Trends in the Gulf of Mexico Greater Amberjack Fishery through 1998: Commercial Landings, Recreational Catches, Observed Length Frequencies, Estimates of Landed and Discarded Catch at Age, and Selectivity at Age

by

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Introduction

The greater amberjack is widely known for its aggressive fighting behavior and important recreational fisheries are believed to have existed since the 1950's from New York to Texas. Studies documenting these fisheries were limited to areas off the U.S. Atlantic east coast and off of south Florida (Berry and Burch, 1978; Burch 1979). Detailed accounts of the recent Gulf of Mexico commercial and recreational greater amberjack fisheries were given by Parrack (1993a,b) McClellan and Cummings (1996), and Cummings and McClellan (1997, 1998). Those studies documented reported commercial landings, estimated recreational catches, observed catch per unit of effort, and observed trends in size for the commercial and recreational fisheries in the Atlantic and Gulf of Mexico. Information on the stock condition and preliminary information from Virtual Population Analysis results were reported in those reports..

The management regulatory history of the greater amberjack has been complex. The Gulf of Mexico Fishery Management Council implemented the Reeffish Fishery Management Plan (Reeffish FMP) in 1981. The greater amberjack was included in the Reeffish FMP January 22, 1990. The Final Rule to Amendment #1 was published January 22, 1990 however, the sections related to minimum size limits and recreational per person daily bag limits for greater amberjack were implemented over the period January 22 to April 23 1990. These are: 1)28 inch fork length (FL) size limit for all participants (February 21, 1990), 2)28 inch FL size limit for recreational anglers and 36 inch FL size limit for commercial fishermen harvesting fish from a vessel holding a Gulf of Mexico Reeffish Vessel Permit (April 22 1990), and 3)three fish per person recreational daily bag limit (April 23, 1990). Amendment #12 to the Gulf of Mexico Reeffish FMP (implemented January 15, 1997) included a one fish per person recreational daily bag limit. The most recent federal regulatory management change (January 28, 1998) included the closure to commercial harvest by any angler during the months of March, April and May.

Important individual state regulations regarding the Gulf of Mexico greater amberjack have included for the state of Florida: 1) February 1, 1990- designation of greater amberjack as a "restricted species" (see Florida Statute 46-40.005), three fish per person recreational personal daily bag limit , six fish per person off-the water possession limit, requirement to land fish in either whole condition (recreational) or head only removed (commercial harvest), 2)December 31, 1992- restriction of harvest during April and May to the bag limit and the requirement of the appropriate federal permit in order to exceed the amberjack bag limit and to purchase or sell amberjack on the state's Gulf coast, 3)April 1 1996- prohibition of sale of all amberjacks (greater, lesser, almaco, banded rudderfish) during April/May, 4)July 1 1996- in Monroe County, Florida waters, implementation of one fish per person recreational daily bag limit for all amberjack species, 5)January 1, 1998- one fish per person recreational daily bag limit for the entire state (of Florida), prohibition of sale of any amberjack (greater, lesser, almaco, banded rudderfish) between March and May, requirement that all amberjack be landed in whole condition, including commercial harvested fish thus prohibiting coring, and prohibition of the sale of any amberjack (greater, lesser, almaco, banded rudderfish) less than 36 inches FL at any time. The state of Alabama adopted bag limits complimentary to the federal regulations during 1997.

This report provides several types of information. First the time series of catches available since

the McClellan and Cummings (1996) study is updated, that report gave data through 1995. Dealer reported commercial landings by U.S. fishermen, estimates of recreational catch (charter for hire, private boat, and shore), and headboat catches through the 1998 are given. Second, the fishery biostatistical data on length composition is updated. The previous studies documented the data collection problems for this fishery. This report summarizes the fishery sampling levels since the 1993, 1996 and 1997 studies. Thirdly, this report provides a time series of updated estimates of total landed catch in number and landed weight and also estimates of total landed and discarded catch by age through the 1998 calendar year. These estimates are used in subsequent stock condition evaluation of this stock by Turner et al. 2000 and Cummings 2000.. Estimates of discarded live catch, not used in the earlier stock status analyses of McClellan and Cummings (1996) or Cummings and McClellan (1997), were used in this study because of implications regarding mortality from releases below the minimum size. For the recreational catches these included MRFSS estimates of B2 releases, which are derived from interviews where fish are reported as released and returned to the water alive but are not observed by a fisheries sampler. In addition to data on commercial fishery yields, recreational and headboat catches, observed and estimated catch at size, and estimated catch at age, an additional time series of reported commercial landings in weight, recreational catch in numbers, and all available catch samples was constructed. This latter information was used in further stock status analyses of this stock using length based analysis methodology and the results of which are described by Porch et al. 2000.

Materials and Methods

Commercial Landings and Recreational Catches

The sources of data for the Gulf of Mexico greater amberjack stock for this study were identical to those of Parrack (1993a), McClellan and Cummings (1996) and Cummings and McClellan (1997) and were described in detail in the 1993 and 1996 reports. Reported commercial landings are updated through December 1998 and landings data since 1990 forward were replaced in total. Estimates of the recreational harvest (A+B1) and released catch (B2) from the Marine Recreational Fishery Statistics Survey (MRFSS) survey were replaced in total from 1981 through 1998. Recreational boat mode catch estimates from Texas were replaced in total from data obtained from the Texas Parks and Wildlife Department (TPWD). Estimates of catch available since 1986 for the Gulf of Mexico headboat fishery were replaced in total using the National Marine Fisheries Service (NMFS), Beaufort Laboratory Headboat Survey database, as in previous reports. Where necessary, commercial landings were converted from gutted to whole weight units using the NMFS conversion factor of 1.04 (Guy Davenport pers. communication, NMFS, SEFSC, SFD.).

Commercial landings data and recreational catches were apportioned into Gulf vs Atlantic stock units using the rationale based on results of greater amberjack tagging studies described in Parrack (1993a, b). That rationale was continued in Cummings and McClellan (1996) and Cummings and McClellan (1997). An important change in the Florida statistical landings occurred since the 1996 analysis. Previously, Florida's commercial landings data as obtained through the NMFS General Canvas Landings Reporting System (GCLRS), existed in two format

types: 1)since 1962 one landing record per year, month, dealer, and county of landing or 2) since about 1977 one landing record per year, dealer, gear and NMFS Statistical Shrimp Grid (proxy for area of capture). For this study the 1997 and 1998 Florida landings General Canvas data contained the attributes recorded on each record were: year, month, county landed, dealer, gear, and NMFS statistical shrimp grid (area of capture). The effect of this change in the Florida commercial data is that area of capture and gear used in capture are no longer assigned by NMFS port agents on the monthly-county-dealer id landings data because gear and area information is recorded at the trip level for all finfish trips landed in Florida. This additional information adds important information on area and gear resolution to the monthly landings data.

As in the previous McClellan and Cummings (1996) and Cummings and McClellan (1997) reports, estimates of recreational catch of Gulf of Mexico greater amberjack from the MRFSS survey represent revised estimates as of May 1995, with the new estimates extended back in time to 1981. The catch estimates for 1979 and 1980 were not re-estimated and although 1979 and 1980 calendar years were included in the earlier Parrack (1993a,b) analyses, these years were excluded from the VPA analyses of McClellan and Cummings (1996) and Cummings and McClellan (1997) analyses. To maintain consistency in the estimates 1979 and 1980 were excluded in this study and in later analyses of the stock condition.

Estimation of Total Recreational and Commercial Catch at Size and At Age

The Gulf of Mexico greater amberjack stock length frequency sample database used by McClellan and Cummings (1996) and Cummings and McClellan (1997) was replaced in total, all samples were replaced in complete from their original data sources. The distribution of the individual samples was considered with respect to temporal (year and month) and spatial (state and county) coverage for each of the main amberjack fisheries. The individual samples were pooled within specific fisheries (commercial handline, commercial dive, commercial bottom longline, commercial other (trap, fish trawl, seine), recreational (charter, private, shore), and headboat and the annual sample length density was matched to the corresponding catch (recreational estimate) or yield (commercial). Where a sufficient number of observations (n >100) existed and the sample length frequency distribution did not appear skewed or truncated which could suggest a bias in sampling towards a particular size group, samples were matched at the year- state-fishery level. Lack of sufficient samples at the monthly and quarterly level precluded including month (or quarter) as a stratification level into the assignment of catch samples. For each commercial landing, the sample average weight was divided into the reported yield in pounds to give an estimate of total catch in numbers. The estimated total numbers caught was apportioned over length according to the pooled length frequency sample. Weight length equation parameters were those developed by Manooch and Potts (1997) for Gulf of Mexico greater amberjack sampled from headboats (**W(kg) =((5.3 * 10**-8) * FL (mm) ** 2.810)**; n = 191 fish in the sample). The size range of fishes included in the sample was not reported in the Manooch and Potts (1997) study.

The resulting individual densities of catch at size were converted into densities of catch at age using the inverted form of the von Bertalanffy growth equation reported by Beasley (1995).

Annual age length keys do not exist for this stock for use in converting catch at length densities into catch at age densities. True age (in years and months) was calculated using information on the time of spawning (birth date) and the approximate time of annulus formation (marking) from the literature. Beasley reported mean gonadosomatic indices increasing between April and June declining thereafter. Spawning of the Gulf of Mexico greater amberjack was assumed to occur on June 1. Annulus formation was considered to occur between late fall and early winter months for Gulf of Mexico greater amberjack based on Beasley's (1995) examinations. Beasley (1995) validated the time of annulus formation using oxytetracycline hydrochloride marking experiments for fish of ages two and three and found marking occurring between November and March. In addition, Beasley found close agreement between observed recapture length and predicted recapture length estimated using the growth parameters from his sectioned otolith ages. The Manooch and Potts (1997) ageing study results were not available at the time of the McClellan and Cummings (1996) study, however the Beasley growth equation or that presented by Thompson et. al (1998) is preferred because of the total sample size (n=552 (Beasley) vs 225 (Manooch and Potts)) and also because Beasley's used sampled fish from charterboats, commercial processors, tournaments, dive tournaments, and other recreational hook and line fishermen. Manooch and Potts's (1997) sampled fish were from headboats amd tje resi;tomg estimates of growth parameters may be influenced by selectivity of that gear type. We feel the Beasley study was more representative of the fished population. Thompson et. al's growth curve parameter estimates are nearly identical to that reported by Beasley as the data included in Beasley's study were also used by Thompson et al. (1998) in their analyses of growth.

Current Fishery Statistics

Commercial Landings

Over the 37 calendar year period, 1962 through 1998, reported commercial landings of the Gulf of Mexico greater amberjack stock ranged from 5,616 (1965) to 2,337,323 pounds (1988) (Table 1a, Figure 1) The 1998 landings data are considered preliminary because information on gear and area of catch unavailable for Louisiana after 1992 may become available later. There are good explanations of the explosive increases in reported landings during the mid 1980's. Most of this increase in commercial landings was in response to an increased consumption of greater amberjack as a foodfish and usage of this species by restaurants as a substitute for redfish in the blackened fish market occurred which occurred around 1984-1997. Berry and Burch (1978) and Burch (1979) describe the intensive fishing for this species throughout Florida. In addition, shifts in effort between other Gulf of Mexico fisheries (commercial and recreational), that occurred in the mid to late 1980's because of changes in abundance and/or regulatory changes in the snapper and grouper and king mackerel fisheries may have influenced a shift in effort towards greater amberjack also resulted in landings increases.

Reported commercial landings declined from the 1988 peak through 1991 to 0.86 million pounds and subsequently increased to 1.56 million pounds between 1991 and 1993. The period between 1994 and 1997 was stable varying from 1.02 to 1.23 million pounds. The 1998 value of 0.63 million pounds was 73% lower than the peak year of landings (2.3 million pounds in 1988) and is

about the level reported in 1985. The observed decline in landings after 1991 corresponds in time to the time when greater amberjack was first included into the Gulf of Mexico Reeffish FMP and also to the point in time when the 36 inch FL commercial minimum size was implemented, to the December 1992 implementation of the harvest restriction during April and May to the bag limit (in Florida), and the April 1996 implementaion of the commercial seasonal closure during April and May.

The reported commercial landings data show that the majority of Gulf of Mexico greater amberjack stock commercial landings occur in Florida and Louisiana (Table 1b). This was also shown in McClellan and Cummings 1996). Between 1987 and 1995 there were some catches landed in Florida and trucked to inland points for subsequent sale; these landings are labeled (Table 1a) as Florida inland landings and generally have not been reported in more recent years. The inland landings were assigned to a specific county according to logic prescribed by NMFS field agents. The 1998 reported landings were 38% lower than the reported landings for 1997. The distribution of commercial landings by major gear category and by statistical grid of capture was examined again. As reported in previous years reports, the major gear used in capture is hook and line and most of the catch has historically been caught off the west coast of Florida with substantial catch reported for statistical grids 13, 14, and grids 15- 18 from 1985 through 1989 (Tables 2 and 3 and Figures 2 and 3). After 1989 little of the annual catch was reported taken from statistical grids 13-17 however, substantial catches have been reported for statistical grid 18 for 1992 and through 1998. There is a substantial amount of unclassified catch since 1992; the majority of this catch comes from grids 18-21. Gear of capture was not available for Louisiana since 1992.

The monthly distribution of landings from Texas through Florida coast is presented in Table 4 and Figure 4. Month of capture was not recorded on commercial landings records before 1977. Data since 1977, indicate as in previous years that May through September are the primary months of capture, contributing on average 51% of the total annual landings. These months also correspond closely to the presumed peak of spawning for this species in the Gulf of Mexico (Beasley 1993).

Total Recreational Harvest (A+ B1 Catch) By State and Fishery

Total estimated recreational harvest (A+B1) of the greater amberjack stock in the Gulf of Mexico (from MRFSS, TPWD, and NMFS surveys) ranged from 60,324 fish in 1998 to 688,011 fish in 1987 over the period 1981 through 1998. The estimated recreational landed harvest referred to as A+B1 catch, includes catches by private anglers, shore fishermen, charter boats, and headboats (Table 5, Figure 5). Traditionally shore and headboat anglers have made up a small percentage of the anglers catching greater amberjack. As reported by Cummings and McClellan (1997) for catches through 1995 most of the recreational harvest, A+B1, still comes from Florida anglers (Table 6, Figure 6). Since 1985 estimated greater amberjack catch by charterboat anglers has been higher than by private or headboat anglers in every year except 1990 (Table 6, Figure 7). Prior to 1986, estimated charterboat and headboat catches are combined in the MRFSS data.

The breakdown of recreational harvest by individual state, fishery, and calendar year is given in Table 6.

The overall trend of estimated Gulf of Mexico greater amberjack recreational harvest, A+B1, of the Gulf of Mexico greater amberjack stock indicates catches were variable between 1981 and 1984, increased from 1984 through 1987, and declined after 1989 (Figure 7). This trend is complicated by an increase in the estimated total catch from 1990 to 1992, followed by a decline in estimated total catch through 1994. Since 1995, the estimated total catch has varied without trend around 30,000 fish. The estimated catch decline around 1990, corresponds in time to the implementation of the 28 inch FL minimum size limit and to the three fish per person personal daily bag limit. The decline in estimated total landed catch about 1992, corresponds in time to the requirement of a federal permit in order to exceed the amberjack bag limit and to purchase or sell amberjack on the Florida's Gulf coast.

Caution should be used when discussing trends in catch for the private, charterboat, and shore based fisheries and in estimates of total recreational harvest, as the variance estimates of the MRFSS catch estimates are very large in some years, in some years several fold the catch estimate (see Table 5). In addition, questions pertaining to the validity of shore based estimates of greater amberjack catches should be addressed in the future by MRFSS or another knowledgeable panel. We feel problems with species identification between amberjacks and other more common jack species may have occurred. In particular, the large increases in shore mode catches in 1989 to 126,747 fish (from 14,535 fish in 1988) and in 1992 to 53,487 fish (from 8,152 in 1991) should be verified. For these two years (1989 and 1992) the shore mode catch was 21% and 20% of the combined recreational and headboat catch of greater amberjack caught in the Gulf of Mexico. A review of the individual intercept observations for shore mode catches in these years indicates that most of those reporting shore catches of this species were reported from Monroe County, Florida, and also were not observed by a sampler (and were of type B1 catch) suggesting further uncertainty in the accuracy of the identifications. In addition, very few fish were observed for size frequency in the shore mode. Monroe County (Forida) is included in the Florida west coast for purposes of catch estimation by MRFSS. These catches would most likely have been assigned to the Atlantic stock group catches of greater amberjack if the catch estimates were separable by county. We also raise questions regarding the large increase in total MRFSS A+B1 catch reported for Louisiana in 1998, from 4,169 fish in 1988 to 13,149 fish, which is attributed almost entirely to shore mode. The 1998 Louisiana estimted
catch contributed 22% to the Gulf wide total recreational (charter, private, shore, headboat combined) landed catch.

Distribution of Recreational Harvest (A+B1 catch) by Two Month Wave and By Fishery

The proportional distribution of recreational harvest, A+B1 catch, of greater amberjack caught in the Gulf of Mexico is shown by two month time period (wave), by state (and for all states combined), and by calendar year (Figure 8). These plots again show as with the commercial landings that the majority of recreational catch comes from late summer and early fall months in

all years. These plotted data suggest that a moderate level of recreational effort for this species occurs year round in Florida.

The distribution of the estimated recreational harvest, A+B1 catch, across each two month wave (time period) is shown for each fishery and the distribution of harvest (A+B1) across fisheries within a two month wave (time period) is given (Figure 9a). These distributions give some idea as to when an individual sector has the greatest impact on recreational greater amberjack catches in the Gulf of Mexico. The charterboat sector dominates most time periods, and especially fall months. The exception is during late winter when the private boat fishery apparently catches more on average across all years (Figure 9b). These plots also indicate that private boat and charterboat anglers have caught greater amberjack year round with winter apparently being the lowest catch period. Figure 10 and Table 7 shows the percentage breakdown of recreational harvest, A+B1 catch, by calendar and distance off shore (MRFSS coded Ocean zone). In nearly all years the majority of the estimated recreational greater amberjack in the Gulf of Mexico has been taken from federal waters. The exceptions to this are increases in estimated ,A+B1, catch by the shore mode during 1989 and 1992 in Florida and in Louisiana in 1998.

Estimated Total Recreational Catch: A+B1 Harvest and B2 Releases by Fishery

Changes in recreational regulations that have been adopted since the McClellan and Cummings (1996) report include the adoption of a one fish per person per trip bag limit in Monroe County, Florida, waters for all amberjack species (July 1996) and the implementation of a one fish per person personal daily bag limit in federal waters in January 1998. This regulation in addition to the three fish per person daily bag limit and to the 28 inch FL minimum size limit implemented in 1992 for federal waters should be considered with any discussion of trends in recreational catch. The total quantity of greater amberjack being released was of interest here because of the recent regulations regarding the bag limits and also the 28 inch FL minimum size limit.

Estimates of the number of the Gulf of Mexico greater amberjack caught and released alive, referred to as B2 catch, existed from the MRFSS survey. B2 estimated catches are not observed by any sampler. Estimates of releases were not available for the headboat fishery or for recreational catch estimates from TPWD. Between 1981 and 1985, catch estimates for the charterboat and headboat (party) were combined therefore releases of greater amberjack by charterboat fishermen are presented separately only since 1986. Over the period 1986 – 1998, charterboat anglers released on average 33.3% of their total amberjack catch with B2 releases ranging from 0.35 to 55.1 % annually of the total catch (Table 8, Figure 11). The percentage of fish released from the charter boat fishery varied without trend since 1990. Anglers fishing from private vessels released on average 41.1 % of their catch annually with the highest percentage of releases for private boat anglers occurring since 1991, after minimum size limit implementation. The total number of fish caught of all fish types, A+B1+B2, and the estimated number of releases, B2, is given by two-month wave (time period) in Figure 12a. These estimates indicate a significant number of greater amberjack are released between May and August. Table 9 and Figure 12 b give the distribution of releases within fishery across two-month wave period showing that during spring, summer, and fall release percentages are similar across fishery. During the

winter however, most releases are from the private boat fishery. Figure 13 shows the distribution of total landed catch (A+B1 harvest) and estimates of B2 releases by calendar year suggesting that the number of greater amberjack released has been stable as has the total estimated recreational catch (A+B1+B2) since about 1995.

The summary information pertaining to the pattern of the B2 released live catch, the estimated number of total greater amberjack caught and released in the Gulf of Mexico, when combined across fisheries with the A+B1 harvest, shows two levels of declines in total catch, A+B1+B2, of greater amberjack (Table 9 and Figure 11,12). One period of decline began in 1991 and another in 1994. The pattern of B2 releases however is fairly stable with the exception of a large increase in 1996 by the private boat fishery. Since 1995 total catch and B2 releases have remained stable across fisheries.

Greater amberjack Catch Sample Size Frequency Data

The individual length frequency samples available for the Gulf of Mexico greater amberjack stock were replaced in total from the same data sources as used in the1996 assessment. The majority of samples were from the NMFS Trip Interview Program (TIP) which mainly samples commercial catches, the NMFS Beaufort Laboratory Headboat Survey, the MRFSS database, the NMFS Panama City (Florida) Laboratory, the Alabama Department of Marine Resources (ADMR) MARFIN funded Charterboat Survey, and the TPWD. Samples from the Panama City Laboratory and the ADMR charterboat survey were collected prior to 1995 through special sampling initiatives and are not parts of current on-going sampling programs. The number of individual length measurements by year, state of collection, month, and fishery is given in Table 10. In general the Gulf of Mexico greater amberjack fisheries was not intensively sampled and sampling efforts began to occur around the mid 1980's (Table 10) although this stock has been heavily exploited since the early 1950s (Berry and Burch 1978). Prior to the mid 1980's the only samples acquired were those collected by the Panama City Laboratory as part of an Atlantic and Gulf of Mexico region wide reeffish sampling program. The availability of catch samples for the major fisheries exploiting the Gulf of Mexico greater amberjack stock is described below.

Commercial Handline Catch Samples

The commercial Handline fishery was sparsely sampled until 1988. Before 1988 from 28 fish to 179 fish were measured for length across all fisheries. From 1988 through 1997 from 418 fish to 927 fish were measured annually across all states where greater amberjack were landed in the Gulf of Mexico. Most samples were taken from vessels landing greater amberjack catches along the Florida West Coast and in Louisiana (Table 10). Florida ranks first followed by Louisiana and Texas in the landings of Gulf of Mexico greater amberjack by commercial vessels (see Table 1b). Because the total number of samples were few, the total number of individual measurements were low across all samples, and as these samples were restricted temporally across months and states of the year (Table 10), assigning samples at the monthly level and the state level was not practical for most catches. However, where the total number of measurements was about 100 fish (plus or minus 5 fish) for a state and the annual size sample did not appear truncated, samples were assigned at the state level to commercial handline catches. Sampling of the commercial handline

catches declined since the 1996 study. Available length samples from the commercial handline fishery for 1998 (143) were about 25% of the number recorded in recent prior years. The protocol followed for each year- area (state) commercial handline landing to estimate total catch at size is given in Appendix 1, Figure 1.

Commercial Bottom Longline Catch Samples

Greater amberjack have been reported landed by commercial vessels using bottom longlines since about 1979 (Table 3b). These catches are thought to be mostly from vessels targeting grouper (Renee Roman, NMFS, SEFSC, SFD personal communication). From 1979 to 1984, less than 100,000 pounds annually were reported from bottom longlines. From 1985 through 1990, bottom longline landings ranged from 124,171 pounds to 367,336 pounds. Since 1991, bottom longlines landings ranged from 19,593 pounds to 103,293 pounds (Tables 2 and 3b). The observed length distribution of greater amberjack caught by bottom longlines was visually different from handline caught fish (Figure 14) , suggesting that fish caught by this gear were mainly large fish while handlines caught a wide size range. Maintaining gear in the sample assignments seemed important however, in all years, the sample size from bottom longline catches was below the 100 fish criterion for all states and usually was fewer than 50 fish (Table 10). Over the period 1984-1998, only 588 fish were measured from all bottom longline catches. In all years, it was necessary to pool samples from handline catches with bottom longline samples to estimate total catch at length from the bottom longline fishery. Appendix 1, Figure 1 gives details on the protocol used in assigning commercial samples to bottom longline catches for estimating total catch at size for bottom longline catches.

Commercial Dive Catch Samples

Commercial catches of greater amberjack by spear (or powerhead) fishermen have occurred since at least 1986 in small quantities (i.e., <30,000 pounds annually) (Tables2, 3c). These catches were rarely sampled; only since 1995, and only 28 fish were sampled in between 1995 and 1998. 24 of these fish were sampled in Florida during 1996. These samples were used in combination with commercial handline catch samples for estimating the catch at size. Appendix 1, Figure 1 gives details on the protocol used in assigning commercial samples to dive catches for estimating total catch at length from dive catches.

Recreational Charter, Private, and Shore Catch Samples

The distributions of the Gulf of Mexico greater amberjack catch length frequency samples for the recreational fishery (Table 10) were examined with respect to fishery (charter, private, shore), year of sample, and the state of intercept (i.e., Florida West Coast, Alabama, Mississippi, Louisiana, and Texas). Since 1981, nearly 9,200 fish were measured for length with most samples coming from the charterboat fishery (n=6,677 lengths) followed by the private boat fishery (n=2,477 lengths), and then the incidental shore catches (n=24 lengths).

The distribution of MRFSS samples collected by state (Table 10) is consistent with the information presented by Cummings and McClellan (1996). In many year-state fishery cells less than five fish were sampled in the private boat fishery. In some states the private boat fishery was

rarely sampled, in other years not at all. Catches of greater amberjack by this sector however have existed over the period, 1981-1998, while the sampling rate has been on average less than 0.5% of the catch.

In most years the number of lengths sampled from charterboat catches was fewer than 200 in any single state (Table 10). Only in two years in Alabama (1991 and 1992) were there significant increases in the number of samples due to special sampling initiatives . Generally in the state with the largest recreational catches (Florida), there was usually fewer than 200 fish sampled per year. Between 1986 and 1988 estimated charterboat catches averaged 200,000 to 300 thousand fish while samples ranged from 230 to 620 fish. Appendix 1, Figure 1 provides the details for assigning recreational samples to recreational catches for estimation of total catch at size for all recreational fisheries.

Recreational Headboat Catch Samples

Recreational catch length frequency samples from the headboat fishery were considered separately because of operational differences between headboats and other recreational modes (i.e., charter, private). It was thought that headboats might encounter different sizes of fish because in some areas headboats do not make lengthy offshore trips as might charterboats. In addition, previous studies have reported differences between the sizes of greater amberjack caught by headboat anglers and those caught by charterboat or private boat recreational fishermen. Visual inspection of the length densities (Figure 14) indicated that traditionally headboat anglers have landed smaller fish than those caught and landed by anglers fishing from charterboats or from private boats.

Samples from headboat catches met the 100 fish per cell criterion in several years to assign samples at the state-year fishery level for Florida headboat catches (table 10). Headboat catch samples were pooled across state in all other years for use in catch at size estimations. Sampling declined since the earlier 1996 assessment by about 50% in terms of actual numbers of fish measured. Headboat catches of greater amberjack are highest in Florida followed by Texas.

Estimated Total Catch at Size and Total Landed Catch At Age

The results of the catch at size estimations were reviewed with respect to the samples available to characterize the catch (or landings) with respect to time period (year) and geographical location (state) for each fishery (handline, dive, bottom longline, recreational private, charterboat, headboat). As mentioned previously in the methods section, all greater amberjack biostatistical data was recovered and recompiled for these analyses. Some concern had been expressed (Osburn 1998) that larger and older fish were not included in the earlier assessment of McClellan and Cummings (1996). As in the 1996 study, all samples available to the authors either through formal established sampling programs (i.e., TIP, MRFSS, TPWD, NMFS Headboat Survey, ADMR Charterboat Survey) or from other independent auxilarly studies (i.e., Mote Marine Laboratory, Louisiana State University, Panama City Laboratory) were included in the analysis data set for use in estimation of total catch at size catch at size (and at age) estimation. The sampling was considered sufficient only since 1987 for purposes of estimation of total catch at

size for all state-year fishery cells (see Table 10). Between 1984 and 1987 however some state-year-fishery cells had sufficient sampling to estimate catch at size however more substitutions were required and the sample sizes were much lower and although total catch at length composition was estimated for these early years, confidence in the results is much less than for years after. Prior to 1984 the commercial fishery was sparsely sampled (n<50 fish per year across all gears and states) so the size composition of total catch could not be estimated with equal confidence for the entire period since 1984. The estimates are tabled for 1984-1986 and included here to provide a general idea of the size composition prior to 1987 of the Gulf of Mexico greater amberjack. Estimated catch at size and at age for subsequent analyses since 1987 was considered more reliable, as in the 1996 assessment of McClellan and Cummings (1996).

Estimated total commercial catch at size obtained by the methods described above, for the Gulf of Mexico greater amberjack stock is presented in Table 11 for the commercial fisheries (handline, bottom longline, dive, and other). Gears used in incidental catches of greater amberjack (i.e., trap, fish trawl, seine, etc.) are shown in these distributions as "commercial Other gears". The tabled length distributions of the estimated commercial handline catch prior to 1990 suggest a substantial amount of small (<40cm) fish were landed prior to the minimum size regulation adopted in 1990. Apparently some vessels still land fish below the commercial minimum size (36 inches FL). These results also indicate that bottom longline vessels caught a more restricted size range of greater amberjack than did the handline fishery. While the handline fishery apparently landed fish from a wide range of sizes, the length composition of bottom longline fish was predominately large fish. Generally about 50 greater amberjack were sampled annually from the bottom longline catches. Dive catches are not a large part of the overall greater amberjack landings (<30,000 pounds annually over the entire period 1962-1998) and catches were not sampled at a level which would provide much information on the length composition of dive catches in these years. Again caution should be used when evaluating the catch at length composition especially from the fisheries that were not adequately sampled (i.e., bottom longline, dive). Artificial similarities in length composition between fisheries could exist here because of the necessity of pooling samples from the handline fishery with samples from bottom longline catches.

Estimates of the total landed catch at size, A+B1, for recreational catches of greater amberjack in the Gulf of Mexico are presented in Tables 12 and 13. There were very few recreational samples of greater amberjack reported from shore catches. Shore catch at length composition was estimated using headboat samples. We question the accuracy of the shore catch estimates reported by MRFSS for this species and feel there may be problems regarding species identification of these catches as discussed earlier in the Results section regarding total recreational catch. The tabled distributions for the charterboat catch and the private boat catch at length are not very dissimilar in some years, revealing the pooling effect of having to assign charterboat samples as well as samples from the private boat fishery to apportion the catch over length in some years. In particular it was necessary to pool charter and private for charterboat sizing prior to 1985 , 1990, and 1995-1997. Charterboat and private boat samples were also pooled for 1987-1992 to size the private boat catch (Appendix 2). Headboat catches were always sized with only samples from headboat catches. Although most year-state fishery cells

contained some samples, there were many substitutions required for the recreational fisheries because the number of samples was less than 100 fish per stratum. In particular we note the large decline in sampling of private boat and of headboat catches after 1991 which has continued through the 1998 calendar year. Since 1994, fewer than 50 fish per year have been sampled in the private boat fishery (usually less than 0.5% of the estimated A+B1 catch) and about 100 (about 1-2% of the catch) per year from headboat fishery.

The total estimated landed catch for the Gulf of Mexico greater amberjack stock for the three main fisheries, commercial (handline, bottom longline, dive, other combined), recreational (charterboat, private boat, shore, charter/headboat (prior to 1986) and headboat is presented in Table 14 and Figure 15. Estimated total yield landed and the average weight per fish landed (reported commercial combined over all gears plus estimated recreational and headboat) is given in Table 15 and Figure 16. In terms of total catch the recreational fishery has dominated the removals of the Gulf of Mexico greater amberjack (Table 16, Figure 17). Between 1988 and 1990 there was an increase in the percentage contribution of total catch by the commercial fleet. In general headboat catches have made up less than 10% of the total catch in all years. Figure 18 shows mean individual weight by fishery.

The inclusion of older and larger fish (greater than 50 pounds) can be examined using the tabled observed sample length frequencies in Table 14 and also the estimates of total catch at size (and age). The tables of estimated total catch at length and estimated total catch at age and the plotted catch at age (Tables 11, 12, 13, 17 and Figure 20) show that large (and older) greater amberjack (greater than 50 pounds or about 118 cm or 6.75 years of age) did occur in the samples used in this study. Updated catch at age data shown given in Cummings and McClellan (1997) (Table 2 and Figure 3) in that report also show that fish 50 pounds and larger were present in the 1987-1995 catches which were used for stock condition examinations.

Total Landed and Discarded Catch by Fishery and by Age

Analyses of the current status of the Gulf of Mexico greater amberjack stock made use of the catch at age estimated in this study and VPA techniques. These analyses require that the total removals be known in order to estimate stock sizes and fishing mortality rates for the total stock. To accurately reflect the total removals of the recreational catch of the Gulf of Mexico greater amberjack the estimated released live catch, B2, (see Tables 8 & 9) was used. Limited information exists to document the quantity of fish that die after release. Preliminary information from a small study (n=23 fish released) conducted for the Atlantic greater amberjack, under optimal conditions indicated that survival for greater amberjack released from headboats would be about, 91%, (Manooch pers. comm.). This rate of survival seems high for the average angler unfamiliar with necessary methods of releasing fish. For this evaluation a 20% mortality was applied to the estimated B2 live catch to calculate dead discarded catch and then the dead discards were distributed equally across all ages in the recreational MRFSS catch.

It was noted that after 1990, the estimated commercial and headboat catch at length distributions (see Tables 11-13) suggested that the distribution of small (young) fish in the catch was not the

same as prior to the size regulation (1990). Information regarding the size of fish released by commercial or headboat anglers was unavailable. The operating practices of the commercial handline fisheries pertaining to releasing fish was discussed with fisheries field agents. These individuals indicated releases if made in the commercial fishery would most likely be fish less than the minimum size. To estimate release mortalities from the commercial sector, it was assumed that the average proportion of the total catch at age prior to the regulation, 1984-1989, was the same as the average proportion of the total catch at age after the regulation (1990-1998). The catch at age for each year after the regulation was adjusted upwards by the difference in the proportions at age between the two periods (Table 16). Plots of the average catch for the two periods are given in Figure 19. This catch component, referred to as the discarded catch, was assigned to ages 2 and lower for the commercial fishery and to age 1 and below for the headboat fishery also assuming a release mortality of 20% was used.

The total directed catch at age for the Gulf of Mexico greater amberjack stock, including discards, is presented for each fishery, commercial all gears combined, recreational all modes combined, and the headboat fishery in Table 17 and in Figure 20. As with the estimates of total catch length composition, caution should be used when discussing trends. For purposes of catch at age analyses with VPA methods, we feel the data are more reliable since 1987. Estimated total catch of the Gulf of Mexico greater amberjack from all fisheries (recreational, commercial, headboat) ranged from 100,090 fish to 896,924 fish between 1984 and 1998 (Table 18, Figure 21). The recreational fishery always caught more greater amberjack than either the commercial or recreational fisheries combined. Estimated average age values are given in Table 19 and Figure 22. These data indicate that between 1984 and 1989, all fisheries apparently were catching and landing some fish below the presumed age of 50% maturation (age 3). After 1990 the mean estimated age of all greater amberjack landed and discarded increased and has remained at about age 3 for all fisheries except for a decline in mean age in the recreational fisheries between 1994 and 1996. It is further noted that the current minimum size limit for the recreational fishery of 28 inches fork length (71 cm or about age 2.1) corresponds to an expected age, under the Beasley growth model, less than the presumed average age of 50% maturation (about age 3 or 84 cm) while the commercial minimum size of 36 inches FL (91cm or about age 3.8) is above the presumed average age of 50% maturation size. .

Biological Characteristics

The Gulf of Mexico greater amberjack estimates of total catch at age, landed plus discarded, (Table 17, Figure 20) were used in conjunction within indices of stock abundance developed for this stock (Cummings 2000, Turner 2000a,b) in subsequent analyses that evaluated the status of the stock. Those analyses used VPA techniques and incorporated uncertainty in some greater amberjack biological parameters into calculations of stock sizes and future acceptable biological catches given Council definitions of maximum fishing mortality rate thresholds and optimal fishing mortality rate. In addition to requiring information on removals and measures of abundance for purposes of tuning, these procedures also require information on maturation size, fecundity at size or age, and natural mortality (M). The literature for the greater amberjack was reviewed with respect to these biological parameters. The history of estimated catch at size and at total catch at

age outlined in this document were used for considerations regarding selectivity, estimating discards, and projection of the 1999 removals.

Selectivity Patterns estimatd from Separable VPA

VPA analysis methods as applied to this stock requires information regarding selectivity at age in order to determine fishing mortality for some ages in the terminal year because not all ages in the terminal year (last data year) can be estimated. Selectivity analyses were conducted in this study using the computer program developed by Clay (1988) for Pope and Shepard's (1982) separable VPA method. Selectivity patterns at age were obtained for varying sets of years under different input parameter assumptions. Calculation of abuncances with VPA begins with the most recent year of catch (1998) thus the recent years selectivity pattern are of most interest. We considered years since the implementation of various size and bag limits in our analyses as most important. In addition we carried out the selectivity calculations assuming a plus group of age 12 and older for the catch at age. Other input into the SVPA model was an assumed value for the rate of natural mortality (M) of 0.3, a value for the terminal fishing mortality rate on fully selected ages (age 4 or 5) which was varied at 0.3 or 0.5, and a value for selectivity of the oldest age (12+) which was varied at 25%, 50%, 100%, and 150% of the selectivity of the fully selected age (4 or 5). The selectivity results are presented in Table 20 and Figure 23 for the various runs.

The results were consistent for the most part indicating that selectivity increased from age 0 (or 1) up to about age 5. Depending on whether the recent 1998 or 1997 data were included the selectivity pattern after age 5 declined. In some runs in which used the most recent catch data (1998) we noted an increase in selectivtiy, after ages 5. We know of no biological or fishery operational reason to explain why selectivity would decline in this species after age 5 or 6. The selectivity pattern at age resulting from analyses limited to 1994-1997 catch at age estimates data was stable when either the input terminal F of the fully selected age (4 or 5) or the selectivity of the oldest age was changed (Runs 9,10-23 and 19).

Maturity at size

Fecundity at size data do not exist for the Gulf of Mexico or the Atlantic greater amberjack from any study. For this reason, estimated weight at age is used as a proxy for fecundity of greater amberjack.

Burch (1979) evaluated gonad condition in fish collected from south Florida in the Atlantic and found that maximum gonad development occurred in the spring months however, that study did not carry out microscopic evaluations of the gonads. Beasley examined gonads from fish collected off Louisiana and also found maximum gonad development during late spring months.

Reliable information on maturation is important and can impact estimates of spawning potential ratio (SPR). Studies providing theoretical SPR's for the Atlantic greater amberjack have used weight at age information in the absence of fecundity at size (age) data assuming that 50% sexual maturity in Atlantic greater amberjack occurs at age 3 (see Huntsman et al. 1992, 1993a, 1993b and Potts et al. 1998). The use of age 3 as the current maturation age for this stock has support

based on observations of the sizes of ripe fish and the estimated size at age from growth studies by Manooch and Potts (1997).

Burch's (1979) south Florida study and Thompson et al.'s (1991) study for fish collected off Louisiana provide information on maturation of the greater amberjack of the southeastern U.S.. Burch's study was based on fish caught in the Atlantic and reported that all fish were mature by their fourth year which corresponded to a size range of 77 cm – 91 cm fork length (from his von Bertalanffy curve) (Figure 19). Burch reported below about 50 cm fork length sex determination in greater amberjack was not possible and further that some fishes were mature by the third year of life, corresponding to a size range of 61 cm – 77 cm fork length according to Burch's growth parameters (see Figures 24 and 25). Manooch has also reported that Atlantic greater amberjack mature by their third year of life (Manooch pers. comm.). This information, taken collectively across all studies (published and unpublished data) based on fish sampled nearly 23 years ago, suggests that Atlantic greater amberjack mature from age 3 to 4 and all fish are mature by age 5.

The Thompson et al. (1991) study, some 20 years later, provides comparative data on maturation in this species from the Gulf of Mexico. Although Thompson's two-year study was hampered by a large number of ovaries that appeared to be infected with an unknown pathogen, some information on maturation was obtained. Thompson reported, as did Burch (1979), that gonad development was maximum during spring, mainly between May and June. These investigators also reported that greater amberjack sampled in their study matured between 93 cm and 96 cm fork length (about 25 pounds). The maturity determinations in the Thompson et al. study were all based on histological examinations. According to Beasley's growth equation these fish, 93-96 cm FL would be about 3.7 - 4.1 years of age (about 25 pounds). Based on their growth determinations made using sectioned otoliths they postulated that the age of maturity occurred as early as age 2 to 3 (69 -84 cm and 11-19 pounds). Beasley et al. (1996) provided further support validating the size at age information for fish of ages 2 and 3 from the through oxy-tetraycline marking experiments. Based on further work Thompson (2000 personal communication) reported that all fish of age 2 (about 69 cm FL or about 11 pounds) were immature, 50% of fish of age 3 (84 cm FL or about 19 pounds) are mature and all greater amberjack in the Gulf of Mexico are mature by age 4 (96 cm FL or about 28 pounds).

Neither the Burch (1979) study nor the Thompson et al. (1991) study provides definitive information on the maturation age of the greater amberjack in either region.. Burch's study may not be applicable to fish from the Gulf of Mexico, however tagging analyses show movement between during winter months between fish off the west coast of Florida and the Florida Keys. In addition between Burch's study and now maturation size could have changed. We feel that the most current information regarding maturation size is that of Thompson et al. 1991 and the unpublished data from Thompson (personal communication). That information suggests that all fish are mature by age 4 (96 cm FL), 50 % are mature by age 3 (84 cm) and all fish age 2 or less are immature (about 69 cm FL).

Recent Catches

For purposes of projecting future stock levels beyond the data in this analysis (1998) information on current year (1999) removals and amount of discards was needed. For this purpose, discards were estimated from the average estimated catch at age from recent (1996-1997) history of estimated catches, (Table 21). The 1999 projected catch and landed weight was estimated using the preliminary commercial landings, and the most recent estimates of recreational catch. Estimated catch of commercial fishery was determined using estimated mean weight for 1998 from the commercial fishery and projected landings through 1999. Recreational landed weight was determined using estimated mean weight for 1998 and estimated recreational catches for 1999. 1998 headboat landed catch and weight was substituted for 1999 values. Projected 1999 landings and total catch are given for the Gulf of Mexico greater amberjack in Table 22.

Recommendations

We have three main recommendations. First, although recent commercial landings and recreational catches have declined some segments of the Gulf of Mexico greater amberjack fishery are still being sampled at a relatively low level, at below a 1% level of the estimated total catch. In particular we note the lower sampling of fish from two fisheries, the commercial bottom longline and the recreational private vessel fishery. We feel these fisheries should be sampled at a higher intensity as the observed size frequencies from these fisheries appear dissimilar from other fisheries within their sector (i.e, commercial handline or recreational charterboat). Increases in size frequency observations would be neded to evaluate this hypothesis.

Secondly, we note the emergence of a relatively new fleet which is seems be multi-species (reef fish) in their targeting preferences and is operating out of the St. Petersburg, Florida area (Dalton 1997, Sargent 1999). These boats are part of a fleet of charter vessels operating further offshore (up to 100+ miles in a single day) than most of the charterboat fleet normally travel on a trip. Apparently the fleet, small in terms of the number of participants making these long trips, operates fast fiberglass vessel equipped with twin diesels (up to 350 hp) capable of traveling at speeds around 60 mph and has the capacity to make a single day trip from Apalachicola (Florida) to the Dry Tortugas out of the home port of St. Petersburg, Florida (Saltwater Sportsman 1999). We note the importance of following the activity of these vessels in terms of obtaining information regarding catch levels, observed sizes (and age), and possible abundance trends from these catches. In addition because of the close proximity of these boats operating to the Atlantic area and because of the known migration between the Gulf of Mexico and Atlantic, these boats could offer possible opportunity regarding other research areas for greater amberjack (e.g., ongoing maturation collections and tagging experiments). In addition because of the multi-species nature of these vessels important information on other species can be collected from this fishery.

Thirdly, we note that there remain questions relating to species identification for this species and again we point out our concern regarding the shore based fishery catch estimates of greater amberjack. We feel there is justification for further field training of samplers on species identification.

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Table 1a. Reported commercial landings by state landed and calendar year for the Gulf of Mexico greater amberjack stock in the southeastern United States, 1962-1998. Units are whole weight (pounds).

Year	Florida (east)	Florida (west)	Florida (inland)	Alabama	Mississippi	Louisiana	Texas	Total Atlantic States	Total Gulf States	All States Combined
1962		10,816							10,816	10,816
1963		7,800							7,800	7,800
1964		6,864							6,864	6,864
1965		5,616							5,616	5,616
1966		7,488							7,488	7,488
1967		32,448							32,448	32,448
1968		12,792							12,792	12,792
1969		81,016							81,016	81,016
1970		15,184							15,184	15,184
1971		42,744							42,744	42,744
1972	728	46,280						728	46,280	47,008
1973	2,184	31,408						2,184	31,408	33,592
1974	2,288	46,384						2,288	46,384	48,672
1975	3,016	86,840						3,016	86,840	89,856
1976	728	96,096						728	96,096	96,824
1977	1,248	133,328						1,248	133,328	134,576
1978		167,544							167,544	167,544
1979		169,208							169,208	169,208
1980		198,251							198,251	198,251
1981		261,298							261,298	261,298
1982		244,086			4,950				249,036	249,036
1983		306,332		2,909	500	452			310,193	310,193
1984		545,367		19,279	9,336	364	13,901		588,247	588,247
1985		633,362		42,733	36,758	96,206	48,237		857,296	857,296
1986		708,492		61,949	67,403	314,057	119,796		1,271,697	1,271,697
1987		1,193,674	6,566	30,668	46,293	380,847	105,428		1,756,910	1,763,476
1988		1,368,482		35,951	40,461	710,752	181,677		2,337,323	2,337,323
1989	856	1,388,215	4,047	28,849	53,120	606,955	139,279	856	2,216,418	2,221,321
1990		661,981	817	15,206	22,535	315,395	72,511		1,087,628	1,088,445
1991		581,087	2,835	2,194	20,204	196,923	28,472		828,880	831,715
1992		859,573	520	21,432	16,909	406,802	170,026		1,474,742	1,475,262
1993		867,154	435	7,657	16,327	486,153	184,175		1,561,466	1,561,901
1994	19	770,016		5,824	6,262	351,935	102,696	19	1,236,733	1,236,752
1995	418	598,251	433	2,704	6,257	302,778	151,025	418	1,061,015	1,061,866
1996	395	656,248	915	11,922	26,846	310,219	159,773	395	1,165,008	1,166,318
1997	182	546,086		3,274	31,424	262,423	180,757	182	1,023,964	1,024,146
1998	773	363,263		1,932	9,500	121,794	135,469	773	631,958	632,731

Table 1b. Reported commercial landings (percent) by state landed and calendar year for the Gulf of Mexico greater amberjack stock in the southeastern United States, 1962-1998.

Calendar Year	Florida (east)	Florida (west)	Florida (inland)	Alabama	Mississippi	Louisiana	Texas
1962		100					
1963		100					
1964		100					
1965		100					
1966		100					
1967		100					
1968		100					
1969		100					
1970		100					
1971		100					
1972	1.55	98.45					
1973	6.50	93.50					
1974	4.70	95.30					
1975	3.36	96.64					
1976	0.75	99.25					
1977	0.93	99.07					
1978		100.00					
1979		100.00					
1980		100.00					
1981		100.00					
1982		98.01			1.99		
1983		98.76		0.94	0.16	0.15	
1984		92.71		3.28	1.59	0.06	2.36
1985		73.88		4.98	4.29	11.22	5.63
1986		55.71		4.87	5.30	24.70	9.42
1987		67.69	0.37	1.74	2.63	21.60	5.98
1988		58.55		1.54	1.73	30.41	7.77
1989	0.04	62.50	0.18	1.30	2.39	27.32	6.27
1990		60.82	0.08	1.40	2.07	28.98	6.66
1991		69.87	0.34	0.26	2.43	23.68	3.42
1992		58.27	0.04	1.45	1.15	27.57	11.53
1993		55.52	0.03	0.49	1.05	31.13	11.79
1994		62.26		0.47	0.51	28.46	8.30
1995	0.04	56.34	0.04	0.25	0.59	28.51	14.22
1996	0.03	56.27	0.08	1.02	2.30	26.60	13.70
1997	0.02	53.32		0.32	3.07	25.62	17.65
1998	0.12	57.41		0.31	1.50	19.25	21.41

Table 2. Reported commercial landings by gear type and calendar year for the Gulf of Mexico greater amberjack stock in the southeastern United States, 1962-1998. Units are whole weight (pounds).

Gear	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Hook & Lines	8,528	7,800	6,656	5,616	7,488	32,448	12,792	81,016	14,664	42,744	37,128	33,384	48,464
Surface Longlines													
Bottom Longlines													
Dive Gear													
Gillnets	832		104								9,880		208
Traps													
Trawls													
Seines	832		104						520			208	
Unclassified	624												
All Gears	10,816	7,800	6,864	5,616	7,488	32,448	12,792	81,016	15,184	42,744	47,008	33,592	48,672

Gear	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Hook & Lines	89,648	95,160	125,216	165,360	161,304	188,374	236,062	204,674	259,433	519,376	731,059	1,042,457	1,398,429
Surface Longlines													
Bottom Longlines					2,912	5,283	24,950	43,634	50,646	68,802	124,171	228,436	285,775
Dive Gear												515	19,436
Gillnets	208	936	9,360	2,184	4,680	2,373	286	728	107	69	306	129	
Traps					312								
Trawls											1,760	160	5,404
Seines		728				2,220							
Unclassified									7				54,432
All Gears	89,856	96,824	134,576	167,544	169,208	198,251	261,298	249,036	310,193	588,247	857,296	1,271,697	1,763,476

Gear	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Hook & Lines	1,930,952	1,849,368	876,855	510,211	925,400	816,375	713,904	579,128	648,812	516,756	327,840
Surface Longlines	1,286	4,762	1,081	90	5,423	466		967	186		342
Bottom Longlines	367,336	334,537	191,054	99,407	103,293	44,900	42,628	19,593	37,251	53,576	38,382
Dive Gear	29,272	21,692	6,725	13,060	16,416	23,301	20,072	4,264	8,937	10,096	4,768
Gillnets					1,528	1,712	939	475			28
Traps		856		9,189	15,829	4,129	4,578	2,657	225	538	146
Trawls	8,477	6,059	156		51	255		41			
Seines			11,757								
Unclassified		4,047	817	199,758	407,322	670,763	454,631	454,741	470,907	443,180	261,225
All Gears	2,337,323	2,221,321	1,088,445	831,715	1,475,262	1,561,901	1,236,752	1,061,866	1,166,318	1,024,146	632,731

Table 3a. Reported commercial landings by capture grid and calendar year for the Gulf of Mexico greater amberjack stock in the southeastern United States, 1977-1998 , for ***Hook and Line*** captures only. Units are whole weight (pounds). Landings for Louisiana are not classified to gear, 1992-1998.

Grid	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
1											
2		3,536	832	4,002	731	2,248	4,794	5,123	3,767		35,384
3			104	2,217		721	1,724	3,616	4,342	5,448	18,521
4	104		104	1,456	399		342	480	2,472	57,677	18,429
5	16,536	26,832	19,760	19,704	23,145	10,129	10,874	12,878	5,476	43,500	155,951
6	17,056	26,624	20,176	24,168	24,732	11,668	12,126	60,687	25,017	47,694	140,138
7	1,456	832	936	3,358	5,033	2,182	5,232	6,101	5,841	44,190	18,021
8	22,776	21,216	20,696	25,693	43,637	37,714	38,638	64,711	94,644	64,098	93,289
9	26,312	31,512	23,504	25,898	31,115	29,078	34,968	101,546	133,429	132,372	111,761
10	9,048	12,584	13,416	14,905	23,754	24,079	42,214	121,086	114,410	107,810	140,592
11	4,576	9,048	5,616	6,231	10,920	13,371	19,168	47,414	67,978	90,010	166,569
12								4,604		890	2,995
13	9,256	10,088	34,944	37,629	44,353	44,587	47,446	41,057	136,768	224,311	240,147
14	6,864	8,008	11,440	12,205	14,944	15,724	18,311	23,050	31,361	63,548	145,431
15	4,160	6,032	8,008	8,825	9,348	9,358	12,383	4,057	20,816	57,606	11,450
16	2,808	4,680	832	936	1,664	2,048	1,456	3,185	11,481	24,957	28,353
17	1,872	2,912	520	625	1,352	1,039	916	6,525	38,623	38,942	32,123
18	1,144	1,456	416	521	936	728	624	4,579	13,079	10,251	14,187
19								3,330	2,537	2,578	7,244
20								1,278	1,540	20,866	14,635
21								4,069	1,527	5,709	3,209
Unclassified	1,248										
Foreign							8,214		15,952		
ALL	125,216	165,360	161,304	188,374	236,062	204,674	259,433	519,376	731,059	1,042,457	1,398,429

Grid	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
1											
2	39,034	29,073	21,593	38,314	81,869	46,731	34,443	36,911	7,793	29,666	9,344
3	17,907	10,291	8,092	4,753	27,707	13,122	7,100	29,123	2,690	16,416	1,262
4	19,547	47,230	38,788	8,415	13,058	213,585	11,381	29,575	36,089	31,386	15,317
5	126,769	113,106	107,954	124,117	333,426	127,966	243,938	117,812	252,831	187,111	152,138
6	121,645	111,746	65,241	39,594	69,428	97,102	114,169	92,097	97,371	33,895	22,109
7	60,714	125,947	9,994	14,693	15,950	6,156	30,821	22,983	5,547	28,638	11,011
8	114,118	109,232	64,777	145,214	73,266	89,960	101,624	100,444	85,409	51,019	27,588
9	106,797	97,111	31,530	13,025	26,831	40,503	29,686	41,751	20,086	35,605	19,907
10	191,181	189,351	60,771	47,244	68,558	80,913	60,818	76,421	68,333	52,386	24,994
11	228,464	220,306	76,410	39,150	64,696	67,897	62,285	22,071	48,872	23,355	20,379
12		270							330	0	168
13	476,059	267,782	16,590	7,247	12,773	19,960	12,508	4,079	4,234	14,109	13,145
14	235,283	254,067	14,612	5,581	1,794	2,089	809	3,270	11,243	1,404	5,809
15	38,043	136,288	11,047	2,139	5,054	1,066		239	2,571	22	486
16	36,032	72,843	10,218	2,638	4,141	612	156		345	3,501	255
17	65,425	46,637	11,264	3,988	1,993	2,476	461	857	3,700	6,212	1,707
18	19,959	6,940	2,851	3,816	95,850	3,498	1,540	817	899	1,249	821
19	8,073	4,145	7,188	2,811	9,434	2,001	1,554	276	74	465	
20	22,320	4,880	2,048	7,450	18,337	586	611				204
21	3,582	2,123	1,186	22	1,235	152					
Unclassified			314,701					402	395	317	1,196
Foreign											
ALL	1,930,952	1,849,368	876,855	510,211	925,400	816,375	713,904	579,128	648,812	516,756	327,840

Table 3b. Reported commercial landings by capture grid and calendar year for the Gulf of Mexico greater amberjack stock in the southeastern United States, 1977-1998 , for ***Bottom Longline*** captures only. Units are whole weight (pounds). Landings for Louisiana are not classified to gear, 1992-1998.

Grid	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
1											
2											7,210
3											12,762
4											9,853
5					5,442	13,749	13,598	15,920		50,502	62,676
6					5,283	14,064	14,101	18,689	24,432	50,609	65,770
7				102	625	1,046	1,141	1,145	1,770	515	430
8				1,141	2,289	2,499	2,286	4,786	9,362	515	8,942
9				729	1,248	624	832	3,376	4,256	2,056	1,682
10								13,137	7,107	2,504	3,365
11						200	208	416	4,173	8,694	12,562
12											
13			1,664	1,892	5,557	5,857	10,173	2,105	5,221	14,964	12,545
14			728	828	2,645	2,732	4,724	1,694	3,536	6,563	12,060
15			520	592	1,861	1,713	3,271	921	1,351		511
16							312	536	728	5,410	3,246
17						350				5,833	2,507
18						800			16,402	11,953	22,171
19								84	7,137	12,082	15,159
20								693	4,533	39,150	20,167
21								5,300	10,236	17,086	12,157
Unclassified Foreign									23,928		
ALL			2,912	5,283	24,950	43,634	50,646	68,802	124,171	228,436	285,775

Grid	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
1											
2	4,866	3,899	990	5,866	1,840	1,096	3,804	5,240	4,625	4,970	6,632
3	8,872	9,413	1,837	5,515	5,277	2,694	1,888	2,117	6,144	17,390	8,899
4	8,235	13,636	2,745	20,938	9,337	5,495	2,470	1,138	4,757	6,938	5,763
5	67,256	60,016	48,219	30,669	24,568	23,095	23,354	4,245	11,940	13,583	12,969
6	67,945	80,397	58,550	6,659	2,641	546	1,459	1,261	2,032	6,230	1,805
7	3,070	687	149	217			64	1,215		1,009	227
8	10,464	28,023	12,369	4,860	2,254	3,579	1,257	1,795	5,551	989	614
9	14,506	2,002	642	1,423	3,892	2,386	0	719	943	896	172
10	4,460	4,787	3,123	320	1,169	3,300	3,516	1,238	756	725	122
11	17,611	6,420	2,003	2,618	3,520	2,709	3,359	625		664	
12											
13	6,614	1,618	575	1,778	3,212				503		
14	8,689			1,015	2,765						
15	2,676	2,829	734	580							
16	1,255	1,548	315				1,131				
17	8,777	1,817									
18	14,624	14,445	2,527	888	36,247						
19	38,482	28,365	8,983	3,544	835						
20	67,438	44,375	17,708	2,406	3,031						
21	11,496	30,260	29,585	10,111	2,705						431
Unclassified Foreign							19			182	748
ALL	367,336	334,537	191,054	99,407	103,293	44,900	42,628	19,593	37,251	53,576	38,382

Table 3c. Reported commercial landings by capture grid and calendar year for the Gulf of Mexico greater amberjack stock in the southeastern United States, 1977-1998 , for ***Dive Gear*** captures only. Units are whole weight (pounds). Landings for Louisiana are not classified to gear, 1992-1998.

Grid	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
1											
2											
3											
4											14,652
5											
6											
7											
8										515	1,419
9											3,365
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
Unclassified											
Foreign											
ALL										515	19,436

Grid	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
1											
2				3,063	2,729	4,017	3,295	2,829	774	662	
3			81								
4	26,058	13,705	3,776	1,896	2,426	2,590	369				
5			385	6,464	10,697	125	15,861	210	2,208	3,523	1,093
6				1,453		16,569	547	228	5,569	3,448	3,675
7								64		94	
8	1,797	5,500	1,678		564			933	28		
9	1,417	2,487	805	184					307	2,369	
10									51		
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
Unclassified											
Foreign											
ALL	29,272	21,692	6,725	13,060	16,416	23,301	20,072	4,264	8,937	10,096	4,768

Table 3d. Reported commercial landings by capture grid and calendar year for the Gulf of Mexico greater amberjack stock in the southeastern United States, 1977-1998 , for ***Fish Trap*** captures only. Units are whole weight (pounds). Landings for Louisiana are not classified to gear, 1992-1998.

Grid	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
Unclassified			312								
Foreign											
ALL			312								

Grid	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
1											
2				9,189	13,646	4,017	3,295	2,604	221	246	80
3											
4											
5											
6					2,183	112	420	30	0	81	66
7							863	7	4	211	
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
Unclassified		856						16			
Foreign											
ALL		856		9,189	15,829	4,129	4,578	2,657	225	538	146

Table 3e. Reported commercial landings by capture grid and calendar year for the Gulf of Mexico greater amberjack stock in the southeastern United States, 1977-1998 , for ***Gillnet*** captures only. Units are whole weight (pounds). Landings for Louisiana are not classified to gear, 1992-1998.

Grid	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
1											
2											
3	1,144										
4	3,744	1,664	2,184								
5					132						
6	4,472	520	2,496	2,373	154	728	107	69	70		
7											
8										129	
9									236		
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
Unclassified											
Foreign											
ALL	9,360	2,184	4,680	2,373	286	728	107	69	306	129	

Grid	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
1											
2											
3					178			5			
4					1,293	1,620	923	345			
5					57	66	16	109			
6											28
7											
8											
9											
10								16			
11											
12						26					
13											
14											
15											
16											
17											
18											
19											
20											
21											
Unclassified											
Foreign											
ALL					1,528	1,712	939	475			28

Table 3f. Reported commercial landings by capture grid and calendar year for the Gulf of Mexico greater amberjack stock in the southeastern United States, 1977-1998 , for ***Trawl*** captures only. Units are whole weight (pounds). Landings for Louisiana are not classified to gear, 1992-1998.

Grid	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											10
11									1,275	12	4,359
12										46	
13											
14									485		
15											
16											
17											
18											68
19										3	140
20										99	88
21											739
Unclassified											
Foreign											
ALL									1,760	160	5,404

Grid	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
1											
2						255					
3											
4								40			
5											
6											
7											
8											
9											
10								1			
11	3,889	4,098									
12											
13	179	50									
14	17										
15	573	835									
16	16										
17	113	255									
18	222		19								
19	1,512	198	137		51						
20	1,360	623									
21	596										
Unclassified											
Foreign											
ALL	8,477	6,059	156		51	255		41			

Table 3g. Reported commercial landings by capture grid and calendar year for the Gulf of Mexico greater amberjack stock in the southeastern United States, 1977-1998 , for ***Seine*** captures only. Units are whole weight (pounds). Landings for Louisiana are not classified to gear, 1992-1998.

Grid	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
1											
2											
3											
4											
5											
6											
7				2,220							
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
Unclassified											
Foreign											
ALL				2,220							

Grid	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
1											
2											
3											
4			11,757								
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
Unclassified											
Foreign											
ALL			11,757								

Table 3h. Reported commercial landings by capture grid and calendar year for the Gulf of Mexico greater amberjack stock in the southeastern United States, 1977-1998 , for ***Surface Longline*** captures only. Units are whole weight (pounds). Landings for Louisiana are not classified to gear, 1992-1998.

Grid	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
Unclassified											
Foreign											
ALL											

Grid	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
1											
2								362	42		19
3								162			158
4								383			
5											
6											
7											
8					2,486			60			165
9											
10						466			144		
11	34	4,762			204						
12											
13	1,252										
14											
15											
16											
17			713								
18			368		2,710						
19											
20											
21				90	23						
Unclassified											
Foreign											
ALL	1,286	4,762	1,081	90	5,423	466		967	186		342

Table 3i. Reported commercial landings by capture grid and calendar year for the Gulf of Mexico greater amberjack stock in the southeastern United States, 1977-1998 , for ***Other Gear*** captures only. Units are whole weight (pounds). Landings for Louisiana are not classified to gear, 1992-1998.

Grid	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
1											
2											
3											
4											
5											
6											
7											38,293
8											9,573
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
Unclassified Foreign							7				6,566
ALL							7				54,432

Grid	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
1											
2											458
3											598
4											10
5								503			956
6								2			
7											196
8											50
9											
10											195
11											198
12											
13											
14											
15											
16											
17						1,457					
18						150,456	71,853	111,318	136,746	168,533	107,000
19						3,248	1,052	5,581	9,080	6,108	16,049
20						14,367	21,023	29,708	3,273	3,750	12,324
21						14,647	8,768	4,418	10,674	2,366	96
Unclassified Foreign		4,047	817	199,758	407,322	486,588	351,935	303,211	311,134	262,423	123,095
ALL		4,047	817	199,758	407,322	670,763	454,631	454,741	470,907	443,180	261,225

Table 3j. Reported commercial landings by capture grid and calendar year for the Gulf of Mexico greater amberjack stock in the southeastern United States, 1977-1998 , for ***All gear*** captures only. Units are whole weight (pounds). Landings for Louisiana are not classified to gear, 1992-1998.

Grid	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
1											
2		3,536	832	4,002	731	2,248	4,794	5,123	3,767		42,594
3	1,144		104	2,217		721	1,724	3,616	4,342	5,448	31,283
4	3,848	1,664	2,288	1,456	399		342	480	2,472	57,677	42,934
5	16,536	26,832	19,760	19,704	28,720	23,877	24,472	28,799	5,476	94,002	218,627
6	21,528	27,144	22,672	26,541	30,169	26,460	26,335	79,445	49,519	98,303	205,908
7	1,456	832	936	5,680	5,658	3,228	6,373	7,246	7,611	44,705	56,744
8	22,776	21,216	20,696	26,834	45,926	40,213	40,924	69,497	104,006	65,257	113,223
9	26,312	31,512	23,504	26,627	32,363	29,702	35,800	104,921	137,921	134,428	116,808
10	9,048	12,584	13,416	14,905	23,754	24,079	42,214	134,223	121,517	110,314	143,967
11	4,576	9,048	5,616	6,231	10,920	13,571	19,376	47,830	73,426	98,716	183,490
12								4,604		936	2,995
13	9,256	10,088	36,608	39,521	49,910	50,444	57,620	43,162	141,989	239,275	252,692
14	6,864	8,008	12,168	13,033	17,588	18,456	23,035	24,744	35,382	70,111	157,491
15	4,160	6,032	8,528	9,417	11,208	11,071	15,654	4,978	22,167	57,606	11,961
16	2,808	4,680	832	936	1,664	2,048	1,768	3,721	12,209	30,367	31,599
17	1,872	2,912	520	625	1,352	1,389	916	6,525	38,623	44,775	34,630
18	1,144	1,456	416	521	936	1,528	624	4,579	29,481	22,204	36,426
19								3,414	9,674	14,663	22,543
20								1,971	6,073	60,115	34,890
21								9,369	11,763	22,795	16,105
Unclassified	1,248		312				7				6,566
Foreign							8,214		39,880		
ALL	134,576	167,544	169,208	198,251	261,298	249,036	310,193	588,247	857,296	1,271,697	1,763,476

Grid	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
1											
2	43,900	32,972	22,583	56,432	100,084	56,116	44,837	47,946	13,455	35,544	16,533
3	26,779	19,704	10,010	10,268	33,162	15,816	8,988	31,407	8,834	33,806	10,917
4	53,840	74,571	57,066	31,249	26,114	223,290	15,143	31,481	40,846	38,324	21,090
5	194,025	173,122	156,558	161,250	368,748	151,252	283,169	122,879	266,979	204,217	167,156
6	189,590	192,143	123,791	47,706	74,252	114,329	116,595	93,618	104,972	43,654	27,683
7	63,784	126,634	10,143	14,910	15,950	6,156	31,748	24,269	5,551	29,952	11,434
8	126,379	142,755	78,824	150,074	78,570	93,539	102,881	103,232	90,988	52,008	28,417
9	122,720	101,600	32,977	14,632	30,723	42,889	29,686	42,470	21,336	38,870	20,079
10	195,641	194,138	63,894	47,564	69,727	84,679	64,334	77,676	69,284	53,111	25,311
11	249,998	235,586	78,413	41,768	68,420	70,606	65,644	22,696	48,872	24,019	20,577
12		270				26			330		168
13	484,104	269,450	17,165	9,025	15,985	19,960	12,508	4,079	4,737	14,109	13,145
14	243,989	254,067	14,612	6,596	4,559	2,089	809	3,270	11,243	1,404	5,809
15	41,292	139,952	11,781	2,719	5,054	1,066	0	239	2,571	22	486
16	37,303	74,391	10,533	2,638	4,141	612	1,287	0	345	3,501	255
17	74,315	48,709	11,977	3,988	1,993	3,933	461	857	3,700	6,212	1,707
18	34,805	21,385	5,765	4,704	134,807	153,954	73,393	112,135	137,645	169,782	107,821
19	48,067	32,708	16,308	6,355	10,320	5,249	2,606	5,857	9,154	6,573	16,049
20	91,118	49,878	19,756	9,856	21,368	14,953	21,634	29,708	3,273	3,750	12,528
21	15,674	32,383	30,771	10,223	3,963	14,799	8,768	4,418	10,674	2,366	527
Unclassified		4,903	315,518	199,758	407,322	486,588	351,954	303,629	311,529	262,922	125,039
Foreign											
ALL	2,337,323	2,221,321	1,088,445	831,715	1,475,262	1,561,901	1,236,445	1,061,866	1,166,318	1,024,146	632,731

Table 4. Reported commercial landings (proportion) by calendar year and month of the Gulf of Mexico greater amberjack stock in the southeastern United States, 1977-1998. Month information not available prior to 1977.

	Month											
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1977	2.01	5.08	6.91	11.21	16.30	7.96	13.42	6.44	9.52	4.54	11.45	5.17
1978	1.32	2.17	8.76	11.91	9.86	10.44	7.93	11.40	11.40	6.82	10.99	7.01
1979	1.88	1.19	7.12	6.96	17.90	17.32	7.01	8.12	7.32	11.67	5.26	8.24
1980	3.63	4.76	3.74	6.88	11.38	9.34	10.14	11.00	13.44	9.29	4.97	11.43
1981	6.65	6.69	6.77	7.82	12.37	7.38	8.16	9.39	12.77	7.50	8.25	6.25
1982	2.59	6.91	11.73	12.51	14.62	11.94	8.76	9.07	6.50	5.41	3.21	6.74
1983	8.15	3.62	3.37	7.53	9.57	20.71	12.62	8.86	5.10	7.98	6.65	5.83
1984	5.66	6.24	6.95	5.13	9.69	11.59	9.68	11.25	6.99	7.71	6.58	12.52
1985	5.00	3.83	6.67	5.75	12.85	10.51	13.74	10.46	6.69	7.15	7.45	9.89
1986	5.14	6.22	3.64	7.34	9.31	9.42	10.72	14.25	10.04	7.28	8.48	8.16
1987	4.31	7.26	7.44	9.30	11.61	7.45	8.25	9.35	11.11	8.84	7.27	7.81
1988	5.46	8.49	8.89	10.27	10.38	11.43	9.52	9.82	5.60	7.56	5.18	7.41
1989	13.39	8.70	8.38	9.07	12.29	9.50	7.65	7.57	6.98	6.21	5.65	4.61
1990	18.16	9.74	6.35	8.49	7.23	6.04	7.43	9.10	8.13	7.71	5.79	5.84
1991	7.99	6.70	5.32	6.38	7.57	7.39	10.01	13.71	10.77	8.43	8.07	7.65
1992	3.76	4.67	3.53	5.00	7.68	9.04	9.84	12.77	15.63	9.70	7.59	10.79
1993	9.70	7.75	6.61	4.84	10.22	7.84	11.36	10.10	13.49	6.86	5.35	5.88
1994	5.15	6.14	6.04	6.26	12.52	9.49	10.72	15.41	8.46	6.74	5.72	7.34
1995	10.52	8.60	8.18	5.50	9.32	13.81	8.83	7.56	12.30	4.05	5.27	6.06
1996	5.08	6.33	4.03	6.51	9.40	12.06	14.51	15.56	11.54	2.92	5.33	6.74
1997	7.14	6.70	7.96	7.71	14.32	13.75	10.00	10.17	6.58	5.58	5.06	5.05
1998	3.16	7.73	0.53	0.27	0.80	23.05	15.01	16.35	4.18	6.58	12.19	10.16
All years	7.39	7.05	6.50	7.33	10.34	10.43	10.03	10.89	9.29	7.01	6.45	7.29

Table 5. Estimated recreational harvest by source and calendar year for the Gulf of Mexico greater amberjack stock in the southeastern United States, 1981 - 1998. Catch units are number of fish. MRFSS estimates includes Monroe County recreational catches in the Florida west coast estimates

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Source	Year	Catch(nos)	Var(catch)(10,000s)	Yield(lbs)
MRFSS	1981	103,227	96,876	568,110
MRFSS	1982	441,695	809,862	3,380,224
MRFSS	1983	168,007	67,837	2,014,604
MRFSS	1984	69,013	17,132	955,352
MRFSS	1985	128,246	67,420	1,322,611
MRFSS	1986	515,399	967,287	7,540,450
MRFSS	1987	630,685	1,573,052	5,240,503
MRFSS	1988	277,139	286,707	2,500,941
MRFSS	1989	553,721	842,469	4,562,701
MRFSS	1990	61,199	31,184	689,557
MRFSS	1991	239,014	241,959	2,891,497
MRFSS	1992	248,029	350,642	2,659,524
MRFSS	1993	154,259	21,369	3,498,302
MRFSS	1994	118,308	28,134	1,562,367
MRFSS	1995	52,042	20,525	799,190
MRFSS	1996	73,496	13,946	1,000,277
MRFSS	1997	53,846	14,448	1,208,016
MRFSS	1998	54,866	19,767	850,420

Source	Year	Catch(nos)	Var(catch)(10,000s)	Yield(lbs)
HEADBOAT	1986	86,024		750,639
HEADBOAT	1987	52,892		378,893
HEADBOAT	1988	29,660		173,623
HEADBOAT	1989	52,521		204,289
HEADBOAT	1990	24,260		77,667
HEADBOAT	1991	9,852		102,689
HEADBOAT	1992	19,747		312,153
HEADBOAT	1993	14,053		225,872
HEADBOAT	1994	13,116		213,123
HEADBOAT	1995	8,670		143,999
HEADBOAT	1996	10,511		139,590
HEADBOAT	1997	7,538		125,359
HEADBOAT	1998	5,110		88,595

Table 5 (cont.)

Source	Year	Catch(nos)	Var(catch)(10,000s)	Yield(lbs)
TPWD	1983	2,397		
TPWD	1984	8,139		
TPWD	1985	372		
TPWD	1986	6,414		
TPWD	1987	4,434		
TPWD	1988	1,750		
TPWD	1989	1,982		
TPWD	1990	835		
TPWD	1991	1,816		
TPWD	1992	4,851		
TPWD	1993	17,202		
TPWD	1994	239		
TPWD	1995	413		
TPWD	1996	785		
TPWD	1997	1,441		
TPWD	1998	348		

Source	Year	Catch(nos)	Var(catch)(10,000s)	Yield(lbs)
ALL	1981	103,227	96,876	568,110
ALL	1982	441,695	809,862	3,380,224
ALL	1983	170,404	67,837	2,014,604
ALL	1984	77,152	17,132	955,352
ALL	1985	128,618	67,420	1,322,611
ALL	1986	607,837	967,287	8,291,089
ALL	1987	688,011	1,573,052	5,619,396
ALL	1988	308,549	286,707	2,674,565
ALL	1989	608,224	842,469	4,766,991
ALL	1990	86,294	31,184	767,224
ALL	1991	250,682	241,959	2,994,187
ALL	1992	272,627	350,642	2,971,677
ALL	1993	185,514	21,369	3,724,174
ALL	1994	131,663	28,134	1,775,490
ALL	1995	61,125	20,525	943,189
ALL	1996	84,792	13,946	1,139,867
ALL	1997	62,825	14,448	1,333,375
ALL	1998	60,324	19,767	939,015

Table 6. Estimated recreational harvest (A+B1) of the Gulf of Mexico greater amberjack stock for the southeastern United States by fishery, state, and calendar year, 1981-1998. MRFSS includes Monroe County recreational catches in Florida west coast estimates. Charter and Party/Headboat catches were combined by MRFSS prior to 1986. Units are number of fish.

Year	Fishery	Florida (west coast)	Alabama	Mississippi	Louisiana	Texas	All states
1981	Shore						
	Private	67,352	4,476		22,878		94,706
	Charter/Hbt	6,661	626		1,234		8,521
	All modes	74,013	5,102		24,112		103,227
1982	Shore	12,307					12,307
	Private	116,200	708		26,171		143,079
	Charter/Hbt	272,394	3,621		10,294		286,309
	All modes	400,901	4,329		36,465		441,695
1983	Shore						
	Private	11,806			35,585	2,397	49,788
	Charter/Hbt	88,171			32,445		120,616
	All modes	99,977			68,030	2,397	170,404
1984	Shore	7,073					7,073
	Private				4,477	8,139	12,616
	Charter/Hbt	14,724			42,739		57,463
	All modes	21,797			47,216	8,139	77,152
1985	Shore						
	Charter					372	372
	Private	37,579					37,579
	Charter/Hbt	59,404			31,263		90,667
	All modes	96,983			31,263	372	128,618
1986	Shore						
	Headboat	75,800			739	9,485	86,024
	Charter	409,366	4,808		3,333	485	417,992
	Private	96,767	798		327	5,929	103,821
	All modes	581,933	5,606		4,399	15,899	607,837
1987	Shore	4,351					4,351
	Headboat	43,311			402	9,179	52,892
	Charter	405,313	11,756		16,721		433,790
	Private	182,191	10,353			4,434	196,978
	All modes	635,166	22,109		17,123	13,613	688,011
1988	Shore	14,535					14,535
	Headboat	20,473			1,251	7,936	29,660
	Charter	164,435	19,290			203	183,928
	Private	76,296			2,583	1,547	80,426
	All modes	275,739	19,290		3,834	9,686	308,549
1989	Shore	126,747					126,747
	Headboat	42,745			216	9,560	52,521
	Charter	177,303	52,189		4,220	813	234,525
	Private	182,295	6,751		4,216	1,169	194,431
	All modes	529,090	58,940		8,652	11,542	608,224

Table 6 (cont.)

Year	Fishery	Florida (west coast)	Alabama	Mississippi	Louisiana	Texas	All states
1990	Shore	1,278					1,278
	Headboat	21,310			245	2,705	24,260
	Charter	14,686	6,305		313		21,304
	Private	27,147	11,470			835	39,452
	All modes	64,421	17,775		558	3,540	86,294
1991	Shore	8,152					8,152
	Headboat	6,325			1,097	2,430	9,852
	Charter	201,756	5,196	231	11,866		219,049
	Private	8,197	3,616			1,816	13,629
	All modes	224,430	8,812	231	12,963	4,246	250,682
1992	Shore	53,487					53,487
	Headboat	9,913			3,932	5,902	19,747
	Charter	138,274	17,137		5,482		160,893
	Private	12,922	19,264	800	663	4,851	38,500
	All modes	214,596	36,401	800	10,077	10,753	272,627
1993	Shore	1,953	1,750				3,703
	Headboat	6,375			2,989	4,689	14,053
	Charter	89,137	27,522		2,434	16,858	135,951
	Private	12,735	18,107		621	344	31,807
	All modes	110,200	47,379		6,044	21,891	185,514
1994	Shore						
	Headboat	6,876			1,697	4,543	13,116
	Charter	83,223	15,563	47	450		99,283
	Private	4,854	11,472		2,699	239	19,264
	All modes	94,953	27,035	47	4,846	4,782	131,663
1995	Shore						
	Headboat	2,728			1,456	4,486	8,670
	Charter	19,992	4,622		4,087	76	28,777
	Private	5,532	11,943	840	5,026	337	23,678
	All modes	28,252	16,565	840	10,569	4,899	61,125
1996	Shore						
	Headboat	3,226			3,841	3,444	10,511
	Charter	28,269	9,759		3,226	268	41,522
	Private	10,141	14,612		7,489	517	32,759
	All modes	41,636	24,371		14,556	4,229	84,792
1997	Shore						
	Headboat	3,651			945	2,942	7,538
	Charter	36,590	3,810		809	472	41,681
	Private	7,472	2,181	569	2,415	969	13,606
	All modes	47,713	5,991	569	4,169	4,383	62,825
1998	Shore				13,149		13,149
	Headboat	2,549			663	1,898	5,110
	Charter	30,876	1,854		160	39	32,929
	Private	7,987	840			309	9,136
	All modes	41,412	2,694		13,972	2,246	60,324

Table 7. Estimated recreational harvest (percent) of the Gulf of Mexico greater amberjack stock based on MRFSS and TPWD A+B1 catches by zone (TTS and EEZ) and calendar year, 1981-1998.

Year	Zone	Florida (west)	Alabama	Mississippi	Louisiana	Texas	All States
1981	TTS	69.36	87.73		3.84		54.96
	EEZ	30.64	12.27		96.16		45.04
1982	TTS	16.66	85.19				15.95
	EEZ	83.34	14.81		100		84.05
1983	TTS	14.47			8.06	28.2	12.1
	EEZ	85.53			91.94	71.8	87.9
1984	TTS	61.52			7.17	1.2	21.89
	EEZ	38.48			92.83	98.8	78.11
1985	TTS	16.47			1.72		12.84
	EEZ	83.53			98.28	100	87.16
1986	TTS	8.31				30.6	8.44
	EEZ	91.69	100		100	69.4	91.56
1987	TTS	19.16	0.46		9.6	1.83	18.14
	EEZ	80.84	99.54		90.4	98.17	81.86
1988	TTS	15.65	39.38			13.54	17.13
	EEZ	84.35	60.62		100	86.46	82.87
1989	TTS	66.32				2.93	58.05
	EEZ	33.68	100		100	97.07	41.95
1990	TTS	24.41				4.19	17.02
	EEZ	75.59	100		100	95.81	82.98
1991	TTS	52.03	16.1			17.95	47.84
	EEZ	47.97	83.9	100	100	82.05	52.16
1992	TTS	33.68			6.07	17.5	27.74
	EEZ	66.32	100	100	93.93	82.5	72.26
1993	TTS	26.58	3.69			98	26.94
	EEZ	73.42	96.31		100	2	73.06
1994	TTS	7.19	6.35		9.78	8.37	7.07
	EEZ	92.81	93.65	100	90.22	91.63	92.93
1995	TTS	10.79	2.82			0.97	6.15
	EEZ	89.21	97.18	100	100	99.03	93.85
1996	TTS	33.36					17.25
	EEZ	66.64	100		100	100	82.75
1997	TTS	20.38				1.25	16.27
	EEZ	79.62	100	100	100	98.75	83.73
1998	TTS	8.22			98.8	8.33	29.65
	EEZ	91.78	100		1.2	91.67	70.35

Table 8. Fractions of the Gulf of Mexico greater amberjack stock caught and released by fishing mode and calendar year (1981-1998), based on MFRSS (A+B1 and B2) recreational catch data. Charter boat data are included with headboats prior to 1986.

	Shore			Charter			Private			Charter/Headboat			All		
Year	# Kept	# Released	% Released	# Kept	# Released	% Released	# Kept	# Released	% Released	# Kept	# Released	% Released	# Kept	# Released	% Released
1981		14,952	100				94,706	3,421	3.49	8,521			103,227	18,373	15.11
1982	12,307	32,829	72.73				143,079	30,288	17.47	286,309			441,695	63,117	12.50
1983							47,391	64,648	57.70	120,616	10,525	8.03	168,007	75,173	30.91
1984	7,073						4,477	5,242	53.94	57,463	2,501	4.17	69,013	7,743	10.09
1985							37,579			90,667			128,246		
1986				417,507	44,150	9.56	97,892	68,261	41.08				515,399	112,411	17.91
1987	4,351	5,773	57.02	433,790	13,820	3.09	192,544	25,548	11.71				630,685	45,141	6.68
1988	14,535			183,725	532	0.29	78,879	14,595	15.61				277,139	15,127	5.18
1989	126,747	75,621	37.37	233,712	12,452	5.06	193,262	81,691	29.71				553,721	169,764	23.46
1990	1,278	5,174	80.19	21,304	26,116	55.07	38,617	46,474	54.62				61,199	77,764	55.96
1991	8,152	17,046	67.65	219,049	232,842	51.53	11,813	29,289	71.26				239,014	279,177	53.88
1992	53,487	140,147	72.38	160,893	103,002	39.03	33,649	86,204	71.92				248,029	329,353	57.04
1993	3,703	15,856	81.07	119,093	140,909	54.20	31,463	68,611	68.56				154,259	225,376	59.37
1994		7,201	100	99,283	70,758	41.61	19,025	36,525	65.75				118,308	114,484	49.18
1995		3,487	100	28,701	15,569	35.17	23,341	53,847	69.76				52,042	72,903	58.35
1996		7,798	100	41,254	40,625	49.62	32,242	20,355	38.70				73,496	68,778	48.34
1997		1,541	100	41,209	21,354	34.13	12,637	19,149	60.24				53,846	42,044	43.85
1998	13,149	2,005	13.23	32,890	39,407	54.51	8,827	34,382	79.57				54,866	75,794	58.01

Table 9. Disposition of the Gulf of Mexico greater amberjack stock recreational harvest by mode and two-month wave based on MRFSS (A+B1 and B2) catch data, 1981-1998.

	Shore			Charter			Private		
Wave	# Kept	# Released	% Released	# Kept	# Released	% Released	# Kept	# Released	% Released
Jan-Feb				140,637	39,492	21.92	56,298	128,829	69.59
Mar-Apr				189,855	118,915	38.51	225,727	54,475	19.44
May-Jun	31,557	47,635	60.15	442,476	202,113	31.36	203,604	169,343	45.41
Jul-Aug	184,504	256,091	58.12	212,078	199,571	48.48	313,595	228,820	42.19
Sep-Oct	16,689	20,530	55.16	853,945	118,784	12.21	177,156	68,629	27.92
Nov-Dec	12,032	5,174	30.07	193,419	82,661	29.94	125,043	38,434	23.51
Total	244,782	329,430	57.37	2,032,410	761,536	27.26	1,101,423	688,530	38.47

	Charter/Headboat			All		
Wave	# Kept	# Released	% Released	# Kept	# Released	% Released
Jan-Feb	18,830	8,718	31.65	215,765	177,039	45.07
Mar-Apr	151,773	2,913	1.88	567,355	176,303	23.71
May-Jun	268,093	1,082	0.40	945,730	420,173	30.76
Jul-Aug	68,260	313	0.46	778,437	684,795	46.80
Sep-Oct	41,051			1,088,841	207,943	16.04
Nov-Dec	15,569			346,063	126,269	26.73
Total	563,576	13,026	2.26	3,942,191	1,792,522	31.26

Table 10a. Summary statistics for the Gulf of Mexico greater amberjack by state and year of landing. Blanks denote samples not available.
(States are coded as ST_PLP : 1 (Texas), 2(Louisiana), 3(Mississippi), 4(Alabama) and 5(Florida West Coast). Calendar Year is coded 'CY'.

SECTOR=Commercial Handline MODE_NEW=5

	ST_PLP 1		2		3		4		5		ALL	
	LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH	
CY	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN
80	.	.	.	.	.	.	.	.	38	41.03	38	41.03
83	.	.	22	86.32	.	.	.	.	.	.	22	86.32
84	.	.	133	77.96	.	.	.	.	.	.	133	77.96
85	.	.	179	79.94	.	.	.	.	.	.	179	79.94
86	.	.	112	84.89	.	.	2	30.00	.	.	114	83.93
87	.	.	25	68.40	.	.	.	.	3	87.00	28	70.39
88	.	.	49	57.51	.	.	683	42.13	94	45.54	826	43.43
89	.	.	136	74.34	.	.	256	52.77	26	59.85	418	60.22
90	19	84.21	250	74.82	79	100.62	.	.	318	103.18	666	91.69
91	172	83.38	211	98.10	26	107.50	.	.	59	90.98	468	92.32
92	104	75.43	459	96.24	25	97.32	.	.	310	97.32	898	94.23
93	61	89.70	217	97.76	23	104.26	.	.	433	99.12	734	98.10
94	17	93.88	317	99.77	6	90.33	.	.	587	98.03	927	98.50
95	22	91.41	224	100.05	.	.	.	.	454	94.19	700	95.98
96	37	89.86	174	97.98	.	.	.	.	293	97.94	504	97.36
97	9	95.22	141	99.06	.	.	.	.	404	98.39	554	98.51
98	.	.	2	79.50	4	80.50	.	.	137	97.90	143	97.15
ALL	441	84.01	2651	90.81	163	100.85	941	44.99	3156	95.40	7352	86.73

Table 10a. (cont.).

SECTOR=Commercial Other Gears Mode_NEW=6

	ST_PLP 2		ST_PLP 5		ALL	
	LENGTH		LENGTH		LENGTH	
CY	N	MEAN	N	MEAN	N	MEAN
80	.	.	6	26.00	6	26.00
81	.	.	133	19.17	133	19.17
83	1	89.00	.	.	1	89.00
85	34	93.56	.	.	34	93.56
89	60	65.15	19	30.58	79	56.84
94	.	.	1	110.00	1	110.00
96	17	96.29	.	.	17	96.29
ALL	112	78.71	159	21.36	271	45.06

SECTOR=Commercial Dive MODE_NEW=9

	ST_PLP 5		ALL	
	LENGTH		LENGTH	
CY	N	MEAN	N	MEAN
95	1	76.00	1	76.00
96	24	86.29	24	86.29
97	3	81.00	3	81.00

ALL 28 85.36 28 85.36

Table 10a. (cont.).

---------- SECTOR=Commercial Bottom Longline Mode_new=10 ----------

	ST_PLP					
	2		5		ALL	
	LENGTH		LENGTH		LENGTH	
	N	MEAN	N	MEAN	N	MEAN
CY						
84	13	108.23	.	.	13	108.23
85	81	90.11	.	.	81	90.11
86	15	95.80	.	.	15	95.80
87	12	99.83	.	.	12	99.83
88	3	49.67	14	111.79	17	100.82
89	.	.	5	36.20	5	36.20
90	9	104.56	48	102.29	57	102.65
91	14	105.71	21	113.90	35	110.63
92	29	105.34	55	104.82	84	105.00
93	6	116.50	43	108.53	49	109.51
94	10	101.30	29	106.76	39	105.36
95	23	101.61	33	101.36	56	101.46
96	13	102.85	27	104.41	40	103.90
97	.	.	40	110.23	40	110.23

98	.	.	45	110.07	45	110.07
ALL	228	98.04	360	105.84	588	102.81

Table 10a. (cont.).

SECTOR=NMFS, Headboat MODE_NEW=2

	ST_PLP 1		2		4		5		ALL	
CY	N	LENGTH MEAN	N	LENGTH MEAN	N	LENGTH MEAN	N	LENGTH MEAN	N	LENGTH MEAN
81	.	.	.	.	3	52.00	1	116.00	4	68.00
82	.	.	7	75.86	.	.	23	71.70	30	72.67
83	.	.	21	67.95	.	.	29	74.03	50	71.48
84	.	.	6	85.00	.	.	8	72.63	14	77.93
85	.	.	.	.	.	.	32	75.53	32	75.53
86	209	52.00	2	23.50	.	.	369	53.26	580	52.70
87	260	60.25	.	.	.	.	267	51.48	527	55.81
88	216	62.84	20	68.35	.	.	169	51.76	405	58.49
89	277	61.96	105	44.18	.	.	1050	46.97	1432	49.66
90	106	48.39	.	.	.	.	131	51.50	237	50.11
91	71	73.58	50	73.78	.	.	66	59.91	187	68.81
92	94	77.02	217	81.32	.	.	74	74.07	385	78.88
93	106	82.01	92	78.21	.	.	44	61.25	242	76.79
94	139	78.23	24	78.96	.	.	84	75.89	247	77.51
95	146	79.62	74	76.24	.	.	52	75.35	272	77.89
96	46	77.11	75	75.84	.	.	33	71.00	154	75.18
97	18	82.50	64	80.83	.	.	29	67.28	111	77.56

98	30	76.77	70	81.11	.	.	28	80.75	128	80.02
ALL	1718	66.00	827	73.92	3	52.00	2489	53.88	5037	61.30

Table 10a. (cont.).

SECTOR=Recreational (MRFSS) Shore MODE_NEW=1

	ST_PLP					
	2		5		ALL	
	LENGTH		LENGTH		LENGTH	
CY	N	MEAN	N	MEAN	N	MEAN
82	.	.	6	19.83	6	19.83
84	.	.	1	29.00	1	29.00
87	.	.	1	28.00	1	28.00
88	.	.	1	21.00	1	21.00
92	.	.	3	22.33	3	22.33
98	12	31.00	.	.	12	31.00
ALL	12	31.00	12	22.00	24	26.50

Table 10a. (cont.).

SECTOR=Recreational (non NMFS) Headboat MODE_NEW=2

	ST_PLP 1		ST_PLP 5		ST_PLP ALL	
	LENGTH		LENGTH		LENGTH	
CY	N	MEAN	N	MEAN	N	MEAN
83	270	36.57	.	.	270	36.57
84	147	35.97	.	.	147	35.97
89	.	.	10	75.40	10	75.40
90	79	82.62	1	64.00	80	82.39
91	216	78.39	15	64.67	231	77.50
92	61	84.41	.	.	61	84.41
93	70	82.41	3	106.00	73	83.38
94	83	73.66	1	78.00	84	73.71
96	.	.	5	95.80	5	95.80
97	.	.	3	88.33	3	88.33
ALL	926	60.10	38	77.05	964	60.77

Table 10a. (cont.).

SECTOR=Recreational MRFSS Charter Boats MODE_NEW=3

	ST_PLP 1		2		3		4		5		ALL	
	LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH	
CY	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN
81	.	.	2	29.00	.	.	10	52.40	11	52.00	23	50.17
82	.	.	.	.	.	.	5	50.40	48	59.35	53	58.51
83	.	.	33	62.73	.	.	.	.	45	76.73	78	70.81
84	.	.	75	63.32	.	.	.	.	1	104.00	76	63.86
85	4	29.50	49	52.06	.	.	.	.	1	38.00	54	50.13
86	5	29.80	56	38.55	.	.	13	62.85	156	74.08	230	63.83
87	.	.	100	37.44	.	.	118	56.94	403	59.30	621	55.33
88	1	58.00	.	.	.	.	78	55.94	96	62.53	175	59.57
89	2	18.50	13	65.15	.	.	66	58.32	29	87.07	110	65.98
90	4	85.00	.	.	.	.	41	79.22	15	84.27	60	80.87
91	2	73.50	63	74.24	3	66.67	1881	73.84	111	67.30	2060	73.49
92	7	57.00	72	79.71	.	.	1445	74.99	179	83.13	1703	75.97
93	6	65.83	10	87.10	.	.	110	82.85	57	79.42	183	81.45
94	.	.	3	84.33	1	121.00	244	79.22	104	72.58	352	77.42
95	.	.	4	72.75	.	.	52	75.48	15	76.33	71	75.51
96	8	73.88	10	79.50	.	.	10	74.50	64	67.53	92	70.14
97	12	80.67	5	93.60	.	.	27	78.74	53	84.47	97	82.88
98	.	.	3	80.33	.	.	25	76.28	122	81.12	150	80.30
99	.	.	10	103.60	.	.	64	74.66	415	76.16	489	76.52

ALL	51	62.78	508	60.14	4	80.25	4189	73.75	1925	71.76	6677	72.06

Table 10a. (cont.).

SECTOR=Recreational MRFSS Private Boats MODE_NEW=4

	ST_PLP											
	1		2		3		4		5		ALL	
	LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH	
	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN
CY												
80	87	65.52	43	33.67	12	66.83	.	.	501	69.04	643	66.16
81	.	.	9	37.33	.	.	6	44.00	78	42.37	93	41.99
82	.	.	19	44.74	.	.	1	76.00	24	62.33	44	55.05
83	18	67.89	7	72.14	.	.	.	.	4	64.75	29	68.48
84	17	48.00	5	123.20	.	.	.	.	.	.	22	65.09
85	78	32.74	12	122.67	.	.	.	.	2	42.00	92	44.67
86	45	34.56	.	.	.	.	2	38.50	3	56.67	50	36.04
87	22	47.91	.	.	.	.	11	65.18	150	52.81	183	52.97
88	13	42.69	24	84.96	.	.	.	.	73	65.99	110	67.37
89	9	27.44	407	66.72	.	.	.	.	18	40.50	434	64.82
90	9	51.44	290	72.03	.	.	5	72.20	4	50.25	308	71.15
91	20	35.25	137	76.22	5	72.60	5	66.60	4	72.50	171	70.95
92	13	65.08	58	82.14	.	.	25	76.28	4	78.00	100	78.29
93	6	43.33	.	.	.	.	4	71.00	7	71.86	17	61.59
94	17	73.41	4	62.75	.	.	2	84.50	5	66.80	28	71.50
95	27	62.44	.	.	1	60.00	1	71.00	.	.	29	62.66
96	29	67.34	4	73.25	.	.	6	76.67	1	100.00	40	70.15
97	30	50.97	3	74.33	1	42.00	1	82.00	1	89.00	36	54.58
98	2	75.00	.	.	.	.	.	.	7	69.43	9	70.67

99	.	.	.	.	.	.	25	75.60	13	81.54	38	77.63
ALL	442	51.00	1023	69.74	19	66.68	94	71.18	899	63.12	2477	64.03

Table 10a. (cont.)

SECTOR=Recreational Dive MODE_NEW=9

	ST_PLP			
	5		ALL	
	LENGTH		LENGTH	
	N	MEAN	N	MEAN
CY				
91	1	58.00	1	58.00
ALL	1	58.00	1	58.00

SECTOR=Tournament Samples MODE_NEW=7

	ST_PLP							
	1		3		5		ALL	
	LENGTH		LENGTH		LENGTH		LENGTH	
	N	MEAN	N	MEAN	N	MEAN	N	MEAN
CY								
88	.	.	.	.	8	93.00	8	93.00
90	4	93.50	7	78.86	5	101.60	16	89.63
ALL	4	93.50	7	78.86	13	96.31	24	90.75

Table 10b. Summary statistics for the Gulf of Mexico greater amberjack by month and year of landing. Blanks denote no sample. Calendar Year is coded as 'CY' and Month of Year is coded as 'MM'.

SECTOR=Commercial Hook and Line MODE_NEW=5

	MM																									
	1		2		3		4		5		6		7		8		9		10		11		12		ALL	
	LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH	
	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN
CY																										
83	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5	90.20	17	85.18	.	.	22	86.32
84	.	.	4	88.75	.	.	.	.	1	104.00	13	73.46	17	88.88	1	126.00	.	.	1	83.00	86	75.33	10	75.70	133	77.96
85	.	.	1	76.00	29	81.10	16	80.69	7	77.57	22	72.91	32	76.44	69	82.99	.	.	3	90.67	.	.	.	.	179	79.94
86	.	.	6	65.50	.	.	.	.	.	.	.	.	.	.	31	80.45	54	89.80	2	30.00	16	90.25	5	65.60	114	83.93
87	.	.	.	.	6	49.17	.	.	.	.	5	76.80	13	75.69	.	.	3	87.00	1	47.00	.	.	.	.	28	70.39
88	21	26.62	31	32.61	16	32.94	.	.	.	.	299	44.33	233	39.97	.	.	73	52.82	134	44.44	19	73.42	.	.	826	43.43
89	.	.	.	.	.	.	24	71.67	158	50.09	64	76.44	94	52.52	38	79.03	13	79.31	14	66.36	.	.	13	57.54	418	60.22
90	191	101.94	81	104.44	9	67.67	69	67.62	21	99.52	35	99.63	106	62.56	72	103.15	22	95.50	29	99.21	30	105.00	1	98.00	666	91.69
91	78	102.27	39	102.79	23	86.91	28	92.00	32	99.75	48	87.29	42	94.38	44	99.43	41	82.54	21	109.00	52	60.63	20	104.80	468	92.32
92	31	95.32	128	89.01	9	101.00	70	90.79	30	96.07	57	98.84	79	94.11	157	95.00	95	96.27	83	96.84	37	96.92	122	93.20	898	94.23
93	37	88.08	33	95.00	68	92.49	38	93.47	16	92.25	17	94.53	57	92.68	146	101.84	38	101.66	93	99.26	157	99.84	34	110.76	734	98.10
94	3	121.33	91	94.67	6	96.17	11	91.45	95	100.74	197	97.95	55	89.45	197	103.36	35	100.17	44	99.95	55	97.27	138	96.70	927	98.50
95	33	100.33	62	89.87	71	91.55	30	91.83	54	98.24	178	98.30	61	93.44	49	101.53	74	97.46	14	96.93	10	102.90	64	93.30	700	95.98
96	32	101.38	54	92.02	4	92.50	32	98.94	52	91.94	87	101.63	55	92.85	87	105.37	31	94.32	38	91.74	16	97.56	16	90.81	504	97.36
97	5	95.40	10	96.60	124	103.48	19	101.53	45	97.24	68	95.88	31	100.16	29	101.90	26	97.92	38	103.50	85	92.99	74	95.01	554	98.51
98	22	95.59	12	99.08	.	.	.	.	.	.	44	101.18	.	.	2	81.50	17	102.76	2	79.50	35	92.51	9	93.56	143	97.15
ALL	453	96.51	552	90.84	365	91.12	337	86.10	511	82.65	1134	81.67	875	70.10	922	98.22	522	88.94	522	83.46	615	90.10	506	94.48	7314	86.97

Table 10b. (Cont.)

SECTOR=Commercial mode Other Fisheries MODE_NEW=6

	MM																	
	4		5		6		7		8		9		10		11		ALL	
	LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH	
CY	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN
81	2	19.00	131	19.17	.	.	.	.	.	.	.	.	.	.	.	.	133	19.17
83	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	89.00	1	89.00
85	.	.	.	.	22	92.18	8	103.50	.	.	4	81.25	.	.	.	.	34	93.56
89	.	.	.	.	.	.	5	29.40	4	25.50	.	.	70	60.59	.	.	79	56.84
94	.	.	.	.	.	.	.	.	1	110.00	.	.	.	.	.	.	1	110.00
96	.	.	.	.	.	.	7	95.43	10	96.90	.	.	.	.	.	.	17	96.29
ALL	2	19.00	131	19.17	22	92.18	20	82.15	15	78.73	4	81.25	70	60.59	1	89.00	265	45.49

SECTOR=Commercial Dive MODE_NEW=9

	MM							
	2		4		7		ALL	
	LENGTH		LENGTH		LENGTH		LENGTH	
CY	N	MEAN	N	MEAN	N	MEAN	N	MEAN
95	1	76.00	.	.	.	.	1	76.00
96	.	.	.	.	24	86.29	24	86.29
97	.	.	3	81.00	.	.	3	81.00
ALL	1	76.00	3	81.00	24	86.29	28	85.36

Table 10b. (Cont.)

SECTOR=Commercial Bottom Longline MODE_NEW=10

	MM																									
	1		2		3		4		5		6		7		8		9		10		11		12		ALL	
	LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH	
	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN
CY																										
84	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	13	108.23	.	.	.	.	.	.	13	108.23
85	.	.	.	.	38	100.00	.	.	7	93.57	30	81.13	3	27.67	3	109.00	.	.	.	.	.	.	.	.	81	90.11
86	.	.	.	.	.	.	.	.	.	.	.	.	.	.	8	105.13	7	85.14	.	.	.	.	.	.	15	95.80
87	.	.	.	.	11	101.36	.	.	.	.	.	.	1	83.00	.	.	.	.	.	.	.	.	.	.	12	99.83
88	.	.	.	.	.	.	.	.	3	110.67	5	104.80	.	.	.	.	6	118.17	3	49.67	.	.	.	.	17	100.82
89	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5	36.20	5	36.20
90	.	.	5	85.80	3	117.33	.	.	1	96.00	.	.	5	97.20	24	101.08	15	106.47	3	117.00	.	.	1	114.00	57	102.65
91	.	.	6	111.17	.	.	1	79.00	.	.	4	111.75	2	127.00	.	.	9	118.00	4	107.50	4	101.50	5	105.40	35	110.63
92	5	108.80	3	105.33	1	99.00	3	105.00	16	104.19	2	115.00	5	114.60	3	108.00	8	103.50	14	105.86	18	101.78	6	101.67	84	105.00
93	9	98.89	.	.	2	94.50	1	102.00	4	107.00	.	.	.	.	10	115.40	11	113.82	5	108.60	2	109.50	5	117.80	49	109.51
94	3	102.67	.	.	7	107.00	8	105.00	2	101.50	1	98.00	1	143.00	2	99.00	6	103.00	.	.	2	104.50	7	106.14	39	105.36
95	21	101.57	3	90.00	6	103.00	4	86.00	2	102.50	8	96.13	3	89.00	1	121.00	5	125.60	1	97.00	2	115.00	.	.	56	101.46
96	3	84.33	3	98.67	4	123.00	9	106.78	.	.	5	104.40	1	128.00	.	.	1	111.00	1	96.00	13	99.77	.	.	40	103.90
97	3	124.00	1	97.00	2	105.00	1	92.00	1	115.00	.	.	1	93.00	11	98.73	9	118.22	5	124.40	4	110.00	2	109.00	40	110.23
98	3	100.33	.	.	.	.	.	.	.	.	.	.	.	.	8	111.25	5	104.00	13	106.54	16	116.06	.	.	45	110.07
ALL	47	102.15	21	98.81	74	103.03	27	101.22	36	102.81	55	91.35	22	95.91	70	105.24	95	109.39	49	105.20	61	106.39	31	96.19	588	102.81

Table 10b. (Cont.)

SECTOR=Headboat(Non NMFS) MODE_NEW=2

	MM																													
	1		2		3		4		5		6		7		8		9		10		11		12		ALL	
	LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH	
CY	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN
81	.	.	.	.	.	.	.	.	.	.	3	52.00	.	.	.	.	.	.	1	116.00	.	.	.	.	4	68.00
82	.	.	.	.	5	45.60	16	79.81	1	55.00	7	75.86	1	89.00	.	.	.	.	.	.	.	.	.	.	30	72.67
83	1	36.00	.	.	1	57.00	.	.	.	.	8	73.13	6	91.17	30	71.77	3	55.67	1	29.00	.	.	.	.	50	71.48
84	.	.	.	.	7	87.86	1	100.00	3	87.33	.	.	.	.	.	.	.	.	3	38.00	.	.	.	.	14	77.93
85	.	.	.	.	8	90.50	.	.	.	.	.	.	4	92.75	.	.	2	72.00	5	50.60	9	78.00	4	55.75	32	75.53
86	12	45.75	30	44.77	24	68.75	38	56.92	57	57.56	79	69.10	34	41.12	89	43.66	52	44.77	60	62.47	76	42.20	29	53.59	580	52.70
87	20	47.10	13	63.54	32	40.81	68	50.84	67	52.73	48	60.15	29	58.69	45	60.53	86	61.47	66	49.67	38	70.26	15	53.27	527	55.81
88	19	54.21	5	62.60	58	53.81	19	51.74	105	53.96	59	62.07	36	64.11	79	66.43	1	56.00	15	52.40	9	57.22	.	.	405	58.49
89	90	100.20	144	74.00	56	74.88	17	60.88	90	58.92	55	57.65	111	37.31	112	44.84	164	38.95	350	36.79	183	38.61	60	37.52	1432	49.66
90	86	42.62	63	36.60	11	36.18	6	68.00	32	75.06	7	68.71	8	93.75	5	66.60	9	69.44	7	46.29	2	66.50	1	51.00	237	50.11
91	.	.	9	80.00	13	51.08	9	70.11	50	68.64	34	79.15	10	51.20	10	59.20	21	67.24	9	65.56	16	73.19	6	75.33	187	68.81
92	1	94.00	9	78.78	14	76.57	26	72.88	38	75.97	111	80.23	46	82.04	42	79.00	47	79.38	36	79.36	9	74.89	6	75.17	385	78.88
93	12	76.83	5	81.20	4	80.50	20	75.30	42	76.90	52	80.85	19	83.32	44	79.23	14	70.71	8	78.50	16	54.19	6	73.17	242	76.79
94	10	77.50	3	77.67	3	82.33	67	78.73	53	78.70	39	78.38	15	79.67	12	71.50	26	75.38	4	70.75	6	71.83	9	73.22	247	77.51
95	7	83.14	15	72.27	14	79.79	4	72.75	29	72.86	47	75.00	44	81.00	61	79.59	33	81.30	5	75.00	5	72.20	8	79.38	272	77.89
96	2	71.50	8	80.25	12	76.75	50	75.82	28	72.57	17	73.65	1	76.00	15	79.73	10	76.20	9	70.78	.	.	2	63.00	154	75.18
97	1	77.00	10	84.80	25	82.72	3	86.67	8	78.88	17	76.71	24	80.04	1	68.00	9	66.11	6	58.17	7	69.71	.	.	111	77.56
98	7	75.43	1	81.00	3	57.33	12	75.92	48	82.10	15	80.87	14	84.21	21	80.38	.	.	3	76.67	1	70.00	3	76.33	128	80.02
ALL	268	68.51	315	64.02	290	65.09	356	67.37	651	65.96	598	72.05	402	62.46	566	62.59	477	56.87	588	46.72	377	48.68	149	52.81	5037	61.30

The SAS System 10:59 Tuesday, June 27, 2000 21

SECTOR=Recreational MRFSS Shore MODE_NEW=1

	MM									
	5		6		7		10		ALL	
	LENGTH		LENGTH		LENGTH		LENGTH		LENGTH	
CY	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN
82	.	.	6	19.83	.	.	.	.	6	19.83
84	.	.	.	.	.	.	1	29.00	1	29.00
87	.	.	1	28.00	.	.	.	.	1	28.00
88	.	.	.	.	1	21.00	.	.	1	21.00
92	.	.	.	.	3	22.33	.	.	3	22.33
98	12	31.00	.	.	.	.	.	.	12	31.00
ALL	12	31.00	7	21.00	4	22.00	1	29.00	24	26.50

The SAS System 10:59 Tuesday, June 27, 2000 22

SECTOR=NMFS Headboat MODE_NEW=2

	MM																							
	1		2		3		4		5		6		7		8		9		10		11		12		ALL	
	LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH	
CY	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN
83	.	.	.	.	.	.	.	.	.	.	56	33.54	19	37.68	21	26.67	55	54.85	85	32.32	27	18.07	7	66.71	270	36.57
84	.	.	.	.	.	.	1	21.00	4	45.00	54	52.44	33	23.21	51	27.35	4	23.25	.	.	.	.	.	.	147	35.97
89	.	.	.	.	.	.	8	77.88	.	.	.	.	.	.	.	.	2	65.50	.	.	.	.	.	.	10	75.40
90	.	.	.	.	8	82.50	7	72.43	31	83.55	28	80.71	6	95.67	.	.	.	.	.	.	.	.	.	.	80	82.39
91	8	74.88	4	92.75	.	.	32	77.53	21	72.33	12	61.67	71	82.82	65	73.20	18	86.39	.	.	.	.	.	.	231	77.50
92	.	.	.	.	9	85.78	9	83.22	9	83.78	19	84.32	9	85.33	6	84.00	.	.	.	.	.	.	.	.	61	84.41
93	3	106.00	9	81.11	13	82.15	12	81.50	9	81.89	17	83.47	6	84.50	.	.	4	82.50	.	.	.	.	.	.	73	83.38
94	.	.	.	.	19	78.11	11	76.91	17	54.00	18	74.44	11	74.09	7	101.57	1	78.00	.	.	.	.	.	.	84	73.71

96	5	95.80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5	95.80
97	.	.	.	.	.	.	2	95.50	.	.	.	.	.	.	.	.	.	.	.	.	1	74.00	.	.	3	88.33
ALL	16	87.25	13	84.69	49	81.31	82	78.00	91	73.60	204	59.17	155	64.68	150	52.85	84	61.95	85	32.32	28	20.07	7	66.71	964	60.77

Table 10b. (Cont.)

SECTOR=Recreational MRFSS Charter MODE_NEW=3

	MM																									
	1		2		3		4		5		6		7		8		9		10		11		12		ALL	
	LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH	
CY	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN
81	.	.	.	.	.	.	.	.	10	52.40	4	47.75	.	.	2	22.00	.	.	.	.	7	56.43	.	.	23	50.17
82	.	.	.	.	26	57.35	3	67.33	19	60.84	1	69.00	1	61.00	.	.	.	.	3	40.67	.	.	.	.	53	58.51
83	.	.	7	68.57	35	77.49	.	.	2	8.50	26	71.23	8	57.75	.	.	.	.	.	.	.	.	.	.	78	70.81
84	.	.	.	.	.	.	.	.	43	65.26	.	.	24	63.92	9	57.00	.	.	.	.	.	.	.	.	76	63.86
85	.	.	.	.	6	88.50	.	.	.	.	4	70.00	39	44.62	4	29.50	1	38.00	.	.	.	.	.	.	54	50.13
86	30	74.70	20	87.85	15	57.87	.	.	11	72.36	7	51.29	8	34.50	28	60.21	44	58.91	64	62.41	3	37.67	.	.	230	63.83
87	.	.	10	35.60	35	56.46	166	52.58	108	49.19	94	55.64	36	58.67	69	54.87	22	52.91	71	72.99	10	51.40	.	.	621	55.33
88	10	66.80	17	58.00	3	52.67	13	63.31	17	56.24	10	71.60	19	61.53	15	55.00	5	43.40	52	55.71	14	72.07	.	.	175	59.57
89	.	.	18	59.94	.	.	20	57.05	16	82.13	2	18.50	5	75.60	5	48.40	.	.	25	75.08	19	62.63	.	.	110	65.98
90	.	.	.	.	2	83.50	7	80.71	10	88.60	5	74.60	22	82.91	1	77.00	6	58.00	4	76.25	2	119.50	1	68.00	60	80.87
91	.	.	4	67.00	18	81.67	157	78.46	326	76.49	264	74.97	514	70.93	290	74.60	181	64.86	163	74.94	121	73.74	22	74.23	2060	73.49
92	7	72.43	60	75.98	40	73.80	350	80.26	415	73.19	201	74.59	200	74.64	188	76.63	76	76.07	122	76.34	30	78.23	14	80.43	1703	75.97
93	9	76.33	.	.	8	85.50	11	70.27	58	85.12	14	80.14	23	86.22	2	70.00	22	74.50	23	81.57	8	77.88	5	88.40	183	81.45
94	.	.	.	.	1	80.00	31	81.32	117	76.57	84	72.55	37	77.62	41	88.66	5	69.80	14	83.50	22	71.50	.	.	352	77.42
95	.	.	4	72.75	4	76.50	4	74.75	25	80.80	.	.	17	67.76	4	73.75	2	74.00	.	.	11	77.27	.	.	71	75.51
96	3	78.33	8	76.75	1	70.00	24	70.38	37	65.14	15	73.87	1	80.00	3	82.33	.	.	.	.	.	.	.	.	92	70.14
97	.	.	.	.	.	.	9	79.33	9	77.56	4	86.25	22	83.27	4	87.75	19	81.21	7	86.43	22	85.23	1	76.00	97	82.88
98	7	79.86	3	73.67	12	77.00	15	73.00	52	85.02	10	84.40	11	70.55	4	70.25	2	71.50	8	74.88	15	87.80	11	78.64	150	80.30
ALL	66	74.20	160	71.03	214	70.34	849	73.18	1333	72.88	771	71.78	995	70.62	716	72.72	439	67.30	695	72.93	375	73.73	64	78.30	6677	72.06

Table 10b. (Cont.)

SECTOR=Recreationaal Private MODE_NEW=4

	MM																													
	1		2		3		4		5		6		7		8		9		10		11		12		97		ALL	
	LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH	
CY	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN
81	.	.	.	.	.	.	26	36.92	17	40.53	18	49.06	13	47.15	1	33.00	2	47.00	1	62.00	15	38.07	.	.	.	.	93	41.99
82	.	.	.	.	3	56.00	.	.	.	.	2	72.00	35	55.63	1	75.00	3	29.33	.	.	.	.	.	.	.	.	44	55.05
83	.	.	1	31.00	.	.	.	.	6	79.00	9	76.44	8	81.75	2	43.50	.	.	3	17.33	.	.	.	.	.	.	29	68.48
84	.	.	.	.	.	.	.	.	.	.	5	33.40	9	90.67	5	58.80	3	51.67	.	.	.	.	.	.	.	.	22	65.09
85	.	.	.	.	.	.	1	35.00	27	33.96	26	31.58	30	68.40	7	37.14	1	25.00	.	.	.	.	.	.	.	.	92	44.67
86	.	.	.	.	1	32.00	3	56.67	12	61.42	30	21.43	2	41.50	2	68.50	.	.	.	.	.	.	.	.	.	.	50	36.04
87	.	.	.	.	10	66.40	18	59.56	12	62.33	21	58.81	52	50.52	58	50.40	9	34.78	3	37.00	.	.	.	.	.	.	183	52.97
88	.	.	.	.	.	.	1	46.00	16	66.19	10	58.40	20	79.70	9	76.56	1	25.00	51	64.69	1	46.00	1	69.00	.	.	110	67.37
89	1	56.00	.	.	.	.	5	77.20	45	87.62	80	52.91	96	87.43	52	55.37	47	74.77	61	41.62	38	47.79	8	34.88	1	93.00	434	64.82
90	2	35.00	9	40.33	78	57.62	39	53.87	45	77.18	42	79.90	61	89.92	8	88.88	22	81.55	1	28.00	.	.	1	40.00	.	.	308	71.15
91	.	.	.	.	9	60.44	1	68.00	13	64.38	31	87.32	72	69.29	21	82.48	10	61.00	4	55.75	9	39.22	1	70.00	.	.	171	70.95
92	1	67.00	7	44.00	1	76.00	13	87.77	21	73.43	3	69.00	42	85.12	9	74.00	.	.	.	.	2	78.50	1	90.00	.	.	100	78.29
93	.	.	.	.	3	74.00	.	.	1	58.00	4	68.25	3	35.67	2	57.00	2	67.50	2	69.00	.	.	.	.	.	.	17	61.59
94	.	.	1	78.00	.	.	.	.	10	75.50	4	69.50	2	84.50	9	70.67	.	.	.	.	2	43.00	.	.	.	.	28	71.50
95	1	58.00	1	71.00	.	.	.	.	6	64.17	3	81.67	14	55.50	3	70.33	1	70.00	.	.	.	.	.	.	.	.	29	62.66
96	.	.	.	.	.	.	3	71.33	1	79.00	19	64.26	3	78.00	9	75.44	1	61.00	1	79.00	.	.	3	79.67	.	.	40	70.15
97	.	.	.	.	.	.	.	.	6	66.00	5	66.80	13	47.92	5	61.60	7	43.43	.	.	.	.	.	.	.	.	36	54.58
98	.	.	.	.	.	.	.	.	5	82.40	1	69.00	1	81.00	1	39.00	.	.	.	.	.	.	1	35.00	.	.	9	70.67
99	.	.	.	.	2	91.00	2	92.00	9	78.11	1	142.00	6	70.83	10	70.70	3	73.00	1	80.00	4	77.00	.	.	.	.	38	77.63
ALL	5	50.20	19	44.79	107	59.64	112	56.94	252	68.28	314	58.06	482	73.12	214	61.59	112	66.13	128	51.65	71	47.00	16	51.38	1	93.00	1833	63.28

Table 10b. (Cont.)

SECTOR=Recreational Dive MODE_NEW=9

	MM 3		ALL	
	LENGTH		LENGTH	
CY	N	MEAN	N	MEAN
91	1	58.00	1	58.00
ALL	1	58.00	1	58.00

SECTOR=Tournament MODE_NEW=7

	MM 5		7		9		10		ALL	
	LENGTH		LENGTH		LENGTH		LENGTH		LENGTH	
CY	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN
88	.	.	.	.	.	.	8	93.00	8	93.00
90	1	94.00	9	90.89	6	87.00	.	.	16	89.63
ALL	1	94.00	9	90.89	6	87.00	8	93.00	24	90.75

Figure 11a. Estimated total landed commercial catch at length (number of fish) for the commercial handline fishery by calendar year for the Gulf of Mexico greater amberjack.

	Calendar Year														
FL(Cm)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	1131.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	0.	0.	0.	0.	565.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	0.	0.	0.	0.	565.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	0.	356.	0.	565.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	0.	0.	565.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	1696.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	0.	0.	1131.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	0.	0.	1131.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	0.	0.	0.	0.	1696.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	0.	0.	0.	0.	1696.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	0.	0.	0.	0.	2262.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	0.	0.	0.	0.	2262.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	0.	0.	0.	0.	2827.	733.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	0.	0.	0.	0.	2827.	0.	0.	0.	0.	58.	0.	0.	0.	0.	0.
29	0.	0.	0.	0.	2827.	0.	0.	0.	6.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	2827.	367.	0.	38.	0.	58.	0.	0.	0.	0.	0.
31	0.	0.	0.	0.	2827.	0.	0.	38.	0.	0.	0.	0.	0.	0.	0.
32	0.	0.	0.	0.	2827.	1833.	0.	38.	6.	0.	0.	0.	0.	0.	0.
33	0.	0.	0.	0.	2827.	367.	0.	76.	0.	0.	0.	0.	0.	0.	0.
34	0.	0.	0.	0.	4523.	1100.	0.	114.	6.	58.	0.	0.	0.	0.	0.
35	0.	0.	0.	0.	5654.	1833.	0.	152.	6.	0.	0.	0.	0.	0.	0.
36	0.	0.	0.	0.	10177.	2933.	0.	114.	19.	0.	0.	0.	0.	0.	0.
37	422.	0.	0.	0.	19224.	2933.	0.	342.	6.	0.	0.	0.	0.	0.	0.
38	211.	0.	0.	3534.	31663.	2933.	0.	190.	13.	58.	78.	0.	0.	0.	0.
39	211.	0.	0.	7067.	41841.	3300.	0.	76.	6.	0.	0.	0.	0.	0.	0.
40	0.	0.	356.	0.	53714.	4400.	0.	228.	6.	0.	39.	0.	0.	0.	0.
41	0.	192.	0.	3534.	46929.	1833.	20.	76.	6.	0.	0.	0.	0.	0.	0.
42	211.	192.	356.	3534.	38448.	3300.	20.	38.	6.	0.	0.	0.	0.	0.	0.
43	211.	0.	0.	0.	29401.	3666.	20.	0.	0.	0.	0.	0.	0.	0.	0.
44	211.	0.	0.	0.	19789.	2567.	20.	0.	0.	0.	0.	0.	69.	0.	0.
45	0.	0.	0.	0.	13570.	3300.	20.	38.	0.	0.	0.	0.	0.	0.	0.
46	211.	192.	711.	0.	12439.	3300.	40.	76.	13.	0.	0.	0.	0.	0.	0.
47	0.	192.	0.	3534.	11874.	1100.	204.	38.	6.	1.	0.	0.	0.	0.	0.
48	211.	192.	0.	0.	14135.	3300.	79.	76.	0.	0.	0.	0.	0.	0.	0.
49	0.	0.	356.	0.	7916.	3300.	79.	76.	6.	2.	0.	46.	0.	0.	0.
50	422.	192.	0.	0.	9047.	4400.	99.	76.	13.	0.	0.	46.	0.	2.	0.
51	0.	767.	356.	0.	3958.	5133.	85.	38.	6.	0.	0.	137.	0.	0.	0.
52	211.	192.	711.	0.	8481.	6966.	198.	76.	19.	0.	0.	0.	0.	0.	0.
53	0.	383.	356.	0.	3958.	5866.	138.	76.	13.	0.	0.	0.	69.	0.	0.
54	211.	383.	0.	0.	1696.	5866.	79.	0.	0.	0.	0.	0.	0.	0.	0.
55	211.	192.	356.	0.	2827.	4766.	40.	38.	13.	0.	0.	0.	0.	0.	0.
56	211.	192.	356.	0.	1696.	4766.	178.	0.	0.	0.	0.	0.	0.	0.	0.
57	211.	0.	0.	3534.	565.	3666.	79.	0.	13.	0.	0.	0.	0.	0.	0.
58	0.	192.	0.	0.	2827.	2200.	59.	0.	0.	0.	0.	0.	0.	0.	0.
59	211.	767.	0.	0.	565.	5866.	99.	38.	13.	0.	0.	46.	0.	0.	0.
60	0.	192.	356.	0.	1131.	3300.	138.	0.	13.	0.	0.	0.	0.	0.	0.
61	633.	383.	356.	3534.	1696.	2567.	158.	38.	13.	0.	0.	0.	0.	0.	0.
62	422.	575.	0.	0.	1696.	4033.	198.	38.	0.	58.	0.	0.	69.	0.	0.
63	422.	383.	1422.	3534.	565.	4033.	99.	0.	0.	0.	39.	0.	0.	0.	0.

Table 11a. (cont.)

	Calendar Year														
FL(Cm)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
64	633.	959.	356.	0.	565.	1833.	99.	38.	13.	117.	78.	46.	0.	0.	0.
65	844.	383.	711.	3534.	2262.	2200.	178.	0.	0.	0.	78.	46.	69.	0.	0.
66	633.	192.	711.	3534.	565.	733.	138.	76.	6.	0.	0.	0.	69.	0.	0.
67	633.	767.	1067.	7067.	1696.	367.	171.	0.	6.	2.	233.	137.	69.	0.	0.
68	1055.	575.	0.	0.	1131.	1467.	99.	114.	6.	0.	79.	183.	138.	0.	0.
69	0.	1150.	711.	0.	2262.	367.	40.	38.	13.	1.	39.	137.	74.	2.	0.
70	1266.	192.	0.	0.	1131.	1467.	40.	38.	19.	1.	39.	46.	0.	0.	0.
71	1055.	383.	711.	0.	1696.	0.	59.	38.	114.	117.	0.	504.	69.	2.	0.
72	633.	959.	0.	0.	1696.	0.	20.	0.	19.	1.	0.	46.	0.	0.	0.
73	422.	1342.	1067.	3534.	565.	733.	119.	76.	26.	0.	39.	46.	0.	0.	3.
74	1900.	767.	356.	0.	1696.	0.	125.	114.	6.	0.	0.	47.	69.	0.	0.
75	422.	192.	356.	3534.	1131.	367.	59.	38.	108.	0.	0.	46.	0.	41.	3.
76	633.	1150.	1422.	3534.	1696.	2933.	119.	114.	19.	0.	0.	137.	72.	41.	0.
77	633.	767.	0.	0.	1696.	1833.	164.	76.	13.	1.	0.	0.	138.	43.	3.
78	844.	575.	356.	7067.	565.	733.	40.	38.	26.	176.	0.	137.	3.	41.	0.
79	211.	1725.	0.	0.	565.	367.	40.	38.	13.	59.	39.	92.	138.	41.	0.
80	844.	959.	1422.	3534.	565.	733.	0.	114.	51.	292.	40.	138.	138.	2.	0.
81	633.	0.	356.	0.	2262.	733.	171.	114.	19.	1.	39.	183.	72.	6.	79.
82	633.	192.	356.	0.	1131.	733.	236.	76.	38.	119.	118.	229.	79.	0.	82.
83	633.	767.	711.	3534.	0.	0.	59.	114.	19.	181.	349.	412.	77.	0.	0.
84	844.	1725.	1067.	0.	565.	1100.	66.	114.	216.	119.	272.	230.	351.	41.	79.
85	211.	383.	1422.	0.	0.	0.	99.	76.	633.	411.	427.	183.	361.	41.	79.
86	211.	1342.	1067.	3534.	0.	1100.	145.	266.	431.	303.	583.	367.	143.	169.	161.
87	633.	959.	711.	0.	0.	367.	361.	190.	786.	879.	700.	459.	502.	449.	318.
88	0.	192.	1067.	7067.	1696.	0.	210.	342.	2268.	478.	895.	596.	699.	618.	241.
89	633.	959.	356.	0.	1131.	367.	296.	190.	1483.	656.	1089.	689.	858.	1027.	159.
90	0.	383.	1067.	0.	0.	0.	381.	418.	2217.	827.	978.	919.	1278.	944.	238.
91	0.	575.	1422.	3534.	0.	367.	466.	570.	1806.	548.	783.	1427.	648.	1082.	794.
92	211.	0.	1778.	0.	0.	1833.	375.	494.	1534.	658.	900.	649.	717.	996.	476.
93	211.	192.	711.	3534.	0.	733.	611.	835.	2192.	1065.	1364.	1243.	984.	1389.	635.
94	211.	383.	711.	0.	1131.	0.	125.	456.	2167.	536.	550.	463.	643.	457.	476.
95	211.	1342.	0.	3534.	0.	0.	755.	304.	1591.	1000.	899.	1104.	1124.	1070.	1111.
96	211.	383.	1067.	3534.	0.	367.	768.	607.	1242.	770.	742.	602.	520.	502.	714.
97	633.	575.	0.	0.	0.	733.	571.	304.	1090.	1229.	705.	830.	794.	581.	397.
98	211.	383.	711.	0.	0.	733.	1148.	683.	1040.	707.	937.	1102.	860.	575.	397.
99	0.	383.	356.	3534.	0.	733.	1364.	1177.	438.	1582.	743.	787.	633.	463.	397.
100	0.	192.	711.	0.	0.	1833.	1345.	645.	571.	1173.	666.	1060.	715.	252.	397.
101	211.	0.	711.	0.	0.	733.	866.	494.	615.	1929.	782.	556.	853.	376.	556.
102	211.	383.	1778.	0.	0.	1100.	938.	532.	438.	1112.	430.	601.	697.	537.	318.
103	844.	0.	1067.	0.	0.	1833.	820.	380.	507.	1226.	585.	552.	494.	289.	159.
104	211.	192.	356.	0.	0.	1100.	1319.	418.	438.	1280.	509.	872.	845.	380.	318.
105	0.	192.	0.	0.	0.	733.	1476.	380.	399.	586.	429.	141.	435.	374.	318.
106	0.	575.	1067.	0.	565.	1833.	1188.	266.	330.	351.	469.	143.	151.	494.	318.
107	211.	383.	356.	0.	0.	1100.	846.	380.	672.	179.	547.	230.	148.	293.	318.
108	211.	383.	0.	0.	0.	367.	892.	152.	462.	527.	469.	230.	499.	248.	238.
109	633.	383.	0.	0.	0.	367.	447.	266.	317.	178.	626.	186.	282.	413.	79.
110	0.	0.	1422.	0.	0.	0.	748.	645.	406.	473.	389.	459.	210.	502.	556.
111	0.	0.	356.	0.	0.	733.	1116.	342.	551.	238.	312.	322.	8.	171.	79.
112	0.	575.	356.	0.	0.	367.	236.	418.	640.	469.	235.	141.	556.	291.	0.
113	0.	192.	711.	0.	0.	0.	479.	456.	387.	60.	273.	184.	138.	165.	79.
114	0.	383.	0.	0.	0.	367.	236.	114.	298.	235.	158.	139.	420.	87.	79.
115	0.	192.	356.	0.	0.	367.	663.	114.	291.	293.	2.	93.	138.	248.	0.
116	0.	0.	0.	0.	0.	733.	387.	114.	291.	59.	156.	0.	5.	126.	79.
117	0.	0.	0.	0.	0.	367.	216.	228.	272.	177.	311.	47.	5.	81.	0.
118	0.	0.	0.	0.	0.	367.	197.	0.	279.	178.	78.	47.	210.	124.	0.
119	0.	0.	0.	0.	0.	367.	590.	76.	209.	119.	311.	46.	138.	41.	79.
120	211.	0.	356.	0.	0.	367.	131.	114.	184.	234.	40.	92.	138.	165.	0.
121	0.	0.	0.	0.	0.	0.	131.	152.	13.	59.	39.	0.	143.	0.	0.
122	0.	192.	0.	0.	0.	0.	0.	38.	184.	116.	116.	1.	69.	81.	0.
123	0.	192.	0.	0.	0.	0.	131.	76.	95.	116.	155.	0.	69.	43.	0.
124	0.	0.	0.	0.	0.	0.	85.	38.	0.	177.	78.	46.	74.	2.	0.
125	211.	0.	0.	0.	0.	0.	0.	76.	6.	58.	39.	0.	69.	81.	0.
126	211.	0.	0.	0.	0.	0.	20.	38.	190.	175.	117.	47.	0.	122.	0.
127	0.	0.	356.	0.	0.	0.	66.	76.	0.	2.	0.	0.	0.	0.	0.
128	211.	0.	0.	0.	0.	0.	66.	0.	6.	117.	40.	0.	0.	0.	0.
129	0.	0.	0.	0.	0.	0.	66.	0.	89.	117.	78.	0.	69.	0.	79.

Table 11a. (cont.)

	Calendar Year														
FL(Cm)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
130	0.	0.	0.	0.	0.	0.	20.	0.	89.	0.	39.	1.	138.	0.	0.
131	211.	0.	0.	0.	0.	0.	20.	0.	0.	0.	39.	46.	69.	0.	0.
132	0.	0.	0.	0.	0.	367.	0.	38.	0.	58.	194.	0.	0.	41.	0.
133	0.	0.	0.	0.	0.	0.	66.	38.	0.	1.	0.	0.	69.	0.	0.
134	0.	0.	0.	0.	0.	0.	0.	0.	89.	0.	78.	0.	0.	0.	0.
135	0.	0.	0.	0.	0.	0.	66.	0.	0.	1.	78.	0.	0.	0.	0.
136	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
137	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
138	0.	0.	0.	0.	0.	0.	0.	0.	0.	116.	0.	0.	0.	0.	0.
139	0.	0.	0.	0.	0.	0.	0.	0.	0.	58.	0.	46.	0.	0.	0.
140	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
141	211.	0.	0.	0.	0.	0.	0.	0.	0.	1.	39.	0.	69.	41.	0.
142	0.	0.	0.	0.	0.	0.	0.	0.	0.	58.	0.	0.	0.	0.	0.
143	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
144	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
145	0.	0.	0.	0.	0.	0.	0.	38.	0.	1.	0.	0.	69.	0.	0.
146	0.	0.	0.	0.	0.	0.	0.	0.	6.	0.	39.	46.	0.	0.	0.
147	0.	0.	0.	0.	0.	0.	0.	38.	0.	1.	0.	0.	0.	0.	0.
148	0.	0.	0.	0.	0.	0.	0.	0.	6.	0.	39.	0.	0.	0.	0.
149	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
150	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
151	211.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	41.	0.
152	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	69.	0.	0.
153	0.	0.	0.	0.	0.	0.	0.	38.	0.	0.	0.	0.	0.	0.	0.
154	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.
155	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	39.	0.	0.	0.	0.
156	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	69.	0.	0.
157	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
158	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	69.	0.	0.
159	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
160	0.	0.	0.	0.	0.	0.	0.	38.	0.	0.	0.	0.	0.	0.	0.
161	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
162	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
163	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
164	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
165	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
166	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
167	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
168	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
169	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
170	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
171	0.	0.	0.	0.	0.	0.	0.	0.	0.	58.	0.	0.	0.	0.	0.
172	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
173	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
174	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
175	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
176	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
177	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
178	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
179	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
181	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
182	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
183	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
184	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
185	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
186	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
187	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
188	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
189	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
190	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
191	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
192	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
193	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
194	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

Table 11a. (cont.)

	Calendar Year														
FL(Cm)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
195	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
196	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
197	0.	0.	0.	0.	0.	0.	0.	0.	6.	0.	0.	0.	0.	0.	0.
198	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
199	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
All	28072.	34318.	40538.	98938.	467032.	153256.	27734.	17769.	31233.	25498.	22917.	20914.	20802.	16733.	10892.

Table 11b. Estimated total landed commercial catch at length (number of fish) for the commercial other gears fisheries by calendar year for the Gulf of Mexico greater amberjack.

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	22.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	190.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	0.	0.	0.	0.	95.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	0.	0.	0.	0.	95.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	0.	64.	0.	95.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	0.	0.	95.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	285.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	0.	0.	190.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	0.	0.	190.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	0.	0.	0.	0.	285.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	0.	0.	0.	0.	285.	62.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	0.	0.	0.	0.	380.	62.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	0.	0.	0.	0.	380.	62.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	0.	0.	0.	0.	475.	248.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	0.	0.	0.	0.	475.	124.	0.	0.	0.	29.	0.	0.	0.	0.	0.
29	0.	0.	0.	0.	475.	124.	0.	0.	17.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	475.	186.	0.	15.	0.	29.	0.	0.	0.	0.	0.
31	0.	0.	0.	0.	475.	62.	0.	15.	0.	0.	0.	0.	0.	0.	0.
32	0.	0.	0.	0.	475.	372.	0.	15.	17.	0.	0.	0.	0.	0.	0.
33	0.	0.	0.	0.	475.	186.	0.	31.	0.	0.	0.	0.	0.	0.	0.
34	0.	0.	0.	0.	759.	248.	0.	46.	17.	29.	0.	0.	0.	0.	0.
35	0.	0.	0.	0.	949.	372.	0.	62.	17.	0.	0.	0.	0.	0.	0.
36	0.	0.	0.	0.	1709.	497.	0.	46.	51.	0.	0.	0.	0.	0.	0.
37	0.	0.	0.	0.	3227.	497.	0.	139.	17.	0.	0.	0.	0.	0.	0.
38	0.	0.	0.	223.	5316.	497.	0.	77.	34.	29.	32.	0.	0.	0.	0.
39	0.	0.	0.	445.	7024.	621.	0.	31.	17.	0.	0.	0.	0.	0.	0.
40	0.	0.	64.	0.	9018.	745.	0.	93.	17.	0.	16.	0.	0.	0.	0.
41	0.	21.	0.	223.	7879.	372.	1.	31.	17.	0.	0.	0.	0.	0.	0.
42	0.	21.	64.	223.	6455.	559.	1.	15.	17.	0.	0.	0.	0.	0.	0.
43	0.	0.	0.	0.	4936.	621.	1.	0.	0.	0.	0.	0.	0.	0.	0.
44	0.	0.	0.	0.	3322.	434.	1.	0.	0.	0.	0.	0.	30.	0.	0.
45	0.	0.	0.	0.	2278.	559.	1.	15.	0.	0.	0.	0.	0.	0.	0.
46	0.	21.	129.	0.	2088.	559.	1.	31.	34.	0.	0.	0.	0.	0.	0.
47	0.	21.	0.	223.	1993.	310.	6.	15.	17.	29.	0.	0.	0.	0.	0.
48	0.	21.	0.	0.	2373.	559.	3.	31.	0.	0.	16.	0.	0.	0.	0.
49	0.	0.	64.	0.	1329.	683.	3.	31.	17.	59.	0.	22.	0.	0.	0.
50	0.	21.	0.	0.	1519.	745.	4.	31.	34.	0.	0.	45.	0.	26.	0.
51	0.	83.	64.	0.	664.	931.	1.	15.	17.	0.	0.	67.	0.	0.	0.
52	0.	21.	129.	0.	1424.	1241.	7.	31.	51.	0.	0.	0.	0.	0.	0.
53	0.	41.	64.	0.	664.	993.	5.	31.	34.	0.	0.	0.	30.	0.	0.
54	0.	62.	0.	0.	285.	1117.	3.	0.	0.	0.	0.	0.	0.	0.	0.
55	0.	41.	64.	0.	475.	1055.	1.	15.	34.	0.	0.	0.	0.	0.	0.
56	0.	21.	64.	0.	285.	993.	7.	0.	0.	0.	0.	0.	0.	0.	0.
57	0.	0.	0.	223.	95.	993.	3.	0.	34.	0.	0.	0.	0.	0.	0.
58	0.	21.	0.	0.	475.	372.	2.	0.	0.	0.	0.	0.	0.	0.	0.
59	0.	83.	0.	0.	95.	1303.	4.	15.	34.	0.	0.	22.	0.	0.	0.
60	0.	21.	64.	0.	190.	683.	5.	0.	34.	0.	0.	0.	0.	0.	0.
61	0.	41.	64.	223.	285.	497.	6.	15.	34.	0.	0.	0.	0.	0.	0.
62	0.	62.	0.	0.	285.	745.	7.	15.	0.	29.	0.	0.	30.	0.	0.
63	0.	41.	258.	223.	95.	993.	4.	0.	0.	0.	16.	0.	0.	0.	0.
64	0.	104.	64.	0.	95.	434.	4.	15.	34.	88.	32.	22.	0.	0.	0.

Table 11b. (cont.)

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
65	0.	41.	129.	223.	380.	559.	7.	0.	0.	0.	32.	22.	30.	0.	0.
66	0.	21.	129.	223.	95.	310.	5.	31.	17.	0.	0.	0.	30.	0.	0.
67	0.	83.	193.	445.	285.	186.	3.	0.	17.	59.	111.	67.	30.	0.	0.
68	0.	62.	0.	0.	190.	248.	4.	46.	17.	0.	79.	90.	60.	0.	0.
69	0.	124.	129.	0.	380.	62.	1.	15.	34.	29.	16.	67.	89.	26.	0.
70	0.	62.	0.	0.	190.	248.	1.	15.	51.	29.	16.	22.	0.	0.	0.
71	0.	41.	129.	0.	285.	62.	2.	15.	85.	88.	0.	247.	30.	26.	0.
72	0.	104.	0.	0.	285.	62.	1.	0.	51.	29.	16.	45.	0.	0.	0.
73	0.	145.	193.	223.	95.	124.	4.	31.	68.	0.	16.	22.	0.	0.	62.
74	0.	83.	64.	0.	285.	62.	3.	46.	17.	0.	0.	67.	30.	0.	0.
75	0.	21.	64.	223.	190.	248.	2.	15.	68.	0.	0.	45.	0.	26.	62.
76	0.	145.	258.	223.	285.	497.	4.	46.	51.	0.	0.	67.	60.	26.	0.
77	0.	124.	0.	0.	285.	372.	4.	31.	34.	29.	0.	0.	60.	52.	62.
78	0.	62.	64.	445.	95.	186.	1.	15.	68.	118.	0.	67.	30.	26.	0.
79	0.	228.	0.	0.	95.	62.	1.	15.	34.	59.	32.	45.	60.	26.	0.
80	0.	124.	258.	223.	95.	186.	0.	46.	136.	177.	63.	90.	60.	26.	0.
81	0.	0.	64.	0.	380.	124.	3.	46.	51.	29.	16.	90.	60.	77.	62.
82	0.	41.	64.	0.	190.	124.	4.	31.	102.	147.	95.	112.	149.	0.	124.
83	0.	104.	129.	223.	0.	0.	2.	46.	51.	265.	142.	202.	119.	0.	0.
84	0.	186.	193.	0.	95.	186.	1.	46.	136.	147.	142.	135.	208.	26.	62.
85	0.	41.	258.	0.	0.	0.	4.	31.	153.	324.	174.	90.	328.	26.	62.
86	0.	166.	193.	223.	0.	248.	4.	108.	271.	501.	284.	180.	119.	181.	186.
87	0.	104.	129.	0.	0.	62.	7.	77.	339.	619.	347.	270.	417.	310.	248.
88	0.	21.	193.	445.	285.	62.	4.	139.	780.	589.	442.	315.	417.	490.	248.
89	0.	166.	64.	0.	190.	62.	6.	77.	662.	795.	537.	427.	685.	774.	124.
90	0.	62.	193.	0.	0.	0.	7.	170.	645.	766.	711.	585.	983.	697.	186.
91	0.	62.	258.	223.	0.	62.	9.	232.	865.	972.	584.	1012.	595.	981.	619.
92	0.	21.	322.	0.	0.	310.	9.	201.	797.	854.	663.	675.	655.	877.	371.
93	0.	41.	129.	223.	0.	124.	12.	340.	797.	1031.	758.	900.	685.	955.	495.
94	0.	62.	129.	0.	190.	0.	3.	186.	950.	619.	474.	472.	536.	413.	371.
95	0.	145.	0.	223.	0.	62.	11.	124.	730.	825.	600.	742.	715.	826.	867.
96	0.	41.	193.	223.	0.	62.	13.	248.	679.	766.	490.	607.	655.	490.	557.
97	0.	62.	0.	0.	0.	124.	11.	124.	492.	825.	553.	675.	715.	516.	309.
98	0.	41.	129.	0.	0.	124.	15.	279.	577.	619.	616.	652.	715.	439.	309.
99	0.	104.	64.	223.	0.	124.	18.	480.	509.	1119.	505.	810.	417.	490.	309.
100	0.	41.	129.	0.	0.	310.	17.	263.	424.	854.	521.	832.	595.	258.	309.
101	0.	0.	129.	0.	0.	124.	12.	201.	322.	1237.	553.	562.	655.	361.	433.
102	0.	41.	322.	0.	0.	186.	11.	217.	288.	736.	300.	585.	357.	439.	248.
103	0.	41.	193.	0.	0.	372.	12.	155.	254.	736.	363.	382.	328.	232.	124.
104	0.	21.	64.	0.	0.	186.	18.	170.	288.	648.	363.	517.	536.	413.	248.
105	0.	21.	0.	0.	0.	124.	19.	155.	187.	412.	269.	247.	447.	335.	248.
106	0.	62.	193.	0.	95.	310.	17.	108.	221.	236.	332.	360.	208.	387.	248.
107	0.	41.	64.	0.	0.	248.	11.	155.	254.	206.	363.	180.	179.	284.	248.
108	0.	41.	0.	0.	0.	62.	11.	62.	136.	353.	316.	135.	387.	206.	186.
109	0.	41.	0.	0.	0.	62.	8.	108.	187.	177.	458.	247.	179.	335.	62.
110	0.	0.	258.	0.	0.	0.	12.	263.	204.	442.	221.	247.	119.	490.	433.
111	0.	21.	64.	0.	0.	124.	17.	139.	153.	265.	190.	202.	89.	206.	62.
112	0.	62.	64.	0.	0.	124.	4.	170.	170.	324.	190.	225.	268.	258.	0.
113	0.	41.	129.	0.	0.	0.	6.	186.	153.	88.	174.	135.	60.	129.	62.
114	0.	62.	0.	0.	0.	62.	4.	46.	136.	177.	158.	135.	238.	129.	62.
115	0.	41.	64.	0.	0.	62.	11.	46.	119.	206.	95.	90.	60.	206.	0.
116	0.	0.	0.	0.	0.	124.	6.	46.	119.	59.	79.	22.	60.	129.	62.
117	0.	0.	0.	0.	0.	62.	3.	93.	68.	147.	158.	67.	60.	52.	0.
118	0.	0.	0.	0.	0.	62.	2.	0.	85.	177.	32.	67.	119.	103.	0.
119	0.	0.	0.	0.	0.	62.	7.	31.	119.	147.	142.	45.	60.	26.	62.
120	0.	0.	64.	0.	0.	62.	1.	46.	51.	147.	63.	45.	60.	129.	0.
121	0.	41.	0.	0.	0.	0.	1.	62.	34.	59.	16.	0.	119.	0.	0.
122	0.	21.	0.	0.	0.	0.	0.	15.	51.	59.	47.	45.	30.	52.	0.
123	0.	41.	0.	0.	0.	0.	1.	31.	34.	59.	63.	0.	30.	52.	0.
124	0.	0.	0.	0.	0.	0.	1.	15.	0.	147.	63.	45.	89.	26.	0.
125	0.	0.	0.	0.	0.	0.	0.	31.	17.	29.	32.	0.	60.	52.	0.
126	0.	0.	0.	0.	0.	0.	1.	15.	68.	88.	79.	67.	0.	77.	0.
127	0.	0.	64.	0.	0.	0.	1.	31.	0.	59.	16.	0.	0.	0.	0.
128	0.	0.	0.	0.	0.	0.	1.	0.	17.	88.	47.	0.	0.	0.	0.
129	0.	0.	0.	0.	0.	0.	1.	0.	17.	88.	47.	0.	30.	0.	62.

Table 11b. (cont.)

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
130	0.	0.	0.	0.	0.	0.	1.	0.	17.	0.	16.	45.	60.	0.	0.
131	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	16.	22.	30.	0.	0.
132	0.	0.	0.	0.	0.	62.	0.	15.	0.	29.	79.	0.	0.	26.	0.
133	0.	0.	0.	0.	0.	0.	1.	15.	0.	29.	16.	0.	30.	0.	0.
134	0.	0.	0.	0.	0.	0.	0.	0.	17.	0.	32.	0.	0.	0.	0.
135	0.	0.	0.	0.	0.	0.	1.	0.	0.	29.	32.	0.	0.	0.	0.
136	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
137	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	16.	0.	0.	0.	0.
138	0.	0.	0.	0.	0.	0.	0.	0.	0.	59.	0.	0.	0.	0.	0.
139	0.	0.	0.	0.	0.	0.	0.	0.	0.	29.	16.	22.	0.	0.	0.
140	0.	0.	0.	0.	0.	0.	0.	0.	0.	29.	0.	0.	0.	0.	0.
141	0.	0.	0.	0.	0.	0.	0.	0.	0.	29.	16.	0.	30.	26.	0.
142	0.	0.	0.	0.	0.	0.	0.	0.	0.	29.	0.	22.	0.	0.	0.
143	0.	0.	0.	0.	0.	0.	0.	0.	0.	29.	0.	0.	0.	0.	0.
144	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
145	0.	0.	0.	0.	0.	0.	0.	15.	0.	29.	0.	0.	30.	0.	0.
146	0.	0.	0.	0.	0.	0.	0.	0.	17.	0.	16.	22.	0.	0.	0.
147	0.	0.	0.	0.	0.	0.	0.	15.	0.	29.	0.	0.	0.	0.	0.
148	0.	0.	0.	0.	0.	0.	0.	0.	17.	0.	16.	0.	0.	0.	0.
149	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
150	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
151	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	26.	0.
152	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	30.	0.	0.
153	0.	0.	0.	0.	0.	0.	0.	15.	0.	0.	0.	0.	0.	0.	0.
154	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	26.	0.
155	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	16.	0.	0.	0.	0.
156	0.	21.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	30.	0.	0.
157	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
158	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	30.	0.	0.
159	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
160	0.	0.	0.	0.	0.	0.	0.	15.	0.	0.	0.	0.	0.	0.	0.
161	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
162	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
163	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
164	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
165	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
166	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
167	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
168	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
169	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
170	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
171	0.	0.	0.	0.	0.	0.	0.	0.	0.	29.	0.	0.	0.	0.	0.
172	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
173	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
174	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
175	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
176	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
177	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
178	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
179	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
181	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
182	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
183	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
184	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
185	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
186	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
187	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
188	0.	0.	0.	0.	0.	0.	0.	0.	0.	29.	0.	0.	0.	0.	0.
189	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
190	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
191	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
192	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
193	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
194	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

Table 11b. (cont.)

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
195	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
196	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
197	0.	0.	0.	0.	0.	0.	0.	0.	17.	0.	0.	0.	0.	0.	0.
198	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
199	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
All	4.	4413.	7351.	6232.	78408.	30848.	484.	7242.	15236.	21622.	14658.	15746.	15512.	14297.	8851.

Table 11c. Estimated total landed commercial catch at length (number of fish) for the commercial dive fishery by calendar year for the Gulf of Mexico greater amberjack.

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	0.	0.	0.	0.	55.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	0.	0.	0.	0.	55.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	0.	0.	0.	55.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	0.	0.	55.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	164.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	0.	0.	109.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	0.	0.	109.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	0.	0.	0.	0.	109.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	0.	0.	0.	0.	109.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	0.	0.	0.	0.	109.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	0.	0.	0.	0.	164.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	0.	0.	0.	0.	164.	73.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	0.	0.	0.	0.	218.	0.	0.	0.	0.	2.	0.	0.	0.	0.	0.
29	0.	0.	0.	0.	218.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	218.	0.	0.	0.	0.	2.	0.	0.	0.	0.	0.
31	0.	0.	0.	0.	164.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32	0.	0.	0.	0.	109.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33	0.	0.	0.	0.	109.	73.	0.	7.	0.	0.	0.	0.	0.	0.	0.
34	0.	0.	0.	0.	164.	147.	0.	0.	0.	2.	0.	0.	0.	0.	0.
35	0.	0.	0.	0.	164.	73.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36	0.	0.	0.	0.	164.	147.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37	0.	0.	0.	0.	55.	0.	0.	7.	0.	0.	0.	0.	0.	0.	0.
38	0.	0.	0.	0.	0.	73.	0.	0.	0.	2.	2.	0.	0.	0.	0.
39	0.	0.	0.	0.	55.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	55.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
41	0.	0.	0.	0.	55.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42	0.	0.	0.	0.	55.	73.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44	0.	0.	0.	0.	0.	73.	0.	0.	0.	0.	0.	0.	1.	0.	0.
45	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46	0.	0.	0.	0.	164.	73.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.
48	0.	0.	0.	0.	55.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	55.	0.	0.	7.	0.	0.	0.	0.	0.	0.	0.
51	0.	0.	0.	0.	0.	73.	1.	0.	0.	0.	0.	1.	0.	0.	0.
52	0.	0.	0.	0.	0.	0.	0.	7.	0.	0.	0.	0.	0.	0.	0.
53	0.	0.	0.	0.	0.	147.	0.	14.	0.	0.	0.	0.	1.	0.	0.
54	0.	0.	0.	0.	55.	147.	0.	0.	0.	0.	0.	0.	0.	0.	0.
55	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
56	0.	0.	0.	0.	55.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
57	0.	0.	0.	0.	0.	73.	0.	0.	0.	0.	0.	0.	0.	0.	0.
58	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
59	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	55.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
61	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
62	0.	0.	0.	0.	0.	0.	0.	7.	0.	2.	0.	0.	1.	0.	0.
63	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
64	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	2.	0.	0.	0.	0.

Table 11c. (cont.)

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
65	0.	0.	0.	0.	55.	0.	0.	0.	0.	0.	2.	0.	1.	0.	0.
66	0.	0.	0.	0.	55.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
67	0.	0.	0.	286.	55.	0.	1.	0.	0.	0.	7.	1.	1.	0.	0.
68	0.	0.	0.	0.	109.	0.	0.	7.	0.	0.	2.	1.	2.	0.	0.
69	0.	0.	0.	0.	55.	0.	0.	7.	0.	0.	1.	1.	1.	0.	0.
70	0.	0.	0.	0.	109.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
71	0.	0.	0.	0.	55.	0.	0.	0.	2.	3.	0.	4.	1.	0.	0.
72	0.	0.	0.	0.	109.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
73	0.	0.	0.	0.	55.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
74	0.	0.	0.	0.	109.	0.	1.	7.	0.	0.	0.	0.	1.	0.	0.
75	0.	0.	0.	0.	109.	0.	0.	0.	2.	0.	0.	0.	0.	1.	0.
76	0.	0.	0.	0.	55.	0.	0.	0.	0.	0.	0.	1.	1.	1.	0.
77	0.	0.	0.	0.	109.	0.	1.	0.	0.	0.	0.	0.	2.	1.	0.
78	0.	0.	0.	0.	55.	73.	0.	7.	0.	5.	0.	1.	1.	1.	0.
79	0.	0.	0.	0.	55.	0.	0.	0.	0.	2.	1.	1.	2.	2.	0.
80	0.	0.	0.	0.	55.	0.	0.	7.	0.	8.	1.	1.	3.	1.	0.
81	0.	0.	0.	0.	109.	0.	1.	0.	0.	0.	1.	1.	2.	0.	1.
82	0.	0.	0.	0.	109.	73.	2.	0.	0.	3.	3.	2.	2.	0.	1.
83	0.	0.	0.	0.	0.	0.	0.	14.	0.	5.	10.	3.	3.	0.	0.
84	0.	0.	0.	0.	55.	0.	1.	0.	4.	3.	8.	2.	6.	2.	1.
85	0.	0.	0.	0.	0.	0.	0.	0.	12.	12.	12.	1.	6.	1.	1.
86	0.	0.	0.	0.	0.	73.	1.	14.	7.	8.	16.	3.	6.	3.	2.
87	0.	0.	0.	0.	0.	73.	2.	7.	14.	25.	20.	3.	9.	9.	5.
88	0.	0.	0.	0.	109.	0.	1.	7.	42.	13.	25.	4.	11.	12.	3.
89	0.	0.	0.	0.	55.	73.	2.	14.	27.	18.	31.	5.	14.	20.	2.
90	0.	0.	0.	0.	0.	0.	2.	0.	42.	24.	27.	7.	18.	19.	3.
91	0.	0.	0.	0.	0.	73.	3.	22.	32.	15.	22.	11.	9.	21.	12.
92	0.	0.	0.	0.	0.	147.	2.	29.	27.	18.	25.	5.	9.	19.	7.
93	0.	0.	0.	0.	0.	0.	3.	7.	41.	30.	38.	9.	15.	27.	9.
94	0.	0.	0.	0.	0.	0.	1.	7.	39.	15.	15.	3.	8.	9.	7.
95	0.	0.	0.	286.	0.	0.	6.	0.	28.	29.	25.	8.	15.	21.	16.
96	0.	0.	0.	0.	0.	0.	5.	7.	21.	22.	21.	4.	6.	10.	10.
97	0.	0.	0.	0.	0.	0.	3.	0.	19.	35.	20.	6.	10.	11.	6.
98	0.	0.	0.	0.	0.	0.	9.	36.	18.	20.	26.	8.	11.	11.	6.
99	0.	0.	0.	286.	0.	0.	11.	29.	5.	45.	21.	6.	8.	9.	6.
100	0.	0.	0.	0.	0.	0.	11.	14.	9.	34.	19.	8.	9.	5.	6.
101	0.	0.	0.	0.	0.	0.	7.	0.	11.	55.	22.	4.	11.	7.	8.
102	0.	0.	0.	0.	0.	0.	8.	22.	7.	32.	12.	4.	9.	10.	5.
103	0.	0.	0.	0.	0.	0.	6.	0.	9.	35.	16.	4.	6.	6.	2.
104	0.	0.	0.	0.	0.	0.	10.	14.	7.	37.	14.	6.	11.	7.	5.
105	0.	0.	0.	0.	0.	0.	12.	22.	7.	17.	12.	1.	6.	7.	5.
106	0.	0.	0.	0.	0.	0.	9.	0.	5.	10.	13.	1.	2.	10.	5.
107	0.	0.	0.	0.	0.	0.	7.	7.	12.	5.	15.	2.	2.	6.	5.
108	0.	0.	0.	0.	0.	0.	7.	7.	9.	15.	13.	2.	6.	5.	3.
109	0.	0.	0.	0.	0.	0.	3.	7.	5.	5.	18.	1.	4.	8.	1.
110	0.	0.	0.	0.	0.	0.	5.	14.	7.	13.	11.	3.	3.	10.	8.
111	0.	0.	0.	0.	0.	0.	8.	0.	11.	7.	9.	2.	0.	3.	1.
112	0.	0.	0.	0.	0.	0.	2.	7.	12.	13.	7.	1.	7.	6.	0.
113	0.	0.	0.	0.	0.	0.	4.	14.	7.	2.	8.	1.	2.	3.	1.
114	0.	0.	0.	0.	0.	0.	2.	7.	5.	7.	4.	1.	6.	2.	1.
115	0.	0.	0.	0.	0.	0.	5.	0.	5.	8.	0.	1.	2.	5.	0.
116	0.	0.	0.	0.	0.	0.	3.	0.	5.	2.	4.	0.	0.	2.	1.
117	0.	0.	0.	0.	0.	0.	2.	0.	5.	5.	9.	0.	0.	2.	0.
118	0.	0.	0.	0.	0.	0.	2.	0.	5.	5.	2.	0.	3.	2.	0.
119	0.	0.	0.	0.	0.	0.	5.	0.	4.	3.	9.	0.	2.	1.	1.
120	0.	0.	0.	0.	0.	0.	1.	0.	4.	7.	1.	1.	2.	3.	0.
121	0.	0.	0.	0.	0.	0.	1.	0.	0.	2.	1.	0.	2.	0.	0.
122	0.	0.	0.	0.	0.	0.	0.	0.	4.	3.	3.	0.	1.	2.	0.
123	0.	0.	0.	0.	0.	0.	1.	0.	2.	3.	4.	0.	1.	1.	0.
124	0.	0.	0.	0.	0.	0.	1.	0.	0.	5.	2.	0.	1.	0.	0.
125	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	1.	0.	1.	2.	0.
126	0.	0.	0.	0.	0.	0.	0.	0.	4.	5.	3.	0.	0.	2.	0.
127	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.
128	0.	0.	0.	0.	0.	0.	1.	0.	0.	3.	1.	0.	0.	0.	0.
129	0.	0.	0.	0.	0.	0.	1.	0.	2.	3.	2.	0.	1.	0.	1.
130	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	1.	0.	2.	0.	0.

Table 11c. (cont.)

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
131	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.	0.	0.
132	0.	0.	0.	0.	0.	73.	0.	0.	0.	2.	5.	0.	0.	1.	0.
133	0.	0.	0.	0.	0.	0.	1.	7.	0.	0.	0.	0.	1.	0.	0.
134	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	2.	0.	0.	0.	0.
135	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	2.	0.	0.	0.	0.
136	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
137	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
138	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.	0.	0.	0.
139	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	0.	0.	0.	0.
140	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
141	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.	1.	0.
142	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	0.	0.	0.	0.
143	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
144	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
145	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
146	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
147	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
148	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
149	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
150	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
151	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
152	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
153	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
154	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
155	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
156	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
157	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
158	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
159	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
160	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
161	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
162	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
163	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
164	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
165	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
166	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
167	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
168	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
169	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
170	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
171	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	0.	0.	0.	0.
172	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
173	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
174	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
175	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
176	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
177	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
178	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
179	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
181	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
182	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
183	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
184	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
185	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
186	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
187	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
188	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
189	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
190	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
191	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
192	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
193	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
194	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
195	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
196	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

Table 11c. (cont.)

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
197	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
198	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
199	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
All	0.	0.	0.	857.	5123.	1908.	180.	424.	548.	727.	644.	154.	293.	328.	158.

Table 11d. Estimated total landed commercial catch at length (number of fish) for the commercial bottom longline fishery by calendar year for the Gulf of Mexico greater amberjack.

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	0.	0.	0.	0.	313.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	0.	0.	0.	0.	313.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	0.	0.	0.	313.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	0.	0.	313.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	940.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	0.	0.	627.	1079.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	0.	0.	627.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	0.	0.	0.	0.	627.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	0.	0.	0.	0.	627.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	0.	60.	0.	0.	627.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	0.	0.	0.	0.	940.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	0.	0.	0.	0.	940.	1079.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	0.	60.	0.	0.	1253.	1079.	0.	0.	0.	3.	0.	0.	0.	0.	0.
29	0.	0.	0.	0.	1253.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	60.	0.	0.	1253.	0.	0.	0.	0.	3.	0.	0.	0.	0.	0.
31	0.	0.	0.	0.	940.	1079.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32	0.	0.	0.	0.	627.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33	0.	0.	0.	0.	627.	2158.	0.	32.	0.	0.	0.	0.	0.	0.	0.
34	0.	0.	0.	0.	940.	2158.	0.	0.	0.	3.	0.	0.	0.	0.	0.
35	0.	0.	0.	0.	940.	1079.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36	0.	0.	0.	0.	940.	2158.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37	0.	0.	0.	0.	313.	0.	0.	32.	0.	0.	0.	0.	0.	0.	0.
38	0.	0.	0.	0.	0.	1079.	0.	0.	0.	3.	4.	0.	0.	0.	0.
39	0.	0.	0.	0.	313.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	313.	0.	0.	0.	0.	0.	2.	0.	0.	0.	0.
41	0.	0.	0.	0.	313.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42	0.	0.	0.	0.	313.	1079.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44	0.	0.	0.	0.	0.	1079.	0.	0.	0.	0.	0.	0.	3.	0.	0.
45	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46	0.	0.	0.	0.	940.	1079.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47	0.	0.	0.	0.	313.	0.	14.	0.	0.	0.	0.	0.	0.	0.	0.
48	0.	0.	0.	0.	313.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49	0.	0.	0.	0.	313.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
50	0.	60.	0.	0.	313.	0.	0.	32.	0.	0.	0.	1.	0.	0.	0.
51	0.	0.	0.	0.	0.	1079.	14.	0.	0.	0.	0.	4.	0.	0.	0.
52	0.	0.	0.	0.	0.	0.	0.	32.	0.	0.	0.	0.	0.	0.	0.
53	0.	0.	0.	0.	313.	2158.	0.	65.	0.	0.	0.	0.	3.	0.	0.
54	0.	0.	0.	0.	313.	2158.	0.	0.	0.	0.	0.	0.	0.	0.	0.
55	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
56	0.	0.	0.	0.	313.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
57	0.	0.	0.	0.	0.	1079.	0.	0.	0.	0.	0.	0.	0.	0.	0.
58	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
59	0.	0.	0.	0.	0.	0.	14.	0.	0.	0.	0.	1.	0.	0.	0.
60	0.	0.	0.	0.	313.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
61	0.	119.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
62	0.	60.	0.	0.	0.	0.	0.	32.	0.	3.	0.	0.	3.	0.	0.
63	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	0.	0.	0.

Table 11d. (cont.)

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
64	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.	4.	1.	0.	0.	0.
65	0.	0.	0.	0.	313.	0.	0.	0.	0.	0.	4.	1.	7.	0.	0.
66	0.	0.	0.	0.	313.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.
67	0.	60.	522.	631.	313.	0.	29.	0.	0.	0.	13.	4.	3.	0.	0.
68	0.	0.	0.	0.	627.	1079.	0.	32.	0.	0.	4.	5.	7.	0.	0.
69	0.	119.	0.	0.	313.	0.	0.	32.	0.	0.	2.	4.	7.	0.	0.
70	0.	0.	0.	0.	627.	0.	0.	0.	0.	0.	2.	1.	0.	0.	0.
71	0.	0.	0.	0.	313.	0.	14.	0.	8.	6.	0.	15.	3.	0.	0.
72	0.	119.	0.	0.	627.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
73	0.	0.	0.	0.	313.	0.	0.	0.	0.	0.	2.	1.	0.	0.	0.
74	0.	0.	0.	0.	627.	0.	14.	32.	0.	0.	0.	3.	7.	0.	0.
75	0.	119.	0.	0.	627.	0.	0.	0.	8.	0.	0.	1.	0.	4.	6.
76	0.	0.	0.	0.	313.	0.	0.	0.	0.	0.	0.	4.	3.	4.	0.
77	0.	60.	0.	0.	940.	0.	14.	0.	0.	0.	0.	0.	7.	4.	0.
78	0.	119.	0.	0.	313.	1079.	0.	32.	0.	11.	0.	4.	0.	4.	0.
79	0.	0.	1044.	0.	313.	0.	0.	32.	0.	3.	2.	3.	7.	4.	0.
80	0.	60.	0.	631.	313.	0.	0.	32.	0.	17.	2.	4.	7.	0.	0.
81	0.	0.	0.	0.	627.	0.	43.	0.	0.	0.	2.	5.	3.	4.	6.
82	0.	179.	0.	0.	627.	1079.	43.	0.	0.	6.	6.	8.	3.	0.	6.
83	0.	60.	0.	631.	0.	0.	0.	65.	0.	8.	19.	14.	7.	0.	0.
84	0.	60.	0.	0.	313.	0.	14.	0.	25.	6.	15.	8.	21.	4.	6.
85	0.	179.	0.	0.	0.	0.	14.	0.	67.	22.	24.	5.	17.	8.	6.
86	0.	60.	0.	0.	0.	1079.	43.	65.	33.	17.	32.	11.	7.	19.	13.
87	0.	238.	0.	0.	0.	1079.	58.	32.	83.	45.	41.	15.	24.	45.	25.
88	0.	60.	522.	0.	627.	0.	29.	32.	200.	22.	50.	19.	35.	60.	19.
89	0.	0.	522.	0.	313.	1079.	43.	65.	125.	31.	60.	23.	42.	94.	13.
90	0.	0.	0.	0.	0.	0.	58.	0.	217.	42.	54.	27.	63.	87.	19.
91	0.	119.	0.	0.	0.	1079.	101.	129.	175.	25.	45.	43.	38.	98.	64.
92	0.	119.	0.	0.	0.	2158.	72.	129.	133.	37.	50.	20.	38.	98.	38.
93	0.	60.	522.	0.	0.	0.	116.	32.	200.	53.	76.	41.	56.	132.	51.
94	0.	60.	0.	631.	0.	0.	43.	32.	200.	28.	32.	16.	31.	41.	38.
95	0.	179.	522.	1262.	0.	0.	159.	32.	158.	51.	50.	37.	59.	102.	96.
96	0.	119.	0.	0.	0.	0.	159.	65.	100.	39.	43.	19.	28.	45.	76.
97	0.	60.	522.	0.	0.	0.	87.	0.	100.	59.	45.	26.	38.	57.	32.
98	0.	60.	0.	0.	313.	0.	261.	194.	117.	37.	56.	34.	42.	60.	51.
99	0.	298.	0.	631.	0.	0.	275.	129.	58.	82.	45.	27.	38.	41.	32.
100	0.	179.	0.	0.	0.	0.	290.	65.	50.	59.	43.	37.	45.	30.	38.
101	0.	119.	522.	631.	0.	0.	188.	0.	92.	98.	50.	22.	49.	34.	57.
102	0.	298.	0.	631.	0.	0.	261.	162.	67.	59.	32.	24.	38.	49.	38.
103	269.	0.	522.	631.	0.	0.	188.	32.	75.	59.	35.	18.	31.	30.	13.
104	0.	298.	0.	1262.	0.	0.	290.	65.	58.	65.	32.	30.	45.	34.	25.
105	134.	60.	0.	631.	0.	0.	362.	97.	75.	31.	24.	5.	24.	34.	32.
106	269.	238.	1044.	0.	313.	0.	246.	65.	50.	20.	26.	4.	10.	45.	45.
107	134.	298.	522.	0.	0.	0.	203.	32.	108.	11.	37.	7.	7.	26.	32.
108	403.	60.	0.	0.	313.	0.	232.	65.	67.	25.	28.	8.	28.	26.	19.
109	134.	119.	0.	0.	313.	0.	87.	162.	25.	11.	39.	7.	17.	45.	19.
110	0.	0.	522.	0.	313.	0.	145.	162.	33.	22.	22.	15.	14.	49.	51.
111	0.	60.	0.	0.	313.	0.	232.	97.	67.	11.	22.	12.	3.	15.	13.
112	0.	0.	0.	631.	0.	0.	72.	32.	100.	25.	13.	5.	28.	30.	6.
113	134.	60.	0.	0.	0.	0.	101.	129.	75.	3.	15.	7.	10.	19.	38.
114	0.	60.	0.	0.	313.	0.	72.	97.	33.	14.	11.	5.	24.	11.	19.
115	134.	0.	0.	631.	0.	0.	159.	0.	42.	17.	0.	3.	10.	38.	0.
116	134.	0.	0.	0.	0.	0.	87.	0.	33.	8.	9.	1.	0.	19.	32.
117	0.	0.	522.	0.	627.	0.	72.	32.	33.	8.	17.	1.	0.	11.	13.
118	0.	0.	0.	0.	0.	0.	58.	0.	33.	8.	9.	1.	14.	19.	6.
119	0.	0.	0.	0.	313.	0.	145.	97.	17.	11.	19.	1.	7.	4.	25.
120	0.	0.	0.	0.	313.	0.	29.	32.	17.	20.	2.	3.	7.	15.	0.
121	0.	0.	0.	0.	0.	0.	29.	0.	8.	3.	2.	1.	10.	0.	0.
122	0.	0.	0.	0.	0.	0.	14.	0.	17.	8.	9.	0.	3.	11.	0.
123	0.	0.	0.	0.	0.	0.	29.	32.	17.	6.	9.	0.	3.	4.	0.
124	0.	0.	0.	0.	313.	0.	14.	32.	8.	14.	4.	1.	3.	0.	6.
125	0.	0.	0.	0.	0.	0.	0.	0.	8.	8.	2.	3.	3.	11.	0.
126	0.	0.	0.	0.	0.	0.	14.	32.	17.	17.	6.	1.	3.	11.	13.
127	0.	0.	0.	0.	0.	0.	14.	0.	8.	0.	0.	0.	0.	4.	0.
128	0.	0.	0.	0.	0.	0.	14.	0.	8.	11.	2.	0.	3.	0.	0.

Table 11d. (cont.)

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
129	0.	0.	0.	0.	0.	0.	14.	0.	8.	8.	4.	0.	7.	8.	6.
130	0.	0.	0.	0.	0.	0.	0.	32.	8.	0.	2.	0.	10.	4.	0.
131	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.	3.	3.	0.	0.
132	0.	0.	0.	0.	0.	1079.	0.	0.	0.	3.	11.	0.	0.	4.	0.
133	0.	0.	0.	0.	0.	0.	14.	32.	0.	0.	0.	0.	3.	0.	0.
134	0.	0.	0.	0.	0.	0.	0.	0.	8.	0.	4.	0.	3.	0.	0.
135	0.	0.	0.	0.	313.	0.	14.	0.	0.	6.	4.	0.	0.	0.	0.
136	0.	0.	0.	0.	0.	0.	0.	32.	0.	0.	0.	0.	0.	0.	13.
137	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
138	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.	0.	0.	0.	0.	0.
139	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	1.	0.	0.	0.
140	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
141	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	2.	0.	7.	8.	0.
142	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.	0.	0.	0.
143	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	1.	0.	0.	0.
144	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.	0.
145	0.	0.	0.	0.	0.	0.	0.	0.	8.	0.	0.	0.	3.	0.	0.
146	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	1.	0.	0.	0.
147	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.	0.
148	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	0.	0.	0.
149	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
150	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
151	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.	0.
152	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.
153	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
154	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
155	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	0.	0.	0.
156	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.
157	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
158	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.
159	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
160	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
161	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
162	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
163	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
164	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
165	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
166	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
167	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
168	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
169	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
170	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
171	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.	0.	0.	0.
172	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
173	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
174	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
175	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
176	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
177	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
178	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
179	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
181	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
182	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
183	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
184	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
185	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
186	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
187	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
188	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
189	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
190	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
191	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
192	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
193	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

Table 11d. (cont.)

Calendar Year

FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	194
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.		
195	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
196	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
197	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
198	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
199	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
All	1746.	4825.	7829.	9463.	34783.	33452.	5428.	3038.	3284.	1356.	1352.	691.	1165.	1673.	1159.	

Table 12a. Estimated total landed recreational catch at length (numbers of fish) for the shore fishery by calendar year for the Gulf of Mexico greater amberjack.

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	0.	0.	0.	0.	0.	99.	0.	0.	0.	0.	0.	0.	0.	0.	97.
18	0.	0.	0.	0.	0.	99.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	0.	10.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	495.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	0.	0.	36.	793.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	0.	0.	0.	1387.	0.	62.	420.	0.	0.	0.	0.	0.	0.
23	0.	0.	0.	10.	72.	1486.	0.	62.	210.	0.	0.	0.	0.	0.	0.
24	0.	0.	0.	0.	0.	2279.	0.	62.	0.	0.	0.	0.	0.	0.	0.
25	0.	0.	0.	0.	36.	2081.	0.	185.	0.	28.	0.	0.	0.	0.	0.
26	0.	0.	0.	21.	72.	1981.	0.	62.	210.	0.	6.	0.	0.	3.	0.
27	0.	0.	0.	52.	72.	3567.	0.	0.	0.	0.	0.	0.	0.	3.	97.
28	0.	0.	0.	21.	0.	5845.	0.	0.	0.	28.	0.	0.	0.	0.	97.
29	472.	0.	0.	42.	72.	4755.	0.	0.	0.	28.	0.	0.	0.	0.	194.
30	0.	0.	0.	31.	36.	7331.	20.	0.	0.	0.	0.	0.	0.	3.	0.
31	0.	0.	0.	10.	179.	7430.	10.	0.	0.	0.	0.	0.	0.	3.	194.
32	472.	0.	0.	0.	107.	8322.	117.	62.	0.	28.	0.	0.	0.	0.	290.
33	0.	0.	0.	31.	107.	4557.	185.	0.	0.	28.	0.	0.	0.	0.	97.
34	0.	0.	0.	125.	179.	5152.	205.	62.	0.	85.	0.	0.	0.	0.	194.
35	0.	0.	0.	115.	215.	5548.	185.	124.	0.	0.	6.	5.	0.	3.	0.
36	0.	0.	0.	156.	358.	3666.	176.	0.	0.	57.	0.	0.	10.	0.	0.
37	0.	0.	0.	177.	537.	4359.	234.	124.	0.	142.	0.	0.	0.	0.	0.
38	472.	0.	0.	188.	215.	4062.	127.	62.	0.	0.	6.	0.	0.	0.	0.
39	0.	0.	0.	167.	251.	3269.	39.	0.	210.	57.	6.	0.	0.	0.	0.
40	0.	0.	0.	177.	286.	3468.	29.	0.	0.	0.	0.	0.	0.	0.	0.
41	0.	0.	0.	188.	286.	3567.	20.	0.	210.	0.	6.	0.	0.	0.	0.
42	0.	0.	0.	156.	36.	1783.	20.	0.	0.	0.	0.	0.	0.	0.	0.
43	0.	0.	0.	177.	215.	1585.	10.	0.	210.	0.	0.	0.	0.	0.	0.
44	472.	0.	0.	156.	72.	892.	20.	0.	210.	0.	0.	0.	0.	0.	0.
45	0.	0.	0.	167.	215.	1387.	39.	124.	0.	0.	12.	0.	0.	0.	0.
46	0.	0.	0.	83.	72.	892.	20.	0.	0.	0.	0.	0.	0.	0.	0.
47	0.	0.	0.	94.	72.	892.	29.	62.	0.	0.	0.	0.	0.	0.	0.
48	0.	0.	0.	73.	72.	1684.	39.	0.	0.	0.	0.	0.	0.	0.	0.
49	0.	0.	0.	73.	36.	99.	29.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	83.	107.	495.	10.	62.	0.	0.	0.	0.	0.	0.	0.
51	0.	0.	0.	104.	72.	694.	10.	0.	0.	28.	0.	3.	0.	0.	0.
52	0.	0.	0.	73.	251.	694.	59.	0.	0.	0.	0.	0.	0.	0.	0.
53	0.	0.	0.	73.	322.	396.	0.	0.	0.	0.	0.	0.	10.	0.	0.
54	0.	0.	0.	73.	251.	594.	0.	124.	0.	0.	0.	0.	0.	0.	0.
55	0.	0.	0.	94.	251.	396.	0.	62.	0.	0.	0.	3.	0.	0.	0.
56	0.	0.	0.	94.	859.	892.	20.	0.	0.	0.	0.	0.	0.	0.	0.
57	0.	0.	0.	177.	501.	793.	0.	124.	0.	0.	0.	0.	0.	0.	0.
58	0.	0.	0.	63.	430.	793.	0.	0.	210.	0.	0.	0.	0.	0.	0.
59	0.	0.	0.	125.	394.	793.	20.	309.	0.	0.	0.	8.	0.	3.	0.
60	0.	0.	0.	31.	430.	793.	10.	309.	0.	0.	0.	3.	0.	0.	0.
61	0.	0.	0.	42.	644.	991.	10.	247.	0.	0.	0.	5.	0.	0.	0.
62	0.	0.	0.	115.	716.	396.	10.	185.	210.	85.	0.	3.	0.	3.	0.
63	0.	0.	0.	136.	322.	594.	0.	371.	0.	28.	0.	8.	0.	0.	0.

Table 12a. (cont.)

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
64	0.	0.	0.	42.	358.	495.	20.	185.	0.	28.	0.	0.	0.	0.	0.
65	0.	0.	0.	73.	465.	892.	10.	371.	210.	0.	0.	5.	10.	0.	97.
66	0.	0.	0.	63.	358.	594.	0.	124.	210.	28.	17.	10.	10.	0.	0.
67	0.	0.	0.	125.	609.	1486.	29.	433.	420.	57.	6.	8.	20.	3.	0.
68	0.	0.	0.	63.	322.	892.	20.	495.	630.	284.	29.	10.	10.	11.	97.
69	0.	0.	0.	42.	179.	396.	20.	804.	2521.	227.	35.	18.	61.	3.	97.
70	0.	0.	0.	73.	322.	694.	20.	433.	3572.	454.	70.	44.	111.	19.	484.
71	0.	0.	0.	63.	215.	991.	10.	1051.	4412.	199.	52.	36.	111.	0.	581.
72	0.	0.	0.	73.	36.	1387.	20.	556.	4622.	341.	87.	46.	182.	11.	871.
73	0.	0.	0.	52.	72.	793.	10.	618.	5252.	369.	70.	36.	122.	11.	97.
74	0.	0.	0.	73.	143.	1189.	10.	247.	3151.	398.	41.	33.	142.	17.	678.
75	472.	0.	0.	52.	0.	1189.	0.	680.	3151.	284.	70.	51.	111.	3.	678.
76	0.	0.	0.	21.	179.	1486.	10.	433.	3992.	341.	93.	36.	81.	19.	1065.
77	0.	0.	0.	73.	143.	2081.	20.	247.	3151.	114.	64.	28.	101.	3.	1065.
78	472.	0.	0.	63.	72.	2675.	59.	185.	4622.	398.	35.	18.	91.	19.	968.
79	472.	0.	0.	31.	143.	1090.	20.	124.	2311.	256.	82.	23.	111.	11.	290.
80	472.	0.	0.	42.	72.	1090.	29.	371.	3992.	227.	70.	26.	41.	19.	290.
81	0.	0.	0.	104.	143.	1387.	68.	124.	7984.	256.	122.	33.	41.	22.	774.
82	472.	0.	0.	42.	107.	1189.	10.	62.	2731.	170.	70.	18.	30.	6.	97.
83	0.	0.	0.	63.	143.	594.	20.	0.	2731.	85.	70.	15.	20.	19.	484.
84	0.	0.	0.	31.	72.	892.	39.	62.	2311.	256.	41.	10.	10.	19.	290.
85	472.	0.	0.	42.	107.	495.	10.	62.	1681.	57.	58.	21.	30.	11.	290.
86	0.	0.	0.	104.	72.	396.	29.	0.	2731.	114.	35.	15.	30.	14.	290.
87	0.	0.	0.	83.	0.	495.	0.	124.	1050.	57.	82.	10.	10.	6.	290.
88	0.	0.	0.	31.	36.	396.	0.	62.	1471.	85.	35.	18.	20.	11.	97.
89	0.	0.	0.	52.	107.	1189.	0.	0.	1891.	57.	29.	5.	0.	3.	387.
90	0.	0.	0.	10.	36.	396.	0.	0.	1261.	28.	6.	15.	0.	3.	290.
91	0.	0.	0.	21.	0.	495.	0.	0.	630.	0.	0.	3.	0.	0.	194.
92	0.	0.	0.	0.	72.	396.	0.	0.	840.	28.	6.	3.	0.	6.	97.
93	472.	0.	0.	10.	36.	1189.	0.	0.	1471.	57.	0.	3.	10.	6.	97.
94	0.	0.	0.	0.	107.	297.	0.	0.	1681.	57.	6.	3.	0.	6.	194.
95	0.	0.	0.	10.	107.	594.	10.	124.	0.	85.	0.	5.	0.	3.	194.
96	0.	0.	0.	10.	0.	594.	20.	309.	420.	57.	0.	5.	0.	3.	97.
97	0.	0.	0.	0.	0.	0.	10.	0.	630.	85.	6.	0.	0.	0.	0.
98	472.	0.	0.	0.	36.	99.	0.	124.	210.	114.	6.	10.	10.	0.	290.
99	0.	0.	0.	0.	0.	396.	20.	62.	0.	57.	0.	5.	0.	0.	0.
100	472.	0.	0.	10.	0.	495.	0.	62.	420.	57.	0.	3.	0.	0.	97.
101	0.	0.	0.	10.	36.	297.	20.	124.	210.	0.	0.	8.	0.	0.	0.
102	472.	0.	0.	0.	0.	396.	0.	0.	0.	28.	0.	10.	10.	0.	97.
103	0.	0.	0.	10.	0.	198.	0.	0.	0.	28.	0.	5.	0.	0.	97.
104	0.	0.	0.	0.	0.	99.	0.	0.	0.	0.	0.	5.	0.	0.	0.
105	472.	0.	0.	0.	72.	198.	10.	0.	0.	28.	0.	3.	0.	0.	0.
106	0.	0.	0.	10.	0.	0.	10.	0.	210.	114.	0.	3.	0.	3.	0.
107	0.	0.	0.	0.	36.	99.	0.	0.	0.	57.	0.	0.	0.	0.	0.
108	0.	0.	0.	0.	0.	99.	20.	62.	0.	28.	0.	0.	0.	0.	97.
109	0.	0.	0.	0.	0.	198.	0.	0.	0.	0.	6.	0.	0.	0.	0.
110	0.	0.	0.	0.	0.	297.	0.	0.	0.	57.	0.	0.	0.	0.	97.
111	0.	0.	0.	0.	0.	99.	0.	0.	0.	0.	0.	0.	0.	0.	0.
112	0.	0.	0.	0.	0.	0.	0.	0.	0.	28.	0.	0.	0.	0.	0.
113	0.	0.	0.	0.	0.	99.	0.	0.	210.	28.	0.	0.	0.	0.	0.
114	0.	0.	0.	0.	0.	99.	10.	0.	0.	28.	0.	0.	0.	0.	0.
115	0.	0.	0.	10.	36.	198.	0.	0.	0.	0.	0.	0.	0.	0.	0.
116	0.	0.	0.	0.	0.	198.	0.	0.	210.	0.	0.	0.	0.	0.	0.
117	0.	0.	0.	0.	0.	0.	0.	0.	0.	28.	0.	0.	0.	0.	0.
118	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
119	0.	0.	0.	0.	0.	99.	0.	0.	0.	0.	0.	0.	0.	0.	0.
120	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
121	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
122	0.	0.	0.	10.	0.	0.	0.	0.	0.	28.	0.	0.	0.	0.	0.
123	0.	0.	0.	0.	0.	198.	0.	0.	0.	0.	0.	0.	0.	0.	0.
124	0.	0.	0.	0.	36.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
125	0.	0.	0.	0.	0.	99.	0.	0.	0.	0.	0.	0.	0.	0.	0.
126	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
127	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
128	0.	0.	0.	10.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

Table 12a. (cont.)

	Calendar Year													
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
129	0.	0.	0.	0.	0.	0.	10.	0.	0.	0.	0.	0.	0.	0.	0.
130	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
131	0.	0.	0.	0.	0.	0.	0.	0.	210.	0.	0.	0.	0.	0.	0.
132	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
133	0.	0.	0.	10.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
134	0.	0.	0.	0.	0.	99.	0.	0.	0.	0.	0.	0.	0.	0.	0.
135	0.	0.	0.	0.	0.	99.	0.	0.	0.	0.	0.	0.	0.	0.	0.
136	0.	0.	0.	0.	0.	99.	0.	0.	0.	0.	0.	0.	0.	0.	0.
137	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
138	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
139	0.	0.	0.	0.	0.	99.	0.	0.	0.	0.	0.	0.	0.	0.	0.
140	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
141	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
142	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
143	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
144	0.	0.	0.	0.	0.	99.	0.	0.	0.	0.	0.	0.	0.	0.	0.
145	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
146	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
147	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
148	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
149	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
150	0.	0.	0.	0.	0.	99.	0.	0.	0.	0.	0.	0.	0.	0.	0.
151	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
152	0.	0.	0.	0.	0.	99.	0.	0.	0.	0.	0.	0.	0.	0.	0.
153	0.	0.	0.	0.	0.	99.	0.	0.	0.	0.	0.	0.	0.	0.	0.
154	0.	0.	0.	0.	0.	99.	0.	0.	0.	0.	0.	0.	0.	0.	0.
155	0.	0.	0.	0.	0.	198.	0.	0.	0.	0.	0.	0.	0.	0.	0.
156	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
157	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
158	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
159	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
160	0.	0.	0.	0.	0.	198.	0.	0.	0.	0.	0.	0.	0.	0.	0.
161	0.	0.	0.	0.	0.	99.	0.	0.	0.	0.	0.	0.	0.	0.	0.
162	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
163	0.	0.	0.	0.	0.	99.	0.	0.	0.	0.	0.	0.	0.	0.	0.
164	0.	0.	0.	0.	0.	99.	0.	0.	0.	0.	0.	0.	0.	0.	0.
165	0.	0.	0.	0.	0.	99.	0.	0.	0.	0.	0.	0.	0.	0.	0.
166	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
167	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
168	0.	0.	0.	0.	0.	99.	0.	0.	0.	0.	0.	0.	0.	0.	0.
169	0.	0.	0.	0.	0.	297.	0.	0.	0.	0.	0.	0.	0.	0.	0.
170	0.	0.	0.	0.	0.	198.	0.	0.	0.	0.	0.	0.	0.	0.	0.
171	0.	0.	0.	0.	0.	198.	0.	0.	0.	0.	0.	0.	0.	0.	0.
172	0.	0.	0.	0.	0.	297.	0.	0.	0.	0.	0.	0.	0.	0.	0.
173	0.	0.	0.	0.	0.	396.	0.	0.	0.	0.	0.	0.	0.	0.	0.
174	0.	0.	0.	0.	0.	198.	0.	0.	0.	0.	0.	0.	0.	0.	0.
175	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
176	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
177	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
178	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
179	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
181	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
182	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
183	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
184	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
185	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
186	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
187	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
188	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
189	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
190	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
191	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
192	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
193	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
194	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

Table 12a. (cont.)

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
195	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
196	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
197	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
198	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
199	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
All	7073.	0.	0.	5506.	14535.	141871.	2313.	11561.	81516.	6874.	1440.	697.	1560.	308.	13550.

Table 12b. Estimated total landed recreational catch at length (numbers of fish) for the charterboat fishery by calendar year for the Gulf of Mexico greater amberjack.

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	129.	107.	0.	0.	0.	0.	348.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	322.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	5.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	348.	0.
15	0.	5.	0.	0.	0.	2155.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	0.	13.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	0.	13.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	13.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	18.	0.	0.	0.	0.	0.	0.	0.	0.	322.	0.	0.	0.	0.
20	0.	8.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	10.	0.	0.	0.	0.	72.	0.	0.	0.	0.	0.	0.	348.	0.
22	0.	10.	0.	0.	0.	2155.	0.	129.	0.	0.	0.	319.	0.	348.	0.
23	0.	8.	0.	0.	0.	0.	0.	129.	0.	0.	0.	0.	0.	0.	0.
24	0.	5.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	0.	10.	5567.	2812.	0.	0.	72.	0.	0.	0.	0.	0.	0.	0.	0.
26	0.	15.	3711.	2812.	1052.	0.	0.	0.	0.	0.	0.	0.	0.	348.	0.
27	0.	15.	9279.	2812.	0.	0.	0.	129.	0.	0.	0.	0.	0.	0.	0.
28	0.	13.	7423.	2812.	3155.	0.	72.	516.	0.	0.	0.	0.	0.	348.	0.
29	0.	13.	5567.	2109.	1052.	0.	0.	0.	0.	897.	0.	0.	0.	0.	0.
30	0.	8.	1856.	703.	2103.	0.	0.	0.	107.	0.	322.	0.	0.	0.	0.
31	0.	8.	5567.	6327.	0.	0.	0.	387.	107.	0.	0.	0.	0.	0.	0.
32	0.	0.	1856.	1406.	2103.	2155.	144.	129.	107.	0.	322.	0.	0.	0.	0.
33	0.	10.	1856.	2109.	1052.	2155.	0.	387.	107.	0.	0.	319.	0.	348.	0.
34	0.	0.	11134.	3515.	0.	0.	288.	1032.	0.	0.	0.	0.	0.	0.	0.
35	0.	10.	3711.	2109.	3155.	6464.	144.	1676.	213.	0.	0.	0.	0.	0.	0.
36	0.	0.	11134.	9139.	3155.	0.	72.	1160.	107.	0.	322.	0.	0.	0.	0.
37	0.	5.	5567.	5624.	1052.	0.	216.	1547.	320.	0.	967.	0.	0.	0.	0.
38	0.	5.	9279.	9139.	0.	4309.	360.	1032.	0.	0.	0.	638.	0.	0.	0.
39	0.	5.	0.	6327.	1052.	0.	505.	1032.	0.	0.	322.	319.	0.	0.	0.
40	0.	3.	1856.	7733.	4207.	2155.	649.	645.	107.	0.	1611.	0.	0.	0.	0.
41	0.	0.	1856.	6327.	3155.	0.	360.	516.	213.	0.	645.	0.	0.	0.	272.
42	0.	3.	1856.	12654.	0.	2155.	577.	645.	107.	0.	0.	0.	0.	348.	0.
43	0.	0.	12990.	9139.	2103.	2155.	360.	387.	0.	0.	322.	0.	0.	348.	0.
44	0.	0.	5567.	15466.	0.	2155.	216.	129.	107.	0.	322.	0.	0.	0.	544.
45	0.	0.	7423.	13357.	3155.	6464.	144.	0.	0.	0.	0.	0.	0.	0.	0.
46	0.	0.	11134.	16169.	5258.	10773.	216.	516.	0.	0.	322.	0.	0.	0.	0.
47	0.	3.	3711.	15466.	0.	6464.	360.	129.	107.	0.	322.	0.	0.	0.	0.
48	0.	0.	5567.	11248.	0.	2155.	649.	387.	0.	0.	322.	319.	0.	0.	0.
49	0.	5.	5567.	12654.	2103.	6464.	288.	0.	107.	0.	0.	0.	0.	0.	0.
50	0.	3.	11134.	17575.	2103.	4309.	144.	387.	213.	0.	0.	0.	0.	348.	0.
51	0.	5.	12990.	15466.	6310.	4309.	649.	129.	107.	1794.	0.	0.	0.	0.	0.
52	0.	10.	11134.	18981.	2103.	0.	144.	129.	533.	0.	0.	0.	0.	0.	0.
53	0.	0.	1856.	8436.	2103.	2155.	505.	258.	0.	0.	0.	0.	0.	0.	0.
54	0.	0.	16702.	11951.	8413.	4309.	216.	258.	320.	0.	0.	0.	0.	348.	0.
55	0.	0.	7423.	7030.	4207.	4309.	144.	387.	213.	0.	0.	0.	376.	696.	0.
56	0.	8.	7423.	11951.	8413.	12928.	0.	516.	426.	0.	0.	0.	376.	0.	0.
57	0.	3.	3711.	10545.	5258.	17237.	433.	1160.	320.	0.	322.	0.	0.	696.	0.
58	0.	5.	12990.	11248.	3155.	2155.	144.	1418.	107.	0.	0.	638.	1504.	348.	0.
59	0.	0.	5567.	8436.	6310.	0.	288.	1160.	213.	897.	0.	638.	376.	348.	0.
60	0.	5.	11134.	12654.	6310.	2155.	216.	2063.	213.	0.	645.	1595.	1128.	696.	0.
61	0.	0.	5567.	9139.	16826.	4309.	505.	2708.	107.	0.	0.	638.	3385.	348.	0.
62	0.	0.	3711.	7030.	7361.	8619.	433.	2321.	320.	897.	645.	638.	4137.	1044.	272.
63	0.	3.	9279.	11248.	8413.	8619.	360.	2192.	107.	897.	0.	0.	2257.	348.	544.

Table 12b. (cont.).

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
64	0.	0.	7423.	5624.	4207.	2155.	72.	2579.	213.	1794.	0.	319.	2257.	348.	0.
65	0.	0.	0.	9842.	0.	0.	216.	3224.	320.	2691.	322.	319.	752.	696.	0.
66	0.	0.	1856.	4921.	3155.	0.	433.	4642.	213.	1794.	0.	0.	1128.	0.	0.
67	0.	3.	0.	3515.	1052.	4309.	360.	4771.	426.	897.	645.	638.	1881.	696.	272.
68	0.	0.	1856.	6327.	2103.	10773.	793.	6318.	1705.	1794.	1611.	957.	752.	348.	1088.
69	0.	5.	0.	4218.	6310.	0.	360.	6963.	4796.	6278.	3545.	1913.	752.	1392.	1360.
70	0.	3.	0.	3515.	0.	4309.	649.	13410.	9165.	4485.	7412.	1913.	6018.	1392.	2721.
71	0.	0.	0.	5624.	7361.	2155.	360.	22178.	22807.	3588.	6123.	1595.	2257.	2089.	1088.
72	0.	5.	3711.	4921.	5258.	2155.	505.	24112.	20249.	2691.	5478.	1595.	2633.	1392.	1088.
73	0.	0.	0.	2109.	6310.	0.	649.	19083.	17478.	1794.	6123.	638.	1504.	1392.	3265.
74	0.	0.	3711.	3515.	1052.	0.	288.	16118.	14707.	6278.	5156.	1913.	3009.	696.	1632.
75	0.	0.	0.	1406.	4207.	0.	360.	14441.	13002.	5381.	4189.	957.	1881.	696.	1904.
76	0.	3.	3711.	3515.	2103.	0.	360.	12120.	10657.	2691.	5156.	2232.	1128.	2089.	1088.
77	0.	0.	3711.	2109.	0.	2155.	505.	12249.	12789.	9866.	7090.	2551.	752.	696.	2449.
78	0.	0.	3711.	0.	2103.	2155.	505.	9413.	9059.	3588.	7734.	1913.	1128.	1044.	1360.
79	0.	5.	5567.	703.	1052.	8619.	433.	6963.	5435.	4485.	4834.	957.	2257.	696.	1632.
80	0.	0.	1856.	1406.	4207.	4309.	216.	5544.	6394.	6278.	5478.	1595.	1881.	348.	544.
81	0.	0.	0.	703.	0.	0.	288.	5416.	3943.	3588.	4189.	0.	752.	348.	1632.
82	0.	0.	3711.	703.	0.	4309.	360.	5931.	2984.	6278.	3545.	319.	0.	1392.	1904.
83	0.	5.	1856.	2109.	0.	0.	649.	4255.	1705.	4485.	1611.	0.	1128.	348.	2177.
84	0.	0.	12990.	4218.	0.	4309.	288.	4900.	959.	8072.	1289.	319.	376.	2785.	2177.
85	0.	3.	3711.	703.	0.	0.	360.	4771.	1492.	7175.	2256.	319.	0.	3829.	1088.
86	0.	0.	11134.	0.	0.	2155.	288.	3868.	2025.	5381.	2256.	319.	752.	1044.	544.
87	0.	0.	3711.	703.	0.	6464.	144.	2966.	853.	13454.	1289.	638.	0.	1741.	272.
88	0.	5.	9279.	703.	0.	0.	144.	1934.	1492.	5381.	2256.	0.	0.	1392.	544.
89	0.	5.	3711.	0.	0.	6464.	0.	1418.	746.	3588.	645.	319.	376.	696.	272.
90	0.	3.	1856.	0.	0.	0.	433.	2063.	639.	11660.	1611.	0.	0.	696.	816.
91	0.	3.	1856.	0.	0.	2155.	433.	2450.	746.	3588.	1289.	0.	0.	1044.	272.
92	0.	3.	1856.	703.	0.	0.	72.	1805.	426.	5381.	645.	319.	376.	1044.	272.
93	0.	0.	0.	0.	0.	4309.	144.	1676.	853.	897.	1289.	0.	0.	1741.	544.
94	0.	0.	1856.	0.	0.	4309.	72.	1418.	320.	897.	967.	0.	0.	348.	272.
95	0.	0.	1856.	0.	0.	0.	505.	516.	639.	1794.	0.	0.	0.	696.	544.
96	0.	5.	7423.	0.	1052.	0.	505.	1418.	107.	897.	645.	0.	0.	1044.	0.
97	0.	0.	1856.	0.	1052.	0.	505.	1289.	107.	1794.	0.	0.	0.	0.	0.
98	0.	0.	1856.	0.	0.	2155.	288.	1418.	533.	1794.	967.	319.	0.	0.	0.
99	0.	0.	3711.	703.	0.	0.	288.	258.	320.	0.	322.	0.	0.	0.	0.
100	0.	0.	7423.	0.	2103.	0.	144.	903.	320.	3588.	967.	0.	376.	348.	816.
101	0.	0.	3711.	703.	0.	0.	288.	774.	213.	0.	967.	0.	0.	0.	0.
102	0.	0.	3711.	0.	0.	2155.	216.	258.	213.	0.	0.	957.	0.	0.	0.
103	0.	0.	3711.	703.	1052.	0.	144.	0.	213.	0.	0.	0.	0.	0.	272.
104	0.	0.	0.	0.	0.	0.	0.	774.	213.	897.	0.	0.	0.	348.	0.
105	0.	5.	3711.	703.	0.	4309.	144.	0.	213.	0.	0.	0.	0.	348.	0.
106	0.	3.	3711.	703.	0.	4309.	433.	0.	213.	0.	0.	0.	0.	0.	272.
107	0.	0.	3711.	703.	0.	0.	144.	129.	0.	0.	0.	0.	0.	0.	272.
108	0.	0.	0.	0.	0.	2155.	0.	129.	213.	0.	0.	0.	0.	0.	816.
109	0.	0.	0.	1406.	0.	0.	360.	0.	0.	0.	0.	0.	0.	0.	272.
110	0.	3.	1856.	1406.	0.	0.	144.	387.	213.	0.	322.	0.	0.	0.	0.
111	0.	0.	0.	703.	0.	2155.	72.	0.	426.	0.	0.	0.	0.	0.	1088.
112	0.	3.	1856.	703.	0.	0.	0.	0.	213.	0.	322.	0.	0.	0.	0.
113	0.	0.	0.	0.	0.	0.	72.	0.	320.	0.	0.	0.	0.	0.	0.
114	0.	3.	5567.	2109.	0.	0.	72.	129.	107.	0.	0.	0.	0.	0.	272.
115	0.	3.	1856.	1406.	0.	0.	0.	0.	320.	0.	322.	0.	0.	0.	0.
116	0.	3.	1856.	1406.	0.	0.	72.	0.	0.	0.	322.	0.	0.	0.	272.
117	0.	0.	0.	0.	0.	0.	72.	0.	0.	0.	0.	0.	0.	0.	0.
118	0.	5.	0.	2109.	0.	2155.	144.	0.	0.	897.	0.	0.	0.	0.	0.
119	0.	0.	0.	703.	0.	0.	72.	129.	0.	897.	0.	0.	0.	0.	0.
120	0.	0.	1856.	0.	0.	2155.	72.	0.	213.	0.	967.	0.	0.	0.	0.
121	0.	0.	3711.	703.	0.	0.	72.	0.	213.	0.	1289.	0.	0.	0.	0.
122	0.	0.	0.	0.	0.	0.	72.	0.	107.	0.	645.	0.	0.	0.	0.
123	0.	0.	0.	0.	0.	0.	144.	0.	0.	0.	0.	0.	0.	0.	0.
124	0.	0.	0.	0.	0.	0.	144.	0.	107.	0.	322.	0.	0.	0.	0.
125	0.	0.	0.	703.	0.	0.	0.	0.	213.	0.	0.	0.	0.	0.	0.
126	0.	0.	0.	0.	0.	0.	72.	0.	107.	0.	322.	0.	0.	0.	0.
127	0.	0.	0.	0.	1052.	0.	72.	0.	0.	0.	0.	0.	0.	0.	0.
128	0.	0.	0.	1406.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
129	0.	0.	0.	0.	0.	0.	144.	0.	0.	0.	0.	0.	0.	0.	0.

Table 12b. (cont.).

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
130	0.	0.	0.	703.	0.	0.	0.	258.	320.	0.	0.	0.	0.	0.	0.
131	0.	3.	1856.	0.	0.	0.	72.	0.	213.	0.	0.	0.	0.	0.	0.
132	0.	0.	1856.	0.	0.	0.	72.	0.	213.	0.	322.	0.	0.	0.	0.
133	0.	5.	1856.	1406.	0.	0.	0.	0.	213.	0.	0.	0.	0.	0.	0.
134	0.	0.	0.	0.	1052.	0.	72.	0.	0.	0.	0.	0.	0.	0.	0.
135	0.	0.	0.	0.	0.	0.	72.	0.	107.	0.	0.	0.	0.	0.	0.
136	0.	0.	0.	0.	0.	0.	72.	0.	0.	0.	0.	0.	0.	0.	0.
137	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
138	0.	3.	0.	0.	0.	0.	0.	0.	107.	0.	0.	0.	0.	0.	0.
139	0.	0.	0.	0.	0.	0.	0.	0.	107.	0.	0.	0.	0.	0.	0.
140	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
141	0.	3.	0.	0.	0.	0.	0.	0.	107.	0.	0.	0.	0.	0.	0.
142	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
143	0.	0.	0.	0.	0.	0.	0.	0.	213.	0.	0.	0.	0.	0.	0.
144	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
145	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
146	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
147	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	348.	0.
148	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
149	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
150	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
151	0.	0.	0.	0.	0.	0.	0.	0.	107.	0.	0.	0.	0.	0.	0.
152	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
153	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
154	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
155	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
156	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
157	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
158	0.	0.	0.	0.	0.	2155.	0.	0.	0.	0.	0.	0.	0.	0.	0.
159	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
160	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
161	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
162	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
163	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
164	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
165	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
166	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
167	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
168	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
169	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
170	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
171	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
172	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
173	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
174	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
175	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
176	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
177	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
178	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
179	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
181	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
182	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
183	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
184	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
185	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
186	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
187	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
188	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
189	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
190	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
191	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
192	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
193	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
194	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
195	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

Table 12b. (cont.).

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
196	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
197	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
198	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
199	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
All	0.	372.	426821.	436553.	184034.	237015.	26527.	265617.	181493.	164133.	113434.	31891.	49647.	45952.	40810.

Table 12c. Estimated total landed recreational catch at length (numbers of fish) for the private boat fishery by calendar year for the Gulf of Mexico greater amberjack.

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	851.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	132.	0.
11	0.	0.	1277.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	1277.	0.	0.	0.	0.	0.	0.	0.	70.	0.	0.	0.	0.
13	0.	0.	1277.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	518.	426.	0.	0.	0.	0.	117.	0.	0.	0.	0.	0.	132.	0.
15	0.	518.	851.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	0.	1296.	1277.	1104.	0.	486.	0.	0.	0.	228.	0.	0.	0.	0.	0.
17	139.	1296.	851.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	0.	1296.	0.	0.	0.	2914.	0.	0.	557.	0.	0.	0.	0.	0.	0.
19	279.	1814.	426.	0.	0.	3885.	0.	0.	0.	228.	70.	0.	0.	0.	0.
20	0.	777.	0.	0.	0.	2914.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	1037.	426.	0.	0.	3885.	158.	0.	0.	0.	0.	0.	0.	132.	0.
22	0.	1037.	426.	0.	758.	6313.	0.	352.	0.	0.	0.	344.	0.	132.	0.
23	0.	777.	0.	0.	758.	2914.	0.	117.	0.	0.	0.	0.	0.	0.	0.
24	0.	518.	0.	0.	0.	2914.	0.	117.	0.	0.	0.	0.	0.	0.	0.
25	0.	1037.	1277.	1104.	758.	1457.	158.	0.	0.	0.	0.	0.	0.	0.	0.
26	0.	1555.	851.	0.	0.	1457.	0.	0.	0.	0.	0.	0.	0.	132.	0.
27	0.	1555.	2128.	2209.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	0.	1296.	1703.	3313.	0.	486.	158.	0.	0.	0.	0.	0.	0.	132.	0.
29	0.	1296.	1277.	1104.	0.	2428.	0.	0.	0.	228.	0.	0.	0.	0.	0.
30	0.	777.	426.	2209.	758.	1943.	0.	0.	0.	0.	70.	0.	0.	0.	0.
31	0.	777.	1277.	3313.	758.	2428.	0.	117.	557.	0.	0.	0.	0.	0.	0.
32	139.	0.	851.	1104.	0.	1943.	317.	0.	557.	0.	70.	0.	0.	0.	0.
33	0.	1037.	426.	1104.	1515.	1943.	0.	0.	0.	0.	0.	344.	0.	132.	0.
34	139.	0.	2979.	0.	0.	3885.	475.	0.	0.	0.	0.	0.	0.	0.	0.
35	0.	1037.	851.	1104.	758.	2914.	158.	117.	0.	0.	70.	0.	0.	0.	101.
36	0.	0.	2554.	6626.	0.	7770.	158.	235.	0.	0.	70.	0.	0.	0.	0.
37	139.	518.	1703.	3313.	0.	5342.	475.	0.	557.	0.	210.	0.	0.	0.	0.
38	0.	518.	2128.	2209.	0.	2914.	791.	470.	0.	0.	0.	689.	0.	0.	0.
39	0.	518.	0.	5522.	0.	2428.	1108.	470.	0.	0.	70.	344.	0.	0.	101.
40	139.	259.	1277.	6626.	0.	2914.	1424.	470.	1115.	0.	350.	0.	0.	0.	0.
41	0.	0.	426.	8834.	0.	3400.	791.	235.	0.	0.	140.	0.	0.	0.	101.
42	0.	259.	426.	4417.	0.	3400.	1108.	0.	557.	0.	0.	0.	0.	132.	0.
43	0.	0.	2979.	2209.	0.	4371.	791.	0.	1672.	0.	70.	0.	0.	132.	0.
44	139.	0.	1277.	3313.	0.	2914.	475.	117.	0.	0.	70.	0.	0.	0.	201.
45	0.	0.	1703.	2209.	2273.	971.	317.	235.	557.	0.	0.	0.	0.	0.	0.
46	0.	0.	2554.	4417.	1515.	1457.	475.	117.	557.	0.	70.	0.	0.	0.	0.
47	0.	259.	851.	9939.	758.	971.	633.	117.	0.	0.	70.	0.	0.	0.	0.
48	279.	0.	1277.	2209.	2273.	1943.	1266.	0.	0.	0.	70.	344.	0.	0.	0.
49	1255.	518.	1703.	2209.	1515.	971.	633.	117.	0.	228.	0.	0.	0.	0.	0.
50	279.	259.	2554.	13252.	1515.	971.	317.	117.	0.	0.	0.	0.	0.	132.	0.
51	0.	518.	3405.	14356.	2273.	1457.	1424.	0.	0.	455.	140.	0.	0.	0.	0.
52	279.	1037.	2979.	7730.	1515.	1943.	317.	0.	0.	0.	70.	0.	0.	0.	0.
53	139.	0.	851.	4417.	758.	1943.	1108.	117.	557.	0.	0.	0.	0.	0.	0.
54	697.	0.	3831.	2209.	1515.	1943.	475.	117.	0.	0.	0.	0.	0.	132.	0.
55	139.	0.	1703.	1104.	3031.	3400.	317.	117.	0.	0.	0.	0.	279.	264.	0.
56	139.	777.	1703.	5522.	758.	486.	0.	0.	0.	0.	0.	0.	279.	0.	0.
57	697.	259.	851.	5522.	1515.	1943.	950.	117.	0.	0.	70.	0.	0.	264.	0.
58	279.	518.	3405.	3313.	0.	971.	317.	352.	0.	455.	70.	689.	1116.	132.	0.
59	558.	0.	1703.	4417.	2273.	971.	633.	352.	557.	228.	0.	689.	279.	132.	0.
60	1255.	518.	2979.	5522.	758.	1457.	475.	235.	1115.	228.	140.	1722.	837.	264.	0.
61	976.	0.	1703.	3313.	1515.	971.	1108.	352.	557.	0.	0.	689.	2511.	132.	0.
62	558.	0.	851.	4417.	758.	2428.	791.	117.	0.	228.	210.	689.	3069.	396.	101.
63	697.	259.	2554.	2209.	3031.	1943.	791.	587.	557.	455.	0.	0.	1674.	132.	201.

Table 12c. (cont.)

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
64	418.	0.	1703.	6626.	2273.	2428.	158.	235.	0.	455.	70.	344.	1674.	132.	0.
65	139.	0.	426.	0.	1515.	1457.	475.	704.	1115.	911.	280.	344.	558.	264.	0.
66	0.	0.	426.	2209.	3788.	1457.	791.	352.	0.	455.	0.	0.	837.	0.	101.
67	0.	259.	0.	4417.	1515.	1457.	791.	352.	557.	455.	140.	689.	1395.	264.	101.
68	0.	0.	851.	3313.	3031.	2428.	1424.	822.	2230.	455.	350.	1033.	558.	132.	403.
69	0.	518.	851.	2209.	3031.	486.	475.	587.	557.	1594.	769.	2067.	558.	528.	604.
70	279.	259.	0.	1104.	3031.	971.	1266.	587.	2230.	1138.	1748.	2067.	4464.	528.	1007.
71	0.	0.	0.	1104.	3788.	1943.	475.	704.	1672.	1138.	1328.	1722.	1674.	793.	403.
72	418.	518.	1277.	3313.	1515.	0.	950.	352.	1672.	1366.	1189.	1722.	1953.	528.	403.
73	139.	0.	0.	2209.	758.	2428.	791.	352.	1672.	455.	1538.	689.	1116.	528.	1208.
74	0.	0.	851.	0.	1515.	486.	475.	352.	557.	1821.	1259.	2067.	2232.	264.	604.
75	279.	0.	0.	3313.	758.	1457.	475.	587.	0.	1821.	979.	1033.	1395.	264.	705.
76	0.	259.	1703.	0.	1515.	971.	475.	0.	2787.	683.	1189.	2411.	837.	793.	403.
77	279.	0.	851.	0.	758.	486.	633.	117.	557.	2504.	1608.	2756.	558.	264.	906.
78	139.	0.	1277.	0.	0.	1457.	791.	235.	1115.	911.	1748.	2067.	837.	396.	504.
79	279.	518.	1703.	0.	758.	1457.	791.	352.	3344.	1138.	1119.	1033.	1674.	264.	604.
80	0.	0.	426.	0.	0.	486.	317.	117.	1672.	1594.	1259.	1722.	1395.	132.	201.
81	0.	0.	0.	2209.	758.	971.	317.	352.	1115.	1138.	909.	0.	558.	132.	705.
82	0.	0.	851.	0.	758.	1457.	475.	352.	557.	1594.	769.	344.	0.	528.	705.
83	139.	518.	426.	0.	0.	486.	1266.	0.	557.	1138.	350.	0.	837.	132.	806.
84	0.	0.	2979.	0.	758.	1457.	475.	235.	1115.	2049.	350.	344.	279.	1057.	806.
85	139.	259.	851.	3313.	0.	2914.	475.	587.	557.	1821.	559.	344.	0.	1453.	504.
86	279.	0.	2554.	1104.	0.	486.	633.	117.	557.	1366.	559.	344.	558.	396.	302.
87	279.	0.	851.	1104.	758.	1457.	317.	117.	557.	3415.	280.	689.	0.	660.	201.
88	0.	518.	2128.	1104.	758.	1943.	0.	235.	557.	1366.	489.	0.	0.	528.	302.
89	0.	518.	851.	0.	758.	1457.	0.	117.	557.	911.	140.	344.	279.	264.	101.
90	139.	259.	426.	1104.	1515.	486.	633.	117.	557.	2959.	350.	0.	0.	264.	302.
91	0.	259.	426.	0.	758.	2428.	791.	117.	0.	911.	350.	0.	0.	396.	101.
92	0.	259.	426.	0.	758.	2428.	158.	117.	2230.	1366.	140.	344.	279.	396.	101.
93	0.	0.	0.	0.	0.	1943.	317.	117.	2230.	228.	280.	0.	0.	660.	201.
94	0.	0.	426.	0.	758.	1943.	0.	117.	1115.	228.	210.	0.	0.	132.	101.
95	0.	0.	426.	0.	1515.	2914.	791.	117.	1115.	455.	0.	0.	0.	264.	201.
96	0.	518.	1703.	0.	0.	2428.	791.	117.	1115.	228.	140.	0.	0.	396.	0.
97	0.	0.	426.	0.	0.	1943.	950.	117.	1672.	455.	0.	0.	0.	0.	0.
98	0.	0.	426.	0.	758.	2428.	475.	117.	1115.	455.	210.	344.	0.	0.	0.
99	0.	0.	851.	1104.	758.	2914.	317.	352.	1115.	0.	70.	0.	0.	0.	0.
100	0.	0.	1703.	0.	0.	2914.	158.	0.	557.	911.	210.	0.	279.	132.	302.
101	0.	0.	851.	0.	758.	971.	475.	235.	0.	0.	210.	0.	0.	0.	0.
102	0.	0.	851.	0.	0.	4371.	475.	0.	0.	0.	0.	1033.	0.	0.	0.
103	0.	0.	851.	0.	0.	1943.	317.	117.	557.	0.	0.	0.	0.	0.	101.
104	139.	0.	0.	0.	0.	2428.	0.	0.	557.	228.	0.	0.	0.	132.	0.
105	0.	518.	851.	0.	0.	486.	158.	0.	0.	0.	0.	0.	0.	132.	0.
106	0.	259.	851.	1104.	0.	1943.	950.	235.	0.	0.	0.	0.	0.	0.	101.
107	0.	0.	851.	0.	758.	3400.	317.	117.	0.	0.	0.	0.	0.	0.	101.
108	139.	0.	0.	0.	0.	1943.	0.	117.	557.	0.	0.	0.	0.	0.	302.
109	0.	0.	0.	0.	758.	971.	633.	117.	0.	0.	0.	0.	0.	0.	101.
110	0.	259.	426.	0.	758.	1457.	317.	235.	0.	0.	70.	0.	0.	0.	0.
111	0.	0.	0.	0.	758.	971.	158.	352.	0.	0.	0.	0.	0.	0.	403.
112	0.	259.	426.	0.	0.	971.	0.	117.	1115.	0.	70.	0.	0.	0.	0.
113	0.	0.	0.	0.	0.	486.	0.	117.	557.	0.	0.	0.	0.	0.	0.
114	0.	259.	1277.	0.	758.	971.	158.	235.	0.	0.	0.	0.	0.	0.	101.
115	0.	259.	426.	0.	0.	1457.	0.	235.	0.	0.	70.	0.	0.	0.	0.
116	0.	259.	426.	0.	758.	1943.	0.	0.	557.	0.	140.	0.	0.	0.	101.
117	139.	0.	426.	0.	0.	971.	158.	0.	0.	0.	0.	0.	0.	0.	0.
118	0.	518.	0.	0.	758.	1943.	317.	352.	0.	228.	0.	0.	0.	0.	0.
119	0.	0.	0.	0.	0.	971.	158.	0.	0.	228.	0.	0.	0.	0.	0.
120	0.	0.	426.	0.	0.	971.	158.	0.	0.	0.	210.	0.	0.	0.	0.
121	0.	0.	851.	0.	0.	486.	158.	235.	0.	0.	280.	0.	0.	0.	0.
122	139.	0.	0.	0.	0.	1457.	158.	0.	0.	0.	140.	0.	0.	0.	0.
123	0.	0.	0.	0.	0.	1457.	158.	0.	0.	0.	0.	0.	0.	0.	0.
124	0.	0.	0.	0.	758.	971.	317.	0.	0.	0.	70.	0.	0.	0.	0.
125	0.	0.	0.	0.	0.	971.	0.	0.	0.	0.	0.	0.	0.	0.	0.
126	0.	0.	0.	0.	0.	1457.	158.	0.	0.	0.	70.	0.	0.	0.	0.
127	0.	0.	0.	0.	0.	0.	158.	0.	0.	0.	0.	0.	0.	0.	0.
128	0.	0.	0.	1104.	0.	486.	0.	0.	0.	0.	0.	0.	0.	0.	0.

Table 12c. (cont.)

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
129	0.	0.	0.	0.	0.	0.	317.	0.	0.	0.	0.	0.	0.	0.	0.
130	0.	0.	0.	0.	0.	0.	0.	0.	557.	0.	0.	0.	0.	0.	0.
131	0.	259.	426.	0.	0.	486.	158.	0.	0.	0.	0.	0.	0.	0.	0.
132	0.	0.	426.	0.	0.	0.	158.	117.	0.	0.	70.	0.	0.	0.	0.
133	139.	518.	426.	0.	0.	0.	0.	0.	557.	0.	0.	0.	0.	0.	0.
134	0.	0.	0.	0.	0.	0.	158.	0.	0.	0.	0.	0.	0.	0.	0.
135	0.	0.	0.	0.	0.	0.	158.	0.	0.	0.	0.	0.	0.	0.	0.
136	139.	0.	0.	0.	0.	0.	158.	117.	0.	0.	0.	0.	0.	0.	0.
137	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
138	0.	259.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
139	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
140	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
141	0.	259.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
142	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
143	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
144	0.	0.	0.	0.	0.	486.	0.	0.	0.	0.	0.	0.	0.	0.	0.
145	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
146	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
147	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	132.	0.
148	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
149	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
150	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
151	139.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
152	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
153	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
154	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
155	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
156	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
157	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
158	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
159	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
160	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
161	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
162	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
163	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
164	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
165	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
166	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
167	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
168	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
169	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
170	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
171	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
172	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
173	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
174	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
175	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
176	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
177	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
178	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
179	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
181	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
182	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
183	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
184	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
185	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
186	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
187	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
188	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
189	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
190	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
191	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
192	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
193	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
194	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

Table 12c. (cont.)

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
195	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
196	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
197	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
198	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
199	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
All	13664.	37579.	117474.	202087.	83345.	210770.	48747.	19487.	55741.	45529.	26569.	34447.	36830.	17436.	16012.

Table 12d. Estimated total landed recreational catch at length (numbers at length) for the charter/headboat (party) fishery by calendar year for the Gulf of Mexico greater amberjack.

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	261.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	1305.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	522.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	1567.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	1567.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	4439.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	1567.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	1567.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	2611.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	1044.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	1305.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	261.	1679.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	1044.	5037.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	261.	8395.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	522.	6716.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29	261.	5037.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	522.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31	0.	1679.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32	261.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33	0.	5037.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34	522.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35	522.	3358.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36	522.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37	0.	3358.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38	0.	3358.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39	0.	3358.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	522.	1679.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41	522.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42	261.	1679.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43	261.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44	783.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45	261.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46	522.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47	1305.	1679.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48	783.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49	3133.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	522.	1679.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51	522.	1679.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
52	1305.	5037.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
53	1044.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
54	1044.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
55	522.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
56	1044.	1679.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
57	1567.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
58	783.	1679.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
59	783.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	2350.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
61	2089.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
62	1305.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
63	1305.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

Table 12d. (cont.)

	Calendar Year													
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
64	1044.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
65	783.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
66	261.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
67	522.	1679.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
68	261.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
69	1044.	3358.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	261.	1679.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
71	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
72	1044.	1679.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
73	783.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
74	261.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
75	522.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
76	261.	1679.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
77	783.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
78	261.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
79	261.	1679.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
81	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
82	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
83	261.	1679.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
84	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
85	261.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
86	522.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
87	522.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
88	0.	1679.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
89	0.	1679.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
90	522.	1679.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
91	0.	1679.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
92	0.	1679.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
93	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
94	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
96	0.	1679.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
97	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
98	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
99	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
100	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
101	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
102	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
103	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
104	261.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
105	0.	1679.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
106	0.	1679.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
107	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
108	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
109	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
110	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
111	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
112	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
113	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
114	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
115	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
116	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
117	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
118	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
119	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
120	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
121	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
122	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
123	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
124	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
125	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
126	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
127	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
128	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
129	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

Table 12d. (cont.)

	Calendar Year													
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
130	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
131	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
132	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
133	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
134	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
135	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
136	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
137	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
138	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
139	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
140	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
141	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
142	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
143	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
144	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
145	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
146	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
147	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
148	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
149	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
150	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
151	261.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
152	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
153	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
154	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
155	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
156	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
157	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
158	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
159	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
160	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
161	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
162	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
163	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
164	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
165	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
166	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
167	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
168	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
169	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
170	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
171	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
172	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
173	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
174	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
175	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
176	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
177	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
178	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
179	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
181	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
182	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
183	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
184	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
185	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
186	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
187	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
188	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
189	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
190	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
191	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
192	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
193	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
194	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
195	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

Table 12d. (cont.)

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
196	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
197	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
198	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
199	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
All	57963.	90667.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

Table 13. Estimated total landed catch at length (numbers at length) for the headboat fishery by calendar year for the Gulf of Mexico greater amberjack.

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	206.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	0.	0.	0.	0.	0.	41.	0.	0.	0.	0.	0.	0.	0.	0.	40.
18	0.	0.	0.	0.	0.	41.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	0.	0.	0.	37.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	97.	0.	0.	204.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	0.	0.	0.	326.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	0.	0.	206.	0.	0.	570.	0.	53.	0.	0.	0.	0.	0.	0.	0.
23	0.	0.	97.	37.	160.	611.	0.	53.	0.	0.	0.	0.	0.	0.	0.
24	0.	0.	448.	0.	0.	936.	0.	53.	0.	0.	0.	0.	0.	0.	0.
25	0.	0.	400.	0.	39.	855.	0.	158.	0.	26.	0.	0.	0.	0.	0.
26	0.	0.	1042.	74.	78.	754.	0.	53.	51.	0.	66.	0.	0.	68.	0.
27	0.	0.	485.	310.	78.	1360.	0.	0.	0.	0.	0.	0.	0.	68.	0.
28	0.	0.	97.	37.	0.	2281.	0.	0.	0.	26.	0.	0.	0.	0.	0.
29	0.	0.	993.	398.	78.	1863.	0.	0.	0.	26.	0.	0.	0.	0.	0.
30	0.	0.	1163.	111.	121.	2861.	191.	0.	0.	0.	0.	0.	0.	68.	0.
31	0.	0.	1636.	162.	441.	2857.	163.	0.	0.	0.	0.	0.	0.	68.	0.
32	0.	0.	1987.	0.	281.	3223.	1278.	53.	0.	26.	0.	0.	0.	0.	0.
33	0.	0.	1066.	361.	363.	1797.	1203.	0.	0.	26.	0.	0.	0.	0.	0.
34	0.	0.	3998.	1194.	523.	1890.	1798.	53.	0.	79.	0.	0.	0.	0.	0.
35	0.	0.	4616.	1032.	645.	2113.	2551.	105.	0.	0.	66.	20.	0.	68.	0.
36	0.	0.	5804.	1305.	965.	1370.	1445.	0.	0.	53.	0.	0.	68.	0.	0.
37	0.	0.	4628.	1504.	1159.	1640.	2421.	105.	0.	132.	0.	0.	0.	0.	0.
38	0.	0.	3187.	1792.	645.	1427.	901.	53.	0.	0.	66.	0.	0.	0.	0.
39	0.	0.	2108.	2345.	684.	1268.	246.	0.	51.	53.	66.	0.	0.	0.	0.
40	0.	0.	2363.	2256.	805.	1274.	83.	0.	0.	0.	0.	0.	0.	0.	0.
41	0.	0.	1696.	2544.	722.	1390.	191.	0.	51.	0.	28.	0.	0.	0.	0.
42	0.	0.	1951.	2182.	121.	672.	191.	0.	0.	0.	0.	0.	0.	0.	0.
43	0.	0.	1636.	2632.	645.	515.	163.	0.	51.	0.	0.	0.	0.	0.	0.
44	0.	0.	412.	2182.	78.	336.	191.	0.	51.	0.	0.	0.	0.	0.	0.
45	0.	0.	1648.	1593.	645.	509.	381.	105.	0.	0.	56.	0.	0.	0.	0.
46	0.	0.	1430.	1172.	242.	306.	325.	0.	0.	0.	0.	0.	0.	0.	0.
47	0.	0.	460.	958.	160.	336.	488.	53.	0.	0.	0.	0.	0.	0.	0.
48	0.	0.	666.	759.	78.	586.	516.	0.	0.	0.	0.	0.	0.	0.	0.
49	0.	0.	1224.	634.	39.	26.	488.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	824.	922.	117.	188.	163.	53.	0.	0.	0.	0.	0.	0.	0.
51	0.	0.	1442.	995.	242.	224.	163.	0.	0.	65.	0.	37.	0.	0.	0.
52	0.	0.	254.	509.	766.	270.	976.	0.	0.	0.	0.	0.	0.	0.	0.
53	0.	0.	1745.	509.	844.	163.	0.	0.	0.	0.	0.	0.	68.	0.	0.
54	0.	0.	460.	634.	601.	184.	0.	105.	0.	0.	0.	0.	0.	0.	0.
55	0.	0.	1078.	958.	684.	148.	0.	53.	0.	0.	0.	37.	0.	0.	0.
56	0.	0.	1478.	833.	2579.	291.	325.	0.	0.	0.	0.	0.	0.	0.	0.
57	0.	0.	1127.	2005.	1285.	280.	0.	105.	0.	0.	0.	0.	0.	0.	0.
58	0.	0.	824.	723.	1207.	280.	0.	0.	51.	0.	0.	0.	0.	0.	0.
59	0.	0.	1539.	1069.	839.	280.	325.	263.	0.	0.	0.	111.	0.	68.	0.
60	0.	0.	763.	361.	549.	280.	163.	263.	0.	0.	0.	37.	0.	0.	0.
61	0.	0.	254.	398.	947.	362.	163.	211.	0.	0.	0.	74.	0.	0.	0.
62	0.	0.	1175.	1283.	1107.	148.	163.	158.	51.	118.	0.	37.	0.	68.	0.
63	0.	0.	97.	1482.	433.	199.	0.	316.	0.	65.	0.	57.	0.	0.	0.

Table 13. (cont.)

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
64	0.	0.	2060.	523.	554.	204.	325.	158.	0.	26.	0.	0.	0.	0.	0.
65	0.	0.	872.	759.	753.	351.	163.	316.	51.	0.	0.	20.	68.	0.	40.
66	0.	0.	448.	973.	636.	184.	0.	105.	51.	26.	122.	94.	68.	0.	0.
67	0.	0.	715.	1821.	908.	550.	353.	369.	103.	130.	66.	57.	137.	68.	0.
68	0.	0.	48.	472.	597.	306.	325.	421.	154.	535.	216.	121.	68.	272.	40.
69	0.	0.	1333.	273.	277.	163.	325.	685.	615.	521.	205.	151.	410.	68.	40.
70	0.	0.	848.	509.	433.	209.	325.	369.	872.	1003.	564.	414.	751.	475.	200.
71	0.	0.	48.	597.	316.	347.	163.	896.	1077.	417.	442.	465.	751.	0.	240.
72	0.	0.	460.	383.	39.	449.	191.	474.	1128.	743.	647.	613.	1229.	272.	359.
73	0.	0.	509.	184.	78.	250.	28.	527.	1282.	847.	679.	492.	819.	272.	40.
74	0.	0.	618.	383.	156.	383.	163.	211.	769.	834.	386.	454.	956.	407.	279.
75	0.	0.	509.	310.	0.	413.	0.	580.	769.	651.	640.	633.	751.	68.	279.
76	0.	0.	351.	199.	195.	444.	163.	369.	975.	743.	790.	492.	546.	475.	439.
77	0.	0.	666.	759.	320.	628.	325.	211.	769.	222.	574.	380.	683.	68.	439.
78	0.	0.	969.	346.	78.	782.	572.	158.	1128.	834.	358.	232.	614.	475.	399.
79	0.	0.	509.	111.	156.	342.	56.	105.	564.	586.	811.	306.	751.	272.	120.
80	0.	0.	351.	147.	78.	372.	218.	316.	975.	443.	755.	370.	273.	475.	120.
81	0.	0.	557.	368.	238.	389.	330.	105.	1949.	470.	1235.	427.	273.	543.	319.
82	0.	0.	509.	147.	199.	383.	163.	53.	667.	391.	755.	259.	205.	136.	40.
83	0.	0.	606.	346.	156.	184.	191.	0.	667.	195.	525.	222.	137.	475.	200.
84	0.	0.	763.	111.	78.	276.	381.	53.	564.	547.	425.	121.	68.	475.	120.
85	0.	0.	1587.	147.	199.	143.	163.	53.	410.	130.	585.	269.	205.	272.	120.
86	0.	0.	969.	619.	78.	133.	83.	0.	667.	260.	320.	222.	205.	340.	120.
87	0.	0.	969.	420.	0.	158.	0.	105.	256.	91.	773.	94.	68.	136.	120.
88	0.	0.	1030.	111.	39.	102.	0.	53.	359.	157.	320.	259.	137.	272.	40.
89	0.	0.	509.	184.	117.	443.	0.	0.	462.	130.	292.	47.	0.	68.	160.
90	0.	0.	1369.	37.	39.	148.	0.	0.	308.	65.	66.	195.	0.	68.	120.
91	0.	0.	254.	199.	0.	204.	0.	0.	154.	0.	0.	10.	0.	0.	80.
92	0.	0.	412.	0.	160.	163.	0.	0.	205.	65.	28.	37.	0.	136.	40.
93	0.	0.	206.	162.	39.	473.	0.	0.	359.	130.	0.	37.	68.	136.	40.
94	0.	0.	206.	0.	117.	122.	0.	0.	410.	130.	28.	10.	0.	136.	80.
95	0.	0.	303.	162.	199.	229.	163.	105.	0.	195.	0.	74.	0.	68.	80.
96	0.	0.	0.	37.	0.	199.	191.	263.	103.	130.	0.	74.	0.	68.	40.
97	0.	0.	0.	0.	0.	0.	28.	0.	154.	195.	28.	0.	0.	0.	0.
98	0.	0.	0.	0.	121.	41.	0.	105.	51.	222.	66.	121.	68.	0.	120.
99	0.	0.	460.	0.	0.	148.	325.	53.	0.	130.	0.	74.	0.	0.	0.
100	0.	0.	412.	37.	0.	204.	0.	53.	103.	130.	0.	37.	0.	0.	40.
101	0.	0.	48.	162.	39.	107.	325.	105.	51.	0.	0.	84.	0.	0.	0.
102	0.	0.	0.	0.	0.	148.	0.	0.	0.	65.	0.	121.	68.	0.	40.
103	0.	0.	206.	37.	0.	81.	0.	0.	0.	65.	0.	47.	0.	0.	40.
104	0.	0.	206.	0.	0.	41.	0.	0.	0.	0.	0.	74.	0.	0.	0.
105	0.	0.	0.	0.	78.	51.	163.	0.	0.	65.	0.	37.	0.	0.	0.
106	0.	0.	0.	37.	0.	0.	163.	0.	51.	260.	0.	10.	0.	68.	0.
107	0.	0.	0.	0.	39.	41.	0.	0.	0.	130.	0.	0.	0.	0.	0.
108	0.	0.	824.	0.	0.	26.	56.	53.	0.	65.	0.	0.	0.	0.	40.
109	0.	0.	206.	0.	0.	66.	0.	0.	0.	0.	66.	0.	0.	0.	0.
110	0.	0.	206.	0.	0.	107.	0.	0.	0.	91.	0.	0.	0.	0.	40.
111	0.	0.	48.	0.	0.	41.	0.	0.	0.	0.	0.	0.	0.	0.	0.
112	0.	0.	206.	0.	0.	0.	0.	0.	0.	65.	0.	0.	0.	0.	0.
113	0.	0.	0.	0.	0.	41.	0.	0.	51.	26.	0.	0.	0.	0.	0.
114	0.	0.	206.	0.	0.	41.	28.	0.	0.	65.	0.	0.	0.	0.	0.
115	0.	0.	0.	162.	121.	81.	0.	0.	0.	0.	0.	0.	0.	0.	0.
116	0.	0.	206.	0.	0.	81.	0.	0.	51.	0.	0.	0.	0.	0.	0.
117	0.	0.	0.	0.	0.	0.	0.	0.	0.	65.	0.	0.	0.	0.	0.
118	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
119	0.	0.	0.	0.	0.	26.	0.	0.	0.	0.	0.	0.	0.	0.	0.
120	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
121	0.	0.	206.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
122	0.	0.	0.	162.	0.	0.	0.	0.	0.	65.	0.	0.	0.	0.	0.
123	0.	0.	0.	0.	0.	81.	0.	0.	0.	0.	0.	0.	0.	0.	0.
124	0.	0.	0.	0.	39.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
125	0.	0.	0.	0.	0.	41.	0.	0.	0.	0.	0.	0.	0.	0.	0.
126	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
127	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
128	0.	0.	0.	162.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
129	0.	0.	0.	0.	0.	0.	163.	0.	0.	0.	0.	0.	0.	0.	0.

Table 13. (cont.)

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
130	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
131	0.	0.	0.	0.	0.	0.	0.	0.	51.	0.	0.	0.	0.	0.	0.
132	0.	0.	206.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
133	0.	0.	0.	37.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
134	0.	0.	0.	0.	0.	26.	0.	0.	0.	0.	0.	0.	0.	0.	0.
135	0.	0.	0.	0.	0.	41.	0.	0.	0.	0.	0.	0.	0.	0.	0.
136	0.	0.	0.	0.	0.	41.	0.	0.	0.	0.	0.	0.	0.	0.	0.
137	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
138	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
139	0.	0.	0.	0.	0.	41.	0.	0.	0.	0.	0.	0.	0.	0.	0.
140	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
141	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
142	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
143	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
144	0.	0.	0.	0.	0.	41.	0.	0.	0.	0.	0.	0.	0.	0.	0.
145	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
146	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
147	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
148	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
149	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
150	0.	0.	0.	0.	0.	41.	0.	0.	0.	0.	0.	0.	0.	0.	0.
151	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
152	0.	0.	0.	0.	0.	41.	0.	0.	0.	0.	0.	0.	0.	0.	0.
153	0.	0.	0.	0.	0.	41.	0.	0.	0.	0.	0.	0.	0.	0.	0.
154	0.	0.	0.	0.	0.	41.	0.	0.	0.	0.	0.	0.	0.	0.	0.
155	0.	0.	0.	0.	0.	81.	0.	0.	0.	0.	0.	0.	0.	0.	0.
156	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
157	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
158	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
159	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
160	0.	0.	0.	0.	0.	81.	0.	0.	0.	0.	0.	0.	0.	0.	0.
161	0.	0.	0.	0.	0.	41.	0.	0.	0.	0.	0.	0.	0.	0.	0.
162	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
163	0.	0.	0.	0.	0.	41.	0.	0.	0.	0.	0.	0.	0.	0.	0.
164	0.	0.	0.	0.	0.	41.	0.	0.	0.	0.	0.	0.	0.	0.	0.
165	0.	0.	0.	0.	0.	41.	0.	0.	0.	0.	0.	0.	0.	0.	0.
166	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
167	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
168	0.	0.	0.	0.	0.	41.	0.	0.	0.	0.	0.	0.	0.	0.	0.
169	0.	0.	0.	0.	0.	122.	0.	0.	0.	0.	0.	0.	0.	0.	0.
170	0.	0.	0.	0.	0.	81.	0.	0.	0.	0.	0.	0.	0.	0.	0.
171	0.	0.	0.	0.	0.	81.	0.	0.	0.	0.	0.	0.	0.	0.	0.
172	0.	0.	0.	0.	0.	122.	0.	0.	0.	0.	0.	0.	0.	0.	0.
173	0.	0.	0.	0.	0.	163.	0.	0.	0.	0.	0.	0.	0.	0.	0.
174	0.	0.	0.	0.	0.	81.	0.	0.	0.	0.	0.	0.	0.	0.	0.
175	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
176	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
177	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
178	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
179	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
181	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
182	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
183	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
184	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
185	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
186	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
187	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
188	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
189	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
190	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
191	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
192	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
193	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
194	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

Table 13. (cont.)

	Calendar Year														
FL(CM)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
195	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
196	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
197	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
198	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
199	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
All	0.	0.	86024.	52892.	29660.	52521.	24260.	9852.	19747.	14053.	13116.	8670.	10511.	7538.	5110.

Table 14. Estimated total landed catch (numbers of fishes) of the Gulf of Mexico greater amberjack by calendar year and major fishery (Discards excluded).

Fishery	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
REC	77152.	128618.	521813.	635119.	278889.	555703.	62034.	240830.	252880.	171461.	118547.	52455.	74281.	55287.	55214.
COM	29821.	43556.	55719.	115490.	585345.	219466.	33827.	28472.	50300.	49203.	39571.	37505.	37773.	33032.	21060.
HBT	0.	0.	86024.	52892.	29660.	52521.	24260.	9852.	19747.	14053.	13116.	8670.	10511.	7538.	5110.
ALL	106973.	172174.	663556.	803501.	893894.	827690.	120121.	279154.	322927.	234717.	171234.	98630.	122565.	95857.	81384.

Table 15a. Estimated total landed catch (pounds of fishes) of the Gulf of Mexico greater amberjack by calendar year and major fishery (Discards excluded).

Fishery	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
REC	603860.	1037738.	6601832.	4734334.	2785178.	7207876.	998055.	3410826.	4069519.	3134299.	1993098.	699750.	891399.	909495.	969573.
COM	588247.	857296.	1271182.	1756910.	2337323.	2217274.	1087628.	828880.	1474742.	1561466.	1236752.	1061433.	1165403.	1024146.	632731.
HBT	0.	0.	679010.	357736.	215577.	470545.	173419.	121136.	330510.	243489.	211412.	142652.	151239.	123389.	89391.
ALL	1192107.	1895034.	8552021.	6848981.	5338080.	9895694.	2259101.	4360843.	5874771.	4939254.	3441261.	1903834.	2208041.	2057031.	1691696.

Table 15b. Mean individual weight per fish landed for Gulf of Mexico greater amberjack by fishery and calendar year.

Fishery	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
Rec	7.83	8.07	12.65	7.45	9.99	12.97	16.09	14.16	16.09	18.28	16.81	13.34	12.00	16.45	17.56
Com	19.72593	19.68	22.81	15.21	3.99	10.10	32.15	29.11	29.32	31.74	31.25	28.30	30.85	31.00	30.04
Hboat			7.89	6.76	7.27	8.96	7.15	12.30	16.74	17.33	16.12	16.45	14.39	16.37	17.49

Table 16. Proportional difference of average catch at age (numbers of fish) between pre regulation period (1984-1989) and post regulation period (1990-1998) for the Gulf of Mexico greater amberjack stock.

Recreational Fisheries (shore, charter, private, charter/headboat (party))

	Average Catch Landed (#)		Proportion Average Catch		Diff. in p	Cum. Diff. in p	Cumulative p(at Age)	
AGE	1984-1989	1990-1998	1984-1989	1990-1998	1984-1989 vs 1990-1998	1990-1998	1984-1989	
0	54169.9	2040.7	.14791810	.01695893	.13095920	.13095920	.14791810	.01695893
1	144434.3	7663.4	.39439693	.06368491	.33071202	.46167120	.54231500	.08064384
2	84221.8	43769.8	.22997870	.36374062	-.13376200	.32790923	.77229370	.44438450
3	37817.0	49029.2	.10326433	.40744853	-.30418420	.02372503	.87555801	.85183300
4	16629.0	12619.6	.04540772	.10487290	-.05946516	-.03574013	.92096573	.95670590
5	13379.9	2498.9	.03653568	.02076689	.01576879	-.01997134	.95750141	.97747280
6	5873.2	968.9	.01603756	.00805220	.00798536	-.01198597	.97353900	.98552500
7	3867.3	609.8	.01056027	.00506787	.00549240	-.00649357	.98409930	.99059283
8	1629.9	459.8	.00445073	.00382077	.00062995	-.00586362	.98855000	.99441361
9	780.1	129.5	.00213028	.00107659	.00105368	-.00480994	.99068030	.99549020
10	490.2	80.1	.00133850	.00066538	.00067312	-.00413681	.99201880	.99615560
11	642.5	150.4	.00175452	.00124994	.00050458	-.00363223	.99377330	.99740550
12	944.5	101.3	.00257898	.00084165	.00173733	-.00189490	.99635230	.99824714
13	245.6	44.5	.00067078	.00037013	.00030065	-.00159425	.99702304	.99861730
14	14.8	27.1	.00004028	.00022496	-.00018467	-.00177893	.99706333	.99884223
15	36.2	29.8	.00009887	.00024754	-.00014867	-.00192760	.99716222	.99908980
16	.0	.0	.00000000	.00000000	.00000000	-.00192760	.99716222	.99908980
17	.0	.0	.00000000	.00000000	.00000000	-.00192760	.99716222	.99908980
18	.0	.0	.00000000	.00000000	.00000000	-.00192760	.99716222	.99908980
19	1039.2	109.5	.00283754	.00091016	.00192738	-.00000022	.99999980	.99999994
All	366215.7	120332.4	1.000000001	.00000000	.00000000	-.00000022	1.000000001	.00000000

Commercial Fishery (handline, bottom longline, dive, other commercial gears)

	Average Catch Landed (#)		Proportion Average Catch		Diff. in p.	Cum. Diff. in p	Cumulative p(at Age)	
AGE	1984-1989	1990-1998	1984-1989	1990-1998	1984-1989 vs 1990-1998	1990-1998	1984-1989	
0	17448.8	69.3	.09976482	.00188532	.09787950	.09787950	.09976482	.00188532
1	89513.0	656.1	.51179713	.01785355	.49394360	.59182310	.61156200	.01973887
2	28450.4	922.0	.16266730	.02508864	.13757870	.72940180	.77422922	.04482751
3	17270.7	4129.9	.09874639	.11238120	-.01363481	.71576700	.87297560	.15720871
4	11645.1	14684.1	.06658163	.39957401	-.33299240	.38277460	.93955720	.55678272
5	5648.8	9396.5	.03229728	.25569080	-.22339350	.15938110	.97185444	.81247353
6	3015.6	4087.1	.01724207	.11121510	-.09397301	.06540808	.98909652	.92368860
7	911.4	1232.6	.00521115	.03354160	-.02833044	.03707764	.99430770	.95723021
8	359.8	689.4	.00205718	.01876055	-.01670337	.02037426	.99636490	.97599080
9	129.3	277.3	.00073918	.00754545	-.00680627	.01356799	.99710404	.98353624
10	82.1	154.1	.00046914	.00419398	-.00372484	.00984315	.99757320	.98773020
11	84.1	83.3	.00048064	.00226628	-.00178564	.00805751	.99805384	.98999650
12	214.4	58.3	.00122563	.00158747	-.00036184	.00769567	.99927950	.99158394
13	10.8	51.2	.00006161	.00139452	-.00133291	.00636276	.99934113	.99297850
14	41.5	23.1	.00023700	.00062835	-.00039135	.00597141	.99957811	.99360680
15	.0	4.9	.00000000	.00013348	-.00013348	.00583793	.99957811	.99374030
16	.0	.7	.00000000	.00001899	-.00001899	.00581893	.99957811	.99375930
17	.0	1.1	.00000000	.00002998	-.00002998	.00578895	.99957811	.99378930
18	.0	.0	.00000000	.00000000	.00000000	.00578895	.99957811	.99378930
19	73.8	228.2	.00042207	.00621064	-.00578858	.00000038	1.00000020	.99999990
All	174899.3	36749.3	1.000000001	.00000000	.00000000	.00000038	1.000000201	.00000000

Table 16. (cont.)

Headboat Fishery

AGE	Average Catch Landed (#) 1984-1989	1990-1998	Proportion Average Catch 1984-1989	1990-1998	Diff. in p. 1984-1989 vs 1990-1998	Cum. Diff. in p 1990-1998	Cumulative p(at Age) 1984-1989	
0	8521.0	1234.4	.23123890	.09843851	.13280040	.13280040	.23123890	.09843851
1	15343.1	1054.6	.41637310	.08410037	.33227270	.46507310	.64761200	.18253890
2	7040.7	3413.6	.19106613	.27222510	-.08115892	.38391420	.83867812	.45476391
3	3475.2	5327.2	.09430922	.42482980	-.33052054	.05339363	.93298733	.87959370
4	1328.5	1110.9	.03605091	.08858924	-.05253833	.00085530	.96903824	.96818292
5	422.5	274.6	.01146613	.02190016	-.01043403	-.00957872	.98050440	.99008310
6	269.0	77.8	.00730081	.00620085	.00109996	-.00847876	.98780520	.99628394
7	82.1	15.9	.00222867	.00126511	.00096356	-.00751520	.99003390	.99754910
8	59.6	7.0	.00161821	.00055505	.00106316	-.00645205	.99165210	.99810410
9	17.9	.0	.00048546	.00000000	.00048546	-.00596659	.99213760	.99810410
10	21.1	18.6	.00057248	.00148338	-.00091090	-.00687748	.99271010	.99958750
11	15.7	5.2	.00042531	.00041250	.00001281	-.00686467	.993135401	.00000000
12	22.7	.0	.00061665	.00000000	.00061665	-.00624802	.993752101	.00000000
13	6.6	.0	.00017799	.00000000	.00017799	-.00607003	.993930041	.00000000
14	6.6	.0	.00017821	.00000000	.00017821	-.00589182	.994108301	.00000000
15	6.8	.0	.00018413	.00000000	.00018413	-.00570770	.994292401	.00000000
16	.0	.0	.00000000	.00000000	.00000000	-.00570770	.994292401	.00000000
17	.0	.0	.00000000	.00000000	.00000000	-.00570770	.994292401	.00000000
18	.0	.0	.00000000	.00000000	.00000000	-.00570770	.994292401	.00000000
19	210.3	.0	.00570789	.00000000	.00570789	.00000019	1.000000201	.00000000
All	36849.5	12539.7	1.000000001	.00000000	.00000000	.00000019	1.000000201	.00000000

Table 17a. Estimated total landed and discarded recreational catch (numbers of fish) at age of the Gulf of Mexico greater amberjack stock by calendar year. Catch at age combined across all recreational MRFSS modes (shore, charter, private, charter/headboat (party)).

			Calendar Year													
Region	Fishery	Age	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
GOM	REC ALL	0	22226.	52162.	77616.	76980.	12543.	95408.	5978.	6026.	2944.	1410.	2143.	2612.	0.	2900.	378.
GOM	REC ALL	1	21689.	35991.	197808.	349595.	77253.	210252.	21993.	16878.	10046.	5057.	6787.	8103.	10071.	3648.	2568.
GOM	REC ALL	2	21932.	14671.	89362.	160342.	133375.	98186.	19188.	131347.	114975.	55600.	36043.	38603.	46576.	17639.	18143.
GOM	REC ALL	3	7716.	10029.	78830.	29576.	36153.	71913.	11900.	114980.	146314.	100350.	73166.	13989.	29221.	24297.	35313.
GOM	REC ALL	4	2275.	8482.	36456.	4593.	9447.	43434.	7950.	19876.	29634.	46270.	14376.	2769.	1724.	13449.	7772.
GOM	REC ALL	5	1840.	3982.	33480.	5158.	5554.	33423.	4485.	4286.	6177.	5331.	2638.	957.	445.	1283.	2957.
GOM	REC ALL	6	64.	1149.	13719.	7342.	3030.	11408.	1583.	1863.	3795.	204.	954.	3.	0.	0.	2874.
GOM	REC ALL	7	139.	844.	6184.	4521.	1662.	10973.	1283.	720.	1100.	2033.	1462.	0.	0.	0.	368.
GOM	REC ALL	8	139.	0.	3996.	769.	324.	5036.	1095.	196.	472.	280.	2857.	0.	0.	0.	0.
GOM	REC ALL	9	0.	0.	0.	1381.	868.	2738.	479.	0.	264.	0.	625.	0.	0.	0.	0.
GOM	REC ALL	10	0.	17.	46.	1870.	653.	428.	524.	104.	271.	0.	0.	0.	0.	0.	0.
GOM	REC ALL	11	0.	244.	2732.	603.	0.	448.	330.	191.	1120.	0.	100.	0.	0.	0.	0.
GOM	REC ALL	12	137.	499.	3822.	1240.	76.	0.	130.	80.	609.	0.	292.	0.	0.	0.	0.
GOM	REC ALL	13	3.	24.	244.	176.	976.	99.	230.	0.	309.	0.	0.	0.	0.	0.	0.
GOM	REC ALL	14	0.	0.	0.	0.	0.	99.	207.	0.	82.	0.	0.	0.	0.	0.	0.
GOM	REC ALL	15	139.	0.	0.	0.	0.	99.	230.	117.	0.	0.	0.	0.	0.	0.	0.
GOM	REC ALL	19	401.	523.	0.	0.	0.	5712.	0.	0.	639.	0.	0.	0.	0.	480.	0.
GOM	REC ALL	All	78701.	128618.	544296.	644144.	281916.	589657.	77587.	296665.	318753.	216537.	141443.	67035.	88037.	63696.	70373.

Table 17b. Estimated total landed and discarded commercial catch (numbers of fish) at age of the Gulf of Mexico greater amberjack stock by calendar year. Catch at age combined across all commercial fisheries (handline, dive, bottom longline, other).

			Calendar Year													
Region	Fishery	Age	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
GOM	COM ALL	0	23.	144.	537.	2104.	88642.	13242.	723.	876.	1091.	1046.	800.	757.	746.	647.	412.
GOM	COM ALL	1	2375.	2051.	3192.	22759.	419276.	87425.	4980.	5425.	5532.	5285.	4137.	3963.	3884.	3291.	2080.
GOM	COM ALL	2	6728.	10336.	10031.	28244.	45065.	70298.	2778.	1928.	2148.	2068.	2033.	2542.	2067.	1184.	649.
GOM	COM ALL	3	11411.	13824.	11888.	27434.	23048.	16019.	2072.	2372.	4086.	5562.	4088.	5252.	4173.	7287.	2276.
GOM	COM ALL	4	2750.	8831.	14223.	26757.	4688.	12622.	6675.	7842.	27460.	17539.	16454.	15784.	15834.	13920.	10650.
GOM	COM ALL	5	2841.	4004.	8627.	6968.	879.	10574.	11645.	7284.	8345.	16098.	9273.	10245.	9961.	6333.	5383.
GOM	COM ALL	6	1978.	3242.	5576.	770.	1791.	4737.	6335.	4478.	5261.	4138.	4910.	3110.	3237.	3193.	2123.
GOM	COM ALL	7	243.	631.	879.	455.	914.	2347.	1985.	920.	2069.	1698.	1198.	618.	1257.	1009.	340.
GOM	COM ALL	8	210.	473.	345.	0.	511.	620.	1021.	723.	881.	1052.	940.	250.	835.	460.	42.
GOM	COM ALL	9	420.	0.	138.	0.	217.	0.	134.	273.	311.	689.	393.	172.	242.	263.	16.
GOM	COM ALL	10	210.	0.	282.	0.	0.	0.	225.	84.	153.	401.	208.	25.	135.	10.	147.
GOM	COM ALL	11	209.	0.	0.	0.	0.	295.	26.	35.	108.	14.	148.	93.	285.	41.	0.
GOM	COM ALL	12	0.	0.	0.	0.	0.	1286.	22.	67.	3.	105.	269.	0.	27.	31.	0.
GOM	COM ALL	13	0.	0.	0.	0.	65.	0.	66.	72.	112.	11.	120.	0.	80.	0.	0.
GOM	COM ALL	14	0.	0.	0.	0.	249.	0.	74.	1.	0.	28.	105.	0.	0.	0.	0.
GOM	COM ALL	15	0.	0.	0.	0.	0.	0.	0.	32.	0.	0.	0.	0.	0.	0.	12.
GOM	COM ALL	16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.	0.	0.	0.	0.
GOM	COM ALL	17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	10.	0.	0.	0.	0.
GOM	COM ALL	19	422.	21.	0.	0.	0.	0.	0.	214.	78.	646.	250.	164.	520.	181.	0.
GOM	COM ALL	All	29821.	43556.	55719.	115491.	585344.	219464.	38761.	32626.	57638.	56381.	45344.	42976.	43283.	37851.	24132.

Table 17c. Estimated total landed and discarded headboat catch (numbers of fish) at age of the Gulf the Gulf of Mexico greater amberjack stock by calendar year. Headboat catch at age combined with charter boat prior to 1985.

			Calendar Year													
Region	Fishery	Age	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
GOM	HBT HBT	0	0.	0.	21005.	5531.	4274.	20316.	10602.	714.	593.	638.	441.	238.	288.	417.	176.
GOM	HBT HBT	1	0.	0.	35287.	27702.	11640.	17430.	9211.	1419.	1539.	1199.	1135.	653.	799.	688.	347.
GOM	HBT HBT	2	0.	0.	13058.	13641.	10445.	5100.	3441.	5207.	5481.	4244.	3176.	2188.	3195.	2350.	1441.
GOM	HBT HBT	3	0.	0.	9664.	4054.	2100.	5034.	1606.	2585.	11046.	6529.	8124.	4865.	6670.	3858.	2662.
GOM	HBT HBT	4	0.	0.	3902.	1219.	852.	1997.	1020.	602.	2529.	1395.	1360.	1041.	443.	859.	749.
GOM	HBT HBT	5	0.	0.	1493.	209.	166.	667.	395.	211.	220.	807.	47.	490.	94.	48.	159.
GOM	HBT HBT	6	0.	0.	1062.	78.	99.	375.	61.	30.	87.	396.	52.	2.	0.	20.	51.
GOM	HBT HBT	7	0.	0.	235.	114.	45.	100.	17.	0.	36.	90.	0.	0.	0.	0.	0.
GOM	HBT HBT	8	0.	0.	112.	145.	5.	96.	0.	0.	0.	63.	0.	0.	0.	0.	0.
GOM	HBT HBT	9	0.	0.	0.	36.	34.	37.	0.	0.	0.	0.	0.	0.	0.	0.	0.
GOM	HBT HBT	10	0.	0.	0.	127.	0.	0.	163.	0.	5.	0.	0.	0.	0.	0.	0.
GOM	HBT HBT	11	0.	0.	94.	0.	0.	0.	0.	0.	47.	0.	0.	0.	0.	0.	0.
GOM	HBT HBT	12	0.	0.	112.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
GOM	HBT HBT	13	0.	0.	0.	12.	0.	27.	0.	0.	0.	0.	0.	0.	0.	0.	0.
GOM	HBT HBT	14	0.	0.	0.	0.	0.	39.	0.	0.	0.	0.	0.	0.	0.	0.	0.
GOM	HBT HBT	15	0.	0.	0.	0.	0.	41.	0.	0.	0.	0.	0.	0.	0.	0.	0.
GOM	HBT HBT	19	0.	0.	0.	0.	0.	1262.	0.	0.	0.	0.	0.	0.	0.	0.	0.
GOM	HBT HBT	All	0.	0.	86024.	52892.	29660.	52521.	26517.	10768.	21584.	15360.	14336.	9476.	11489.	8239.	5585.

Table 17d. Estimated total landed and discarded catch (numbers of fish) at age of the Gulf of Mexico greater amberjack stock by calendar year for all fisheries combined.

			Calendar Year													
Region	Fishery	Age	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
GOM	ALL ALL	0	22249.	52305.	99158.	84615.	105460.	128967.	17302.	7615.	4628.	3093.	3385.	3608.	1035.	3963.	966.
GOM	ALL ALL	1	24064.	38043.	236286.	400055.	508170.	315107.	36184.	23723.	17118.	11541.	12059.	12719.	14753.	7626.	4996.
GOM	ALL ALL	2	28660.	25006.	112451.	202226.	188886.	173584.	25407.	138482.	122604.	61912.	41252.	43332.	51837.	21173.	20234.
GOM	ALL ALL	3	19127.	23853.	100382.	61064.	61301.	92966.	15579.	119937.	161446.	112441.	85378.	24106.	40064.	35442.	40251.
GOM	ALL ALL	4	5025.	17312.	54582.	32570.	14987.	58053.	15645.	28320.	59622.	65205.	32190.	19593.	18001.	28228.	19171.
GOM	ALL ALL	5	4681.	7986.	43601.	12335.	6599.	44664.	16526.	11782.	14742.	22235.	11959.	11693.	10501.	7664.	8499.
GOM	ALL ALL	6	2043.	4391.	20357.	8190.	4920.	16520.	7979.	6371.	9143.	4739.	5916.	3114.	3237.	3213.	5048.
GOM	ALL ALL	7	382.	1475.	7298.	5090.	2620.	13419.	3284.	1640.	3205.	3822.	2660.	618.	1257.	1009.	708.
GOM	ALL ALL	8	350.	473.	4453.	914.	839.	5752.	2116.	919.	1353.	1395.	3797.	250.	835.	460.	42.
GOM	ALL ALL	9	420.	0.	138.	1417.	1120.	2775.	613.	273.	575.	689.	1019.	172.	242.	263.	16.
GOM	ALL ALL	10	210.	17.	328.	1996.	653.	428.	912.	188.	429.	401.	208.	25.	135.	10.	147.
GOM	ALL ALL	11	209.	244.	2827.	603.	0.	743.	356.	227.	1274.	14.	248.	93.	285.	41.	0.
GOM	ALL ALL	12	137.	499.	3934.	1264.	76.	1286.	152.	147.	612.	105.	561.	0.	27.	31.	0.
GOM	ALL ALL	13	3.	24.	244.	189.	1041.	126.	297.	72.	421.	11.	120.	0.	80.	0.	0.
GOM	ALL ALL	14	0.	0.	0.	0.	249.	138.	281.	1.	82.	28.	105.	0.	0.	0.	0.
GOM	ALL ALL	15	139.	0.	0.	0.	0.	140.	230.	149.	0.	0.	0.	0.	0.	0.	12.
GOM	ALL ALL	16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.	0.	0.	0.	0.
GOM	ALL ALL	17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	10.	0.	0.	0.	0.
GOM	ALL ALL	19	823.	544.	0.	0.	0.	6974.	0.	214.	718.	646.	250.	164.	520.	661.	0.
GOM	ALL ALL	All	108522.	172174.	686037.	812535.	896924.	861639.	142865.	340061.	397972.	288278.	201122.	119488.	142808.	109785.	100090.

Table 18. Estimated total landed and discarded catch (numbers of fish) of the Gulf of Mexico greater amberjack by fishery and for all fisheries combined by fishery and calendar year.

								Year								
Total Catch (Number of Fish)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
Recreational	78701	128618	544296	644144	281916	589657	77587	296665	318753	216537	141443	67035	88037	63696	70373
Commercial	29821	43556	55719	115491	585344	219464	38761	32626	57638	56381	45344	42976	43283	37851	24132
Headboat			86024	52892	29660	52521	26517	10768	21584	15360	14336	9476	11489	8239	5585
All Fisheries	108522	172174	686037	812535	896924	861639	142865	340061	397972	288278	201122	119488	142808	109785	100090

Table 19. Estimated mean age in the catch of the Gulf of Mexico greater amberjack by fishery and calendar year.

								Year							
Mean Age (Years)	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
Recreational	1.54	1.41	2.14	1.46	2.05	2.20	2.60	2.53	2.84	2.99	2.96	2.14	2.27	2.84	2.99
Commercial	1.84	1.52	1.89	1.18	0.71	1.03	2.92	2.87	2.51	2.84	2.77	2.35	2.75	2.38	2.39
Headboat			1.45	1.47	1.49	1.59	1.10	2.16	2.70	2.76	2.64	2.77	2.56	2.52	2.74
All Fisheries	1.30	1.57	1.59	0.83	0.63	1.65	2.05	0.86	1.14	1.38	1.45	1.17	1.17	1.53	1.38

Table 20. Results of separable VPA analyses using the estimated total catch (landed and discarded) of the Gulf of Mexico greater amberjack from 1990-1997. Run Id "Rxxyy" refer to the specific years included in each run (e.g., R9097 included 90 through 97).

	Run Name																
S(Age)	R9097	R9197	R9297	R9397	**R9497**	R9597	R9697	R9698	R9497a	R9497b	R9497c	R9497d	R9497e	R9098a	R9098b	R9098c	R9098d
0														0.01	0.007		
1	0.045	0.06	0.049	0.053	**0.054**	0.103	0.08	0.044	0.058	0.063	0.052	0.037	0.062	0.055	0.04	0.056	0.041
2	0.354	0.494	0.436	0.449	**0.44**	0.531	0.336	0.252	0.464	0.493	0.433	0.323	0.467	0.414	0.309	0.418	0.313
3	0.802	0.943	0.87	0.874	**0.759**	0.737	0.546	0.622	0.779	0.811	0.751	0.571	0.771	1	0.758	1	0.761
4	1	1	1	1	**1**	1	1	1	1	1	1	0.764	1	1.31	1	1.306	1
5	1.047	0.919	1.005	0.964	**1.309**	0.936	1.285	1.095	1.257	1.173	1.332	1	1.335	1.45	1.112	1.444	1.111
6	0.882	0.693	0.771	0.68	**1.183**	0.485	1.274	1.8	1.063	0.887	1.245	0.897	1.282	1.607	1.237	1.603	1.237
7	0.609	0.464	0.578	0.438	**0.819**	0.267	1.285	2.694	0.673	0.493	0.903	0.623	0.943	1.478	1.146	1.481	1.151
8	0.559	0.425	0.593	0.411	**0.77**	0.28	1.59	2.821	0.57	0.371	0.9	0.599	0.931	1.484	1.169	1.501	1.184
9	0.34	0.283	0.45	0.252	**0.452**	0.228	1.91	2.501	0.296	0.175	0.566	0.366	0.563	0.967	0.788	0.989	0.806
10	0.146	0.114	0.154	0.055	**0.088**	0.058	0.262	3.133	0.053	0.03	0.116	0.076	0.104	0.57	0.489	0.583	0.5
11	0.149	0.133	0.135	0.091	**0.198**	0.15	0.173	0.463	0.113	0.061	0.267	0.182	0.209	0.21	0.191	0.213	0.193
12	1	1	1	1	**1**	1	1	1	0.5	0.25	1.5	1	1	1	1	1	1
Run Id	13	14	15	16	**9**	12	17	18	20	21	22	23	19	5	7	6	8
Ages	1 to 12	1 to 12	1 to 12	1 to 12	**1 to 12**	1 to 12	1 to 12	1 to 12	1 to 12	1 to 12	1 to 12	1 to 12	1 to 12	0 to 12	0 to 12	1 to 12	1 to 12
TermF	0.3	0.3	0.3	0.3	**0.3**	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.3	0.3	0.3	0.3
Ref age	4	4	4	4	**4**	4	4	4	4	4	4	5	4	3	4	3	4
S12	1	1	1	1	**1**	1	1	1	0.5	0.25	1.5	1	1	1	1	1	1
M	0.3	0.3	0.3	0.3	**0.3**	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Catch CV%	66.5	67.5	70.9	64.3	**57.8**	60.5	INF	142	58.1	58.3	57.7	57.7	58	96.2	92.5	92.5	92.5

S=Selectivity

M = Natural Mortality

F=Fishing Mortality

Table 21. Estimated number (and proportion) of discarded Gulf of Mexico greater amberjack at age based on averages from period 1996 through 1997.

Age	Catch	Discards	Proportion (Discards)
0	1566	199	0.127075
1	7093	6186	0.127741
2	35532	4303	0.128365
3	37753	4302	0.113964
4	23114	959	0.041468
5	9083	124	0.013653

Table 22. Projected catch (numbers and pounds of fish) of the Gulf of Mexico greater amberjack for 1999.

Fishery	Reported Landed Weight(lbs)	Estimated Catch (#)	Estimated Landed Weight(Lbs)
Commercial	496001	16511	496001
Rec(Ch+PR+SHR)	NA	78253	1374122
Headboat	NA	5110	89384
All Fisheries	**Not applicable**	**99874**	**1959507**

Figure 1. Reported commercial landings by calendar year for the Gulf of Mexico greater amberjack stock in the southeastern United States, 1962-1998.

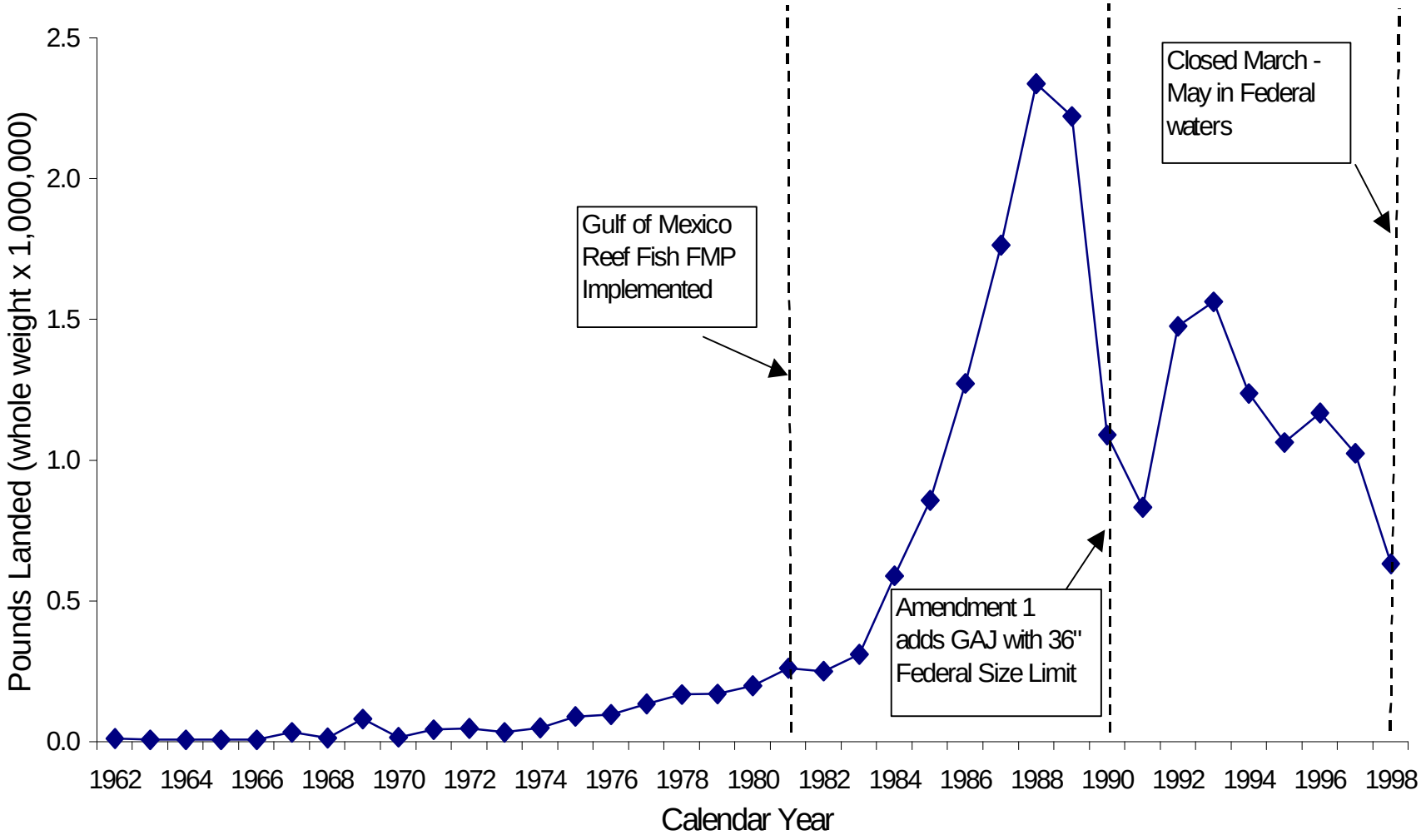

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Figure 2. Reported commercial landings by gear type and calendar year for Atlantic Ocean greater amberjack in the southeastern United States, 1962-1998.

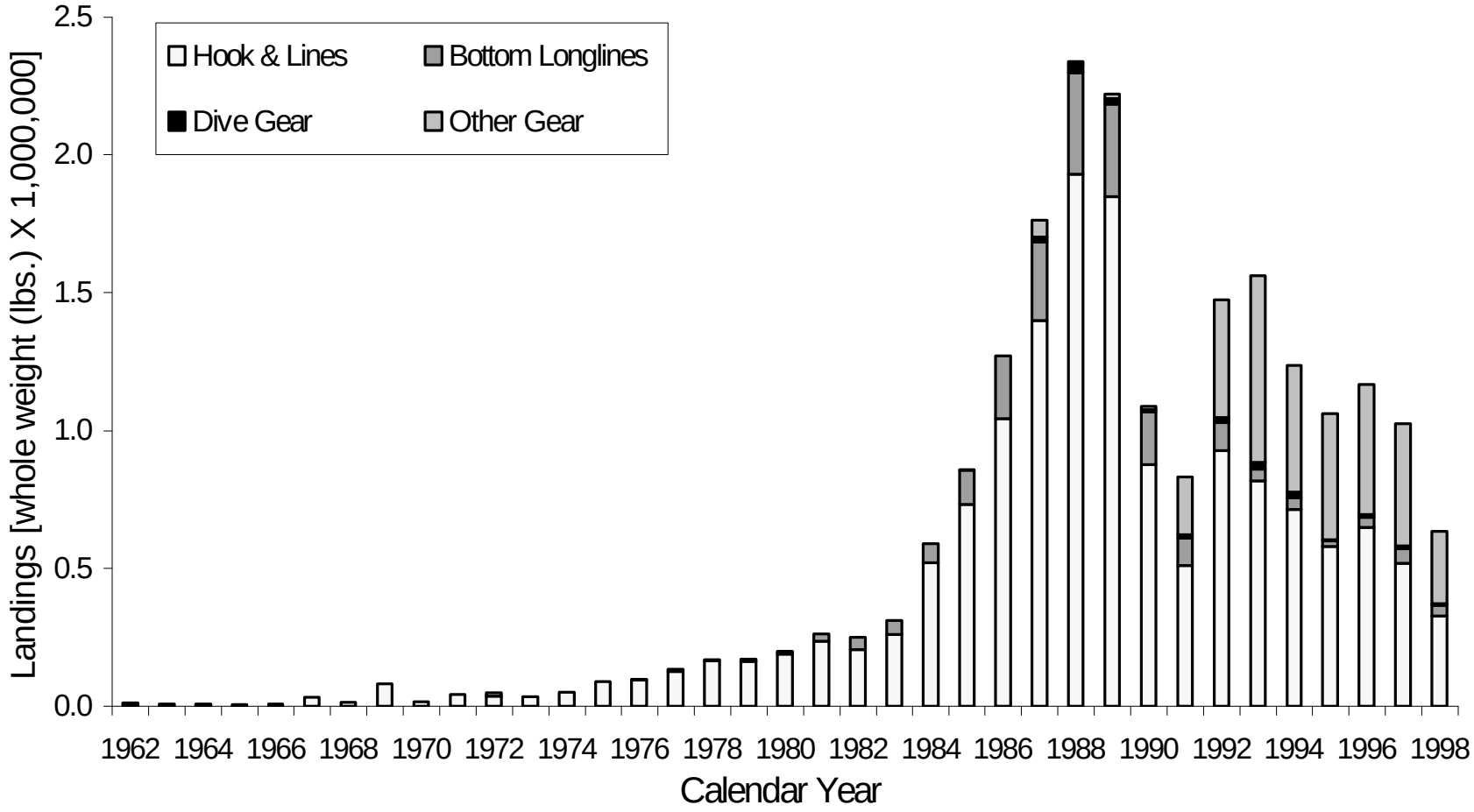


Figure 3. Spatial distribution of the reported commercial landings of the Gulf of Mexico greater amberjack stock in the southeastern United States, 1977-1998 combined.

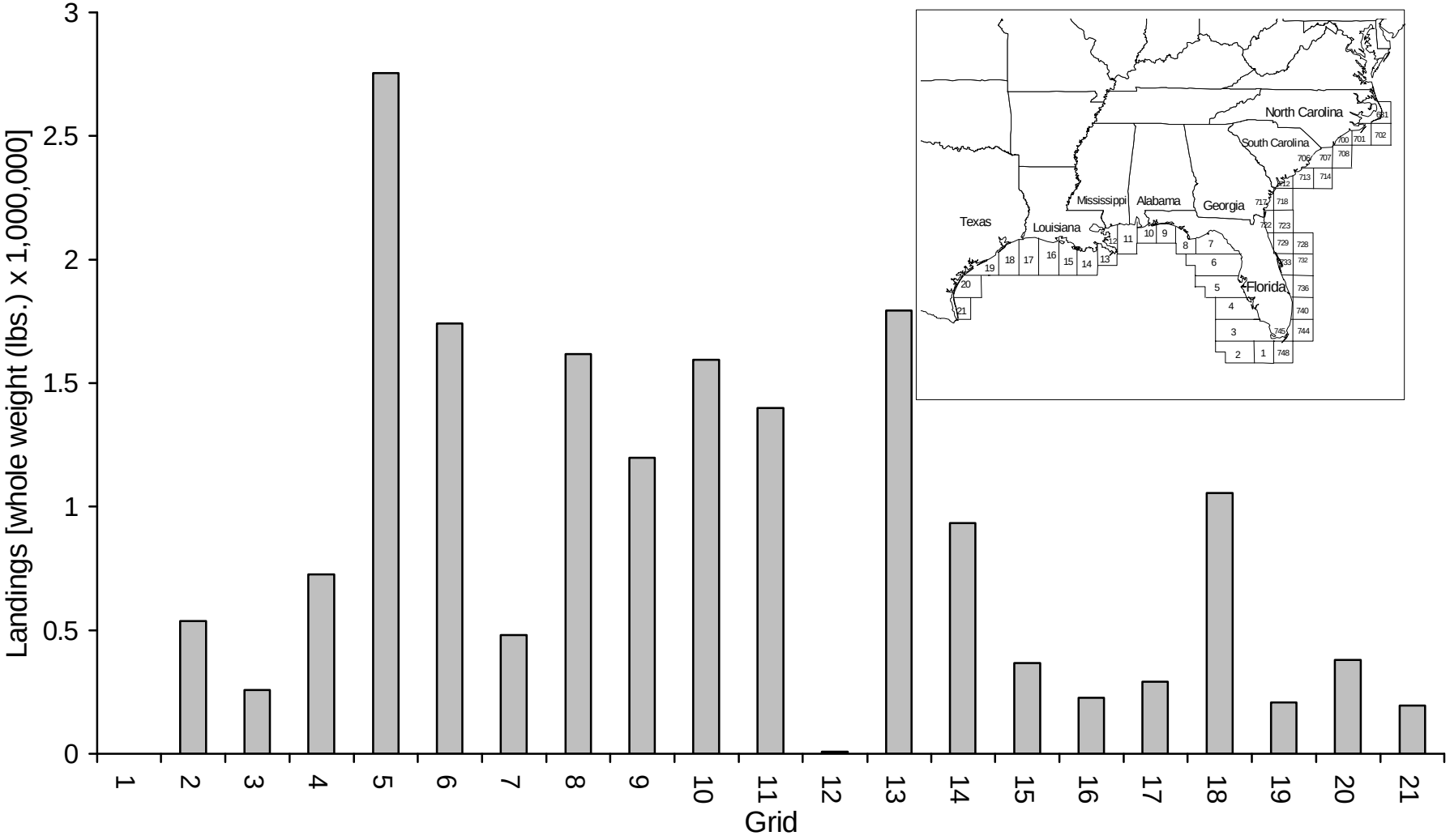


Figure 4. Reported commercial landings (percent) for the Gulf of Mexico stock of greater amberjack in the southeastern United States, 1977-1998 combined.

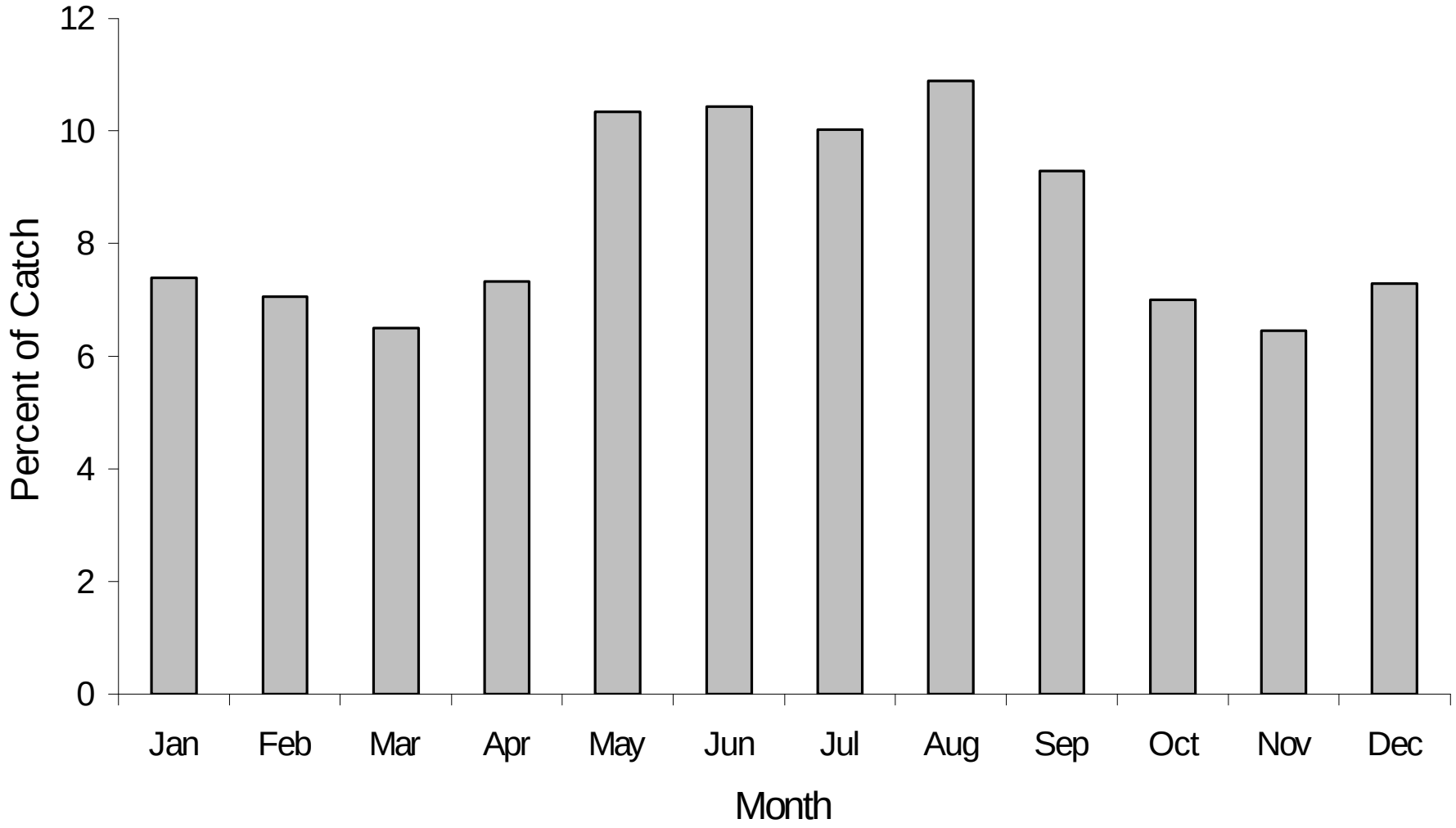


Figure 5. Estimated recreational catch (A+B1) by source and calendar year for the Gulf of Mexico greater amberjack stock in the southeastern United States, 1981 - 1998. Catch units are number of fish. MRFSS estimates includes Monroe County recreational catches in the Florida west coast estimates.

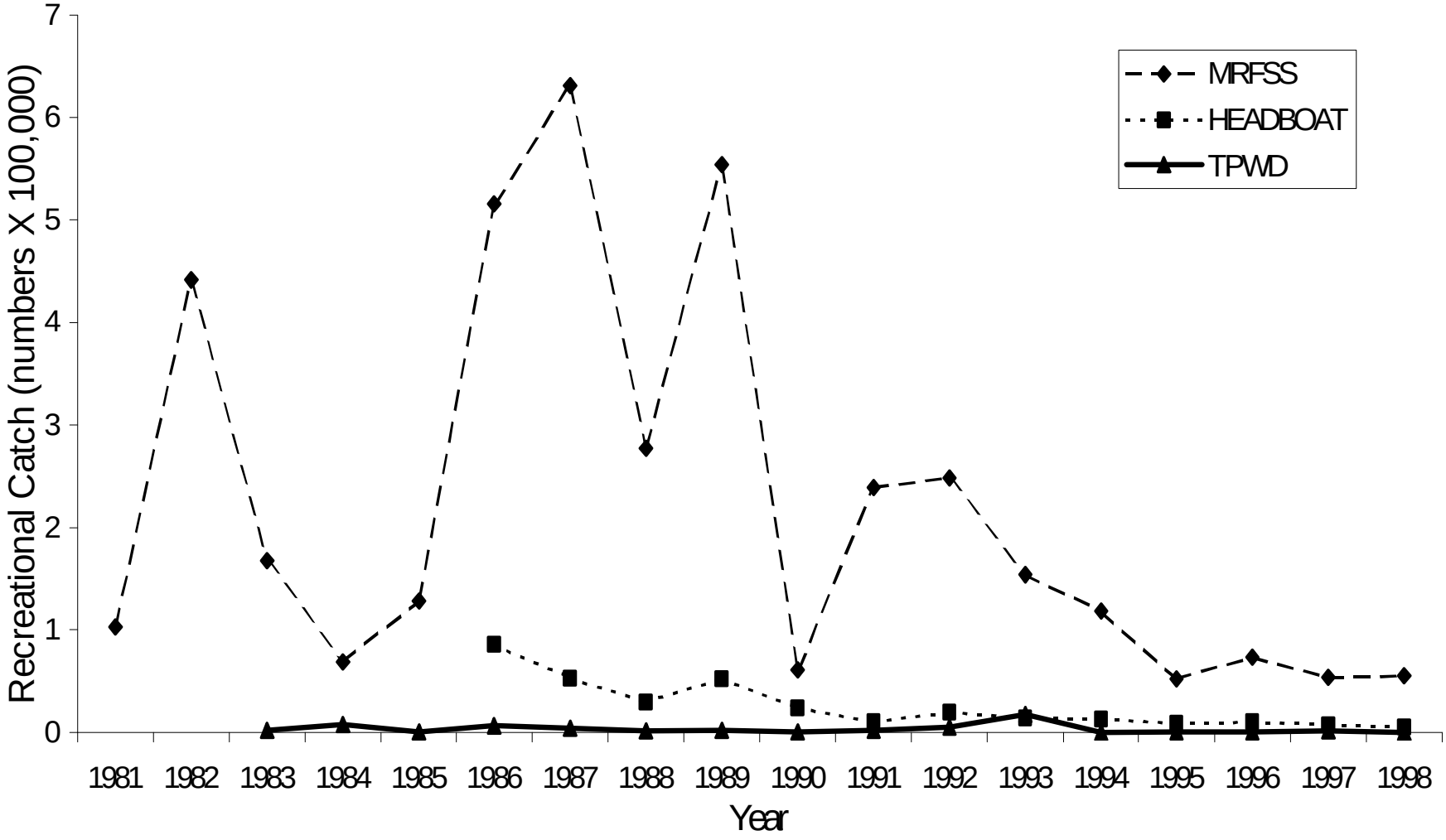


Figure 6. Estimated recreational catch (A+B1) of the Gulf of Mexico greater amberjack stock for the southeastern United States by fishery and calendar year, 1981-1998. MRFSS includes Monroe County recreational catches in Florida west coast estimates.

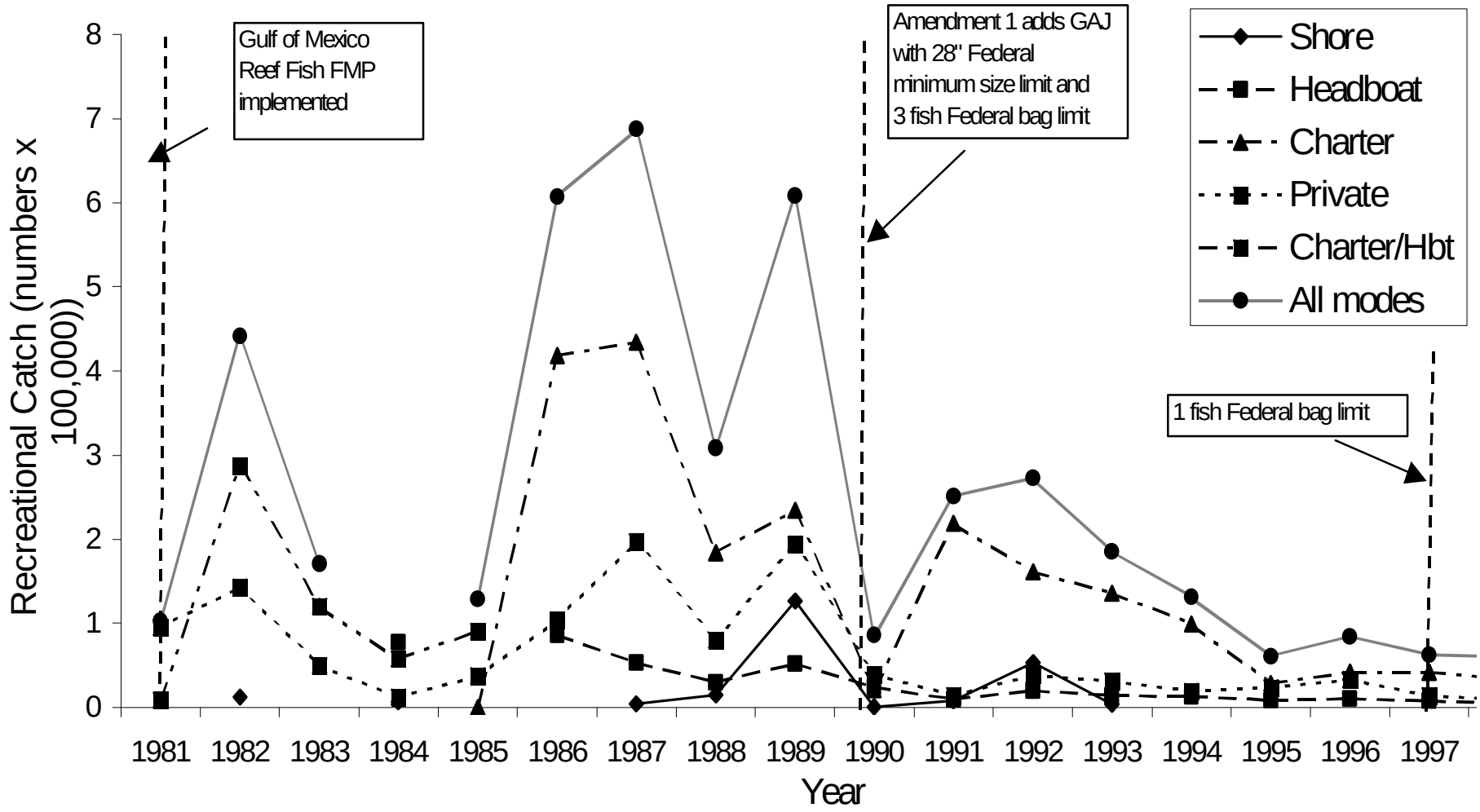


Figure 7. Estimated recreational catch (A+B1) of the Gulf of Mexico greater amberjack stock for the southeastern United States by state and calendar year, 1981-1998. MRFSS includes Monroe County recreational catches in Florida west coast estimates.

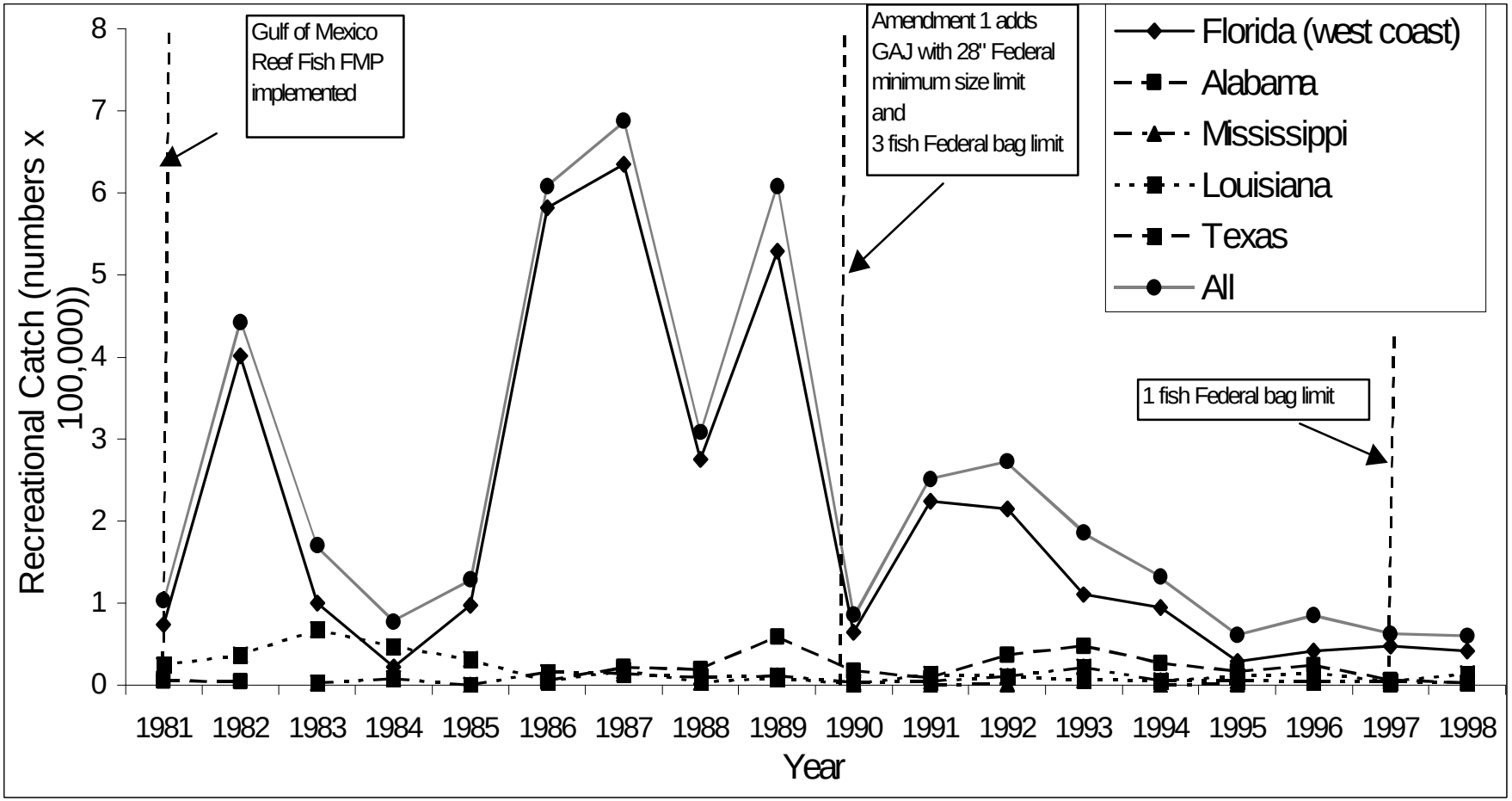


Figure 8. Proportion of recreational catch (A+B1) for the Gulf of Mexico greater stock in the southeastern United States by two-month wave and state based on MRFSS and NMFS Headboat data. MRFSS includes Monroe County recreational catches in Florida west coast estimates.

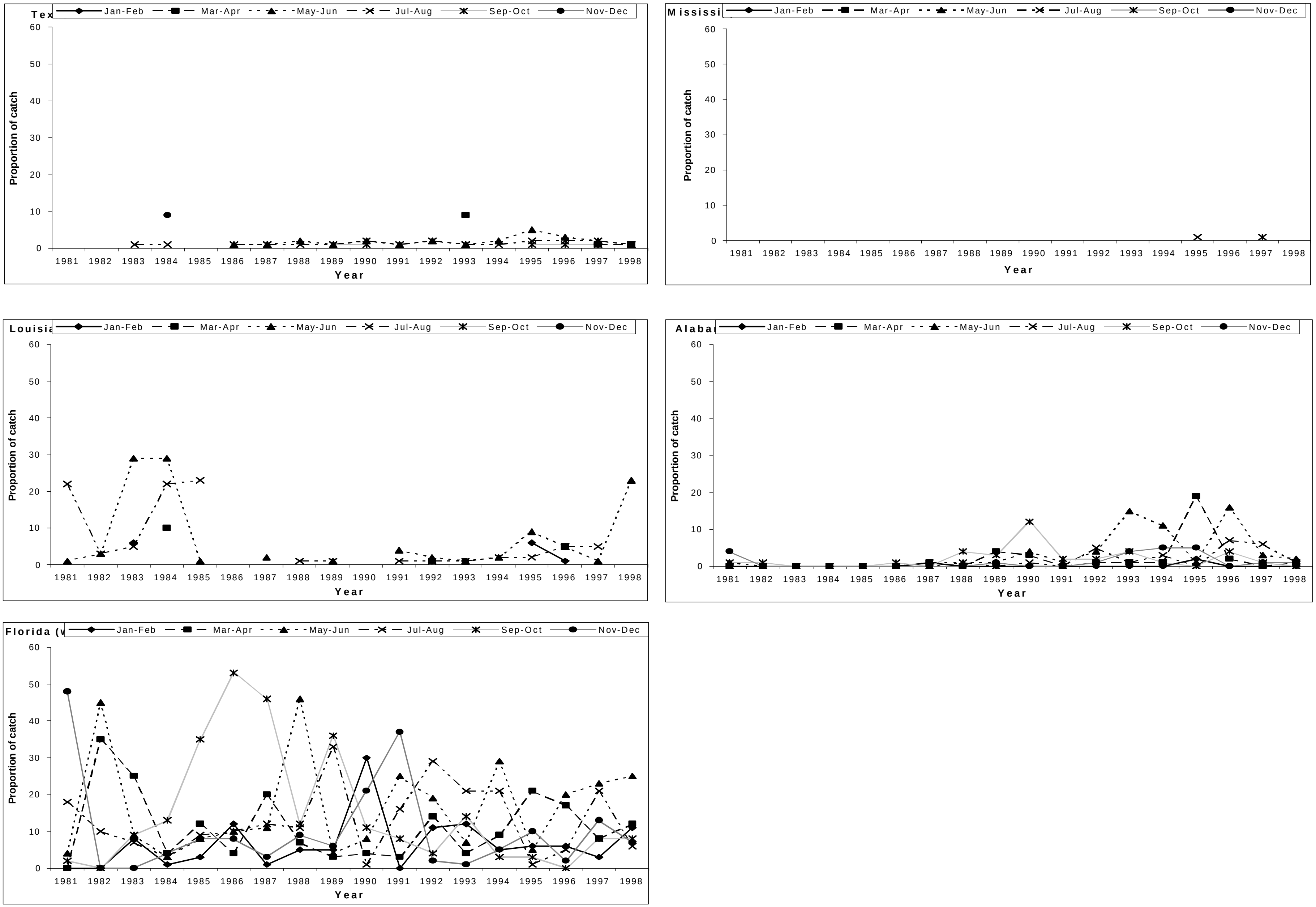
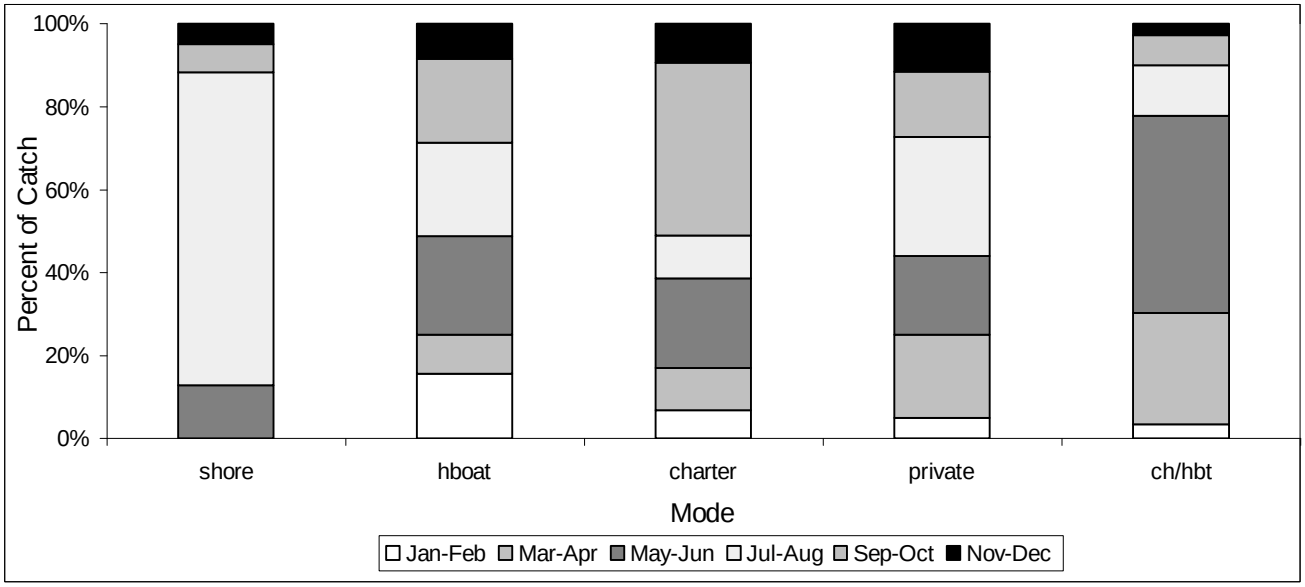


Figure 9. Distribution (percent) of Gulf of Mexico greater amberjack stock recreational harvest (A+B1) by a) mode and b) two-month wave based on MRFSS estimates and NMFS Headboat data, 1981-1998.

a)



b)

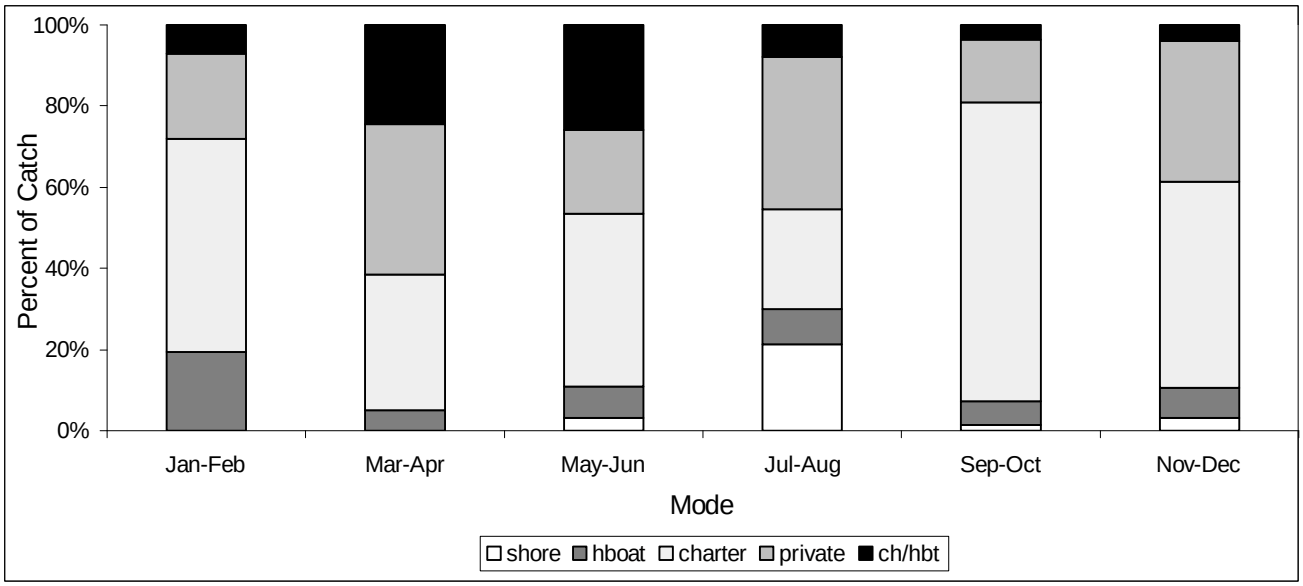


Figure 10. Estimated recreational harvest (percent) of the Gulf of Mexico greater amberjack stock (all states combined) based on MRFSS and TPWD catches (A+B1) by zone (TTS and EEZ) and calendar year, 1981-1998.

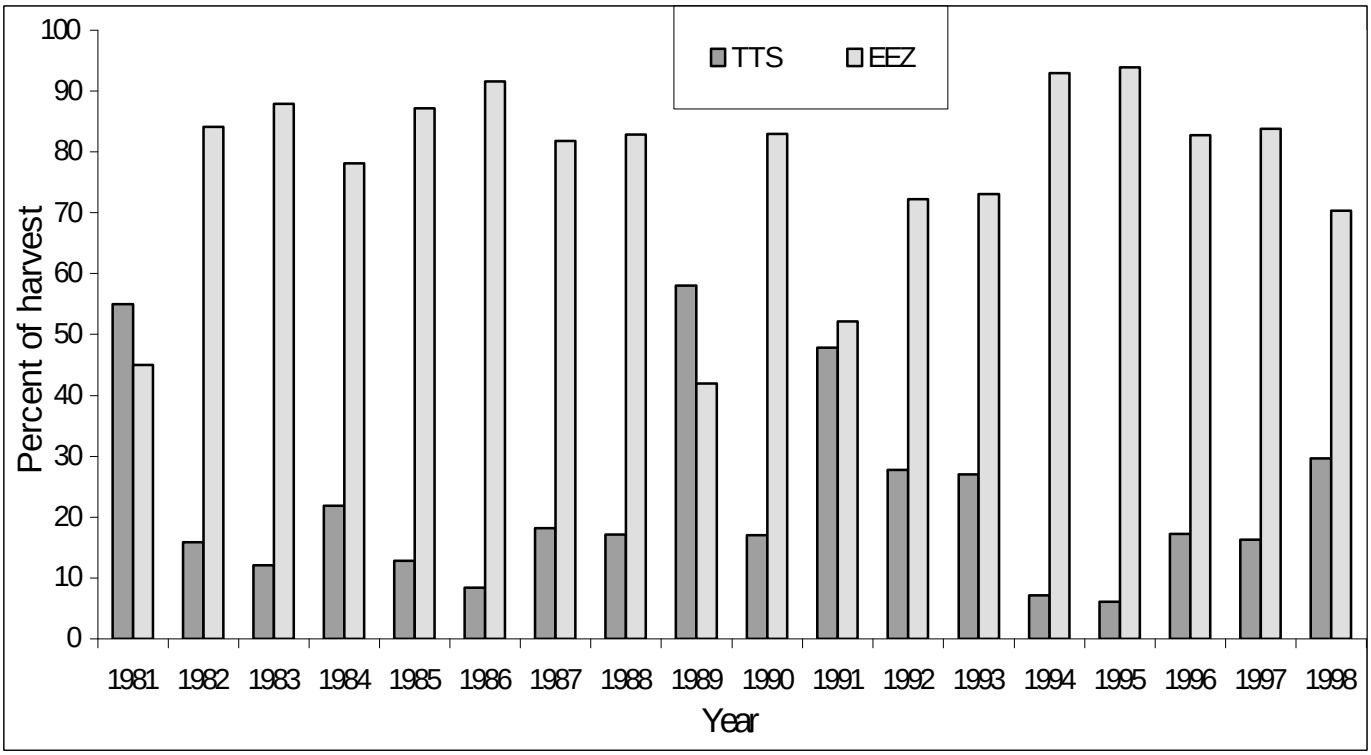
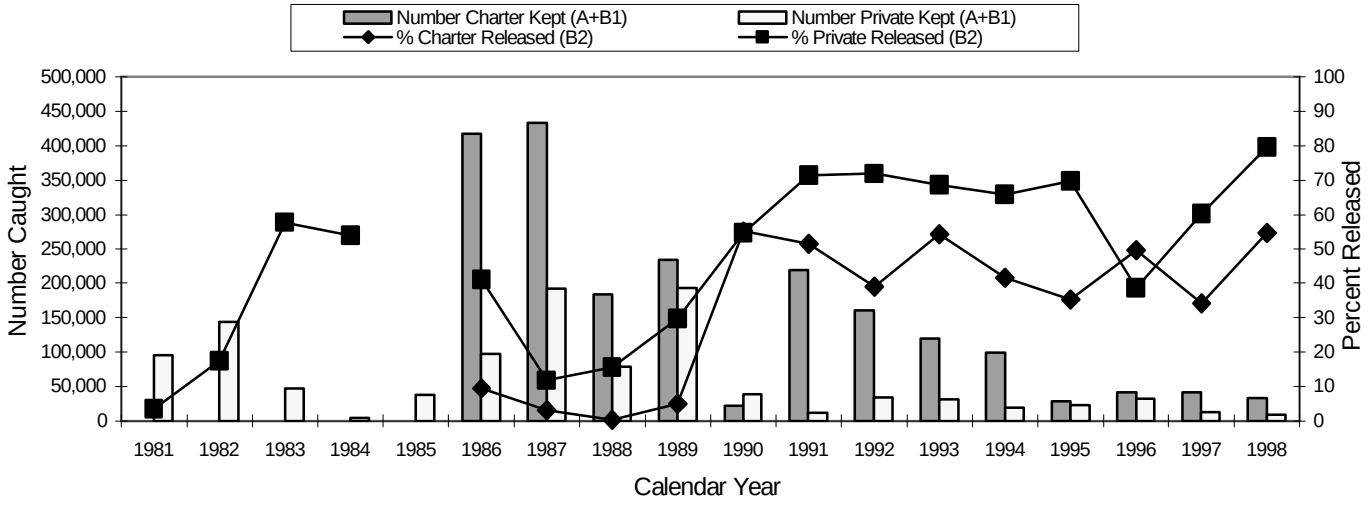


Figure 11. Estimated recreational harvest a) A+B1 and b) {A+B1}+B2 and disposition (percent released) of Gulf of Mexico greater amberjack stock by calendar year, based on MRFSS data. Percent released equals number released (B2) divided by total caught {A+B1}+B2. MRFSS includes Monroe county recreational catches in the Florida west coast catch estimates.

a)



b)

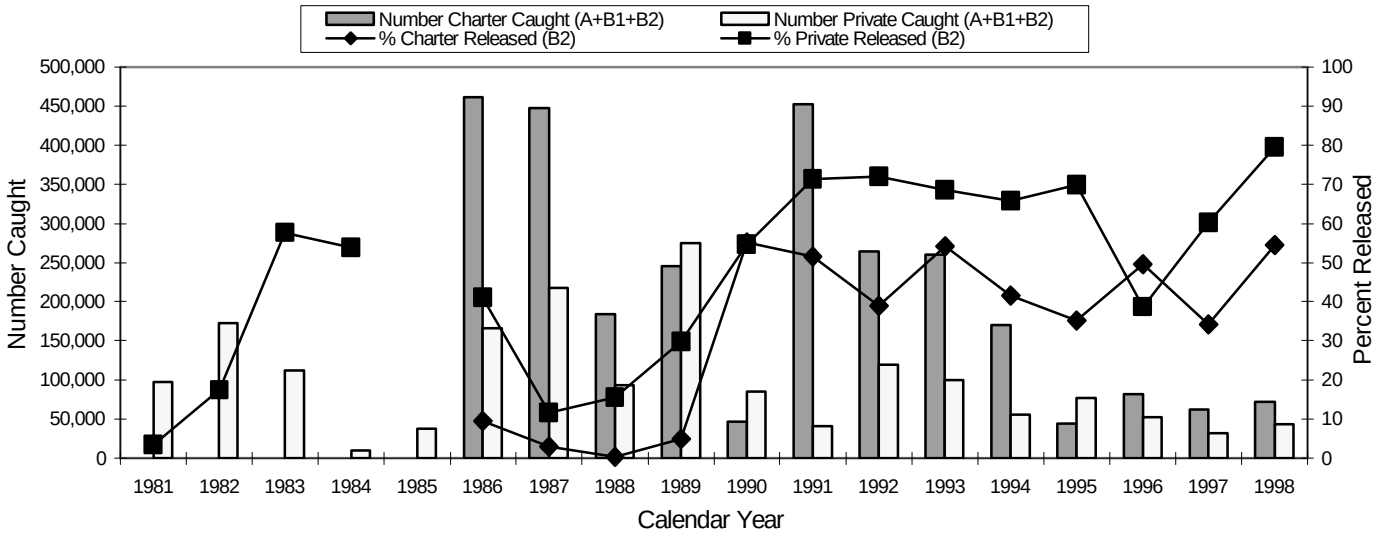
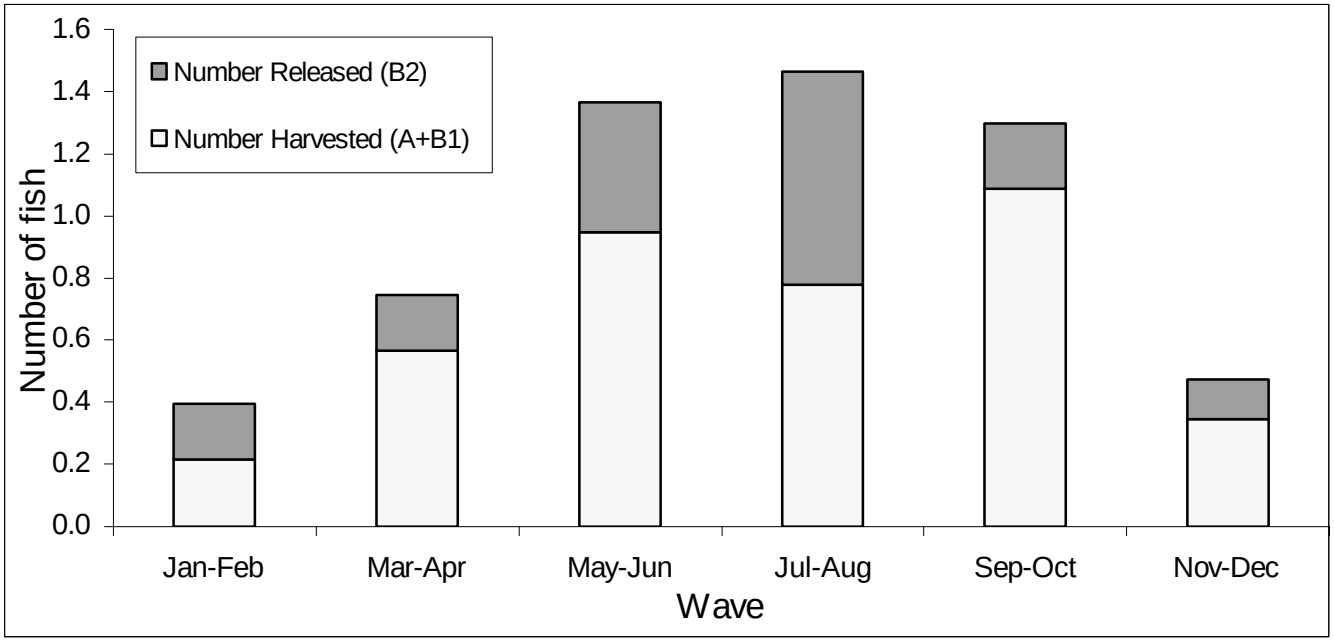


Figure 12. Recreational harvest of the Gulf of Mexico greater amberjack stock a) number released (B2) and total harvest (A+B1) and b) percent of total harvest by wave based on MRFSS data from 1981-1998 combined. MRFSS includes Monroe county recreational catches in the Florida west coast estimates.

a)



b.)

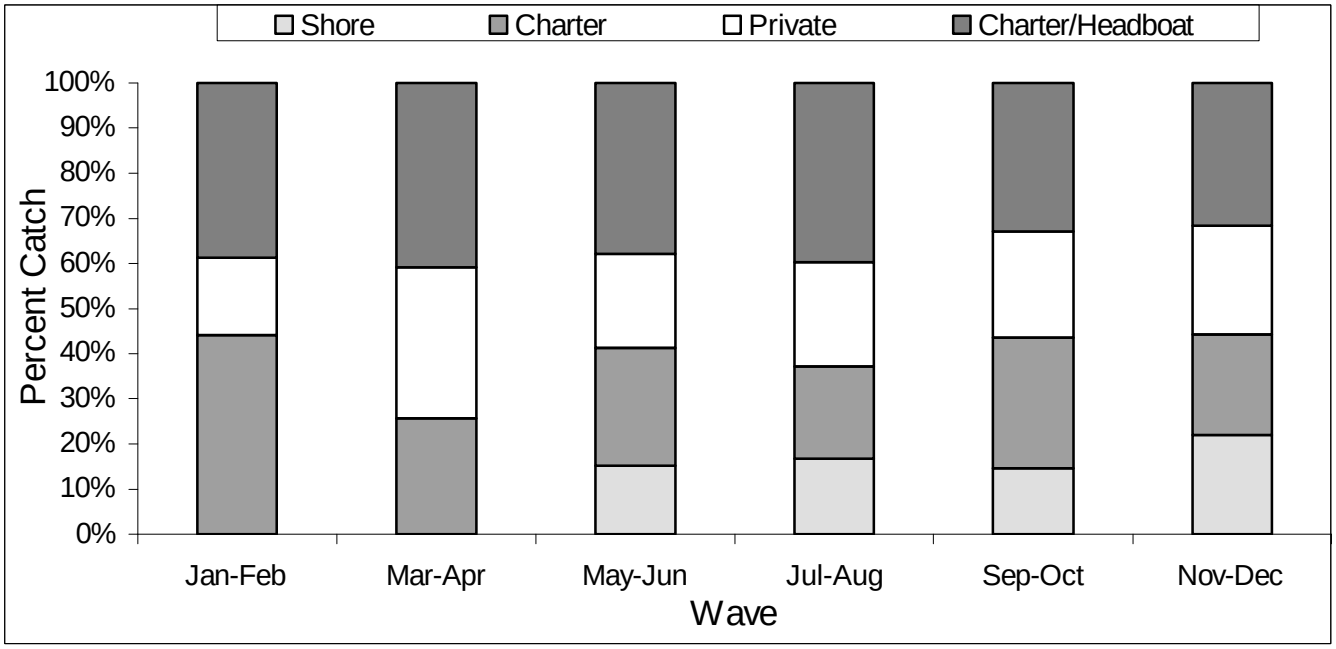


Figure 13. Disposition of the gulf of Mexico greater amberjack stock caught by recreational fishermen for all modes combined, 1981-1998 based on MRFSS data. MRFSS includes Monroe county recreational catches in the Florida west coast catch estimates.

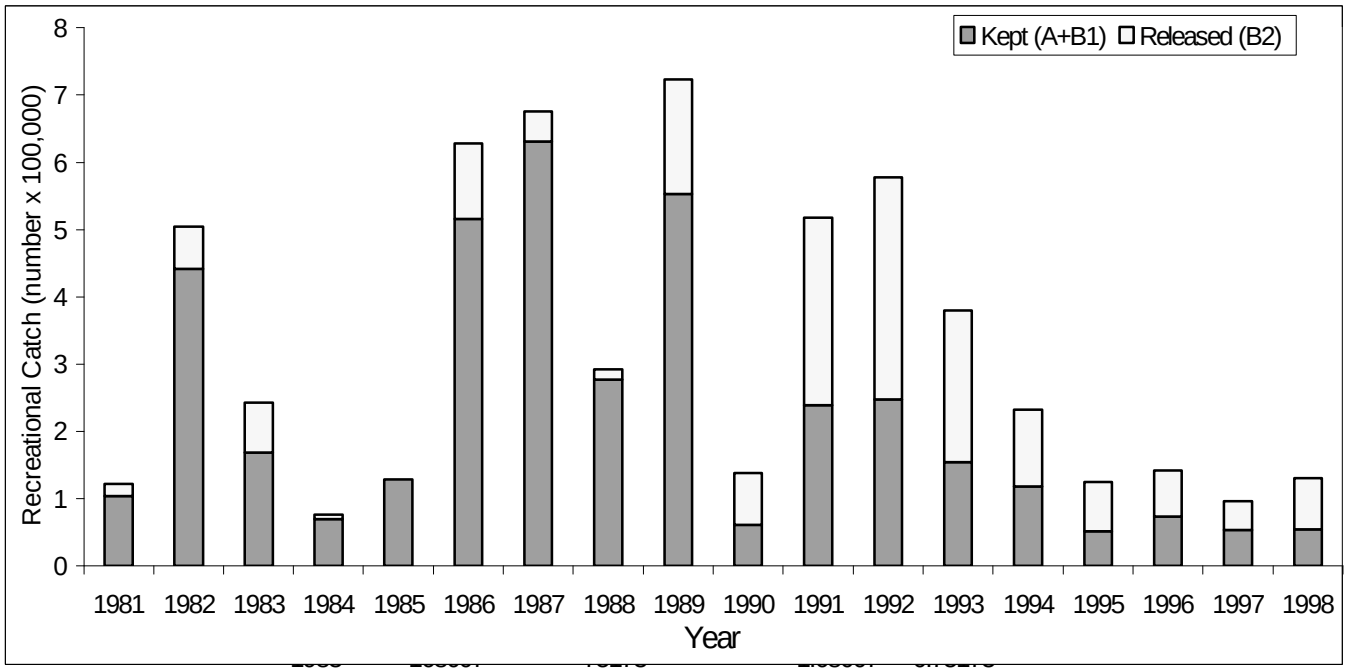


Figure 14a. Gulf of Mexico greater amberjack catch sample length distribution for the commercial ***Handline*** fishery for all years combined.

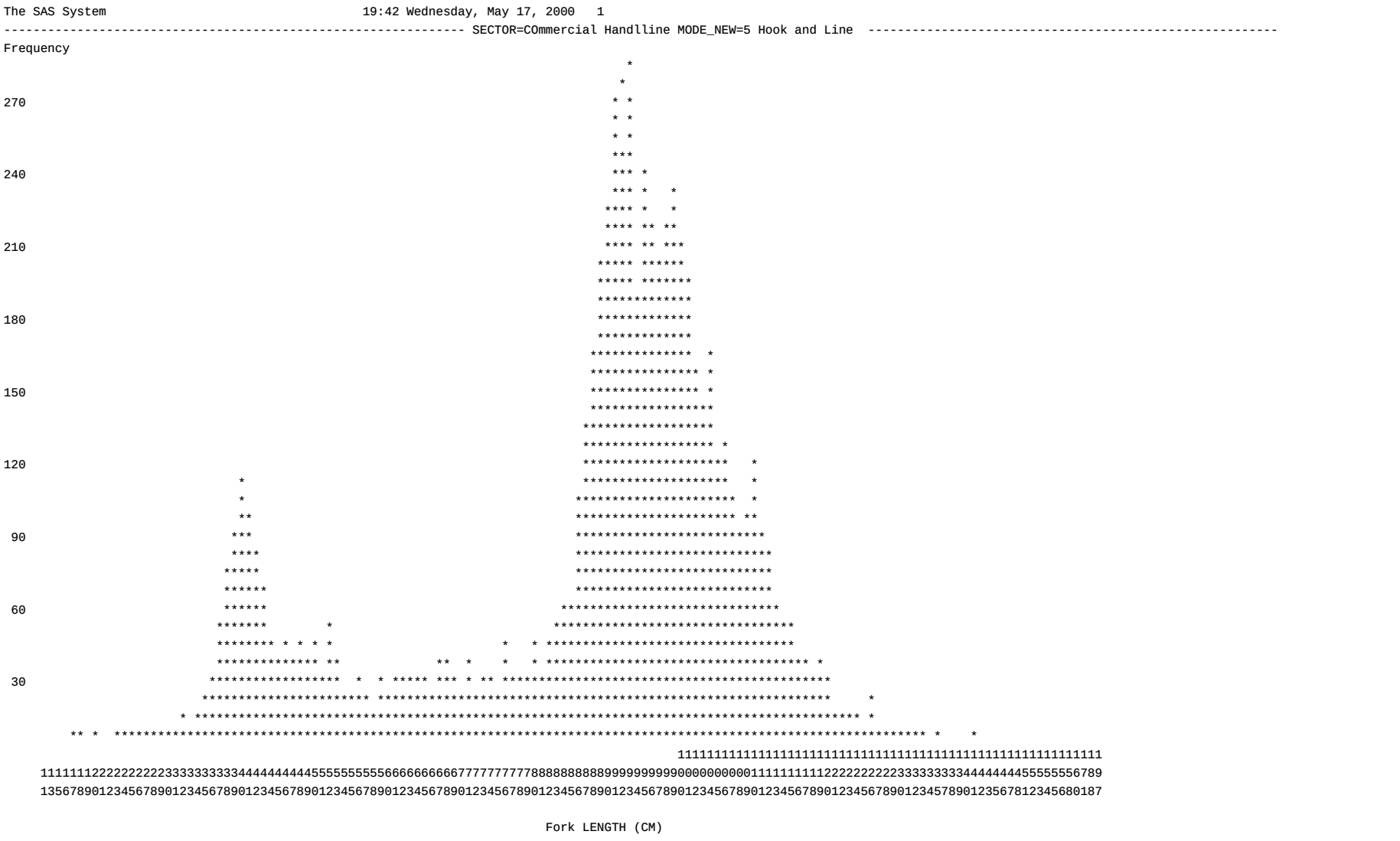


Figure 14b. Gulf of Mexico greater amberjack catch sample length distribution for the commercial ***Other Gears*** fishery for all years combined.

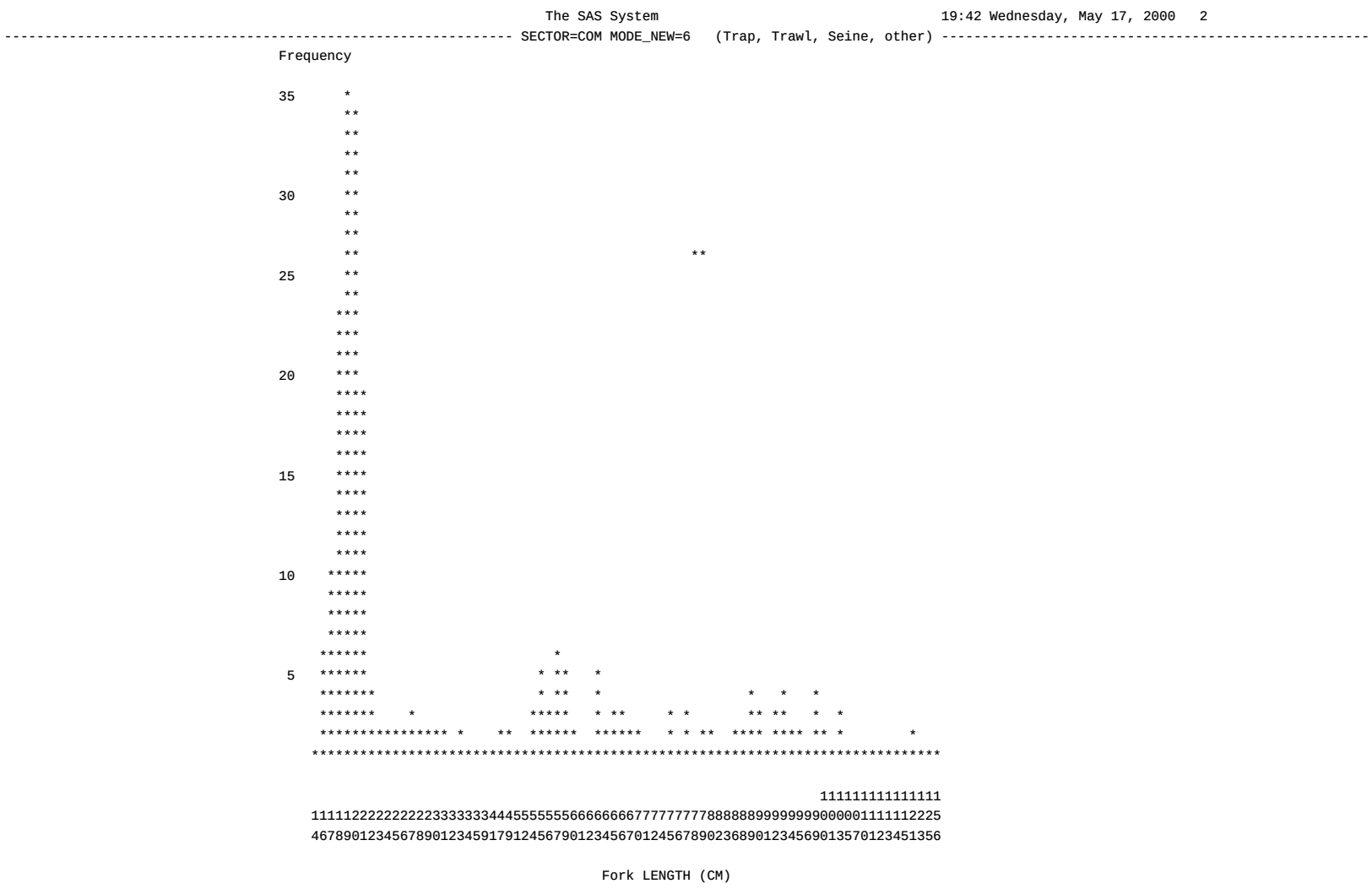


Figure 14c. Gulf of Mexico greater amberjack catch sample length distribution for the commercial ***Dive Gear*** fishery for all years combined.

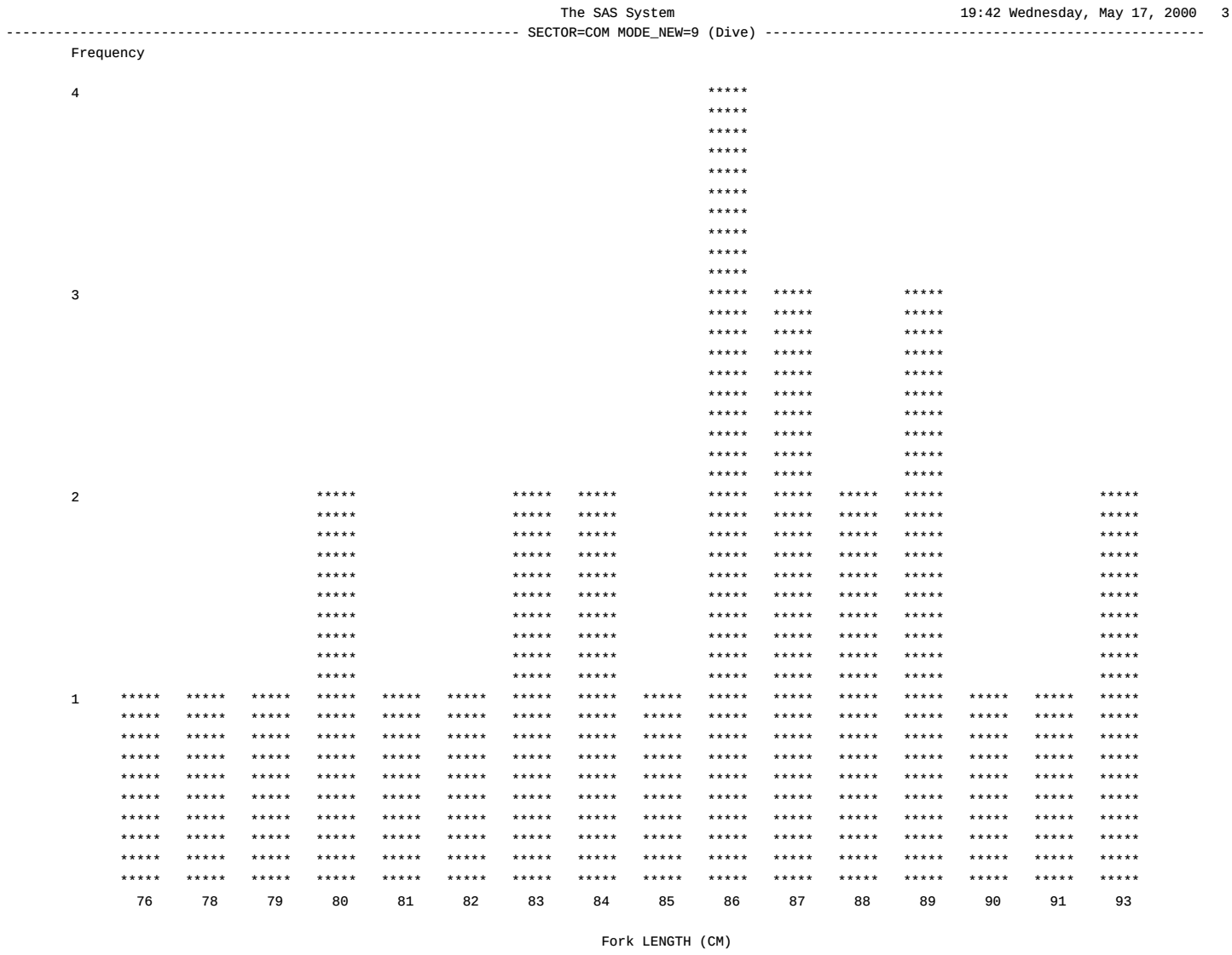


Figure 14d. Gulf of Mexico greater amberjack catch sample length distribution for the commercial ***Bottom Longline*** fishery for all years combined.

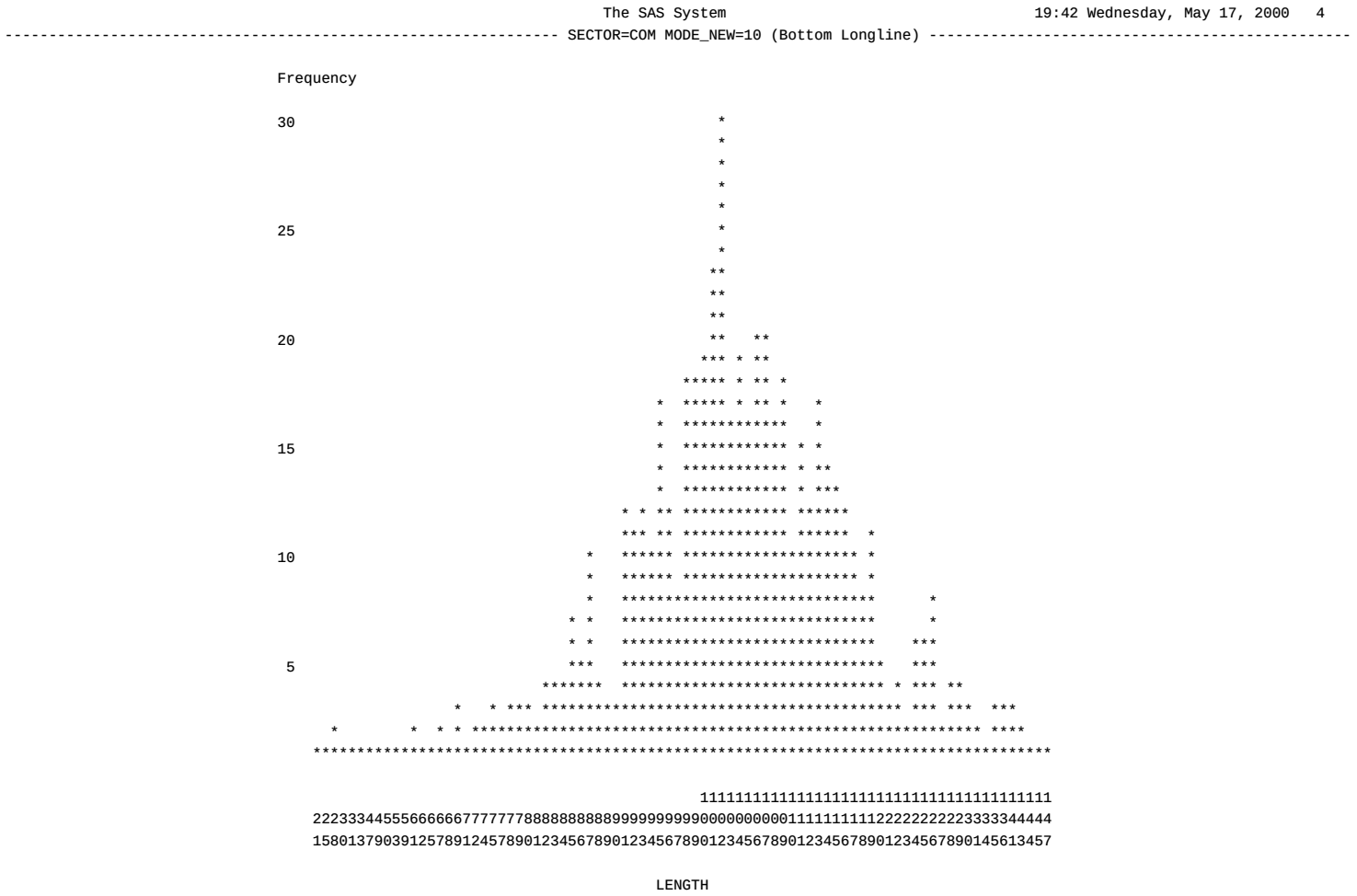


Figure 14e. Gulf of Mexico greater amberjack catch sample length distribution for the NMFS ***Headboat*** fishery for all years combined.

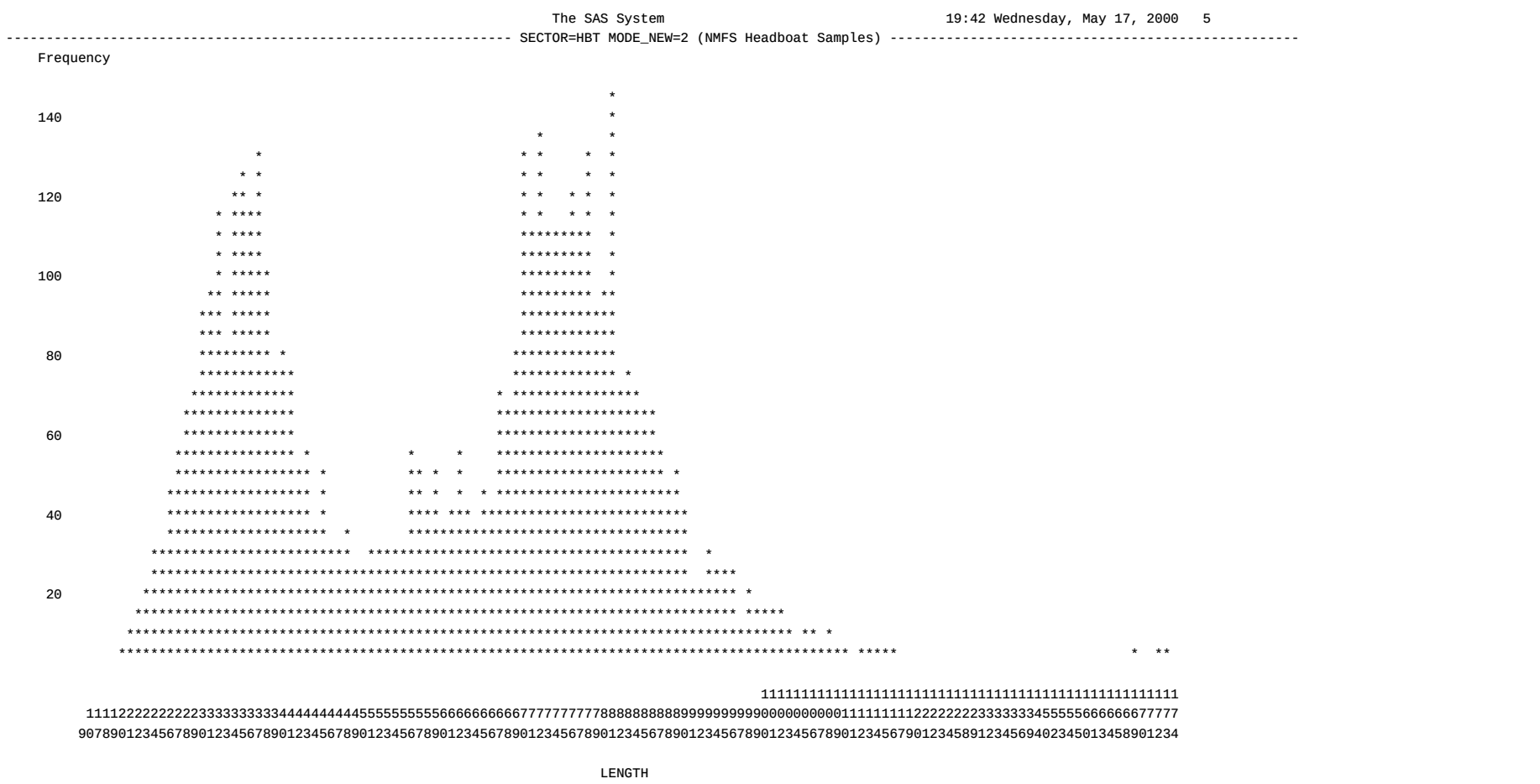


Figure 14f. Gulf of Mexico greater amberjack catch sample length distribution for the MRFSS ***Recreational Shore Anglers*** fishery for all years combined.

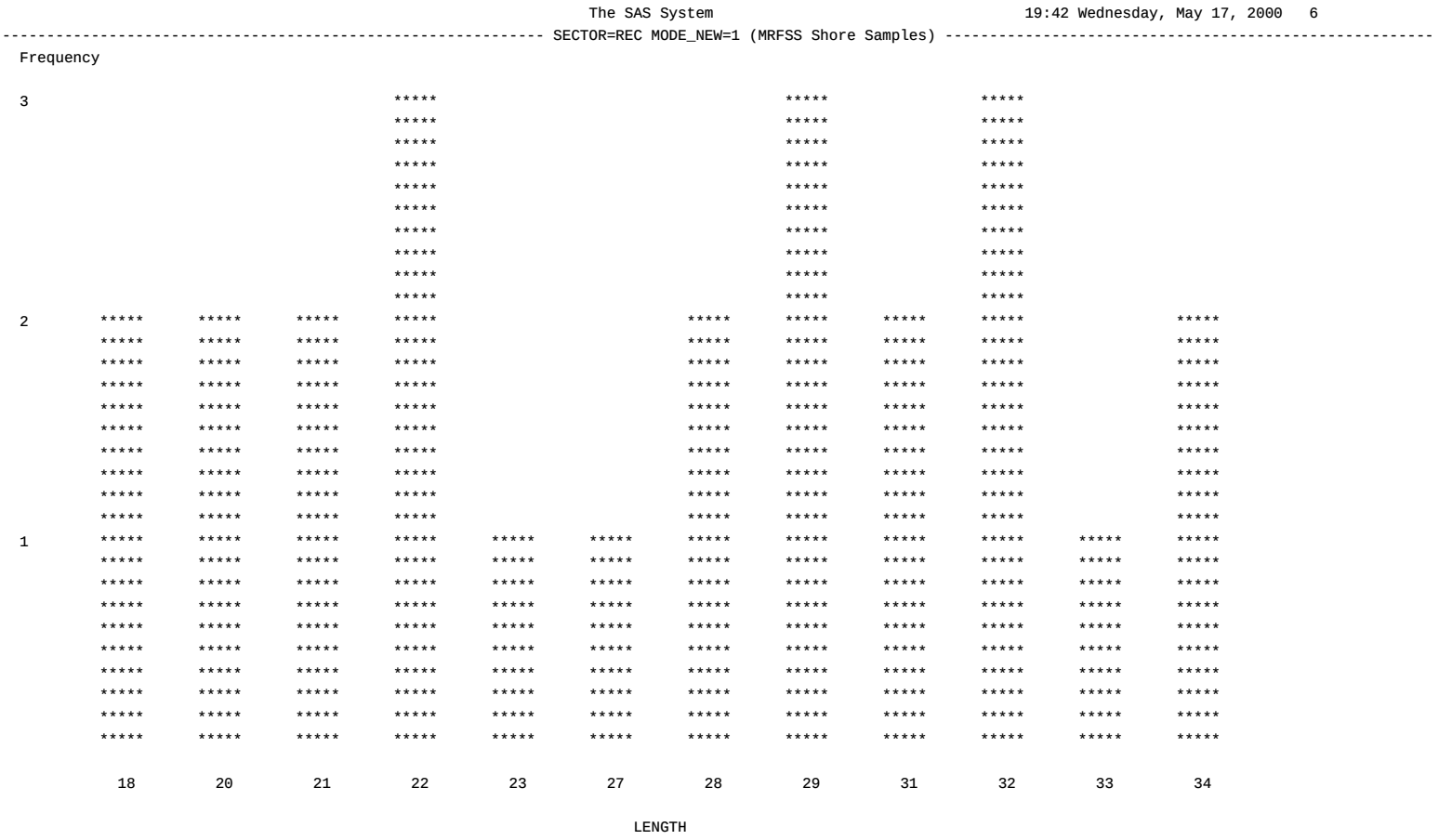


Figure 14g. Gulf of Mexico greater amberjack catch sample length distribution for the MRFSS ***Recreational Headboat*** fishery for all years combined.

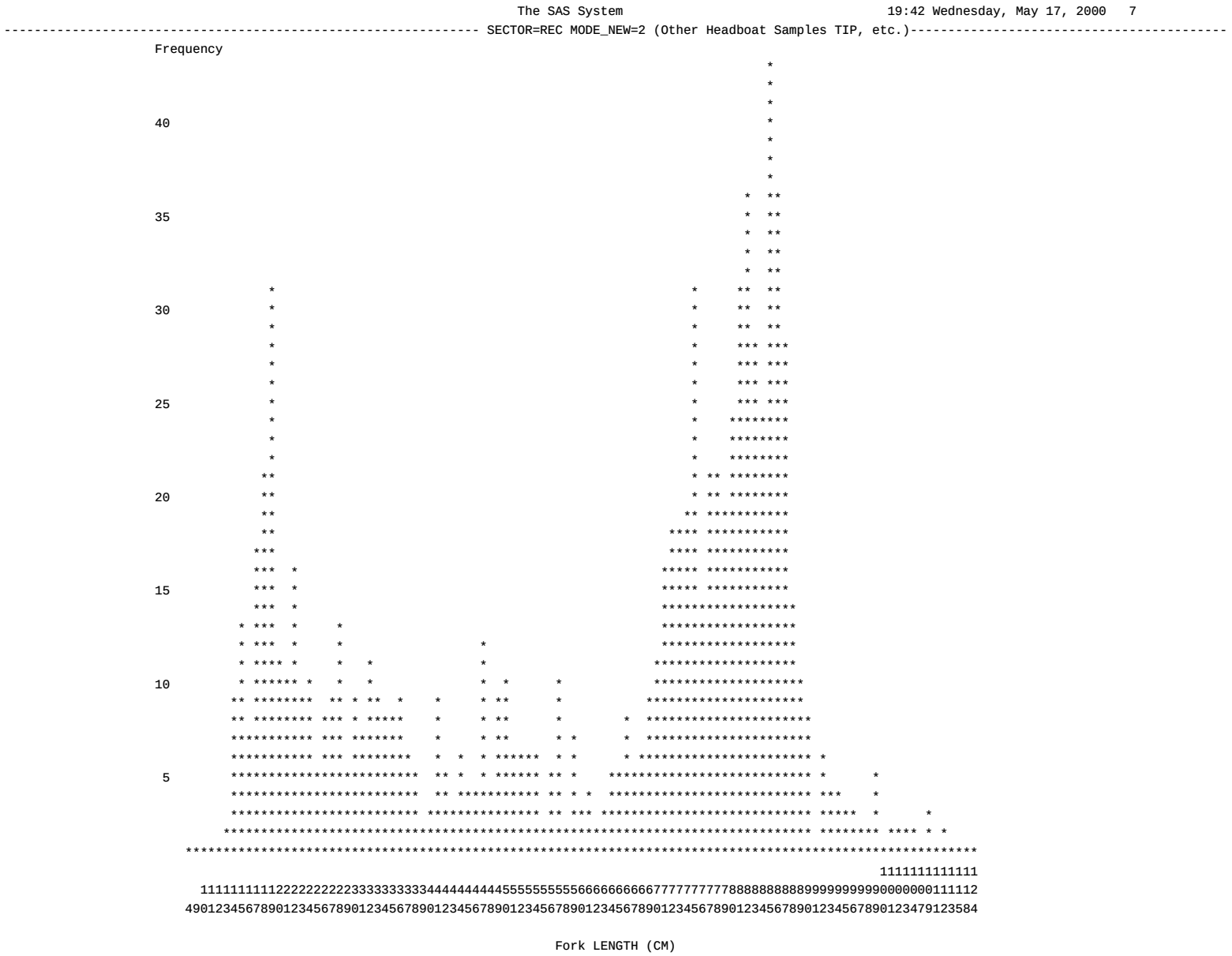


Figure 14h. Gulf of Mexico greater amberjack catch sample length distribution for the MRFSS ***Charter Boat*** fishery for all years combined**.**

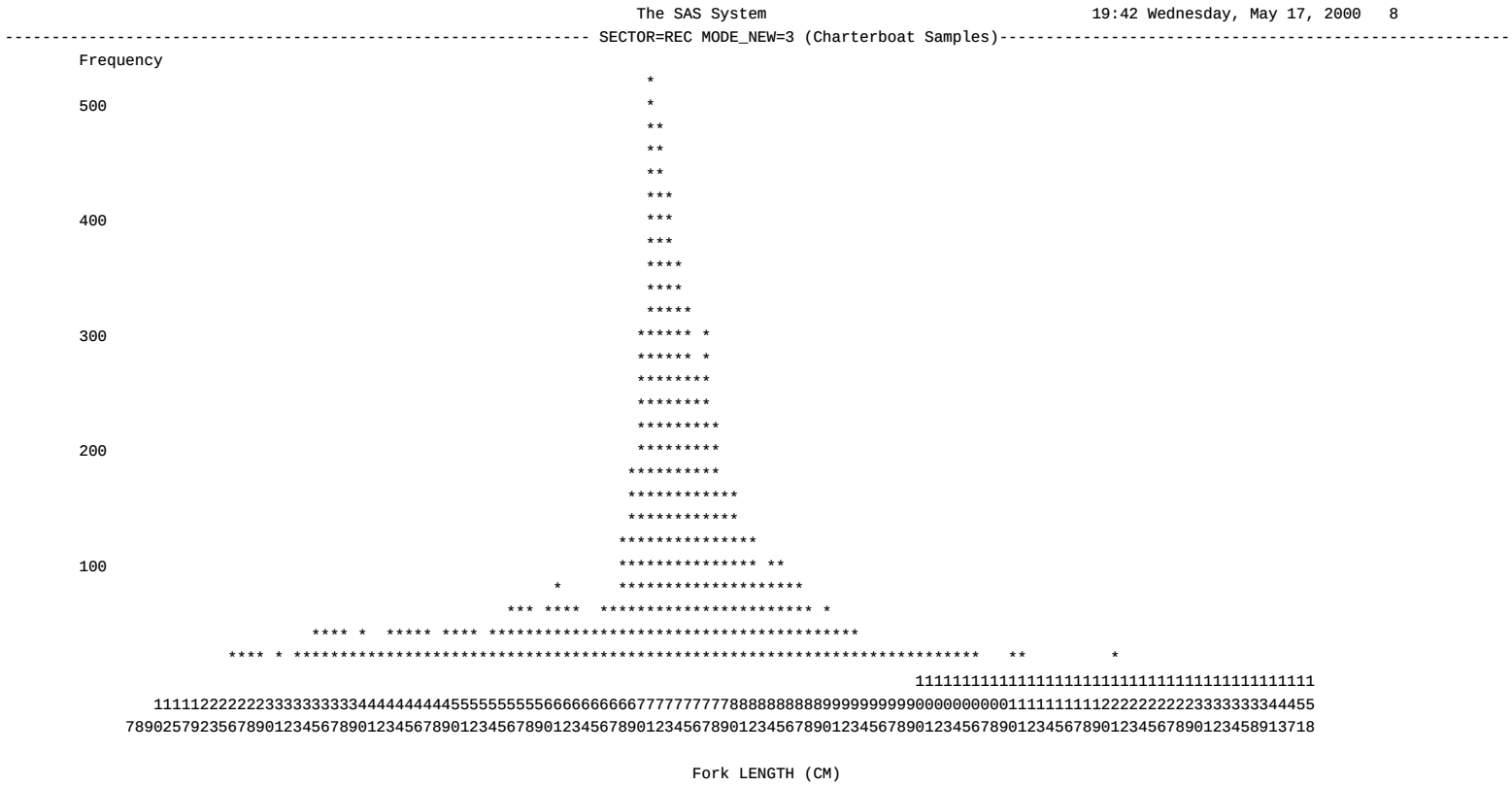


Figure 14i. Gulf of Mexico greater amberjack catch sample length distribution for the MRFSS ***Private Boat*** fishery for all years combined.

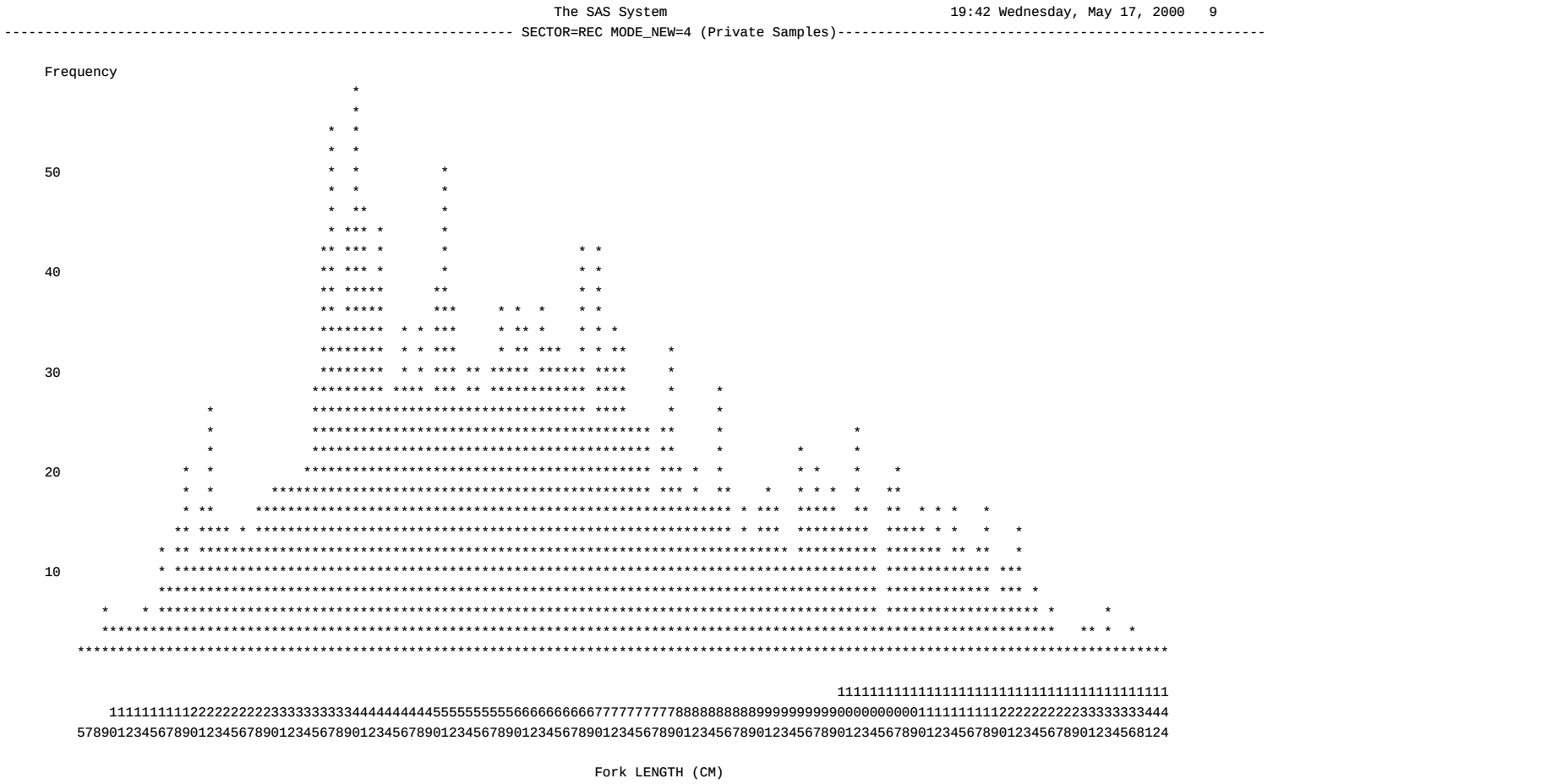


Figure 14j. Gulf of Mexico greater amberjack catch sample length distribution for the MRFSS ***Dive*** fishery for all years combined.

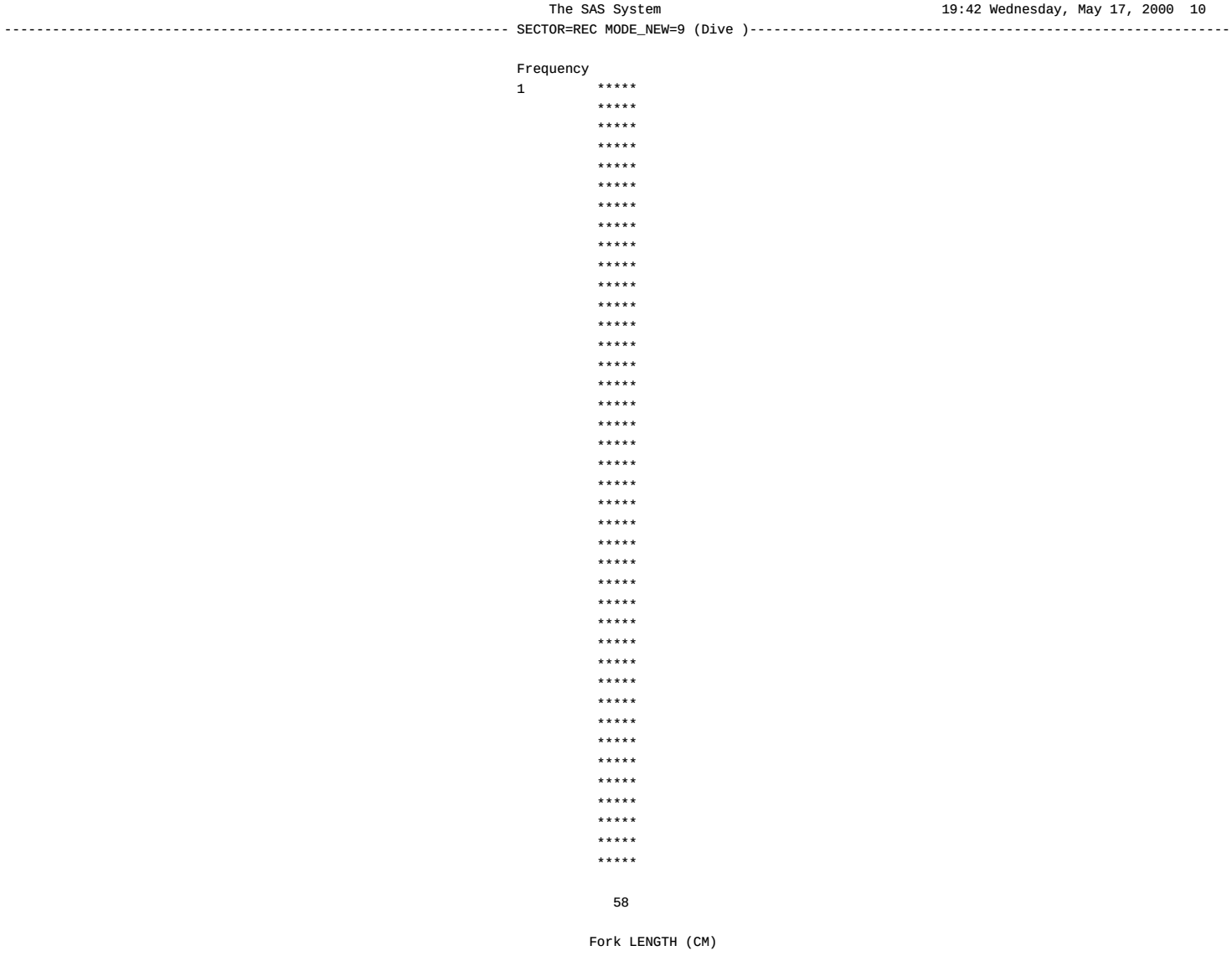


Figure 15. Estimated total landed catch (numbers of fish) of the Gulf of Mexico greater amberjack by fishery and calendar year

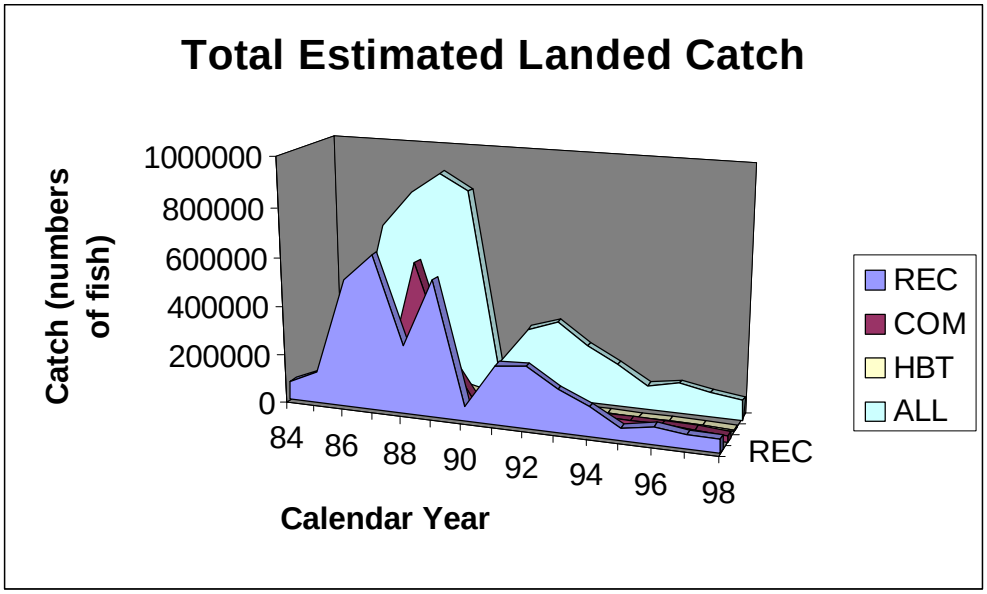


Figure 16. Estimated total landed catch (pounds of fish) of the Gulf of Mexico greater amberjack by fishery and calendar year

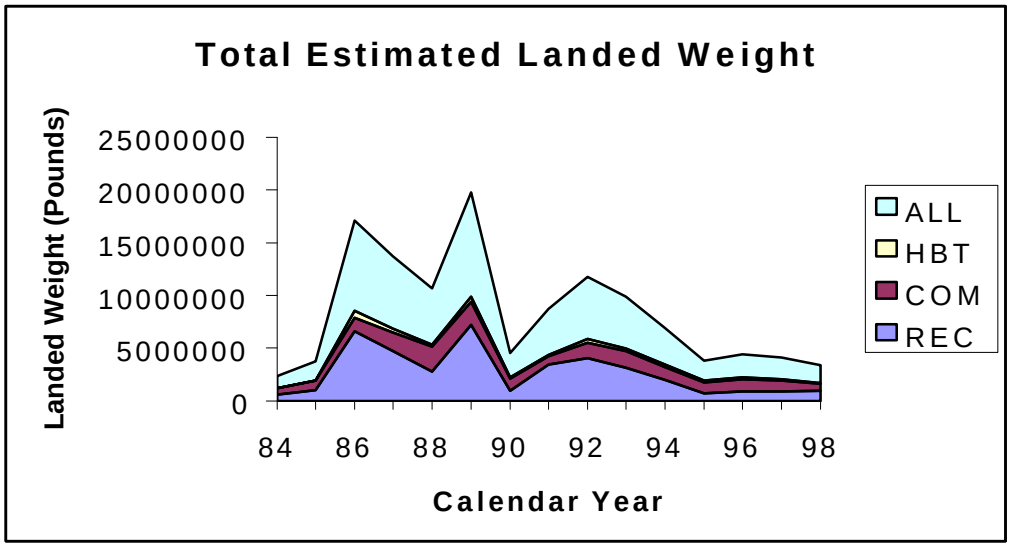


Figure 17. Proportion contribution to total landed catch by fishery.

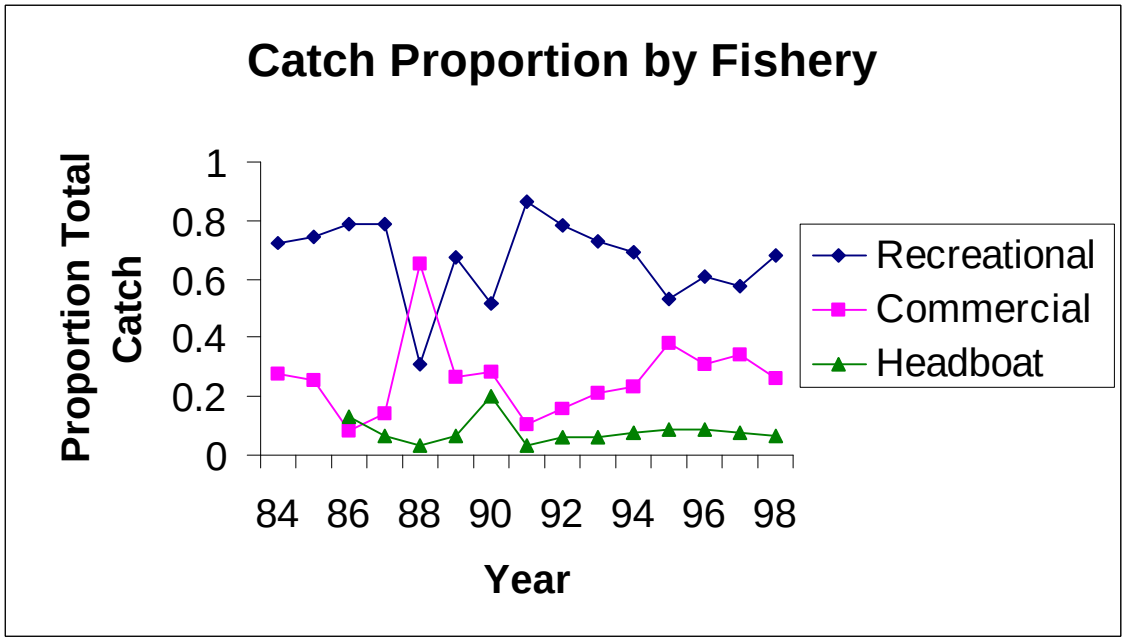


Figure 18. Mean individual weight of Gulf of Mexico greater amberjack caught by fishery and calendar year.

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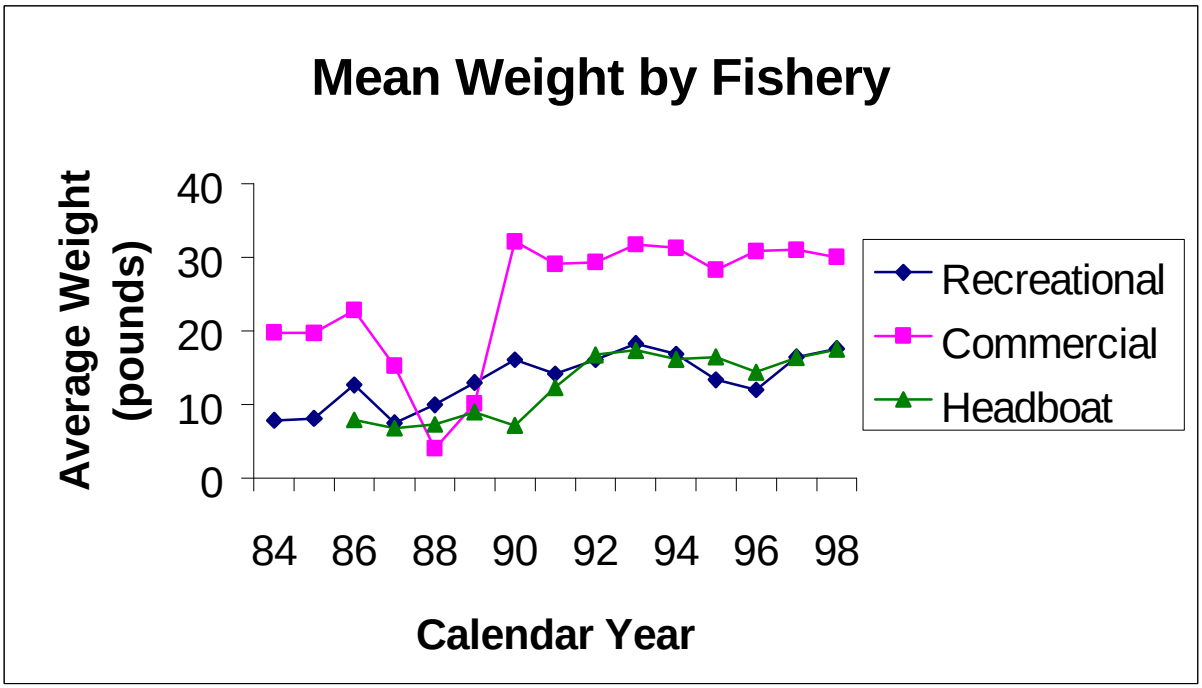
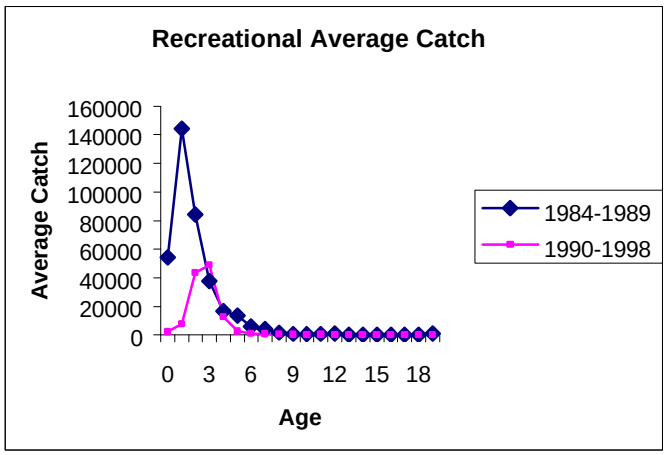
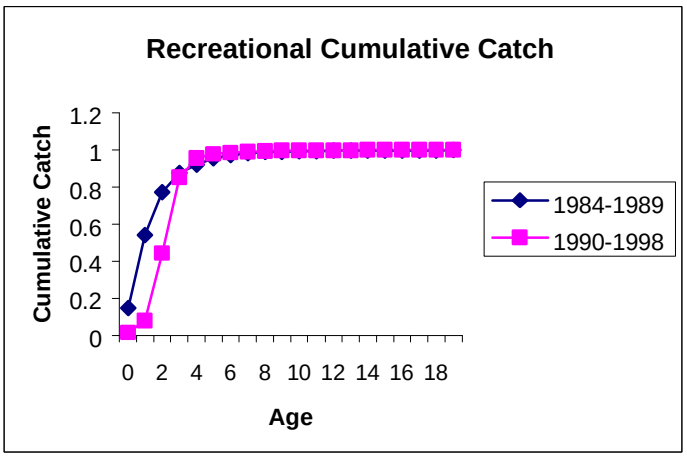
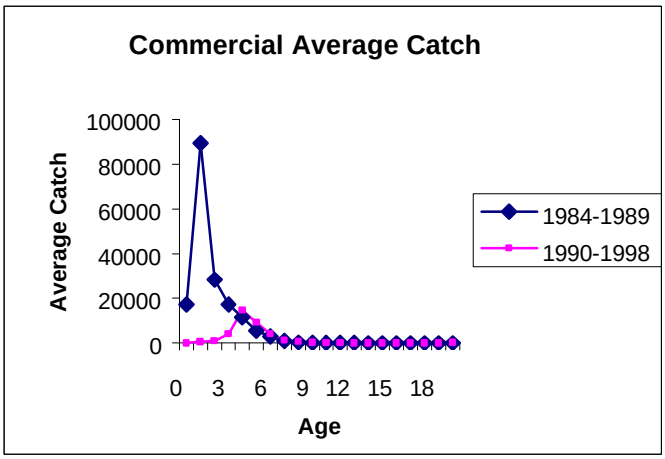
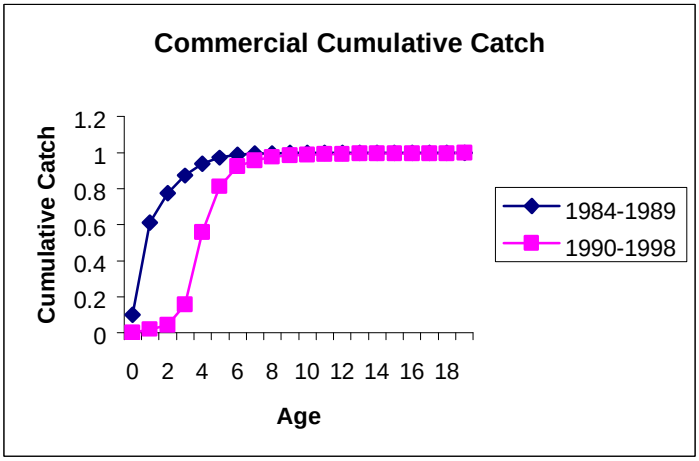


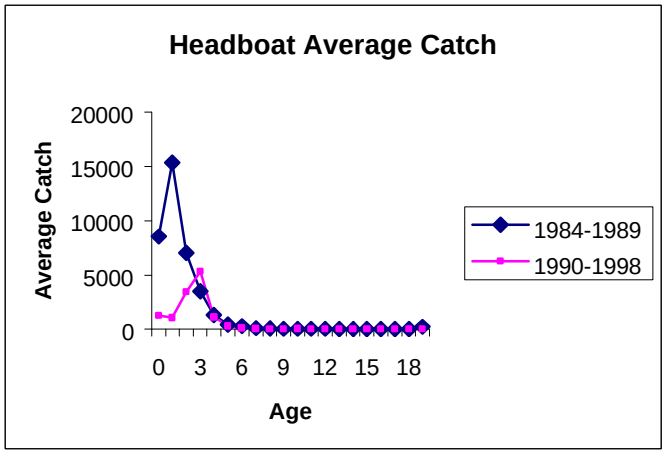
Figure 19. Average proportion greater amberjack catch at age by fishery before and after size regulations.











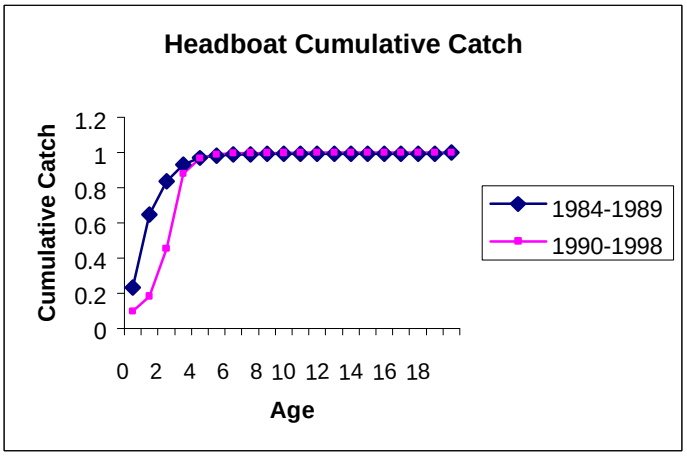


Figure 20a. Estimated total landed and discarded catch at age for the Gulf of Mexico greater amberjack stock from the recreational fisheries (charter, private, shore, charter/headboat combined).

Recreational

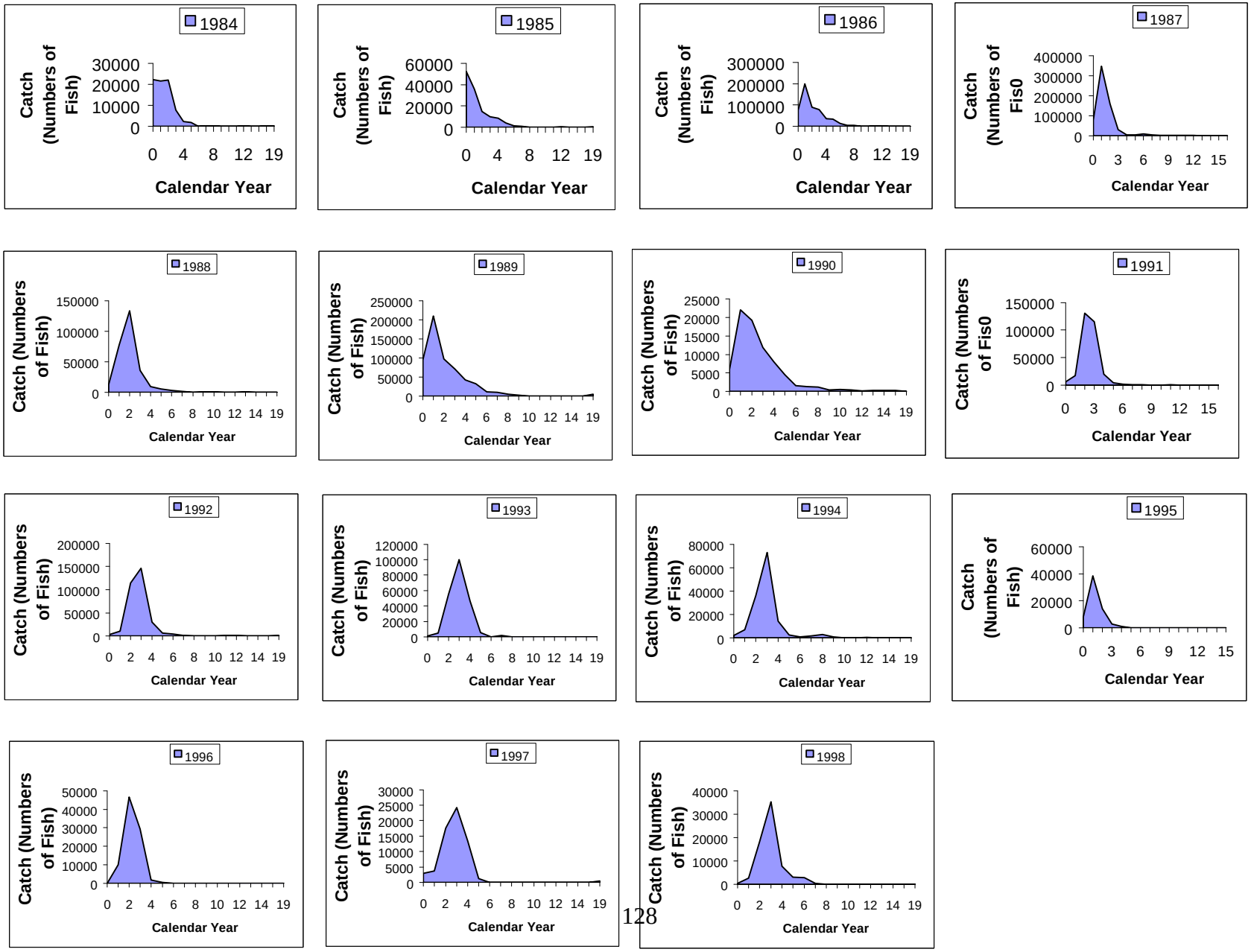


Figure 20b. Estimated total landed and discarded catch at age for the Gulf of Mexico greater amberjack stock from the commercial fisheries (handline, bottom longline, dive, other gears combined).

Commercial

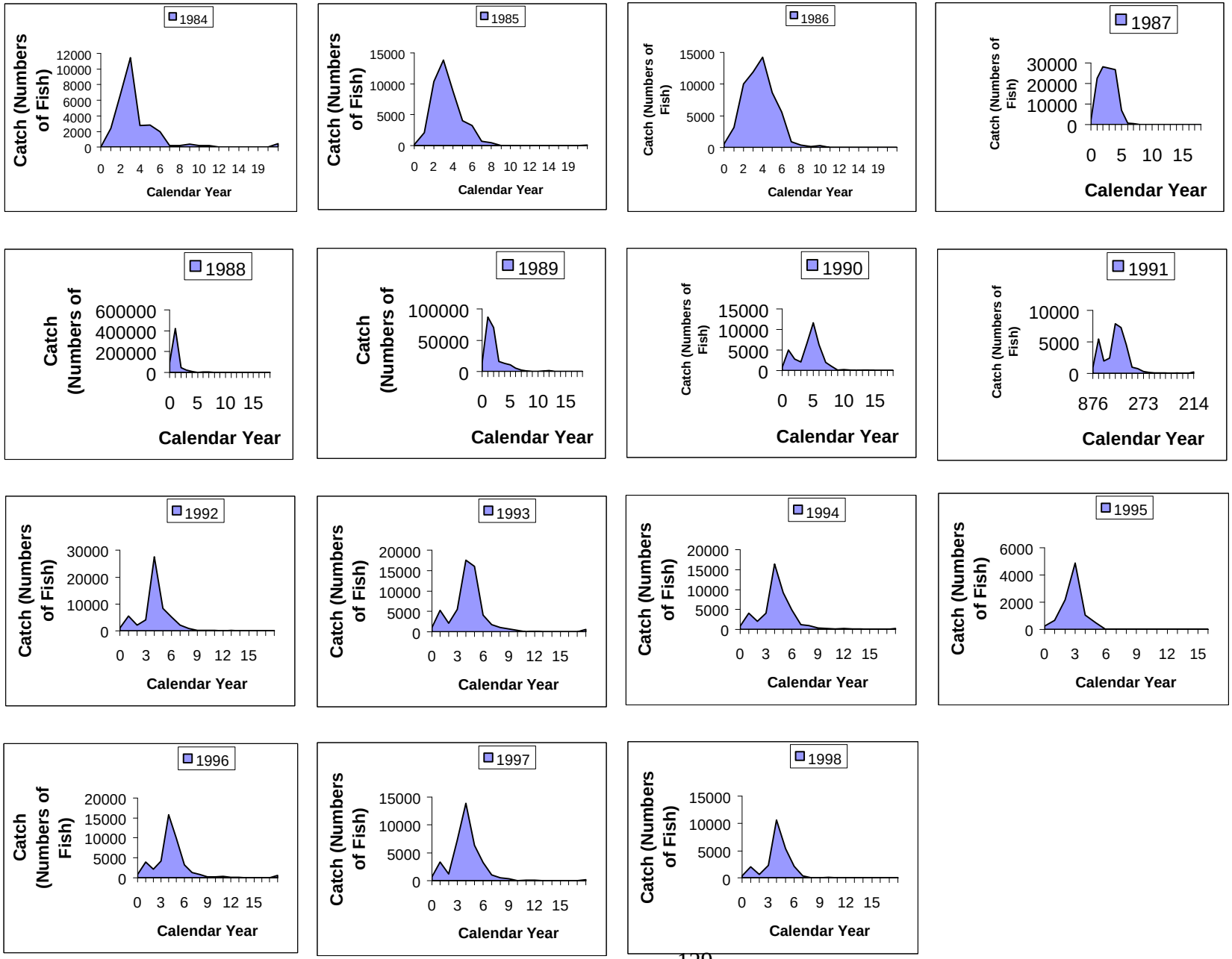


Figure 20c. Estimated total landed and discarded catch at age for the Gulf of Mexico greater amberjack stock from the headboat fishery.

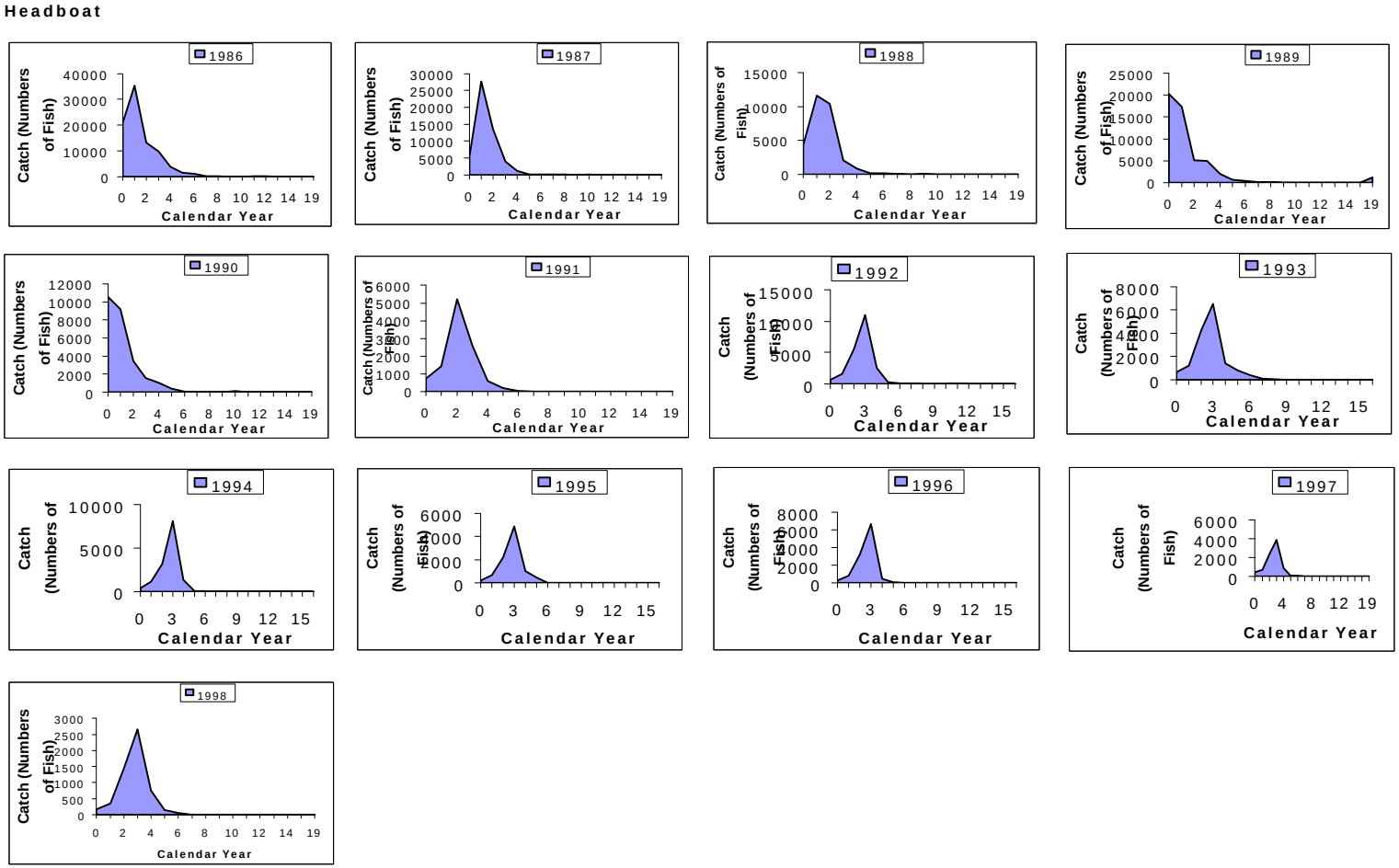


Figure 21. Estimated total landed and discarded commercial catch (numbers of fish) by fishery and all fisheries combined

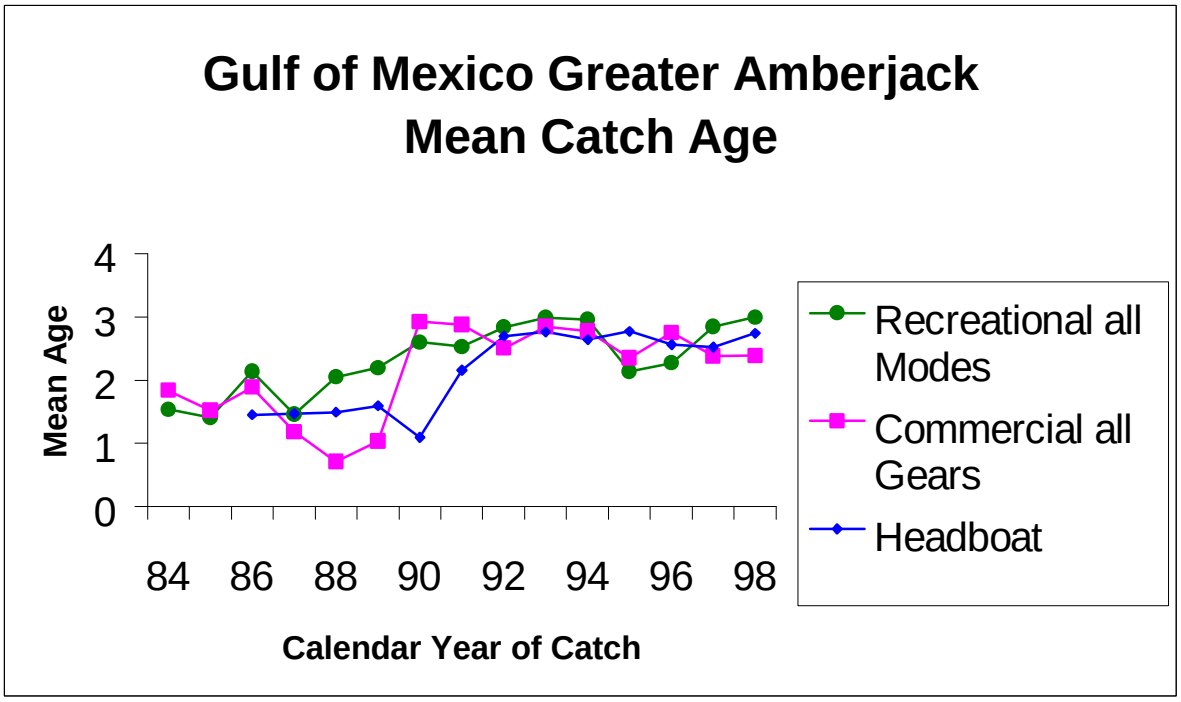


Figure 22. Estimated mean age in the Gulf of Mexico greater amberjack fishery from 1984-1998.

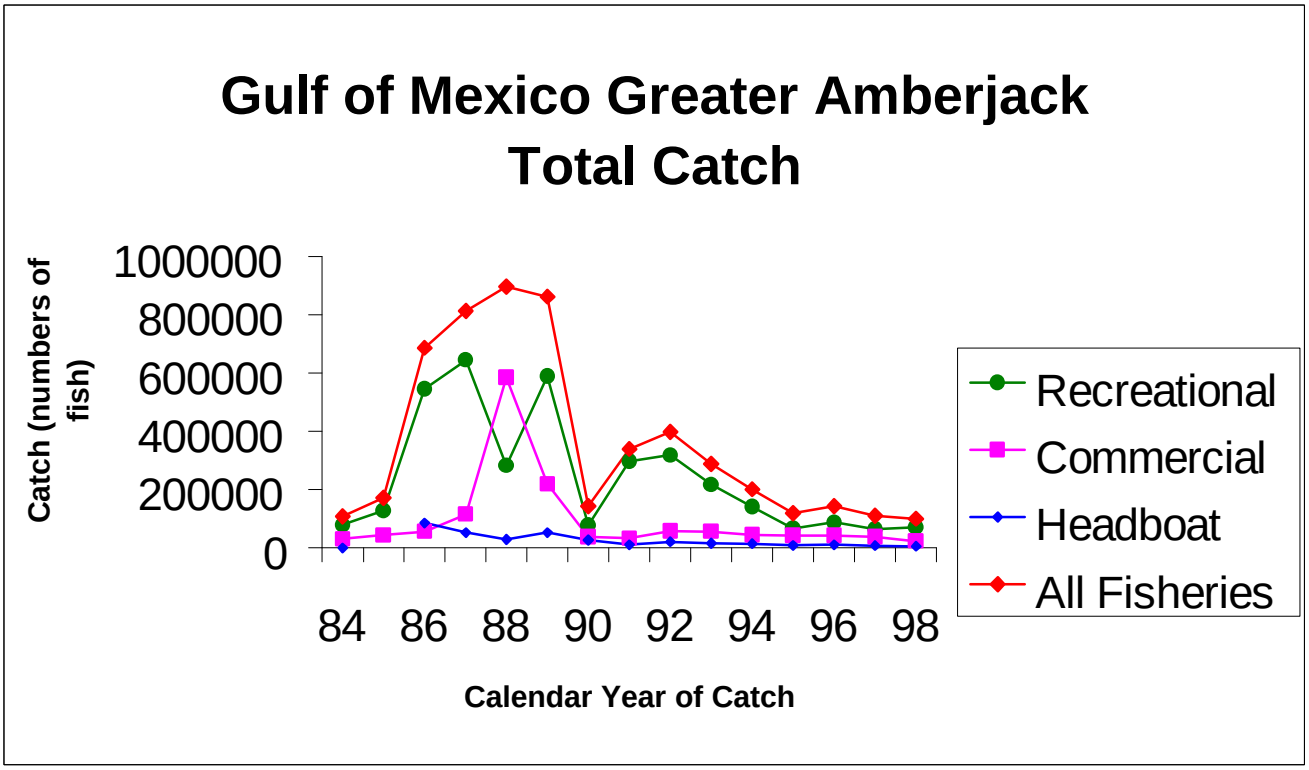
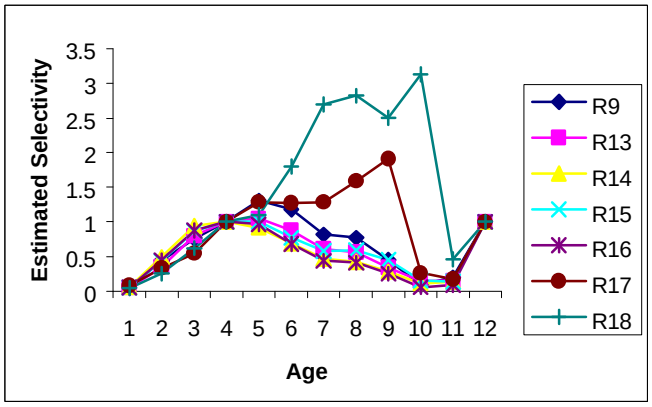
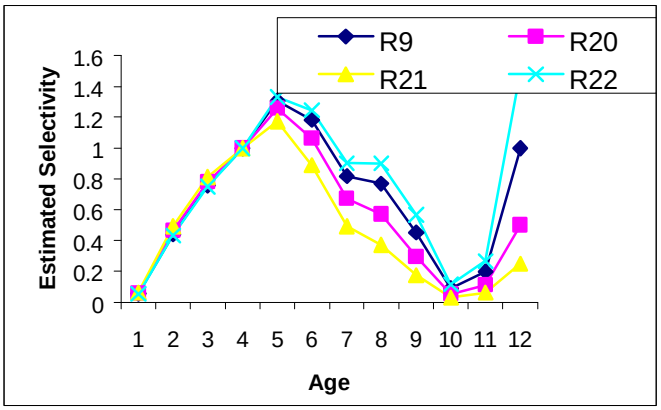
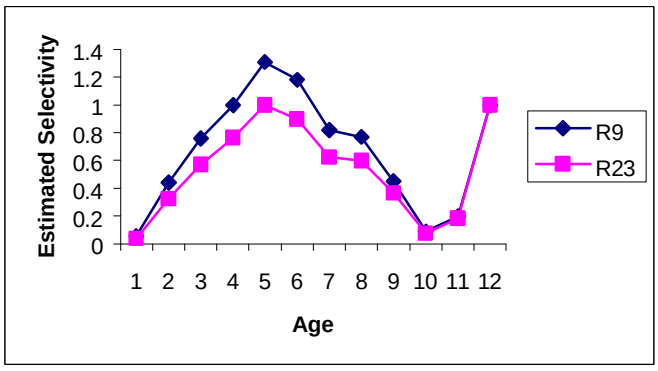


Figure 23. Results of separable VPA analyses using the estimated total catch (landed and discarded) of the Gulf of Mexico greater amberjack from 1990-1997







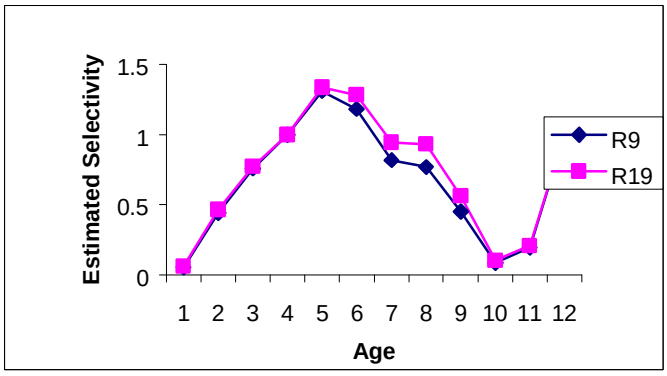
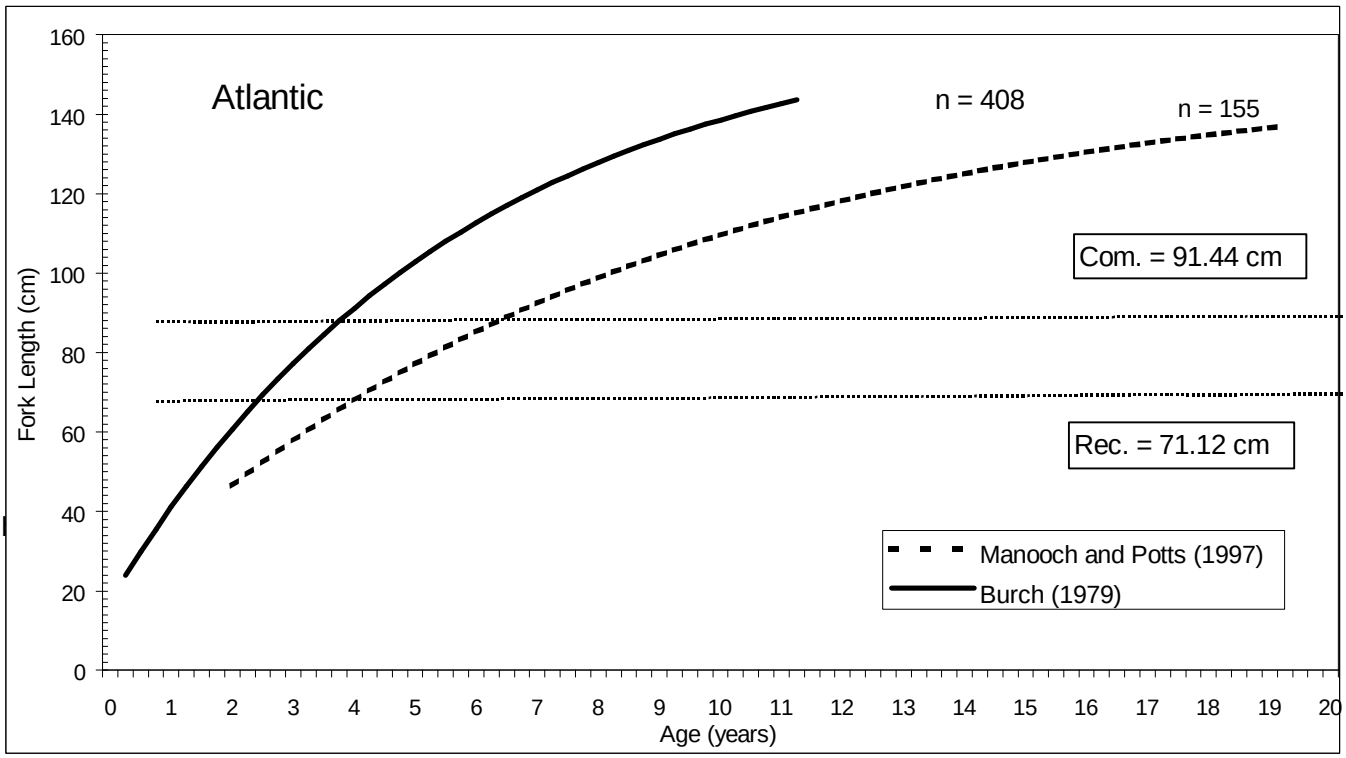
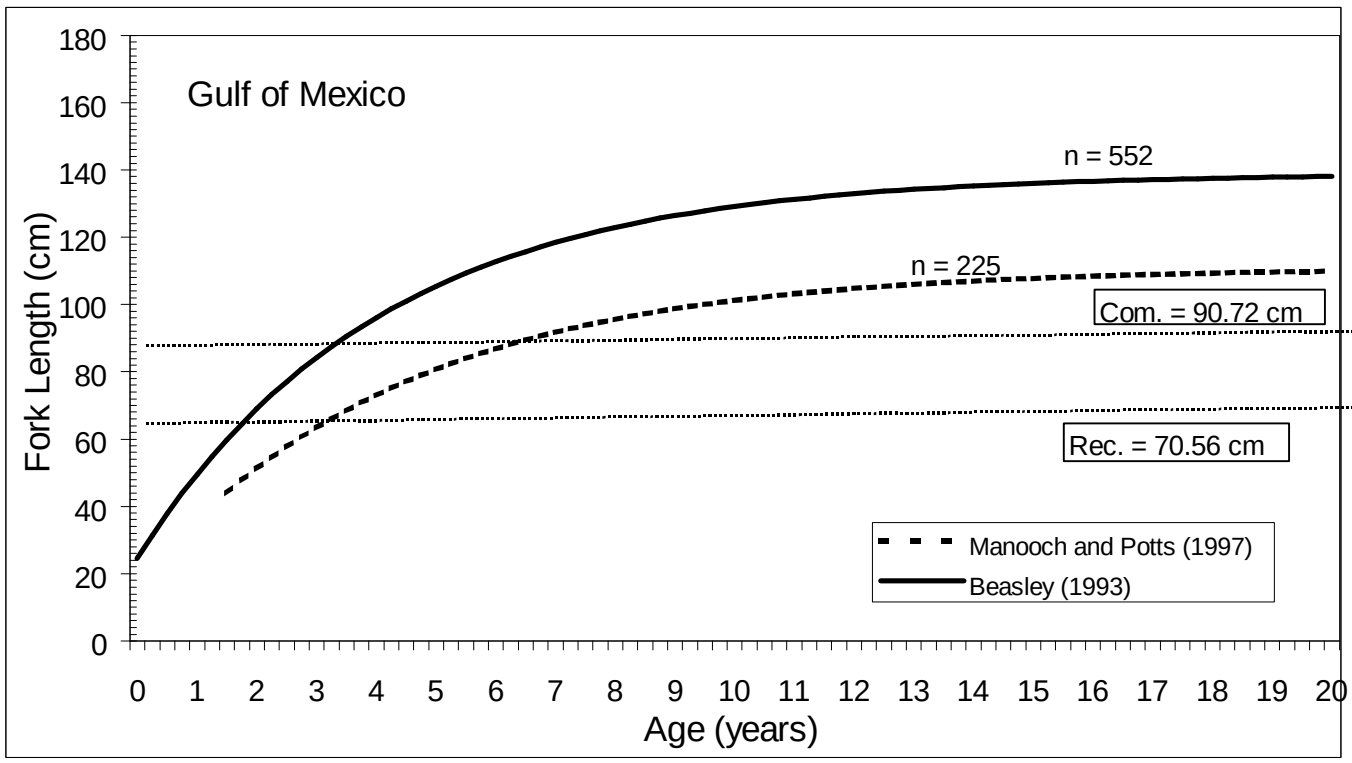


Figure 24. Estimated length at age for greater amberjack from the a) Atlantic Ocean and b) the Gulf of Mexico. Commercial and recreational size limit information included in legend

a)

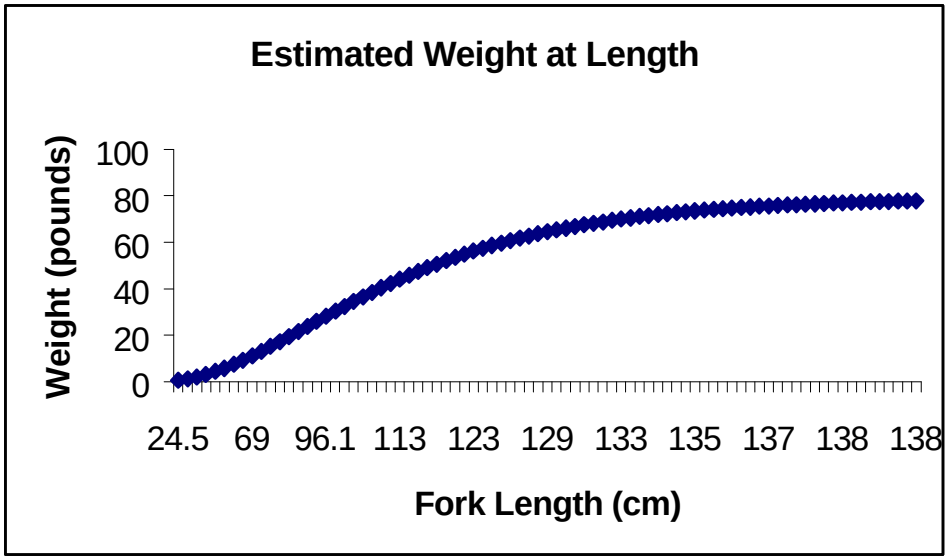


b)

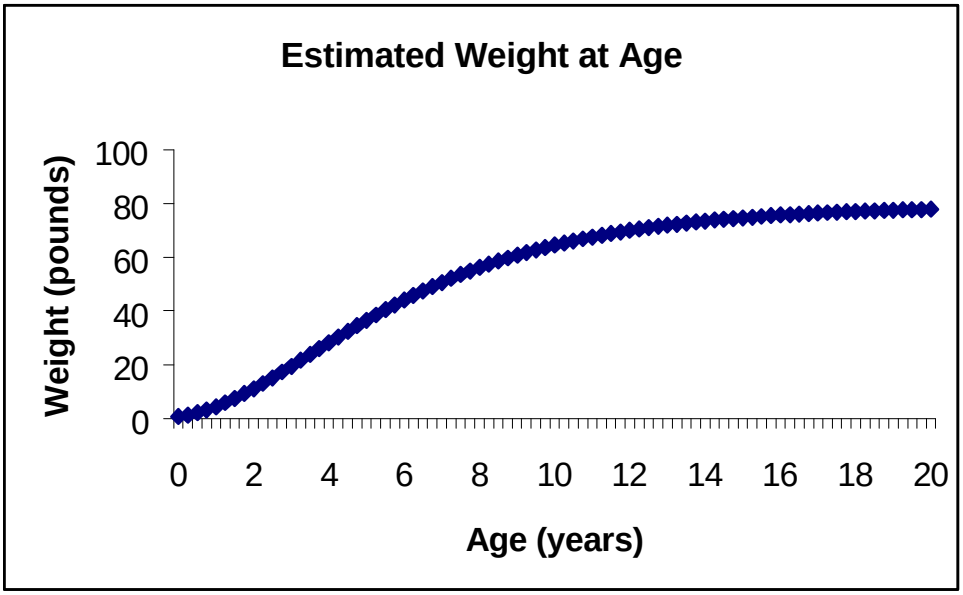


25. Estimated weight (kgs) for Gulf of Mexico greater amberjack by a) fork length and b)age.

A)



B)



Appendix 1. Protocol used in estimating catch at size for the commercial fisheries.

```
****  Program COMSZ_GF sizes the Year 2000 Gulf GAJ com. ldgs****
** PART I Reads the combined length frequency samplem file which has
*        Sample length frequencies stored by Sector, Calendar Year, Mode and State.
*
** Part II Makes the Gulf Greater Amberjack catch at size file.
*
      parameter (nsects=3,ify=81,ily=98,nmodes=10,nstates=9,nlens=200,
     -mn=10,mx=199)

      real a(2), b(2)    ! greater amberjack weight length equation parameters
      real avwt,ave      ! average weight at length (lbs)
      real smwt          ! sampled weight   (lbs)
      real cthlen(nlens) ! # fish at lenght in catch (estimated)
      real it(ify:ily), it2(ify:ily) ,itcat(ify:ily)

      integer st_plp
      integer length(nlens), len_fin(nlens)
      integer lfreq(nsects,ify:ily,nmodes,nstates,nlens)

      character rec*52,record*640,sector*3,aamode*8

      a(1)=1.2E-7   ! manooch atl, hbts and hl; wgt in kg and fl in mm
      b(1)=2.677

*     a(1)=6.40E-5  ! burch satl; wgt in lbs and len in fl cm
*     b(1)=2.842    ! used in previous 1996 assessment

      a(2)=5.3E-8   ! manooch gulf from hbts; wgt in kg and fl mm
      b(2)=2.81

      isubreg=2     ! This is for Gulf Stock

      open(1,file='i:\amjack\sizes\final.dat\smps_glf.dat',! file of glf lf smps.
     -status='unknown')
*     open(2,file='i:\amjack\sizes\final.dat\glfsiz.all',  ! output file of lf's
*    -status='unknown')

      isub=2        ! Gulf stock

      do2isect=1,nsects
      do2iy=ify,ily
      do2mode=1,nmodes
      do2ist=1,nstates
      do3l=1,nlens
    3 lfreq(isect,iy,mode,ist,l)=0
    2 continue
      ir=0
    5 continue       ! Length frequency loop
      do4l=1,200
    4 length(l)=0
*
* Process the Sample Length Frequency Records
*       read(1,fmt='(a640,t1,i2,t7,i2,t12,i2,t33,a3,t36,i5,200i3),
     -recl=640)',end=10)
     -record,iy,st_plp,mode,sector,nlen,(length(j),j=1,nlens) ! process smp lfs
      if(length(200).gt.0)then   ! looking for big giant fishes
       print*,' at line 59 ', iy,st_plp,mode,nlen,length(200)
      length(199)=length(199) + length(200)
      else
    endif


      ir=ir+1

* delete samples before 1981 and after 1998 or unknown fisheries
      if(iy.lt.ify.or.iy.gt.ily.or.mode.eq.0.or.sector.eq.'UNK')goto5
      if(sector.eq.'REC')then   ! code the sector rec(1) com (2) hboat(3)
       isect=1           !Recreational (shore,private,charter)
      else if(sector.eq.'COM')then
       isect=2           !Commercial   (hook-line, dive, bottom longline)
```

```
      else if(sector.eq.'HBT')then
       isect=3          !Headboat
      else
*       print*,"Cant find sector for rec ",ir,iy,st_plp,mode,sector,length
       goto5
      endif

*
* storing the sample length density by sector, year, mode, state and
* store the total number in length unit 200.  These will get combined
* for some landings records
*

*       print*,ir,isect,iy,mode,st_plp, nlen
*       goto5

       if(isect.ne.2)goto5 ! exclude all but Commercial length samples

      do6len=mn,mx
      l=len
      nsamp=length(len)
      lfreq(isect,iy,mode,st_plp,l)=lfreq(isect,iy,mode,st_plp,l)+nsamp
      lfreq(isect,iy,mode,st_plp,200)=lfreq(isect,iy,mode,st_plp,200)+nsamp
    6 continue
      print*,"for smp ",ir,isect,iy,mode,st_plp,nlen
      goto5  ! loop through samples

   10 continue
      Print*," Finished processing LF samples"
*
* Finished Loading the Length frequency records by sector,year,mode and state
*
*
*             Part II A (com) and B (rec)
*

*  program sizcatch reads 2 files a)com yields and 2) rec catch in #'s &
*  matches  samples to yield or rec catch records.  For com yield
*  program uses average weight of sample record and computes total numbers
*  caught and then outputs catch at length record.  For rec catch program
*  matches catch record to size freq record and outputs numbers caught at
*  length record.  Note, #'s caught is estimted on rec catch....
*
* Note, in the 99 versionfile I read the com yld and the rec catch straight
*       from the combined files, converting state and gear for the com yld
*       and converting state and mode for the rec.
*
**************** change file names on lu 3  *****************
      open(3,file='i:\amjack\removals\com\glfldgs0.can',status='unknown')
      open(5,file='i:\amjack\sizes\Sizefreq\com_ct.glf',status='unknown')
*************************************************************************
* Part II A.  Subpart 1.  Processing the Commercial Landings Records


  100 continue
      isubreg=2      ! change for atl (1), gulf (2)   ***************
      isect=2        ! Sizing Commercial Landings Here
      lu=3           ! This is the lu of the input read file of Commercial landings
      ir=0

  102 continue       ! Loop through file of Commercial Yields and Assign LF density
      do101l=1,nlens  ! Zero out vector of len_fin(l), cthlen(l), yield, pounds, catch and mode
      len_fin(l)=0
  101 cthlen(l)=0.
      yield=0.
      pounds=0.
      catch=0
      mode=0
      isubl=00
*                 this is the substitution coding; can have :
*                 00 (zero subbing at mode and state level)
```

```
*                01 (zero at mode, all at state)
*                10 (subbed over specific modes, zero subbing at state)
*                11 (subbed over specific modes, subbed over specific states)

*  Reading Commercial Landings
      read(3,104,end=352)rec,mm,iy,istlnd,iprt,idlr,iwater,igr,ispec, ! read commercial ldg. record
     -ipounds
104   FORMAT(A52,T1,I2,2x,2i2,I3,2I4,I3,I4,T28,i8)
      ir=ir+1
      pounds=ipounds*1.
      if(iy.lt.ify.or.iy.gt.ily)goto102

      if(istlnd.ge.10.and.istlnd.le.12.and.iy.le.85)pounds=pounds*1.04 !adjust pre 1986 records
      yield = pounds

* 1) Convert NMFS state code to plp state code for Commercial,
* 2) Check that only atlantic or Gulf stock yld.  For Commercial use
*    istlnd and set to st_plp, should only have states 1-5(gulf) or (5-9 Atl)
*    in this file. 5 is monroe county
      if(istlnd.eq.1)then           ! Alabama
       st_plp=4
      else if(istlnd.eq.10)then     ! Fle
       st_plp=6
      else if(istlnd.eq.11)then     ! Flw
       st_plp=5
      else if(istlnd.eq.13)then     ! Georgia
       st_plp=7
      else if(istlnd.eq.21)then     ! Lousiana
       st_plp=2
      else if(istlnd.eq.27)then     ! Mississippi
       st_plp=3
      else if(istlnd.eq.36)then     ! North caroliana
       st_plp=9
      else if(istlnd.eq.43)then     ! South carolina
       st_plp=8
      else if(istlnd.eq.46)then     ! Texas
       st_plp=1
      else
       if(istlnd.eq.12)goto102      ! Inland landings
       print*," Cant find state code for Com ldg. record ",ir,rec
       goto102        ! should kick out state 12 since it's in 10 or 11
      endif
       if (st_plp.ge.7)print*," at line 181 ",ir,rec  ! North Carolina-Florida East Coast shouldn't be



in this file for gulf
*      if (st_plp.le.4)print*,ir,rec  ! Texas-Alabama shouldn't be in Atlantic file
*
*
* Set Commercial landing mode according to gear code (igr) as:
*    Com Hook and line, Com Dive, Com. BLL, and Com Other (trammel net,pelagic longline, shark
*    longline, Fish Trap, Fish Trawl (ot))
*    Use same sas code as used in setting mode in the tip samples.
*
      if(igr.ge.600.and.igr.le.666)then
       mode=5 ! hook and line
      else if(igr.lt.600)then
       mode=6               ! other
      else if(igr.gt.666)then
        if(igr.eq.760.or.igr.eq.943)then  ! dive and spear
         mode=9
       else if(igr.eq.676.or.igr.eq.677)then ! Bot ll
        mode=10
       else                          ! gt 666 but not dive, spear or bot ll
        mode=6
       endif ! ends igr the 760 or 943
      else
       mode=6
      endif   ! ends the igr gt 666 loop
```

```
*      print*," Ldg rec is ",ir,isect,iy,mm,mode,igr,istlnd,st_plp,ipounds,pounds,yield
*      if(mode.le.4.or.(mode.ge.7.and.mode.le.8)) ! i.e., sh, hb, ch, prv, trn, spec
*     -print*," Ck. Com rec", ir,isect,iy,mm,mode,igr,istlnd,st_plp,ipounds,pounds,yiels

*
* Begins Sample Assignment Code according to the sector, year, mode, and state
*
* Begins Gulf Stock Commercial Hand Line Fishery Mode (5) Sample assigning.
*
     IF(mode.eq.5)then       ! Com Hl fishery Lndg. record     Mode 5
* Begins Florida West Coast Commercial Handline Mode           FLW
*
      IF(st_plp.eq.5.or.st_plp.eq.6)then         ! flw or fle landing
      if(iy.ge.92.and.iy.le.98.or.iy.eq.90)then  ! Use flw only
       ist=5
       do110l=mn,mx
       len_fin(l)=len_fin(l) + lfreq(isect,iy,mode,ist,l)
       len_fin(200)=len_fin(200) + lfreq(isect,iy,mode,ist,l)
  110   continue
       isubl=00

      else if(iy.le.91.and.iy.ne.90)then          ! Use all Gulf states
       do115ist=1,5
       do120l=mn,mx
       len_fin(l)=len_fin(l) + lfreq(isect,iy,mode,ist,l)
       len_fin(200)=len_fin(200) + lfreq(isect,iy,mode,ist,l)
  120   continue
  115   continue
       isubl=01
       else
       print*,"Ck FLW/FLE HL Ldgs record ",lu,ir,isect,mode,st_plp,yield
      endif
*       print*," Finished FlW/FLE Com HL Ldg ",lu,ir,isect,mode,st_plp,yield,
*
* Ends FLW commercial landing section


* Next HL State goes here

*
* Begin Al, Ms, La, and Tx Commercial H&L landing section
*
      Else if(st_plp.ge.1.and.st_plp.le.4)then  ! Tx, La, Ms, Al, H-L ldg
*                                       ! Use All states for all years
       do135ist=1,5
       do140l=mn,mx
       len_fin(l)=len_fin(l) + lfreq(isect,iy,mode,ist,l)
       len_fin(200)=len_fin(200) + lfreq(isect,iy,mode,ist,l)
  140   continue
  135   continue
       isubl=01

*       print*," Finished Ts, La, Ms, Al Com HL Ldg ",lu,ir,isect,mode,st_plp,yield,
*
* End of Al,Ms, La, Tx Com HL Landings
*

* Ends Gulf Stock Commercial Hook and Line Mode
*
*
*     Print*," Finished Hook and line Ldg rec ", ir,iy,isect,mode,st_plp,yie

     Else  ! This ends the State and Mode 5 loop for Com. HL
     Endif
*                                MODE 6
* Begins Gulf Stock Commercial Other Modes (excluding Dive(9) & BLL (10)
*

     Else if(mode.eq.6)then   ! Commercial Other (excludign Dive (9),
*                            ! Bll (10).  Includes fish trawl, trap,etc.
*                            ! Use commercial sampless from all Gulf states
```

```
*                    ! all modes but Dive (9) or Bll (10)
      do240ist=1,5
      do245imode=5,6
      do250l=mn,mx
      len_fin(l)=len_fin(l) + lfreq(isect,iy,imode,ist,l)
      len_fin(200)=len_fin(200) + lfreq(isect,iy,imode,ist,l)
 250  continue
 245  continue
 240  continue
      isubl=11
*     Print*," Finished Other Com Ldg ",ir,isect,iy,mode,st_plp,yield
*
* Ends Commercial Other Mode Fishery (ot, trap, etc. but not hl or dive or bll)
*
*
* Begins Commercial Dive Landings                    Mode 9
     Else if(mode.eq.9)then   ! Dive commercial landing (can safely ignore state on ldg record)
*                    ! Use H&L or Dive sample from FLw
      ist=5
      do260imode=5,9
      if(imode.ge.6.and.imode.le.8)goto260  !exclude modes 6 (other), 7(trn), and 8(spec)
      do265l=mn,mx
      len_fin(l)=len_fin(l) + lfreq(isect,iy,imode,ist,l)
      len_fin(200)=len_fin(200) + lfreq(isect,iy,imode,ist,l)
 265  continue
 260  continue


        isubl=11
*       if(iy.eq.86)Print*," Finished Dive Ldgs record ",ir,isect,iy,mode,st_plp,yield,len_fin(200)
*
* Ends Com. Dive Landings
*

*
* Beginning Bottom Longline Landings                          Mode 10
*
      Else if(mode.eq.10)then  ! Bottom Longline
                               ! Use H&L (Flw) or Bot LL(all states)
        do300imode=5,10
        if(imode.ge.6.and.imode.le.9)goto300 ! exclude other (6), 7 (trn), 8 (special), 9 (dive)
        do302ist=1,5
        if(imode.eq.5.and.ist.ne.5)goto302  ! for H&L(5) use FLW only
        do305l=mn,mx
        len_fin(l)=len_fin(l) + lfreq(isect,iy,imode,ist,l)
        len_fin(200)=len_fin(200) + lfreq(isect,iy,imode,ist,l)
  305   continue
  302   continue
  300   continue
        isubl=11
*
* next Mode goes here
*
      Else  !  This ends the Com. Sector Loop Loop (modes 5,6,9,10)- shouldn't see modes 7 (trn), 8(spec)
       Print*, "CHECK Mode for COM LNDG RECORD ON RECORD ",ir,iy,mm,istlnd,st_plp,mode,igr,yield
      Endif
*
* Check for Landings that did not have a sample for ---- should not occur
*
*
 350  continue ! This is label for going to portion of code to output

*                Commercial Landing Catch at size record
```

Appendix 1. (cont.)

```
*
*
* Ending Part II.A.  Subpart 1.  COMMERCIAL LANDINGS SAMPLE ASSIGNMENT
* Finished Processing all com lndgs records; end =999 lu 1 to lu=2 and
* since lu=2 prg. comes to recreational catches.  Headboat is in lu 2 also.
*

*
* Part II. B.  Subpart 2. Output Commercial Landing Catch Length Density record
*
* Finished combining the samples over state or mode within a sector and
* year... Ready to compute the sample average weight .... Have to do it
* for each separate catch because of the combining over samples...
* In the 1996 code I used only the annual density (by sector and year)
* across all modes and states so could use the sample average weight across
* the all states and modes.
*
* Now Compute average weight and storing by sector, year, mode, & state
* Only need average weight (for sample) for com yields so numbers caught
* can be computed..
      freq=0.
      cthnum=0.     ! this is the catch number total
      rnf=0.        ! this is the sample size
      wglbs=0.      ! this is the average weight (lbs) at length
      wgkg=0.       ! this is the average weight (kg ) at length

      smpwgt=0.     ! this is the sampled weight
      avwt=0.       ! this is the sample average weight
      rnf=float(len_fin(200)) ! # fish in the sector,iy,mode,st_plp
      ave=0.
      smwt=0.
      if(len_fin(200).le.0.and.iy.gt.81)then
*     print*," at line 370 ",ir,isect,iy,mm,mode,st_plp,yield,len_fin(200)
      else
      endif

      if(len_fin(200).le.0)print*," have A Com. ldg. w/out sample: ", ir,
     -iy,istlnd,iwater,igr,ispec,ipounds,yield,mode,st_plp
      if(len_fin(200).le.0)goto525
*     print*,len_fin
      minlen=199
      maxlen=10
*      print*," Computing Avewgt  ", ir,iy,isect,mm,
*     -st_plp,mode,yield,rnf,len_fin(200), avwt, smpwgt

      do500l=mn,mx         ! compute and store avewgt by sector, iy,mode,st_plp
* find min and max len for write out
       if(len_fin(l).le.0)goto500
       minlen=MIN0(minlen,l)
       maxlen=MAX0(maxlen,l)

       forkmm=l * 10.
       forkcm=l * 1.

       if(isubreg.eq.1)then
       wgtkg=a(isubreg)*forkmm**b(isubreg)  ! atl. w(kg)=a*fl(mm)**b curve
       wglbs=wgtkg*2.20468

       else if(isubreg.eq.2)then
        wgtkg=a(isubreg)*forkmm**b(isubreg) ! Gulf w(kg)=a*fl(mm)**b curve
```

Appendix 1. (cont.)

```
        wglbs=wgtkg*2.20468
       else
        print*," cant find isubreg for ave wgt calculation ",ir,record
       endif
       freq=len_fin(l) * 1.
       avwt=avwt +  wglbs * freq/rnf ! avwt of sampled fish
       smwt=smwt +  wglbs ! summing up the sample wgt. in lbs.
*       print*," at line 402- have ctchsmp ",
*     - l,len_fin(l),forkcm,forkmm,wgtkg,wglbs,len_fin(l),avwt,smwt
 500   continue
       smpwgt=smwt        ! this is the total wgt for the catch
       ave=avwt
*                         ! output for com. rec. and hboat
*                         ! can compare this wgt to rpt'd. yield for com. only
       if(isect.eq.2)then       ! Commercial yield record only
*       print*,yield,avwt,yield/ave
        catch=yield/ave
       else
        print*," Ck Sector code on Com Ldg. code At Write",lu,ir,iy,istplp,istlnd,yield
       endif
*
*  Here for the Com yield  have the combined length
*  Sample density and ready to output the catch at length length density record
*  note: have month on com.yld record and wave on rec. catch; on rec mm=wave
      freq=0.
      do510l=minlen,maxlen  !

       freq=len_fin(l) * 1.
       cthlen(l)=catch * freq / rnf
       cthnum=cthnum+cthlen(l)
       it(iy)=it(iy) + cthlen(l)     ! total catch by year
       itcat(iy)=itcat(iy)+cthlen(l)
*      print*,l,len_fin(l),cthlen(l)
 510   continue

       diff=catch-cthnum
*       print*,isect,iy,mm,mode,st_plp,yield,catch,cthnum,diff,rnf,
*     - minlen,maxlen,avwt,smpwgt,diff
       it2(iy)=it2(iy)+yield      ! total com yield by year
*      if(iy.eq.80.or.iy.eq.89)print*,cthnum,yield,catch,ave,smpwgt

       write(5,520)isect,iy,mm,mode,st_plp,yield,catch,rnf,minlen,maxlen,
     - avwt,smpwgt,isubl,(cthlen(l),l=minlen,maxlen)
 520   format(5i3,2f15.2,15x,f10.0,2i5,f6.2,f15.2,i2,20(/10f15.4))

 525  continue
      do530l=1,200           ! Clear out nal(l) array
 530  cthlen(l)=0

      do540l=1,nlens         ! clear out main arrays; there can be > 1
 540  len_fin(l)=0           ! ldg rec. per sect, mode,ist because of
*                           ! port and water
      catch=0.
      yield=0.
      goto102                    ! Loops to new com ldg. record

 352  continue
*
* End of Processsing Commercial Yields
```

Appendix 1. (cont.)

```
      do580iy=ify,ily
 580  print*,iy,it(iy),itcat(iy),it2(iy)

      stop
      end
```

Appendix 2. Protocol used in estimating catch at size for the recreational and headboat fisheries.

```
*
****  Program rec_szct  sizes the 1999 Gulf GAJ Recreational Catches ****
*     This includes headboat,

*
** PART I Reads the combined length frequency sample which has
*        Samples stored by Sector, Calendar Year, Mode and State.
*
** Part II Makes the Gulf Greater Amberjack Recreational catch at size file.
*
      parameter (nsects=3,ify=81,ily=98,nmodes=11,nstates=9,nlens=200,
     -mn=10,mx=199,relmort=0.0)

      real a(2), b(2)    ! greater amberjack weight length equation parameters
      real avwt,ave      ! average weight at length (lbs)
      real smwt          ! sampled weight   (lbs)
      real cthlen(nlens) ! # fish at lenght in catch (estimated)

      integer st_plp, plp_mode
      integer length(nlens), len_fin(nlens)
      integer lfreq(nsects,ify:ily,nmodes,nstates,nlens)
      real    it(ify:ily), it2(ify:ily), icat(ify:ily), newic(ify:ily)

      character rec*52,record*640,sector*3,aamode*8

      a(1)=1.2E-7   ! manooch atl, hbts and hl; wgt in kg and fl in mm
      b(1)=2.677

*     a(1)=6.40E-5  ! burch satl; wgt in lbs and len in fl cm
*     b(1)=2.842    ! used in previous 1996 assessment

      a(2)=5.3E-8   ! manooch gulf from hbts; wgt in kg and fl mm
      b(2)=2.81

      isubreg=2     ! This is for Gulf Stock

      open(1,file='i:\amjack\sizes\final.dat\smps_glf.dat',  ! file of lf smps.
     -status='unknown')

      isub=2  ! Gulf stock

      do2isect=1,nsects
      do2iy=ify,ily
      do2mode=1,nmodes
      do2ist=1,nstates
      do3l=1,nlens
    3 lfreq(isect,iy,mode,ist,l)=0
    2 continue
      ir=0

    5 continue       ! Length frequency loop
      do4l=1,200
      len_fin(200)=0
    4 length(l)=0

*
* Process the Sample Length Frequency Records
      read(1,fmt='(a640,t1,i2,t7,i2,t12,i2,t33,a3,t36,i5,200i3),
     -recl=640)',end=10)
     -record,iy,st_plp,mode,sector,nlen,(length(j),j=1,nlens) ! process smp lfs
```

Appendix 2. (cont.)

```
      if(length(200).gt.0)then
       print*,iy,st_plp,mode,nlen,length(200)
       length(199)=length(199) + length(200)
       length(200)=0
      else
      endif
      ir=ir+1

* delete samples before 1981 and after 1998 or unknown fisheries
      if(iy.lt.ify.or.iy.gt.ily.or.mode.eq.0.or.sector.eq.'UNK')goto5

      if(sector.eq.'REC')then   ! code the sector rec(1) com (2) hboat(3)
       isect=1
      else if(sector.eq.'COM')then
       isect=2
      else if(sector.eq.'HBT')then
       isect=3
      else
*       print*,"cant find sector for rec ",ir,iy,st_plp,mode,sector,length
        goto5
      endif
*
* storing the sample length density by sector, year, mode, state and
* store the total number in length unit 200.  These will get combined
* for some landings records
*
*     if(mode.eq.1.or.mode.eq.2)print*,ir,isect,iy,mode,st_plp, nlen
      if(isect.eq.2.or.isect.eq.0)goto5  ! Sector 2 is com; sector 0 is unknown

      do6len=mn,mx
      l=len
      nsamp=length(len)
      lfreq(isect,iy,mode,st_plp,l)=lfreq(isect,iy,mode,st_plp,l)+nsamp
      lfreq(isect,iy,mode,st_plp,200)=lfreq(isect,iy,mode,st_plp,200)+nsamp
   6  continue
      print*," for smp ",ir,isect,iy,mode,st_plp,nlen
      goto5

  10  continue
      Print*," Finished processing LF samples"
*      stop
*
* Finished Loading the Length frequency records by sector,year,mode and state
*


*
*              Part II A (com) and B (rec)
*
*  program rec_szct reads file # 2 (lu 4) of rec catch in #'s &
*  matches  samples to yield or rec catch records.  For com yield
*  program uses average weight of sample record and computes total numbers
*  caught and then outputs catch at length record.  For rec catch program
*  matches catch record to size freq record and outputs numbers caught at
*  length record.  Note, #'s caught is estimted on rec catch....
* Note, in the 99 versionfile I read the com yld and the rec catch straight
*       from the combined files, converting state and gear for the com yld
*       and converting state and mode for the rec.
*************** change file names on lu 4  ***************
      open(4,file='i:\amjack\removals\nosale\catches\rec8199.glf',
     -status='unknown')
```

```
      open(5,file='i:\amjack\sizes\sizefreq\rec_ct00.glf',status='unknown')
*********************************************************************
*
* Part II B. Subpart 1.  Process Recreational Catch records
* Have number caught (a+b1) and also b2 on MRFSS records. Need to find
* samples and ouput density.
*

 599  continue
      isubreg=2          ! Gulf stock only
      lu=4               ! PROCESSING REC CATCHES NOW
      ir=0

      do595l=1,nlens
      len_fin(l)=0
 595  cthlen(l)=0.

      yield=0.
      catch=0.
      b2cat=0.
      isubl=00
*                     this is the substitution coding; can have :
*                     00 (zero subbing at mode and state level)
*                     01 (zero at mode, all at state)
*                     10 (subbed over specific modes, zero subbing at state)
*                     11 (subbed over specific modes, subbed over specific states)

 600  continue
      read(4,602,end=999)iy,iwave,mm,istplp,istate,izone,
     -plp_mode,catch,b2cat
 602  format(10x,6i2,9x,i1,2f15.4)
      ir=ir+1
      if(iy.lt.ify.or.iy.gt.ily)goto600

*     print*,ir,iy,iwave,mm,istplp,istate,izone,plp_mode,catch,b2cat
      icat(iy)=icat(iy) + catch + b2cat * relmort
*
* store new variable "ab1_b2" equal to catch + (b2cat * relmort)
*
      ab1_b2 = catch + (b2cat * relmort) !!!!! NOTE RELMORT VALUE
      mm=iwave              ! Set mm=iwave here and keep on ouput record

* Note here I made a new file (after trouble reading earlier file) of just
* the gaj catches from the atlantic; so no selections neeeded- chg. for gulf
*
* Code For Assigning Rec (shore, priv, chart) Hboat Samples Goes Here....
* At this point have catch in numbers just need to find the samples
* we need for the specific sector, year, mode, and state.  Then
* compute wgt and distribute the catch at length
* Set sub region for catch using state and delete all but Gulf catches
* SUB REGION VBL ON REC CATCH IS CALLED "SUB'
*

      st_plp=istplp

*     if(istplp.le.5)then   ! Deleting flw catches, cant select Monroe county only
*      isub=2   ! gom
*     else if(istplp.ge.6.and.istplp.le.9)then
*      isub=1   ! atl
*     else if(istplp.ge.10.and.istplp.le.19)then
```

Appendix 2. (cont.)

```
*      isub=3   ! n of nc
*      if(isub.eq.3)goto600
*     else
*      print*," cant find state code ", source,ir,iy,iwave,istplp,catch,b2cat
*     endif

*     if(isub.ne.2)goto600       ! Change for gulf (2) or atl (1)

*
* Check Recreational Catch for shore (1), hboat (2), charter (3),
* and                          private (4) and ch/py (5) mode catches
*
      isect=1                        ! Initially set sector to REC
      mode=plp_mode
      if(plp_mode.eq.2)isect=3       ! Resetting hb catches to sector 3
      if(plp_mode.eq.5)mode=11       ! resetting plp ch/py to mode 11
*
*      if(mode.eq.1)Print*," At line 199 ",
*     -ir,isect,iy,iwave,mm,istplp,st_plp,plp_mode,mode,catch,b2cat

*
* Begin Sample Assignment based on shore, private, charter, hboat
*
      IF(mode.eq.2)then           ! Headboat catches     ! Mode 2 Headboat
      if(st_plp.eq.5)then         ! use Flw
       ist=5
       if(iy.ge.86.and.iy.le.90)then
        do805l=mn,mx
        len_fin(l)=len_fin(l) + lfreq(isect,iy,mode,ist,l)
        len_fin(200)=len_fin(200) + lfreq(isect,iy,mode,ist,l)
  805   continue
        isubl=00

       else if(iy.le.85.or.iy.ge.91)then ! Use all Gulf states
        do807ist=1,5
        do810l=mn,mx
        len_fin(l)=len_fin(l) + lfreq(isect,iy,mode,ist,l)
        len_fin(200)=len_fin(200) + lfreq(isect,iy,mode,ist,l)
  810   continue
  807   continue
        isubl=01

       else    ! Ends year loop for Flw hboat mode
        Print*,"Ck Fle/flw hb catch for year",lu,ir,iy,isect,mode,st_plp,
     -  catch,b2cat
       endif   ! This endif ends the year loop for Flw hboat
*      Print*," Finished Fle/Flw Headboat Catch",ir,isect,mode,st_plp,catch,b2cat
*
* Ends Flw headboat Catch Assignments
*
* Begin Texas,Louisiana, Mississippi, and alabama headboat (2)
*
      Else if(st_plp.ge.1.and.st_plp.le.4)then    ! Use all Gulf states
*                                                 ! by  year
      if(iy.ge.86.and.iy.le.95.and.iy.ne.91.and.iy.ne.92)then
       do820ist=1,4
       do825l=mn,mx
       len_fin(l)=len_fin(l) + lfreq(isect,iy,mode,ist,l)
       len_fin(200)=len_fin(200) + lfreq(isect,iy,mode,ist,l)
  825  continue
```

Appendix 2. (cont.)

```
  820  continue
       isubl=01

      else if(iy.le.85.or.iy.eq.91.or.iy.eq.92.or.iy.ge.96)then
       do826ist=1,5
       do828l=mn,mx
       len_fin(l)=len_fin(l) + lfreq(isect,iy,mode,ist,l)
       len_fin(200)=len_fin(200) + lfreq(isect,iy,mode,ist,l)
  828  continue
  826  continue
       isubl=01

      else   ! Ends year loop for Tx, La, Ms, Al headboat mode
       Print*,"Ck Tx, La, Ms, or Al hb catch for year",lu,ir,iy,isect,mode,st_plp,
     - catch,b2cat
      endif  ! This endif ends the year loop for Tx, La, Ms, Al headboat
*     Print*," Finished Tx, La, Ms, Al Headboat Catch ", ir,isect,mode,
*    -st_plp,catch,b2cat
* Ends Tx, La,  Ms, Aa headboat and also ends ALL HEADBOAT Catch
*
      Else   ! End state loop on Hboat mode
       Print*,"Ck. Hb Mode for state ", lu,ir,isect,mode,st_plp,catch,b2cat
      Endif  ! This endif ends the state loop for all Headboats
*Ends All Headboat

*
* Begin Recreational Shore (mode 1), Charter (mode 3), and Private (mode 4)
* catch sample assignment
*
      Else if(mode.eq.3)then   ! Charterboat catches           Mode 3 (ch)
       if(iy.ge.86.and.iy.le.89.or.iy.ge.91.and.iy.le.94.or.iy.eq.98)then
*                                ! Use only cb across states
       do830ist=1,5
       do840l=mn,mx
       len_fin(l)=len_fin(l) + lfreq(isect,iy,mode,ist,l)
       len_fin(200)=len_fin(200) + lfreq(isect,iy,mode,ist,l)
  840  continue
  830  continue
       isubl=01

       else if(iy.le.85.or.iy.eq.90.or.iy.eq.95.or.iy.eq.96.or.
     -  iy.eq.97)then                ! use ch + private
*                                    ! all atl states
        do850imode=3,4
        do855ist=1,5
        do860l=mn,mx
        len_fin(l)=len_fin(l) + lfreq(isect,iy,imode,ist,l)
        len_fin(200)=len_fin(200) + lfreq(isect,iy,imode,ist,l)
  860   continue
  855   continue
  850   continue
        isubl=11

       else    ! Ends year loop for charter mode
        print*,"Ck Charter catch for year",lu,ir,isect,mode,st_plp,catch,b2
       endif
*      Print*," Finished Charterboat Catch",ir,isect,mode,st_plp,catch,b2cat
*
* Ends Charterboat catch assignments
*
```

Appendix 2. (cont.)

```
* Begins Private boat Recreational Catch Sample Assignments Mode 4 (pr)
*
      Else if(mode.eq.4)then   ! Private boat catches, Use ch and priv. all states
       if(iy.le.86.or.iy.ge.93.and.iy.ne.80)then
        do865imode=3,4       ! use private plus charter all states
        do870ist=1,5
        do875l=mn,mx
        len_fin(l)=len_fin(l) + lfreq(isect,iy,imode,ist,l)
        len_fin(200)=len_fin(200) + lfreq(isect,iy,imode,ist,l)
  875   continue
  870   continue
  865   continue
        isubl=11

       else if(iy.ge.87.and.iy.le.92)then
        do876ist=1,5          ! use private only all states
        do878l=mn,mx
        len_fin(l)=len_fin(l) + lfreq(isect,iy,mode,ist,l)
        len_fin(200)=len_fin(200) + lfreq(isect,iy,mode,ist,l)
  878   continue
  876   continue
        isubl=01

       else    ! Ends year loop for private mode
        print*,"Ck Private catch for year",lu,ir,isect,mode,st_plp,catch,b2
       endif
*     Print*," Finished Private boat fishery Catch",ir,isect,mode,st_plp,catch,b2cat
*
*
* Ends Private boat fishery catch assignments
*


*
* Begins Shore Recreational Fishery Catch Sample Assignments     Mode 1 (sh)
*
      Else if(mode.eq.1)then   ! shore fishermen; Use All modes, all states
        isectnew=1
        do880imode=1,2
        if(imode.eq.2)isectnew=3
        do885ist=1,5
        do890l=mn,mx
        len_fin(l)=len_fin(l) + lfreq(isectnew,iy,imode,ist,l)
        len_fin(200)=len_fin(200) + lfreq(isectnew,iy,imode,ist,l)
  890   continue
  885   continue
  880   continue
        isubl=11
        if(iy.eq.81.or.iy.eq.95)print*," at line 351 with shore catch ",
     -  isect,iy,mode,st_plp,catch,b2cat,len_fin(200)

*      Print*," Finished Shore fishery Catch",ir,isect,mode,st_plp,catch,b2cat

* Ends Shore Catches
*
* Begins Charter/Party Catches....
      Else if(mode.eq.11)then  ! Have earlier charter/pty catch
*                              ! Use charter, headboat samples
*     Print*," Finished Earlier Charter/Party Catch", ir,isect,mode,st_plp,catch,b2cat
      if(plp_mode.ne.5)print*," at line 363 ",
     -ir,iy,isect,mode,plp_mode,mode,catch
```

Appendix 2. (cont.)

```
        isectnew=1
        do900imode=2,3        ! Exclude shore (1) and private (4)
        if(mode.eq.2)isectnew=3
        if(mode.eq.3)isectnew=1
        do905ist=1,5
        do910l=mn,mx
        len_fin(l)=len_fin(l) + lfreq(isectnew,iy,imode,ist,l)
        len_fin(200)=len_fin(200) + lfreq(isectnew,iy,imode,ist,l)
  910   continue
  905   continue
  900   continue
        isubl=11
*

      Else   ! Ends Recreational Catch Mode Loop
       print*,"CHECCCCK MODE ",ir,iy,mm,isect,plp_mode,mode,
     - st_plp,catch,b2cat
      Endif  ! This ends the Mode loop.

*
*  Begin section for writing out recreational catch length density
*
*                Recreational Catch at size record
*
*
* Ending Part II.B.  Subpart 1.  Recreational Catch SAMPLE Assignment
* Headboat catches is in lu 4 also.
*

*
* Part II. B.  Subpart 2. Output Recreational Catch Length Density record
*
* Finished combining the samples over state or mode within a sector and
* year... Ready to compute the sample average weight .... Have to do it
* for each separate catch because of the combining over samples...
* In the 1996 code I used only the annual density (by sector and year)
* across all modes and states so could use the sample average weight across
* the all states and modes.
*
* Now Compute average weight and storing by sector, year, mode, & state
* Only need average weight (for sample) for com yields so numbers caught
* can be computed..
*<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
* note for this version rec_szb2 program have ab1 + (b2 catch * relmort)
* this variable is called ab1_b2 and should be equal to catch for headboat
* as b2cat is always zero...
*<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
      yldrec=0.     ! estimated yld rec catch from wgt to len equation and cthlen(len)
      cthnum=0      ! this is the catch number total
      rnf=0.        ! this is the sample size
      wglbs=0.      ! this is the average weight (lbs) at length
      wgkg=0.       ! this is the average weight (kg ) at length
      smpwgt=0.     ! this is the sampled weight
      avwt=0.       ! this is the sample average weight
      rnf=float(len_fin(200)) ! # fish in the sector,iy,mode,st_plp
      ave=0.
      smwt=0.
      ctnew=0.
      minlen=199
      maxlen=10
```

Appendix 2. (cont.)

```
*     print*," Computing Avewgt  ", ir,iy,isect,mm,
*    -st_plp,mode,yield,rnf,len_fin(200), avwt, smpwgt

      if(len_fin(200).le.0)then
      print*," At line #425, Ck catch # ",
     -ir,isect,iy,mm,plp_mode,mode,st_plp,catch,b2cat,len_fin(200)
      else
      endif

      if(len_fin(200).le.0)goto1025


      do1000l=mn,mx         ! compute and store avewgt by sector, iy,mode,st_plp
* find min and max len for write out
      if(len_fin(l).le.0)goto1000
       minlen=MIN0(minlen,l)
       maxlen=MAX0(maxlen,l)

       forkmm=l * 10.
       forkcm=l * 1.

       if(isubreg.eq.1)then
       wgtkg=a(isubreg)*forkmm**b(isubreg)  ! atl. w(kg)=a*fl(mm)**b curve
       wglbs=wgtkg*2.20468

       else if(isubreg.eq.2)then
        wgtkg=a(isubreg)*forkmm**b(isubreg) ! Gulf w(kg)=a*fl(mm)**b curve
        wglbs=wgtkg*2.20468

       else
        print*," cant find isubreg for ave wgt calculation ",ir,record
       endif

       avwt=avwt +  wglbs * len_fin(l)/rnf ! check next 6 lines
       smwt=smwt +  wglbs ! summing up the sample wgt. in lbs.
*      print*,l,len_fin(l),forkcm,forkmm,wgtkg,wglbs,len_fin(l),avwt,smwt
 1000  continue
       if(len_fin(200).le.0)print*,"Ck rec # ",ir,isect,iy,mm,plp_mode,mode,
     - st_plp,catch,b2cat
       smpwgt=smwt        ! this is the total wgt for the catch
       ave=avwt
*                         ! output for com. rec. and hboat
*                         ! can compare this wgt to rpt'd. yield for com. only
       if(isect.eq.2)then       ! Commercial yield record only
       print*," At line 465, Ck sector on catch # ",ir,isect,iy,mm,st_plp,plp_mode,mode,catch,b2cat
                   ! after have the cthlen(l) array
       else
        if(isect.ne.1.and.isect.ne.3)
     -  print*," Ck Sector code on Com Ldg. code At Write",lu,ir,iy,istplp,
     -  istlnd,yield
       endif
*  a) For the Com yield  have the combined length
*  Sample density and ready to output the catch at length length density record
*  note: have month on com.yld record and wave on rec. catch; on rec mm=wave
*  b) For the Recreational or Headboat catch have the combined length
*  Sample density and ready to output the catch at length length density record
*  NOTE month on com.yld record and wave on rec. catch; on rec mm=wave
*  So here I output the MRDFSS Estimated CATCH and also the B2 Catch
*
*      print*,isect,iy,mm,mode,st_plp,yldrec,catch,rnf,
```

Appendix 2. (cont.)

```
*     -minlen,maxlen,avwt,smpwgt, b2cat, ab1_b2 ! changed re b2cat

************  IMPORTANT ***********************************************************
* Use ab1_b2 catch variable to compute catch at length (array cthlen(l)
* here instead of catch computed after read in; see line 602.
* Ab1_b2 is used because it has the release mortality factor applied to the catch
*******************************************************************************

      do1010l=minlen,maxlen  !
*      if(iy.eq.81.and.isect.eq.1)print*,ir,iy,isect,catch,b2cat,ab1_b2
       cthlen(l)=ab1_b2 * len_fin(l) / rnf    ! change made re b2
       cthnum=cthnum+cthlen(l)
       total=total+cthlen(l)
       it(iy)=it(iy) + cthlen(l)      ! total catch by year

* compute yield for the recreational catch using the w = a * L ** b
       forkmm=l * 10.
       forkcm=l * 1.

       if(isubreg.eq.1)then
       wgtkg=a(isubreg)*forkmm**b(isubreg)  ! atl. w(kg)=a*fl(mm)**b curve
       wglbs=wgtkg*2.20468

       else if(isubreg.eq.2)then
        wgtkg=a(isubreg)*forkmm**b(isubreg) ! Gulf w(kg)=a*fl(mm)**b curve
        wglbs=wgtkg*2.20468

       else
        print*," cant find isubreg for ave wgt calculation ",ir,record
       endif
       yldrec=yldrec + wglbs * cthlen(l)
*      print*,l,len_fin(l),cthlen(l),yldrec
 1010  continue
       ctnew=yldrec/ave
       it2(iy)=it2(iy)+yldrec      ! total est'd rec yield by year
       diff=ab1_b2 - total         ! chg made based on b2cat
*      print*,ir,isect,iy,mode,catch,cthnum,total,diff,b2cat,ab1_b2  ! chg.

*       print*,ir,isect,iy,mm,plp_mode,mode,st_plp,yldrec,catch,b2cat,rnf,
*     - minlen,maxlen,avwt,len_fin(200),smpwgt,cthnum,ctnew,ave,smpwgt,
*     - ab1_b2      ! chg. made basd on b2cat
       idif=ab1_b2-cthnum    ! note change made re b2cat
       if(idif.lt.0.or.idif.gt.0)print*,"ck rec for catch total ",ir,isect,iy,mm,
     - plp_mode,mode,st_plp,catch,cthnum,ab1_b2, b2cat
       newic(iy)=newic(iy) + ab1_b2  ! change made re b2cat
       write(5,1020)isect,iy,mm,mode,st_plp,yldrec,catch,b2cat,rnf,
     - minlen,maxlen,avwt,smpwgt,isubl,(cthlen(l),l=minlen,maxlen)
 1020  format(5i3,3f15.2,f10.0,2i5,f6.2,f15.2,i2,20(/10f15.4))
 1025 continue
      if(len_fin(200).le.0)print*,"check out rec ",ir,isect,iy,mm,plp_mode,
     - mode,st_plp,catch,b2cat,rnf,minlen,maxlen,avwt,smpwgt
      do1030l=1,nlens        ! Clear out nal(l) array
 1030 cthlen(l)=0

      do1040l=1,nlens        ! clear out main arrays; there can be > 1
 1040 len_fin(l)=0           ! ldg rec. per sect, mode,ist because of
*                            ! port and water
      total=0.
      catch=0.
      ab1_b2=0.
```

Appendix 2. (cont.)

```
*     yield=0.
      yldrec=0.
      isubl=00
      goto600                ! Loops to rec ldg. record

*
* End of Processsing Recreational Catches
 999  continue

      do1050iy=ify,ily
 1050 print*,iy,icat(iy),it(iy),newic(iy),it2(iy)

      stop
      end
```