their application for a permit renewal denied, and NMFS Law Enforcement will be notified. It should be noted that a report is required for every two week period, even if large pelagic species were not purchased. If no purchases were made, the respective Center Director must be informed. In the Southeast Region, a form so-stating must be submitted.

SWORDFISH LANDINGS

The Southeast Fisheries Science Center (SEFSC), Miami Laboratory, is responsible for compiling the landings of U.S. caught Atlantic swordfish from mandatory reporting data. The monthly reported landings for 1990-1998 may be found in Table 9. U.S. Atlantic swordfish landings decreased each year from 1990 to 1994, increased somewhat in 1995, then decreased again from 1996 to 1998.

Monthly cumulative annual landings of U.S. Atlantic swordfish are compared in Figure 6 for years 1990-1998. Yearly U.S. Atlantic swordfish landings from 1991 to 1998 were lower than 1990 landings. These lower levels are, in part, the result of the minimum size regulation and due to fishery closures when allowable landing levels for the directed fishery were achieved.

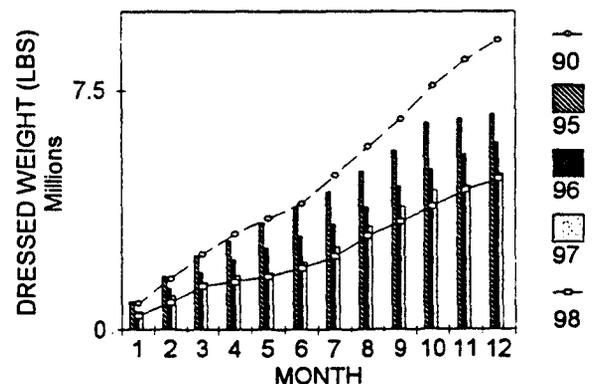


Figure 6. SWORDFISH LANDINGS

SWORDFISH LANDED IN THE U.S.

Year	1,000 lbs. Dressed wt.	1,000 lbs. Whole wt.
1989	10,582	14,075
1990	9,107	12,112
1991	7,142	9,499
1992	6,383	8,489
1993	6,274	8,345
1994	5,578	7,419
1995	6,764	8,996
1996	5,889	7,832
1997	4,933	6,561
1998	4,754	6,323

SWORDFISH < 41 LBS. DRESSED WEIGHT - NUMBER AND PERCENT LANDED BY MONTH BY AREA

The cumulative percent of fish landed less than 41 lbs dressed weight from all areas and all months fell from 38% in 1990 to 13% in 1993 and then went up to 21% in 1998 (Table 11). The within area percentage landed catch of fish less than 41 lbs decreased in most areas between 1991 and 1995, but increased since 1996 (Table 11). The highest numbers of undersize fish landed in 1998 were from the SAB region (Tables 10, 11 & 12).

SWORDFISH < 41 LBS. DRESSED WEIGHT - PERCENT LANDED

The proportion of U.S. Atlantic swordfish landed which were smaller than 41 lbs dressed weight has decreased since 1990 (Figure 7). In 1990 the highest number of fish landed were in the 21-41 lb category. In 1991 this peak shifted to the 41-60 lb category where it has since remained.

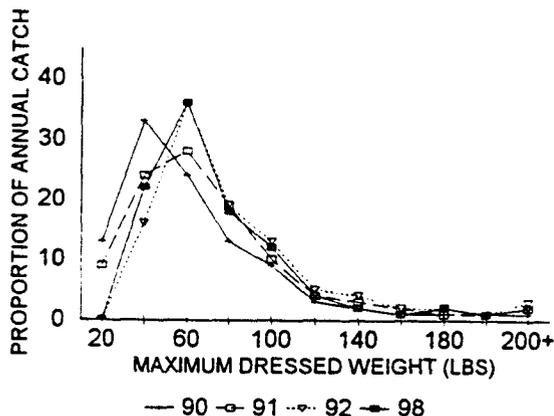


Figure 7. U.S. CATCH AT SIZE

SWORDFISH SIZE FREQUENCY

The proportion of swordfish landed which were less than 41 lbs dressed weight in size frequency samples from U.S. longline vessels, decreased from 1989 through 1995, but has increased since 1996 (Figure 8a). The initial decrease resulted from the minimum size measure put in place in mid 1991. The increase since 1996 is probably the result of lowering the minimum size from 41lbs to approximately 33lbs in mid 1996. The proportion of swordfish landed which were less than 33 lbs dressed weight is shown in Figure 8b. The 1998 percentage of landed fish below 33 lbs dressed weight was equal to 0.0% in each area.

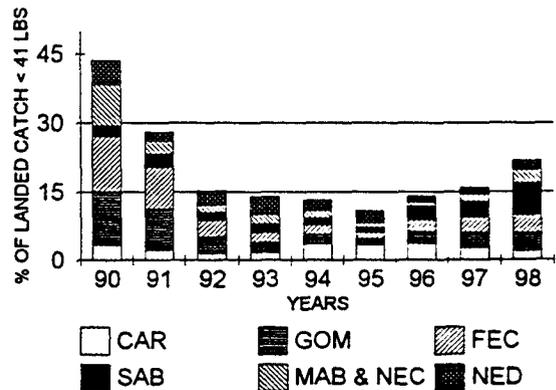


Figure 8a. SWORDFISH SIZE FREQUENCY

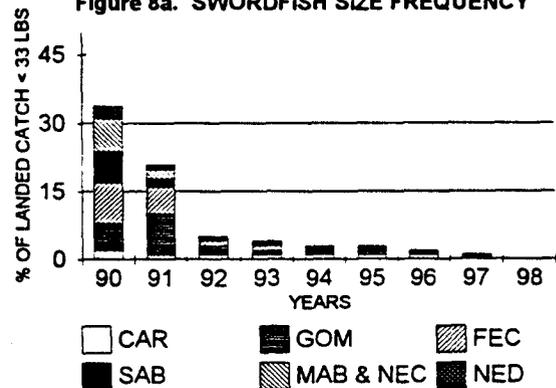


Figure 8b. SWORDFISH SIZE FREQUENCY

BYCATCH ESTIMATION

The 1998 observer and 1998 logbook records were used to estimate the number of discarded dead swordfish (29,467), blue marlin (935), white marlin (1,641), and sailfish (1,350), dusky sharks (1,265), silky sharks (1,050), hammerhead sharks (565), night sharks (921), coastal sharks (552), blue sharks (5,295) and pelagic sharks (707).

TAGGING HIGHLIGHTS

Two hundred and ninety five swordfish were tagged and released and 30 tagged swordfish were recaptured in 1998. In 1999, 199 swordfish were tagged and released and 9 tagged swordfish were recaptured. For the recaptured swordfish, the maximum interval between tagging and recapture was 6.5 years, the minimum interval was 91 days and the average interval was 3.0 years. In Figure 9 straight lines are drawn between release and recovery locations of swordfish that were recovered in 1998 or 1999 in cases where release and recovery locations were significantly different

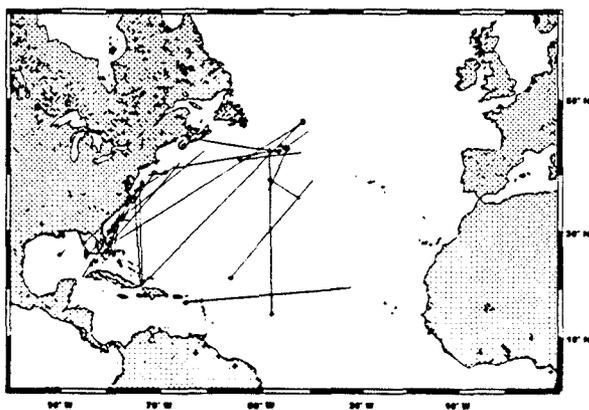


Figure 9. Long range swordfish migrations from 1997 and 1998 tag returns.

There were several noteworthy billfish recaptures during 1998. The longest reported sailfish movement (i.e. minimum straight distance traveled) was 1,120 nautical miles (NM) from a fish released off South Florida (24 degrees N, 80 degrees W) and recaptured off La Guaira, Venezuela (11 degrees N, 65 degrees W) after 981 days at large.

The longest distance traveled for a blue marlin recaptured in 1998 was 2,643 NM from a fish released off La Guaira, Venezuela (11 degrees N, 65 degrees W) and recaptured off Sierra Leone (7 degrees N, 22 degrees W). The longest distance traveled by a white marlin in 1998 was 1,558 NM from a fish released off Hatteras, North Carolina (36 degrees N, 75 degrees W) and recaptured off La Guaira, Venezuela, after 1,649 days.

For bluefin tuna, the longest movement during 1998 (4,376 NM) was from a fish released off Hatteras, North Carolina (36 degrees N, 75 degrees W) and recovered off the Ghana coast (4.3 degrees N, 3.5 degrees W) 178 days later. There were also several trans-Atlantic movements of yellowfin tuna, the longest released off Cape Hatteras (35 degrees N, 75.5 degrees W) and recaptured off the Ivory coast off west Africa (1.7 degrees N, 11.5 degrees W), a distance of about 4,924 NM, in 739 days.

PELAGIC OBSERVER PROGRAM

The National Marine Fisheries Service (NMFS) continues its scientific observer sampling of the U.S. large pelagic fleet, as mandated by the U.S. Swordfish Fisheries Management Plan. Scientific observers are placed aboard vessels participating in the Atlantic large pelagic fisheries by the Southeast Fisheries Science Center (SEFSC) and the Northeast Fisheries Science Center (NEFSC) since 1992. Over this time period, coverage by the SEFSC Pelagic Observer Program (POP) took place, but is not limited, to vessels fishing in the Atlantic south of Virginia. The scientific observer program contracted and monitored by the NEFSC was responsible for large pelagic fleet fishing the waters of the Mid-Atlantic Bight¹ to the Grand Banks. Beginning in 1996, the SEFSC assumed the responsibility of covering all of the geographical areas of the northwest Atlantic.

A scientific observer is placed on board the vessel to record detailed information on gear characteristics, the location and time of the gear set and retrieval, environmental conditions, the condition and status of the animals caught by the gear (alive or dead, kept or discarded), as well as morphometric measurements (length and weight) and sex identification when possible (Figure 9). Observers also record the occasional interaction of marine mammals and sea turtles. The collection of biological samples (anal finrays, heads, reproductive, heart tissue, etc.) from some animals are used to support research studies to learn more about fish biology and life history behavior.

Catch data collected between May of 1992 and December of 1996 by the POP has been summarized in a newsletter (NOAA Technical

Memorandum, NMFS-SEFSC-408) which are available upon request. The POP has continued its coverage and data through mid-1999 are now computerized for analysis. Of the 78,801 fish and protected species recorded by POP observers from 1992-1998 and summarized in various species groups, (Figure 9), swordfish was the highest percent (27%) occurrence species.

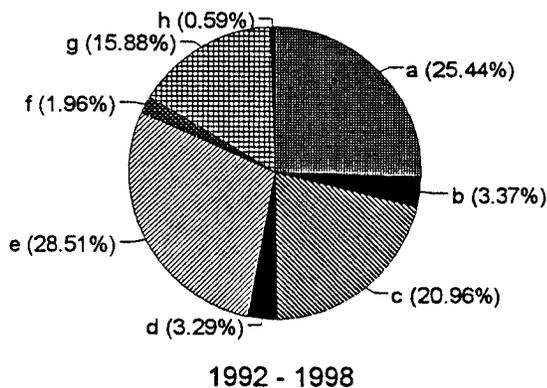


Figure 10. Catch reported by scientific observers on U.S. longline vessels: swordfish (a); billfish (b); yellowfin, bigeye and bluefin tuna (c); other tunas (d); sharks and rays (e); unknown species (f); finfish (g); marine turtles, marine mammals, and birds (h)

INSTRUCTIONS FOR USING THE PELAGIC LOGBOOKS FOR 2000

Samples of forms and directions for filling out forms are presented in Figures 11 - 16. There are 4 forms used for pelagic logbook reports in 2000: (1) a "trip summary" form, (2) a voluntary cost and earnings form, (3) a "set" form, and (4) a "no fishing" form. The trip summary form must be completed for every fishing trip when swordfish are caught and retained on board. A set form must be completed for every set made. A trip summary, set forms and a "tally" sheet must be submitted for every completed trip.

The voluntary cost and earnings form is used to provide information on the costs associated with the fishing trip. This information is voluntary.

The "no-fishing" form may be used to report no fishing in the swordfish/large pelagic, South Atlantic snapper-grouper, Gulf of Mexico reef fish, and shark fisheries. If the vessel did not fish in more than one of these fisheries, **ONLY SUBMIT**

ONE "NO-FISHING" FORM. Check the space by each of the fisheries in which the vessel did not fish. 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. If you mail the forms in another envelope, please use the following address:

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

If there are question regarding completion of this form, please contact the Logbook Program at (305) 361-4581.

Monthly reporting for individuals holding a Swordfish permit will be considered complete and in compliance with the regulations only if 1) the trip summaries for each trip completed during the month, individual set records for each set made during the trip(s), and tally records for all fish sold are provided or, 2) a no fishing report is provided.

Again, as noted on the new logbook forms, **use of the current year forms will be necessary for compliance.** Further, **all old forms should be destroyed upon receipt of the 2000 forms.**

WHOM TO CONTACT FOR WHAT

Any questions concerning Atlantic large pelagic resources swordfish projects at the Southeast Fisheries Science Center, NMFS, can be directed to Dr. Gerald Scott at (305) 361-4220 questions concerning processing and analyzing the logbook data can be directed to Dr. Jean Cramer at (305) 361-4493. Information concerning permits can be directed to (727) 570-5326. Those needing 2000 logbooks can contact the logbook program at (305) 361-4581. Questions about the observer program should be directed to Dennis Lee (305) 361-4247 or Cheryl Brown (305) 361-4275. If you have comments on this newsletter, or other comments, you can write them on your logbook reports or send them to Dr. Jean Cramer, SEFSC, NMFS, 75 Virginia Beach Drive, Miami, FL 33149.

Figure 11. 2000 PELAGIC LOGBOOK - TRIP SUMMARY FORM (The Blue Book)

Use **BLACK** Ink Only !

OMB 00648-0018 Exp 9/30/2000

**2000 PELAGIC LOGBOOK
TRIP SUMMARY**

NOAA Received Date

NOAA Schedule #

20038116

Vessel Name: _____

Date of Departure:

Month	Day	Year
<input type="text"/>	<input type="text"/>	2000

Vessel No:

<input type="text"/>									
----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------

Date of First Set:

<input type="text"/>	<input type="text"/>	/	<input type="text"/>	<input type="text"/>	/	2000
----------------------	----------------------	---	----------------------	----------------------	---	------

Contact Phone Number (____) _____

Date of Last Set:

<input type="text"/>	<input type="text"/>	/	<input type="text"/>	<input type="text"/>	/	2000
----------------------	----------------------	---	----------------------	----------------------	---	------

Capt Signature: _____

Number of Sets

<input type="text"/>	<input type="text"/>
----------------------	----------------------

Port & State Departure: _____

Number of Fishing Days

<input type="text"/>	<input type="text"/>
----------------------	----------------------

Port & State of Landing: _____

Date of Landing:

<input type="text"/>	<input type="text"/>	/	<input type="text"/>	<input type="text"/>	/	2000
----------------------	----------------------	---	----------------------	----------------------	---	------

Number of Crew Members

<input type="text"/>	<input type="text"/>
----------------------	----------------------

 (excluding captain)

First Day Offload:

<input type="text"/>	<input type="text"/>	/	<input type="text"/>	<input type="text"/>	/	2000
----------------------	----------------------	---	----------------------	----------------------	---	------

Dealer Names: _____

Federal Dealer Permit No.

<input type="text"/>	<input type="text"/>	-	<input type="text"/>						
<input type="text"/>	<input type="text"/>	-	<input type="text"/>						
<input type="text"/>	<input type="text"/>	-	<input type="text"/>						

Figure 12. INSTRUCTIONS FOR PELAGIC LOGBOOK TRIP SUMMARY FORMS

Please use a ballpoint pen and print clearly.

Record the following on the **BLUE** form

Vessel Name

Vessel No.: U.S. Coast Guard vessel identification number or state registration number as recorded on permit application

Contact Telephone: telephone number of person responsible for the records

Capt. Signature: signature of the captain for the trip

Port & State of Departure: location of port from which the trip commenced

Port & State of Landing: location of port that vessel arrived in

Number of Crew Members: number of persons paid as crew (excluding captain)

Dealer Name(s): list of names of dealers purchasing the harvest

Date of Departure: calendar date (mm/dd/2000) on which the trip was started

Date of First Set: calendar date (mm/dd/2000) of first set made on trip

Date of Last Set: calendar date (mm/dd/2000) of last set made on trip

Number of Sets Placed: number of times the fishing gear was set during the trip

Number of Days Fished: number of days that the fishing gear was used

Date of Landing: the date the vessel arrived back at port. This date can be different from the offloading date

First Day Offload: calendar date (mm/dd/2000) that vessel began offloading fish

Federal Dealer Permit Number(s)

NOTE: All data provided are **CONFIDENTIAL** and will be used to determine the impact of existing and proposed management policies on fishery participants. Consistent and accurate reporting is critical to the success of future policies in achieving the stated objective of increasing net benefits. The trip expense and payment data are not mandatory.

Record the following on the **GREEN** sheet:

Fuel: price per gallon paid for fuel used during trip. (If did not refuel for trip, record price paid last time purchased fuel.)

Fuel: gallons of fuel used during trip. (Note that this is not quantity purchased.)

Bait: price per box of bait

Bait: number of boxes used during trip.

Bait: size of box of bait purchased in pounds

Light sticks: price per light stick

Light sticks: number of light sticks used during trip (If a light stick was re-used, only count it once.)

Ice: complete either price per pound or price per block of ice. (If you purchase ice by the ton, please divide price paid per ton of ice by 2000 to get price per pound.)

Ice: Number of pounds or blocks purchased of ice. (If you purchase ice by the ton, please multiply tons purchased by 2000 to get quantity purchased in pounds.)

Gear Expenses: record total cost of gear expenses on trip, including hooks replaced, line gangions, buoys, etc.

Grocery expense

Repair/Maintenance: Record all repair and maintenance expenses incurred prior to each trip, excluding dry dock.

Total Shared Costs: Record the sum of all costs incurred for this trip that are subtracted from gross revenues prior to calculating crew share payments. If vessel does not use crew share system, record zero (0).

Total Costs: All costs incurred for this trip excluding payments to owner, captain, crew and broker but including expenditures on items cited above and any other trip-related expenditures, e.g., docking/offloading fees (if separate from broker fee).

Owner Share: Percentage of net revenue (gross revenue less total shared costs) paid to owner.

Captain Share: Percentage of net revenue paid to captain.

Crew Share: Average share (percentage of net revenue) paid to crew, excluding captain. If vessel does not use crew share system, then calculate payments as a percentage of (estimated) gross revenue.

Broker/Selling Expense or Broker Percentage: Report either the (estimated) broker/selling fee or the percentage of gross revenue charged by the broker. (If catch is sold to multiple brokers, please report for broker handling majority of catch or report the average charged across brokers.)

Remove page, attach corresponding set forms and tally sheet, and mail within 7 days after last offloading date. Retain the white sheet for your records.

Figure 13. 2000 PELAGIC LOGBOOK - VOLUNTARY TRIP EXPENSE & PAYMENT SUMMARY

TRIP EXPENSE & PAYMENT SUMMARY

		UNIT COST		QUANTITIES USED			
Fuel	Price per gallon	\$	<input type="text"/>	•	<input type="text"/>	Gallons used	<input type="text"/>
Bait	Price per box	\$	<input type="text"/>	•	<input type="text"/>	Boxes used	<input type="text"/>
						Box size (LBS)	<input type="text"/>
Light Sticks	Price per stick	\$	<input type="text"/>	•	<input type="text"/>	Light Sticks used	<input type="text"/>
Ice	Price per pound	\$	<input type="text"/>	•	<input type="text"/>	Price per block	\$ <input type="text"/> • <input type="text"/>
						Quantity Ice (lbs /blocks)	<input type="text"/>

	TOTAL COSTS
Gear Expenses (hooks, gangions, etc.)	\$ <input type="text"/> • <input type="text"/>
Grocery Expense	\$ <input type="text"/> • <input type="text"/>
Repair/Maintenance (expense incurred prior to trip)	\$ <input type="text"/> • <input type="text"/>
Total Shared Costs (Includes only those costs subtracted from gross revenues to calculate payments to crew.)	\$ <input type="text"/> • <input type="text"/>
Total Cost (All costs incurred for this trip excluding payments to owner, captain, crew and broker but including items above and any other trip expense.)	\$ <input type="text"/> • <input type="text"/>

Crew Share	Owner	<input type="text"/>	%
	Captain	<input type="text"/>	%
	Crew (average)	<input type="text"/>	%
Broker/Selling Expense	\$ <input type="text"/>	or	Broker Percentage <input type="text"/> %

Remove page, attach corresponding set forms and tally sheet and mail in the pre-addressed envelope. Forms are to be post-marked no later than the 7th day after last offloading date.

Figure 14. PELAGIC LOGBOOK SET FORM (The White Book)

NOAA Form 88-191 (Revised 9/99)

OMB Number 0648-0016 Exp 9/30/2000

Use Black Ink only!

2000 PELAGIC LOGBOOK - Set Form	20028876
--	-----------------

Official Vessel Number:

TARGET: Swordfish Yellowfin Bigeye Mixed Tuna Sharks Dolphin Other (list) _____

GEAR: Pelagic Longline Bottom Longline Handline Harpoon Gillnet Bandit

Rod & Reel Pair Trawl Otter Trawl Squid Trawl Green Stick(tuna) Other (list)

Set Date: / / **2000** Haulback Date: / / **2000**

Begin Set: : am pm End Set: : am pm
 Begin Haulback: : am pm End Haulback: : am pm

Latitude at beginning: North Longitude at beginning: West Surface Water Temp: F
Loran-Y Deg Min

LONGLINE: **GILLNET:**

No. of Hooks <input type="text"/>	Mainline Length (nm) <input type="text"/>	Use Line Thrower <input type="radio"/> Yes <input type="radio"/> No Were You Tending/Rebaiting hooks before haulback? <input type="radio"/> Yes <input type="radio"/> No If yes then - # of hooks rebated: <input type="text"/>	Mesh size (in): <input type="text"/>
No of Hooks between Floats <input type="text"/>	Gangion Length (fm) <input type="text"/>		Total Net Length (fm) <input type="text"/>
No. of lights sticks <input type="text"/>	Floatline Length (fm) <input type="text"/>		Fishing Depth Range (fm): <input type="text"/> to <input type="text"/>
Bait Used: <input type="radio"/> Live <input type="radio"/> Dead <input type="radio"/> Artificial			

SWORDFISH and TUNA **SHARK**

	No. Kept	No. Thrown Back		Est. Lbs. Kept		No. Kept	No. Thrown Back		Est. Lbs. Kept
		Alive	Dead				Alive	Dead	
Swordfish									
Bonito Tuna					Blue				
Bluefin Tuna					Mako, Longfin				
Skipjack Tuna					Mako, Shortfin				
Yellowfin Tuna					Oceanic Whitetip				
Blackfin Tuna					Porbeagle				
Albacore Tuna					Thresher, Bigeye				
Bigeye Tuna					Thresher, Common				
Other Tuna					Other Pelagic				

OTHER SPECIES : **COASTAL SHARK:**

White Marlin					Bignose				
Blue Marlin					Blacktip				
Sailfish					Dusky				
Spearfish					Hammerhead, Great				
Escolar					Hammerhead, Scalloped				
Dolphin (Mahi)					Hammerhead, Smooth				
Wahoo					Night				
King Mackerel					Sandbar				
Greater Amberjack					Silky				
Banded Rudderfish					Spinner				
Other Species1					Tiger				
Other Species2					White				
Other Species3					Other Coastal				

SEA TURTLES

	Involved	Injured	Dead		Involved	Injured	Dead
Leatherback				Kemp's Ridley			
Loggerhead				Hawksbill			
Green				Other Turtles			

Figure 15. INSTRUCTIONS FOR PELAGIC LOGBOOK SET FORM

Revised (9-99)

IMPORTANT INSTRUCTIONS

Please print all information clearly.

DESTROY OLD FORMS. USE ONLY CURRENT YEAR FORMS.

----Please use a separate log sheet for each set. If using a gear that is not fished in sets, use one sheet for each day of fishing.

Record the, Official Vessel Number.

Designate primary Target species.

Record Gear Used.

Record Set Date (calendar day when set began) and Haulback Date.

Enter Times when using longlines or gillnets for:

-- Begin Set and Begin Haulback (designate AM or PM)

-- End Set and End Haulback (designate AM or PM)

At the start of each set, record the location to the nearest degree and minutes of LAT (Latitude) and LON (Longitude), and the Surface Water Temperature, in degrees Fahrenheit.

Enter the following data for each set if using Longline gear:

-- Number of hooks set

-- Number of hooks between floats

-- Number of light sticks

-- Length of Mainline (in miles)

-- Length of Gangions (in fathoms)

-- Length of Floatline (in fathoms)

-- Did you use a line thrower?

-- Were you tending or rebaiting hooks before haulback? If yes, specify how many hooks were rebaited.

-- Bait: indicate Live, Dead or Artificial.

Enter the following data for each set if using Gillnet:

-- Mesh Size (in inches)

-- Total drift gillnet net length (in fathoms)

-- Fishing Depth Range (Depth of top and of Bottom of net in fathoms)

Record Estimated total dressed weight (in pounds) of fish kept.

Record NUMBERS OF SWORDFISH, TUNAS, SHARKS AND OTHER SPECIES KEPT AND THROWN BACK.

Specify the number of fish that were thrown back Alive and the number thrown back Dead.

Record NUMBERS OF SEA TURTLES INVOLVED

-- Total Number Involved. Write down the total number of each sea turtle species that were caught in, or interacted with, your fishing gear for the period of your report.

-- Number Injured. Write down the number of each sea turtle species that were injured while in, or by, your fishing gear.

-- Number Dead. Write down the number of each sea turtle species that were observed to be dead while in, or by, your fishing gear.

-- Est. Lbs Kept. Write down estimated dressed weight in pounds of fish kept for each species.

Mail original logs to NMFS at the end of the fishing trip in pre-addressed envelopes along with the Trip Summary Form and weighout slip.

Mailing should be postmarked not later than the 7th day after the sale of the catch.

Monthly reporting for individuals holding a Swordfish permit will be considered complete and in compliance with the regulations only if 1) the trip summaries for each trip completed during the month, individual set records for each set made during the trip(s), and tally records for all fish sold are provided or 2) a no fishing report is provided.

Figure 16. NO FISHING FORM.

NO FISHING REPORTING FORM

Vessel ID. NO.

--	--	--	--	--	--	--	--	--	--

 Vessel Name: _____

During the entire month of

--	--

, year

--	--	--	--

 this vessel DID NOT FISH in the fisheries checked below:

- > more than one fishery may be checked
- > DO NOT check any fishery if your vessel does not have a permit for it
- > Use Black Ink

- Pelagic (Swordfish)
- South Atlantic Snapper-Grouper
- Gulf of Mexico Reef Fish
- Shark
- King Mackerel
- Spanish Mackerel

Signature _____ Phone () _____ - _____

Table 1. TOTAL NUMBER OF SWORDFISH, TUNA, AND BILLFISH REPORTED CAUGHT BY LONGLINE BOATS, BY AREA, AND EFFORT IN NUMBER OF HOOKS, FROM THE SWORDFISH MANDATORY LOGBOOKS, FOR (a) 1996, (b) 1997 and (c) 1998 (PRELIMINARY). NUMBERS CAUGHT REPRESENT KEPT PLUS DISCARDED (DEAD OR ALIVE). SEE FIGURE 1 FOR DESIGNATION OF AREAS. (SWD=SWORDFISH; YFT=YELLOWFIN; BET=BIGEYE; BFT=BLUEFIN; ALB=ALBACORE; WHM=WHITE MARLIN; BUM=BLUE MARLIN; SAI=SAILFISH.)

Ia. 1996										
Area	SWD	YFT	BET	BFT	ALB	WHM	BUM	SAI	HOOKS	BOATS
CAR	12911	814	865	0	295	171	463	44	648693	56
GOM	18316	34523	359	93	122	490	646	586	3505591	134
FEC	13779	772	1432	29	263	109	204	303	569251	73
SAB	15999	6200	1054	81	594	290	386	248	1578690	82
MAB	2199	10692	2434	201	520	315	53	20	1032106	83
NEC	1707	5993	5196	1472	987	459	262	10	1127098	65
NED	14553	363	3569	15	896	12	3	0	597782	22
SAR	796	88	397	16	401	33	6	2	88085	12
NCA	7056	604	625	0	905	162	137	21	496745	31
TUN	4503	4577	1718	0	214	423	819	188	357631	16
TUS	4113	759	806	0	83	37	120	44	165311	9
TOTAL	95932	65385	18455	1907	5280	2501	3099	1466	10166983	264

Ib. 1997										
Area	SWD	YFT	BET	BFT	ALB	WHM	BUM	SAI	HOOKS	BOATS
CAR	8340	341	557	2	221	154	295	40	439725	45
GOM	16015	38238	431	115	300	392	512	623	3410236	118
FEC	13501	1952	2923	44	746	100	171	192	784615	73
SAB	11620	2769	198	18	263	142	156	121	946495	67
MAB	4518	11108	5556	174	1939	274	38	3	1202002	81
NEC	5406	15018	6124	465	2666	419	54	3	1227266	59
NED	14591	85	3190	50	1011	8	3	1	688844	22
SAR	396	25	64	1	42	16	1	0	21640	7
NCA	3356	181	230	2	184	105	70	7	214596	24
TUN	1567	1845	533	0	78	251	605	222	202696	21
TUS	9435	3766	3283	0	204	589	398	550	390951	21
TOTAL	88745	75328	23089	871	7654	2450	2303	1762	9529066	257

1c. 1998										
Area	SWD	YFT	BET	BFT	ALB	WHM	BUM	SAI	HOOKS	BOATS
CAR	5124	309	361	1	200	118	156	38	284546	30
GOM	11920	37215	406	173	82	418	558	434	2905484	99
FEC	14306	1000	3135	77	1019	210	246	183	665657	69
SAB	20003	1678	92	17	94	126	130	108	710125	53
MAB	8216	8442	6549	932	3875	166	25	8	1213910	63
NEC	5904	4644	5317	312	1474	146	44	4	849009	39
NED	15641	96	1548	27	103	18	3	1	503579	15
SAR	25	3	0	0	0	0	0	0	3500	3
NCA	4495	150	278	3	332	112	46	3	246517	12
TUN	1117	722	784	0	97	138	58	30	104741	12
TUS	4410	956	656	0	31	42	29	26	174525	11
TOTAL	91161	55215	19126	1542	7307	1494	1295	835	7661593	210

Table 2. TOTAL NUMBER OF SWORDFISH, TUNA, AND BILLFISH REPORTED CAUGHT BY GILLNET BOATS, BY AREA, AND EFFORT IN NUMBER OF SETS AND NUMBER OF BOATS, FROM THE SWORDFISH MANDATORY LOGBOOKS, FOR (a) 1996, (b) 1998 (PRELIMINARY). GILLNET FISHERY WAS CLOSED IN 1997. NUMBERS CAUGHT REPRESENT KEPT PLUS DISCARDED (DEAD OR ALIVE). SEE FIGURE 1 FOR DESIGNATION OF AREAS. (SWD=SWORDFISH; YFT=YELLOWFIN; BET=BIGEYE; BFT=BLUEFIN; ALB=ALBACORE; WHM=WHITE MARLIN; BUM=BLUE MARLIN; SAI=SAILFISH.)

2a. 1996										
Area	SWD	YFT	BET	BFT	ALB	WHM	BUM	SAI	SETS	BOATS
MAB	3	0	1	0	0	0	0	0	11	2
NEC	877	64	10	35	20	0	0	0	135	9
TOTAL	880	64	11	35	20	0	0	0	146	11

2b. 1998										
Area	SWD	YFT	BET	BFT	ALB	WHM	BUM	SAI	SETS	BOATS
NEC	648	58	0	4	24	11	6	0	106	10
TOTAL	648	58	0	4	24	11	6	0	106	10

Table 3. YEARLY TABULATIONS FOR SWORDFISH AND YELLOWFIN TUNA FOR (a) 1996, (b) 1997 AND (c) 1998 (PRELIMINARY). THE AREAS ARE DEFINED IN FIGURE 1. INFORMATION INCLUDES NUMBER OF FISH KEPT PLUS DISCARDED (K&D); PERCENTAGE KEPT (%K), PERCENTAGE DISCARDED DEAD (%D DEAD, PERCENTAGE DISCARDED ALIVE (%D LIVE); EFFORT IN HOOKS (HOOKS); NUMBER OF SETS (N); AND AVERAGE OF THE INDIVIDUAL CATCH RATES [AVG(C/E)] , EQUIVALENT TO CPUE IN # OF FISH/100 HOOKS.

3a. 1996			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	649443	1244	12924	80	10	9	2.03170	815	86	0	13	0.12482
GOM	3901735	5463	19671	67	18	13	0.83502	35517	97	1	1	1.07005
FEC	602784	1950	13845	55	31	13	2.66436	769	96	1	1	0.11729
SAB	1675746	2943	16459	67	18	13	1.23953	6185	95	1	3	0.43581
MAB	1084412	1711	2138	76	10	13	0.21907	10740	96	1	2	2.57561
NEC	1144069	1406	1742	80	9	10	0.16675	6034	97	0	1	0.54020
NED	598982	710	14520	87	7	5	2.46355	363	96	0	2	0.06776
SAR	88085	144	796	87	6	6	1.02768	88	97	0	2	0.10624
NCA	496172	678	7085	93	2	3	1.41854	346	97	0	2	0.13696
TUN	362431	495	4519	87	5	6	1.18782	4762	96	0	2	1.34756
TUS	165311	192	4113	95	2	2	2.53808	759	91	0	7	0.45508
TOTAL	10769170	16936	97812	75	14	9	1.20903	66378	96	1	2	0.80239

3b. 1997			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	443025	898	8452	85	7	7	1.98184	348	88	3	8	0.07600
GOM	3771147	5237	17002	68	17	13	0.68934	40461	98	1	0	1.32546
FEC	799814	2376	13502	66	19	13	2.13516	1925	95	2	1	0.21750
SAB	1000090	1784	11596	72	16	10	1.46183	2762	96	0	3	0.27577
MAB	1255396	1940	4508	55	23	20	0.41662	11086	97	2	0	1.69940
NEC	1228001	1511	5386	69	15	14	0.46587	14924	98	1	0	1.24830
NED	688844	762	14529	88	7	4	2.14153	85	88	9	2	0.01222
SAR	23640	33	396	91	3	4	1.70462	25	100	0	0	0.09634
NCA	216506	279	3367	94	2	3	1.56225	181	100	0	0	0.07574
TUN	202696	265	1566	85	7	7	0.79702	1836	91	7	0	0.90090
TUS	390951	474	9367	91	4	3	2.44793	3760	98	0	0	0.97783
TOTAL	10020110	15559	89671	76	13	10	1.16193	77393	97	1	0	0.89577

3e. 1998			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	284046	517	5114	81	11	7	1.90781	309	91	2	5	0.10083
GOM	2798022	3766	11306	74	13	11	0.57830	32386	97	1	1	1.48701
FEC	651258	1838	13954	65	19	14	2.84567	996	93	0	5	0.12445
SAB	740463	1422	20008	71	15	12	3.22997	1678	92	1	6	0.20269
MAB	1217671	1758	7894	62	17	19	0.67339	8558	94	1	3	2.80343
NEC	849009	1018	5877	68	16	14	0.68119	4609	97	0	1	0.54339
NED	503579	618	15621	84	7	7	3.20042	96	96	0	3	0.01872
SAR	3500	4	25	100	0	0	0.87500	3	100	0	0	0.10000
NCA	241017	316	4381	93	3	3	1.90676	137	97	0	1	0.06404
TUN	104741	126	1117	79	11	9	1.09164	722	97	1	1	0.69460
TUS	174525	221	4410	91	4	3	2.60617	956	96	0	3	0.53786
TOTAL	7567831	11604	89707	75	13	11	1.56517	50450	96	1	2	1.02459

Table 4. ATLANTIC SWORDFISH RESOURCE STATUS SUMMARY

	North Atlantic	South Atlantic
Maximum Sustainable Yield ¹	13,370(7,625-15,900MT) ⁴	13,650 MT (5,028-19,580MT)
Current (1998) Yield	12,175 MT	13,486 MT
Current (2000) Replacement Yield ²	11,720 MT (6,456-15,040 MT)	14,800 MT (5,328-16,240 MT)
Relative Biomass(B_{1998}/B_{msy}) ¹	0.65 (0.51-1.05 MT)	1.10 (0.84-1.40)
Relative Fishing Mortality:		
F_{1998}/F_{MSY} ³	1.34 (0.84-2.05)	0.81 (0.47-2.54)
F_{1998}/F_{min} ³	1.60 (1.52-1.68)	not estimated ⁵
$F_{1998}/F_{0.1}$ ³	3.52 (3.44-3.70)	not estimated ⁵
Management Measures in Effect	125/119 cm LJFL minimum size; Country-specific quotas	125/119 cm LJFL minimum size; Limit catch to 1993 or 1994 levels

¹ Base case production model results based on catch data 1950-1998

² For next fishing year

³ Base case sex-specific SPA results based on catch data 1978-1998. Statistics computed based on females only

⁴ 80% confidence intervals are shown

⁵ Production model results do not provide basis for these estimates

Table 5. ATLANTIC AND MEDITERRANEAN ALBACORE RESOURCE STATUS SUMMARY

	North Atlantic	South Atlantic	Mediterranean
Maximum Sustainable Yield ¹	32,000(30,600-33,400)	28,400 (15,800-51,100)	-
Current (1998) Yield	25,697	30,046	2,520
Current (1998) Replacement Yield ¹	-	28,200 (17,200-46,300)	Never Calculated
Relative Biomass			
B_{1997}/B_{MSY}	0.47 (0.34-0.63)	1.28 (0.37-4.3)	Never Calculated
$R_{1990-94-93}/R_{75-80}$	0.72	0.98	Never Calculated
Relative Fishing Mortality ¹			
F_{1997}/F_{MSY}	1.39 (uncertain)	0.75 (uncertain)	Never Calculated
F_{1997}/F_{max}	0.91	0.62	Never Calculated
$F_{1997}/F_{0.1}$	1.60	1.80	Never Calculated
Management Measures in Effect	Limit number of vessels to average number 1993-1995	Limit catches to 28,200 MT for 1999	None

¹ Estimated by the Committee in 1998.

Table 6. BIGEYE TUNA RESOURCE STATUS SUMMARY

Maximum Sustainable Yield (likely range)	79,000-94,000 MT*
Current (1998) Yield	94,800 MT
Current (1998) Replacement Yield**	72,000-85,000 MT***
Relative Biomass(B_{1998}/B_{msy}) **	0.57 - 0.63***
Relative Fishing Mortality: F_{1998}/F_{MSY} **	1.50-1.82***
$F_{0.1}$ ***	0.22
F_{max} ***	0.35
Management Measures in Effect	<ul style="list-style-type: none"> - 3.2 kg minimum size - 25% of FADs fishing vessels and 5% others to be covered with observers -Provide a list of vessels (>80 GRT) fishing Atlantic bigeye. -Limit on number (associated with GRT) of Atlantic BET fishing vessels (>24 m LOA) to average number in 1991-1999. Not applicable to countries catching less than 2,000 MT average over recent five years. -Provide a list of vessels (> 24 m LOA) fishing Atlantic BET by August 31. -Limit number of Chinese Taipei BET fishing vessels to 125. -Catch limit (16,500 MT) for Chinese Taipei. -Moratorium on FAD fishing, Nov. 1999 to Jan 2000 in eastern tropical area.

* This range is representative of MSY ranges predicted by ASPIC and PRODFIT models.

** ASPIC estimate

*** These area ranges of point estimates obtained and no confidence limits are given.

**** Yield-per-recruit estimate based on the 1998 selectivity pattern

Table 7. YELLOWFIN TUNA RESOURCE STATUS SUMMARY

	Results of the 1998 Assessment
Maximum Sustainable Yield (MSY) ^{1,2}	147.5-155.8
Current (1998) Yield	
Current (1999) Replacement Yield	147.4
Relative Biomass (B_{1997}/B_{msy}) ^{2,3}	Unknown
Relative Fishing Mortality (F_{1997}/F_{MSY}) ³	92-135%
Management Measures in Effect	3.2 kg minimum size Effective effort not to exceed 1992 level

¹ 1475-155.8 for the PRODFIT model and 151.7 for the ASPIC model.

² Result from ASPIC model

³ Result from 1998 SCRS

Table 8. NUMBERS OF ACTIVE VESSELS

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	9,649,315
1998	286	230	132	7,825,138

Table 9. MONTHLY SWORDFISH LANDINGS AS REPORTED FROM TALLY SHEETS AND DEALER REPORTS IN LBS DRESSED WEIGHT FROM 1990 TO 1998.

YEAR	MONTH					
	JAN	FEB	MAR	APR	MAY	JUN
1990	839,178	794,926	760,177	631,254	493,183	449,220
1991	613,177	619,188	554,422	465,789	416,747	432,630
1992	514,101	575,942	520,299	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	445,171	417,488	531,255	134,234	157,908	266,512

	MONTH						ANNUAL
	JUL	AUG	SEPT	OCT	NOV	DEC	TOTAL
1990	895,303	888,258	851,158	1,053,476	806,843	644,159	9,107,135
1991	709,718	773,515	816,558	766,909	527,175	446,311	7,142,139
1992	561,906	731,830	727,037	891,336	423,457	387,010	6,383,214
1993	582,835	585,084	647,994	755,021	589,865	387,627	6,274,203
1994	290,811	539,202	560,993	672,465	592,585	495,542	5,578,140
1995	493,062	651,421	654,380	850,667	145,897	126,307	6,764,115
1996	370,895	568,722	635,336	525,918	455,680	384,352	5,889,165
1997	496,323	649,695	630,832	499,048	125,042	403,040	4,933,248
1998	349,726	661,549	440,544	495,460	488,716	365,696	4,754,259

Table 10. PERCENTAGE OF ANNUAL U.S. SWORDFISH LANDED CATCH BY AREAS (TOTAL ANNUAL CATCH OF SWORDFISH IN AREA/ TOTAL ANNUAL CATCH OF SWORDFISH IN ALL AREAS).

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	31	21	11	15	2	3	16
1997	30	19	13	11	4	5	18
1998	18	14	14	20	7	7	19

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

Table 11. PERCENTAGE OF ANNUAL US SWORDFISH LANDED CATCH < 41 LBS BY AREAS (ANNUAL OF CATCH OF SWORDFISH < 41 LBS IN AREA / TOTAL ANNUAL CATCH OF SWORDFISH IN ALL AREAS).

YEAR	CAR ¹	GOM	FEC	SAB	MAB	NEC	NED	SUM
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	21

1. CAR includes SAR, NCA, T3UN, and TUS

Table 12. PERCENTAGE OF SWORDFISH LANDED CATCH < 41 LBS WITHIN AREAS (ANNUAL CATCH OF SWORDFISH < 41 LBS IN AREA / ANNUAL CATCH OF SWORDFISH IN AREA).

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	21	24	21	19	11	9
1997	9	23	26	30	22	13	8
1998	8	21	29	35	25	22	13

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