

Government Publications  
Texas State Documents

JUL 06 1993

Depository  
Dallas Public Library

P437.7  
M315d  
#1992  
#85

**Trends in Finfish Landings  
of Sport-Boat Anglers  
in Texas Marine Waters,  
May 1974-May 1991**

by  
**Mike Weixelman, Kyle W. Spiller  
and  
Page Campbell**

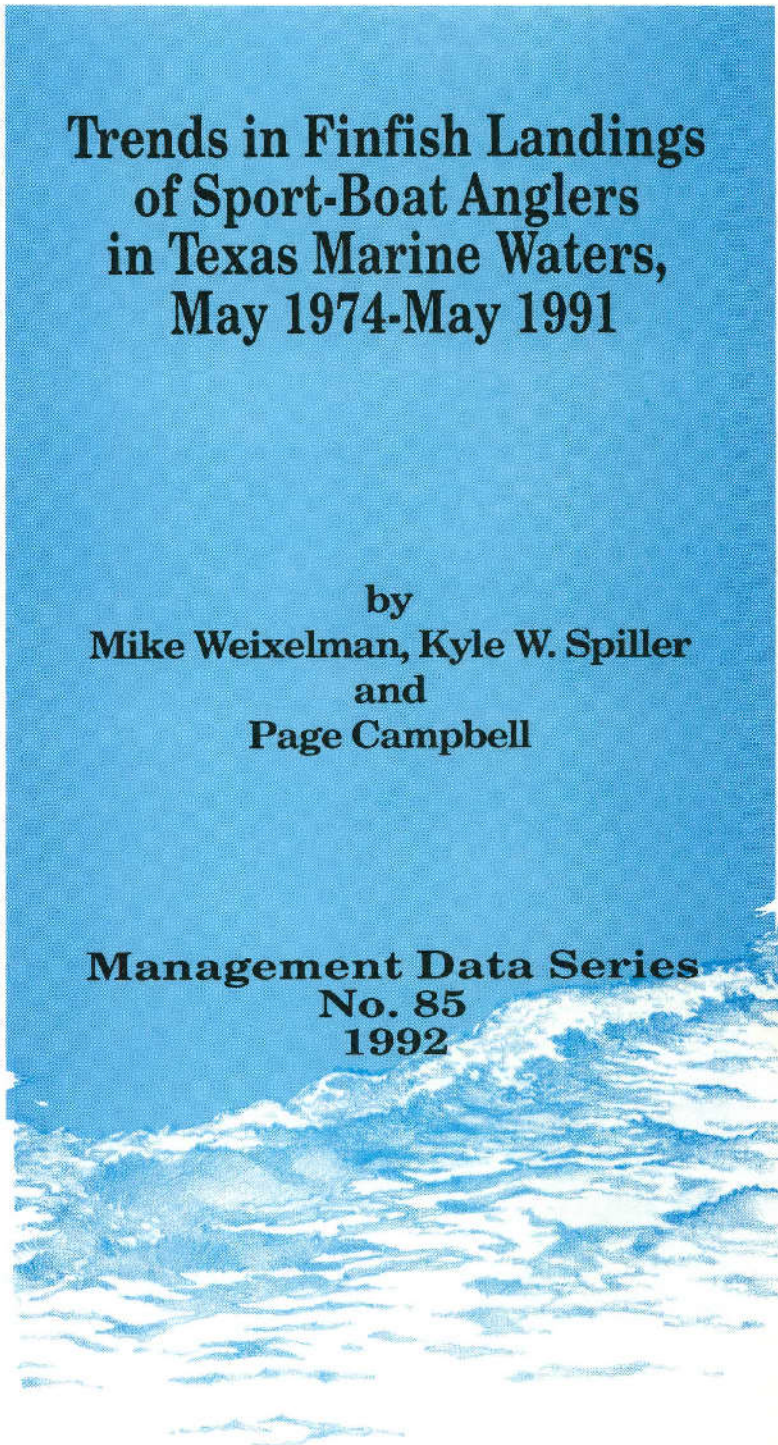
**Management Data Series  
No. 85  
1992**

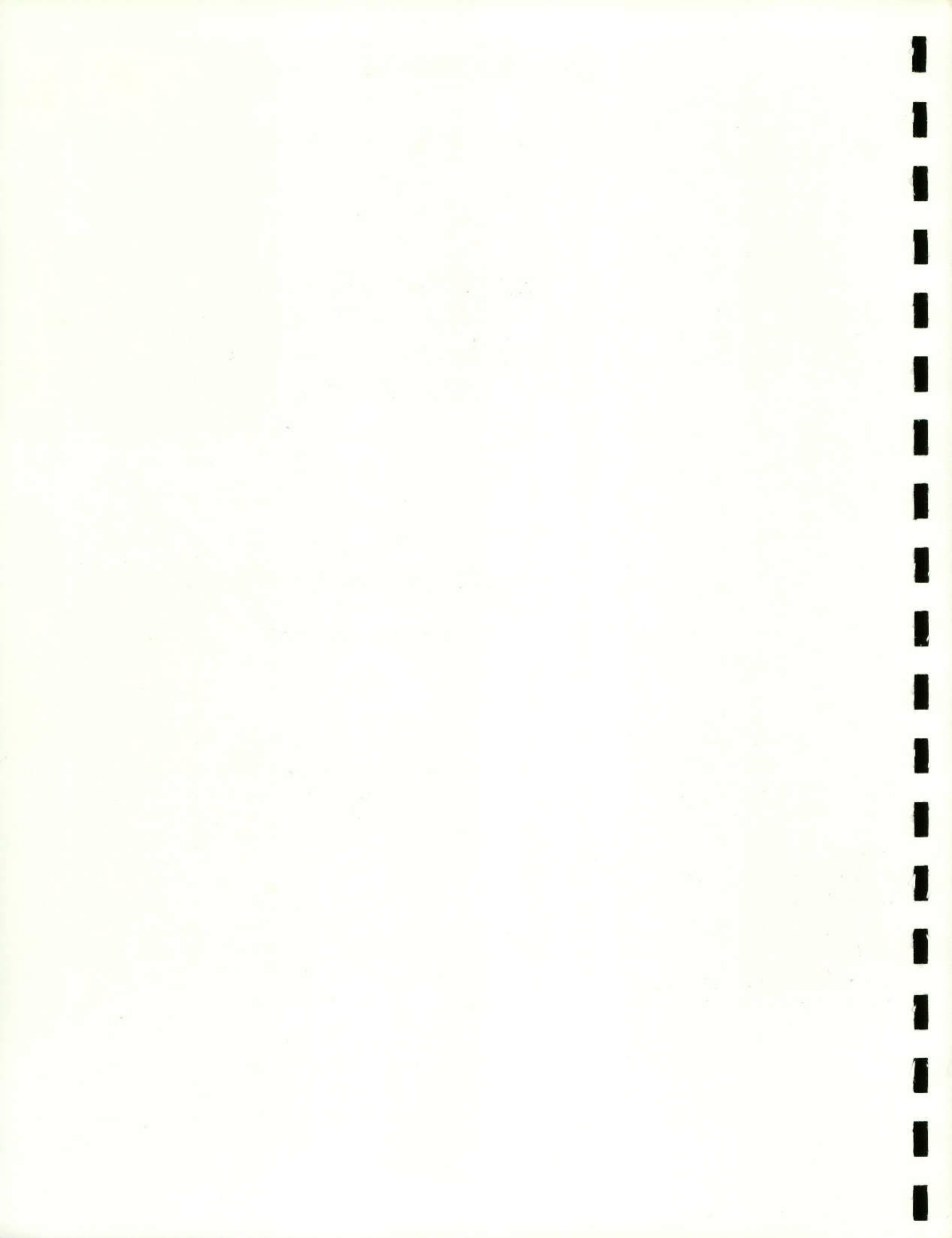


**TEXAS  
PARKS & WILDLIFE  
DEPARTMENT**

**FISHERIES & WILDLIFE  
DIVISION**

4200 Smith School Road  
Austin, Texas 78744





TRENDS IN FINFISH LANDINGS  
OF SPORT-BOAT ANGLERS  
IN TEXAS MARINE WATERS,  
MAY 1974-MAY 1991

by

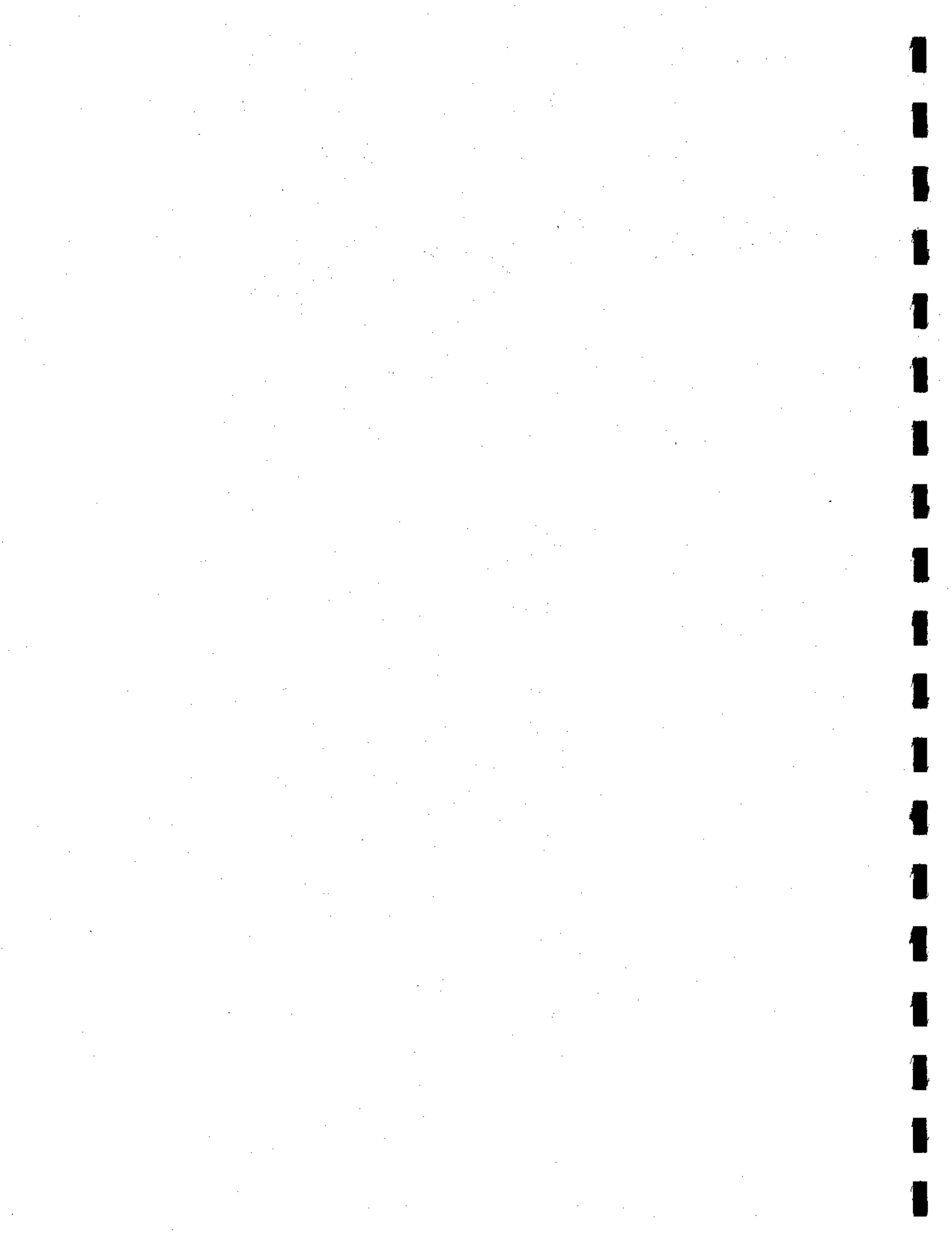
Mike Weixelman, Kyle W. Spiller and Page Campbell

MANAGEMENT DATA SERIES

No. 85

1992

Texas Parks and Wildlife Department  
Fisheries and Wildlife Division  
Coastal Fisheries Branch  
4200 Smith School Road  
Austin, Texas 78744



## TABLE OF CONTENTS

SECTION	PAGE
ACKNOWLEDGEMENTS . . . . .	iii
ABSTRACT . . . . .	iv
INTRODUCTION . . . . .	1
MATERIALS AND METHODS . . . . .	1
Private-Boat Fishing . . . . .	2
Party-Boat Fishing . . . . .	7
Headboat Fishing . . . . .	7
RESULTS . . . . .	9
Bays and Passes . . . . .	10
Private-Boat Fishing . . . . .	10
Party-Boat Fishing . . . . .	11
Headboat Fishing . . . . .	12
Texas Territorial Sea . . . . .	13
Private-Boat Fishing . . . . .	13
Party-Boat Fishing . . . . .	14
Exclusive Economic Zone . . . . .	15
Private-Boat Fishing . . . . .	15
Party-Boat Fishing . . . . .	15
DISCUSSION . . . . .	16
LITERATURE CITED . . . . .	18
TABLE 1 . . . . .	24
FIGURES 1-30 . . . . .	28-57
APPENDIX A: Private-boat fishing estimates for Texas bays and passes . . . . .	58
APPENDIX B: Total number of recreational fishing licenses sold in Texas . . . . .	87
APPENDIX C: Party-boat fishing estimates for Texas bays and passes . . . . .	90

TABLE OF CONTENTS  
(Cont'd.)

SECTION	PAGE
APPENDIX D: Headboat fishing estimates for Texas bays and passes . . .	116
APPENDIX E: Private-boat fishing estimates for the Texas Territorial Sea (TTS) . . . . .	136
APPENDIX F: Party-boat fishing estimates for the Texas Territorial Sea (TTS) . . . . .	159
APPENDIX G: Private-boat fishing estimates for the United States Exclusive Economic Zone (EEZ) off Texas . . . . .	185
APPENDIX H: Party-boat fishing estimates for the United States Exclusive Economic Zone (EEZ) off Texas . . . . .	208

## ACKNOWLEDGMENTS

We would like to thank each member of the Harvest and Resource Monitoring Programs who so conscientiously conducted interviews of anglers. A thank you is due each of the Harvest Monitoring Program team leaders -- Terry Stelly, Lance Robinson, Tom Wagner, and Joseph Chaszar -- without whose assistance the program would not have been successfully completed. Thanks are also extended to Rick Spaw for his assistance with table preparation. Al Green was responsible for designing the basic survey. Maury Osborn has been responsible for many of the modifications to the basic survey and for maintenance and enhancement of necessary computer systems. In its present format, Hal Osburn, Lee Green and Henry Maddux senior authored previous editions of this report. Thanks go to Lynn Benefield, C. E. Bryan, Paul Hammerschmidt, Tom Heffernan, Ed Hegen, Larry McEachron, Hal Osburn, and Ted Storck for editing the manuscript.

This study was jointly funded by the Texas Parks and Wildlife Department; the United States Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service under PL 88-309; and the United States Department of Interior, Fish and Wildlife Service under DJ 15.605 (Project F-34-M-8).

## ABSTRACT

Since May 1974, private-boat anglers have been routinely interviewed at boat access sites. Party-boat and bay headboat anglers have been routinely monitored since May 1983 by on-site and on-board surveys, respectively. Estimated sport-boat fishing pressure and landings in 1990-91 exceeded 5.0 million man-h and 1.5 million fish. Pressure and landings decreased 16% and 18%, respectively, from 1989-90 to 1990-91. Sport-boat fishing in bays and passes accounted for 91% of the pressure and 93% of the landings in 1990-91.

Thirty-four percent of the 10-year (1981-91) mean annual coastwide private-boat bay and pass fishing pressure and 39% of the landings occurred in the Galveston Bay system. Spotted seatrout (Cynoscion nebulosus) comprised 38% of the 10-year mean annual coastwide private-boat bay and pass landings. Catch rates of spotted seatrout by private-boat anglers in bays and passes declined to 0.08 fish/man-h in 1984-85, increased to 0.15 in 1987-88, and dropped to 0.05 in 1990-91. A reduction in landings of most finfish species followed the coastwide winter fish kill in December 1983 and January 1984. Subsequently, landings of some species increased in 1985-86 and again in 1986-87; however, following winter fish kills in February 1989 and December 1989, landings again declined.

Bay and pass party-boat landings for 1990-91 (69,800 fish) declined to the post-freeze low level of 1984-85 (67,600 fish). Thirty-five percent of the 8-year (1983-91) mean annual coastwide bay and pass party-boat fishing pressure and landings occurred in the lower Laguna Madre system compared to 6% of the pressure and 7% of the landings in the Galveston Bay system. Spotted seatrout accounted for over 71% of all landings by party-boat anglers in bays and passes during 1983-91. Coastwide, red drum (Sciaenops ocellatus) party-boat bay and pass landings for 1990-91 of 22,000 fish were substantially below the 1988-89 landings of 28,100 fish, which were the highest of any previous years.

Bay and pass headboat pressure and landings decreased from 1987-88 to 1990-91. The Galveston Bay system accounted for 45% of pressure and 57% of landings during 1983-91. Sand seatrout (Cynoscion arenarius) and Atlantic croaker (Micropogonias undulatus) made up 66% and 15% of the landings by headboat anglers, respectively.

Private-boat fishing pressure in the Texas Territorial Sea (TTS) for 1990-91 was 178,600 man-h, with an estimated 45,200 fish landed. During the 1982-91 interval, sand seatrout accounted for 35% of all fishes landed; king mackerel (Scomberomorus cavalla) and red snapper (Lutjanus campechanus) accounted for 16% and 15%, respectively.

Pressure and landings estimates for party-boat anglers in the TTS in 1990-91 were 15,600 man-h and 2,400 fish. During 1983-91, the Corpus Christi and lower Laguna Madre areas together accounted for 93% of the coastwide pressure and 92% of the landings. King mackerel represented 43% of the fish landed.



Private-boat fishing pressure in the United States Exclusive Economic Zone (EEZ) off Texas, decreased to 234,800 man-h in 1990-91. During 1982-91, pressure was greatest off the Corpus Christi area (40%). Red snapper (40%), king mackerel (14%) and sand seatrout (12%) were the most often landed fishes.

Party-boat pressure in the EEZ increased to 31,700 man-h in 1990-91. During 1983-91, 43% of pressure and 50% of landings occurred off the Corpus Christi area. King mackerel made up 25% of the landings followed by red snapper with 13%.



## INTRODUCTION

The Texas saltwater sport-boat fishery is an economically and biologically important segment of the total Texas coastal fishery. There were about 1.1 million saltwater sport anglers in Texas during 1990-91 (Texas Parks and Wildlife Department 1991). Direct expenditures by these anglers translate into over two billion dollars of economic impact annually to the State of Texas (Texas Water Development Board 1987, United States Fish and Wildlife Service 1989). Landings data from saltwater sport-boat anglers are required to assess the needs for and the impact of saltwater fishing regulations.

The Texas Parks and Wildlife Department (TPWD) has conducted surveys of sport-boat anglers in Texas marine waters since 1974 (Heffernan et al. 1976; Breuer et al. 1977; Green et al. 1978; McEachron 1980a, 1980b, 1983, 1984; McEachron and Green 1981, 1982, 1983, 1984a; McEachron and Matlock 1983; McEachron et al. 1981, 1984a; Osburn and Ferguson 1985a, 1985b, 1986, 1987; Osburn et al. 1988; Maddux et al. 1989 and Green et al. 1991a, 1991b, Campbell et al. 1991). These surveys monitored landings per unit of effort (CPUE) and sizes of all species landed annually by sport-boat anglers in the Galveston, Matagorda, San Antonio, Aransas, Corpus Christi and upper and lower Laguna Madre bay systems, and in the Gulf of Mexico off Texas. The Sabine Lake system was added in May 1987.

This report includes annual pressure and landings estimates for private-boat (1974-91), party-boat (1983-91) and headboat (1983-91) fishing in Texas bays and passes; and private-boat (1982-91) and party-boat (1983-91) fishing in the Texas Territorial Sea (TTS) and in the United States Exclusive Economic Zone (EEZ).

## MATERIALS AND METHODS

The survey year was divided into a high-use (15 May-20 November) and a low-use (21 November-14 May) season based on analyses of fishing pressure, landings and catch rates of private-boat anglers completing fishing trips (McEachron et al. 1983). Seasons were partitioned by day type (weekend and weekday). Six holidays (New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day and Christmas Day) were classified as weekend days.

Areas fished were defined as:

1. Bays: Marine waters shoreward of the barrier islands and pass entrances;
2. Passes: Openings connecting bays with the Gulf of Mexico;
3. TTS: Gulf of Mexico from the surf line to 16.7 km offshore, excluding the 1.6-km area around a pass; and
4. EEZ: Gulf of Mexico beyond 16.7 km offshore.

Private-boat fishing was defined as fishing from a privately owned or rental boat without a guide, and includes tournament fishing if no guide was hired. Party-boat fishing was defined as fishing from a boat, operated by a guide, that carried  $\leq 10$  people for a fee. Headboat fishing was defined as fishing from a boat, operated by a guide and crew, that carried  $\geq 11$  people for a fee. Sport-boat fishing was defined as the sum of private-boat, party-boat, and bay and pass headboat fishing. Landings represent numbers of fish. All estimates are presented as a mean  $\pm$  1SE.

Differences between estimates presented in this report and previous reports are due to updating of the data base; thus the most recent report is the most accurate.

### Private-boat Fishing

Bay anglers were interviewed in all survey years. Beginning September 1977, all fishing parties (bay, pass and gulf) were interviewed; however, gulf fishing was not separated into TTS and EEZ fishing until May 1982. Estimates for TTS and EEZ fishing were made for areas of the Gulf rather than each bay system because of travel through common passes and use of common gulf areas by anglers launching their boats in adjacent bay systems. Gulf areas were defined as Sabine Lake, Galveston (Galveston Bay/Freeport area), Matagorda (Matagorda Bay/San Antonio Bay), Corpus Christi (Aransas Bay/Corpus Christi Bay/upper Laguna Madre) and lower Laguna Madre.

To obtain fishing pressure estimates, TPWD personnel traveled through each bay system at a constant rate on randomly selected weekend and weekday days and counted boat trailers at identified boat ramps. Beginning May 1983, empty wet-slips and mooring spaces at marinas and boat houses were also counted. Allowances were made for unrented slips and spaces based on information obtained from marina and boat-house operators. Relative fishing pressure estimates (% total bay system activity/site/day) were obtained by adjusting trailer and wet-slip boat counts; counts were adjusted for non-angling activity based on interviews at surveyed sites.

TPWD personnel were stationed at randomly selected boat-access sites (boat ramps and wet slips) on randomly selected weekdays and weekend days to collect landings data by interviewing fishing parties that had completed a trip. From May 1983 to May 1991, 31 weekend days and 66 weekdays were surveyed each high-use season in all bay systems except Sabine Lake (beginning May 1987) and San Antonio where 26 weekend days and 46 weekdays were surveyed; 12 weekend days and 24 weekdays were surveyed each low-use season in all bay systems. Numbers of days surveyed in years prior to May 1983 varied. Interview sites were selected randomly in proportion to relative fishing pressure estimates obtained during the previous 3 years (TPWD unpublished data). Therefore, boat-access sites with high fishing activity (i.e., mean trailer and wet-slip counts adjusted by interview data) were surveyed more often than sites with low fishing activity. Based on diel activity patterns determined during the first 2 years of the survey (Heffernan et al. 1976, Breuer et al. 1977), interviews were conducted from 1000 to 1800 hours to maximize the amount of data collected per unit of sampling effort (McEachron

et al. 1983). Efficiency was increased beginning 21 November 1984 by terminating weekend surveys at 1400 and, beginning 21 November 1986 by terminating weekday surveys at 1600, if no fishing interviews were conducted prior to these times (Weixelman and Green 1984, Osburn and Weixelman 1989). Beginning 21 November 1985, low-use season weekend and weekday surveys were not conducted when weather conditions reached a critical "bad" level based on nomographs relating air temperature, wind speed and precipitation to the number of interviews conducted in previous years (Spiller et al. 1988). These surveys were counted as zero-pressure days in the estimation procedure. Estimates have been adjusted for percentage of missed angler interviews occurring during daylight hours before 1000 and after 1800 (TPWD unpublished data).

TPWD personnel recorded species (Gallaway et al. 1972, Hoese and Moore 1977, Robins et al. 1980, Murdy 1983) and number of all fish brought to shore (landings) by fishing parties as well as number of persons in the party, geographic origin of residence, fishing location, gear and bait used, and trip length. Until May 1983, only weight (kg) of fishes was recorded. Beginning May 1983, fish were measured to the nearest mm (TL) rather than being weighed. Mean TL prior to May 1983 were back calculated using weight-length regressions of the mean for each species in each bay system, season and day type (Harrington et al. 1979, TPWD unpublished data). Coastwide mean weights and lengths were weighted by the estimated number of fish landed in each bay system.

Geographic origin of residence was classified as:

1. Coastal adjacent: Counties surrounding a bay system within 80 km of the surfline;
2. Coastal non-adjacent: Counties having a border within 80 km of the surfline but not adjacent to bay system where interview occurred;
3. Non-coastal: All Texas counties further than 80 km from the shoreline; and
4. Out-of-state: States other than Texas and foreign countries.

From May 1974 to May 1983, only the boat owner's residence was recorded for the entire party. Beginning May 1983, residential origin was recorded for each party member.

Before May 1980, private-boat landings were estimated as the product of mean catch (landings) rate and fishing pressure in trip man-h (Heffernan et al. 1976). Since interview sites were randomly selected in proportion to total fishing pressure, this technique depended upon a roving clerk traveling around a bay system obtaining pressure counts at all sites during the survey period. In fall of 1979, gas shortages and irregular operating hours by gas stations made it impossible to strictly comply with these procedures. Since the potential for similar problems was possible in the future (1979 was the second gas shortage within a 4-year period), an alternate method of estimating

landings and pressure that depended much less on use of an automobile was developed. Data collected since 1974 were used to estimate a set of probabilities that described the patterns of fishing pressure within a day and at each inventoried boat-access site (TPWD unpublished data). A roving clerk is still required to make pressure counts at boat-access sites; however, the objective is no longer to estimate total pressure at each site but to estimate the proportion of total pressure at each site. This new objective can be accomplished with fewer roves, and completed within a short time period (0800-1230 hours) when there is little change in boating activity. The new procedure reduces use of an automobile by 16% to 33% relative to that required by the old procedure, depending on the actual rove schedule adopted. A comparison of estimates made by selecting survey sites as strictly random samples and by selecting survey sites in proportion to the activity that occurred at each site was made by McEachron and Green (1984a).

Landings ( $\hat{R}$ ) were estimated separately for each area (bay, pass, TTS and EEZ) using the following equations:

$$\hat{R} = \sum_{i=1}^4 D_i \cdot \bar{h}_i$$

where

$D_i$  = total number of days that occurred in  $i$ th stratum (season and day type); and

$\bar{h}_i$  = mean number of fish landed/day during daylight hours in  $i$ th stratum calculated as:

$$\bar{h}_i = 1/n \cdot \sum_{j=1}^n h_{ij} \cdot P_j/e_j$$

where

$n$  = total number of days sampled;

$h_{ij}$  = total number of fish observed at site  $j$  in  $i$ th stratum;

$P_j$  = adjustment for parties missed by interviewers at site  $j$  (total number of parties seen divided by total number of parties interviewed); and

$e_j$  = estimated proportion of total bay system fishing activity that occurred at site  $j$  calculated as:

$$e_j = FH_j / \sum_{j=1}^k FH_j$$

where

$FH_j$  - total number of trailers and/or empty wet-slips observed at site  $j$  during previous 3 years; and

$k$  - total number of sites.

Pressure ( $\hat{P}$ ) was estimated separately for each area (bay, pass, TTS and EEZ) using the following equations:

$$\hat{P} = \sum_{i=1}^4 D_i \cdot \bar{m}_i$$

where

$D_i$  - total number of days that occurred in  $i$ th stratum (season and day type); and

$\bar{m}_i$  - mean number of fishing trip man-h/day during daylight hours in  $i$ th stratum calculated as:

$$\bar{m}_i = 1/n \cdot \sum_{j=1}^n m_{ij} \cdot p_j / e_j$$

where

$n$  - total number of days sampled;

$m_{ij}$  - total number of fishing trip man-h observed at site  $j$  in  $i$ th stratum;

$p_j$  - adjustment for parties missed by interviewers at site  $j$  (total number of parties seen divided by total number of parties interviewed); and

$e_j$  - estimated proportion of total bay system fishing activity that occurred at site  $j$  calculated as:

$$e_j = FH_j / \sum_{j=1}^k FH_j$$

where

$FH_j$  - total number of trailers and/or empty wet slips observed at site  $j$  during previous 3 years; and

$k$  - total number of sites.

This technique is described by Kish (1965) and is used to make estimates from samples selected from clusters which are proportional. Variances were calculated using ratio estimation for ratios of landings/day, fishing trip man-hours/day, estimated proportion of fishing activity/site and proportion of parties missed by interviewers (Mendenhall et al. 1971).

Estimation of the proportion ( $e_j$ ) of total pass and gulf fishing pressure at site  $j$  used an average of weekend and weekday pressure due to a scarcity of data for individual day types. The pressure at each site with a history of pass or gulf fishing was computed by averaging weekend and weekday mean pass and gulf trip man-h from all previous years since May 1979. When weekend pressure estimates were not available, pressure was estimated as:

$$X_1 = 3X_2/2$$

where

$X_1$  - total number of weekend trip man-h; and

$X_2$  - total number of weekday trip man-h.

When weekday pressure estimates were not available the amount of pressure was estimated as:

$$X_2 = (X_1/2 + X_1)/2$$

where

$X_1$  - total number of weekend trip man-h; and

$X_2$  - total number of weekday trip man-h.

The pressure at sites with pass or gulf activity in the year being estimated, but no history of pass or gulf activity was set equal to the pressure at sites with historical data that had similar pressure during the year being estimated. Relative activity percents of boat ramps with pass or gulf history were adjusted to sum to 95% of all activity. All other boat ramps without historical pass or gulf activity were assigned equal percents summing to 5% of the total activity.



For the years when no weekday surveys were conducted (May 1976-May 1979), landings and pressure estimates for weekdays were calculated by multiplying weekend landings and pressure by an adjustment factor. Adjustment factors were calculated from the percent of total weekend and weekday landings and pressure comprised by weekend landings and pressure from May 1979 to May 1984 (Green et al. 1991b).

Annual estimates made from this survey are comparable to previous survey estimates. However, one assumption must be made when comparing landings estimates from year to year. The mean catch rate and mean fish size for parties returning during daylight hours before or after the interview period (1000 to 1800) must be the same as those for parties returning during the interview period.

For the purpose of making annual coastwide landings and fishing pressure comparisons, data from 1974-75 and 1975-76 have been combined and are referred to as 1974-76. Four bay systems were surveyed in 1974-75 (Galveston, San Antonio, Aransas and upper Laguna Madre) and three were surveyed in 1975-76 (Matagorda, Corpus Christi and lower Laguna Madre). Thereafter, all bay systems were surveyed each year.

#### Party-boat Fishing

From May 1983 to May 1991, party-boat anglers were interviewed whenever they were encountered during the routine private sport-boat fishing survey. Inclusion of marinas and boat-houses in the boat-access site inventory provided for interception of party-boats which were previously surveyed in special studies (McEachron 1983, 1984; McEachron and Matlock 1983; McEachron et al. 1984a). Interview and estimation procedures are identical to those described for private-boat fishing.

Estimates of party-boat landings and pressure in this report may not be directly comparable to survey estimates for years prior to May 1983. Time periods, sample site selection and estimation procedures were different from previous methods. Estimates in this report were made on a high-use and low-use season basis. Beginning May 1983, boat-access areas were sampled in proportion to all fishing activity rather than just bay private-boat fishing activity (Osburn and Ferguson 1985b). Before the 1984-85 survey year, historical fishing activity data used did not include party-boats. Estimates of landings and pressure in this report relied on calculation of a mean daily landings rate, adjusted by the relative proportion of activity at a site.

#### Headboat Fishing

Bay and pass headboats were inventoried using the TPWD Fish Guide License list and by personally contacting marinas, bait stands and commercial guide services in each area of fishing activity.

From May 1983 to May 1991, bay and pass headboats were randomly selected on 14 weekdays and 7 weekend days during both the high-use and low-use seasons in each of the Galveston (Galveston Bay), Corpus Christi (Aransas Bay/Corpus Christi Bay) and lower Laguna Madre areas.

Headboat surveys were conducted aboard the vessel. All retained fish were counted and identified. On each trip, up to 100 individuals of each species were measured to the nearest mm total length. Number of anglers and fishing time (nearest 0.5 h) were also recorded. Total number of daylight trips made on each survey day was determined by contacting all inventoried headboat operators by phone or in person.

Landings ( $\hat{H}$ ) were estimated using the following equations:

$$\hat{H} = \sum_{i=1}^4 D_i \cdot \bar{h}_i$$

where

$D_i$  = total number of days that occurred in  $i$ th stratum (season and day type); and

$\bar{h}_i$  = mean number of fish landed/day during daylight hours in  $i$ th stratum calculated as:

$$\bar{h}_i = 1/n \cdot \sum_{j=1}^n h_{ij} \cdot t_i / e_{ij}$$

where

$n$  = total number of days sampled;

$h_{ij}$  = total number of fish landed during a trip on headboat  $j$ ;

$t_i$  = mean number of trips/day by all boats in  $i$ th stratum; and

$e_{ij}$  = estimated proportion of total fishing activity occurring on headboat  $j$  calculated as:

$$e_{ij} = T_{ij} \cdot P_{ij} / \sum_{j=1}^k (T_{ij} \cdot P_{ij})$$

where

$T_{ij}$  = total number of trips made by headboat  $j$  on all surveyed days in  $i$ th stratum;

$P_{ij}$  = mean number of people/trip fishing on headboat  $j$ ; and

$k$  = total number of headboats.

Linear regression analysis revealed a positive correlation between number of fish landed and mean number of people/trip during the high-use but not the low-use season (Osburn and Ferguson 1985a). When no data on mean number of people/trip were available, the number was estimated by adjusting that boat's legal passenger capacity by the ratio of number of people/trip to passenger capacity of all surveyed headboats in the *i*th stratum. Linear regression analysis did not reveal a positive correlation between mean number of people/trip and passenger capacity for either season ( $P = 0.05$ ) (Osburn and Ferguson 1985a); however, correlation during the high-use season was significant at  $P = 0.06$ .

Use of  $e_{ij}$  to adjust trip catch (landings) rates is valid for proportional sampling (Kish 1965). Headboats were selected randomly for each survey day; however, when the operator of a selected headboat was contacted and found not to be making a trip on the survey day, surveyors continued contacting all headboat operators in a randomly assigned order until one making a trip was found. Thus more-active headboats were surveyed more often, resulting in de facto proportional sampling. Variances were calculated using ratio estimation (Mendenhall et al. 1971).

Procedures for calculating mean lengths and weights and classifying residential origin were similar to those described previously for private-boat anglers.

Headboat estimates in this report are comparable to previously reported estimates although some difference in seasons does exist. Equations used in the present survey were based on mean daily catch rates. Previous reports based estimates on trip catch rates extended by number of people/trip and mean number of trips/day (McEachron 1984). Total number of trips made during a specified time period in these earlier reports was determined by a telephone census of headboat operators.

## RESULTS

Coastwide annual sport-boat fishing pressure and landings decreased 16% and 21%, respectively, from about 6.1 million man-h and 1.9 million fish in 1989-90 to about 5.1 million man-h and 1.5 million fish in 1990-91 (Table 1). Sport-boat fishing in bays and passes accounted for 93% of the pressure and 91% of the landings in 1990-91 (Figure 1).

Over 20,000 sport-boat anglers were interviewed during 1990-91. In bays and passes, 14,904 private-boat (Appendix A, Table A.1), 854 party-boat (Appendix C, Table C.1) and 2,549 headboat (Appendix D, Table D.1) anglers were interviewed. In the TTS, 986 private-boat (Appendix E, Table E.1) and 40 party-boat (Appendix F, Table F.1) anglers were interviewed. In the EEZ, 956 private-boat (Appendix G, Table G.1) and 68 party-boat (Appendix H, Table H.1) anglers were interviewed.

## Bays and Passes

## Private-boat Fishing

Annual coastwide private-boat fishing pressure in bays and passes has generally increased from 1976-77 through 1986-87 with a decline beginning in 1987-88; landings have generally decreased since 1974-76 (Figure 2). A marked decrease in pressure and landings followed a major fish kill resulting from the winter freeze of 1983-84; pressure and landings declined 28% and 41%, respectively, from 1983-84 to 1984-85. Since 1984-85, pressure increased through 1986-87 and declined thereafter; landings increased through 1977-88 and declined thereafter. Pressure and landings decreased 16% and 15%, respectively, from 1989-90 to 1990-91.

During the last 10 years, the Galveston Bay system accounted for a greater proportion of total private-boat pressure (34%) and landings (39%) in bays and passes than any other bay systems (Figure 3). San Antonio Bay system, in contrast, accounted for only 4% and 5% of the annual coastwide pressure and landings, respectively. From 1989-90 to 1990-91, pressure decreased in all bay systems except Sabine Lake and Corpus Christi, and landings decreased in all bay systems except Sabine Lake (Appendix A, Tables A.2, A.3).

Texas bays and passes yielded an assortment of fishes to private-boat anglers during the last 10 years. Spotted seatrout (Cynoscion nebulosus) made up 37% of all fish landed from bays and passes (Figure 4). Sand seatrout (Cynoscion arenarius), Atlantic croaker (Microponias undulatus), southern flounder (Paralichthys lethostigma), red drum (Sciaenops ocellatus), sheepshead (Archosargus probatocephalus), black drum (Pogonias cromis) and gafftopsail catfish (Bagre marinus) accounted for an additional 55% of the landings. The Galveston Bay system had the highest percentage of annual coastwide landings of Atlantic croaker, black drum, gafftopsail catfish, sand seatrout, southern flounder and spotted seatrout (Figures 5 and 6).

Annual coastwide landings of spotted seatrout in 1990-91 of 231,900 fish were the lowest during 1974-91 (Figure 7). CPUE has been relatively low since 1984-85, and in these years remained well below the high of 0.47 fish/man-h reported in 1976-77. Catch rates decreased substantially from 1989-90 (0.11 fish/man-h) to 1990-91 (0.05 fish/man-h). Mean length and weight have increased since 1974-76. Spotted seatrout averaged 429 mm and 0.78 kg in 1990-91.

Sand seatrout landings and CPUE increased in 1990-91 to 313,600 fish and 0.07 fish/man-h after two years of decline (Appendix A, Tables A.3, A.4). Mean length and weight have increased from 1984-85 to 1988-89, decreased in 1989-90 and increased in 1990-91. Sand seatrout averaged 287 mm and 0.26 kg in 1990-91 (Appendix A, Tables A.5, A.6).

Atlantic croaker was the third most landed fish in 1990-91. Since 1981-82 landings gradually increased until 1987-88 but then declined through 1990-91 (177,200 fish) and CPUE remained constant from 1981-82 to 1987-88, but declined to 0.04 fish/man-h in 1989-90 and 1990-91 (Appendix A, Tables A.3,

A.4). Atlantic croaker averaged 240 mm and 0.19 kg in 1990-91 (Appendix A, Tables A.5, A.6).

Southern flounder landings increased in 1990-91 to 116,500 fish after a two year decline (Figure 8). CPUE increased in 1990-91 after declining in 1989-90 to its lowest level since 1981-82. Mean length and weight generally decreased until 1984-85 and generally increased thereafter. Southern flounder averaged 375 mm and 0.66 kg in 1990-91.

Landings of red drum in 1990-91 of 97,700 fish were the lowest since 1984-85 (Figure 9). CPUE increased from 1983-84 to 1986-87, but has been decreasing since, reaching 0.02 fish/man-h in 1990-91. Mean length and weight have generally increased since 1979-80. Red drum averaged 598 mm and 2.36 kg in 1990-91.

Sheepshead landings have generally declined since 1977-78, reaching a 14 year low in 1989-90 (32,100 fish; Figure 10); landings subsequently increased to 67,600 fish in 1990-91. CPUE has remained relatively constant since 1985-86. Sheepshead mean length and weight have generally increased since 1981-82, averaging 399 mm and 1.16 kg in 1990-91.

Landings of black drum declined 53% from 1982-83 to 1984-85 and remained at low levels through 1990-91 (Figure 11). CPUE has remained constant at 0.01 fish/man-h from 1983-84 to 1989-90, then increased to 0.02 fish/man-h in 1990-91. Black drum mean length and weight were similar among years, averaging 409 mm and 1.33 kg in 1990-91.

After declining in 1979-80, gafftopsail catfish landings remained between 10,000 and 30,000 fish/year (Figure 12). Landings in 1990-91 were 9,700 fish. CPUE has been approximately 0.01 fish/man-h since 1979-80. Mean length and weight have generally increased since 1986-87, but declined slightly in 1990-91 when gafftopsail catfish averaged 489 mm and 1.23 kg.

Residential origin of anglers, mean fishing party size and mean trip length have changed little from year to year (Appendix A, Tables A.2, A.8). During 1974-91, the most private-boat fishing trips (59-66%) were made by anglers who lived in coastal counties adjacent to the bay system fished (Appendix A, Table A.8). Annual coastwide mean fishing party size and mean trip length during 1974-91 ranged from 2.4 to 2.7 people and from 5.2 to 7.1 h (Appendix A, Table A.2).

Recreational fishing license sales and boat registrations have increased over the years (Figure 13). Over 1.7 million were sold in 1990-91 (Appendix B, Table B.1). Saltwater fishing stamp sales increased from 580,388 in 1990 to 605,783 in 1991 (Appendix B, Table B.2). The number of recreational boats registered statewide has increased 25% since 1976, but has changed little in the last 9 years, remaining near 600,000/yr.

#### Party-boat Fishing

Annual coastwide party-boat fishing pressure in bays and passes generally increased since 1984-85, reaching a high of 303,400 man-h in 1989-90, before

decreasing to 240,500 man/h in 1990-91 (Figure 14). Landings in 1990-91 of 69,800 fish, were close to the low of 67,600 fish in 1984-85.

Pressure and landings were greatest in the lower Laguna Madre system (Figure 15). During 1983-91, 35% of the coastwide pressure and landings occurred in the lower Laguna Madre system compared to only 3% of coastwide pressure and landings in the San Antonio Bay system. In 1990-91 the Aransas and Corpus Christi Bay systems accounted for greater than 52% of the pressure and 49% of the landings (Appendix C, Tables C.2, C.3).

During 1983-91, party-boat anglers landed more spotted seatrout and red drum from bays and passes than any other species (Figure 16). Spotted seatrout accounted for 56% of all landings in 1990-91; red drum accounted for 32% (Appendix C, Table C.3).

Landings of spotted seatrout and red drum have generally increased since 1984-85 (Figures 17 and 18). Although landings of spotted seatrout dropped in 1984-85 to 50,000 fish, they generally increased through 1989-90 before declining drastically in 1990-91 to 39,100 fish (Figure 17). Spotted seatrout CPUE declined from 0.30 fish/man-h in 1989-90 to 0.16 fish/man-h in 1990-91. Mean length and weight for spotted seatrout have gradually decreased since 1987-88, averaging 429 mm and 0.79 kg in 1990-91. Red drum landings coastwide in 1990-91 were 22,000 fish, up from 12,100 estimated for 1983-84 (Figure 18). Red drum CPUE was 0.09 fish/man-h in 1990-91, similar to estimates for 1984-85 through 1989-90. Red drum mean length and weight have generally increased relative to 1983-84 but have changed little in the last four years, averaging 591 mm and 2.26 kg in 1990-91.

During 1983-91, 39-47% of anglers were from non-coastal counties (Appendix C, Table C.9). Annual coastwide mean fishing party size and mean trip length during 1983-91 ranged from 3.4 to 3.6 people and from 5.7 to 7.5 h (Appendix C, Table C.2).

### Headboat Fishing

Annual coastwide fishing pressure and landings estimates for headboat anglers in bays and passes were variable during 1983-91 (Figure 19). Pressure and landings remained the same as 1989-90 at 98,300 man-h and 52,900 fish in 1990-91.

The Galveston Bay area accounted for most of the headboat pressure (45%) and landings (57%) during the last 8 years (Figure 20). The lower Laguna Madre area accounted for the least amount of pressure and landings (21%).

Sand seatrout and Atlantic croaker were the fishes most commonly landed by headboat anglers during 1983-91 (Figure 21). Sand seatrout and Atlantic croaker made up 66% and 15% of the landings, respectively. Sand seatrout were commonly landed in all areas, but Atlantic croaker were landed primarily in the Galveston Bay area (Appendix D, Table D.3).

Coastwide landings of sand seatrout reached an eight year low of 32,800 fish in 1989-90, but increased in 1990-91 to 37,900 fish (Appendix D, Table

D.3). CPUE in 1990-91 were 0.39 fish/man-h (Appendix D, Table D.4). Sand seatrout landed in 1990-91 averaged 269 mm and 0.21 kg (Appendix D, Tables D.5, D.6).

Coastwide Atlantic croaker landings decreased dramatically from 20,300 fish in 1988-89 to 1,900 fish in 1990-91 (Appendix D, Table D.3). CPUE also decreased in 1990-91 (Appendix D, Table D.4). Atlantic croaker averaged 201 mm and 0.11 kg in 1990-91 (Appendix D, Tables D.5, D.6).

Most headboat fishing trips (75%) were made by anglers from adjacent coastal and non-coastal counties in all years (Appendix D, Table D.8). Annual coastwide mean fishing party size and mean fishing time ranged from 19.6 to 30.2 people and from 2.4 to 2.7 h during 1983-91 (Appendix D, Table D.2).

### Texas Territorial Sea

#### Private-boat Fishing

Annual coastwide private-boat fishing pressure and landings varied in the TTS during 1982-91 (Figure 22). Annual pressure decreased from 223,400 man-h in 1989-90 to 178,600 man-h in 1990-91. Annual landings remained constant from 1989-90, with landing of 45,200 fish in 1990-91.

Annual private-boat pressure and landings in the TTS were greatest offshore of the Corpus Christi and Matagorda Bay areas during the last 9 years (Figure 23). The area offshore of Corpus Christi Bay accounted for 54% of the pressure and 23% of the landings followed by Matagorda Bay with 22% of the pressure and 48% of the landings. However, pressure decreased off Matagorda and Corpus Christi in 1990-91 (Appendix E, Table E.2).

The most commonly landed fishes in the TTS by private-boat anglers during 1982-91 were sand seatrout, king mackerel (Scomberomorus cavalla) and red snapper (Lutjanus campechanus) (Figure 24). Sand seatrout comprised 35% of all fishes landed, followed by king mackerel (16%) and red snapper (12%). For 1990-91, king mackerel landings were highest off the Corpus Christi Bay area; sand seatrout landings were highest off the Matagorda Bay and Sabine Lake areas and red snapper landings were highest off the Galveston Bay area (Appendix E, Table E.3).

Landings and CPUE for sand seatrout remained at low levels in 1989-90 (Appendix E, Tables E.3, E.4). Annual coastwide landings were highest in 1986-87 (58,000 fish) and lowest in 1987-88 (2,300 fish). Landings for 1990-91 were estimated to be 3,100 fish. Mean length and weight ranged from 286 mm and 0.26 kg in 1986-87 to 339 mm and 0.44 kg in 1984-85 (Appendix E, Tables E.5, E.6). Sand seatrout averaged 336 mm and 0.42 kg in 1990-91.

Estimated landings of king mackerel decreased each year from 1982-83 through 1986-87 and then increased in 1987-88 (Figure 25). Since 1987-88, landings have fluctuated with 6,100 fish landed in 1990-91. Generally, CPUE followed a similar pattern, decreasing to a low of 0.01 fish/man-h in 1986-87.

Mean length and weight have also fluctuated over the years, averaging 949 mm and 8.44 kg in 1990-91.

Red snapper landings and CPUE varied little during 1983-84 through 1988-89 but increased in 1989-90 and remained constant in 1990-91 (Figure 26). An estimated 11,500 fish were landed coastwide in 1990-91. Mean length and weight increased from 292 mm and 0.35 kg in 1989-90 to 367 mm and 0.78 kg in 1990-91.

During 1982-91, most private-boat fishing trips in the TTS were made by anglers from adjacent coastal (37-44%) and non-coastal (37-43%) counties (Appendix E, Table E.8). Annual coastwide mean fishing party size and mean trip length ranged from 2.8 to 3.0 people and from 5.9 to 6.4 h during 1982-91 (Appendix E, Table E.2).

#### Party-boat Fishing

Annual coastwide party-boat fishing pressure and landings in the TTS decreased from 47,800 man-h and 16,800 fish in 1989-90 to 15,600 man-h and 2,400 fish in 1990-91 (Appendix F, Tables F.2, F.3). The area off Corpus Christi Bay had 88% of the pressure and 75% of the landings (Appendix F, Tables F.2, F.3).

King mackerel (41%), spotted seatrout (21%), and red snapper (16%) accounted for most of the landings during 1983-91 (Figure 16). Eighty-eight percent of the king mackerel landed in 1990-91 were landed off the Corpus Christi area (Appendix F, Table F.3).

Landings of king mackerel from the TTS during 1983-91 ranged from a high of 9,500 fish in 1983-84 to a low of 700 fish in 1986-87 (Appendix F, Table F.3). An estimated 1,700 king mackerel were landed in 1990-91. CPUE during 1983-91 varied from year to year (Appendix F, Table F.4). Mean fish length and weight have decreased since 1989-90, averaging 898 mm and 7.16 kg in 1990-91 (Appendix F, Tables F.6, F.7).

Spotted seatrout were not landed in all years. An estimated 200 fish averaging 493 mm and 1.19 kg were landed in 1990-91 (Appendix F, Tables F.3, F.6, and F.7).

Red snapper were not landed in all years. An estimated 100 fish, averaging 204 mm and 0.10 kg were landed in 1990-91 (Appendix F, Tables F.3, F.6, F.7).

During 1983-91, 37-76% of party-boat fishing trips in the TTS were made by anglers from non-coastal counties. Thirty-two percent of the trips in 1990-91 were made by anglers from adjacent coastal counties (Appendix F, Table F.9). Annual coastwide mean fishing party size and mean trip length ranged from 3.4 to 5.0 people and from 5.5 to 8.2 h during 1983-91 (Appendix F, Table F.2).



## Exclusive Economic Zone

## Private-boat Fishing

During the past 9 years, annual coastwide pressure by private-boat anglers in the EEZ declined slightly in 1990-91 (234,800 man-h) from the period-high estimates in 1989-90 (Figure 27). An estimated 53,800 fish were landed in 1990-91. During 1982-91, most pressure occurred offshore from the Corpus Christi (40%) and Galveston (33%) Bay areas (Figure 28); landings were greatest offshore from the Galveston (47%) and Matagorda (26%) Bay areas.

Red snapper accounted for 40% of the annual coastwide landings by private-boat anglers during 1982-91 (Figure 24). King mackerel and sand seatrout made up 14% and 12% of the landings, respectively (Figure 24). Most king mackerel (88%) were landed off the Corpus Christi Bay area, while most red snapper (54%) and sand seatrout (73%) were landed off the Matagorda Bay area (Appendix G, Table G.3).

Landings of king mackerel ranged from a high of 15,500 fish in 1982-83 to a low of 5,500 fish in 1988-89 (Figure 29). Landings for 1990-91 were 15,200 fish. CPUE ranged from 0.06 fish/man-h in 1982-83 to 0.03 in 1989-90. CPUE for 1990-91 was 0.06 fish/man-h. From 1989-90 to 1990-91, mean length decreased from 946 mm to 935 mm, while mean weight increased from 7.44 kg to 8.17 kg.

Landings of red snapper decreased from 26,700 fish in 1989-90 to 9,100 fish in 1990-91 (Figure 30). CPUE decreased in 1989-90 and again in 1990-91. Red snapper averaged 365 mm and 0.75 kg in 1990-91.

Landings of sand seatrout declined from a high of 53,600 fish in 1982-83 to a low of 300 fish in 1988-89. Landings increased to 5,800 in 1989-90, but decreased to 1,500 fish in 1990-91 (Appendix G, Table G.3). CPUE decreased similarly (Appendix G, Table G.4). Sand seatrout averaged 329 mm and 0.39 kg in 1990-91 (Appendix G, Table G.6, G.7).

During 1982-91, most private-boat fishing trips (76-87%) were made by anglers from adjacent coastal or non-coastal counties (Appendix G, Table G.8). Annual coastwide mean fishing party size and mean trip length ranged from 3.0 to 3.3 people and from 7.3 to 8.1 h during 1982-91 (Appendix G, Table G.2).

## Party-boat Fishing

Annual coastwide pressure by EEZ party-boat anglers of 31,700 man-h in 1990-91 was the highest pressure in the last 3 years, but below the 8 year mean of 51,800 man-h. (Appendix H, Table H.2). Trends in annual coastwide pressure closely paralleled those for landings. An estimated 13,000 fish were landed in 1990-91, compared to 8,100 fish in 1989-90 (Appendix H, Table H.3). Most pressure occurred offshore from the Corpus Christi (43%) and Galveston (37%) Bay areas during 1983-91. Landings were greatest offshore from the Corpus Christi (50%) and lower Laguna Madre (27%) Bay areas.

King mackerel accounted for 25% of the annual coastwide party-boat landings in the EEZ during 1983-91; red snapper accounted for 13% (Appendix H, Table H.3).

Landings of king mackerel increased to 2,300 fish in 1990-91 after decreasing over 95% from 13,500 fish in 1983-84 to 600 fish in 1989-90 (Appendix H, Table H.3). The 1990-91 CPUE of 0.07 fish/man-h equalled the mean during 1983-91 when CPUE ranged from 0.14 fish/man-h in 1984-85 to 0.03 fish/man-h in 1987-88 (Appendix H, Table H.4). Mean length and weight decreased from 1,014 mm and 9.95 kg in 1989-90 to 907 mm and 7.53 kg in 1990-91 (Appendix H, Tables H.5 and H.6).

Landings and CPUE of red snapper decreased from a high of 4,000 fish in 1988-89 to a low of 400 fish in 1989-90 before increasing slightly to 600 fish in 1990-91 (Appendix H, Tables H.3, H.4). CPUE dropped to 0.02 fish/man-h in 1990-91 (Appendix H, Table H.4). After declining to an eight year low of 340 mm and 0.54 kg in 1989-90, mean length and weight increased slightly in 1990-91 to 365 mm and 0.67 kg (Appendix H, Tables H.5, H.6).

During 1983-91, party-boat anglers originated primarily (49-60%) from non-coastal counties (Appendix H, Table H.8). Annual coastwide mean fishing party size and mean trip length ranged from 3.9 to 5.0 people and from 7.0 to 8.7 h during 1983-91 (Appendix H, Table H.2).

#### DISCUSSION

As participation in the saltwater fishery has increased over the past 16 years, landings have decreased. The general decline in Texas private-boat landings and catch rates since 1974-76 may reflect a decrease in fish availability as well as more restrictive size and bag limits on selected species. A decline in fish abundance has been documented by the TPWD fisheries-independent monitoring program (McEachron and Green 1984b, 1986; Rice et al. 1988; Dailey et al. 1988; Mambretti et al. 1990; Dailey et al. 1991). A coastwide decline in sampling gear catch rates was reported for spotted seatrout from 1976 to 1979. By 1984, gill net catch rates for spotted seatrout had declined to the lowest level recorded. Red drum gill net catch rates also declined (from 1976 to 1978 and since 1980) but increased in 1986 to one of the highest levels recorded. These two species together made up nearly half of the landings by private-boat anglers in Texas bays and passes.

To curb the decline in finfish availability, the Texas Legislature and the Texas Parks and Wildlife Commission enacted bag, possession and size limit regulations designed to restrict harvest of spotted seatrout and red drum (Texas Parks and Wildlife Department 1979, 1981, 1983, 1985, 1987, 1988, 1991). Stabilization of mean catch rates of red drum since 1979-80, except for 1984-85, and the increase in mean sizes for these two species since 1979-80 indicates that these regulations are accomplishing their intended purpose.

Several natural disasters have occurred in the last 7 years and have effected coastwide landings and pressure. The Texas coast experienced a severe fish kill due to cold temperatures during late December 1983 and early

January 1984. Freezes also occurred in February 1989 and December 1989. About 14 million fish were killed in 1983-84, 11 million in February 1989 and 6 million in December 1989. (McEachron et al. In preparation). Consistent with these mortalities, sport-boat fishing pressure declined in all bay systems in 1984-85 except the lower Laguna Madre; landings declined in all bays except Galveston Bay. Similarly, in 1989-90, pressure declined in all bay systems except Aransas Bay and landings declined in all bays except San Antonio Bay. In contrast, an outbreak of red tide from September through December 1986, apparently had negligible impact on pressure and landings.

Landings and effort data for charter-boat (party-boat) anglers have been routinely collected only since 1982 (McEachron and Matlock 1983). Various difficulties in surveying charter-boat anglers, such as high mobility and seasonality of boat operators (Fraser et al. 1977) and noncooperation by boat owners (McEachron 1984), have been noted. The charter industry, however, is a significant component of the total sport-boat fishery in Texas (Ditton et al. 1978). Catch rates of charter-boat anglers are appreciably greater than those reported for non-charter anglers (Trent 1977; McEachron 1984; Osburn and Ferguson 1985a, 1986, 1987) principally due to the fish guides' greater knowledge of "good" fishing areas (Caillouet and Higman 1978). The demonstrated success of the charter fishery coupled with the increasing number of boats in the industry emphasizes the need to continue monitoring the landings and effort of charter-boat anglers.

This report presents pressure and landings estimates and associated variances. These estimates should be considered minimum since they do not include night-time private-boat and party-boat fishing. There are also sites where boats can dock, but TPWD has no access to conduct surveys (e.g., condominiums and private residences). Ferguson and Green (1987) estimated from 25-30% of all saltwater sport-boat fishing trips originated from unsurveyed launch sites. There is also a lack of adequate data to monitor the fishing pressure and landings of shore-based anglers in Texas (e.g., wade/bank, pier and jetty). McEachron et al. (1981) reported that these shore-based strata accounted for 33-36% of the coastwide sport-fishing landings. Resolutions of these limitations in the sport-boat monitoring program are currently being pursued, as well as methods to improve survey efficiency.

## LITERATURE CITED

- Breuer, J. P., R. L. Benefield, M. G. Weixelman, A. R. Martinez, and I. Nava. 1977. Survey of finfish harvest in selected Texas bays, Segment II. Project Report No. 2-231-R-2. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- Caillouet, C. W. Jr., and J. B. Higman. 1978. Accuracy of sampling procedures and catch rates in sport fishing. Coastal Zone Management Bulletin Number 1. University of Miami. Sea Grant College Program. Miami, Florida.
- Campbell, R. P., C. Hons, L. M. Green. 1991. Trends in finfish landings of sport-boat anglers in Texas marine waters, May 1974-May 1990. Management Data Series Number 75. Texas Parks and Wildlife Department. Fisheries and Wildlife Division. Austin, Texas.
- Dailey, J. A., P. C. Hammerschmidt, and L. W. McEachron. 1988. Trends in relative abundance of selected finfishes in Texas bays: November 1975-December 1987. Management Data Series Number 155. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- Dailey, J. A., J. C. Kana, and L. W. McEachron. 1991. Trends in relative abundance and size of selected finfishes and shellfishes along the Texas coast: November 1975-December 1989. Management Data Series Number 53. Texas Parks and Wildlife Department, Fisheries Division. Austin, Texas.
- Ditton, R. B., R. N. Jarman, and S. A. Woods. 1978. An analysis of the charter fishing industry on the Texas Gulf coast. Marine Fisheries Review. 40(8):1-7.
- Ferguson, M. O., and A. W. Green. 1987. An estimate of unsurveyed coastal recreational boat fishing activity in Texas. Marine Fisheries Review. 49(2):155-161.
- Fraser, M. B., J. A. Henderson, and J. F. McManus. 1977. Survey of commercial sport-fishing boats in the coastal United States. Publication Number ORESU-T-77-009. Oregon State University, Sea Grant College Program. Corvallis, Oregon.
- Gallaway, B. J., J. C. Parker, and D. Moore. 1972. Key to the estuarine and marine fishes of Texas. Publication Number TAMU-SG-72-402. Texas A&M University, Sea Grant College Program. College Station, Texas.
- Green, A. W., T. L. Heffernan, and J. P. Breuer. 1978. Recreational and commercial finfish catch statistics for Texas bay systems, September 1974 to August 1977. Project Report Number 2-293-R. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- Green, L. M., R. P. Campbell, and K. W. Spiller. 1991a. Trends in finfish

- landings, and social and economic characteristics of sport-boat fishermen in Texas marine waters, May 1974-May 1989. Management Data Series Number 56. Texas Parks and Wildlife Department, Fisheries Division. Austin, Texas.
- Green, L. M., R. P. Campbell, and K. W. Spiller. 1991b. Trends in finfish landings, and social and economic characteristics of sport-boat fishermen in Texas marine waters, May 1974-May 1989: appendicies. Management Data Series Number 56A. Texas Parks and Wildlife Department, Fisheries Division. Austin, Texas.
- Harrington, R. A., G. C. Matlock, and J. E. Weaver. 1979. Length-weight and dressed-whole weight conversion tables for selected saltwater fishes. Management Data Series Number 6. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- Heffernan, T. L., A. W. Green, L. W. McEachron, M. G. Weixelman, P. C. Hammerschmidt, and R. A. Harrington. 1976. Survey of finfish harvest in selected Texas bays. Project Report Number 2-231-R-1. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- Hoese, H. D., and R. H. Moore. 1977. Fishes of the Gulf of Mexico, Texas, Louisiana and adjacent waters. Texas A&M University Press, College Station, Texas.
- Kish, L. 1965. Survey sampling. John Wiley and Sons, New York.
- Maddux, H. R., H. R. Osburn, D. L. Trimm, and K. W. Spiller. 1989. Trends in finfish landings by sport-boat anglers in Texas marine waters, May 1974-May 1989. Management Data Series Number 8. Texas Parks and Wildlife Department, Fisheries Division. Austin, Texas.
- Mambretti, J. M., J. A. Dailey, and L. W. McEachron. 1990. Trends in relative abundance and size of selected finfishes and shellfishes along the Texas coast: November 1975-December 1988. Management Data Series Number 20. Texas Parks and Wildlife Department, Fisheries Division. Austin, Texas.
- McEachron, L. W. 1980a. Recreational and commercial finfish catch statistics for Texas bay systems, September 1977-August 1978. Management Data Series Number 7. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- McEachron, L. W. 1980b. Recreational and commercial finfish catch statistics for Texas bay systems, September 1978-August 1979. Management Data Series Number 9. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- McEachron, L. W. 1983. Harvest estimates for Texas charter boats, September 1980-August 1981. Management Data Series Number 48. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.

- McEachron, L. W. 1984. Harvest estimates for Texas marine charter boats (1978-1982). Technical Series Number 29. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- McEachron, L. W., P. Campbell, and K. Meador. 1984a. Harvest by Texas headboat anglers during September 1982-May 1983. Management Data Series Number 58. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- McEachron, L. W., and A. W. Green. 1981. Recreational finfish catch statistics for Texas bay systems, September 1979-August 1980. Management Data Series Number 25. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- McEachron, L. W., and A. W. Green. 1982. Weekend sport-boat anglers finfish catch statistics for Texas bay systems, May 1974-May 1981. Management Data Series Number 35. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- McEachron, L. W., and A. W. Green. 1983. Weekend sport-boat anglers finfish catch statistics for Texas bay systems, May 1974-May 1982. Management Data Series Number 50. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- McEachron, L. W., and A. W. Green. 1984a. Weekend sport-boat anglers finfish catch statistics for Texas bay systems, May 1974-May 1983. Management Data Series Number 59. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- McEachron, L. W., and A. W. Green. 1984b. Assessment of annual relative abundance and mean length of six marine fishes in Texas coastal waters. Proceedings 38th Annual Conference Southeastern Association Fish Wildlife Agencies. 38:506-519.
- McEachron, L. W., and A. W. Green. 1986. Trends in relative abundance and size of selected finfish in Texas bays: November 1975-June 1985. Management Data Series Number 91. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- McEachron, L. W., A. W. Green, L. Z. Barrington, M. G. Weixelman, P. Campbell-Hostettler, R. A. Spaw, K. W. Spiller, and J. P. Breuer. 1981. Survey of finfish harvest of sport anglers in selected Texas bays, September-August 1974-76 and 1979-1980. Management Data Series Number 24. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- McEachron, L. W., A. W. Green, and G. E. Saul. 1983. Increasing sampling efficiency in creel surveys. Proceedings 37th Annual Conference Southeastern Association Fish Wildlife Agencies. 37:376-384.
- McEachron, L. W., and G. C. Matlock. 1983. An estimate of harvest by the Texas charter boat fishery. Marine Fisheries Review. 45(1):11-17.

- McEachron, L. W., G. Saul, J. Cox, C. E. Bryan, and G. Matlock. 1984b. Fish kill. Texas Parks and Wildlife Magazine. XLII(4):10-13.
- McEachron, L. W., G. C. Matlock, C. E. Bryan, T. J. Cody, P. A. Unger, P. Chai, J. E. Martin. In preparation. Winter mass mortality of organisms in Texas bays.
- Mendenhall, W., L. Ott, and R. L. Schaeffer. 1971. Elementary survey sampling. Wadsworth Publishing Company, Incorporated. Belmont, California.
- Murdy, E. O. 1983. Saltwater fishes of Texas, a dichotomous key. Publication Number TAMU-SG-83-607. Texas A&M University, Sea Grant College Program. College Station, Texas.
- Osburn, H. R. and M. O. Ferguson. 1985a. Charterboat anglers finfish catch statistics for Texas marine waters (May 1983-May 1984). Management Data Series Number 77. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- Osburn, H. R. and M. O. Ferguson. 1985b. Trends in finfish catches by private sport-boat anglers in Texas marine waters through May 1984. Management Data Series Number 78. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- Osburn, H. R. and M. O. Ferguson. 1986. Trends in finfish landings by sport-boat anglers in Texas marine waters: May 1974-May 1985. Management Data Series Number 90. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- Osburn, H. R. and M. O. Ferguson. 1987. Trends in finfish landings by sport-boat anglers in Texas marine waters: May 1974-May 1986. Management Data Series Number 119. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- Osburn, H. R., M. F. Osborn, and H. R. Maddux. 1988. Trends in finfish landings by sport-boat anglers in Texas marine waters: May 1974-May 1987. Management Data Series Number 150. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.

- Osburn, H. R., and M. G. Weixelman. 1989. Increasing creel interview efficiency through early survey termination. *Marine Fisheries Review*. 51(1):39-43.
- Rice, K. W., L. W. McEachron, and P. C. Hammerschmidt. 1988. Trends in relative abundance and size of selected finfishes in Texas bays: November 1975-December 1986. Management Data Series Number 139. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- Robins, R. C., R. M. Bailey, C. E. Bond, J. R. Brooker, E. A. Lachner, R. N. Lea, and W. B. Scott. 1980. A list of common and scientific names of fishes from the United States and Canada. Special Publication Number 12. 4th edition. American Fisheries Society. Bethesda, Maryland.
- Spiller, K. W., A. W. Green, and H. R. Osburn. 1988. Increasing efficiency of angler surveys: cancellation of sampling during inclement weather. *North American Journal of Fisheries Management*. 8:132-138.
- Texas Parks and Wildlife Department. 1979. Saltwater finfish research and management in Texas: A report to the Governor and the 66th Legislature. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- Texas Parks and Wildlife Department. 1981. Saltwater finfish research and management in Texas: A report to the Governor and the 67th Legislature. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- Texas Parks and Wildlife Department. 1983. Saltwater finfish research and Management in Texas: A report to the Governor and the 68th Legislature. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- Texas Parks and Wildlife Department. 1985. Saltwater finfish research and management in Texas: A report to the Governor and the 69th Legislature. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- Texas Parks and Wildlife Department. 1987. Saltwater finfish research and management in Texas: A report to the Governor and the 70th Legislature. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- Texas Parks and Wildlife Department. 1988. Saltwater finfish research and management in Texas: A report to the Governor and the 71st Legislature. Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.
- Texas Parks and Wildlife Department. 1991. Saltwater finfish research and management in Texas: A report to the Governor and the 72nd Legislature.



Texas Parks and Wildlife Department, Coastal Fisheries Branch. Austin, Texas.

Texas Water Development Board. 1987. Regional and statewide economic impacts of sportfishing, other recreational activities, and commercial fishing associated with major bays and estuaries of the Texas gulf coast: executive summary. Texas Water Development Board. Austin, Texas.

Trent, L. 1977. Evaluation of the marine recreational fisheries in the Northwestern Gulf of Mexico from Port Aransas to Port Isabel, Texas, 1975-76. In: Environmental studies of the south Texas outer continental shelf 1975. Addendum to Volume 1. NOAA Final Report to Bureau of Land Management, Interagency Agreement Number O8550-IA5-19.

United States Fish and Wildlife Service. 1989. 1985 national survey of fishing, hunting and wildlife-associated recreation: Texas. United States Department of the Interior, Fish and Wildlife Service. Washington, District of Columbia.

Weixelman, M. G., and A. W. Green. 1984. Increasing creel survey efficiency: early termination of surveys on inactive days. Proceedings 38th Annual Conference Southeastern Association Fish Wildlife Agencies. 38:583-589.

Table 1. Annual and seasonal sport-boat fishing pressure (man-h x 1,000) and finfish landings (No. x 1,000) by year, area fished and stratum (1983-1991).

Year	Area	High-use		Low-use		Annual*	
		Pressure	Landings	Pressure	Landings	Pressure	Landings
1983-1984							
	Bay and Pass						
	Private boat	4,465.7	2,089.4	1,180.3	387.9	5,646.0	2,477.3
	Party boat	206.8	240.7	44.3	22.2	249.9	261.8
	Headboat	162.1	129.1	28.6	7.6	190.7	136.6
	Total	4,834.6	2,459.2	1,253.2	417.7	6,086.6	2,875.7
	Territorial Sea						
	Private boat	311.5	29.0	32.5	7.7	344.0	32.7
	Party boat	46.5	20.7	0.0	0.0	46.5	20.7
	Total	358.0	49.7	32.5	7.7	390.5	53.4
	Exclusive Economic Zone						
	Private boat	197.2	76.7	23.5	8.4	220.7	81.3
	Party boat	117.1	33.5	0.0	0.0	117.1	33.5
	Total	314.3	110.2	23.5	8.4	337.8	114.8
	Grand Total*	5,506.9	2,619.1	1,309.2	433.8	6,814.9	3,043.9
1984-1985							
	Bay and Pass						
	Private boat	2,705.0	1,059.5	1,378.1	402.8	4,083.1	1,462.3
	Party boat	89.7	41.8	37.5	25.6	127.6	67.6
	Headboat	108.1	65.6	31.2	9.6	139.3	75.3
	Total	2,902.8	1,166.9	1,446.8	438.0	4,350.0	1,605.2
	Territorial Sea						
	Private boat	127.0	22.7	21.6	20.8	148.6	42.8
	Party boat	11.4	1.5	4.5	1.3	15.9	2.9
	Total	138.4	24.2	26.1	22.1	164.5	45.7
	Exclusive Economic Zone						
	Private boat	159.9	42.4	9.5	11.4	169.1	51.2
	Party boat	26.5	5.8	3.5	0.8	30.0	6.6
	Total	186.0	48.2	13.0	12.2	199.1	57.8
	Grand Total*	3,227.2	1,239.3	1,485.9	472.3	4,713.6	1,708.7

Table 1. (Cont'd.)

Year Area Stratum	High-use		Low-use		Annual*	
	Pressure	Landings	Pressure	Landings	Pressure	Landings
1985-1986						
Bay and Pass						
Private boat	3,269.9	1,212.6	2,208.1	514.8	5,477.9	1,727.4
Party boat	129.2	69.1	95.7	34.9	224.8	104.0
Headboat	179.5	218.8	30.0	13.3	209.6	232.0
Total	3,578.6	1,500.5	2,333.8	563.0	5,912.3	2,063.4
Territorial Sea						
Private boat	161.5	29.2	15.3	10.6	176.9	39.8
Party boat	18.6	5.7	0.0	0.0	18.6	5.6
Total	180.1	34.9	15.3	10.6	195.5	45.4
Exclusive Economic Zone						
Private boat	253.1	50.9	14.4	21.1	267.5	72.1
Party boat	18.0	8.8	0.0	0.0	18.0	8.8
Total	271.1	59.7	14.4	21.1	285.5	80.9
Grand Total*	4,029.8	1,595.1	2,363.5	594.7	6,393.3	2,189.7
1986-1987						
Bay and Pass						
Private boat	4,020.0	1,720.4	2,350.8	718.7	6,370.8	2,439.2
Party boat	151.3	97.5	62.4	42.8	213.7	140.3
Headboat	90.7	90.7	18.2	5.7	108.9	96.5
Total	4,262.0	1,908.6	2,431.4	767.2	6,693.4	2,676.0
Territorial Sea						
Private boat	259.1	72.7	21.9	9.2	280.9	81.9
Party boat	7.2	1.4	0.4	0.6	7.6	1.9
Total	266.3	74.1	22.3	9.8	288.5	83.8
Exclusive Economic Zone						
Private boat	171.1	36.1	17.7	16.6	188.7	52.6
Party boat	41.2	12.5	3.2	0.8	44.4	13.3
Total	212.3	48.6	20.9	17.4	233.1	65.9
Grand Total*	4,740.6	2,031.3	2,474.6	794.4	7,215.0	2,825.7

Table 1. (Cont'd.)

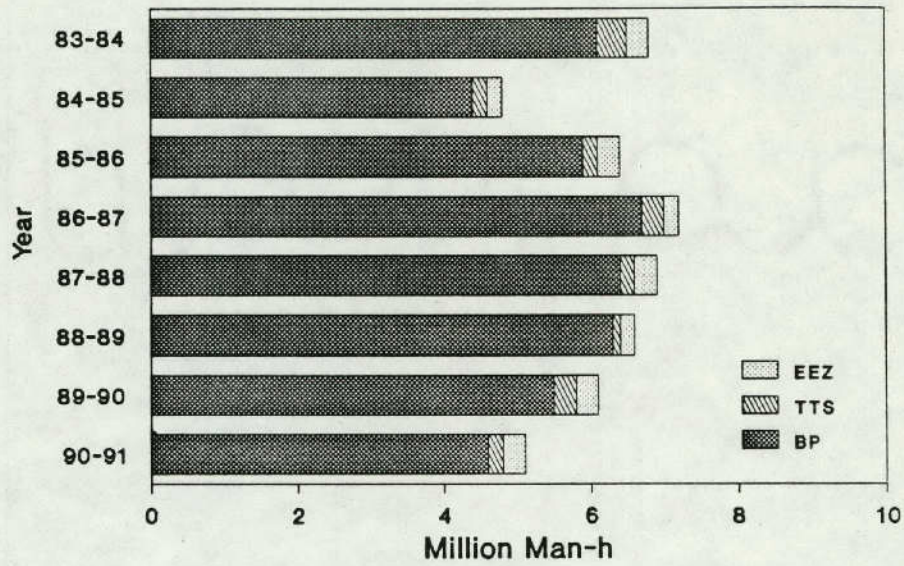
Year Area Stratum	High-use		Low-use		Annual <sup>a</sup>	
	Pressure	Landings	Pressure	Landings	Pressure	Landings
1987-1988						
Bay and Pass						
Private boat	5,061.2	2,144.3	1,847.9	582.7	6,909.1	2,727.0
Party boat	172.4	108.3	39.6	12.5	212.0	120.8
Headboat	164.5	126.9	17.8	5.1	182.3	132.0
Total	5,398.1	2,379.5	1,905.3	600.3	7,303.4	2,979.8
Territorial Sea						
Private boat	268.7	42.4	17.3	4.3	285.9	46.7
Party boat	20.1	6.4	0.0	0.0	20.1	6.5
Total	288.8	48.8	17.3	4.3	306.0	53.2
Exclusive Economic Zone						
Private boat	182.2	48.9	21.3	24.6	203.5	73.5
Party boat	138.6	25.8	2.3	1.5	140.8	27.3
Total	320.8	74.7	23.6	26.1	344.3	100.8
Grand Total <sup>a</sup>	6,007.7	2,503.0	1,946.2	630.7	7,953.7	3,133.8
1988-1989						
Bay and Pass						
Private boat	4,297.8	1,591.9	1,588.0	549.9	5,885.8	2,141.8
Party boat	188.6	115.9	63.5	37.8	252.1	153.7
Headboat	105.9	99.9	14.3	4.0	120.2	104.0
Total	4,592.3	1,807.7	1,665.8	591.7	6,258.1	2,399.5
Territorial Sea						
Private boat	122.4	22.5	15.2	3.1	137.6	25.6
Party boat	9.9	2.2	0.0	0.0	9.9	2.2
Total	132.3	24.7	15.2	3.1	147.5	27.8
Exclusive Economic Zone						
Private boat	134.0	68.7	9.9	4.9	143.9	73.7
Party boat	20.2	7.9	0.0	0.0	20.2	7.9
Total	154.2	76.6	9.9	4.9	164.1	81.6
Grand Total <sup>a</sup>	4,878.8	1,909.0	1,690.9	599.7	6,569.7	2,508.9

Table 1. (Cont'd.)

Year Area Stratum	High-use		Low-use		Annual <sup>a</sup>	
	Pressure	Landings	Pressure	Landings	Pressure	Landings
1989-1990						
Bay and Pass						
Private boat	3,855.2	1,251.4	1,254.9	284.4	5,110.1	1,535.8
Party boat	271.0	124.3	32.4	5.2	303.4	129.5
Headboat	82.9	49.7	17.3	2.7	100.2	52.4
Total	4,209.1	1,425.4	1,304.6	292.3	5,513.7	1,717.7
Territorial Sea						
Private boat	220.5	44.6	2.9	1.1	223.4	45.7
Party boat	38.3	5.9	9.4	10.9	47.8	16.8
Total	258.8	50.5	12.3	12.0	271.2	62.5
Exclusive Economic Zone						
Private boat	256.2	85.7	16.6	2.3	272.8	88.1
Party boat	13.8	8.1	0.0	0.0	13.8	8.1
Total	270.0	93.8	16.6	2.3	286.6	96.2
Grand Total <sup>a</sup>	4,737.9	1,569.7	1,333.5	306.6	6,071.5	1,876.4
1990-1991						
Bay and Pass						
Private boat	3,153.9	981.6	1,155.2	319.0	4,309.0	1,300.6
Party boat	197.4	53.7	43.1	16.0	240.5	69.8
Headboat	77.5	42.4	20.8	10.5	98.3	52.9
Total	3,428.8	1,077.7	1,219.1	345.5	4,647.8	1,423.3
Territorial Sea						
Private boat	171.6	41.3	6.9	3.8	178.6	45.2
Party boat	15.6	2.4	0.0	0.0	15.6	2.4
Total	187.2	43.7	6.9	3.8	194.2	47.6
Exclusive Economic Zone						
Private boat	228.9	51.8	5.9	2.0	234.8	53.8
Party boat	31.7	13.0	0.0	0.0	31.7	13.0
Total	260.6	64.8	5.9	2.0	266.5	66.8
Grand Total <sup>a</sup>	3,876.6	1,186.2	1,231.9	351.3	5,108.5	1,537.7

<sup>a</sup>Due to rounding of numbers, these totals may not exactly equal individual totals.

## Pressure



## Landings

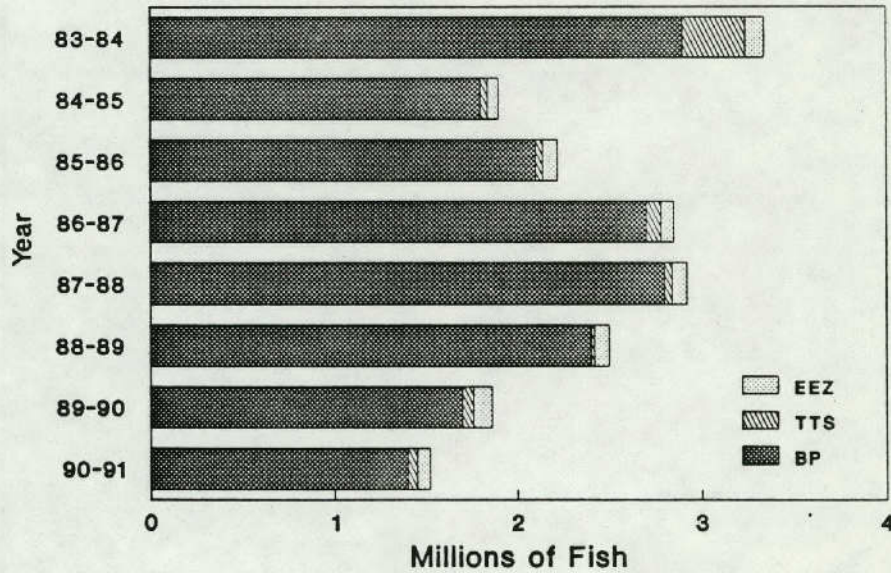


Figure 1. Annual coastwide sport-boat fishing pressure and landings in bays and passes (BP), the Texas Territorial Sea (TTS) and the Exclusive Economic Zone (EEZ), May 1983-May 1991.

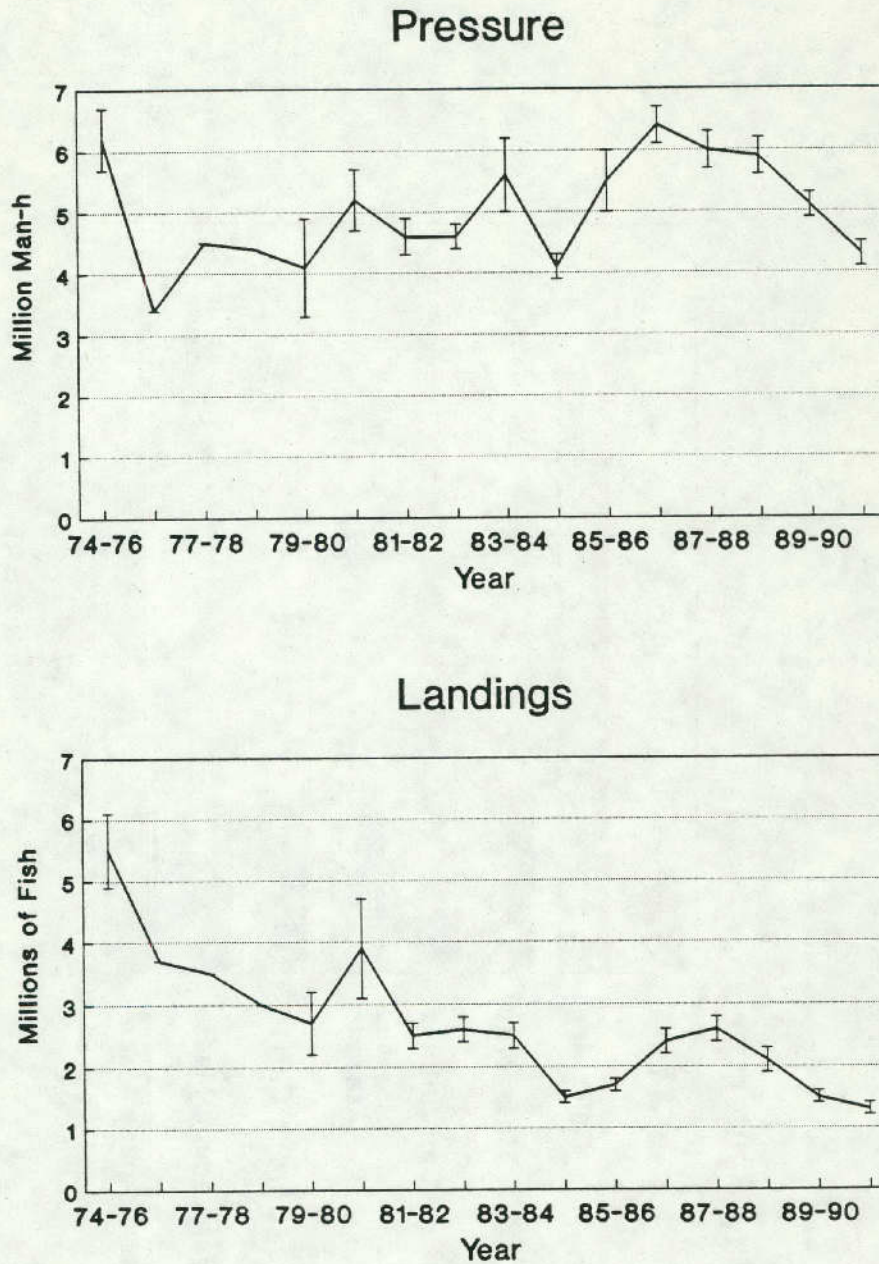


Figure 2. Annual coastwide private-boat fishing pressure ( $\pm 1$  SE) and landings ( $\pm 1$  SE) in Texas bays and passes, May 1974-May 1991.

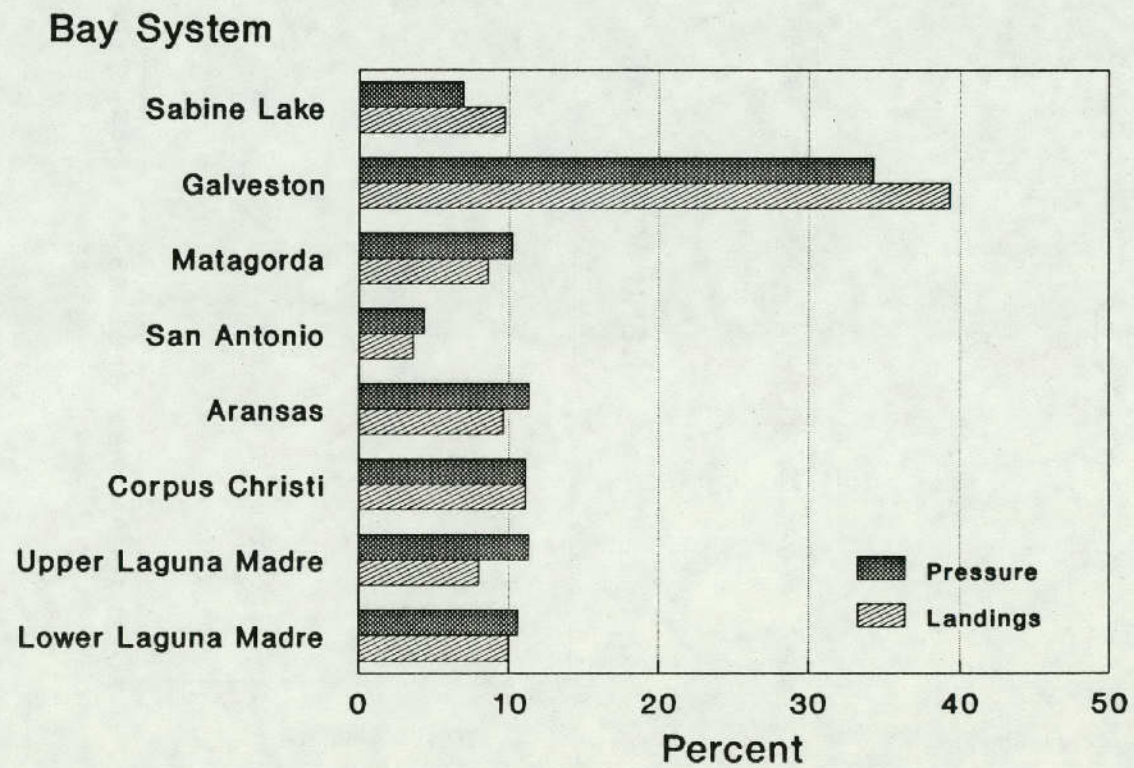


Figure 3. Distribution of annual coastwide bay and pass private-boat fishing pressure and landings among bay systems, May 1981-May 1991 (based on 4-year mean in Sabine Lake system and 10-year means in all other bay systems).



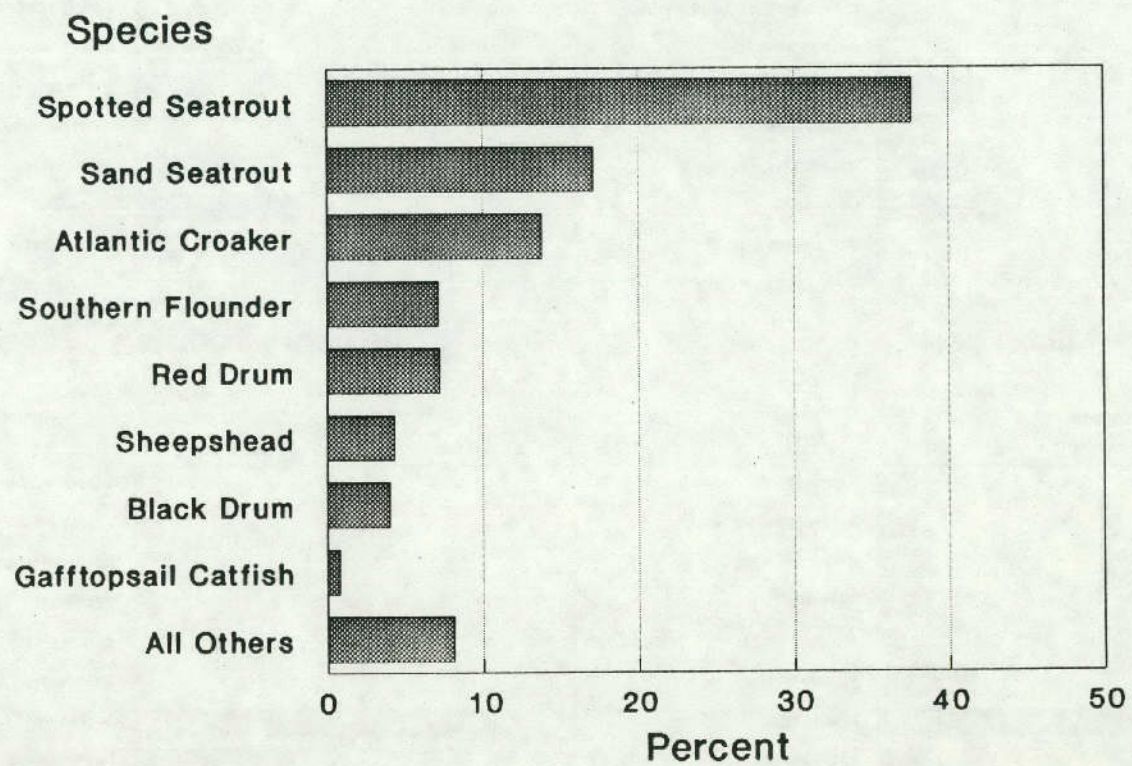


Figure 4. Species composition of annual coastwide bay and pass private-boat finfish landings, May 1981-May 1991 (10-year mean).

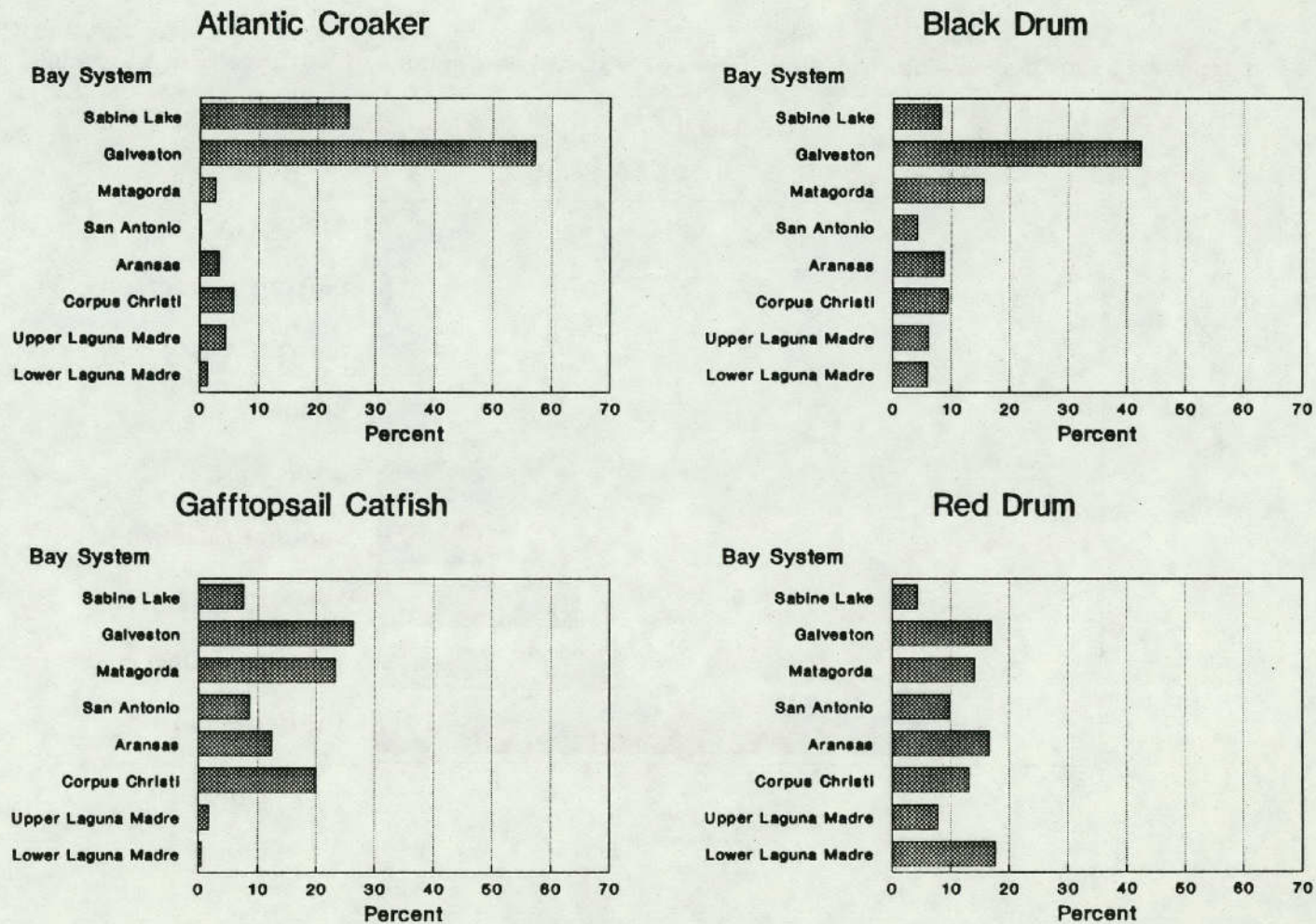


Figure 5. Distribution of annual coastwide bay and pass private-boat landings of selected finfishes among bay systems, May 1981-May 1991 (based on 4-year mean in Sabine Lake system and 10-year means in all other bay systems).

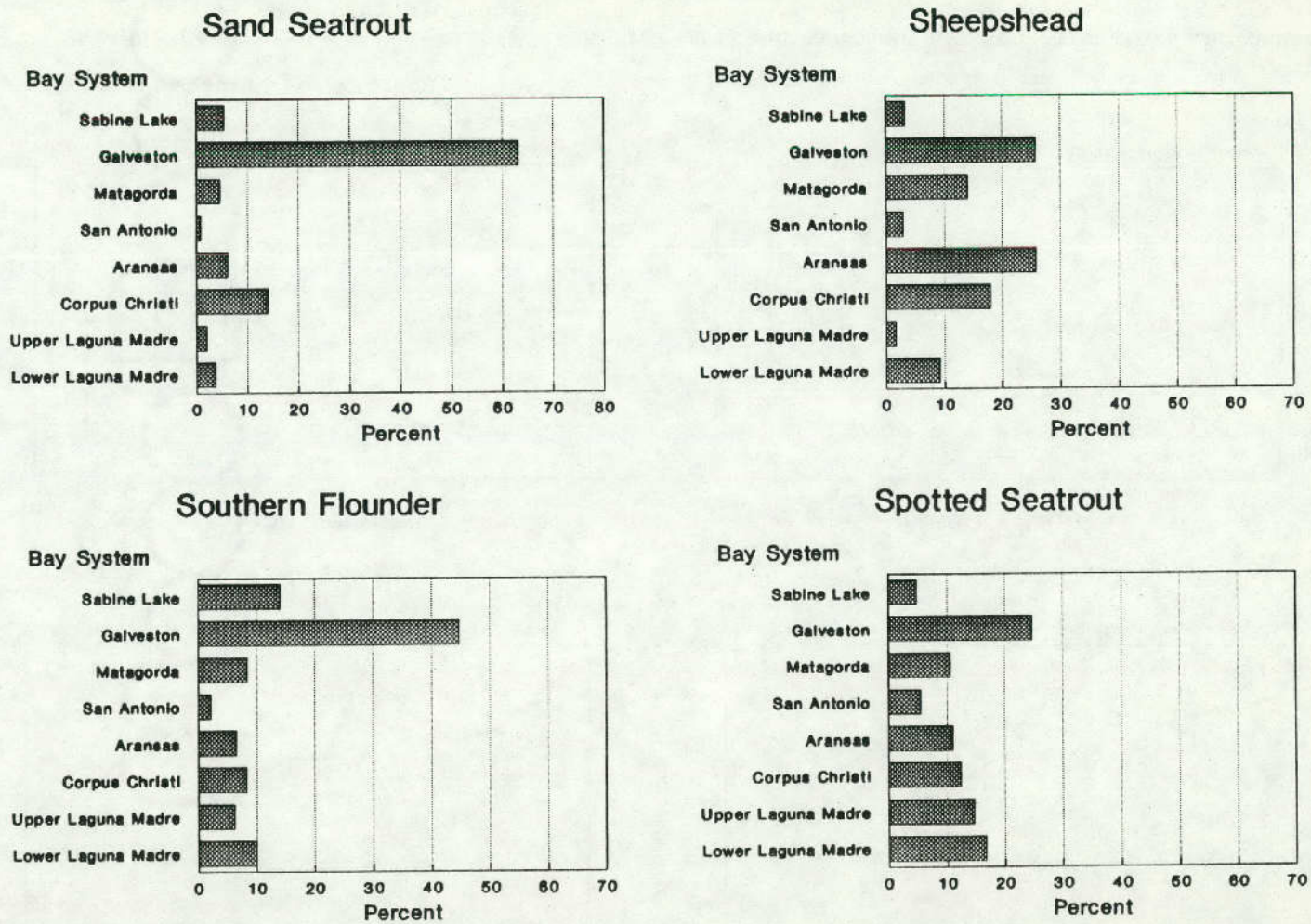


Figure 6. Distribution of annual coastwide bay and pass private-boat landings of selected finfishes among bay systems, May 1981-May 1991 (based on 4-year mean in Sabine Lake system and 10-year means in all other bay systems).

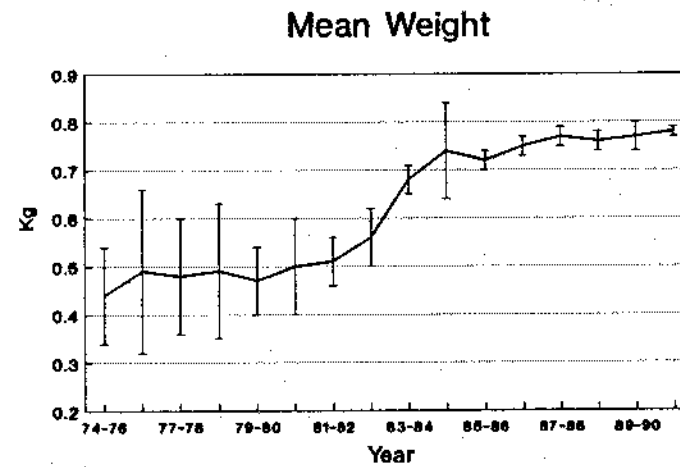
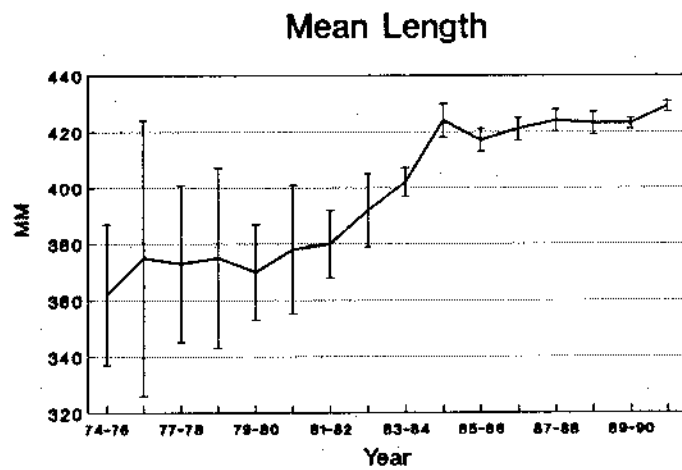
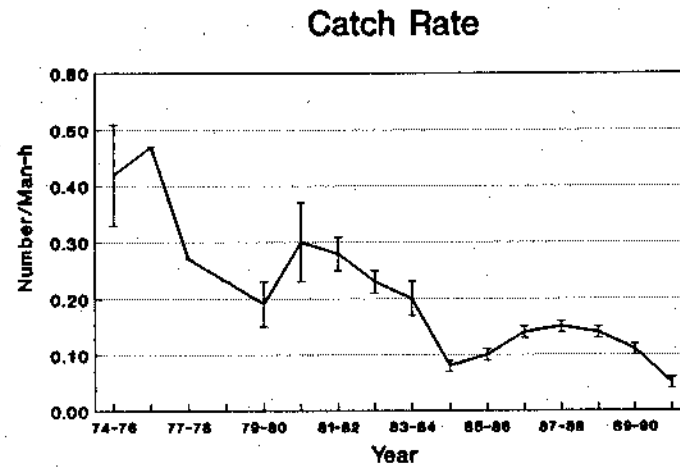
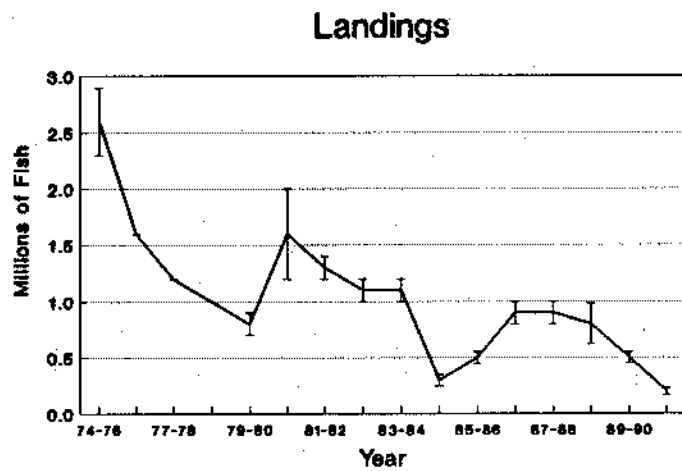


Figure 7. Annual coastwide statistics ( $\pm 1$  SE) for spotted seatrout landed from bays and passes by private-boat fishermen, May 1974-May 1991.

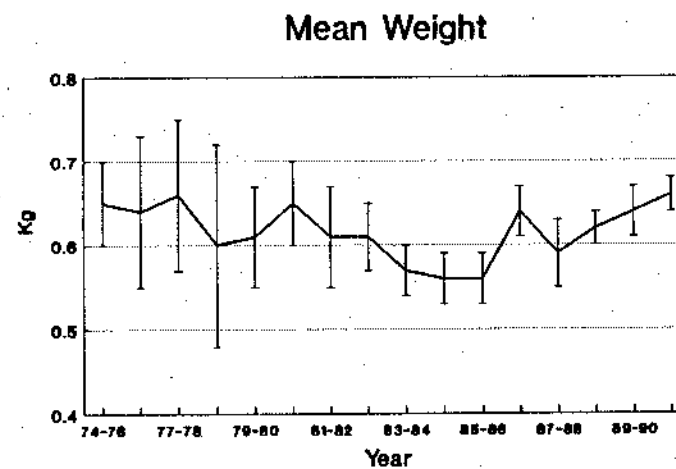
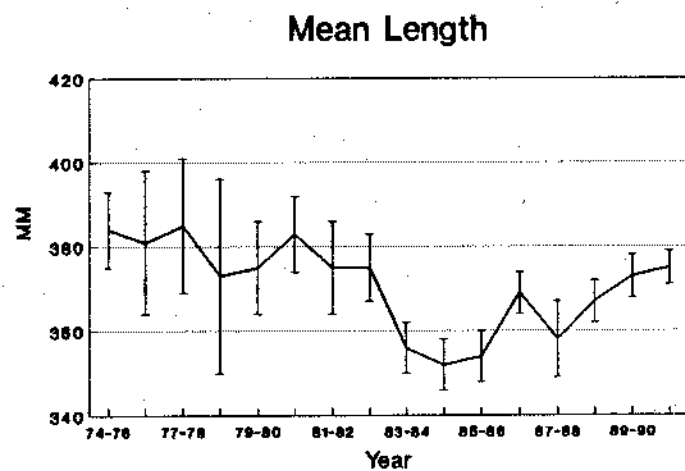
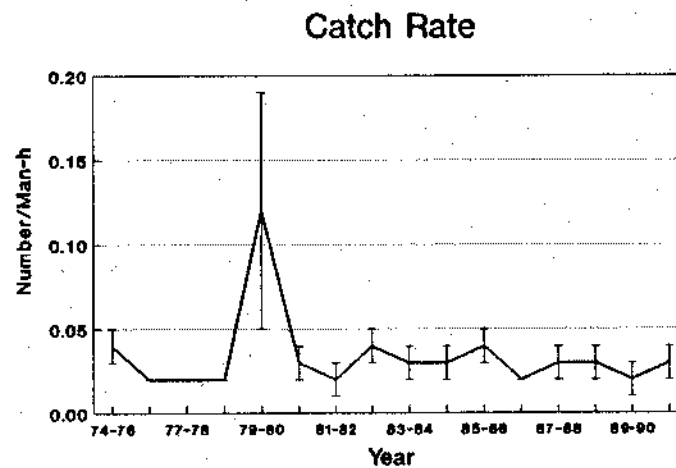
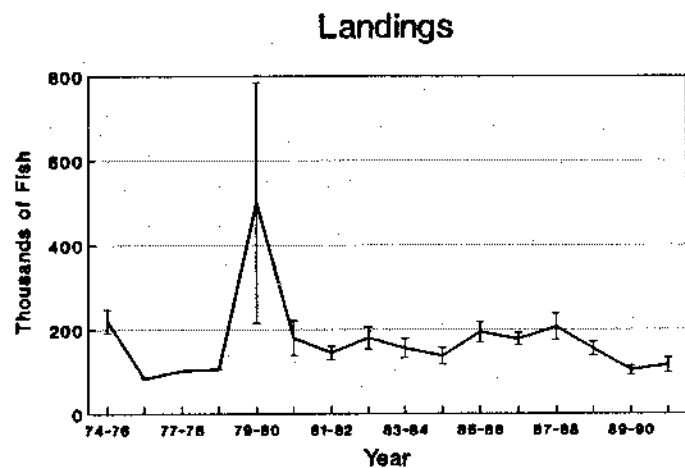


Figure 8. Annual coastwide statistics ( $\pm 1$  SE) for southern flounder landed from bays and passes by private-boat fishermen, May 1974-May 1991.

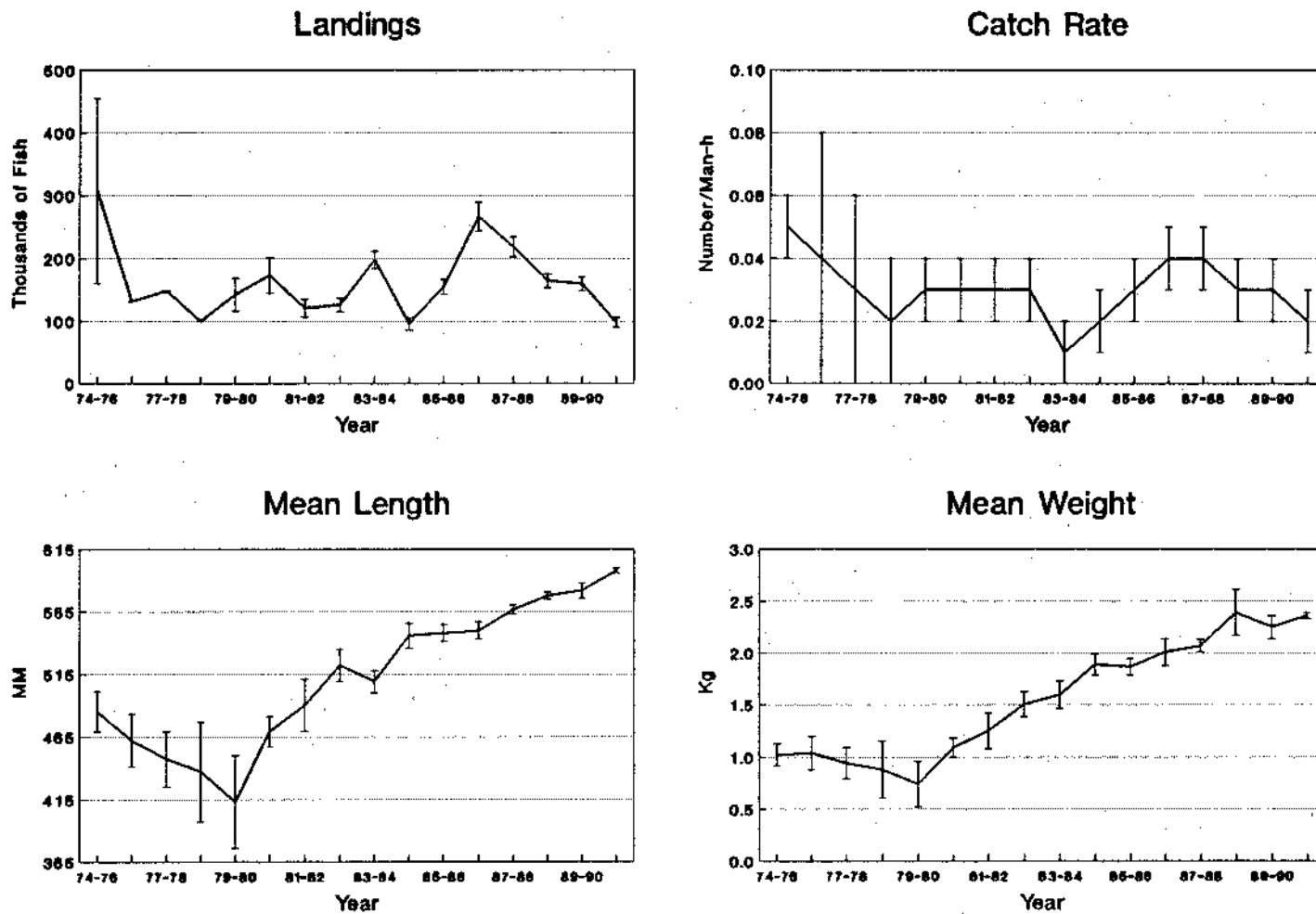


Figure 9. Annual coastwide statistics ( $\pm 1$  SE) for red drum landed from bays and passes by private-boat fishermen, May 1974-May 1991.

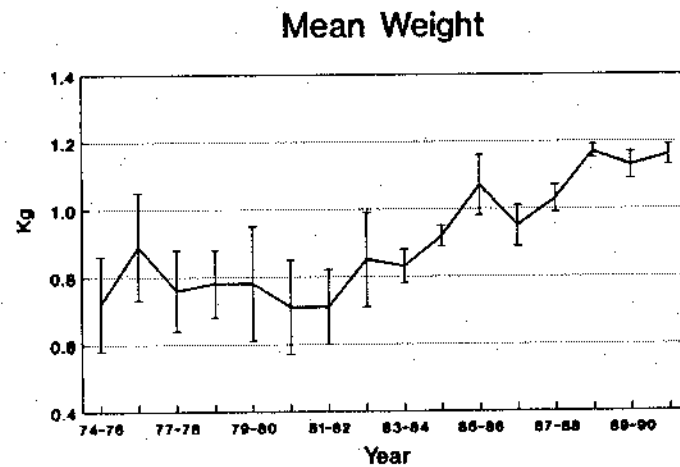
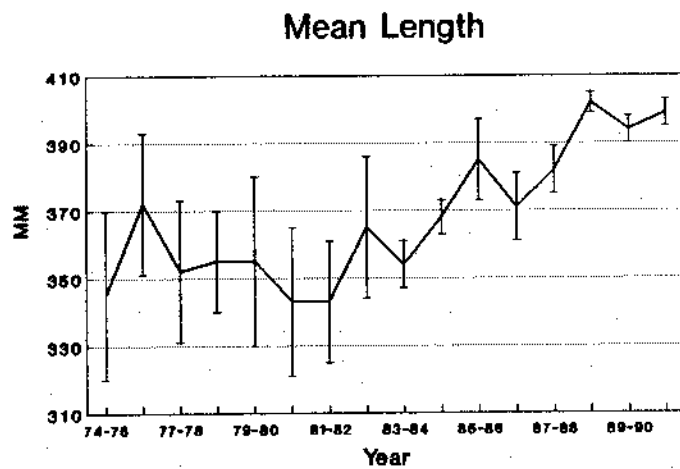
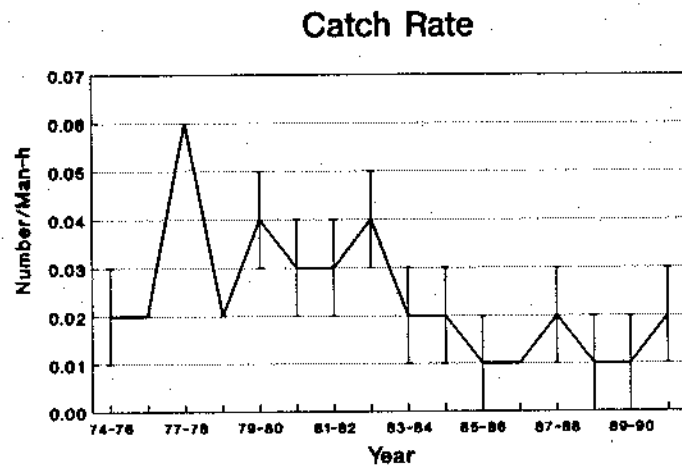
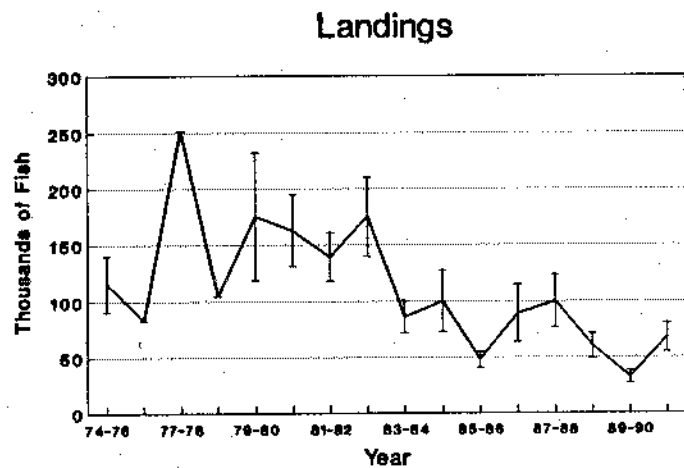


Figure 10. Annual coastwide statistics ( $\pm 1$  SE) for sheephead landed from bays and passes by private-boat fishermen, May 1974-May 1991.

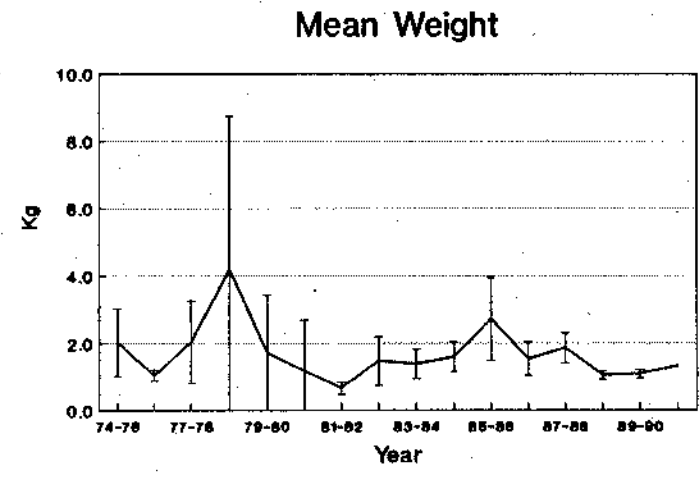
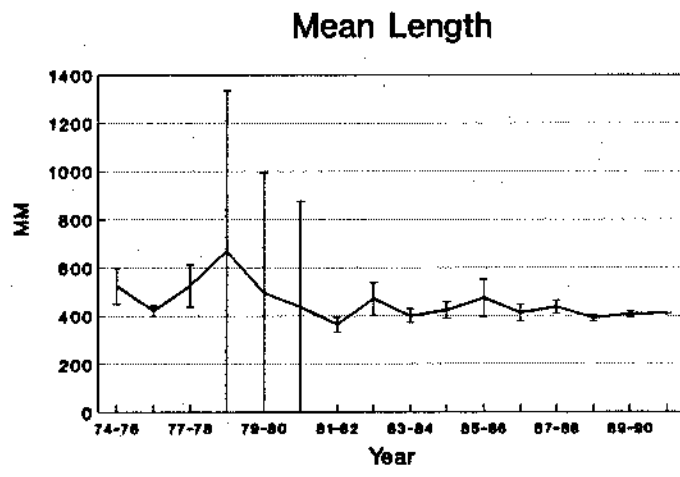
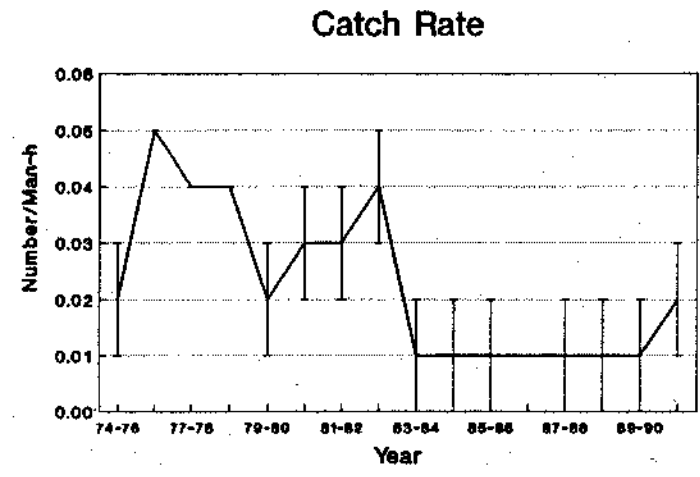
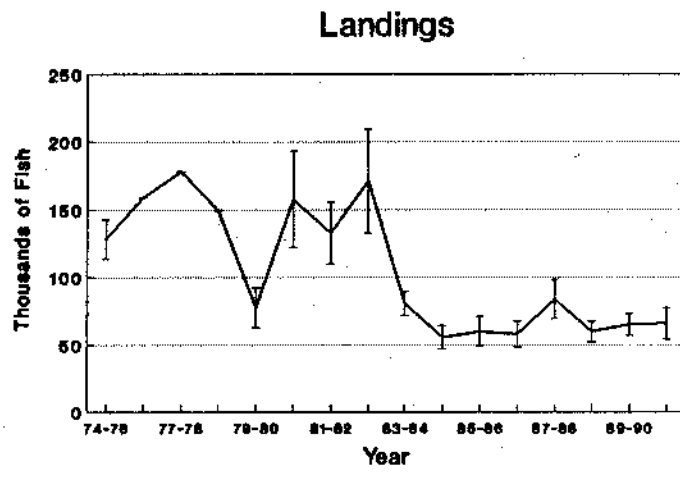


Figure 11. Annual coastwide statistics ( $\pm 1$  SE) for black drum landed from bays and passes by private-boat fishermen, May 1974-May 1991.



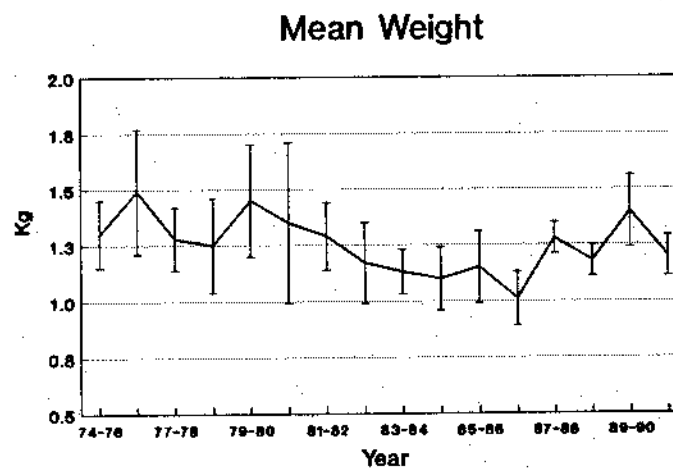
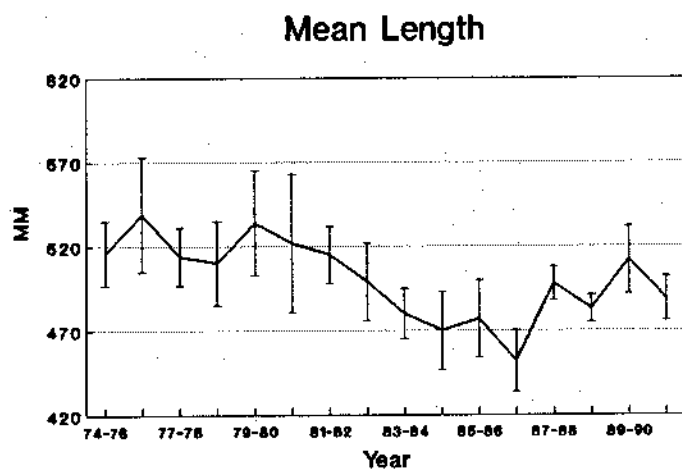
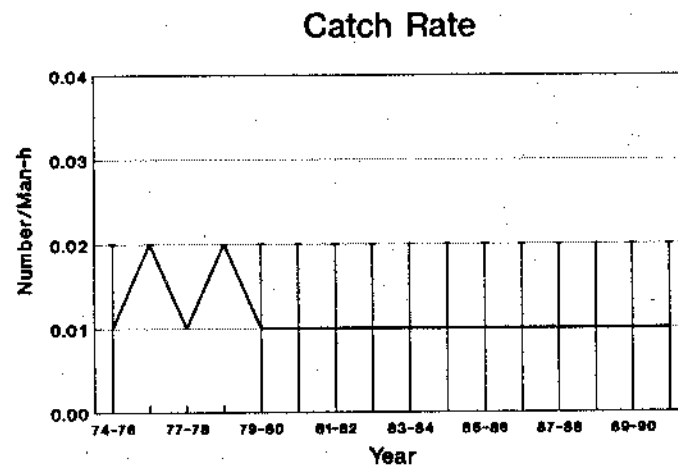
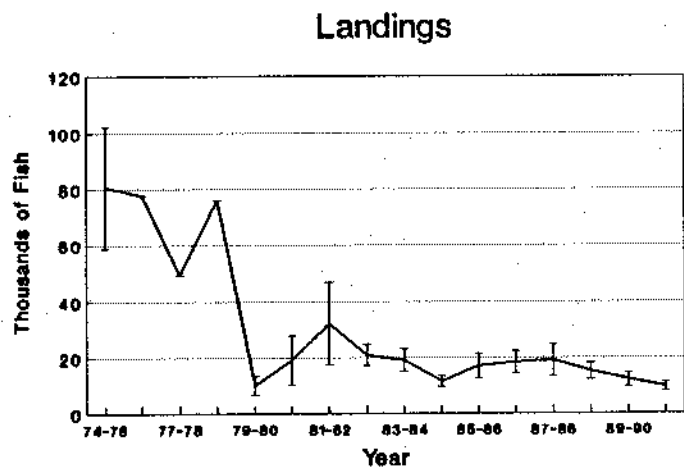


Figure 12. Annual coastwide statistics ( $\pm 1$  SE) for gafftopsail catfish landed from bays and passes by private-boat fishermen, May 1974-May 1991.

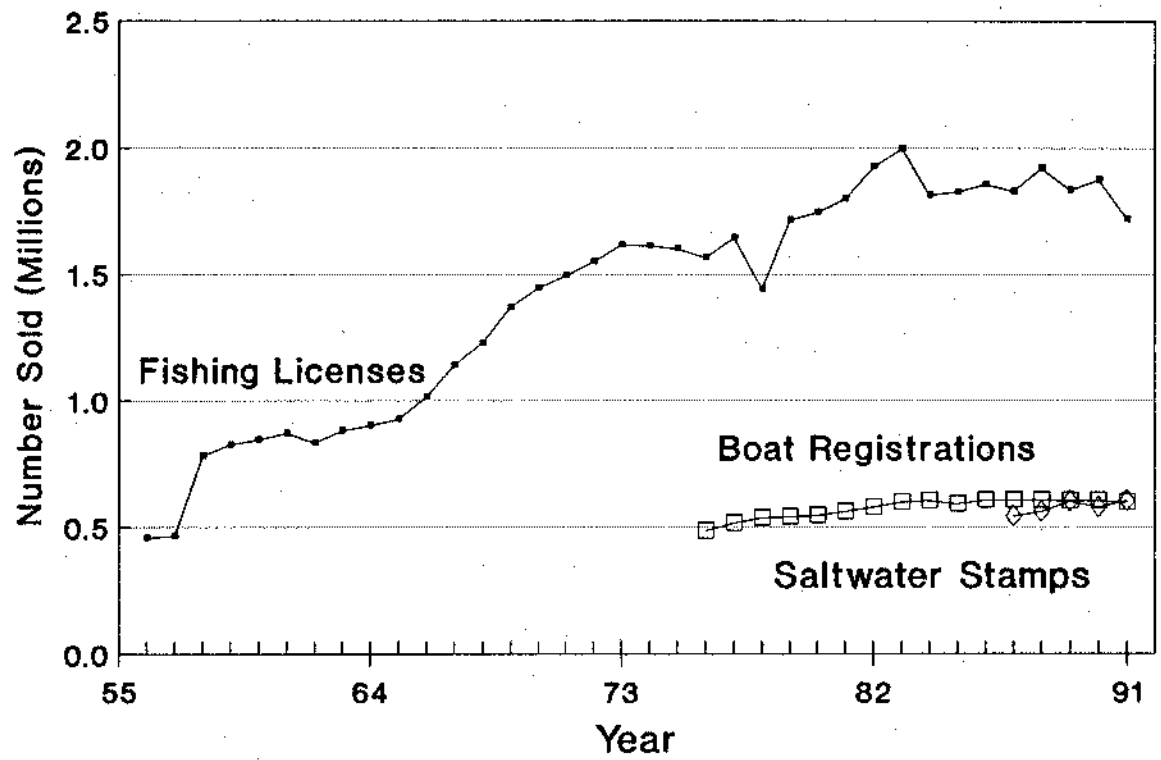


Figure 13. Number of recreational fishing licenses (1955-1991), boat registrations (1975-1991) and saltwater stamps (1987-1991) sold in Texas by fiscal year (1 September-31 August).

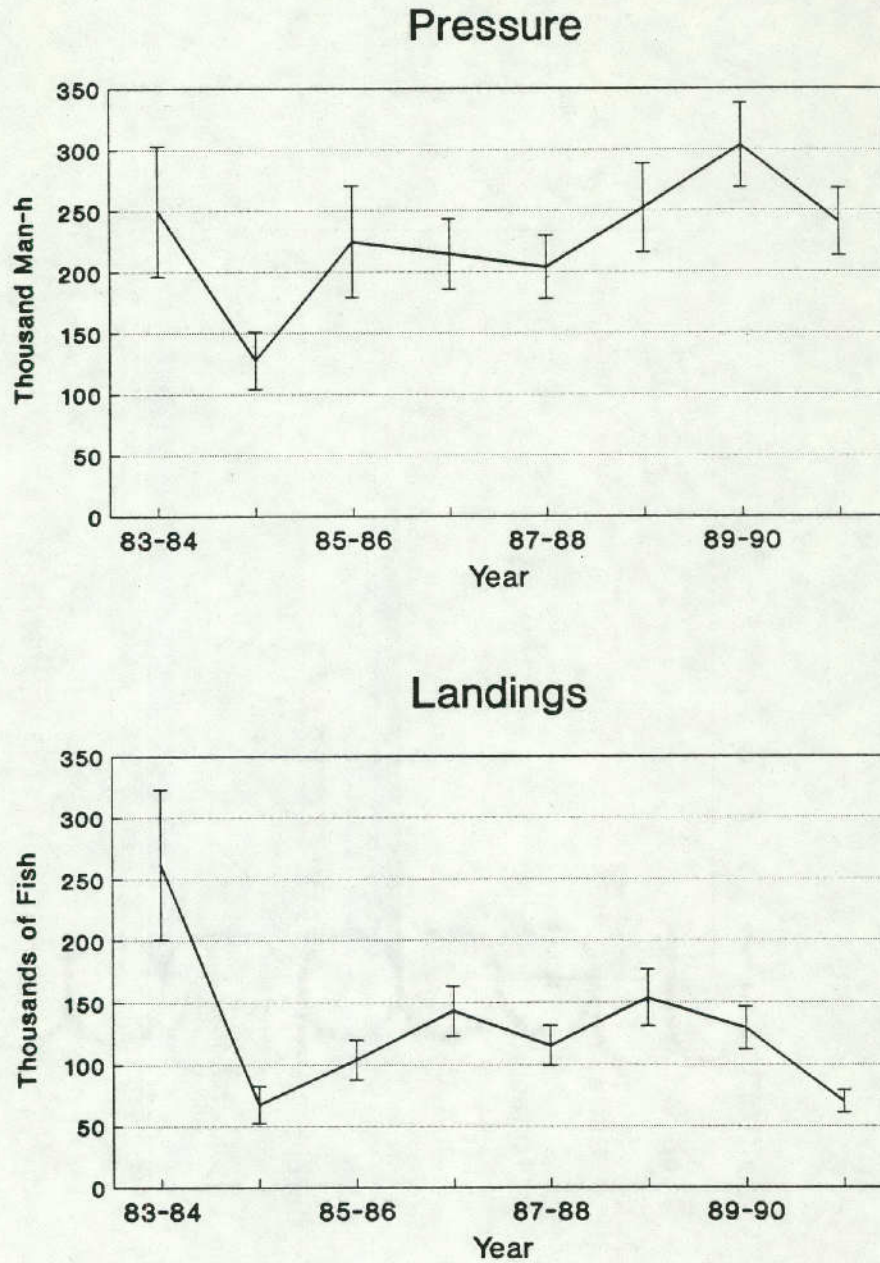


Figure 14. Annual coastwide party-boat fishing pressure ( $\pm 1$  SE) and landings ( $\pm 1$  SE) in Texas bays and passes, May 1983-May 1991.

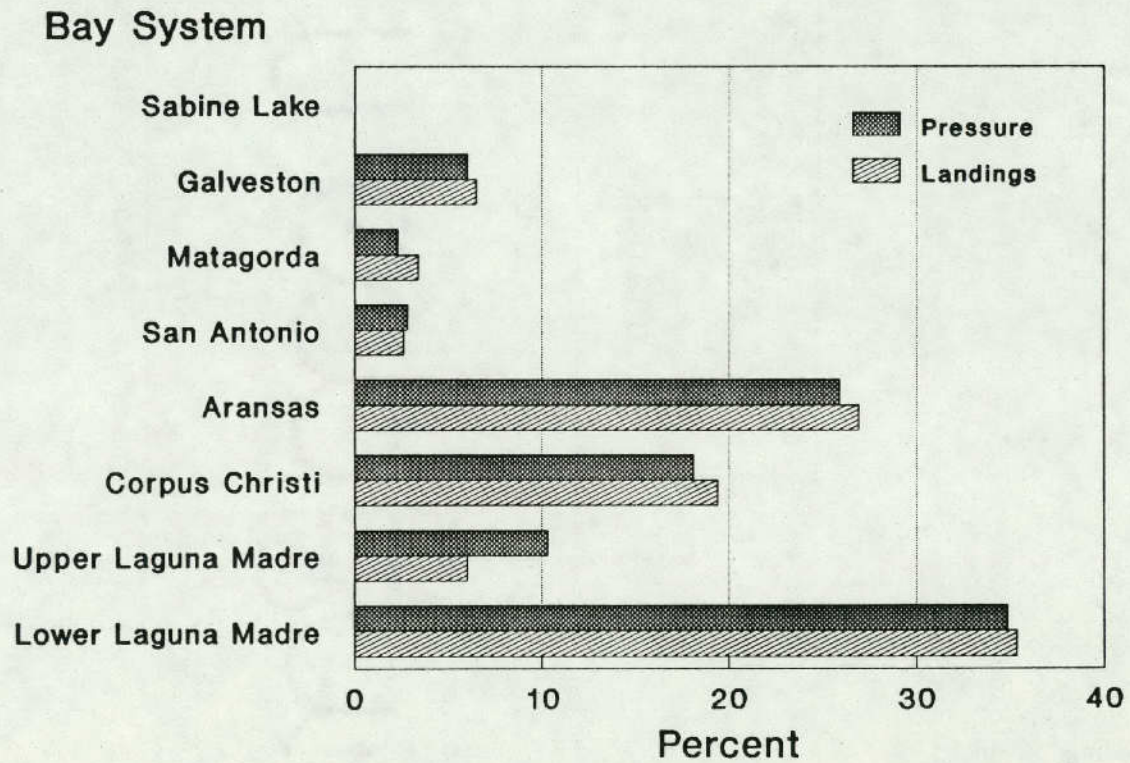


Figure 15. Distribution of annual coastwide bay and pass party-boat fishing pressure and landings among bay systems, May 1983-May 1991 (based on 4-year mean in Sabine Lake system and 8-year means in all other bay systems).

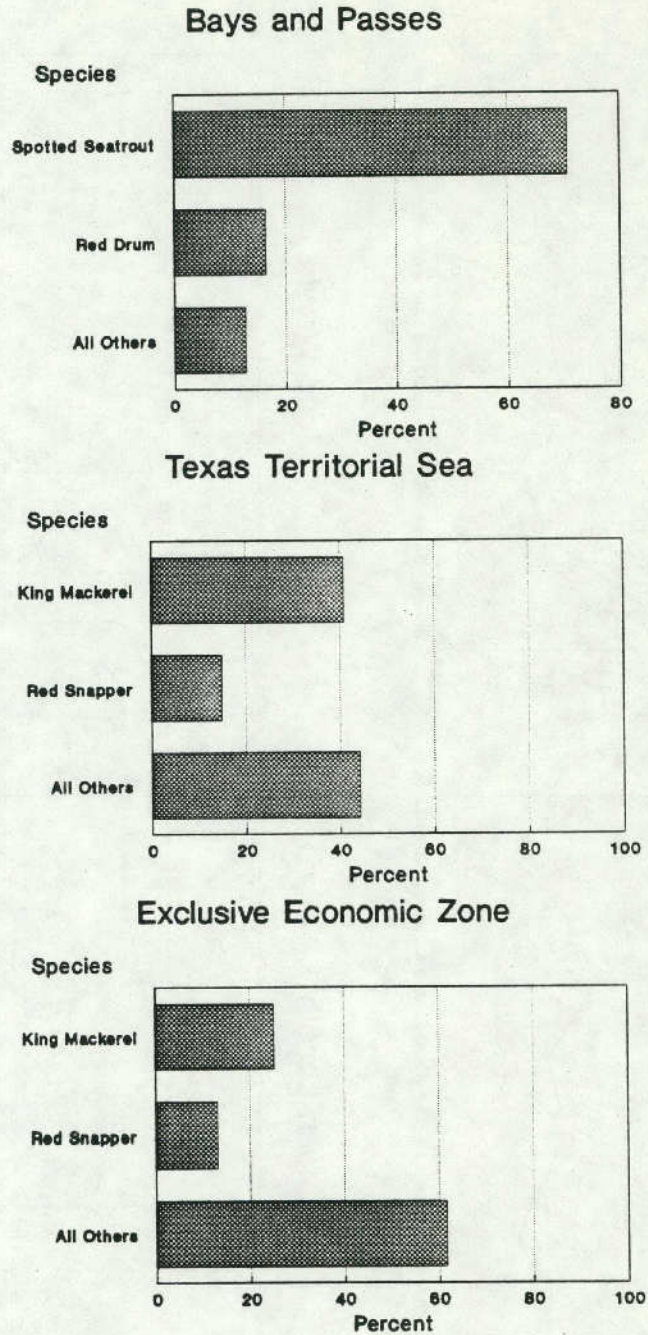


Figure 16. Species composition of annual coastwide party-boat finfish landings in bays and passes, the Texas Territorial Sea and the Exclusive Economic Zone, May 1983-May 1991 (8-year mean).

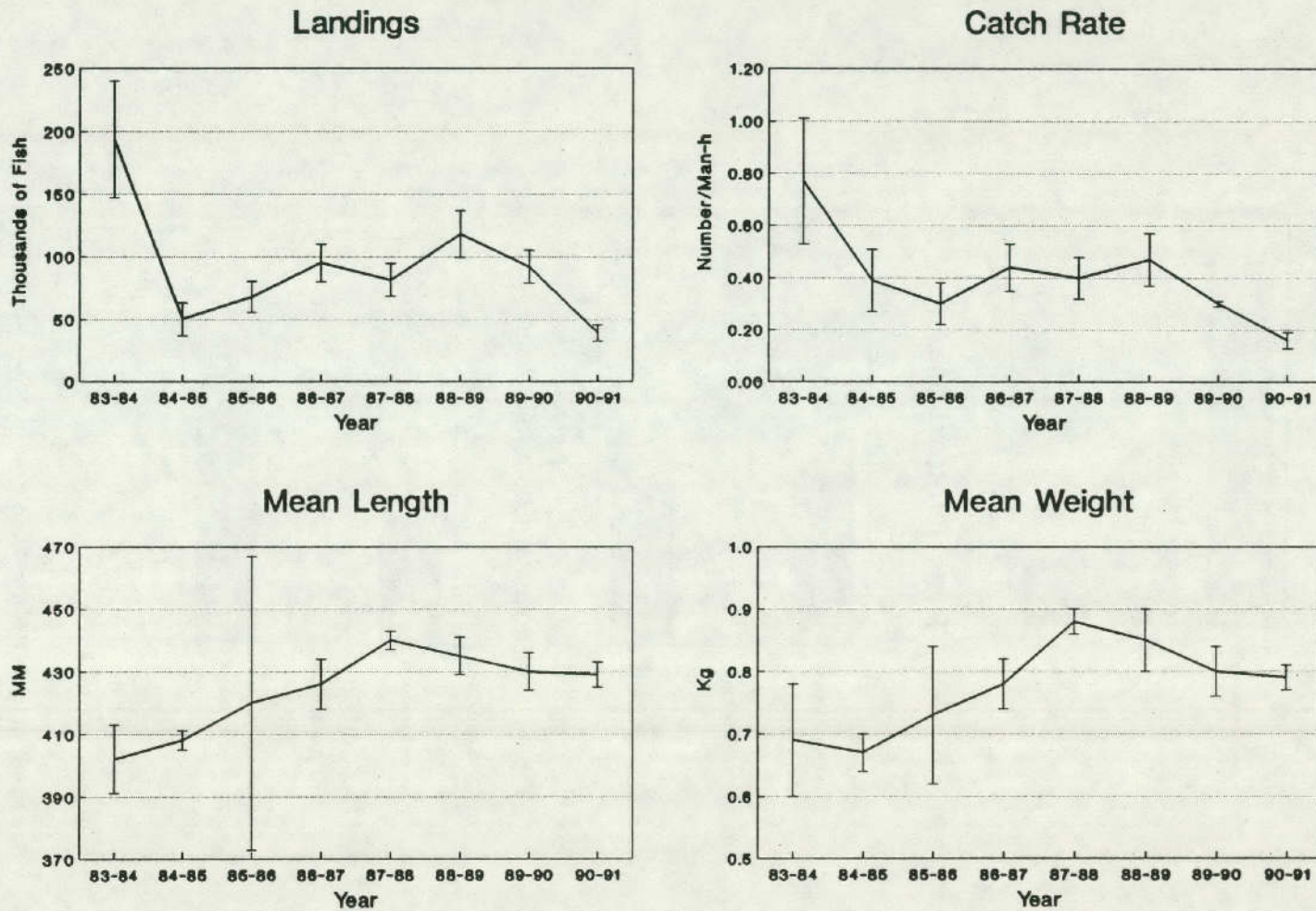


Figure 17. Annual coastwide statistics ( $\pm 1$  SE) for spotted seatrout landed from bays and passes by party-boat fishermen, May 1983-May 1991.

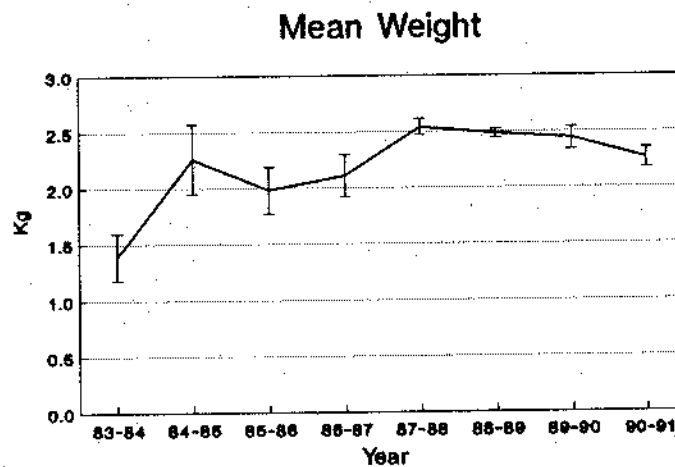
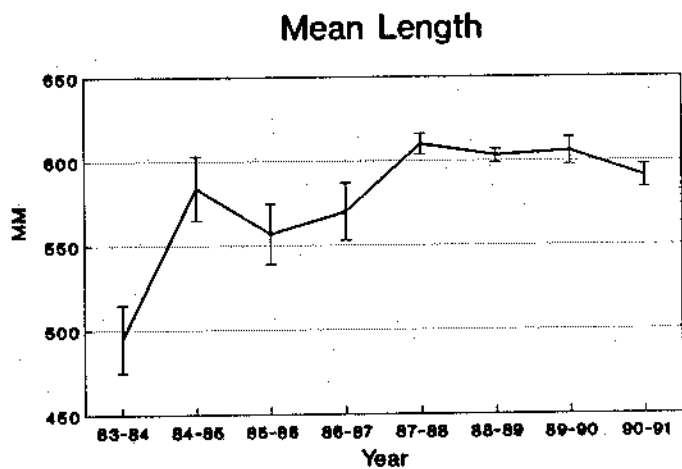
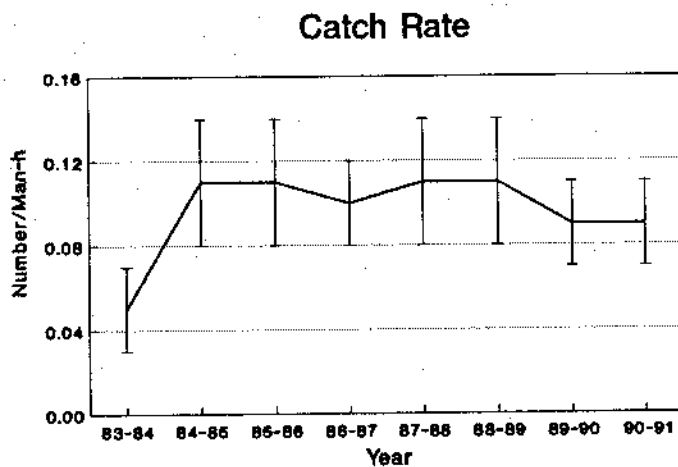
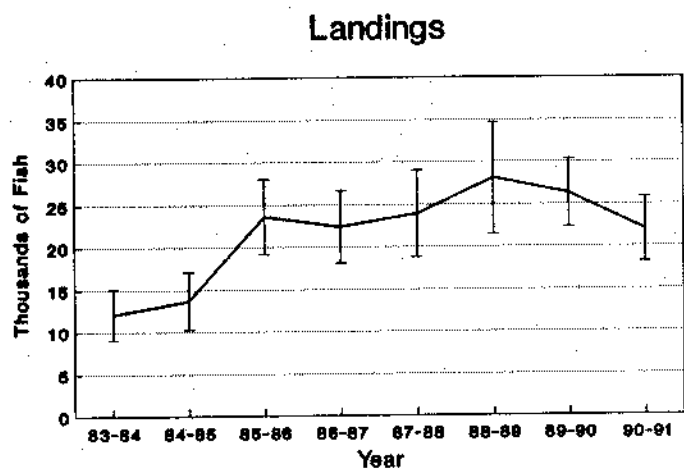


Figure 18. Annual coastwide statistics ( $\pm 1$  SE) for red drum landed from bays and passes by party-boat fishermen, May 1983-May 1991.

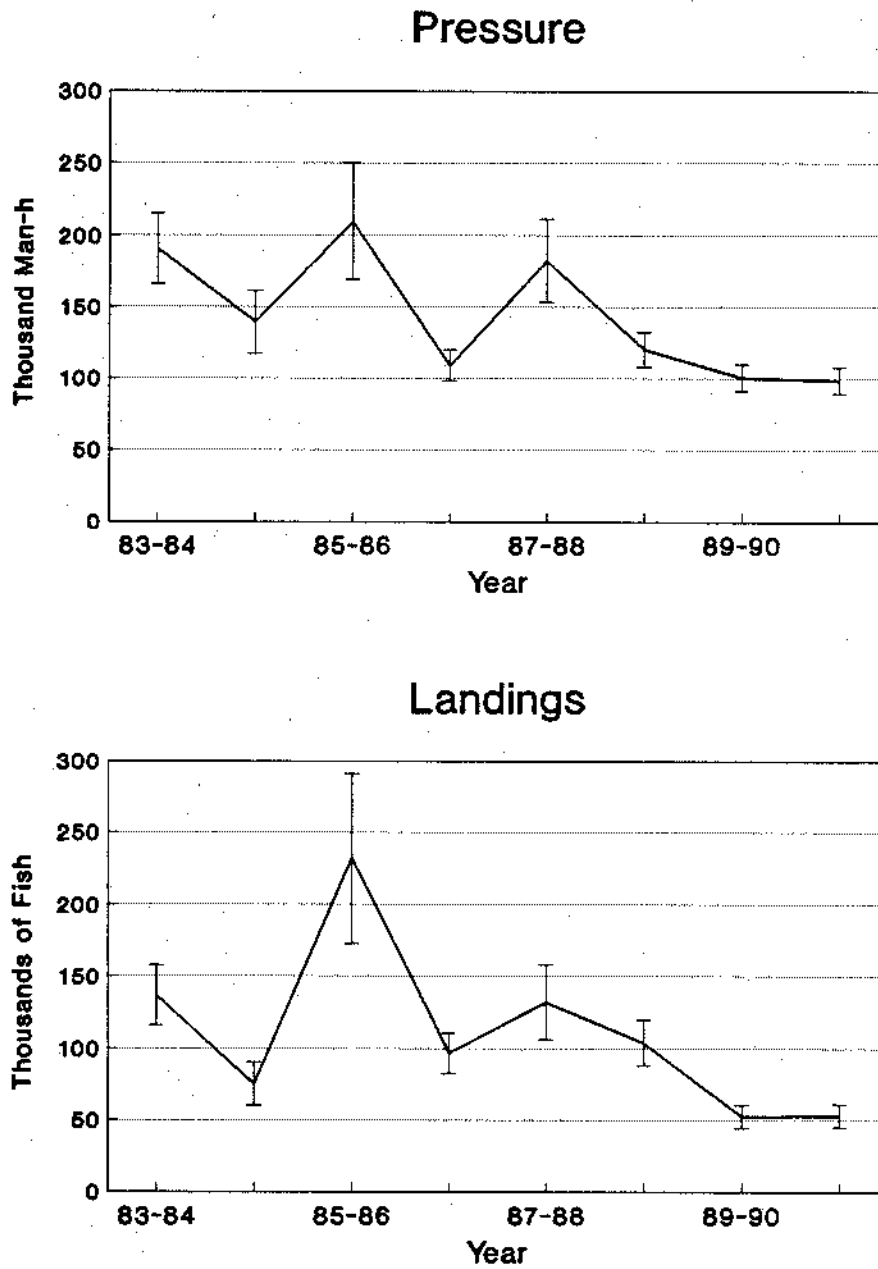


Figure 19. Annual coastwide headboat fishing pressure ( $\pm 1$  SE) and landings ( $\pm 1$  SE) in Texas bays and passes, May 1983-May 1991.



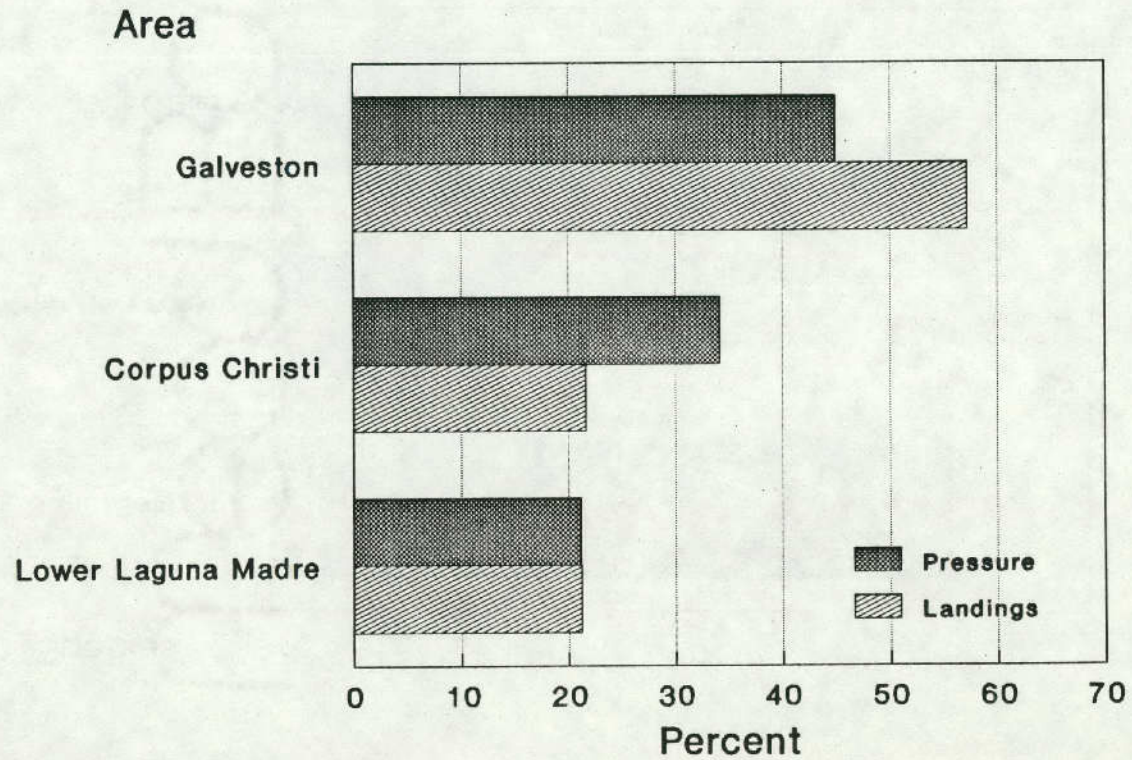


Figure 20. Distribution of annual coastwide bay and pass headboat fishing pressure and landings among areas, May 1983-May 1991 (8-year mean).

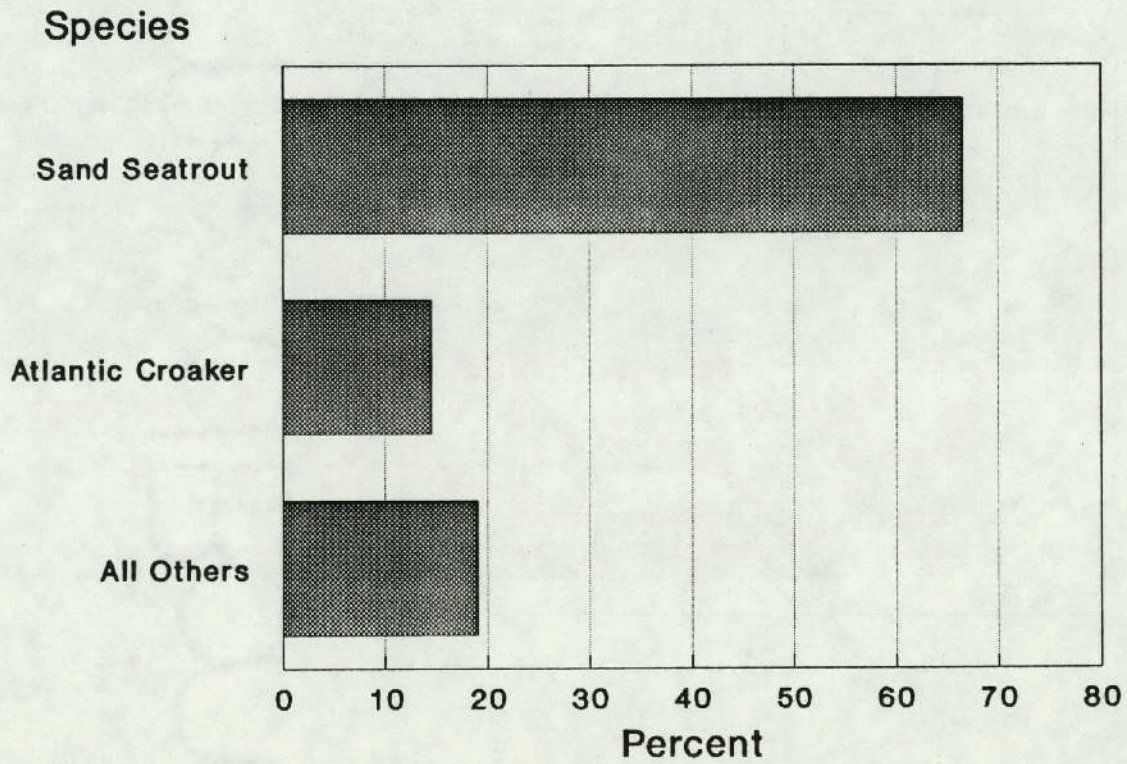


Figure 21. Species composition of annual coastwide bay and pass headboat finfish landings, May 1983-May 1991 (8-year mean).

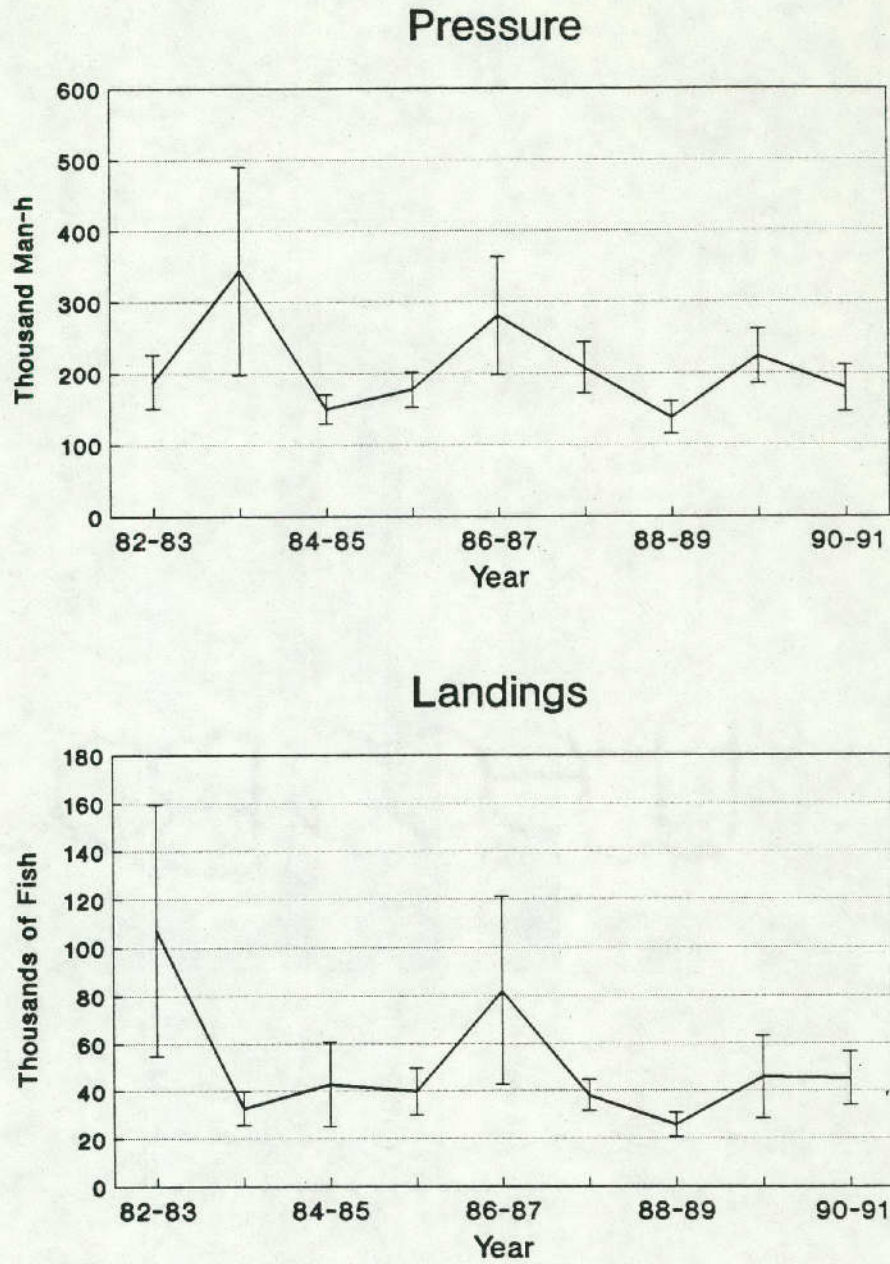


Figure 22. Annual coastwide private-boat fishing pressure ( $\pm 1$  SE) and landings ( $\pm 1$  SE) in the Texas Territorial Sea, May 1982-May 1991.

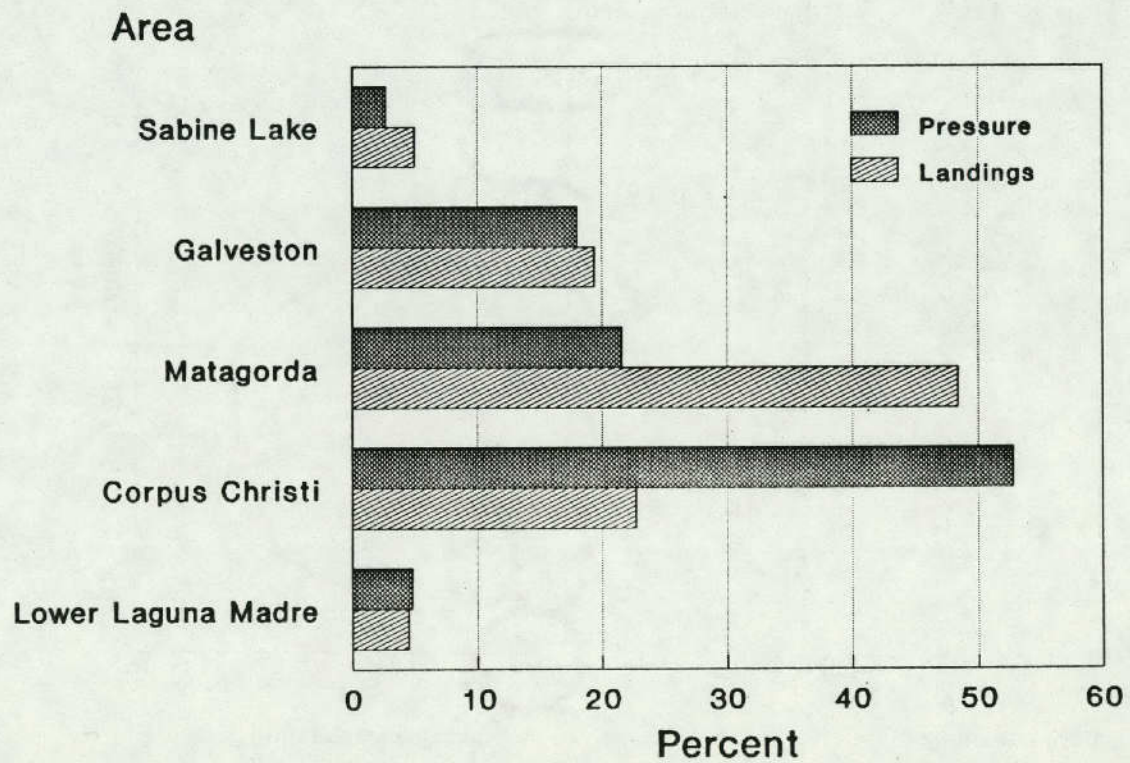


Figure 23. Distribution of annual coastwide Texas Territorial Sea private-boat fishing pressure and landings among areas, May 1982-May 1991 (based on 4-year mean in Sabine Lake area and 9-year means in all other areas).

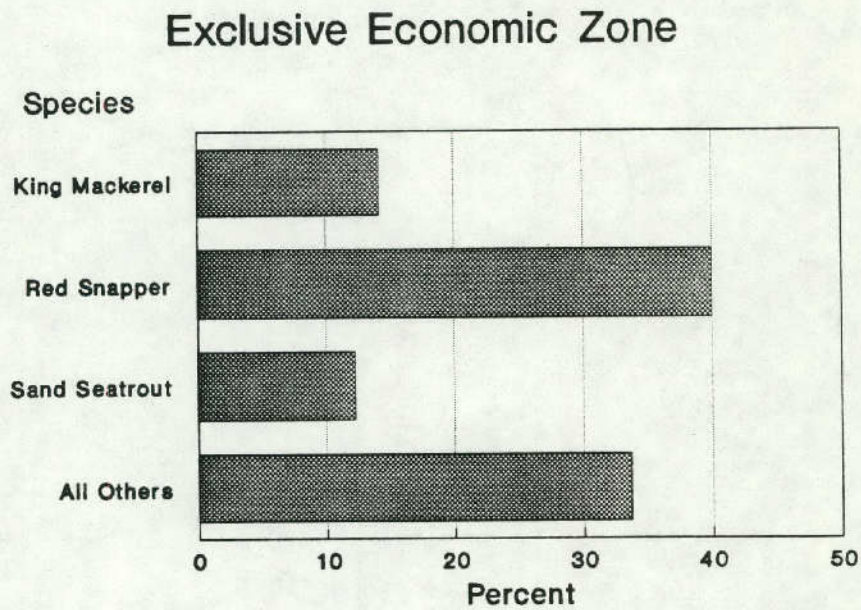
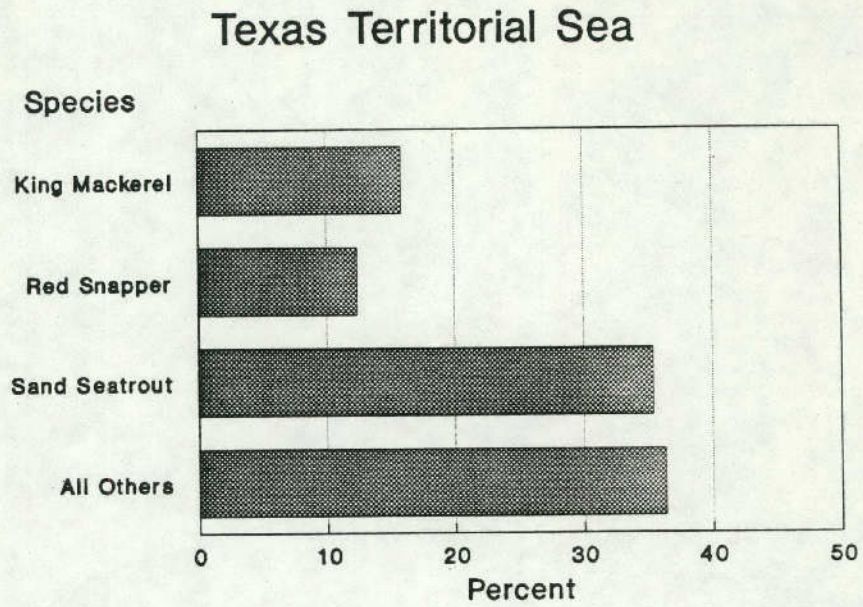


Figure 24. Species composition of annual coastwide Texas Territorial Sea and Exclusive Economic Zone private-boat finfish landings, May 1982-May 1991 (9-year mean).

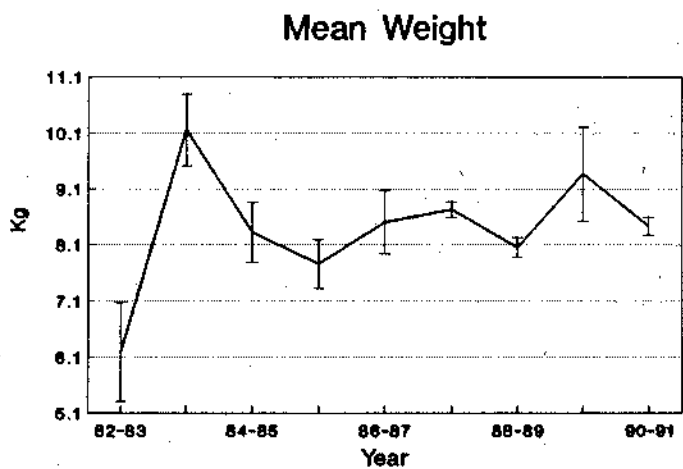
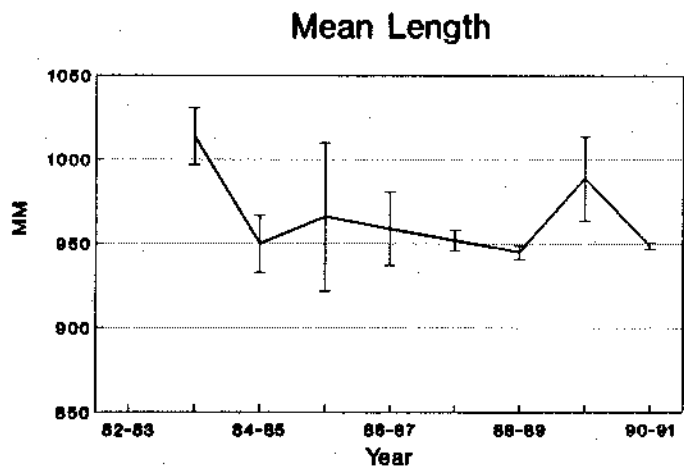
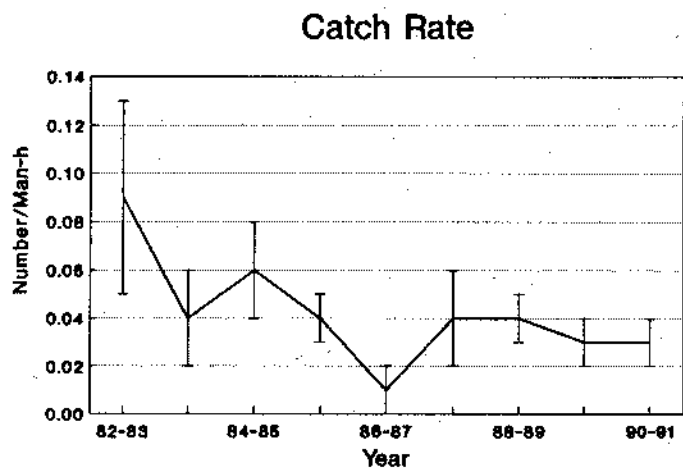
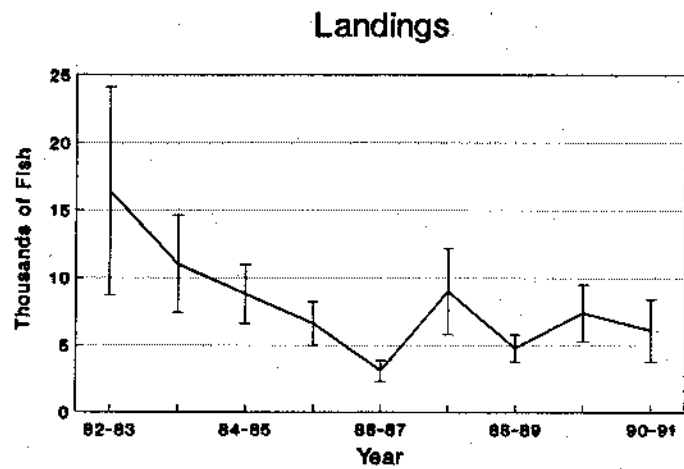


Figure 25. Annual coastwide statistics ( $\pm 1$  SE) for king mackerel landed from Texas Territorial Sea by private-boat fishermen, May 1982-May 1991.

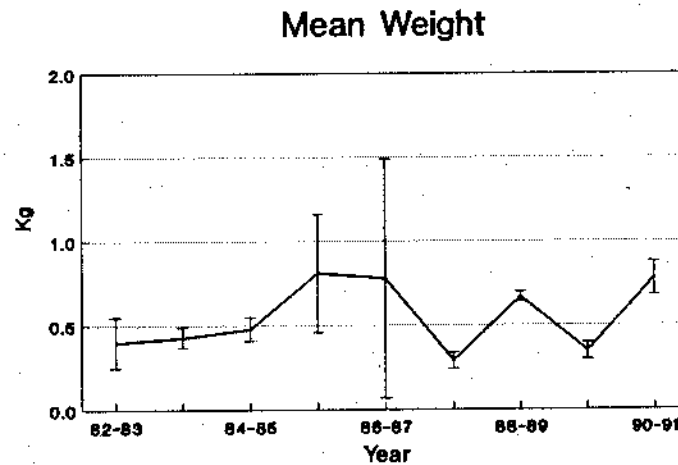
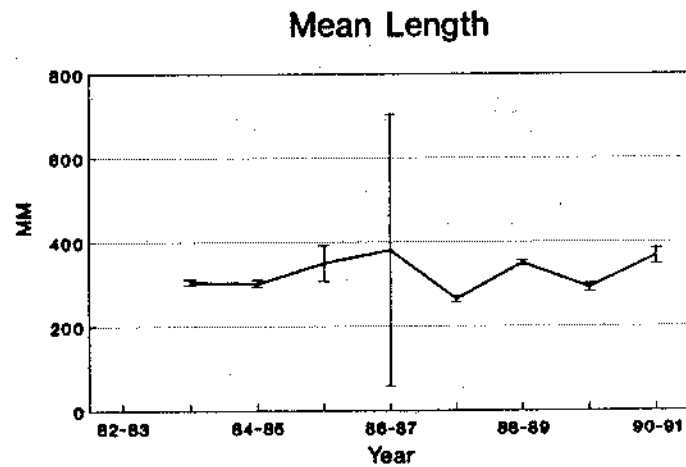
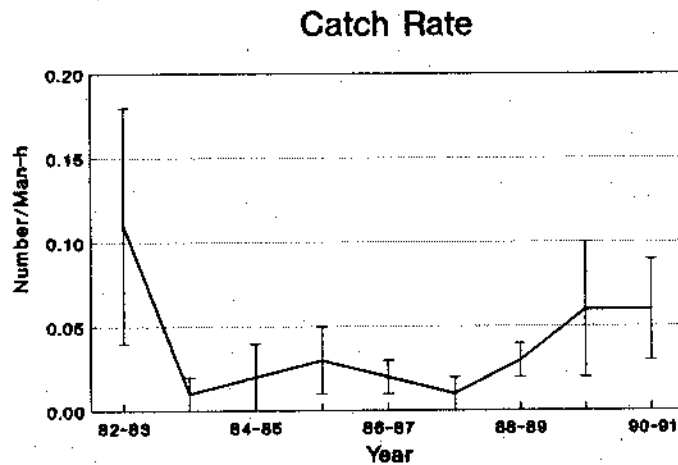
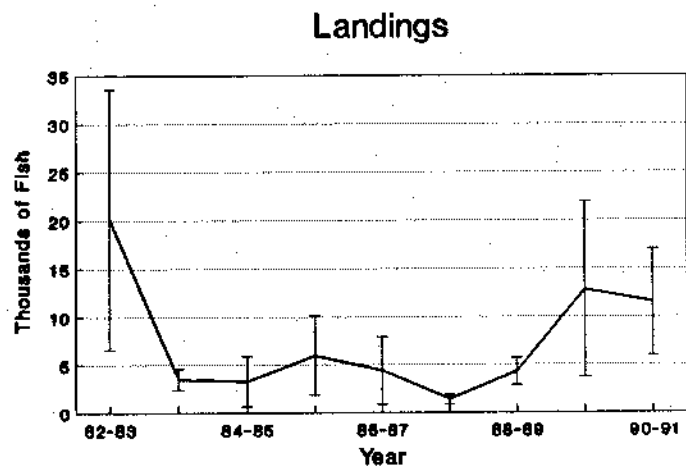


Figure 26. Annual coastwide statistics ( $\pm 1$  SE) for red snapper landed from Texas Territorial Sea by private-boat fishermen, May 1982-May 1991.

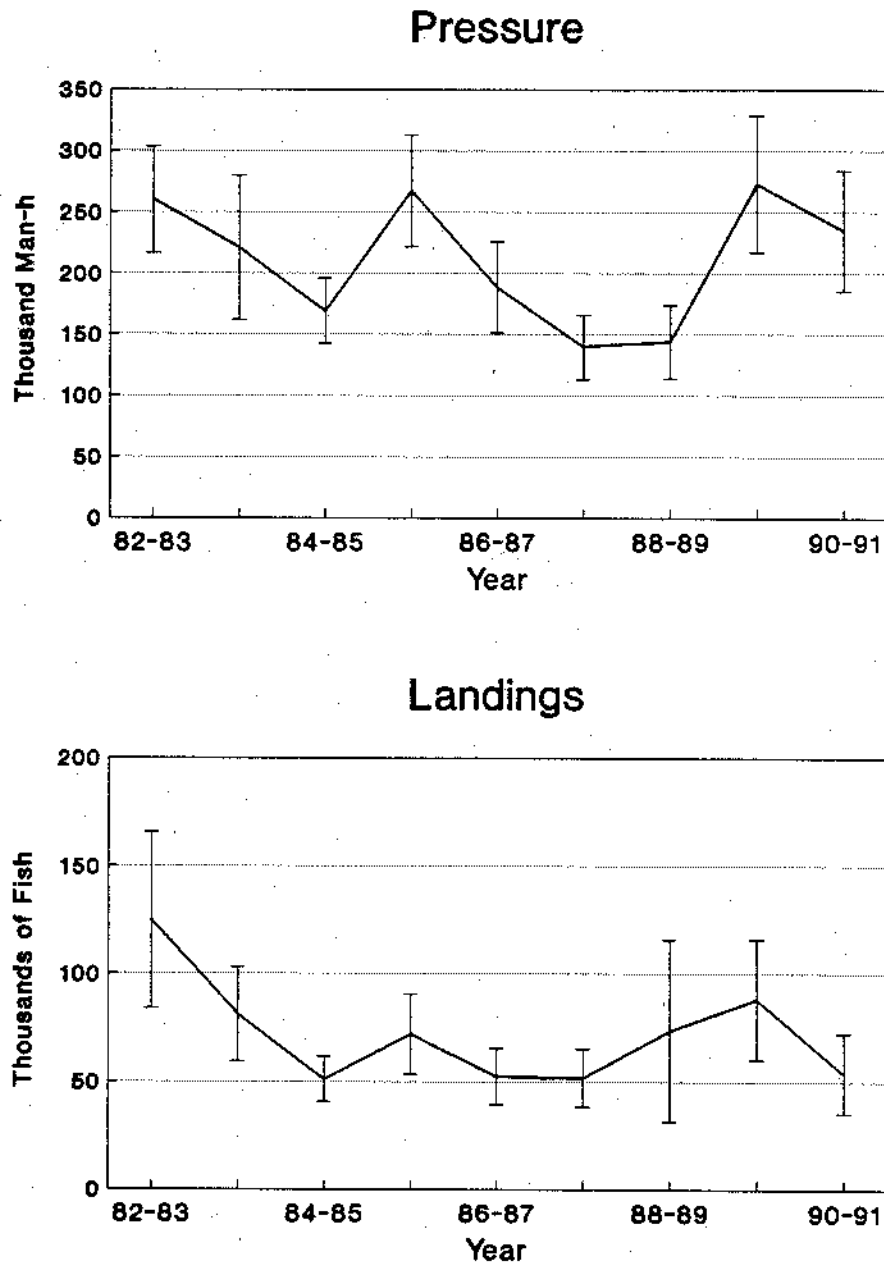


Figure 27. Annual coastwide private-boat fishing pressure ( $\pm 1$  SE) and landings ( $\pm 1$  SE) in the Exclusive Economic Zone, May 1982-May 1991.



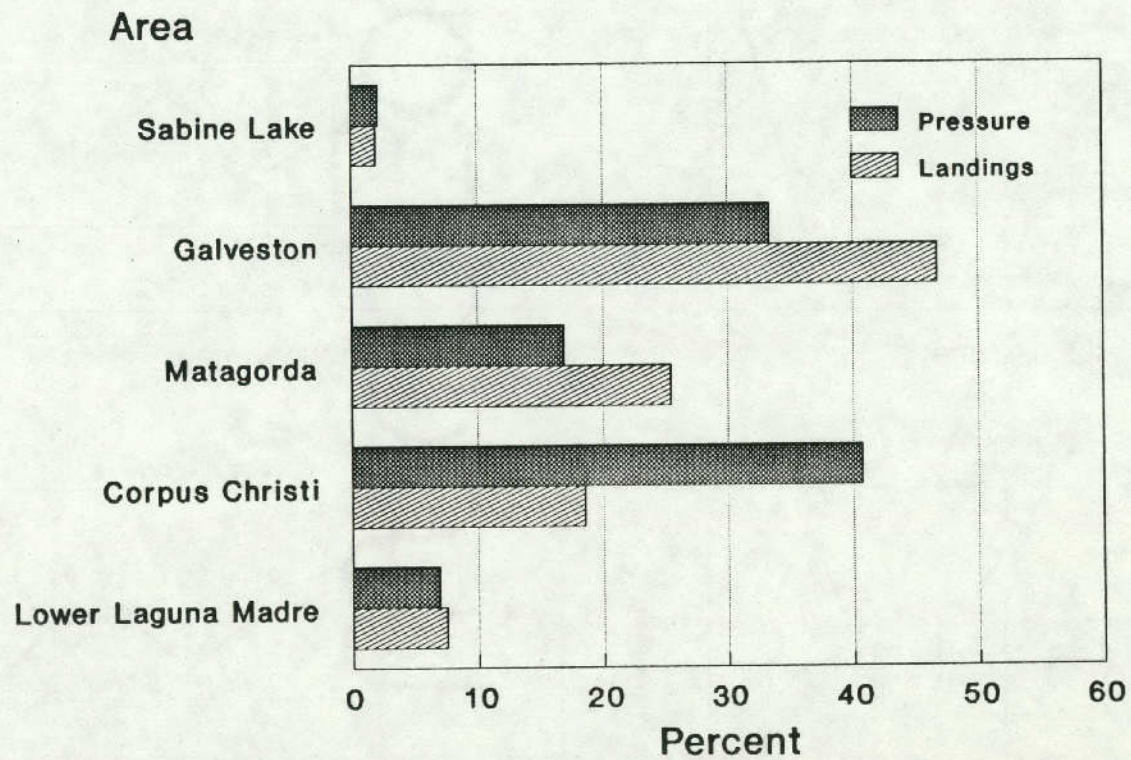


Figure 28. Distribution of annual coastwide Exclusive Economic Zone private-boat fishing pressure and landings among areas, May 1982-May 1991 (based on 4-year mean in Sabine Lake area and 9-year means in all other areas).

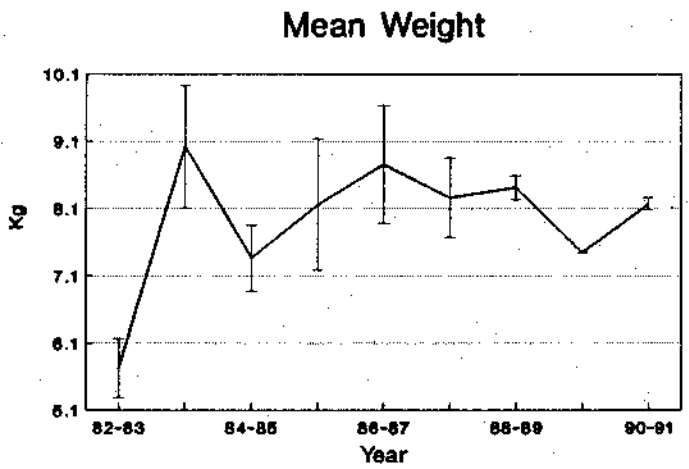
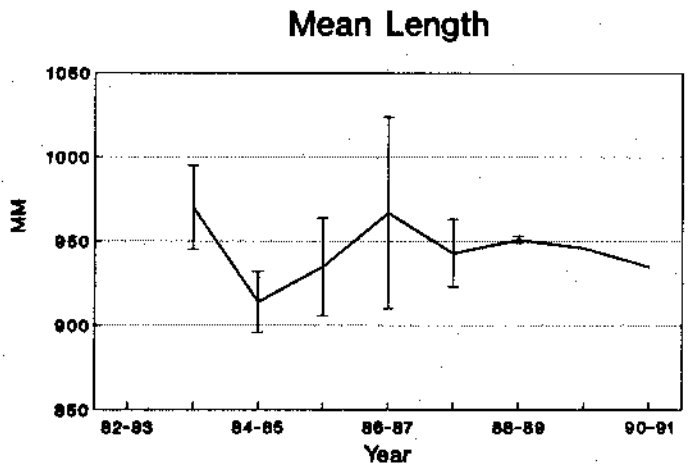
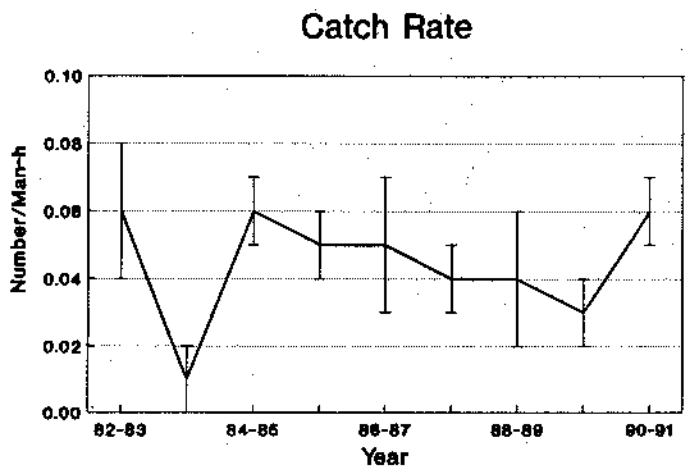
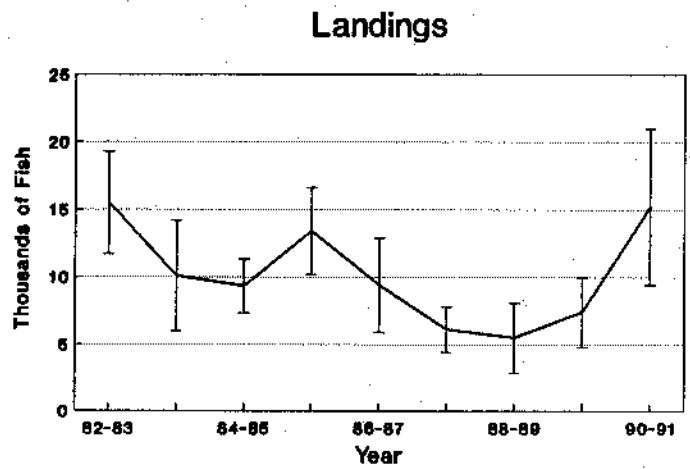


Figure 29. Annual coastwide statistics ( $\pm 1$  SE) for king mackerel landed from Exclusive Economic Zone by private-boat fishermen, May 1982-May 1991.

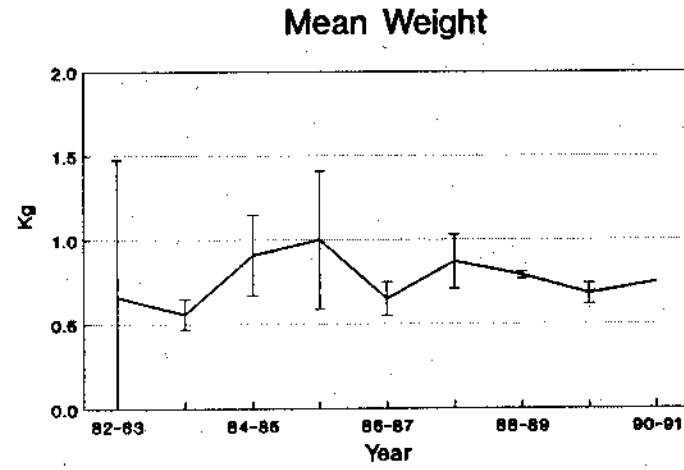
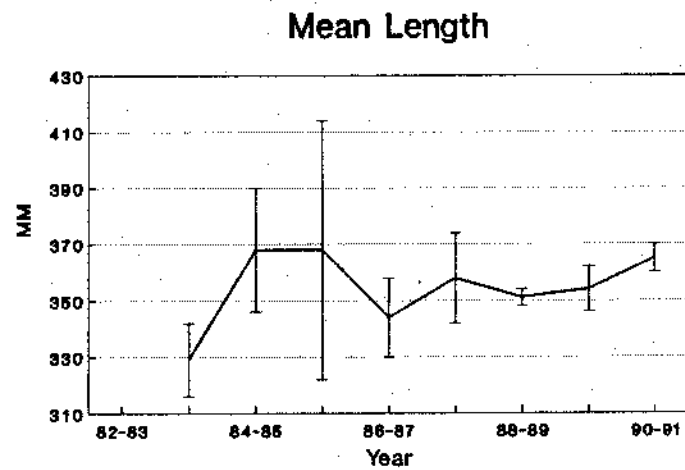
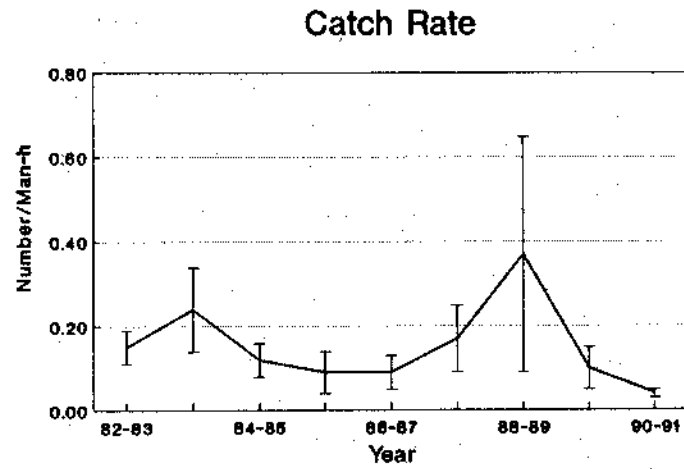
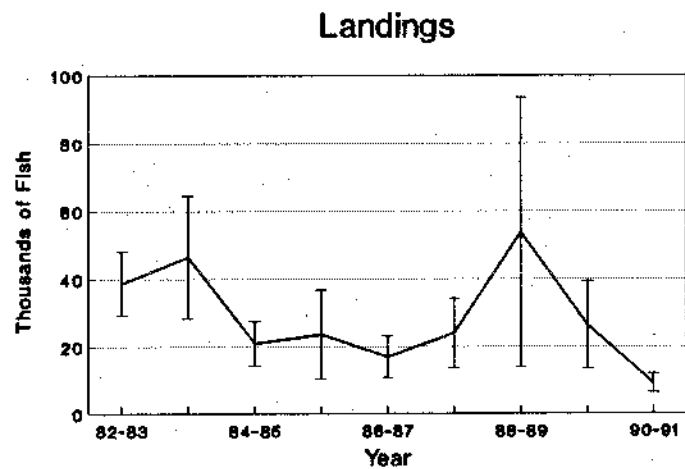


Figure 30. Annual coastwide statistics ( $\pm 1$  SE) for red snapper landed from Exclusive Economic Zone by private-boat fishermen, May 1982-May 1991.

APPENDIX A: Private-boat fishing estimates for Texas bays and passes.

Table A.1. Number of days surveyed and number of private-boat fishermen interviewed (in parentheses) in Texas bays and passes by bay system and year (1974-1991).

Year	Bay system								
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	Coastwide
1974-76		34 (1357)	25 (264)	65 (2044)	35 (570)	28 (444)	41 (918)	27 (529)	255 (6126)
1976-77		44 (776)	34 (373)	21 (528)	22 (474)	31 (797)	23 (437)	32 (1105)	207 (4490)
1977-78		65 (1771)	31 (702)	32 (1261)	33 (659)	31 (652)	31 (622)	32 (1307)	255 (6974)
1978-79		64 (2349)	32 (702)	33 (1410)	32 (544)	32 (683)	33 (934)	32 (1011)	258 (7633)
1979-80		55 (1149)	42 (734)	65 (1914)	42 (451)	48 (1078)	41 (1024)	43 (1230)	336 (7580)
1980-81		65 (1638)	63 (747)	74 (1791)	66 (683)	63 (1401)	65 (1637)	64 (1388)	460 (9285)
1981-82		124 (1810)	124 (1120)	114 (2012)	124 (1386)	123 (2807)	124 (2300)	114 (2823)	847 (14258)
1982-83		133 (2727)	124 (1275)	118 (2342)	124 (1087)	124 (2445)	124 (3238)	114 (4079)	861 (17193)
1983-84		131 (1543)	129 (1884)	104 (2532)	127 (1856)	131 (2212)	133 (4233)	133 (3520)	888 (17780)
1984-85		132 (2907)	131 (2628)	124 (1773)	130 (1739)	132 (1805)	133 (1453)	133 (3274)	898 (15573)
1985-86		133 (2419)	133 (2456)	108 (1881)	133 (2739)	133 (2200)	133 (3509)	133 (3354)	906 (18557)
1986-87		133 (2702)	133 (2792)	108 (1975)	133 (2322)	133 (2349)	133 (3857)	133 (3847)	906 (19843)
1987-88	108 (2175)	131 (2746)	133 (2771)	104 (2414)	133 (2571)	133 (2388)	133 (3565)	133 (3407)	1008 (22035)
1988-89	108 (2524)	132 (2216)	131 (2699)	105 (2216)	130 (2781)	130 (2319)	131 (3491)	131 (3139)	998 (21384)
1989-90	108 (1587)	131 (2315)	132 (2156)	108 (1523)	133 (2786)	133 (2318)	131 (3156)	133 (2531)	1009 (18370)
1990-91	108 (1935)	131 (1993)	133 (1984)	108 (1246)	133 (2419)	133 (2041)	132 (1093)	133 (2195)	1011 (14904)

Table A.2. Estimated private-boat fishing pressure (man-h x 1000)  $\pm$  1SE, mean fishing-party size (No. of fishermen) and mean trip length (h) for private-boat fishermen in Texas bays and passes by bay system and year (1974-1991).

Bay system Year	Pressure	Mean fishing party size	Mean trip length
<b>Sabine Lake</b>			
1987-88	352.3 $\pm$ 42.1	2.2	4.9
1988-89	494.6 $\pm$ 73.2	2.2	5.0
1989-90	283.9 $\pm$ 41.6	2.1	4.8
1990-91	367.1 $\pm$ 48.0	2.2	4.9
<b>Galveston</b>			
1974-76	2865.6 $\pm$ 719.4	2.5	4.8
1976-77	1031.8	2.5	4.7
1977-78	2176.8	2.6	5.5
1978-79	1972.0	2.6	6.1
1979-80	2002.0 $\pm$ 695.8	2.7	6.0
1980-81	2159.9 $\pm$ 387.2	2.4	5.9
1981-82	1884.1 $\pm$ 262.7	2.4	6.7
1982-83	1664.5 $\pm$ 159.3	2.6	5.7
1983-84	2087.9 $\pm$ 512.2	2.4	5.8
1984-85	1513.6 $\pm$ 164.3	2.5	5.6
1985-86	1922.4 $\pm$ 498.4	2.5	5.6
1986-87	2178.6 $\pm$ 266.0	2.4	5.6
1987-88	2076.9 $\pm$ 201.0	2.4	5.7
1988-89	2016.7 $\pm$ 195.7	2.4	5.6
1989-90	1661.3 $\pm$ 166.4	2.4	5.5
1990-91	1607.5 $\pm$ 199.2	2.3	5.3
<b>Matagorda</b>			
1974-76	630.8 $\pm$ 177.4	2.4	5.5
1976-77	364.3	2.8	4.6
1977-78	515.8	2.7	6.3
1978-79	602.3	3.0	6.9
1979-80	401.4 $\pm$ 134.2	2.8	6.8
1980-81	637.2 $\pm$ 180.1	2.6	7.9
1981-82	498.2 $\pm$ 52.7	2.5	6.0
1982-83	393.0 $\pm$ 41.9	2.6	6.9
1983-84	662.6 $\pm$ 75.8	2.6	6.7
1984-85	517.0 $\pm$ 57.2	2.7	7.0
1985-86	558.7 $\pm$ 73.8	2.5	7.3
1986-87	813.1 $\pm$ 125.2	2.6	6.4
1987-88	633.3 $\pm$ 65.0	2.5	6.4
1988-89	598.0 $\pm$ 64.5	2.6	5.5
1989-90	528.1 $\pm$ 48.2	2.5	5.5
1990-91	352.5 $\pm$ 45.5	2.5	5.4

Table A.2. (Cont'd.)

Bay system Year	Pressure	Mean fishing party size	Mean trip length
<b>San Antonio</b>			
1974-76	323.9 ± 45.7	2.5	5.3
1976-77	298.8	2.6	5.9
1977-78	306.2	2.7	6.5
1978-79	286.0	2.8	6.9
1979-80	228.8 ± 30.2	2.7	6.2
1980-81	229.4 ± 47.0	2.7	7.6
1981-82	185.3 ± 18.2	2.5	7.0
1982-83	283.7 ± 28.9	2.6	7.8
1983-84	271.3 ± 31.2	2.5	6.5
1984-85	142.8 ± 12.6	2.6	6.1
1985-86	186.9 ± 21.2	2.4	6.8
1986-87	245.7 ± 37.9	2.5	6.8
1987-88	416.6 ± 99.6	2.4	5.8
1988-89	227.8 ± 22.2	2.5	5.7
1989-90	208.6 ± 20.5	2.4	5.7
1990-91	170.6 ± 18.2	2.6	5.7
<b>Aransas</b>			
1974-76	533.3 ± 102.2	2.7	4.1
1976-77	402.2	2.7	5.4
1977-78	332.2	2.7	6.2
1978-79	317.3	2.8	5.5
1979-80	180.6 ± 33.1	2.7	6.2
1980-81	252.3 ± 38.8	2.4	4.9
1981-82	432.3 ± 46.1	2.5	5.2
1982-83	439.0 ± 56.8	2.5	5.4
1983-84	623.3 ± 132.2	2.7	5.2
1984-85	415.6 ± 57.8	2.5	4.6
1985-86	712.8 ± 69.5	2.4	5.1
1986-87	718.2 ± 82.7	2.4	5.0
1987-88	664.9 ± 60.2	2.5	5.0
1988-89	730.8 ± 63.6	2.4	5.2
1989-90	844.9 ± 128.1	2.4	5.1
1990-91	559.7 ± 89.8	2.4	5.0

Table A.2. (Cont'd.)

Bay system Year	Pressure	Mean fishing party size	Mean trip length
<b>Corpus Christi</b>			
1974-76	266.7 ± 53.3	2.4	3.8
1976-77	211.8	2.7	4.3
1977-78	202.8	2.5	5.3
1978-79	314.1	2.6	4.8
1979-80	454.5 ± 224.1	2.7	4.4
1980-81	739.4 ± 231.8	2.5	4.5
1981-82	352.2 ± 34.3	2.4	4.5
1982-83	451.8 ± 59.7	2.5	4.7
1983-84	762.4 ± 215.7	2.6	4.6
1984-85	540.4 ± 80.0	2.5	5.0
1985-86	609.2 ± 96.1	2.3	5.0
1986-87	652.5 ± 87.3	2.4	5.0
1987-88	640.1 ± 79.9	2.4	5.0
1988-89	765.7 ± 95.3	2.4	5.0
1989-90	620.1 ± 70.6	2.4	5.0
1990-91	648.6 ± 69.9	2.3	5.0
<b>Upper Laguna Madre</b>			
1974-76	727.1 ± 153.6	2.5	7.1
1976-77	428.0	2.6	8.2
1977-78	364.5	2.6	7.6
1978-79	362.8	2.7	7.7
1979-80	476.0 ± 57.4	2.6	6.7
1980-81	841.9 ± 145.1	2.7	12.3
1981-82	855.7 ± 146.2	2.7	11.1
1982-83	786.8 ± 77.6	2.6	10.1
1983-84	725.5 ± 67.3	2.6	10.9
1984-85	340.2 ± 61.9	2.7	8.1
1985-86	882.4 ± 137.9	2.5	10.0
1986-87	891.7 ± 100.0	2.5	10.5
1987-88	527.3 ± 52.6	2.4	5.8
1988-89	472.6 ± 54.0	2.4	6.2
1989-90	440.3 ± 72.3	2.4	5.8
1990-91	193.3 ± 34.1	2.4	5.1



Table A.2. (Cont'd.)

Bay system Year	Pressure	Mean fishing party size	Mean trip length
<b>Lower Laguna Madre</b>			
1974-76	840.1 ± 179.0	2.6	5.8
1976-77	678.6	2.5	5.4
1977-78	587.4	2.6	7.6
1978-79	528.8	2.6	6.6
1979-80	403.5 ± 81.2	2.6	5.4
1980-81	384.9 ± 64.1	2.6	6.0
1981-82	342.8 ± 26.9	2.6	5.8
1982-83	561.6 ± 39.2	2.5	6.4
1983-84	512.5 ± 43.4	2.5	6.5
1984-85	613.1 ± 64.9	2.6	5.6
1985-86	605.6 ± 54.8	2.5	6.2
1986-87	871.1 ± 66.2	2.4	6.8
1987-88	710.0 ± 64.1	2.4	5.8
1988-89	579.5 ± 45.7	2.4	5.8
1989-90	522.8 ± 50.6	2.4	5.4
1990-91	409.8 ± 36.5	2.4	5.2
<b>Coastwide</b>			
1974-76	6187.5 ± 516.9	2.5	5.3
1976-77	3415.7	2.6	5.4
1977-78	4486.0	2.6	6.4
1978-79	4383.2	2.7	6.5
1979-80	4146.8 ± 751.1	2.7	6.0
1980-81	5245.0 ± 514.7	2.6	7.1
1981-82	4550.5 ± 312.3	2.5	6.5
1982-83	4580.4 ± 205.7	2.6	6.7
1983-84	5646.0 ± 582.7	2.5	7.0
1984-85	4083.1 ± 219.6	2.6	5.9
1985-86	5477.9 ± 538.8	2.4	6.7
1986-87	6370.8 ± 341.6	2.5	6.8
1987-88	6021.4 ± 268.9	2.4	5.6
1988-89	5885.8 ± 257.8	2.4	5.5
1989-90	5110.1 ± 247.7	2.4	5.4
1990-91	4309.0 ± 244.6	2.4	5.2

Table A.3. Estimated annual landings of fishes (No. x 1000)  $\pm$  1 SE caught by private-boat fishermen in Texas bays and passes by bay system, species and year (1974-1991).

Species Year	Bay system											
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	Coastwide*			
<b>Atlantic croaker</b>												
1974-76		699.1 $\pm$ 308.9	19.7 $\pm$ 9.5	6.0 $\pm$ 2.1	3.8 $\pm$ 2.2	12.5 $\pm$ 5.5	152.4 $\pm$ 86.5	11.9 $\pm$ 5.8	905.4 $\pm$ 220.2			
1976-77		536.0	26.6	1.2	6.4	21.2	33.9	17.5	642.8			
1977-78		875.2	24.1	1.0	4.1	16.2	34.9	11.3	966.8			
1978-79		481.8	25.0	2.8	1.2	16.8	67.8	9.0	604.4			
1979-80		250.5 $\pm$ 89.9	8.3 $\pm$ 3.1	2.0 $\pm$ 1.0	1.5 $\pm$ 0.8	11.8 $\pm$ 4.5	106.8 $\pm$ 57.6	2.3 $\pm$ 0.6	383.2 $\pm$ 106.9			
1980-81		372.2 $\pm$ 197.9	48.3 $\pm$ 24.2	1.6 $\pm$ 0.7	1.5 $\pm$ 0.5	149.1 $\pm$ 118.3	30.6 $\pm$ 8.1	7.4 $\pm$ 3.0	610.7 $\pm$ 232.0			
1981-82		192.8 $\pm$ 48.1	6.6 $\pm$ 2.2	0.6 $\pm$ 0.3	1.3 $\pm$ 0.5	41.9 $\pm$ 22.1	29.3 $\pm$ 8.7	3.0 $\pm$ 0.7	275.6 $\pm$ 53.8			
1982-83		179.5 $\pm$ 32.4	7.8 $\pm$ 2.2	1.2 $\pm$ 0.4	6.9 $\pm$ 3.9	20.2 $\pm$ 5.6	25.6 $\pm$ 13.5	8.0 $\pm$ 1.6	249.2 $\pm$ 35.8			
1983-84		159.4 $\pm$ 36.1	11.3 $\pm$ 3.8	1.3 $\pm$ 0.5	37.4 $\pm$ 13.6	38.3 $\pm$ 13.2	26.7 $\pm$ 5.2	4.6 $\pm$ 0.8	278.9 $\pm$ 41.3			
1984-85		213.8 $\pm$ 42.0	7.0 $\pm$ 2.0	0.3 $\pm$ 0.2	4.7 $\pm$ 1.8	8.1 $\pm$ 2.7	2.6 $\pm$ 0.9	4.1 $\pm$ 1.5	240.7 $\pm$ 42.2			
1985-86		214.5 $\pm$ 42.0	12.1 $\pm$ 4.1	0.2 $\pm$ 0.1	12.9 $\pm$ 4.5	10.9 $\pm$ 4.0	17.0 $\pm$ 3.7	6.4 $\pm$ 1.3	274.4 $\pm$ 42.8			
1986-87		330.7 $\pm$ 104.3	10.3 $\pm$ 4.6	0.1 $\pm$ <.1	5.5 $\pm$ 2.5	10.9 $\pm$ 3.1	14.4 $\pm$ 3.9	6.6 $\pm$ 1.7	378.5 $\pm$ 104.6			
1987-88	88.0 $\pm$ 20.8	247.6 $\pm$ 46.2	9.6 $\pm$ 2.7	0.9 $\pm$ 0.4	11.7 $\pm$ 4.0	43.3 $\pm$ 12.3	12.7 $\pm$ 3.1	2.9 $\pm$ 0.8	416.9 $\pm$ 52.5			
1988-89	107.2 $\pm$ 30.5	157.7 $\pm$ 49.9	13.7 $\pm$ 4.3	0.6 $\pm$ 0.2	19.8 $\pm$ 9.9	11.7 $\pm$ 5.2	8.6 $\pm$ 2.7	4.6 $\pm$ 1.5	323.9 $\pm$ 59.8			
1989-90	77.0 $\pm$ 21.5	102.2 $\pm$ 20.2	2.2 $\pm$ 0.9	2.0 $\pm$ 1.8	3.4 $\pm$ 1.9	3.6 $\pm$ 2.1	7.1 $\pm$ 2.4	1.8 $\pm$ 0.6	199.0 $\pm$ 29.8			
1990-91	64.9 $\pm$ 15.6	99.9 $\pm$ 37.1	4.6 $\pm$ 1.4	0.1 $\pm$ 0.1	2.0 $\pm$ 1.0	1.8 $\pm$ 0.6	2.8 $\pm$ 1.5	1.1 $\pm$ 0.5	177.2 $\pm$ 40.3			
<b>Black drum</b>												
1974-76		35.2 $\pm$ 11.4	20.5 $\pm$ 12.2	2.9 $\pm$ 0.9	18.2 $\pm$ 14.7	13.9 $\pm$ 5.4	12.5 $\pm$ 6.2	25.1 $\pm$ 13.5	128.3 $\pm$ 14.7			
1976-77		67.0	15.6	37.0	7.2	5.9	16.3	9.9	159.0			
1977-78		111.9	26.2	8.1	5.2	5.6	8.3	12.8	178.1			
1978-79		94.8	20.4	5.6	1.8	2.8	6.2	18.0	149.6			
1979-80		37.2 $\pm$ 10.1	13.4 $\pm$ 6.3	2.0 $\pm$ 0.7	9.8 $\pm$ 5.8	3.6 $\pm$ 1.4	7.1 $\pm$ 5.7	4.3 $\pm$ 1.8	77.4 $\pm$ 14.6			
1980-81		87.1 $\pm$ 31.7	44.7 $\pm$ 15.5	2.5 $\pm$ 0.8	1.7 $\pm$ 0.8	8.3 $\pm$ 2.7	7.0 $\pm$ 2.5	6.4 $\pm$ 2.6	157.7 $\pm$ 35.6			
1981-82		59.9 $\pm$ 20.7	24.8 $\pm$ 4.9	9.0 $\pm$ 4.4	15.6 $\pm$ 5.0	8.6 $\pm$ 3.0	9.2 $\pm$ 3.7	5.5 $\pm$ 1.7	132.6 $\pm$ 22.9			
1982-83		105.8 $\pm$ 37.5	24.6 $\pm$ 5.7	4.2 $\pm$ 1.3	8.2 $\pm$ 3.0	11.5 $\pm$ 2.9	9.0 $\pm$ 2.1	7.9 $\pm$ 1.7	171.2 $\pm$ 38.3			
1983-84		26.7 $\pm$ 5.8	22.2 $\pm$ 4.9	3.5 $\pm$ 1.2	11.2 $\pm$ 3.1	8.0 $\pm$ 2.1	3.0 $\pm$ 1.0	6.2 $\pm$ 2.1	80.7 $\pm$ 8.9			
1984-85		24.3 $\pm$ 4.9	13.6 $\pm$ 3.5	1.5 $\pm$ 0.6	5.4 $\pm$ 4.9	3.8 $\pm$ 1.5	0.7 $\pm$ 0.4	5.1 $\pm$ 2.5	55.5 $\pm$ 8.4			
1985-86		27.1 $\pm$ 7.0	8.4 $\pm$ 3.5	1.0 $\pm$ 0.6	2.6 $\pm$ 1.2	13.1 $\pm$ 6.6	8.0 $\pm$ 2.9	4.7 $\pm$ 1.5	60.0 $\pm$ 10.8			
1986-87		26.2 $\pm$ 7.9	13.0 $\pm$ 3.4	1.6 $\pm$ 0.7	5.2 $\pm$ 2.1	1.6 $\pm$ 0.4	4.5 $\pm$ 1.8	5.8 $\pm$ 2.4	57.9 $\pm$ 9.4			
1987-88	8.5 $\pm$ 2.8	37.8 $\pm$ 11.4	12.1 $\pm$ 3.9	9.9 $\pm$ 6.5	4.4 $\pm$ 1.8	3.6 $\pm$ 1.1	3.4 $\pm$ 1.0	3.8 $\pm$ 1.6	83.6 $\pm$ 14.2			
1988-89	3.7 $\pm$ 0.8	19.8 $\pm$ 3.7	6.0 $\pm$ 1.7	1.2 $\pm$ 0.6	4.7 $\pm$ 1.2	9.3 $\pm$ 3.7	8.6 $\pm$ 4.2	6.5 $\pm$ 2.5	59.8 $\pm$ 7.6			
1989-90	8.5 $\pm$ 3.4	25.9 $\pm$ 6.4	5.5 $\pm$ 1.5	3.5 $\pm$ 1.2	6.1 $\pm$ 2.3	7.0 $\pm$ 1.6	5.0 $\pm$ 1.5	3.5 $\pm$ 1.3	65.0 $\pm$ 8.3			
1990-91	7.6 $\pm$ 2.1	18.3 $\pm$ 4.4	6.2 $\pm$ 1.7	1.1 $\pm$ 0.8	12.5 $\pm$ 7.7	15.7 $\pm$ 6.8	1.8 $\pm$ 1.0	2.7 $\pm$ 0.8	65.8 $\pm$ 11.7			

Table A.3. (Cont'd.)

Species Year	Bay system										Coastwide <sup>a</sup>		
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre					
Gafftopsail catfish													
1974-76		42.8 ± 30.1	17.6 ± 10.3	4.2 ± 1.5	12.7 ± 8.4	3.3 ± 3.0	0.0	0.0				80.6 ± 21.7	
1976-77		17.6	43.0	6.2	3.8	6.9	0.0	<.1				77.6	
1977-78		7.2	32.3	6.3	2.2	1.4	0.0	0.0				49.4	
1978-79		31.0	28.0	3.8	5.8	6.9	<.1	0.4				76.0	
1979-80		3.1 ± 2.0	1.4 ± 0.7	1.1 ± 0.4	0.1 ± 0.1	4.1 ± 2.7	0.2 ± 0.2	0.0				10.2 ± 3.4	
1980-81		14.5 ± 8.6	1.5 ± 0.8	0.6 ± 0.3	0.6 ± 0.3	1.9 ± 0.9	<.1 ± <.1	0.1 ± 0.1				19.1 ± 8.7	
1981-82		4.2 ± 2.1	7.0 ± 3.0	0.9 ± 0.5	3.3 ± 1.8	16.5 ± 14.1	0.3 ± 0.2	<.1 ± <.1				32.2 ± 14.7	
1982-83		5.2 ± 2.4	3.8 ± 1.2	3.1 ± 0.9	1.8 ± 0.7	6.9 ± 2.2	<.1 ± <.1	0.1 ± 0.1				21.0 ± 3.7	
1983-84		3.3 ± 1.6	4.9 ± 2.2	1.9 ± 0.7	2.3 ± 0.7	6.5 ± 3.0	0.2 ± 0.1	0.1 ± 0.1				19.1 ± 4.1	
1984-85		2.3 ± 0.9	4.3 ± 1.2	2.2 ± 0.9	1.8 ± 0.6	0.8 ± 0.3	0.2 ± 0.2	0.1 ± 0.1				11.6 ± 1.9	
1985-86		8.4 ± 4.2	3.4 ± 0.8	0.6 ± 0.2	3.3 ± 1.0	1.2 ± 0.5	0.1 ± 0.1	0.0				17.0 ± 4.4	
1986-87		7.0 ± 3.5	5.6 ± 1.7	1.8 ± 0.8	2.3 ± 1.0	1.5 ± 0.4	0.0	0.1 ± 0.1				18.3 ± 4.1	
1987-88	1.5 ± 0.7	8.7 ± 5.2	3.9 ± 1.2	1.1 ± 0.6	2.9 ± 1.7	0.8 ± 0.4	0.0	0.2 ± 0.2				19.0 ± 5.7	
1988-89	2.1 ± 0.6	5.3 ± 2.5	4.1 ± 1.1	1.5 ± 0.7	1.2 ± 0.6	0.9 ± 0.4	0.1 ± 0.1	<.1 ± <.1				15.2 ± 3.0	
1989-90	0.3 ± 0.1	2.5 ± 1.3	4.2 ± 1.2	1.3 ± 0.5	3.0 ± 1.6	0.8 ± 0.3	<.1 ± <.1	0.0				12.2 ± 2.4	
1990-91	1.6 ± 0.6	2.0 ± 0.9	2.0 ± 0.8	1.5 ± 0.5	1.0 ± 0.4	1.4 ± 0.6	0.2 ± 0.1	<.1 ± <.1				9.7 ± 1.6	
Red drum													
1974-76		120.0 ± 68.3	37.9 ± 13.0	38.7 ± 7.7	23.1 ± 6.6	17.0 ± 7.6	20.5 ± 4.7	50.3 ± 17.8				307.5 ± 148.0	
1976-77		22.8	17.9	29.7	17.6	11.8	9.0	22.2				131.1	
1977-78		69.2	11.4	17.1	22.9	4.9	4.6	18.6				148.7	
1978-79		29.0	23.0	25.3	4.4	5.6	3.5	8.4				99.2	
1979-80		41.1 ± 19.6	20.2 ± 7.7	20.0 ± 6.3	9.7 ± 5.0	8.0 ± 3.1	13.1 ± 4.0	29.9 ± 12.4				142.0 ± 26.2	
1980-81		69.9 ± 25.1	29.9 ± 8.2	12.4 ± 2.9	8.5 ± 2.8	14.5 ± 4.1	25.7 ± 4.6	11.7 ± 2.8				172.7 ± 27.5	
1981-82		34.2 ± 9.7	20.5 ± 6.3	16.1 ± 4.6	13.9 ± 3.5	9.5 ± 1.6	17.5 ± 3.6	8.5 ± 1.9				120.4 ± 13.7	
1982-83		27.1 ± 6.0	14.7 ± 3.4	14.4 ± 1.6	25.4 ± 7.0	8.5 ± 2.2	14.3 ± 2.0	21.7 ± 2.9				126.2 ± 10.8	
1983-84		25.3 ± 5.4	46.6 ± 8.8	29.4 ± 5.3	33.9 ± 6.0	20.3 ± 4.6	13.3 ± 1.5	28.8 ± 3.7				197.6 ± 14.4	
1984-85		20.8 ± 5.2	8.9 ± 2.6	7.5 ± 3.0	16.9 ± 4.1	15.2 ± 4.0	3.8 ± 0.9	22.4 ± 3.9				95.6 ± 9.6	
1985-86		19.3 ± 8.6	16.8 ± 5.3	7.3 ± 2.2	37.1 ± 5.7	24.3 ± 5.4	18.5 ± 2.7	31.3 ± 4.3				154.8 ± 11.5	
1986-87		47.9 ± 14.9	43.1 ± 7.3	16.4 ± 3.5	51.2 ± 12.4	31.3 ± 5.3	20.2 ± 3.1	56.8 ± 6.3				266.8 ± 22.7	
1987-88	8.2 ± 2.2	31.0 ± 5.6	28.6 ± 5.2	35.0 ± 9.2	23.1 ± 3.4	31.5 ± 7.5	16.0 ± 2.5	44.7 ± 5.1				218.2 ± 15.7	
1988-89	6.2 ± 1.2	26.4 ± 6.5	18.8 ± 3.0	11.4 ± 1.8	33.4 ± 4.7	24.5 ± 4.5	10.1 ± 1.4	33.1 ± 3.8				164.0 ± 10.7	
1989-90	6.4 ± 1.7	30.1 ± 6.5	23.3 ± 5.1	17.7 ± 3.7	22.0 ± 3.8	25.2 ± 4.3	8.7 ± 1.5	25.9 ± 2.9				159.2 ± 11.4	
1990-91	7.7 ± 2.2	16.0 ± 3.7	8.8 ± 1.4	6.5 ± 1.3	16.2 ± 3.3	23.2 ± 3.8	3.3 ± 0.9	15.8 ± 2.3				97.7 ± 7.3	

Table A.3. (Cont'd.)

Species Year	Bay system									Coastwide <sup>1</sup>
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre		
Sand seatrout										
1974-76		722.5 ± 428.9	68.5 ± 45.4	7.7 ± 4.2	15.9 ± 10.0	90.1 ± 26.7	52.9 ± 44.2	19.5 ± 11.1		977.1 ± 296.5
1976-77		589.5	31.6	0.2	58.2	111.7	22.6	23.5		837.3
1977-78		337.4	33.0	3.0	14.2	49.5	5.7	53.7		496.4
1978-79		677.4	25.5	<.1	10.3	35.2	4.3	6.5		759.3
1979-80		307.1 ± 170.4	8.7 ± 4.1	3.9 ± 2.1	0.5 ± 0.2	85.5 ± 53.2	22.7 ± 15.5	12.2 ± 9.2		440.6 ± 179.4
1980-81		339.1 ± 99.2	26.4 ± 13.5	0.9 ± 0.5	9.1 ± 3.4	447.8 ± 377.0	6.7 ± 2.5	8.9 ± 2.7		838.8 ± 390.1
1981-82		153.1 ± 40.2	43.0 ± 18.3	2.0 ± 1.2	11.5 ± 5.4	61.9 ± 14.8	13.8 ± 7.0	20.0 ± 5.2		305.4 ± 47.7
1982-83		279.2 ± 53.9	21.5 ± 6.4	6.7 ± 1.9	21.6 ± 5.9	118.5 ± 24.9	8.5 ± 2.9	15.4 ± 3.6		471.2 ± 60.2
1983-84		164.4 ± 67.7	34.8 ± 12.4	3.6 ± 0.9	29.0 ± 9.4	96.1 ± 24.4	12.0 ± 3.4	9.6 ± 2.7		349.4 ± 73.8
1984-85		303.3 ± 81.5	13.8 ± 7.8	2.6 ± 1.1	23.7 ± 8.9	24.0 ± 7.6	10.6 ± 4.0	24.7 ± 9.8		402.6 ± 83.4
1985-86		138.4 ± 36.7	22.9 ± 6.9	3.5 ± 0.7	44.9 ± 17.0	47.4 ± 18.2	8.1 ± 2.4	14.7 ± 3.1		280.0 ± 45.0
1986-87		290.0 ± 104.3	6.0 ± 2.5	0.2 ± 0.1	20.9 ± 7.3	32.0 ± 10.0	4.2 ± 2.2	15.3 ± 4.4		368.6 ± 69.4
1987-88	19.2 ± 8.9	268.0 ± 72.9	3.1 ± 1.1	1.4 ± 0.7	29.5 ± 8.9	58.0 ± 32.6	1.8 ± 1.0	8.0 ± 3.8		389.1 ± 80.9
1988-89	16.1 ± 4.4	221.6 ± 65.9	8.9 ± 3.2	3.1 ± 1.0	7.8 ± 3.2	36.9 ± 14.5	2.8 ± 1.6	2.0 ± 0.8		299.1 ± 67.8
1989-90	3.3 ± 1.8	191.4 ± 61.2	3.3 ± 1.1	1.4 ± 0.5	2.5 ± 0.8	2.2 ± 0.4	0.4 ± 0.2	5.8 ± 3.5		210.4 ± 61.3
1990-91	39.2 ± 12.4	207.5 ± 62.6	4.6 ± 1.8	3.0 ± 1.6	22.9 ± 20.5	14.0 ± 5.2	8.5 ± 3.8	14.1 ± 4.6		313.6 ± 67.6
Sheepshead										
1974-76		27.8 ± 10.7	15.3 ± 8.9	4.2 ± 1.2	48.7 ± 34.3	5.4 ± 2.3	11.5 ± 5.2	2.7 ± 1.0		115.6 ± 25.1
1976-77		23.5	22.7	2.4	12.5	6.7	4.0	10.7		82.5
1977-78		184.5	24.8	7.6	12.8	4.0	5.0	12.7		251.5
1978-79		39.9	31.0	2.2	5.5	8.0	3.4	15.0		104.5
1979-80		87.1 ± 51.6	9.9 ± 4.5	4.0 ± 2.0	16.9 ± 14.6	7.4 ± 2.6	4.4 ± 2.4	45.8 ± 17.4		175.5 ± 56.7
1980-81		39.5 ± 12.4	16.2 ± 8.2	1.6 ± 0.4	18.0 ± 10.0	67.2 ± 25.8	8.8 ± 3.5	11.6 ± 4.4		163.0 ± 31.9
1981-82		38.1 ± 10.1	29.2 ± 10.3	5.1 ± 1.9	24.9 ± 10.0	19.9 ± 8.1	4.0 ± 1.0	18.1 ± 9.3		139.4 ± 21.5
1982-83		43.9 ± 8.7	19.0 ± 9.2	6.9 ± 1.7	18.0 ± 10.7	65.4 ± 30.4	5.8 ± 1.3	16.2 ± 6.7		175.2 ± 35.3
1983-84		29.3 ± 6.3	20.2 ± 9.4	3.5 ± 0.8	15.0 ± 6.5	3.9 ± 1.0	2.2 ± 0.4	12.0 ± 5.0		86.1 ± 14.1
1984-85		27.4 ± 7.6	15.6 ± 5.5	1.4 ± 0.5	37.1 ± 24.9	3.0 ± 1.4	0.4 ± 0.2	15.1 ± 6.0		100.0 ± 27.3
1985-86		13.5 ± 3.0	6.1 ± 2.0	4.0 ± 2.2	18.5 ± 5.4	3.2 ± 1.1	0.7 ± 0.3	2.2 ± 1.3		48.2 ± 7.1
1986-87		15.7 ± 3.7	12.6 ± 5.8	1.5 ± 0.4	51.4 ± 24.4	6.0 ± 3.2	0.2 ± 0.1	1.6 ± 0.6		89.1 ± 25.6
1987-88	1.5 ± 0.5	19.9 ± 6.2	11.4 ± 4.2	0.9 ± 0.2	23.7 ± 11.7	32.2 ± 18.1	0.3 ± 0.1	10.1 ± 5.1		100.0 ± 23.4
1988-89	2.2 ± 0.9	16.1 ± 4.3	5.8 ± 1.8	1.0 ± 0.4	18.1 ± 7.4	16.2 ± 6.9	0.1 ± 0.1	0.6 ± 0.2		60.2 ± 11.2
1989-90	1.6 ± 0.8	11.7 ± 3.0	2.4 ± 0.8	0.6 ± 0.2	6.0 ± 2.2	5.1 ± 2.1	0.1 ± 0.1	4.6 ± 3.8		32.1 ± 5.8
1990-91	5.4 ± 2.7	19.0 ± 4.8	4.9 ± 1.4	0.7 ± 0.3	23.4 ± 11.0	9.1 ± 3.3	1.2 ± 0.5	3.4 ± 2.3		67.6 ± 13.0

Table A.3. (Cont'd.)

Species Year	Bay system										Coastwide <sup>1</sup>	
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre				
<b>Southern flounder</b>												
1974-76		85.0 ± 30.2	36.0 ± 16.4	10.9 ± 2.7	24.7 ± 11.2	3.8 ± 1.4	55.9 ± 22.8	3.9 ± 1.2	220.2 ± 27.6			
1976-77		31.6	19.9	9.6	8.2	7.5	2.5	5.8	85.0			
1977-78		42.0	19.3	9.4	12.3	4.2	4.6	10.4	102.2			
1978-79		38.4	25.5	4.4	7.9	16.7	3.0	9.9	105.8			
1979-80		440.7 ± 284.0	12.1 ± 5.0	8.0 ± 2.8	1.9 ± 0.9	8.1 ± 3.9	15.9 ± 4.4	14.0 ± 5.1	500.7 ± 284.2			
1980-81		54.6 ± 15.0	14.6 ± 7.1	7.5 ± 3.0	10.5 ± 4.7	71.2 ± 37.0	13.6 ± 3.9	8.1 ± 2.5	180.2 ± 41.2			
1981-82		35.0 ± 8.1	14.6 ± 8.4	3.5 ± 0.9	9.9 ± 2.8	21.8 ± 10.0	10.7 ± 2.5	9.9 ± 1.9	145.4 ± 15.9			
1982-83		98.6 ± 24.3	9.1 ± 2.3	5.7 ± 1.5	15.7 ± 6.8	7.2 ± 1.3	17.7 ± 3.3	26.9 ± 3.7	180.9 ± 25.9			
1983-84		70.4 ± 18.1	23.6 ± 4.3	3.7 ± 0.8	19.6 ± 10.1	20.0 ± 7.5	8.3 ± 1.2	10.4 ± 2.0	155.9 ± 22.6			
1984-85		75.1 ± 18.2	14.4 ± 2.8	2.7 ± 0.8	11.4 ± 3.1	21.3 ± 5.0	4.0 ± 1.1	9.2 ± 2.7	138.2 ± 19.5			
1985-86		68.1 ± 14.6	16.0 ± 3.9	4.2 ± 1.3	20.8 ± 4.2	18.3 ± 4.4	18.4 ± 2.8	48.6 ± 16.9	194.4 ± 23.7			
1986-87		75.2 ± 12.0	17.0 ± 3.9	7.1 ± 2.8	8.9 ± 2.3	14.2 ± 2.6	24.0 ± 4.1	31.6 ± 3.9	178.1 ± 14.5			
1987-88	32.2 ± 5.6	120.3 ± 30.1	14.3 ± 3.8	3.3 ± 0.9	5.5 ± 1.1	10.5 ± 3.1	6.4 ± 1.2	14.4 ± 3.1	207.0 ± 31.2			
1988-89	28.7 ± 5.8	81.7 ± 13.5	16.6 ± 5.0	2.7 ± 0.6	6.3 ± 1.2	8.4 ± 2.2	3.3 ± 0.6	7.4 ± 1.3	155.1 ± 15.8			
1989-90	14.4 ± 3.5	52.7 ± 9.3	7.0 ± 1.6	2.4 ± 0.8	6.6 ± 1.4	7.0 ± 2.5	8.8 ± 5.5	4.8 ± 0.8	103.8 ± 11.9			
1990-91	18.6 ± 3.5	70.8 ± 16.8	6.9 ± 1.5	0.6 ± 0.1	4.6 ± 1.1	9.4 ± 3.3	2.3 ± 0.7	3.3 ± 1.1	116.5 ± 17.6			
<b>Spotted seatrout</b>												
1974-76		638.6 ± 216.6	252.1 ± 105.4	271.9 ± 70.2	750.0 ± 340.1	78.4 ± 24.8	335.4 ± 79.4	275.1 ± 64.7	2601.5 ± 288.8			
1976-77		166.9	36.3	98.8	306.8	143.1	371.1	479.5	1601.8			
1977-78		326.2	132.7	61.0	205.6	139.6	92.3	243.8	1201.2			
1978-79		369.6	103.8	25.3	163.3	104.8	54.9	182.0	1003.7			
1979-80		120.0 ± 34.2	44.0 ± 16.2	121.0 ± 53.9	89.3 ± 30.0	49.9 ± 14.4	155.3 ± 38.4	191.9 ± 53.7	771.4 ± 99.0			
1980-81		829.2 ± 354.9	78.5 ± 18.4	59.1 ± 14.7	83.3 ± 17.7	110.7 ± 22.3	290.3 ± 50.4	140.0 ± 27.6	1591.2 ± 361.4			
1981-82		344.7 ± 76.8	153.0 ± 29.1	63.2 ± 8.9	159.2 ± 29.7	145.5 ± 25.8	239.2 ± 43.6	155.5 ± 16.5	1260.3 ± 102.7			
1982-83		243.2 ± 60.1	83.7 ± 13.4	63.9 ± 9.9	112.4 ± 18.8	98.8 ± 16.5	217.5 ± 22.6	252.7 ± 21.4	1072.3 ± 74.0			
1983-84		261.8 ± 50.5	161.6 ± 39.0	81.7 ± 17.8	127.6 ± 26.7	141.6 ± 31.4	190.3 ± 26.9	168.2 ± 18.0	1132.9 ± 84.4			
1984-85		95.9 ± 16.0	35.5 ± 13.5	4.7 ± 0.9	37.0 ± 20.2	36.8 ± 12.3	9.6 ± 3.4	97.1 ± 15.9	316.6 ± 35.6			
1985-86		116.9 ± 22.8	52.3 ± 10.0	25.5 ± 5.6	81.4 ± 17.6	83.5 ± 19.3	87.5 ± 13.7	98.0 ± 10.5	545.2 ± 40.3			
1986-87		245.6 ± 43.2	105.3 ± 25.2	44.1 ± 7.3	78.8 ± 17.3	109.6 ± 24.0	119.4 ± 17.4	181.0 ± 18.6	883.9 ± 63.9			
1987-88	56.8 ± 14.6	202.4 ± 34.0	104.7 ± 14.1	74.7 ± 17.9	93.5 ± 14.7	116.7 ± 24.8	109.5 ± 17.0	137.1 ± 15.6	895.4 ± 57.0			
1988-89	51.8 ± 10.9	190.4 ± 41.1	84.6 ± 17.6	38.1 ± 6.8	92.9 ± 13.2	111.4 ± 23.8	125.5 ± 27.8	121.3 ± 11.3	816.1 ± 61.8			
1989-90	26.2 ± 5.5	200.8 ± 35.2	40.8 ± 8.7	25.5 ± 4.7	55.9 ± 8.2	80.5 ± 14.7	56.9 ± 15.6	60.0 ± 5.8	546.7 ± 43.9			
1990-91	17.7 ± 4.9	59.2 ± 15.5	11.1 ± 3.7	5.6 ± 1.4	24.6 ± 8.9	47.0 ± 12.2	11.9 ± 3.9	54.6 ± 12.2	231.9 ± 25.9			

Table A.3. (Cont'd.)

Species Year	Bay system										Coastwide*
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre			
<b>Other species</b>											
1974-76		99.5 ± 51.5	8.3 ± 5.6	6.6 ± 2.1	6.7 ± 2.1	14.2 ± 5.4	10.9 ± 6.6	24.2 ± 18.9			170.4 ± 36.3
1976-77		32.8	6.1	5.5	4.4	9.4	3.2	25.1			86.5
1977-78		71.4	15.2	4.6	3.5	4.6	4.4	6.1			109.8
1978-79		75.1	11.8	2.1	2.9	12.4	0.3	2.6			106.9
1979-80		70.9 ± 25.9	6.8 ± 2.8	3.0 ± 1.6	0.9 ± 0.6	60.9 ± 45.9	50.7 ± 46.5	7.6 ± 4.3			200.8 ± 70.5
1980-81		98.2 ± 21.3	11.4 ± 5.9	2.7 ± 1.0	2.4 ± 1.4	65.8 ± 38.0	14.7 ± 9.5	4.9 ± 2.4			200.1 ± 45.1
1981-82		86.0 ± 27.3	9.7 ± 2.8	2.6 ± 1.1	7.6 ± 2.5	18.5 ± 3.3	5.4 ± 1.4	3.8 ± 0.8			133.7 ± 27.8
1982-83		89.5 ± 15.8	8.3 ± 1.9	5.1 ± 1.2	10.6 ± 2.6	44.9 ± 11.9	11.1 ± 6.0	8.9 ± 1.9			178.4 ± 21.0
1983-84		68.2	18.2	9.7	41.0	25.0	7.2	8.1			176.5
1984-85		46.2	13.2	3.3	8.6	8.3	2.1	21.0			102.7
1985-86		73.7	18.6	8.3	10.8	11.3	11.0	5.3			141.8
1986-87		90.5	17.5	4.7	33.2	10.4	11.2	30.3			197.8
1987-88	11.1	118.9	18.3	1.8	56.2	12.8	6.8	13.6			239.8
1988-89	55.4	119.6	20.1	9.6	12.0	12.9	11.1	8.0			248.6
1989-90	13.4	106.5	14.6	15.2	32.0	6.5	7.8	11.3			207.3
1990-91	25.0	113.5 ± 44.1	9.9 ± 5.7	3.1 ± 0.9	4.6 ± 1.9	7.6 ± 3.2	10.5 ± 7.5	5.9 ± 1.6			180.1 ± 47.1
<b>All species combined<sup>a</sup></b>											
1974-76		2470.6 ± 763.4	475.7 ± 181.0	353.2 ± 77.6	903.8 ± 346.2	238.7 ± 55.1	652.0 ± 154.1	412.6 ± 70.5			5506.6 ± 590.7
1976-77		1487.6	220.4	190.3	425.1	324.3	462.6	594.2			3698.9
1977-78		2025.0	319.1	118.1	282.8	230.0	159.7	369.3			3504.0
1978-79		1837.1	293.8	71.7	202.8	209.2	143.3	252.0			3009.9
1979-80		1357.8 ± 507.6	124.7 ± 30.1	165.0 ± 53.3	130.6 ± 38.1	239.5 ± 80.4	376.3 ± 107.4	307.9 ± 86.6			2701.8 ± 537.0
1980-81		1904.4 ± 499.7	271.7 ± 67.0	88.7 ± 16.4	135.7 ± 24.0	936.5 ± 585.5	397.4 ± 60.7	199.0 ± 34.4			3933.5 ± 776.3
1981-82		947.9 ± 155.9	308.6 ± 49.7	103.2 ± 14.1	247.4 ± 35.7	344.1 ± 47.8	329.4 ± 47.6	224.2 ± 24.0			2504.8 ± 182.7
1982-83		1071.9 ± 129.3	192.5 ± 25.5	111.2 ± 11.6	220.7 ± 31.8	381.9 ± 55.1	309.6 ± 34.1	357.8 ± 27.3			2645.7 ± 153.2
1983-84		808.7 ± 114.0	343.3 ± 50.8	138.4 ± 24.8	316.2 ± 51.7	359.7 ± 59.5	263.0 ± 30.2	248.0 ± 24.3			2477.3 ± 154.6
1984-85		809.2 ± 119.9	126.2 ± 21.1	26.3 ± 3.9	146.8 ± 40.9	121.3 ± 20.4	33.9 ± 6.7	198.7 ± 27.4			1462.3 ± 133.1
1985-86		685.2 ± 88.5	157.1 ± 20.3	54.8 ± 10.9	232.3 ± 30.4	213.2 ± 34.9	173.5 ± 20.3	211.4 ± 24.9			1727.4 ± 107.4
1986-87		1128.9 ± 185.9	230.3 ± 32.5	77.7 ± 12.9	257.3 ± 62.6	217.5 ± 31.9	198.2 ± 24.6	329.3 ± 28.9			2439.2 ± 205.3
1987-88	226.8 ± 36.4	1054.7 ± 152.2	206.2 ± 26.2	129.0 ± 31.3	251.0 ± 34.0	309.6 ± 53.0	156.9 ± 20.5	234.9 ± 23.3			2569.1 ± 176.3
1988-89	273.5 ± 51.6	838.6 ± 149.0	178.6 ± 26.0	69.1 ± 10.0	196.3 ± 22.1	232.2 ± 40.1	170.2 ± 29.9	183.5 ± 15.5			2141.8 ± 169.9
1989-90	151.3 ± 28.3	723.8 ± 112.0	103.3 ± 12.9	69.6 ± 12.4	137.6 ± 18.4	137.8 ± 19.0	94.8 ± 23.6	117.5 ± 10.3			1535.8 ± 122.6
1990-91	202.5 ± 32.7	620.9 ± 122.8	60.5 ± 9.7	22.8 ± 3.5	112.7 ± 36.6	131.3 ± 24.8	46.8 ± 13.9	103.0 ± 15.5			1300.6 ± 136.5

<sup>a</sup>Due to rounding of numbers, these totals may not exactly equal individual totals.

Table A.4. Annual mean catch rates of fishes (No./man-h)  $\pm$  1 SE caught by private-boat fishermen in Texas bays and passes by bay system, species and year (1974-1991).

Species Year	Bay system								Coastwide
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	
<b>Atlantic croaker</b>									
1974-76		0.24 $\pm$ 0.12	0.03 $\pm$ 0.02	0.02 $\pm$ 0.01	0.01 $\pm$ <.01	0.05 $\pm$ 0.02	0.21 $\pm$ 0.12	0.01 $\pm$ 0.01	0.14 $\pm$ 0.05
1976-77		0.52	0.07	<.01	0.02	0.10	0.08	0.03	0.19
1977-78		0.40	0.05	<.01	0.01	0.08	0.10	0.02	0.22
1978-79		0.24	0.04	0.01	<.01	0.05	0.19	0.02	0.14
1979-80		0.13 $\pm$ 0.06	0.02 $\pm$ 0.01	0.01 $\pm$ 0.01	0.01 $\pm$ 0.01	0.03 $\pm$ 0.02	0.22 $\pm$ 0.12	0.01 $\pm$ <.01	0.09 $\pm$ 0.03
1980-81		0.17 $\pm$ 0.10	0.08 $\pm$ 0.04	0.01 $\pm$ <.01	0.01 $\pm$ <.01	0.20 $\pm$ 0.17	0.04 $\pm$ 0.01	0.02 $\pm$ 0.01	0.12 $\pm$ 0.05
1981-82		0.10 $\pm$ 0.03	0.01 $\pm$ 0.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.12 $\pm$ 0.06	0.03 $\pm$ 0.01	0.01 $\pm$ <.01	0.06 $\pm$ 0.01
1982-83		0.12 $\pm$ 0.02	0.02 $\pm$ 0.01	<.01 $\pm$ <.01	0.02 $\pm$ 0.01	0.04 $\pm$ 0.01	0.03 $\pm$ 0.02	0.01 $\pm$ <.01	0.05 $\pm$ 0.01
1983-84		0.08 $\pm$ 0.02	0.02 $\pm$ 0.01	<.01 $\pm$ <.01	0.06 $\pm$ 0.03	0.05 $\pm$ 0.02	0.04 $\pm$ 0.01	0.01 $\pm$ <.01	0.05 $\pm$ 0.01
1984-85		0.14 $\pm$ 0.03	0.01 $\pm$ <.01	<.01 $\pm$ <.01	0.01 $\pm$ <.01	0.02 $\pm$ <.01	0.01 $\pm$ <.01	0.01 $\pm$ <.01	0.06 $\pm$ 0.01
1985-86		0.11 $\pm$ 0.04	0.02 $\pm$ 0.01	<.01 $\pm$ <.01	0.02 $\pm$ 0.01	0.02 $\pm$ 0.01	0.02 $\pm$ <.01	0.01 $\pm$ <.01	0.05 $\pm$ 0.01
1986-87		0.15 $\pm$ 0.05	0.01 $\pm$ <.01	0.00	0.01 $\pm$ <.01	0.02 $\pm$ <.01	0.02 $\pm$ <.01	0.01 $\pm$ <.01	0.06 $\pm$ 0.02
1987-88	0.25 $\pm$ 0.07	0.12 $\pm$ 0.02	0.02 $\pm$ <.01	<.01 $\pm$ <.01	0.02 $\pm$ 0.01	0.07 $\pm$ 0.02	0.02 $\pm$ 0.01	<.01 $\pm$ <.01	0.07 $\pm$ 0.01
1988-89	0.22 $\pm$ 0.07	0.08 $\pm$ 0.03	0.02 $\pm$ 0.01	<.01 $\pm$ <.01	0.03 $\pm$ 0.01	0.02 $\pm$ 0.01	0.02 $\pm$ 0.01	0.01 $\pm$ <.01	0.06 $\pm$ 0.01
1989-90	0.27 $\pm$ 0.08	0.06 $\pm$ 0.01	<.01 $\pm$ <.01	0.01 $\pm$ 0.01	<.01 $\pm$ <.01	0.01 $\pm$ <.01	0.02 $\pm$ 0.01	<.01 $\pm$ <.01	0.04 $\pm$ 0.01
1990-91	0.18 $\pm$ 0.05	0.06 $\pm$ 0.02	0.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.01 $\pm$ 0.01	<.01 $\pm$ <.01	0.04 $\pm$ 0.01
<b>Black drum</b>									
1974-76		0.01 $\pm$ <.01	0.03 $\pm$ 0.02	0.01 $\pm$ <.01	0.03 $\pm$ 0.03	0.05 $\pm$ 0.02	0.02 $\pm$ 0.01	0.03 $\pm$ 0.02	0.02 $\pm$ <.01
1976-77		0.07	0.04	0.12	0.02	0.03	0.04	0.02	0.05
1977-78		0.05	0.05	0.03	0.02	0.03	0.02	0.02	0.04
1978-79		0.05	0.03	0.02	0.01	0.01	0.02	0.01	0.04
1979-80		0.02 $\pm$ 0.01	0.03 $\pm$ 0.02	0.01 $\pm$ <.01	0.05 $\pm$ 0.03	0.01 $\pm$ 0.01	0.01 $\pm$ 0.01	0.01 $\pm$ 0.01	0.02 $\pm$ 0.01
1980-81		0.04 $\pm$ 0.02	0.07 $\pm$ 0.03	0.01 $\pm$ <.01	0.01 $\pm$ <.01	0.01 $\pm$ 0.01	0.01 $\pm$ <.01	0.02 $\pm$ 0.01	0.03 $\pm$ 0.01
1981-82		0.03 $\pm$ 0.01	0.05 $\pm$ 0.01	0.05 $\pm$ 0.01	0.04 $\pm$ 0.01	0.02 $\pm$ 0.01	0.01 $\pm$ 0.01	0.02 $\pm$ 0.01	0.03 $\pm$ 0.01
1982-83		0.06 $\pm$ 0.02	0.06 $\pm$ 0.02	0.01 $\pm$ <.01	0.02 $\pm$ 0.01	0.02 $\pm$ 0.01	0.01 $\pm$ <.01	0.01 $\pm$ <.01	0.04 $\pm$ 0.01
1983-84		0.01 $\pm$ <.01	0.03 $\pm$ 0.01	0.01 $\pm$ <.01	0.02 $\pm$ 0.01	0.01 $\pm$ <.01	<.01 $\pm$ <.01	0.01 $\pm$ <.01	0.01 $\pm$ <.01
1984-85		0.02 $\pm$ <.01	0.03 $\pm$ 0.01	0.01 $\pm$ <.01	0.01 $\pm$ 0.01	0.01 $\pm$ <.01	<.01 $\pm$ <.01	0.01 $\pm$ <.01	0.01 $\pm$ <.01
1985-86		0.01 $\pm$ <.01	0.02 $\pm$ 0.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.02 $\pm$ 0.01	0.01 $\pm$ <.01	0.01 $\pm$ <.01	0.01 $\pm$ <.01
1986-87		0.01 $\pm$ <.01	0.02 $\pm$ <.01	<.01 $\pm$ <.01	0.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.01 $\pm$ <.01	0.01 $\pm$ <.01
1987-88	0.02 $\pm$ 0.01	0.02 $\pm$ 0.01	0.02 $\pm$ 0.01	0.02 $\pm$ 0.02	0.01 $\pm$ <.01	0.01 $\pm$ <.01	0.01 $\pm$ <.01	0.01 $\pm$ <.01	0.01 $\pm$ <.01
1988-89	0.01 $\pm$ <.01	0.01 $\pm$ <.01	0.01 $\pm$ <.01	<.01 $\pm$ <.01	0.01 $\pm$ <.01	0.01 $\pm$ <.01	0.02 $\pm$ 0.01	0.01 $\pm$ <.01	0.01 $\pm$ <.01
1989-90	0.03 $\pm$ 0.01	0.02 $\pm$ <.01	0.01 $\pm$ <.01	0.02 $\pm$ 0.01	0.01 $\pm$ <.01	0.01 $\pm$ <.01	0.01 $\pm$ <.01	0.01 $\pm$ <.01	0.01 $\pm$ <.01
1990-91	0.02 $\pm$ 0.01	0.01 $\pm$ <.01	0.02 $\pm$ 0.01	0.01 $\pm$ <.01	0.02 $\pm$ 0.01	0.02 $\pm$ 0.01	0.01 $\pm$ 0.01	0.01 $\pm$ <.01	0.02 $\pm$ <.01

Table A.4. (Cont'd.)

Species Year	Bay system								Coastwide
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	
<b>Gafftopsail catfish</b>									
1974-76		0.01 ± 0.01	0.03 ± 0.02	0.01 ± <.05	0.02 ± 0.02	0.01 ± 0.01	0.00	0.00	0.01 ± <.01
1976-77		0.02	0.12	0.02	0.01	0.03	0.00	<.01	0.02
1977-78		<.01	0.06	0.02	0.01	0.01	0.00	0.00	0.01
1978-79		0.02	0.05	0.01	0.02	0.02	<.01	<.01	0.02
1979-80		<.01 ± <.01	<.01 ± <.01	0.01 ± <.01	<.01 ± <.01	0.01 ± 0.01	<.01 ± <.01	0.00	<.01 ± <.01
1980-81		0.01 ± <.01	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1981-82		<.01 ± <.01	0.01 ± 0.01	0.01 ± <.01	0.01 ± 0.01	0.05 ± 0.04	0.00	0.00	0.01 ± <.01
1982-83		<.01 ± <.01	0.01 ± <.01	<.01 ± <.01	0.01 ± <.01	0.00	0.00	0.00	<.01 ± <.01
1983-84		<.01 ± <.01	0.01 ± <.01	0.01 ± <.01	<.01 ± <.01	0.01 ± <.01	0.00	0.00	<.01 ± <.01
1984-85		<.01 ± <.01	0.01 ± <.01	0.02 ± 0.01	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01	0.00	<.01 ± <.01
1985-86		<.01 ± <.01	0.01 ± <.01	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1986-87		<.01 ± <.01	0.01 ± <.01	0.01 ± <.01	<.01 ± <.01	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1987-88	<.01 ± <.01	<.01 ± <.01	0.01 ± <.01	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1988-89	<.01 ± <.01	<.01 ± <.01	0.01 ± <.01	0.01 ± <.01	<.01 ± <.01	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1989-90	<.01 ± <.01	<.01 ± <.01	0.01 ± <.01	0.01 ± <.01	<.01 ± <.01	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1990-91	<.01 ± <.01	<.01 ± <.01	0.01 ± <.01	0.01 ± <.01	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01	0.00	<.01 ± <.01
<b>Red drum</b>									
1974-76		0.04 ± 0.02	0.06 ± 0.03	0.12 ± 0.03	0.04 ± 0.01	0.06 ± 0.03	0.03 ± 0.01	0.06 ± 0.02	0.05 ± 0.01
1976-77		0.03	0.05	0.10	0.04	0.06	0.02	0.03	0.04
1977-78		0.03	0.02	0.06	0.07	0.02	0.01	0.03	0.03
1978-79		0.02	0.04	0.09	0.01	0.02	0.01	0.02	0.02
1979-80		0.02 ± 0.01	0.05 ± 0.03	0.09 ± 0.03	0.05 ± 0.03	0.02 ± 0.01	0.03 ± 0.01	0.07 ± 0.03	0.03 ± 0.01
1980-81		0.03 ± 0.01	0.05 ± 0.02	0.05 ± 0.02	0.03 ± 0.01	0.02 ± 0.01	0.03 ± 0.01	0.03 ± 0.01	0.03 ± 0.01
1981-82		0.02 ± 0.01	0.04 ± 0.01	0.09 ± 0.03	0.03 ± 0.01	0.03 ± 0.01	0.02 ± 0.01	0.02 ± 0.01	0.03 ± <.01
1982-83		0.02 ± <.01	0.04 ± 0.01	0.05 ± 0.01	0.06 ± 0.02	0.02 ± <.01	0.02 ± <.01	0.04 ± 0.01	0.03 ± <.01
1983-84		0.01 ± <.01	0.07 ± 0.02	0.11 ± 0.02	0.06 ± 0.02	0.03 ± 0.01	0.02 ± <.01	0.06 ± 0.01	0.01 ± <.01
1984-85		0.01 ± <.01	0.02 ± 0.01	0.05 ± 0.02	0.04 ± 0.01	0.03 ± 0.01	0.01 ± <.01	0.04 ± <.01	0.02 ± <.01
1985-86		0.01 ± <.01	0.03 ± 0.01	0.04 ± 0.01	0.05 ± 0.01	0.04 ± 0.01	0.02 ± <.01	0.05 ± 0.01	0.03 ± <.01
1986-87		0.02 ± <.01	0.05 ± 0.01	0.07 ± 0.02	0.01 ± <.01	0.05 ± 0.01	0.02 ± <.01	0.06 ± 0.01	0.04 ± <.01
1987-88	0.02 ± 0.01	0.02 ± <.01	0.04 ± 0.01	0.08 ± 0.03	0.04 ± 0.01	0.05 ± 0.01	0.03 ± 0.01	0.06 ± 0.01	0.04 ± <.01
1988-89	0.01 ± <.01	0.01 ± <.01	0.03 ± 0.01	0.05 ± 0.01	0.05 ± 0.01	0.03 ± 0.01	0.02 ± <.01	0.06 ± 0.01	0.03 ± <.01
1989-90	0.02 ± 0.01	0.02 ± <.01	0.04 ± 0.01	0.08 ± 0.02	0.03 ± 0.01	0.04 ± 0.01	0.02 ± <.01	0.05 ± 0.01	0.03 ± <.01
1990-91	0.02 ± 0.01	0.01 ± <.01	0.02 ± 0.01	0.04 ± 0.01	0.03 ± 0.01	0.04 ± 0.01	0.02 ± 0.01	0.04 ± 0.01	0.02 ± <.01



Table A.4. (Cont'd.)

Species Year	Bay system								Coastwide
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	
Sand seatrout									
1974-76		0.25 ± 0.16	0.11 ± 0.08	0.02 ± 0.01	0.03 ± 0.02	0.34 ± 0.12	0.07 ± 0.06	0.02 ± 0.01	0.16 ± 0.07
1976-77		0.58	0.09	0.01	0.14	0.53	0.05	0.04	0.25
1977-78		0.16	0.06	0.01	0.04	0.24	0.02	0.09	0.11
1978-79		0.34	0.04	<.01	0.03	0.11	0.01	0.01	0.17
1979-80		0.15 ± 0.10	0.02 ± 0.01	0.02 ± 0.01	<.01 ± <.01	0.19 ± 0.14	0.05 ± 0.03	0.03 ± 0.02	0.11 ± 0.05
1980-81		0.16 ± 0.05	0.04 ± 0.02	<.01 ± <.01	0.04 ± 0.01	0.61 ± 0.52	0.01 ± <.01	0.02 ± 0.01	0.16 ± 0.08
1981-82		0.08 ± 0.02	0.09 ± 0.04	0.01 ± 0.01	0.03 ± 0.01	0.18 ± 0.04	0.02 ± 0.01	0.06 ± 0.02	0.07 ± 0.01
1982-83		0.17 ± 0.05	0.05 ± 0.02	0.02 ± 0.01	0.05 ± 0.01	0.26 ± 0.06	0.01 ± <.04	0.03 ± 0.01	0.10 ± 0.01
1983-84		0.08 ± 0.04	0.05 ± 0.02	0.01 ± <.01	0.05 ± 0.02	0.13 ± 0.05	0.02 ± <.01	0.02 ± <.01	0.06 ± 0.01
1984-85		0.20 ± 0.06	0.03 ± 0.02	0.02 ± 0.01	0.06 ± 0.02	0.04 ± 0.02	0.03 ± 0.01	0.04 ± 0.02	0.10 ± 0.02
1985-86		0.07 ± 0.03	0.04 ± 0.01	0.02 ± <.01	0.06 ± 0.02	0.08 ± 0.03	0.01 ± <.01	0.02 ± 0.01	0.05 ± 0.01
1986-87		0.13 ± 0.04	0.01 ± <.01	<.01 ± <.01	0.03 ± 0.01	0.05 ± 0.02	<.01 ± <.01	0.02 ± <.01	0.06 ± 0.01
1987-88	0.06 ± 0.03	0.13 ± 0.04	<.01 ± <.01	<.01 ± <.01	0.04 ± 0.01	0.09 ± 0.05	<.01 ± <.01	0.01 ± <.01	0.06 ± 0.01
1988-89	0.03 ± 0.01	0.11 ± 0.03	0.02 ± 0.01	0.01 ± <.01	0.01 ± <.01	0.05 ± 0.02	0.01 ± <.01	<.01 ± <.01	0.05 ± 0.01
1989-90	0.01 ± 0.01	0.12 ± 0.04	0.01 ± <.01	0.01 ± <.01	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01	0.01 ± 0.01	0.04 ± 0.01
1990-91	0.11 ± 0.04	0.13 ± 0.04	0.01 ± 0.01	0.02 ± 0.01	0.04 ± 0.04	0.02 ± 0.01	0.04 ± 0.02	0.03 ± 0.01	0.07 ± 0.02
Sheepshead									
1974-76		0.01 ± <.01	0.02 ± 0.01	0.01 ± <.01	0.09 ± 0.07	0.02 ± 0.01	0.02 ± 0.01	<.01 ± <.01	0.02 ± 0.01
1976-77		0.02	0.06	0.01	0.03	0.03	0.01	0.02	0.02
1977-78		0.08	0.05	0.02	0.04	0.02	0.01	0.02	0.06
1978-79		0.02	0.05	0.01	0.02	0.03	0.01	0.03	0.02
1979-80		0.04 ± 0.03	0.03 ± 0.01	0.02 ± 0.01	0.09 ± 0.08	0.02 ± 0.01	0.01 ± 0.01	0.11 ± 0.05	0.04 ± 0.01
1980-81		0.02 ± 0.01	0.03 ± 0.01	0.01 ± <.01	0.07 ± 0.04	0.09 ± 0.04	0.01 ± 0.01	0.03 ± 0.01	0.03 ± 0.01
1981-82		0.02 ± 0.01	0.06 ± 0.02	0.03 ± 0.01	0.06 ± 0.02	0.06 ± 0.02	0.01 ± <.01	0.05 ± 0.03	0.03 ± 0.01
1982-83		0.03 ± 0.01	0.05 ± 0.02	0.02 ± 0.01	0.04 ± 0.02	0.15 ± 0.07	0.01 ± <.01	0.03 ± 0.01	0.04 ± 0.01
1983-84		0.01 ± <.01	0.03 ± 0.02	0.01 ± <.01	0.03 ± 0.01	<.01 ± <.01	<.01 ± <.01	0.02 ± 0.01	0.02 ± <.01
1984-85		0.02 ± <.01	0.03 ± 0.01	0.01 ± <.01	0.10 ± 0.07	0.01 ± <.01	<.01 ± <.01	0.02 ± 0.01	0.02 ± 0.01
1985-86		0.01 ± <.01	0.01 ± <.01	0.02 ± 0.01	0.03 ± 0.01	<.01 ± 0.01	<.01 ± <.01	<.01 ± <.01	0.01 ± <.01
1986-87		<.01 ± <.01	0.02 ± 0.01	0.01 ± <.01	0.07 ± 0.04	0.01 ± <.01	0.00	<.01 ± <.01	0.01 ± <.01
1987-88	<.01 ± <.01	0.01 ± <.01	0.02 ± 0.01	<.01 ± <.01	0.04 ± 0.02	0.05 ± 0.03	<.01 ± <.01	0.01 ± 0.01	0.02 ± <.01
1988-89	<.01 ± <.01	0.01 ± <.01	0.01 ± <.01	<.01 ± <.01	0.02 ± 0.01	0.02 ± 0.01	0.00	<.01 ± <.01	0.01 ± <.01
1989-90	0.01 ± <.01	0.01 ± <.01	<.01 ± <.01	<.01 ± <.01	0.01 ± <.01	0.01 ± <.01	0.00	0.01 ± 0.01	0.01 ± <.01
1990-91	0.02 ± 0.01	0.01 ± <.01	0.01 ± <.01	<.01 ± <.01	0.04 ± 0.02	0.01 ± 0.01	0.01 ± <.01	0.01 ± 0.01	0.02 ± <.01

Table A.4. (Cont'd.)

Species Year	Bay system								Coastwide
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	
Southern flounder									
1974-76		0.03 ± 0.01	0.06 ± 0.03	0.03 ± 0.01	0.05 ± 0.02	0.01 ± 0.01	0.08 ± 0.03	<.01 ± <.01	0.04 ± 0.01
1976-77		0.03	0.06	0.03	0.02	0.04	0.01	0.01	0.02
1977-78		0.02	0.04	0.03	0.04	0.02	0.01	0.02	0.02
1978-79		0.02	0.04	0.02	0.02	0.05	0.01	0.02	0.02
1979-80		0.22 ± 0.15	0.03 ± 0.01	0.03 ± 0.01	0.01 ± 0.01	0.02 ± 0.01	0.03 ± 0.01	0.03 ± 0.01	0.12 ± 0.07
1980-81		0.03 ± 0.01	0.02 ± 0.01	0.03 ± 0.01	0.04 ± 0.02	0.10 ± 0.06	0.02 ± 0.01	0.02 ± 0.01	0.03 ± 0.01
1981-82		0.02 ± 0.01	0.03 ± 0.02	0.02 ± 0.01	0.02 ± 0.01	0.06 ± 0.03	0.01 ± <.01	0.03 ± 0.01	0.02 ± <.01
1982-83		0.06 ± 0.02	0.02 ± 0.01	0.02 ± 0.01	0.04 ± 0.02	0.02 ± <.01	0.02 ± <.01	0.05 ± 0.01	0.04 ± 0.01
1983-84		0.03 ± 0.01	0.04 ± 0.01	0.01 ± <.01	0.03 ± 0.02	0.03 ± 0.01	0.01 ± <.01	0.02 ± <.01	0.03 ± 0.01
1984-85		0.05 ± 0.01	0.03 ± 0.01	0.02 ± 0.01	0.02 ± 0.01	0.04 ± 0.01	0.01 ± <.01	0.02 ± <.01	0.03 ± <.01
1985-86		0.04 ± 0.01	0.03 ± 0.01	0.02 ± 0.01	0.03 ± 0.01	0.03 ± 0.01	0.02 ± <.01	0.08 ± 0.03	0.04 ± 0.01
1986-87		0.03 ± <.01	0.02 ± 0.01	0.03 ± 0.01	0.01 ± <.01	0.02 ± <.01	0.03 ± <.01	0.04 ± <.01	0.03 ± <.01
1987-88	0.09 ± 0.02	0.06 ± 0.02	0.02 ± 0.01	0.01 ± <.01	0.01 ± <.01	0.02 ± <.01	0.01 ± <.01	0.02 ± <.01	0.03 ± <.01
1988-89	0.06 ± 0.01	0.04 ± 0.01	0.03 ± 0.01	0.01 ± <.01	0.01 ± <.01	0.01 ± <.01	0.01 ± <.01	0.01 ± <.01	0.03 ± <.01
1989-90	0.05 ± 0.01	0.03 ± 0.01	0.01 ± <.01	0.01 ± <.01	0.01 ± <.01	0.01 ± <.01	0.02 ± 0.01	0.01 ± <.01	0.02 ± <.01
1990-91	0.05 ± 0.01	0.04 ± 0.01	0.02 ± 0.01	<.01 ± <.01	0.01 ± <.01	0.02 ± 0.01	0.01 ± <.01	0.01 ± <.01	0.03 ± <.01
Spotted seatrout									
1974-76		0.22 ± 0.09	0.40 ± 0.20	0.84 ± 0.24	1.41 ± 0.68	0.29 ± 0.11	0.46 ± 0.14	0.33 ± 0.10	0.42 ± 0.09
1976-77		0.16	0.10	0.33	0.76	0.68	0.87	0.71	0.47
1977-78		0.15	0.26	0.20	0.62	0.69	0.25	0.42	0.27
1978-79		0.20	0.17	0.09	0.52	0.33	0.15	0.34	0.23
1979-80		0.06 ± 0.03	0.11 ± 0.05	0.53 ± 0.24	0.49 ± 0.19	0.11 ± 0.06	0.33 ± 0.09	0.48 ± 0.16	0.19 ± 0.04
1980-81		0.38 ± 0.18	0.12 ± 0.05	0.26 ± 0.08	0.33 ± 0.09	0.15 ± 0.05	0.34 ± 0.08	0.36 ± 0.09	0.30 ± 0.07
1981-82		0.18 ± 0.05	0.31 ± 0.07	0.34 ± 0.06	0.37 ± 0.08	0.41 ± 0.08	0.28 ± 0.07	0.45 ± 0.06	0.28 ± 0.03
1982-83		0.15 ± 0.04	0.21 ± 0.04	0.22 ± 0.04	0.26 ± 0.05	0.22 ± 0.05	0.28 ± 0.04	0.45 ± 0.05	0.23 ± 0.02
1983-84		0.12 ± 0.04	0.24 ± 0.06	0.30 ± 0.08	0.21 ± 0.06	0.19 ± 0.07	0.26 ± 0.04	0.33 ± 0.04	0.20 ± 0.03
1984-85		0.06 ± 0.01	0.07 ± 0.03	0.03 ± 0.01	0.09 ± 0.05	0.07 ± 0.02	0.03 ± 0.01	0.16 ± 0.03	0.08 ± 0.01
1985-86		0.06 ± 0.02	0.09 ± 0.02	0.14 ± 0.03	0.11 ± 0.03	0.14 ± 0.04	0.10 ± 0.02	0.16 ± 0.02	0.10 ± 0.01
1986-87		0.11 ± 0.02	0.13 ± 0.04	0.18 ± 0.04	0.11 ± 0.03	0.17 ± 0.04	0.13 ± 0.02	0.21 ± 0.03	0.14 ± 0.01
1987-88	0.16 ± 0.04	0.10 ± 0.02	0.16 ± 0.03	0.18 ± 0.06	0.14 ± 0.02	0.18 ± 0.04	0.21 ± 0.04	0.19 ± 0.03	0.15 ± 0.01
1988-89	0.10 ± 0.03	0.09 ± 0.02	0.14 ± 0.03	0.17 ± 0.03	0.13 ± 0.02	0.14 ± 0.04	0.26 ± 0.07	0.21 ± 0.03	0.14 ± 0.01
1989-90	0.09 ± 0.02	0.12 ± 0.02	0.08 ± 0.02	0.12 ± 0.02	0.07 ± 0.01	0.13 ± 0.03	0.13 ± 0.04	0.12 ± 0.02	0.11 ± 0.01
1990-91	0.05 ± 0.02	0.04 ± 0.01	0.03 ± 0.01	0.03 ± 0.01	0.04 ± 0.02	0.07 ± 0.02	0.06 ± 0.02	0.13 ± 0.03	0.05 ± 0.01

Table A.4. (Cont'd.)

Species Year	Bay system								Coastwide
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	
Other species									
1974-76		0.03 ± 0.02	0.01 ± 0.01	0.02 ± 0.01	0.01 ± <.01	0.05 ± 0.02	0.01 ± 0.01	0.03 ± 0.02	0.03 ± 0.01
1976-77		0.03	0.02	0.02	0.01	0.04	0.01	0.04	0.03
1977-78		0.03	0.03	0.02	0.01	0.02	0.01	0.01	0.02
1978-79		0.04	0.02	0.01	0.01	0.04	<.01	<.01	0.02
1979-80		0.03 ± 0.02	0.02 ± 0.01	0.01 ± 0.01	0.01 ± <.01	0.13 ± 0.11	0.11 ± 0.10	0.02 ± 0.01	0.05 ± 0.02
1980-81		0.05 ± 0.01	0.02 ± 0.01	0.01 ± 0.01	0.01 ± 0.01	0.09 ± 0.06	0.02 ± 0.01	0.01 ± 0.01	0.04 ± 0.01
1981-82		0.05 ± 0.02	0.02 ± 0.01	0.01 ± 0.01	0.02 ± 0.01	0.05 ± 0.01	0.01 ± <.01	0.01 ± <.01	0.03 ± 0.01
1982-83		0.05 ± 0.01	0.02 ± <.01	0.02 ± <.01	0.05 ± 0.01	0.10 ± 0.03	0.01 ± 0.01	0.02 ± <.01	0.04 ± <.01
1983-84		0.03	0.03	0.04	0.06	0.03	0.01	0.02	0.03
1984-85		0.03	0.03	0.02	0.02	0.02	0.01	0.03	0.02
1985-86		0.04	0.03	0.04	0.01	0.02	0.02	0.01	0.02
1986-87		0.04 ± 0.01	0.02	0.02 ± 0.01	0.04	0.01	0.01	0.03	0.03
1987-88	0.03	0.06	0.03	<.01	0.08	0.02	0.01	0.02	0.04
1988-89	0.11	0.06	0.03	0.04	0.02	0.02	0.02	0.01	0.04
1989-90	0.05	0.06	0.03	0.07	0.04	0.01	0.02	0.02	0.04
1990-91	0.07 ± 0.04	0.07 ± 0.03	0.03 ± 0.02	0.02 ± 0.01	0.01 ± <.01	0.01 ± 0.01	0.06 ± 0.04	0.01 ± <.01	0.04 ± 0.01
All species combined <sup>a</sup>									
1974-76		0.86 ± 0.34	0.75 ± 0.35	1.09 ± 0.28	1.69 ± 0.71	0.89 ± 0.27	0.90 ± 0.28	0.49 ± 0.13	0.88 ± 0.18
1976-77		1.44	0.60	0.64	1.06	1.53	1.08	0.88	1.08
1977-78		0.93	0.62	0.39	0.85	1.14	0.44	0.63	0.78
1978-79		0.93	0.49	0.25	0.64	0.67	0.40	0.48	0.69
1979-80		0.68 ± 0.33	0.31 ± 0.13	0.72 ± 0.25	0.72 ± 0.25	0.53 ± 0.30	0.79 ± 0.24	0.76 ± 0.26	0.65 ± 0.17
1980-81		0.88 ± 0.28	0.43 ± 0.16	0.39 ± 0.11	0.54 ± 0.13	1.27 ± 0.85	0.47 ± 0.11	0.52 ± 0.12	0.75 ± 0.17
1981-82		0.50 ± 0.11	0.62 ± 0.12	0.56 ± 0.09	0.57 ± 0.10	0.98 ± 0.17	0.38 ± 0.09	0.65 ± 0.09	0.55 ± 0.06
1982-83		0.64 ± 0.10	0.49 ± 0.08	0.39 ± 0.06	0.50 ± 0.10	0.84 ± 0.16	0.39 ± 0.06	0.64 ± 0.07	0.58 ± 0.04
1983-84		0.39 ± 0.11	0.52 ± 0.10	0.51 ± 0.11	0.52 ± 0.14	0.47 ± 0.15	0.36 ± 0.05	0.48 ± 0.06	0.44 ± 0.05
1984-85		0.54 ± 0.10	0.24 ± 0.05	0.19 ± 0.03	0.36 ± 0.12	0.23 ± 0.05	0.10 ± 0.03	0.32 ± 0.06	0.36 ± 0.04
1985-86		0.40 ± 0.10	0.28 ± 0.05	0.29 ± 0.07	0.33 ± 0.05	0.35 ± 0.08	0.20 ± 0.04	0.35 ± 0.05	0.32 ± 0.04
1986-87		0.52 ± 0.11	0.28 ± 0.06	0.32 ± 0.07	0.36 ± 0.10	0.33 ± 0.07	0.22 ± 0.04	0.38 ± 0.04	0.38 ± 0.04
1987-88	0.64 ± 0.13	0.51 ± 0.09	0.33 ± 0.05	0.31 ± 0.10	0.38 ± 0.06	0.48 ± 0.10	0.30 ± 0.05	0.33 ± 0.04	0.43 ± 0.04
1988-89	0.55 ± 0.13	0.42 ± 0.08	0.30 ± 0.05	0.30 ± 0.05	0.27 ± 0.04	0.30 ± 0.06	0.36 ± 0.08	0.32 ± 0.04	0.36 ± 0.03
1989-90	0.53 ± 0.12	0.44 ± 0.08	0.20 ± 0.03	0.33 ± 0.07	0.16 ± 0.03	0.22 ± 0.04	0.22 ± 0.06	0.22 ± 0.03	0.30 ± 0.03
1990-91	0.55 ± 0.11	0.39 ± 0.09	0.17 ± 0.04	0.13 ± 0.02	0.20 ± 0.07	0.20 ± 0.04	0.24 ± 0.08	0.25 ± 0.04	0.30 ± 0.04

<sup>a</sup>Due to rounding of numbers, these totals may not exactly equal individual totals.

Table A.5. Annual mean weights of fishes (kg/fish)  $\pm$  1 SE caught by private-boat fishermen in Texas bays and passes by bay system, species and year (1974-1991). Blank = no fish weighed. No standard error = fish weighed on only one survey day.

Species Year	Bay system									
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	Coastwide	
<b>Atlantic croaker</b>										
1974-76		0.18 $\pm$ 0.07	0.24 $\pm$ 0.18	0.24 $\pm$ 0.11	0.15 $\pm$ 0.02	0.27 $\pm$ 0.10	0.33 $\pm$ 0.11	0.30 $\pm$ 0.09	0.23 $\pm$ 0.08	0.24 $\pm$ 0.04
1976-77		0.23 $\pm$ 0.08	0.14 $\pm$ 0.03	0.26 $\pm$ 0.03	0.22 $\pm$ 0.07	0.26 $\pm$ 0.08	0.24 $\pm$ 0.10	0.48 $\pm$ 0.16	0.24 $\pm$ 0.04	0.24 $\pm$ 0.04
1977-78		0.22 $\pm$ 0.09	0.14 $\pm$ 0.10	0.37 $\pm$ 0.12	0.27 $\pm$ 0.14	0.21 $\pm$ 0.11	0.29 $\pm$ 0.06	0.23 $\pm$ 0.04	0.22 $\pm$ 0.06	0.22 $\pm$ 0.06
1978-79		0.18 $\pm$ 0.14	0.18 $\pm$ 0.14	0.23 $\pm$ 0.03	0.12 $\pm$ 0.03	0.26 $\pm$ 0.10	0.35 $\pm$ 0.18	0.25 $\pm$ 0.09	0.22 $\pm$ 0.14	0.22 $\pm$ 0.14
1979-80		0.20 $\pm$ 0.12	0.18 $\pm$ 0.11	0.30 $\pm$ 0.07	0.13 $\pm$ 0.08	0.20 $\pm$ 0.06	0.25 $\pm$ 0.06	0.22 $\pm$ 0.06	0.21 $\pm$ 0.06	0.21 $\pm$ 0.06
1980-81		0.21 $\pm$ 0.09	0.16 $\pm$ 0.03	0.24 $\pm$ 0.12	0.29 $\pm$ 0.07	0.30 $\pm$ 0.08	0.27 $\pm$ 0.09	0.21 $\pm$ 0.05	0.23 $\pm$ 0.06	0.23 $\pm$ 0.06
1981-82		0.18 $\pm$ 0.04	0.16 $\pm$ 0.02	0.14 $\pm$ 0.11	0.26 $\pm$ 0.02	0.32 $\pm$ 0.18	0.27 $\pm$ 0.05	0.28 $\pm$ 0.04	0.27 $\pm$ 0.09	0.27 $\pm$ 0.09
1982-83		0.21 $\pm$ 0.04	0.16 $\pm$ 0.02	0.22 $\pm$ 0.05	0.27 $\pm$ 0.07	0.34 $\pm$ 0.09	0.30 $\pm$ 0.06	0.27 $\pm$ 0.09	0.26 $\pm$ 0.04	0.26 $\pm$ 0.04
1983-84		0.22 $\pm$ 0.03	0.17 $\pm$ 0.01	0.17 $\pm$ 0.01	0.36 $\pm$ 0.02	0.31 $\pm$ 0.02	0.33 $\pm$ 0.01	0.26 $\pm$ 0.02	0.26 $\pm$ 0.02	0.26 $\pm$ 0.02
1984-85		0.18 $\pm$ 0.02	0.14 $\pm$ 0.01	0.15 $\pm$ 0.03	0.23 $\pm$ 0.02	0.21 $\pm$ 0.02	0.21 $\pm$ 0.04	0.17 $\pm$ 0.01	0.18 $\pm$ 0.02	0.18 $\pm$ 0.02
1985-86		0.16 $\pm$ 0.01	0.15 $\pm$ 0.01	0.23 $\pm$ 0.05	0.24 $\pm$ 0.01	0.18 $\pm$ 0.01	0.24 $\pm$ 0.01	0.16 $\pm$ 0.01	0.17 $\pm$ 0.01	0.17 $\pm$ 0.01
1986-87		0.21 $\pm$ 0.02	0.14 $\pm$ 0.04	0.14 $\pm$ 0.04	0.29 $\pm$ 0.01	0.18 $\pm$ 0.02	0.27 $\pm$ 0.01	0.22 $\pm$ 0.02	0.21 $\pm$ 0.01	0.21 $\pm$ 0.01
1987-88	0.16 $\pm$ <.01	0.21 $\pm$ 0.01	0.16 $\pm$ 0.01	0.15 $\pm$ <.01	0.28 $\pm$ 0.03	0.24 $\pm$ 0.02	0.30 $\pm$ 0.02	0.02 $\pm$ 0.02	0.20 $\pm$ 0.01	0.20 $\pm$ 0.01
1988-89	0.19 $\pm$ 0.01	0.20 $\pm$ 0.02	0.15 $\pm$ 0.01	0.19 $\pm$ 0.03	0.33 $\pm$ 0.02	0.33 $\pm$ 0.02	0.39 $\pm$ 0.02	0.19 $\pm$ 0.03	0.21 $\pm$ 0.01	0.21 $\pm$ 0.01
1989-90	0.25 $\pm$ 0.02	0.19 $\pm$ 0.01	0.18 $\pm$ 0.02	0.16 $\pm$ 0.03	0.17 $\pm$ 0.01	0.19 $\pm$ 0.04	0.40 $\pm$ 0.04	0.15 $\pm$ 0.01	0.22 $\pm$ 0.02	0.22 $\pm$ 0.02
1990-91	0.18 $\pm$ 0.02	0.20 $\pm$ 0.03	0.18 $\pm$ 0.01	0.17 $\pm$ 0.02	0.21 $\pm$ 0.03	0.16 $\pm$ 0.02	0.20 $\pm$ 0.02	0.19 $\pm$ 0.02	0.19 $\pm$ 0.01	0.19 $\pm$ 0.01
<b>Black drum</b>										
1974-76		2.19 $\pm$ 3.20	0.91 $\pm$ 0.33	1.16 $\pm$ 0.89	0.70 $\pm$ 0.30	6.64 $\pm$ 7.16	2.28 $\pm$ 2.15	2.56 $\pm$ 2.73	2.02 $\pm$ 1.00	2.02 $\pm$ 1.00
1976-77		0.83 $\pm$ 0.55	0.43 $\pm$ 0.11	6.18 $\pm$ 12.18	0.94 $\pm$ 0.40	2.57 $\pm$ 2.78	1.43 $\pm$ 1.50	4.30 $\pm$ 5.07	1.04 $\pm$ 0.16	1.04 $\pm$ 0.16
1977-78		1.25 $\pm$ 1.06	0.99 $\pm$ 1.43	1.10 $\pm$ 0.79	0.59 $\pm$ 0.42	3.66 $\pm$ 4.76	1.30 $\pm$ 0.78	4.88 $\pm$ 5.02	2.03 $\pm$ 1.22	2.03 $\pm$ 1.22
1978-79		4.22 $\pm$ 10.20	1.65 $\pm$ 1.30	5.94 $\pm$ 5.92	0.44 $\pm$ 0.16	1.77 $\pm$ 1.14	2.50 $\pm$ 1.71	7.24 $\pm$ 8.50	4.18 $\pm$ 4.56	4.18 $\pm$ 4.56
1979-80		0.42 $\pm$ 0.10	0.48 $\pm$ 0.30	3.55 $\pm$ 5.08	0.50 $\pm$ 0.12	4.58 $\pm$ 6.39	1.37 $\pm$ 0.89	0.51 $\pm$ 0.55	1.71 $\pm$ 1.72	1.71 $\pm$ 1.72
1980-81		2.63 $\pm$ 5.16	0.38 $\pm$ 0.22	0.92 $\pm$ 1.04	0.50 $\pm$ 0.08	0.70 $\pm$ 0.36	0.70 $\pm$ 0.18	0.51 $\pm$ 0.27	1.17 $\pm$ 1.51	1.17 $\pm$ 1.51
1981-82		0.53 $\pm$ 0.22	0.51 $\pm$ 0.18	0.48 $\pm$ 0.29	0.63 $\pm$ 0.34	0.60 $\pm$ 0.20	0.91 $\pm$ 0.26	1.29 $\pm$ 0.85	0.67 $\pm$ 0.18	0.67 $\pm$ 0.18
1982-83		1.63 $\pm$ 1.67	0.42 $\pm$ 0.16	3.57 $\pm$ 3.57	0.46 $\pm$ 0.14	0.81 $\pm$ 2.28	1.05 $\pm$ 0.37	0.99 $\pm$ 0.51	1.47 $\pm$ 0.72	1.47 $\pm$ 0.72
1983-84		2.18 $\pm$ 0.95	1.05 $\pm$ 0.27	0.84 $\pm$ 0.05	0.92 $\pm$ 0.10	0.92 $\pm$ 0.10	1.11 $\pm$ 0.14	0.98 $\pm$ 0.25	1.38 $\pm$ 0.44	1.38 $\pm$ 0.44
1984-85		1.82 $\pm$ 0.32	1.99 $\pm$ 0.88	0.46 $\pm$ 0.10	0.69 $\pm$ 0.10	0.84 $\pm$ 0.07	0.69 $\pm$ 0.11	1.51 $\pm$ 0.65	1.59 $\pm$ 0.44	1.59 $\pm$ 0.44
1985-86		3.81 $\pm$ 1.54	3.56 $\pm$ 2.08	0.88 $\pm$ 0.45	0.85 $\pm$ 0.10	2.71 $\pm$ 1.54	0.79 $\pm$ 0.09	0.72 $\pm$ 0.17	2.71 $\pm$ 1.23	2.71 $\pm$ 1.23
1986-87		1.79 $\pm$ 0.57	1.59 $\pm$ 0.58	1.09 $\pm$ 0.28	1.27 $\pm$ 0.37	0.74 $\pm$ 0.10	1.25 $\pm$ 0.34	0.99 $\pm$ 0.38	1.53 $\pm$ 0.50	1.53 $\pm$ 0.50
1987-88	1.29 $\pm$ 0.18	2.69 $\pm$ 1.41	0.85 $\pm$ 0.14	1.30 $\pm$ 0.29	1.44 $\pm$ 0.32	1.04 $\pm$ 0.23	0.78 $\pm$ 0.12	1.64 $\pm$ 0.34	1.85 $\pm$ 0.45	1.85 $\pm$ 0.45
1988-89	2.23 $\pm$ 0.33	0.92 $\pm$ 0.14	1.18 $\pm$ 0.15	1.32 $\pm$ 0.06	1.42 $\pm$ 0.25	0.73 $\pm$ 0.13	0.77 $\pm$ 0.09	1.12 $\pm$ 0.08	1.05 $\pm$ 0.12	1.05 $\pm$ 0.12
1989-90	1.20 $\pm$ 1.28	0.86 $\pm$ 0.08	1.47 $\pm$ 0.26	1.11 $\pm$ 0.08	1.14 $\pm$ 0.13	1.47 $\pm$ 0.12	1.13 $\pm$ 0.12	1.03 $\pm$ 0.12	1.09 $\pm$ 0.12	1.09 $\pm$ 0.12
1990-91	1.25 $\pm$ 0.09	0.96 $\pm$ 8.66	1.28 $\pm$ 0.13	1.83 $\pm$ 0.31	1.69 $\pm$ 0.24	1.38 $\pm$ 0.09	1.60 $\pm$ 0.31	1.38 $\pm$ 0.16	1.33 $\pm$ 2.23	1.33 $\pm$ 2.23

Table A.5. (Cont'd.)

Species Year	Bay system								Coastwide
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	
<b>Gafftopsail catfish</b>									
1974-76		1.37 ± 0.30	1.55 ± 0.61	1.26 ± 0.20	1.30 ± 0.37	1.26 ± 0.34			1.30 ± 0.15
1976-77		1.90 ± 0.64	1.55 ± 0.32	1.38 ± 0.20	1.47 ± 0.27	1.30 ± 0.43		0.22 ± <.01	1.49 ± 0.28
1977-78		1.10 ± 0.19	1.32 ± 0.29	1.42 ± 0.14	0.91 ± 0.60	1.34 ± 0.19			1.28 ± 0.14
1978-79		1.26 ± 0.38	1.45 ± 0.49	0.87 ± 0.37	1.33 ± 0.45	1.25 ± 0.32	2.42 ± 0.87	0.83 ± 0.71	1.25 ± 0.21
1979-80		0.72 ± 0.23	1.24 ± 0.52	1.38 ± 0.44	2.13 ± <.01	1.66 ± 0.12	1.02 ± <.01		1.45 ± 0.25
1980-81		1.52 ± 0.60	1.20 ± 0.30	0.90 ± 0.16	1.58 ± 0.35	1.18 ± 0.35	0.35 ± <.01		1.35 ± 0.36
1981-82		0.92 ± 0.30	1.24 ± 0.34	1.53 ± 0.30	1.32 ± 0.31	1.35 ± 0.24	0.18 ± 0.02	0.23 ± <.01	1.29 ± 0.15
1982-83		1.41 ± 0.40	1.37 ± 0.64	1.04 ± 0.14	0.91 ± 0.19	1.17 ± 0.36	0.20 ± 0.03	1.13 ± 0.64	1.17 ± 0.18
1983-84		0.72 ± 0.10	1.06 ± 0.12	1.24 ± 0.13	1.06 ± 0.09	1.39 ± 0.07	1.16 ± 0.17	0.78 ± 0.11	1.13 ± 0.10
1984-85		0.98 ± 0.12	1.22 ± 0.12	1.11 ± 0.17	0.97 ± 0.22	1.41 ± 0.14	0.36 ± 0.02	0.13 ± 0.05	1.10 ± 0.14
1985-86		1.03 ± 0.16	1.17 ± 0.11	0.86 ± 0.09	1.58 ± 0.15	0.94 ± 0.24	1.41		1.15 ± 0.16
1986-87		0.89 ± 0.16	0.98 ± 0.07	1.06 ± 0.10	1.46 ± 0.13	1.00 ± 0.12		0.27 ± 0.10	1.01 ± 0.12
1987-88	0.86 ± 0.17	1.29 ± 0.21	1.18 ± 0.06	1.06 ± 0.10	1.61 ± 0.10	1.73 ± 0.11		0.43 ± 0.01	1.28 ± 0.07
1988-89	1.09 ± 0.10	1.05 ± 0.13	1.11 ± 0.10	1.54 ± 0.10	1.39 ± 0.21	1.48 ± 0.24		0.34	1.18 ± 0.07
1989-90	0.45 ± 0.08	1.05 ± 0.07	1.37 ± 0.13	1.29 ± 0.11	1.91 ± 0.25	1.31 ± 0.21	0.63		1.40 ± 0.16
1990-91	1.05 ± 0.19	1.01 ± 0.25	1.24 ± 0.12	1.30 ± 0.09	1.23 ± 0.14	1.66 ± 0.17	1.57 ± 0.24	0.52	1.23 ± 0.09
<b>Red drum</b>									
1974-76		0.79 ± 0.13	0.75 ± 0.16	1.11 ± 0.19	0.94 ± 0.25	0.89 ± 0.42	1.13 ± 0.19	0.99 ± 0.42	1.02 ± 0.11
1976-77		1.31 ± 0.19	0.90 ± 0.35	1.21 ± 0.28	0.99 ± 0.33	0.96 ± 0.29	1.16 ± 0.36	0.92 ± 0.36	1.04 ± 0.16
1977-78		1.07 ± 0.32	1.14 ± 0.30	0.76 ± 0.16	1.00 ± 0.50	1.08 ± 0.26	1.18 ± 0.19	1.07 ± 0.37	0.94 ± 0.15
1978-79		1.72 ± 0.71	0.93 ± 0.29	0.72 ± 0.21	0.76 ± 0.21	1.26 ± 0.59	1.10 ± 0.29	1.36 ± 0.32	0.88 ± 0.27
1979-80		0.59 ± 0.15	0.81 ± 0.45	0.76 ± 0.66	0.67 ± 0.20	0.85 ± 0.46	0.76 ± 0.10	0.61 ± 0.18	0.74 ± 0.22
1980-81		1.18 ± 0.31	1.33 ± 0.28	1.18 ± 0.23	1.01 ± 0.21	1.03 ± 0.21	0.92 ± 0.13	0.91 ± 0.18	1.09 ± 0.09
1981-82		1.62 ± 0.40	1.56 ± 0.36	1.15 ± 0.26	1.08 ± 0.14	1.12 ± 0.17	1.14 ± 0.12	1.55 ± 0.78	1.25 ± 0.17
1982-83		1.34 ± 0.42	1.59 ± 0.24	1.67 ± 0.27	1.54 ± 0.25	1.46 ± 0.15	1.50 ± 0.19	1.31 ± 0.29	1.51 ± 0.12
1983-84		1.90 ± 0.24	1.59 ± 0.07	1.45 ± 0.06	1.73 ± 0.33	1.35 ± 0.08	1.62 ± 0.06	1.57 ± 0.06	1.60 ± 0.13
1984-85		2.02 ± 0.14	2.16 ± 0.10	1.73 ± 0.11	1.70 ± 0.09	1.64 ± 0.09	1.77 ± 0.13	2.06 ± 0.07	1.89 ± 0.10
1985-86		2.16 ± 0.21	2.04 ± 0.11	1.79 ± 0.06	1.82 ± 0.05	1.67 ± 0.06	1.70 ± 0.03	1.93 ± 0.05	1.87 ± 0.08
1986-87		2.08 ± 0.14	1.61 ± 0.05	1.52 ± 0.05	2.04 ± 0.09	1.89 ± 0.08	1.76 ± 0.11	2.00 ± 0.04	1.90 ± 0.08
1987-88	1.83 ± 0.10	2.33 ± 0.20	2.05 ± 0.08	1.89 ± 0.05	2.21 ± 0.09	2.01 ± 0.08	1.93 ± 0.05	2.12 ± 0.03	2.07 ± 0.06
1988-89	2.29 ± 0.09	2.11 ± 0.14	4.00 ± 1.96	1.95 ± 0.04	2.26 ± 0.08	2.12 ± 0.04	2.31 ± 0.06	2.21 ± 0.04	2.39 ± 0.22
1989-90	2.00 ± 0.10	1.97 ± 0.06	2.01 ± 0.07	2.04 ± 0.04	2.41 ± 0.05	2.30 ± 0.06	2.40 ± 0.07	2.73 ± 0.45	2.25 ± 0.11
1990-91	2.22 ± 0.19	2.36 ± 0.13	2.49 ± 0.07	2.39 ± 0.07	2.31 ± 0.05	2.31 ± 0.05	2.58 ± 0.10	2.41 ± 0.04	2.36 ± 0.03

Table A.5. (Cont'd.)

Species Year	Bay system									Coastwide
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre		
Sand seatrout										
1974-76		0.30 ± 0.21	0.25 ± 0.02	0.32 ± 0.08	0.26 ± 0.04	0.29 ± 0.07	0.37 ± 0.13	0.31 ± 0.16	0.31 ± 0.09	
1976-77		0.36 ± 0.12	0.24 ± 0.05	0.22 ± <.01	0.21 ± 0.01	0.33 ± 0.14	0.25 ± 0.06	0.31 ± 0.08	0.32 ± 0.11	
1977-78		0.36 ± 0.11	0.25 ± 0.05	0.24 ± 0.06	0.25 ± 0.21	0.42 ± 0.26	0.54 ± 0.32	0.30 ± 0.10	0.35 ± 0.08	
1978-79		0.30 ± 0.16	0.27 ± 0.12	0.22 ± 0.11	0.29 ± 0.10	0.30 ± 0.14	0.41 ± 0.08	0.20 ± 0.03	0.29 ± 0.08	
1979-80		0.20 ± 0.07	0.22 ± 0.06	0.22 ± 0.06	0.28 ± 0.04	0.29 ± 0.04	0.36 ± 0.09	0.32 ± 0.08	0.23 ± 0.05	
1980-81		0.24 ± 0.09	0.22 ± 0.04	0.30 ± 0.03	0.22 ± 0.03	0.29 ± 0.09	0.30 ± 0.06	0.28 ± 0.08	0.28 ± 0.04	
1981-82		0.27 ± 0.08	0.23 ± 0.13	0.26 ± 0.03	0.25 ± 0.03	0.29 ± 0.06	0.32 ± 0.04	0.31 ± 0.05	0.28 ± 0.03	
1982-83		0.25 ± 0.05	0.21 ± 0.05	0.28 ± 0.06	0.24 ± 0.05	0.27 ± 0.07	0.33 ± 0.03	0.33 ± 0.06	0.26 ± 0.03	
1983-84		0.25 ± 0.10	0.27 ± 0.03	0.28 ± 0.03	0.27 ± 0.02	0.32 ± 0.02	0.35 ± 0.01	0.29 ± 0.02	0.28 ± 0.02	
1984-85		0.23 ± 0.02	0.26 ± 0.02	0.30 ± 0.04	0.24 ± 0.01	0.23 ± 0.01	0.27 ± 0.02	0.26 ± 0.01	0.23 ± 0.02	
1985-86		0.25 ± 0.02	0.21 ± 0.01	0.25 ± 0.02	0.25 ± 0.02	0.23 ± 0.01	0.31 ± 0.02	0.26 ± 0.01	0.24 ± 0.02	
1986-87		0.25 ± 0.01	0.26 ± 0.03	0.24 ± 0.02	0.24 ± 0.02	0.24 ± 0.01	0.30 ± 0.03	0.25 ± 0.01	0.25 ± 0.01	
1987-88	0.25 ± 0.02	0.26 ± 0.01	0.22 ± 0.01	0.22 ± 0.01	0.23 ± 0.02	0.21 ± 0.01	0.38 ± 0.07	0.29 ± 0.02	0.25 ± 0.01	
1988-89	0.24 ± 0.02	0.30 ± 0.01	0.25 ± 0.02	0.27 ± 0.01	0.25 ± 0.04	0.27 ± 0.04	0.37 ± 0.07	0.22 ± 0.03	0.29 ± 0.01	
1989-90	0.23 ± 0.01	0.21 ± 0.01	0.25 ± 0.03	0.20 ± 0.02	0.22 ± 0.04	0.26 ± 0.04	0.31 ± 0.04	0.30 ± 0.02	0.22 ± 0.00	
1990-91	0.21 ± 0.01	0.27 ± 0.02	0.24 ± 0.01	0.24 ± 0.02	0.27 ± 0.01	0.26 ± 0.02	0.30 ± 0.01	0.26 ± 0.02	0.26 ± 0.01	
Sheepshead										
1974-76		0.68 ± 0.13	0.41 ± 0.18	0.75 ± 0.16	0.56 ± 0.31	0.72 ± 0.34	1.33 ± 0.29	1.14 ± 0.22	0.72 ± 0.14	
1976-77		0.91 ± 0.25	1.02 ± 0.68	1.04 ± 0.45	0.58 ± 0.09	0.88 ± 0.13	0.76 ± 0.19	0.95 ± 0.12	0.89 ± 0.16	
1977-78		0.88 ± 0.20	0.58 ± 0.35	0.70 ± 0.35	0.58 ± 0.21	0.65 ± 0.12	0.97 ± 0.19	0.74 ± 0.26	0.76 ± 0.12	
1978-79		0.79 ± 0.14	0.69 ± 0.39	0.79 ± 0.35	0.59 ± 0.24	0.83 ± 0.24	1.02 ± 0.20	0.81 ± 0.34	0.78 ± 0.10	
1979-80		0.91 ± 0.11	0.73 ± 0.15	0.96 ± 0.16	0.58 ± 0.14	1.00 ± 0.17	1.11 ± 0.22	0.64 ± 0.42	0.78 ± 0.17	
1980-81		0.73 ± 0.40	0.29 ± 0.16	0.59 ± 0.11	0.63 ± 0.17	0.78 ± 0.21	1.07 ± 0.16	0.90 ± 0.28	0.71 ± 0.14	
1981-82		0.87 ± 0.11	0.44 ± 0.29	0.78 ± 0.22	0.79 ± 0.20	0.68 ± 0.17	1.17 ± 0.14	0.70 ± 0.16	0.71 ± 0.11	
1982-83		0.89 ± 0.17	0.51 ± 0.21	0.88 ± 0.17	0.86 ± 0.12	0.96 ± 0.16	1.22 ± 0.07	0.63 ± 0.23	0.85 ± 0.14	
1983-84		0.77 ± 0.03	0.77 ± 0.06	1.03 ± 0.04	0.99 ± 0.08	0.85 ± 0.07	1.07 ± 0.05	0.76 ± 0.04	0.83 ± 0.05	
1984-85		0.82 ± 0.03	0.85 ± 0.04	1.08 ± 0.06	1.04 ± 0.02	1.06 ± 0.07	1.21 ± 0.12	0.79 ± 0.06	0.92 ± 0.03	
1985-86		1.01 ± 0.05	0.97 ± 0.09	1.01 ± 0.21	1.17 ± 0.11	1.14 ± 0.08	1.78 ± 0.09	0.80 ± 0.10	1.07 ± 0.09	
1986-87		0.95 ± 0.05	0.84 ± 0.06	0.94 ± 0.01	0.97 ± 0.06	1.01 ± 0.07	1.52 ± 0.28	0.94 ± 0.13	0.95 ± 0.06	
1987-88	0.80 ± 0.10	1.09 ± 0.03	0.94 ± 0.07	1.08 ± 0.09	1.01 ± 0.06	1.11 ± 0.02	1.66 ± 0.37	0.79 ± 0.06	1.03 ± 0.04	
1988-89	1.16 ± 0.08	1.18 ± 0.06	1.12 ± 0.13	1.13 ± 0.11	1.23 ± 0.04	1.13 ± 0.07	1.47 ± 0.28	1.20 ± 0.13	1.17 ± 0.02	
1989-90	1.24 ± 0.12	1.21 ± 0.01	1.11 ± 0.10	1.10 ± 0.10	1.09 ± 0.05	1.01 ± 0.05	1.62 ± 0.15	1.03 ± 0.09	1.13 ± 0.04	
1990-91	1.04 ± 0.13	1.18 ± 0.07	1.10 ± 0.10	1.17 ± 0.11	1.19 ± 0.05	1.07 ± 0.07	1.73 ± 0.19	1.09 ± 0.21	1.16 ± 0.03	

Table A.5. (Cont'd.)

Species Year	Bay system									Coastwide
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre		
Southern flounder										
1974-76		0.62 ± 0.08	0.78 ± 0.30	0.64 ± 0.07	0.52 ± 0.09	0.38 ± 0.08	0.77 ± 0.09	0.77 ± 0.17	0.65 ± 0.05	
1976-77		0.66 ± 0.15	0.52 ± 0.10	0.68 ± 0.18	0.45 ± 0.10	0.69 ± 0.32	0.59 ± 0.12	0.77 ± 0.12	0.64 ± 0.09	
1977-78		0.64 ± 0.13	0.51 ± 0.12	0.63 ± 0.10	0.52 ± 0.21	0.67 ± 0.12	0.73 ± 0.08	0.87 ± 0.26	0.66 ± 0.09	
1978-79		0.66 ± 0.24	0.43 ± 0.29	0.59 ± 0.22	0.78 ± 0.30	0.57 ± 0.17	0.76 ± 0.10	0.52 ± 0.07	0.60 ± 0.12	
1979-80		0.54 ± 0.08	0.54 ± 0.19	0.67 ± 0.19	0.51 ± 0.05	0.61 ± 0.15	0.72 ± 0.12	0.62 ± 0.12	0.61 ± 0.06	
1980-81		0.62 ± 0.12	0.55 ± 0.11	0.67 ± 0.09	0.69 ± 0.17	0.62 ± 0.14	0.59 ± 0.08	0.68 ± 0.13	0.65 ± 0.05	
1981-82		0.59 ± 0.11	0.47 ± 0.04	0.71 ± 0.05	0.51 ± 0.06	0.56 ± 0.15	0.72 ± 0.09	0.74 ± 0.09	0.61 ± 0.06	
1982-83		0.60 ± 0.11	0.54 ± 0.07	0.67 ± 0.14	0.46 ± 0.07	0.51 ± 0.07	0.69 ± 0.05	0.65 ± 0.06	0.61 ± 0.04	
1983-84		0.53 ± 0.03	0.61 ± 0.05	0.65 ± 0.04	0.53 ± 0.03	0.56 ± 0.03	0.75 ± 0.04	0.71 ± 0.04	0.57 ± 0.03	
1984-85		0.57 ± 0.02	0.59 ± 0.03	0.63 ± 0.04	0.50 ± 0.03	0.54 ± 0.03	0.63 ± 0.09	0.44 ± 0.05	0.56 ± 0.03	
1985-86		0.56 ± 0.03	0.50 ± 0.02	0.71 ± 0.12	0.57 ± 0.02	0.50 ± 0.03	0.59 ± 0.01	0.57 ± 0.02	0.56 ± 0.03	
1986-87		0.56 ± 0.02	0.61 ± 0.03	0.71 ± 0.06	0.64 ± 0.05	0.63 ± 0.03	0.74 ± 0.03	0.78 ± 0.02	0.64 ± 0.03	
1987-88	0.40 ± 0.01	0.62 ± 0.07	0.54 ± 0.03	0.63 ± 0.03	0.46 ± 0.03	0.50 ± 0.03	0.92 ± 0.04	0.80 ± 0.04	0.59 ± 0.04	
1988-89	0.51 ± 0.02	0.64 ± 0.02	0.60 ± 0.03	0.71 ± 0.04	0.57 ± 0.02	0.67 ± 0.03	0.79 ± 0.04	0.67 ± 0.04	0.62 ± 0.02	
1989-90	0.62 ± 0.03	0.59 ± 0.02	0.65 ± 0.03	0.71 ± 0.03	0.67 ± 0.03	0.70 ± 0.04	0.81 ± 0.03	0.69 ± 0.04	0.64 ± 0.03	
1990-91	0.56 ± 0.03	0.67 ± 0.04	0.17 ± 0.03	0.69 ± 0.09	0.65 ± 0.04	0.68 ± 0.04	0.73 ± 0.09	0.73 ± 0.04	0.66 ± 0.02	
Spotted seatrout										
1974-76		0.66 ± 0.28	0.41 ± 0.36	0.42 ± 0.14	0.32 ± 0.14	0.38 ± 0.17	0.54 ± 0.13	0.54 ± 0.22	0.44 ± 0.10	
1976-77		0.60 ± 0.22	0.24 ± 0.05	0.49 ± 0.13	0.34 ± 0.22	0.49 ± 0.33	0.56 ± 0.38	0.48 ± 0.16	0.49 ± 0.17	
1977-78		0.36 ± 0.11	0.25 ± 0.05	0.46 ± 0.20	0.32 ± 0.17	0.44 ± 0.23	0.45 ± 0.12	0.54 ± 0.18	0.48 ± 0.12	
1978-79		0.71 ± 0.31	0.42 ± 0.18	0.40 ± 0.15	0.33 ± 0.26	0.45 ± 0.15	0.56 ± 0.20	0.48 ± 0.47	0.49 ± 0.14	
1979-80		0.45 ± 0.13	0.46 ± 0.41	0.45 ± 0.10	0.38 ± 0.10	0.52 ± 0.15	0.51 ± 0.17	0.45 ± 0.18	0.47 ± 0.07	
1980-81		0.66 ± 0.29	0.43 ± 0.08	0.47 ± 0.14	0.41 ± 0.06	0.51 ± 0.25	0.44 ± 0.11	0.49 ± 0.16	0.50 ± 0.10	
1981-82		0.62 ± 0.20	0.45 ± 0.09	0.51 ± 0.07	0.41 ± 0.07	0.55 ± 0.14	0.46 ± 0.06	0.31 ± 0.05	0.51 ± 0.05	
1982-83		0.76 ± 0.28	0.52 ± 0.12	0.55 ± 0.10	0.48 ± 0.14	0.54 ± 0.08	0.50 ± 0.11	0.61 ± 0.12	0.56 ± 0.06	
1983-84		0.84 ± 0.05	0.66 ± 0.03	0.59 ± 0.02	0.51 ± 0.02	0.61 ± 0.03	0.67 ± 0.02	0.68 ± 0.02	0.68 ± 0.03	
1984-85		0.92 ± 0.04	0.74 ± 0.05	0.72 ± 0.04	0.76 ± 0.58	0.73 ± 0.05	0.62 ± 0.02	0.67 ± 0.02	0.74 ± 0.10	
1985-86		0.85 ± 0.05	0.72 ± 0.02	0.67 ± 0.02	0.65 ± 0.02	0.67 ± 0.02	0.65 ± 0.01	0.76 ± 0.02	0.72 ± 0.02	
1986-87		0.80 ± 0.03	0.67 ± 0.02	0.65 ± 0.01	0.69 ± 0.02	0.76 ± 0.02	0.73 ± 0.02	0.78 ± 0.01	0.75 ± 0.02	
1987-88	0.71 ± 0.04	0.84 ± 0.03	0.68 ± 0.02	0.68 ± 0.01	0.71 ± 0.02	0.77 ± 0.07	0.82 ± 0.02	0.79 ± 0.02	0.77 ± 0.03	
1988-89	0.80 ± 0.04	0.82 ± 0.02	0.75 ± 0.02	0.68 ± 0.01	0.70 ± 0.02	0.67 ± 0.01	0.81 ± 0.02	0.80 ± 0.01	0.76 ± 0.02	
1989-90	0.68 ± 0.03	0.74 ± 0.03	0.75 ± 0.03	0.72 ± 0.02	0.75 ± 0.02	0.78 ± 0.02	0.88 ± 0.02	0.75 ± 0.02	0.76 ± 0.02	
1990-91	0.73 ± 0.03	0.76 ± 0.03	0.77 ± 0.02	0.75 ± 0.03	0.81 ± 0.03	0.77 ± 0.02	0.89 ± 0.03	0.78 ± 0.02	0.78 ± 0.01	

Table A.5. (Cont'd.)

Species Year	Bay system									Coastwide
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre		
All species combined <sup>a</sup>										
1974-76		0.41 ± 0.52	0.47 ± 0.40	0.53 ± 0.33	0.40 ± 0.22	0.52 ± 0.59	0.60 ± 0.30	0.68 ± 0.63	0.51 ± 0.18	
1976-77		0.46 ± 0.56	0.54 ± 0.43	1.28 ± 3.50	0.39 ± 0.29	0.50 ± 0.46	0.56 ± 0.55	0.62 ± 1.03	0.57 ± 0.38	
1977-78		0.43 ± 0.72	0.62 ± 0.65	0.62 ± 0.36	0.44 ± 0.43	0.56 ± 1.04	0.50 ± 0.24	0.77 ± 1.34	0.54 ± 0.40	
1978-79		0.76 ± 4.54	0.58 ± 0.39	0.72 ± 0.89	0.42 ± 0.38	0.49 ± 0.27	0.59 ± 0.43	0.81 ± 2.63	0.68 ± 1.35	
1979-80		0.28 ± 0.17	0.54 ± 0.36	0.64 ± 0.65	0.44 ± 0.14	0.77 ± 1.36	0.53 ± 0.20	0.51 ± 0.32	0.52 ± 0.28	
1980-81		0.61 ± 1.46	0.50 ± 0.40	0.61 ± 0.25	0.50 ± 0.16	0.52 ± 0.22	0.46 ± 0.15	0.54 ± 0.19	0.55 ± 0.27	
1981-82		0.51 ± 0.25	0.50 ± 0.18	0.62 ± 0.27	0.49 ± 0.13	0.51 ± 0.20	0.49 ± 0.12	0.64 ± 0.25	0.54 ± 0.09	
1982-83		0.58 ± 0.45	0.55 ± 0.20	0.86 ± 0.57	0.58 ± 0.18	0.52 ± 0.43	0.56 ± 0.17	0.67 ± 0.16	0.61 ± 0.14	
1983-84		0.72 ± 0.06	0.80 ± 0.05	0.80 ± 0.03	0.57 ± 0.05	0.53 ± 0.04	0.69 ± 0.02	0.79 ± 0.04	0.70 ± 0.05	
1984-85		0.50 ± 0.05	0.99 ± 0.10	0.88 ± 0.05	0.88 ± 0.19	0.66 ± 0.05	0.59 ± 0.07	1.14 ± 0.29	0.84 ± 0.13	
1985-86		0.66 ± 0.14	0.88 ± 0.12	0.79 ± 0.04	0.80 ± 0.04	0.69 ± 0.08	0.74 ± 0.03	0.86 ± 0.03	0.74 ± 0.09	
1986-87		0.55 ± 0.05	1.06 ± 0.11	0.88 ± 0.03	0.92 ± 0.05	0.80 ± 0.05	0.81 ± 0.10	0.98 ± 0.03	0.75 ± 0.11	
1987-88	0.41 ± 0.03	0.70 ± 0.09	0.86 ± 0.04	0.96 ± 0.05	0.90 ± 0.07	0.77 ± 0.06	0.89 ± 0.03	1.05 ± 0.03	0.77 ± 0.06	
1988-89	0.56 ± 0.04	0.61 ± 0.05	1.22 ± 0.27	0.91 ± 0.03	1.02 ± 0.06	0.83 ± 0.05	0.90 ± 0.02	1.04 ± 0.03	0.78 ± 0.10	
1989-90	0.55 ± 0.04	0.55 ± 0.04	1.19 ± 0.05	1.15 ± 0.04	1.16 ± 0.07	1.05 ± 0.05	0.98 ± 0.03	1.29 ± 0.14	0.80 ± 0.15	
1990-91	0.46 ± 0.05	1.30 ± 0.69	1.14 ± 0.08	1.34 ± 0.10	1.23 ± 0.08	1.15 ± 0.06	0.95 ± 0.09	1.24 ± 0.12	1.12 ± 0.14	

<sup>a</sup>Includes "other" species.



Table A.6. Annual mean total lengths of fishes (mm/fish)  $\pm$  1 SE caught by private-boat fishermen in Texas bays and passes by bay system, species and year (1983-1991). Blank = no fish measured. No standard error = fish measured on only one survey day.

Species Year	Bay system								
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	Coastwide
<b>Atlantic croaker</b>									
1983-84		254 $\pm$ 9	234 $\pm$ 4	231 $\pm$ 6	295 $\pm$ 6	281 $\pm$ 5	289 $\pm$ 3	265 $\pm$ 6	266 $\pm$ 7
1984-85		235 $\pm$ 5	216 $\pm$ 7	219 $\pm$ 16	258 $\pm$ 8	249 $\pm$ 7	242 $\pm$ 15	235 $\pm$ 6	235 $\pm$ 5
1985-86		230 $\pm$ 6	227 $\pm$ 6	252 $\pm$ 18	260 $\pm$ 5	238 $\pm$ 3	261 $\pm$ 3	228 $\pm$ 4	234 $\pm$ 6
1986-87		249 $\pm$ 6	220 $\pm$ 11	211 $\pm$ 16	279 $\pm$ 4	376 $\pm$ 10	269 $\pm$ 3	252 $\pm$ 8	250 $\pm$ 7
1987-88	230 $\pm$ 2	247 $\pm$ 5	230 $\pm$ 5	228 $\pm$ 3	270 $\pm$ 11	259 $\pm$ 6	279 $\pm$ 7	247 $\pm$ 5	246 $\pm$ 4
1988-89	240 $\pm$ 4	247 $\pm$ 6	222 $\pm$ 7	236 $\pm$ 16	287 $\pm$ 4	289 $\pm$ 6	298 $\pm$ 7	240 $\pm$ 13	249 $\pm$ 5
1989-90	262 $\pm$ 7	240 $\pm$ 3	235 $\pm$ 8	230 $\pm$ 12	235 $\pm$ 3	239 $\pm$ 15	302 $\pm$ 8	225 $\pm$ 4	251 $\pm$ 8
1990-91	238 $\pm$ 6	242 $\pm$ 10	242 $\pm$ 4	234 $\pm$ 9	247 $\pm$ 11	227 $\pm$ 12	246 $\pm$ 7	240 $\pm$ 8	240 $\pm$ 1
<b>Black drum</b>									
1983-84		454 $\pm$ 53	362 $\pm$ 18	378 $\pm$ 8	382 $\pm$ 13	383 $\pm$ 12	408 $\pm$ 17	365 $\pm$ 32	400 $\pm$ 29
1984-85		459 $\pm$ 27	430 $\pm$ 57	295 $\pm$ 19	354 $\pm$ 18	372 $\pm$ 12	353 $\pm$ 20	370 $\pm$ 50	422 $\pm$ 35
1985-86		544 $\pm$ 108	503 $\pm$ 112	345 $\pm$ 56	380 $\pm$ 12	473 $\pm$ 77	369 $\pm$ 11	336 $\pm$ 35	473 $\pm$ 78
1986-87		443 $\pm$ 38	389 $\pm$ 37	385 $\pm$ 26	394 $\pm$ 28	360 $\pm$ 16	411 $\pm$ 22	362 $\pm$ 40	412 $\pm$ 35
1987-88	407 $\pm$ 18	484 $\pm$ 99	358 $\pm$ 19	414 $\pm$ 29	433 $\pm$ 33	383 $\pm$ 29	358 $\pm$ 12	450 $\pm$ 44	436 $\pm$ 27
1988-89	489 $\pm$ 21	371 $\pm$ 15	408 $\pm$ 19	451 $\pm$ 7	442 $\pm$ 23	357 $\pm$ 20	365 $\pm$ 11	418 $\pm$ 8	391 $\pm$ 13
1989-90	412 $\pm$ 26	378 $\pm$ 12	441 $\pm$ 21	422 $\pm$ 11	419 $\pm$ 15	459 $\pm$ 12	420 $\pm$ 14	410 $\pm$ 12	407 $\pm$ 14
1990-91	429 $\pm$ 10	409 $\pm$ 37	432 $\pm$ 15	477 $\pm$ 34	471 $\pm$ 21	452 $\pm$ 9	462 $\pm$ 31	449 $\pm$ 14	441 $\pm$ 5
<b>Gafftopsail catfish</b>									
1983-84		416 $\pm$ 23	471 $\pm$ 18	499 $\pm$ 17	472 $\pm$ 15	517 $\pm$ 9	488 $\pm$ 23	439 $\pm$ 19	480 $\pm$ 15
1984-85		455 $\pm$ 18	491 $\pm$ 15	480 $\pm$ 26	434 $\pm$ 46	521 $\pm$ 17	338 $\pm$ 5	247 $\pm$ 33	470 $\pm$ 23
1985-86		456 $\pm$ 22	319 $\pm$ 3	443 $\pm$ 13	533 $\pm$ 19	450 $\pm$ 36	530	312 $\pm$ 33	477 $\pm$ 23
1986-87		419 $\pm$ 23	459 $\pm$ 10	473 $\pm$ 14	519 $\pm$ 21	459 $\pm$ 18		306 $\pm$ 32	452 $\pm$ 18
1987-88	430 $\pm$ 30	499 $\pm$ 30	489 $\pm$ 9	474 $\pm$ 14	543 $\pm$ 13	556 $\pm$ 13		366 $\pm$ 4	498 $\pm$ 10
1988-89	471 $\pm$ 13	471 $\pm$ 16	475 $\pm$ 17	533 $\pm$ 14	489 $\pm$ 22	519 $\pm$ 38		341	483 $\pm$ 8
1989-90	365 $\pm$ 21	467 $\pm$ 9	512 $\pm$ 17	501 $\pm$ 13	574 $\pm$ 29	505 $\pm$ 29	412		512 $\pm$ 20
1990-91	453 $\pm$ 30	458 $\pm$ 38	494 $\pm$ 18	501 $\pm$ 11	496 $\pm$ 18	546 $\pm$ 22	540 $\pm$ 30	386	489 $\pm$ 13
<b>Red drum</b>									
1983-84		536 $\pm$ 22	513 $\pm$ 7	501 $\pm$ 7	497 $\pm$ 7	490 $\pm$ 9	516 $\pm$ 7	510 $\pm$ 7	509 $\pm$ 9
1984-85		555 $\pm$ 13	572 $\pm$ 10	533 $\pm$ 11	528 $\pm$ 11	524 $\pm$ 10	537 $\pm$ 13	563 $\pm$ 6	546 $\pm$ 10
1985-86		567 $\pm$ 19	562 $\pm$ 9	543 $\pm$ 6	544 $\pm$ 5	531 $\pm$ 6	537 $\pm$ 3	553 $\pm$ 5	548 $\pm$ 7
1986-87		561 $\pm$ 12	524 $\pm$ 5	517 $\pm$ 6	565 $\pm$ 8	551 $\pm$ 7	536 $\pm$ 7	561 $\pm$ 4	550 $\pm$ 7
1987-88	545 $\pm$ 10	583 $\pm$ 16	565 $\pm$ 7	554 $\pm$ 5	579 $\pm$ 8	562 $\pm$ 7	555 $\pm$ 5	574 $\pm$ 3	567 $\pm$ 4
1988-89	589 $\pm$ 8	570 $\pm$ 12	575 $\pm$ 15	560 $\pm$ 4	586 $\pm$ 7	574 $\pm$ 4	591 $\pm$ 5	583 $\pm$ 3	578 $\pm$ 3
1989-90	565 $\pm$ 9	564 $\pm$ 6	568 $\pm$ 6	571 $\pm$ 4	603 $\pm$ 4	593 $\pm$ 5	599 $\pm$ 6	594 $\pm$ 4	582 $\pm$ 6
1990-91	584 $\pm$ 8	597 $\pm$ 12	609 $\pm$ 6	601 $\pm$ 5	595 $\pm$ 4	594 $\pm$ 5	614 $\pm$ 8	603 $\pm$ 3	598 $\pm$ 2

Table A.6. (Cont'd.)

Species Year	Bay system								Coastwide	
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre		
<b>Sand seatrout</b>										
1983-84		281 ± 4	287 ± 10	291 ± 11	287 ± 8	304 ± 7	317 ± 4	298 ± 6	290 ± 6	
1984-85		272 ± 8	284 ± 5	296 ± 13	281 ± 4	276 ± 5	292 ± 5	288 ± 4	275 ± 7	
1985-86		276 ± 4	266 ± 5	280 ± 6	283 ± 9	249 ± 5	298 ± 7	286 ± 4	278 ± 5	
1986-87			283 ± 4	285 ± 11	281 ± 9	280 ± 6	278 ± 3	297 ± 12	281 ± 4	282 ± 5
1987-88	282 ± 7	286 ± 2	274 ± 4	273 ± 4	274 ± 7	268 ± 4	319 ± 20	297 ± 6	283 ± 4	
1988-89	277 ± 6	299 ± 5	284 ± 6	290 ± 3	278 ± 10	285 ± 13	317 ± 20	272 ± 12	295 ± 4	
1989-90	270 ± 7	269 ± 4	285 ± 10	263 ± 10	269 ± 15	283 ± 17	302 ± 11	301 ± 8	270 ± 2	
1990-91	270 ± 2	290 ± 8	282 ± 2	279 ± 7	290 ± 2	286 ± 7	302 ± 4	287 ± 6	287 ± 3	
<b>Sheepshead</b>										
1983-84		346 ± 4	344 ± 9	384 ± 6	378 ± 12	356 ± 10	391 ± 7	343 ± 6	354 ± 7	
1984-85		354 ± 4	357 ± 5	390 ± 7	387 ± 4	390 ± 8	411 ± 14	348 ± 8	368 ± 5	
1985-86		380 ± 7	367 ± 11	376 ± 30	396 ± 12	397 ± 11	471 ± 9	353 ± 14	385 ± 12	
1986-87		373 ± 7	353 ± 9	366 ± 15	374 ± 10	378 ± 9	435 ± 35	363 ± 15	371 ± 10	
1987-88	350 ± 15	391 ± 4	370 ± 10	388 ± 12	379 ± 8	394 ± 3	445 ± 35	394 ± 8	382 ± 7	
1988-89	402 ± 10	401 ± 8	389 ± 15	391 ± 13	409 ± 4	398 ± 9	426 ± 36	402 ± 16	402 ± 3	
1989-90	408 ± 16	404 ± 10	392 ± 13	392 ± 12	391 ± 6	384 ± 6	452 ± 18	383 ± 12	394 ± 4	
1990-91	379 ± 20	399 ± 9	391 ± 12	400 ± 12	406 ± 7	390 ± 9	461 ± 18	391 ± 23	399 ± 4	
<b>Southern flounder</b>										
1983-84		350 ± 5	364 ± 8	372 ± 8	345 ± 6	350 ± 5	387 ± 6	385 ± 6	356 ± 6	
1984-85		356 ± 5	360 ± 6	373 ± 6	341 ± 6	348 ± 7	361 ± 17	326 ± 10	352 ± 6	
1985-86		352 ± 7	340 ± 6	377 ± 19	357 ± 5	342 ± 7	364 ± 2	361 ± 4	354 ± 6	
1986-87		352 ± 4	366 ± 6	383 ± 10	372 ± 9	368 ± 5	386 ± 5	397 ± 3	369 ± 5	
1987-88	317 ± 3	364 ± 12	350 ± 7	367 ± 7	328 ± 7	340 ± 5	413 ± 5	398 ± 6	358 ± 9	
1988-89	346 ± 4	372 ± 4	365 ± 6	383 ± 7	361 ± 5	377 ± 6	394 ± 7	377 ± 6	367 ± 5	
1989-90	369 ± 5	365 ± 5	376 ± 6	387 ± 4	380 ± 4	386 ± 7	403 ± 5	383 ± 7	373 ± 5	
1990-91	357 ± 4	377 ± 7	387 ± 5	377 ± 16	374 ± 6	381 ± 6	385 ± 14	388 ± 8	375 ± 4	
<b>Spotted seatrout</b>										
1983-84		435 ± 8	397 ± 6	388 ± 4	369 ± 4	390 ± 5	399 ± 3	401 ± 4	402 ± 5	
1984-85		449 ± 6	418 ± 7	417 ± 6	432 ± 11	418 ± 8	399 ± 3	405 ± 3	424 ± 6	
1985-86		437 ± 8	416 ± 4	408 ± 4	404 ± 3	408 ± 3	405 ± 3	422 ± 3	417 ± 4	
1986-87		430 ± 6	407 ± 3	405 ± 2	412 ± 3	423 ± 4	416 ± 3	425 ± 2	421 ± 4	
1987-88	410 ± 8	438 ± 4	410 ± 3	411 ± 3	414 ± 4	423 ± 9	431 ± 4	427 ± 2	424 ± 4	
1988-89	430 ± 6	433 ± 3	421 ± 4	411 ± 2	412 ± 3	408 ± 2	427 ± 3	429 ± 2	423 ± 4	
1989-90	409 ± 5	420 ± 5	422 ± 4	418 ± 3	421 ± 3	425 ± 3	439 ± 3	423 ± 3	423 ± 2	
1990-91	420 ± 6	426 ± 5	430 ± 4	425 ± 5	434 ± 5	428 ± 3	448 ± 5	428 ± 3	429 ± 2	

Table A.7. Percent composition of "other" species caught by private-boat fishermen in Texas bays and passes by bay system (1989-1991). Values represent percentages of the observed coastwide total of "other" species.

Common name	Scientific name	Bay system							Coastwide	
		Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre		Lower Laguna Madre
Alligator gar	<u>Lepisosteus spatula</u>	0.11							0.18	0.29
Almaco Jack	<u>Seriola rivoliana</u>				0.07					0.07
Atlantic cutlassfish	<u>Trichiurus lepturus</u>									0.22
Atlantic sharpnose shark	<u>Rhizoprionodon terraenovae</u>	0.99		1.21	1.47	0.04	0.15		0.04	3.89
Atlantic spadefish	<u>Cheatomidipterus faber</u>	0.11	0.11		0.04	0.04				0.29
Atlantic stingray	<u>Dasyatis sabina</u>	0.04	0.11	0.04	0.33	0.04			0.15	0.70
Bighead searobin	<u>Prionotus tribulus</u>	0.04								0.04
Black Bullhead	<u>Ameiurus melas</u>	0.11								0.11
Black crappie	<u>Pomoxis nigromaculatus</u>	0.07								0.07
Blacktip shark	<u>Carcharhinus limbatus</u>		0.04	0.95	0.51	0.15	0.15	0.04	0.04	1.87
Blue catfish	<u>Ictalurus furcatus</u>	2.57	17.17	2.20	0.04					21.97
Blue runner	<u>Caranx crysos</u>					0.04				0.04
Bluefish	<u>Pomatomus saltatrix</u>	0.04	0.04		0.11					0.18
Bluegill	<u>Lepomis macrochirus</u>	1.06								1.06
Bluntnose jack	<u>Hemicaranx amblyrhynchus</u>	0.22								0.22
Bonnethead	<u>Sphyrna tiburo</u>			0.55	2.05	0.04	0.11	0.04	0.07	2.86
Bony fish class	Class Osteichthyes					0.04				0.04
Bull shark	<u>Carcharhinus leucas</u>			0.18	0.22					0.40
Channel catfish	<u>Ictalurus punctatus</u>	0.96	2.82	0.04						3.82
Cobia	<u>Rachycentron canadum</u>	0.07	0.04							0.11
Crevalle jack	<u>Caranx hippos</u>	0.07	0.15	0.22	0.11	0.07			0.15	0.77
Drum sp.	Family Sciaenidae				0.11					0.11
Finetooth shark	<u>Carcharhinus isodon</u>			0.04						0.04
Flathead catfish	<u>Pylodictis olivaris</u>		0.07							0.07
Florida pompano	<u>Trachinotus carolinus</u>			0.04	0.07	0.04			0.11	0.26
Freshwater drum	<u>Aplodinotus grunniens</u>	0.15	0.15							0.29
Gag	<u>Myeteroperca microlepis</u>				0.07					0.07
Gray snapper	<u>Lutjanus griseus</u>			0.04					0.04	0.07
Gray triggerfish	<u>Balistes caprisicus</u>				0.26	0.07	0.15			0.48
Great hammerhead	<u>Sphyrna mokarran</u>			0.15						0.15
Gulf flounder	<u>Paralichthys albigutta</u>			0.07	0.04	1.10	0.62	0.07	0.11	2.02
Gulf kingfish	<u>Menticirrhus littoralis</u>	0.18	0.11		0.66			0.07	0.37	1.39
Gulf menhaden	<u>Brevortia patronus</u>	1.98								1.98
Gulf toadfish	<u>Opsanus beta</u>				0.04					0.04
Hardhead catfish	<u>Arius felis</u>	5.47	1.80	0.88	1.03	0.70	0.95	0.55	0.66	12.03
Honeycomb moray	<u>Gymnothorax saxicola</u>					0.04				0.04
Inshore lizardfish	<u>Synodus foetens</u>		0.04							0.04
King mackerel	<u>Scomberomorus cavalla</u>		0.04			0.07			0.84	0.95
Ladyfish	<u>Elops saurus</u>	0.37	0.04	0.11	0.11	0.29	0.48	0.18	0.04	1.61
Lane snapper	<u>Lutjanus synagris</u>				0.04	0.04			0.11	0.18
Largemouth bass	<u>Micropterus salmoides</u>	1.03								1.03
Lefteye flounders sp.	Family Buthidae				0.04					0.04
Lookdown	<u>Selene vomer</u>					0.07				0.07

Table A.7. (Cont'd.)

Common name	Scientific name	Bay system								Coastwide
		Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	
Pigfish	<u>Orthopristis chrysoptera</u>	0.99	1.65	0.07	0.11	0.59	0.29	0.81	0.15	4.66
Pinfish	<u>Lagodon rhomboides</u>	0.66	0.62	0.04		0.11	0.04	1.25	0.07	2.79
Red snapper	<u>Lutjanus campechanus</u>				0.84	0.11				0.95
Redear sunfish	<u>Lepomis microlophus</u>	1.72								1.72
Requiem sharks sp.	Family Carcharhinidae	0.29								0.29
Scalloped hammerhead	<u>Sphyrna lewini</u>				0.18					0.18
Scamp	<u>Mycteroperca phenax</u>					0.04				0.04
Shrimp eel	<u>Ophichthus gomesi</u>		0.04							0.04
Silver perch	<u>Bairdella chrysoura</u>	0.22	0.29	0.51			0.04	0.07	0.07	1.21
Silver seatrout	<u>Cynoscion nothus</u>		0.15			0.77				0.92
Smooth puffer	<u>Lagocephalus laevigatus</u>					0.04				0.04
Southern kingfish	<u>Menticirrhus americanus</u>	0.11	5.06	0.99	1.28	0.48	0.95	0.66	3.30	12.84
Southern stingray	<u>Dasyatis americana</u>			0.04						0.04
Spanish mackerel	<u>Scomberomorus maculatus</u>	2.05	2.24	0.07	0.18		0.07	0.04	0.26	4.92
Spinner shark	<u>Carcharhinus brevipinna</u>				0.26					0.26
Spotted gar	<u>Lepisosteus oculatus</u>	0.07								0.07
Stingray sp.	Family Dasyatidae						0.04			0.04
Striped bass	<u>Morone saxatilis</u>		0.15							0.15
Striped mullet	<u>Mugil cephalus</u>	5.14								5.14
Stripped Burrfish	<u>Chilomycterus schoepfi</u>			0.04						0.04
Tripletail	<u>Lobotes surenamensis</u>	0.04		0.04	0.04		0.04			0.15
Wormmouth	<u>Lepomis gulosus</u>	0.18								0.18
White bass	<u>Morone chrysops</u>		0.15							0.15
White crappie	<u>Pomoxis annularis</u>	1.03								1.03
Yellow Bullhead	<u>Ameiurus natalis</u>	0.15								0.15

Table A.8. Residential origin (%) of private-boat fishermen in Texas bays and passes by bay system and year (1974-1991).

Bay System Year*	Adjacent coastal counties	Non-adjacent coastal counties	Non-coastal counties	Other states and countries
<b>Sabine Lake</b>				
1987-88	94	3	2	1
1988-89	93	3	2	2
1989-90	95	3	1	1
1990-91	92	4	2	2
<b>Galveston</b>				
1974-76	85	9	4	2
1976-77	91	6	3	0
1977-78	95	4	1	0
1978-79	96	0	2	0
1979-80	96	1	3	0
1980-81	98	1	1	0
1981-82	91	5	4	0
1982-83	94	3	3	0
1983-84	94	3	3	0
1984-85	92	3	5	1
1985-86	92	4	3	1
1986-87	89	7	3	1
1987-88	93	3	3	1
1988-89	94	2	3	1
1989-90	91	4	4	1
1990-91	94	2	2	2
<b>Matagorda</b>				
1974-76	41	45	14	0
1976-77	49	38	13	1
1977-78	45	32	22	1
1978-79	50	27	21	0
1979-80	51	24	25	0
1980-81	51	25	24	0
1981-82	60	22	17	0
1982-83	55	25	19	1
1983-84	53	26	20	1
1984-85	47	25	26	1
1985-86	52	25	21	1
1986-87	51	25	23	1
1987-88	49	28	22	1
1988-89	47	23	29	1
1989-90	51	27	21	1
1990-91	45	31	22	2

Table A.8. (Cont'd.)

Bay System Year <sup>1</sup>	Adjacent coastal counties	Non-adjacent coastal counties	Non-coastal counties	Other states and countries
<b>San Antonio</b>				
1974-76	45	25	29	1
1976-77	46	32	22	0
1977-78	40	29	31	1
1978-79	34	35	29	0
1979-80	40	25	35	0
1980-81	42	29	28	1
1981-82	45	27	28	1
1982-83	45	31	23	1
1983-84	41	34	24	2
1984-85	41	30	28	1
1985-86	45	28	26	0
1986-87	51	25	23	1
1987-88	49	26	24	1
1988-89	45	26	27	1
1989-90	43	32	24	1
1990-91	46	29	24	1
<b>Aransas</b>				
1974-76	26	9	47	18
1976-77	20	14	61	5
1977-78	22	21	52	6
1978-79	27	16	52	3
1979-80	39	16	42	3
1980-81	32	10	46	13
1981-82	25	14	45	16
1982-83	25	16	46	13
1983-84	23	15	51	11
1984-85	18	22	45	15
1985-86	27	18	44	11
1986-87	22	19	46	13
1987-88	22	20	47	11
1988-89	23	20	48	9
1989-90	24	19	48	9
1990-91	24	25	40	11
<b>Corpus Christi</b>				
1974-76	76	2	14	8
1976-77	66	3	23	8
1977-78	67	4	25	5
1978-79	63	3	23	9
1979-80	60	4	30	6
1980-81	50	2	30	17
1981-82	60	3	28	10
1982-83	53	4	36	8

Table A.8. (Cont'd.)

Bay System Year <sup>a</sup>	Adjacent coastal counties	Non-adjacent coastal counties	Non-coastal counties	Other states and countries
<b>Corpus Christi (Cont'd.)</b>				
1983-84	55	5	31	9
1984-85	54	6	31	9
1985-86	50	6	39	5
1986-87	58	4	33	5
1987-88	54	6	31	9
1988-89	53	6	35	6
1989-90	54	7	32	7
1990-91	58	7	30	5
<b>Upper Laguna Madre</b>				
1974-76	74	2	20	4
1976-77	67	8	24	1
1977-78	71	6	21	2
1978-79	60	7	32	0
1979-80	69	6	23	3
1980-81	63	8	27	1
1981-82	69	10	19	3
1982-83	71	8	20	1
1983-84	69	10	19	2
1984-85	71	7	19	3
1985-86	72	8	17	3
1986-87	70	8	19	2
1987-88	70	10	18	2
1988-89	69	10	19	2
1989-90	67	10	21	2
1990-91	74	6	19	1
<b>Lower Laguna Madre</b>				
1974-76	80	6	10	4
1976-77	83	4	7	5
1977-78	79	5	13	3
1978-79	79	5	12	2
1979-80	87	1	8	4
1980-81	80	4	9	8
1981-82	79	5	11	5
1982-83	75	6	11	7
1983-84	73	9	13	5
1984-85	68	10	16	6
1985-86	71	10	13	6
1986-87	70	10	14	6
1987-88	70	10	15	4
1988-89	66	13	18	4
1989-90	67	13	15	5
1990-91	66	13	17	4

Table A.B. (Cont'd.)

Bay System Year*	Adjacent coastal counties	Non-adjacent coastal counties	Non-coastal counties	Other states and countries
Coastwide				
1974-76	60	14	22	5
1976-77	66	12	19	3
1977-78	64	14	20	2
1978-79	63	14	20	1
1979-80	63	12	23	2
1980-81	61	12	22	5
1981-82	62	11	22	5
1982-83	62	13	21	4
1983-84	60	14	22	4
1984-85	59	14	22	5
1985-86	60	13	23	4
1986-87	61	13	22	4
1987-88	63	13	20	4
1988-89	61	13	23	3
1989-90	61	14	22	4
1990-91	61	15	20	4

\*Prior to May 1983 all fishermen in a fishing party were assigned to the boat owner's residence.



APPENDIX B: Total number of recreational fishing licenses sold in Texas.

Table B.1. Total number of recreational fishing licenses sold in Texas by fiscal year (1956-1990). FY 1958 was the first year a fishing license was required to fish in saltwater in Texas.

Fiscal year (1 Sept-31 Aug)	Fishing*	Type of license			Fishing exempt for blind or disabled vet (60%)	Total
		Resident combination hunting and fishing	3-day saltwater sport fishing	Fishing exempt for under 17 or over 64 years of age		
1956	458,404					458,404
1957	465,168					465,168
1958	782,402					782,402
1959	825,729					825,729
1960	846,632					846,632
1961	872,236					872,236
1962	832,913					832,913
1963	882,111					882,111
1964	902,671					902,671
1965	927,210					927,210
1966	1,017,336					1,017,336
1967	1,139,969					1,139,969
1968	1,231,134					1,231,134
1969	1,369,646					1,369,646
1970	1,447,167					1,447,167
1971	1,494,707					1,494,707
1972	1,551,143					1,551,143
1973	1,615,688					1,615,688
1974	1,168,512	417,164	28,383			1,614,059
1975	1,107,037	466,662	28,754		3	1,602,456
1976	1,089,827	442,075	33,863		2	1,565,767
1977	1,177,953	430,728	35,045		4	1,643,730
1978	928,836	447,740	62,236		1,208	1,440,020
1979	1,118,728	523,830	70,454		2,139	1,715,151
1980	1,094,183	572,149	76,443		2,693	1,745,468
1981	1,100,942	609,118	84,709		3,187	1,797,956
1982	1,249,471	673,212			3,424	1,926,107
1983	1,269,183	724,990			3,883	1,998,056
1984	1,120,888	690,937			3,950	1,815,775
1985	1,130,254	693,427			3,865	1,827,546
1986	1,190,364	663,659			4,084	1,858,107
1987	1,163,773	660,960			3,811	1,828,544
1988	1,202,330	681,285		30,763	6,434	1,920,812
1989	1,158,365	668,694		1,787	5,754	1,834,600
1990	1,199,064	671,028		435	5,925	1,876,452
1991	1,063,027	651,940			4,920	1,719,887

\*Includes resident, nonresident and temporary licenses.

Table B.2. Total number of sport oyster dredge licenses, sport shrimp trawl licenses, fish guide licenses, boat registrations and saltwater sportfishing stamps sold in Texas by fiscal year (1959-1990).

Fiscal year (1 Sep-31 Aug)	Sport oyster boat license	Sport shrimp trawl license	Fish guide license	Boat registration <sup>a</sup>	Saltwater sportfishing stamp <sup>b</sup>
1959	60				
1960	17	8,837			
1961	58	7,399			
1962	39	6,249			
1963	45	7,003			
1964	52	6,367			
1965	80	7,034			
1966	66	7,144			
1967	42	7,324	340		
1968	44	7,508	380		
1969	35	8,553	515		
1970	38	9,662	606		
1971	35	9,947	692		
1972	28	9,296	702		
1973	25	9,537	728		
1974	24	10,521	522		
1975	31	9,281	516		
1976	48	8,866	486	485,977	
1977	68	9,707	488	515,476	
1978	91	9,982	517	536,712	
1979	136	10,349	562	542,368	
1980	178	8,926	581	546,040	
1981	235	8,729	628	561,657	
1982	218	7,433	773	580,055	
1983	402	6,110	1,058	598,900	
1984	323	5,339	931	603,761	
1985	265	4,547	612	593,174	
1986	243	4,147	1,014	607,119	251,897
1987	201	3,597	838	607,204	542,606
1988	163	2,945	1,017	606,969	562,622
1989	57	2,303	1,076	605,637	600,959
1990	0	1,904	1,144	605,787	580,388
1991	173	1,529	1,120	600,371	605,783

<sup>a</sup>Instantaneous number of boats registered at or near the end of a fiscal year.

<sup>b</sup>The saltwater sportfishing stamp was first offered for sale on 1 January 1986.

APPENDIX C: Party-boat fishing estimates for Texas bays and passes.

Table C.1. Number of days surveyed and number of party-boat fishermen interviewed (in parentheses) in Texas bays and passes by bay system and year (1983-1991).

Year	Bay system																	
	Sabine Lake		Galveston		Matagorda		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		Coastwide	
1983-84			131	(27)	130	(42)	107	(18)	133	(100)	131	(35)	133	(6)	13	(394)	898	(622)
1984-85			132	(23)	132	(9)	108	(10)	132	(32)	133	(44)	133	(2)	133	(334)	903	(454)
1985-86			133	(16)	133	(19)	108	(21)	133	(134)	133	(72)	133	(49)	133	(344)	906	(655)
1986-87			133	(12)	133	(47)	108	(54)	133	(141)	133	(64)	133	(108)	133	(331)	906	(757)
1987-88	108	(0)	131	(6)	133	(20)	106	(7)	133	(153)	133	(72)	134	(159)	133	(284)	1008	(701)
1988-89	108	(0)	132	(7)	131	(3)	105	(20)	130	(244)	130	(89)	131	(308)	131	(330)	330	(1001)
1989-90	108	(0)	131	(33)	132	(17)	108	(2)	133	(362)	133	(120)	131	(277)	133	(327)	1009	(1138)
1990-91	108	(6)	131	(13)	133	(11)	108	(10)	133	(277)	133	(117)	132	(74)	133	(344)	1011	(854)

Table C.2. Estimated party-boat fishing pressure (man-h x 1000)  $\pm$  1 SE, mean fishing-party size (No. of fishermen) and mean trip length (h) for party-boat fishermen in Texas bays and passes by bay system and year (1983-1990).

Bay system Year	Pressure	Mean fishing party size	Mean trip length
<b>Sabine Lake</b>			
1987-88	0.0		
1988-89	0.0		
1989-90	0.0		
1990-91	1.8 $\pm$ 1.2	3.0	6.5
<b>Galveston</b>			
1983-84	21.8 $\pm$ 10.4	3.4	7.1
1984-85	10.4 $\pm$ 6.2	3.8	7.4
1985-86	10.7 $\pm$ 9.0	4.0	9.0
1986-87	7.1 $\pm$ 3.6	3.0	9.0
1987-88	3.8 $\pm$ 2.7	3.0	8.0
1988-89	6.6 $\pm$ 4.7	3.5	7.8
1989-90	32.2 $\pm$ 18.7	3.0	6.8
1990-91	15.7 $\pm$ 11.7	4.3	9.7
<b>Matagorda</b>			
1983-84	20.8 $\pm$ 8.5	4.2	5.2
1984-85	0.9 $\pm$ 0.7	3.0	6.2
1985-86	5.3 $\pm$ 3.7	3.8	5.2
1986-87	5.2 $\pm$ 2.1	4.1	5.9
1987-88	4.9 $\pm$ 3.4	2.3	8.6
1988-89	0.1 $\pm$ 0.1	3.0	8.5
1989-90	4.5 $\pm$ 2.7	4.3	5.5
1990-91	0.9 $\pm$ 0.6	3.7	5.8
<b>San Antonio</b>			
1983-84	8.7 $\pm$ 5.1	3.6	8.1
1984-85	0.6 $\pm$ 0.5	3.3	4.5
1985-86	6.5 $\pm$ 3.4	3.5	5.9
1986-87	22.7 $\pm$ 14.5	4.0	6.4
1987-88	0.9 $\pm$ 0.7	3.5	7.2
1988-89	4.8 $\pm$ 2.6	3.3	9.0
1989-90	0.1 $\pm$ 0.1	2.0	4.0
1990-91	2.0 $\pm$ 1.4	5.0	7.8

Table C.2. (Cont'd.)

Bay system Year	Pressure	Mean fishing party size	Mean trip length
<b>Aransas</b>			
1983-84	38.4 ± 12.8	3.9	4.9
1984-85	17.7 ± 8.2	3.2	5.4
1985-86	45.7 ± 10.7	2.9	6.7
1986-87	52.5 ± 10.6	3.4	6.7
1987-88	56.8 ± 13.1	3.4	6.4
1988-89	76.8 ± 14.4	3.5	7.0
1989-90	115.2 ± 20.3	3.9	7.2
1990-91	66.5 ± 13.0	3.8	7.0
<b>Corpus Christi</b>			
1983-84	62.4 ± 44.2	3.2	6.7
1984-85	22.0 ± 10.2	3.7	6.2
1985-86	32.4 ± 13.9	3.0	6.5
1986-87	18.1 ± 7.1	4.0	6.8
1987-88	42.5 ± 15.8	3.9	7.0
1988-89	46.7 ± 25.1	3.9	7.4
1989-90	46.3 ± 12.4	3.9	6.6
1990-91	57.9 ± 14.5	3.8	7.8
<b>Upper Laguna Madre</b>			
1983-84	0.4 ± 0.3	3.0	4.0
1984-85	0.4 ± 0.4	2.0	8.0
1985-86	42.7 ± 38.3	3.9	9.4
1986-87	27.7 ± 9.5	3.5	13.1
1987-88	28.7 ± 9.8	3.5	11.18
1988-89	46.5 ± 16.9	3.4	8.0
1989-90	29.6 ± 5.2	3.5	8.1
1990-91	10.2 ± 3.3	3.1	7.3
<b>Lower Laguna Madre</b>			
1983-84	97.4 ± 22.7	3.2	6.2
1984-85	75.6 ± 18.6	3.6	5.5
1985-86	81.4 ± 14.1	3.6	5.6
1986-87	80.5 ± 17.9	3.3	5.8
1987-88	66.2 ± 11.5	3.3	6.2
1988-89	70.7 ± 11.8	3.4	5.8
1989-90	75.4 ± 16.0	3.3	5.9
1990-91	85.5 ± 15.1	3.4	5.6

Table C.2. (Cont'd.)

Bay system Year	Pressure	Mean fishing party size	Mean trip length
Coastwide*			
1983-84	249.9 ± 53.3	3.4	6.1
1984-85	127.6 ± 23.6	3.6	5.7
1985-86	224.8 ± 45.6	3.4	6.3
1986-87	213.7 ± 28.4	3.5	7.2
1987-88	204.0 ± 25.9	3.4	7.5
1988-89	252.1 ± 36.0	3.4	7.0
1989-90	303.4 ± 34.7	3.6	6.9
1990-91	240.5 ± 27.6	3.6	6.6



Table C.3. Estimated annual landings of fishes (No. x 1000)  $\pm$  1 SE caught by party-boat fishermen in Texas bays and passes by bay system, species and year (1983-1991).

Species Year	Bay system																	
	Sabine Lake		Galveston		Matagorda		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		Coastwide <sup>a</sup>	
<b>Atlantic croaker</b>																		
1983-84			0.1 $\pm$ 0.1		0.0		0.0		6.9 $\pm$ 6.9		11.6 $\pm$ 10.9		0.0		0.2 $\pm$ 0.1		18.8 $\pm$ 12.9	
1984-85			<.1 $\pm$ <.1		0.0		0.0		0.0		0.1 $\pm$ 0.1		0.0		0.1 $\pm$ 0.1		0.2 $\pm$ 0.1	
1985-86			0.0		0.2 $\pm$ 0.2		0.0		<.1 $\pm$ <.1		0.0		0.0		0.0		0.2 $\pm$ 0.2	
1986-87			0.0		0.0		0.0		0.0		0.0		<.1 $\pm$ <.1		0.0		<.1 $\pm$ <.1	
1987-88	0.0		0.4 $\pm$ 0.4		0.0		0.0		0.0		0.0		0.1 $\pm$ <.1		0.0		0.4 $\pm$ 0.4	
1988-89	0.0		0.0		0.0		0.0		0.1 $\pm$ 0.1		<.1 $\pm$ <.1		0.1 $\pm$ <.1		0.1 $\pm$ 0.1		0.2 $\pm$ 0.1	
1989-90	0.0		0.1 $\pm$ 0.1		0.1 $\pm$ 0.1		0.0		0.0		<.1 $\pm$ <.1		0.1 $\pm$ <.1		0.0		0.2 $\pm$ 0.1	
1990-91	<.1 $\pm$ <.1		0.0		0.0		0.0		0.0		0.1 $\pm$ 0.1		0.0		<.1 $\pm$ <.1		0.1 $\pm$ 0.1	
<b>Black drum</b>																		
1983-84			<.1 $\pm$ <.1		0.0		0.0		0.1 $\pm$ 0.1		2.5 $\pm$ 1.8		0.0		2.5 $\pm$ 1.5		5.1 $\pm$ 2.4	
1984-85			<.1 $\pm$ <.1		<.1 $\pm$ <.1		<.1 $\pm$ <.1		0.1 $\pm$ 0.1		0.2 $\pm$ 0.2		0.0		0.5 $\pm$ 0.4		0.8 $\pm$ 0.5	
1985-86			0.0		0.5 $\pm$ 0.5		0.0		0.3 $\pm$ 0.2		0.0		<.1 $\pm$ <.1		0.2 $\pm$ 0.2		1.0 $\pm$ 0.5	
1986-87			<.1 $\pm$ <.1		<.1 $\pm$ <.1		0.0		0.1 $\pm$ 0.1		3.6 $\pm$ 3.4		0.1 $\pm$ 0.1		1.2 $\pm$ 1.1		5.1 $\pm$ 3.5	
1987-88	0.0		0.0		0.4 $\pm$ 0.4		0.2 $\pm$ 0.2		<.1 $\pm$ <.1		<.1 $\pm$ <.1		0.1 $\pm$ <.1		0.2 $\pm$ 0.2		0.9 $\pm$ 0.4	
1988-89	0.0		0.0		0.0		0.0		0.3 $\pm$ 0.2		0.5 $\pm$ 0.5		0.2 $\pm$ 0.1		0.1 $\pm$ <.1		1.0 $\pm$ 0.5	
1989-90	0.0		0.1 $\pm$ 0.1		0.0		0.0		1.0 $\pm$ 0.6		0.0		0.1 $\pm$ 0.1		0.6 $\pm$ 0.3		1.7 $\pm$ 0.6	
1990-91	0.0		0.0		<.1 $\pm$ <.1		<.1 $\pm$ <.1		1.5 $\pm$ 0.8		1.6 $\pm$ 1.5		0.3 $\pm$ 0.2		0.4 $\pm$ 0.2		3.8 $\pm$ 1.7	
<b>Gafftopsail catfish</b>																		
1983-84			0.0		0.3 $\pm$ 0.3		0.0		0.0		2.5 $\pm$ 2.3		0.0		<.1 $\pm$ <.1		2.9 $\pm$ 2.3	
1984-85			0.0		0.0		0.0		0.1 $\pm$ 0.1		<.1 $\pm$ <.1		0.0		0.0		0.1 $\pm$ 0.1	
1985-86			0.0		0.0		0.0		0.0		0.1 $\pm$ 0.1		0.0		0.0		0.1 $\pm$ 0.1	
1986-87			0.0		0.1 $\pm$ 0.1		0.4 $\pm$ 0.3		0.2 $\pm$ 0.2		0.0		0.0		0.0		0.7 $\pm$ 0.3	
1987-88	0.0		0.0		<.1 $\pm$ <.1		<.1 $\pm$ <.1		0.0		0.1 $\pm$ 0.1		<.1 $\pm$ <.1		0.0		0.1 $\pm$ 0.1	
1988-89	0.0		0.0		0.0		0.0		0.2 $\pm$ 0.2		0.1 $\pm$ 0.1		0.0		0.0		0.3 $\pm$ 0.2	
1989-90	0.0		0.0		0.0		0.0		0.3 $\pm$ 0.2		0.0		0.0		0.0		0.2 $\pm$ 0.2	
1990-91	0.0		0.0		0.0		0.0		0.1 $\pm$ 0.1		0.0		0.0		0.0		0.1 $\pm$ 0.1	

Table C.3. (Cont'd.)

Species Year	Bay system																	
	Sabine Lake		Galveston		Matagorda		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		Coastwide <sup>a</sup>	
<b>Red drum</b>																		
1983-84		0.2 ± 0.2		2.5 ± 1.8		0.5 ± 0.3		1.4 ± 1.0		1.8 ± 1.5		0.0		5.6 ± 1.5		12.1 ± 3.0		3.0
1984-85		0.3 ± 0.2		0.2 ± 0.1		0.0		4.8 ± 2.7		2.6 ± 1.3		0.0		5.9 ± 1.6		13.7 ± 3.4		3.4
1985-86		<.1 ± <.1		0.2 ± 0.1		0.8 ± 0.7		8.5 ± 2.5		4.9 ± 2.9		0.3 ± 0.2		8.8 ± 2.0		23.6 ± 4.4		4.4
1986-87		<.1 ± <.1		0.6 ± 0.3		0.8 ± 0.7		8.7 ± 3.2		3.3 ± 1.9		0.9 ± 0.5		8.0 ± 1.9		22.4 ± 4.3		4.3
1987-88	0.0	0.0		0.1 ± 0.1		0.1 ± 0.1		7.4 ± 2.4		5.4 ± 4.0		1.7 ± 0.6		9.2 ± 2.0		23.9 ± 5.1		5.1
1988-89	0.0	0.0		<.1 ± <.1		0.1 ± 0.1		8.7 ± 2.3		6.7 ± 5.4		2.1 ± 0.9		10.5 ± 2.8		28.1 ± 6.6		6.6
1989-90	0.0	1.5 ± 1.5		0.1 ± 0.1		0.0		12.1 ± 2.6		2.4 ± 0.8		1.8 ± 0.5		8.3 ± 2.4		26.3 ± 4.0		4.0
1990-91	0.0	2.3 ± 2.3		<.1 ± <.1		<.1 ± <.1		8.4 ± 2.2		4.9 ± 1.7		1.4 ± 0.6		4.9 ± 1.1		22.0 ± 3.8		3.8
<b>Sand seatrout</b>																		
1983-84		<.1 ± <.1		6.8 ± 6.8		0.1 ± 0.1		3.1 ± 1.9		9.5 ± 7.6		0.0		0.1 ± 0.1		19.6 ± 10.4		10.4
1984-85		<.1 ± <.1		<.1 ± <.1		0.5 ± 0.5		0.0		0.4 ± 0.4		0.0		0.0		1.0 ± 0.6		0.6
1985-86		2.5 ± 2.5		0.0		0.0		0.0		0.0		<.1 ± <.1		1.3 ± 0.8		3.9 ± 2.7		2.7
1986-87		0.4 ± 0.3		<.1 ± <.1		0.4 ± 0.3		0.1 ± 0.1		0.7 ± 0.7		0.2 ± 0.2		0.0		1.8 ± 0.8		0.8
1987-88	0.0	0.0		0.0		0.0		0.2 ± 0.2		1.2 ± 1.0		0.0		<.1 ± <.1		1.4 ± 1.0		1.0
1988-89	0.0	1.2 ± 1.2		0.0		0.0		<.1 ± <.1		0.1 ± 0.1		0.1 ± <.1		<.1 ± <.1		1.4 ± 1.2		1.2
1989-90	0.0	1.8 ± 1.8		0.0		0.0		0.1 ± 0.1		<.1 ± <.1		0.0		0.0		1.9 ± 1.8		1.8
1990-91	0.0	0.0		0.0		0.0		0.6 ± 0.5		0.3 ± 0.2		0.0		0.3 ± 0.2		1.1 ± 0.6		0.6
<b>Sheepshead</b>																		
1983-84		0.0		0.0		0.0		0.4 ± 0.4		1.8 ± 1.3		0.0		0.6 ± 0.3		2.8 ± 1.3		1.3
1984-85		0.0		0.0		0.0		0.0		0.0		0.0		0.3 ± 0.2		0.3 ± 0.2		0.2
1985-86		0.0		0.0		0.0		<.1 ± <.1		0.0		0.0		<.1 ± <.1		0.1 ± 0.1		0.1
1986-87		0.0		0.9 ± 0.5		0.4 ± 0.4		4.0 ± 4.0		0.1 ± 0.1		<.1 ± <.1		0.0		5.4 ± 4.0		4.0
1987-88	0.0	0.0		0.0		0.0		0.4 ± 0.2		0.1 ± 0.1		0.0		0.0		0.4 ± 0.2		0.2
1988-89	0.0	0.0		<.1 ± <.1		0.0		0.0		0.5 ± 0.5		<.1 ± <.1		<.1 ± <.1		0.5 ± 0.5		0.5
1989-90	0.0	0.0		0.0		0.0		<.1 ± <.1		0.0		<.1 ± <.1		0.2 ± 0.1		0.3 ± 0.1		0.1
1990-91	0.0	0.0		0.2 ± 0.2		0.0		0.0		0.0		0.0		0.1 ± 0.1		0.3 ± 0.2		0.2

Table C.3. (Cont'd.)

Species Year	Bay system										Upper Laguna Madre		Lower Laguna Madre		Coastwide <sup>a</sup>			
	Sabine Lake		Galveston		Matagorda		San Antonio		Aransas		Corpus Christi							
Southern flounder																		
1983-84			0.2 ±	0.1	0.2 ±	0.1	0.1 ±	0.1	0.3 ±	0.2	1.0 ±	0.9	0.0	2.5 ±	0.8	4.2 ±	1.2	
1984-85			0.0		0.0		0.0		0.2 ±	0.2	0.3 ±	0.2	<.1 ±	<.1	0.6 ±	0.3	1.2 ±	0.4
1985-86			0.7 ±	0.6	0.1 ±	0.1	0.2 ±	0.2	2.3 ±	1.1	<.1 ±	<.1	0.9 ±	0.6	2.1 ±	0.7	6.4 ±	1.6
1986-87			0.2 ±	0.2	<.1 ±	<.1	<.1 ±	<.1	0.6 ±	0.2	0.1 ±	0.1	2.4 ±	0.8	2.9 ±	1.1	6.3 ±	1.4
1987-88	0.0		0.0		0.0		0.0		0.4 ±	0.2	0.0		0.5 ±	0.2	0.7 ±	0.2	1.7 ±	0.4
1988-89	0.0		0.6 ±	0.5	0.0		0.1 ±	<.1	0.3 ±	0.1	0.1 ±	0.1	0.7 ±	0.3	0.8 ±	0.3	2.6 ±	0.7
1989-90	0.0		3.6 ±	2.3	0.2 ±	0.2	0.0		0.3 ±	0.1	0.1 ±	0.1	0.2 ±	<.1	1.4 ±	0.5	5.7 ±	2.3
1990-91	0.7 ±	0.7	0.6 ±	0.5	0.0		0.0		0.3 ±	0.2	0.6 ±	0.4	0.1 ±	0.1	0.6 ±	0.2	2.8 ±	1.0
Spotted seatrout																		
1983-84			13.6 ±	6.8	10.5 ±	5.2	8.4 ±	7.3	45.1 ±	20.8	41.0 ±	37.4	0.0	74.9 ±	13.8	193.5 ±	46.4	
1984-85			4.0 ±	2.6	<.1 ±	<.1	0.4 ±	0.4	0.7 ±	0.4	2.6 ±	1.3	0.0	42.2 ±	12.9	50.0 ±	13.2	
1985-86			5.2 ±	4.2	6.4 ±	6.2	0.4 ±	0.3	15.9 ±	6.0	9.9 ±	4.3	2.2 ±	1.2	28.1 ±	6.6	68.0 ±	12.5
1986-87			2.6 ±	1.7	2.2 ±	1.7	11.7 ±	7.5	24.2 ±	7.0	4.1 ±	2.2	7.7 ±	2.4	42.4 ±	10.2	94.9 ±	15.0
1987-88	0.0		2.9 ±	2.1	1.5 ±	0.7	0.0		28.5 ±	8.7	19.8 ±	8.3	8.0 ±	2.3	20.7 ±	3.9	81.4 ±	13.0
1988-89	0.0		8.1 ±	5.7	0.0		0.5 ±	0.3	38.2 ±	9.9	19.8 ±	7.6	22.3 ±	10.7	29.2 ±	6.1	118.1 ±	18.5
1989-90	0.0		11.9 ±	5.6	0.1 ±	0.1	0.0		29.7 ±	7.2	20.8 ±	7.3	5.6 ±	1.5	23.8 ±	6.0	91.9 ±	13.2
1990-91	0.0		0.3 ±	0.2	<.1 ±	<.1	0.0		8.7 ±	3.3	7.0 ±	2.4	1.3 ±	0.6	21.7 ±	4.9	39.1 ±	6.5
Other species																		
1983-84			0.0		0.3		<.1		0.8		1.0		0.0		0.6		2.8	
1984-85			0.1		0.0		<.1		0.0		0.0		0.0		<.1		0.2	
1985-86			0.0		0.0		0.0		0.0		0.3		0.1		0.3		0.7	
1986-87			0.0		1.1		1.0		0.0		1.4		<.1 ±	<.1	0.9		3.7	
1987-88	0.0		0.0		0.2 ±	0.2	0.0		2.7		1.9 ±	1.8	<.1		0.2 ±	0.1	5.1	
1988-89	0.0		0.0		<.1 ±	<.1	<.1 ±	<.1	0.6 ±	0.4	0.4		0.2 ±	0.1	0.3 ±	0.1	1.6	
1989-90	0.0		0.0		0.3		0.0		0.2 ±	0.2	0.4		0.1		0.2 ±	0.1	1.2	
1990-91	0.0		0.0		<.1		0.1 ±	0.1	<.1		0.1 ±	0.1	0.0		0.2 ±	0.1	0.4	

Table C.3. (Cont'd.)

Species Year	Bay system										Coastwide <sup>a</sup>	
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre				
All species combined <sup>a</sup>												
1983-84		14.2 ± 7.0	20.6 ± 10.6	9.1 ± 7.3	58.1 ± 23.3	72.9 ± 52.3	0.0		86.9 ± 15.1	261.8 ± 61.0		
1984-85		4.6 ± 2.8	0.2 ± 0.1	1.0 ± 1.0	5.9 ± 2.9	6.2 ± 2.8	<.1 ± <.1		49.6 ± 14.1	67.6 ± 15.0		
1985-86		10.7 ± 9.0	7.4 ± 6.8	1.3 ± 0.9	27.0 ± 7.4	15.3 ± 6.2	3.6 ± 1.9		40.9 ± 8.3	104.0 ± 15.8		
1986-87		3.3 ± 2.0	4.2 ± 2.4	14.8 ± 9.3	37.9 ± 9.1	13.3 ± 7.6	11.5 ± 3.5		55.4 ± 11.7	140.3 ± 19.7		
1987-88	0.0	3.3 ± 2.3	2.2 ± 1.2	0.3 ± 0.2	39.6 ± 10.5	28.4 ± 10.4	10.4 ± 2.8		31.2 ± 5.3	115.3 ± 16.2		
1988-89	0.0	10.0 ± 7.0	<.1 ± <.1	0.7 ± 0.4	48.4 ± 11.2	28.0 ± 12.4	25.6 ± 11.3		41.0 ± 7.8	153.7 ± 22.8		
1989-90	0.0	19.0 ± 8.7	0.8 ± 0.4	0.0	43.7 ± 8.6	23.8 ± 7.8	8.0 ± 1.8		34.5 ± 8.2	129.5 ± 16.8		
1990-91	0.0	3.1 ± 2.9	0.3 ± 0.3	0.1 ± 0.1	19.6 ± 4.5	14.6 ± 3.9	3.1 ± 1.2		28.2 ± 5.6	69.8 ± 8.8		

<sup>a</sup>Due to rounding of numbers, these totals may not exactly equal individual totals.

Table C.4. Annual mean catch rates of fishes (No./man-h)  $\pm$  1 SE caught by party-boat fishermen in Texas bays and passes by bay system, species and year (1983-1991). Blank - no fishermen interviewed.

Species Year	Bay system								Coastwide
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	
<b>Atlantic croaker</b>									
1983-84		0.01 $\pm$ 0.01	0.00	0.00	0.18 $\pm$ 0.18	0.19 $\pm$ 0.18	0.00	<.01 $\pm$ <.01	0.07 $\pm$ 0.05
1984-85		<.01 $\pm$ <.01	0.00	0.00	0.00	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01	<.01 $\pm$ <.01
1985-86		0.00	0.03 $\pm$ 0.03	0.00	<.01 $\pm$ <.01	0.00	0.00	0.00	<.01 $\pm$ <.01
1986-87		0.00	0.00	0.00	0.00	0.00	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01
1987-88		0.10 $\pm$ 0.10	0.00	0.00	0.00	0.00	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01
1988-89		0.00	0.00	0.00	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01
1989-90		<.01 $\pm$ <.01	0.01 $\pm$ 0.01	0.00	0.00	<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01
1990-91	0.01 $\pm$ 0.01	0.00	0.00	0.00	0.00	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01	<.01 $\pm$ <.01
<b>Black drum</b>									
1983-84		<.01 $\pm$ <.01	0.00	0.00	<.01 $\pm$ <.01	0.04 $\pm$ 0.03	0.00	0.03 $\pm$ 0.02	0.02 $\pm$ 0.01
1984-85		<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.01 $\pm$ 0.01	0.01 $\pm$ 0.01	0.01 $\pm$ 0.01	0.00	0.01 $\pm$ <.01	0.01 $\pm$ <.01
1985-86		0.00	0.09 $\pm$ 0.09	0.00	0.01 $\pm$ <.01	0.00	0.00	<.01 $\pm$ <.01	<.01 $\pm$ <.01
1986-87		<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01	0.20 $\pm$ 0.19	<.01 $\pm$ <.01	0.02 $\pm$ 0.01	0.02 $\pm$ 0.02
1987-88		0.00	0.07 $\pm$ 0.07	0.18 $\pm$ 0.18	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01
1988-89		0.00	0.00	0.00	<.01 $\pm$ <.01	0.01 $\pm$ 0.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01
1989-90		<.01 $\pm$ <.01	0.00	0.00	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01
1990-91	0.00	0.00	0.02 $\pm$ 0.02	0.01 $\pm$ 0.01	0.02 $\pm$ 0.01	0.03 $\pm$ 0.03	0.03 $\pm$ 0.02	0.00	0.02 $\pm$ 0.01
<b>Gafftopsail catfish</b>									
1983-84		0.00	0.01 $\pm$ 0.01	0.00	0.00	0.04 $\pm$ 0.04	0.00	0.00	0.01 $\pm$ 0.01
1984-85		0.00	0.00	0.00	0.01 $\pm$ 0.01	<.01 $\pm$ <.01	0.00	0.00	<.01 $\pm$ <.01
1985-86		0.00	0.00	0.00	0.00	<.01 $\pm$ <.01	0.00	0.00	<.01 $\pm$ <.01
1986-87		0.00	0.03 $\pm$ 0.03	0.02 $\pm$ 0.01	<.01 $\pm$ <.01	0.00	0.00	0.00	<.01 $\pm$ <.01
1987-88		0.00	0.01 $\pm$ 0.01	0.02 $\pm$ 0.02	0.00	<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01
1988-89		0.00	0.00	0.00	<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.00	0.00	<.01 $\pm$ <.01
1989-90		0.00	0.00	0.00	<.01 $\pm$ <.01	0.00	0.00	0.00	<.01 $\pm$ <.01
1990-91	0.00	0.00	0.00	0.00	<.01 $\pm$ <.01	0.00	0.00	0.00	0.00

Table G.4: (Cont'd.)

Species Year	Bay system								Coastwide
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	
<b>Red drum</b>									
1983-84		0.01 ± 0.01	0.12 ± 0.09	0.06 ± 0.04	0.04 ± 0.03	0.03 ± 0.03	0.00	0.06 ± 0.02	0.05 ± 0.02
1984-85		0.03 ± 0.03	0.19 ± 0.17	0.00	0.27 ± 0.18	0.12 ± 0.07	0.00	0.08 ± 0.03	0.11 ± 0.03
1985-86		<.01 ± <.01	0.04 ± 0.04	0.12 ± 0.11	0.18 ± 0.07	0.15 ± 0.10	<.01 ± <.01	0.11 ± 0.03	0.11 ± 0.03
1986-87		<.01 ± <.01	0.11 ± 0.07	0.04 ± 0.03	0.16 ± 0.07	0.18 ± 0.12	0.03 ± 0.02	0.10 ± 0.03	0.10 ± 0.02
1987-88		0.00	0.03 ± 0.02	0.12 ± 0.10	0.13 ± 0.05	0.13 ± 0.10	0.06 ± 0.03	0.14 ± 0.04	0.11 ± 0.03
1988-89		0.00	0.08 ± 0.08	0.02 ± 0.02	0.11 ± 0.04	0.14 ± 0.12	0.04 ± 0.02	0.15 ± 0.05	0.11 ± 0.03
1989-90		<.01 ± <.01	0.02 ± 0.02	0.00	0.10 ± 0.03	0.05 ± 0.02	0.06 ± 0.02	0.11 ± 0.04	0.09 ± 0.02
1990-91	0.00	0.14 ± 0.14	0.02 ± 0.02	0.02 ± 0.02	0.13 ± 0.04	0.09 ± 0.04	0.14 ± 0.08	0.06 ± 0.02	0.09 ± 0.02
<b>Sand seatrout</b>									
1983-84		<.01 ± <.01	0.33 ± 0.33	0.01 ± 0.01	0.08 ± 0.05	0.15 ± 0.14	0.00	<.01 ± <.01	0.08 ± 0.04
1984-85		<.01 ± <.01	0.01 ± 0.01	0.82 ± 0.82	0.00	0.02 ± 0.02	0.00	0.00	0.01 ± <.01
1985-86		0.24 ± 0.24	0.00	0.00	0.00	0.00	<.01 ± <.01	0.02 ± 0.01	0.02 ± 0.01
1986-87		0.05 ± 0.05	<.01 ± <.01	0.02 ± 0.02	<.01 ± <.01	0.04 ± 0.04	0.01 ± 0.01	0.00	0.01 ± <.01
1987-88		0.00	0.00	0.00	<.01 ± <.01	0.03 ± 0.02	0.00	<.01 ± <.01	0.01 ± <.01
1988-89		0.18 ± 0.18	0.00	0.00	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01
1989-90		0.06 ± 0.06	0.00	0.00	0.00	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1990-91	0.00	0.00	0.00	0.00	0.01 ± 0.01	<.01 ± <.01	0.00	<.01 ± <.01	<.01 ± <.01
<b>Sheepshead</b>									
1983-84		0.00	0.00	0.00	0.01 ± 0.01	0.03 ± 0.02	0.00	0.01 ± <.01	0.01 ± 0.01
1984-85		0.00	0.00	0.00	0.00	0.00	0.00	<.01 ± <.01	<.01 ± <.01
1985-86		0.00	0.00	0.00	<.01 ± <.01	0.00	0.00	0.00	<.01 ± <.01
1986-87		0.00	0.17 ± 0.11	0.02 ± 0.02	0.08 ± 0.08	0.01 ± 0.01	0.00	0.00	0.02 ± 0.02
1987-88		0.00	0.00	0.00	0.01 ± <.01	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1988-89		0.00	0.08 ± 0.08	0.00	0.00	0.01 ± 0.01	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01
1989-90		0.00	0.00	0.00	0.00	0.00	0.00	<.01 ± <.01	<.01 ± <.01
1990-91	0.00	0.00	0.23 ± 0.23	0.00	0.00	0.00	0.00	<.01 ± <.01	<.01 ± <.01

Table C.4. (Cont'd.)

Species Year	Bay system					Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	Coastwide
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas				
Southern flounder									
1983-84		0.01 ± 0.01	0.01 ± 0.01	0.01 ± 0.01	0.01 ± 0.01	0.02 ± 0.01	0.00	0.02 ± 0.01	0.02 ± 0.01
1984-85		0.00	0.00	0.00	0.01 ± 0.01	0.01 ± 0.01	0.06 ± 0.06	0.01 ± <.01	0.01 ± <.01
1985-86		0.07 ± 0.07	0.02 ± 0.02	0.03 ± 0.03	0.05 ± 0.03	0.00	0.02 ± 0.02	0.03 ± 0.01	0.03 ± 0.01
1986-87		0.03 ± 0.03	<.01 ± <.01	<.01 ± <.01	0.01 ± <.01	0.01 ± <.01	0.09 ± 0.04	0.04 ± 0.02	0.03 ± 0.01
1987-88		0.00	0.00	0.00	0.01 ± 0.01	0.00	0.02 ± 0.01	0.01 ± <.01	0.01 ± <.01
1988-89		0.10 ± 0.09	0.00	0.01 ± 0.01	<.01 ± <.01	<.01 ± <.01	0.02 ± 0.01	0.01 ± <.01	0.01 ± <.01
1989-90		0.11 ± 0.09	0.05 ± 0.04	0.00	<.01 ± <.01	<.01 ± <.01	0.00	0.02 ± <.01	0.02 ± <.01
1990-91	0.40 ± 0.40	0.04 ± 0.03	0.00	0.00	<.01 ± <.01	0.01 ± 0.01	0.01 ± 0.01	0.01 ± <.01	0.01 ± <.01
Spotted seatrout									
1983-84		0.62 ± 0.41	0.50 ± 0.31	0.98 ± 0.90	1.17 ± 0.64	0.66 ± 0.63	0.00	0.77 ± 0.23	0.77 ± 0.24
1984-85		0.39 ± 0.30	0.03 ± 0.03	0.71 ± 0.71	0.04 ± 0.03	0.12 ± 0.08	0.00	0.56 ± 0.21	0.39 ± 0.12
1985-86		0.48 ± 0.46	1.20 ± 1.18	0.06 ± 0.05	0.35 ± 0.15	0.31 ± 0.18	0.05 ± 0.05	0.35 ± 0.10	0.30 ± 0.08
1986-87		0.37 ± 0.28	0.42 ± 0.35	0.52 ± 0.42	0.46 ± 0.16	0.23 ± 0.14	0.28 ± 0.12	0.53 ± 0.17	0.44 ± 0.09
1987-88		0.76 ± 0.66	0.30 ± 0.23	0.00	0.50 ± 0.19	0.47 ± 0.25	0.28 ± 0.12	0.31 ± 0.08	0.40 ± 0.08
1988-89		1.22 ± 1.05	0.00	0.11 ± 0.09	0.50 ± 0.16	0.42 ± 0.27	0.48 ± 0.28	0.41 ± 0.11	0.47 ± 0.10
1989-90		0.37 ± 0.26	0.03 ± 0.03	0.00	0.26 ± 0.08	0.45 ± 0.19	0.19 ± 0.06	0.32 ± 0.10	0.30 ± 0.01
1990-91	0.00	0.02 ± 0.02	0.05 ± 0.04	0.00	0.13 ± 0.06	0.12 ± 0.05	0.12 ± 0.07	0.25 ± 0.07	0.16 ± 0.03
Other species									
1983-84		0.00	0.01	<.01	0.02	0.02	0.00	0.01	0.01
1984-85		0.01	0.00	0.07	0.00	0.00	0.00	0.00	<.01
1985-86		0.00	0.00	0.00	0.00	0.01	<.01	<.01	<.01
1986-87		0.00	0.19	0.05	0.00	0.08	<.01 ± <.01	0.04	0.03
1987-88		0.00	0.04 ± 0.03	0.00	0.05 ± 0.05	0.04 ± 0.04	<.01 ± <.01	<.01 ± <.01	0.02
1988-89		0.00	0.31	<.01 ± <.01	0.01 ± <.01	0.01	<.01 ± <.01	<.01 ± <.01	0.01
1989-90		0.00	0.06	0.00	<.01 ± <.01	<.01	<.01 ± <.01	<.01 ± <.01	<.01
1990-91	0.00	0.00	0.02	0.03 ± 0.03	0.00	<.01 ± <.01	0.00	<.01 ± <.01	<.01

Table C.4. (Cont'd.)

Species Year	Bay system								Coastwide
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	
All species combined <sup>a</sup>									
1983-84		0.65 ± 0.42	0.99 ± 0.62	1.06 ± 0.93	1.51 ± 0.76	1.17 ± 1.02	0.00	0.89 ± 0.26	1.05 ± 0.33
1984-85		0.44 ± 0.34	0.24 ± 0.21	1.61 ± 1.60	0.34 ± 0.21	0.28 ± 0.17	0.06 ± 0.06	0.66 ± 0.24	0.53 ± 0.15
1985-86		0.80 ± 0.74	1.38 ± 1.33	0.20 ± 0.15	0.59 ± 0.21	0.47 ± 0.27	0.08 ± 0.08	0.50 ± 0.13	0.46 ± 0.12
1986-87		0.47 ± 0.34	0.81 ± 0.54	0.65 ± 0.52	0.72 ± 0.22	0.74 ± 0.48	0.41 ± 0.19	0.69 ± 0.21	0.66 ± 0.13
1987-88		0.85 ± 0.74	0.44 ± 0.35	0.32 ± 0.30	0.70 ± 0.24	0.67 ± 0.34	0.36 ± 0.15	0.47 ± 0.11	0.56 ± 0.11
1988-89		1.50 ± 1.30	0.47 ± 0.47	0.15 ± 0.10	0.63 ± 0.18	0.60 ± 0.39	0.55 ± 0.30	0.58 ± 0.15	0.61 ± 0.12
1989-90		0.59 ± 0.41	0.17 ± 0.12	0.00	0.38 ± 0.10	0.51 ± 0.21	0.27 ± 0.08	0.46 ± 0.14	0.43 ± 0.07
1990-91	0.41 ± 0.41	0.20 ± 0.19	0.34 ± 0.33	0.07 ± 0.07	0.30 ± 0.09	0.25 ± 0.09	0.30 ± 0.15	0.33 ± 0.09	0.29 ± 0.05

<sup>a</sup>Due to rounding of numbers, these totals may not exactly equal individual totals.



Table C.5. Mean catch rates of fishes (No./man-h)  $\pm$  1 SE caught by party-boat fishermen in Texas bays and passes during June-August by species, bay system and year (1979-1990)<sup>a</sup>. Number in parentheses indicates number of interviews. Blank = no fishermen interviewed.

Bay system Year	Spotted seatrout	Other Species	All Species Combined <sup>b</sup>
Sabine Lake			
1987 ( 0)			
1988 ( 0)			
1989 ( 0)			
1990			
Galveston			
1979 ( 2)	0.88 $\pm$ 0.01	0.19 $\pm$ 0.19	1.07 $\pm$ 0.18
1981 (13)	1.14 $\pm$ 0.26	0.15 $\pm$ 0.07	1.29 $\pm$ 0.24
1982 ( 8)	1.49 $\pm$ 0.37	0.35 $\pm$ 0.31	1.83 $\pm$ 0.42
1983 ( 3)	0.99 $\pm$ 0.88	0.00	0.99 $\pm$ 0.88
1984 ( 5)	0.36 $\pm$ 0.31	0.06	0.42 $\pm$ 0.35
1985 ( 3)	0.46 $\pm$ 0.46	0.08	0.54 $\pm$ 0.54
1986 ( 3)	0.52 $\pm$ 0.41	0.10	0.62 $\pm$ 0.49
1987 ( 1)	0.85 $\pm$ 0.85	0.00	0.85 $\pm$ 0.85
1988 ( 1)	1.23 $\pm$ 1.23	0.03 $\pm$ 0.03	1.27 $\pm$ 1.27
1989 ( 3)	0.17 $\pm$ 0.15	0.29	0.29 $\pm$ 0.25
1990 ( 1)	0.02 $\pm$ 0.02	0.05	0.08 $\pm$ 0.08
Matagorda <sup>c</sup>			
1979 ( 0)			
1981 ( 0)			
1982 (13)	1.16 $\pm$ 0.41	0.25 $\pm$ 0.10	1.43 $\pm$ 0.48
1983 ( 6)	0.40 $\pm$ 0.29	0.74	1.14 $\pm$ 0.92
1984 ( 3)	0.03 $\pm$ 0.03	0.21	0.24 $\pm$ 0.21
1985 ( 1)	0.00	0.00	0.00
1986 ( 5)	0.18 $\pm$ 0.15	0.34	0.52 $\pm$ 0.40
1987 ( 2)	0.67 $\pm$ 0.58	0.20	0.88 $\pm$ 0.76
1988 ( 1)	0.00	0.47 $\pm$ 0.47	0.47 $\pm$ 0.47
1989 ( 1)	0.06 $\pm$ 0.06	0.06 $\pm$ 0.06	0.11 $\pm$ 0.11
1990 ( 1)	0.00	0.00	0.00

Table C.5. (Cont'd.)

Bay system Year	Spotted seatrout	Other Species	All Species Combined <sup>b</sup>
<b>San Antonio<sup>c</sup></b>			
1979 ( 0)			
1981 ( 0)			
1982 (13)	1.16 ± 0.41	0.25 ± 0.10	1.43 ± 0.48
1983 ( 2)	0.23 ± 0.22	0.07	0.30 ± 0.29
1984 ( 2)	0.84 ± 0.84	1.03	1.87 ± 1.87
1985 ( 5)	0.06 ± 0.06	0.06	0.12 ± 0.10
1986 ( 5)	0.63 ± 0.58	0.15	0.78 ± 0.70
1987 ( 1)	0.00	0.25	0.25 ± 0.25
1988 ( 3)	0.10 ± 0.10	0.03	0.13 ± 0.12
1989 ( 0)			
1990 ( 1)	0.00	0.17	0.17 ± 0.17
<b>Aransas<sup>d</sup></b>			
1979 ( 6)	1.03 ± 0.37	0.13 ± 0.08	1.17 ± 0.38
1981 (30)	2.07 ± 0.23	0.10 ± 0.04	2.17 ± 0.22
1982 (35)	1.49 ± 0.20	0.37 ± 0.13	1.86 ± 0.21
1983 (15)	1.49 ± 0.98	0.17	1.66 ± 1.06
1984 ( 1)	0.00	11.11	11.11 ± 1.11
1985 (23)	0.22 ± 0.11	0.28	0.50 ± 0.24
1986 (21)	0.52 ± 0.22	0.23	0.75 ± 0.28
1987 (24)	0.67 ± 0.31	0.14	0.81 ± 0.36
1988 (35)	0.59 ± 0.25	0.14	0.72 ± 0.29
1989 (54)	0.32 ± 0.12	0.12	0.44 ± 0.15
1990 (38)	0.09 ± 0.05	0.16	0.25 ± 0.17
<b>Corpus Christi<sup>d</sup></b>			
1979 ( 6)	1.03 ± 0.37	0.13 ± 0.08	1.17 ± 0.38
1981 (30)	2.07 ± 0.23	0.10 ± 0.04	2.17 ± 0.22
1982 (35)	1.49 ± 0.20	0.37 ± 0.13	1.86 ± 0.21
1983 ( 4)	0.86 ± 0.85	0.30	1.16 ± 1.15
1984 ( 7)	0.13 ± 0.10	0.11	0.24 ± 0.19
1985 (14)	0.41 ± 0.31	0.14	0.55 ± 0.39
1986 (10)	0.30 ± 0.23	0.23	0.53 ± 0.35
1987 (11)	0.49 ± 0.31	0.26	0.75 ± 0.44
1988 (16)	0.56 ± 0.30	0.07	0.63 ± 0.33
1989 (18)	0.55 ± 0.33	0.04	0.59 ± 0.34
1990 (18)	0.08 ± 0.04	0.15	0.24 ± 0.11

Table C.5. (Cont'd.)

Bay system Year	Spotted seatrout	Other Species	All Species Combined <sup>b</sup>
<b>Upper Laguna Madre<sup>d</sup></b>			
1979 ( 6)	1.03 ± 0.37	0.13 ± 0.08	1.17 ± 0.38
1981 (30)	2.07 ± 0.23	0.10 ± 0.04	2.17 ± 0.22
1982 (35)	1.49 ± 0.20	0.37 ± 0.13	1.86 ± 0.21
1983 ( 1)	0.00	0.00	0.00
1984 ( 1)	0.00	0.06	0.06 ± 0.06
1985 ( 4)	0.30 ± 0.24	0.28	0.58 ± 0.43
1986 (14)	0.24 ± 0.17	0.15	0.39 ± 0.27
1987 (16)	0.17 ± 0.11	0.05	0.21 ± 0.14
1988 (39)	0.27 ± 0.10	0.09	0.35 ± 0.13
1989 (42)	0.20 ± 0.06	0.08	0.28 ± 0.09
1990 (18)	0.02 ± 0.02	0.23	0.26 ± 0.15
<b>Lower Laguna Madre</b>			
1979 (10)	1.26 ± 0.29	0.04 ± 0.02	1.31 ± 0.28
1981 (24)	1.78 ± 0.23	0.05 ± 0.01	1.83 ± 0.22
1982 (39)	2.04 ± 0.23	0.11 ± 0.04	2.14 ± 0.23
1983 (48)	0.76 ± 0.32	0.12	0.88 ± 0.35
1984 (46)	0.61 ± 0.31	0.08	0.68 ± 0.34
1985 (48)	0.26 ± 0.10	0.18	0.44 ± 0.16
1986 (58)	0.49 ± 0.19	0.24	0.73 ± 0.27
1987 (35)	0.33 ± 0.11	0.11	0.45 ± 0.14
1988 (37)	0.34 ± 0.14	0.20	0.54 ± 0.23
1989 (64)	0.30 ± 0.13	0.14	0.43 ± 0.18
1990 (50)	0.22 ± 0.07	0.10	0.31 ± 0.10
<b>Coastwide<sup>e</sup></b>			
1979 ( 18)	1.14 ± 0.31	0.09 ± 0.08	1.24 ± 0.31
1981 ( 67)	1.79 ± 0.24	0.09 ± 0.04	1.88 ± 0.23
1982 ( 95)	1.67 ± 0.27	0.24 ± 0.13	1.91 ± 0.29
1983 ( 79)	0.91 ± 0.49	0.24	1.15 ± 0.63
1984 ( 65)	0.46 ± 0.19	0.12	0.58 ± 0.22
1985 ( 98)	0.29 ± 0.09	0.18	0.47 ± 0.13

Table C.5. (Cont'd.)

Bay system Year	Spotted seatrout	Other Species	All Species Combined <sup>b</sup>
Coastwide <sup>a</sup> (Cont'd.)			
1986 (116)	0.46 ± 0.12	0.21	0.67 ± 0.15
1987 ( 90)	0.47 ± 0.14	0.16	0.63 ± 0.18
1988 (132)	0.50 ± 0.13	0.13	0.63 ± 0.16
1989 (182)	0.32 ± 0.08	0.11	0.42 ± 0.10
1990 (127)	0.19 ± 0.03	0.14	0.26 ± 0.06

<sup>a</sup> 1979-1982 data from McEachron (1984).

<sup>b</sup> Due to rounding of numbers, these totals may not exactly equal individual totals.

<sup>c</sup> Matagorda and San Antonio data were combined during 1979-1982.

<sup>d</sup> Aransas, Corpus Christi and upper Laguna Madre data were combined during 1979-1982.

<sup>e</sup> For 1979-1982 coastwide means, Matagorda/San Antonio and Aransas/Corpus Christi/upper Laguna Madre means are used as means for one combined area mean.

Table C.6. Annual mean weights of fishes (kg/fish)  $\pm$  1 SE caught by party-boat fishermen in Texas bays and passes by bay system, species and year (1983-1991).  
 Blank = no fish weighed. No standard error = fish weighed on only one survey day.

Species Year	Bay system						Upper Laguna Madre	Lower Laguna Madre	Coastwide
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi			
Atlantic croaker									
1983-84		0.24			0.46 $\pm$ <.01	0.30 $\pm$ 0.02		0.40 $\pm$ 0.02	0.36 $\pm$ 0.01
1984-85		0.14				0.31		0.42 $\pm$ 0.08	0.33 $\pm$ 0.17
1985-86					0.20				0.20
1986-87							0.45		0.45
1987-88		0.22					0.44 $\pm$ 0.14		0.25 $\pm$ 0.05
1988-89					0.15	0.68	0.44 $\pm$ 0.06	0.35	0.36 $\pm$ 0.09
1989-90			0.18			0.25	0.64 $\pm$ 0.01		0.39 $\pm$ 0.16
1990-91	0.12					0.07		0.22	0.11 $\pm$ 0.04
Black drum									
1983-84		1.21			1.03	0.80		2.05 $\pm$ 0.21	1.41 $\pm$ 0.52
1984-85		2.53	1.07	1.11	1.11	1.79		2.01 $\pm$ 0.03	1.84 $\pm$ 0.74
1985-86			0.64		0.72		0.95	3.06 $\pm$ 0.10	1.10 $\pm$ 0.57
1986-87		1.11	1.67 $\pm$ 0.65		0.48 $\pm$ 0.20	1.36 $\pm$ 0.09	0.84 $\pm$ 0.21	0.80 $\pm$ 0.04	1.20 $\pm$ 0.16
1987-88			0.69	0.95	1.03	1.19	9.64 $\pm$ 1.00	1.93 $\pm$ 0.23	1.63 $\pm$ 0.69
1988-89					1.09 $\pm$ 0.33	1.16	2.76 $\pm$ 0.66	2.06 $\pm$ 0.26	1.45 $\pm$ 0.32
1989-90		0.50			1.01 $\pm$ 0.10		3.14 $\pm$ 1.22	2.17 $\pm$ 0.57	1.47 $\pm$ 0.42
1990-91			1.70	1.02	1.18 $\pm$ 0.16	2.37 $\pm$ 0.06	1.63 $\pm$ 0.27	1.96 $\pm$ 0.50	1.79 $\pm$ 0.37
Gafftopsail catfish									
1983-84			0.70			1.76 $\pm$ 0.01		3.60	1.65 $\pm$ 0.09
1984-85					0.72	0.67			0.72 $\pm$ 0.72
1985-86						0.55			0.55
1986-87			1.18	1.13 $\pm$ 0.68	0.84 $\pm$ 0.21				1.06 $\pm$ 0.10
1987-88			1.12	0.73		0.64	1.59		0.97 $\pm$ 0.23
1988-89					1.68 $\pm$ 0.40	0.46			1.40 $\pm$ 0.44
1989-90					1.59 $\pm$ 0.28				1.59 $\pm$ <.01
1990-91					0.98 $\pm$ 0.18				0.98

Table C.6. (Cont'd.)

Species Year	Bay system								Coastwide
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	
<b>Red drum</b>									
1983-84		0.84	1.44 ± 0.19	1.59 ± 0.22	1.31 ± 0.18	1.22 ± 0.51		1.44 ± 0.12	1.39 ± 0.21
1984-85		2.99 ± 0.30	2.17 ± 0.27		2.24 ± 0.57	2.52 ± 0.31		2.12 ± 0.09	2.26 ± 0.31
1985-86		1.55	1.71 ± 0.60	1.17 ± 0.16	1.80 ± 0.12	2.05 ± 0.34	1.85 ± 0.10	2.22 ± 0.20	1.98 ± 0.21
1986-87		1.41	1.86 ± 0.47	1.56 ± 0.50	2.00 ± 0.09	2.72 ± 0.34	1.57 ± 0.11	2.14 ± 0.19	2.11 ± 0.11
1987-88			3.18 ± 0.23	1.72 ± 0.41	2.68 ± 0.20	2.57 ± 0.12	2.50 ± 0.26	2.42 ± 0.17	2.54 ± 0.07
1988-89			4.50	1.62 ± 0.11	2.39 ± 0.07	2.46 ± 0.29	2.64 ± 0.21	2.54 ± 0.20	2.48 ± 0.04
1989-90		2.31 ± 0.34	3.01		2.59 ± 0.06	2.36 ± 0.07	2.45 ± 0.10	2.27 ± 0.07	2.44 ± 0.10
1990-91		1.94	4.19	2.06	2.25 ± 0.06	2.08 ± 0.08	2.46 ± 0.07	2.54 ± 0.11	2.26 ± 0.09
<b>Sand seatrout</b>									
1983-84		0.47	0.27	0.26	0.23 ± 0.02	0.34 ± 0.01		0.23	0.30 ± 0.10
1984-85		0.23	0.41			0.32 ± 0.03			0.31 ± 0.06
1985-86		0.28					0.51		0.28 ± 0.20
1986-87		0.23 ± 0.05	0.28	0.27 ± 0.12	0.32 ± 0.04		0.34 ± 0.08		0.27 ± 0.02
1987-88					0.70	0.22 ± 0.04		0.39	0.29 ± 0.10
1988-89		0.37			0.28	0.38	0.58 ± 0.15	0.23	0.37 ± 0.01
1989-90		0.31			0.32	0.33			0.31 ± <.01
1990-91					0.19 ± 0.01	0.22		0.31 ± 0.06	0.23 ± 0.04
<b>Sheepshead</b>									
1983-84					0.68	0.96 ± 0.17		0.62 ± 0.08	0.85 ± 0.22
1984-85								0.97 ± 0.20	0.97 ± 0.20
1985-86					0.98			0.69	0.85 ± 0.85
1986-87			1.42 ± 0.20		2.64	0.52	0.98		2.38 ± 0.31
1987-88					0.55 ± 0.02	0.82			0.59 ± 0.06
1988-89			0.55			0.82	1.98	1.02	0.85 ± 0.04
1989-90					1.10		1.29	1.27 ± 0.31	1.25 ± 0.03
1990-91			1.14					1.88	1.35 ± 0.30

Table C.6. (Cont'd.)

Species Year	Bay system								Coastwide
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	
Southern flounder									
1983-84		0.45 ± 0.16			0.32 ± 0.10	0.55 ± 0.06		0.72 ± 0.05	0.64 ± 0.06
1984-85					0.62 ± 0.08	1.55		0.57 ± 0.08	0.84 ± 0.47
1985-86		0.27 ± 0.01	0.50	0.56	0.58 ± 0.03	0.20	0.59 ± 0.07	0.52 ± 0.07	0.52 ± 0.07
1986-87		1.22	0.51	0.40	0.88 ± 0.17	1.01 ± 0.08	0.78 ± 0.04	0.75 ± 0.03	0.79 ± 0.03
1987-88					0.53 ± 0.16		0.68 ± 0.06	0.84 ± 0.09	0.71 ± 0.09
1988-89		0.66 ± 0.13		0.58 ± 0.01	0.67 ± 0.10	0.53	0.89 ± 0.11	0.94 ± 0.06	0.80 ± 0.07
1989-90		0.73 ± 0.07	0.72 ± 0.04		0.80 ± 0.09	0.48 ± 0.06	0.77 ± 0.14	0.82 ± 0.04	0.75 ± 0.02
1990-91	0.53	0.80 ± 0.16			0.67 ± 0.08	0.76 ± 0.14	0.57 ± 0.04	0.80 ± 0.20	0.70 ± 0.06
Spotted seatrout									
1983-84		1.06 ± 0.18	0.45 ± 0.02	0.45 ± 0.04	0.45 ± 0.03	0.75 ± 0.20		0.79 ± 0.07	0.69 ± 0.09
1984-85		0.92 ± 0.01	1.19		0.66 ± 0.07	0.91 ± 0.16		0.63 ± 0.03	0.67 ± 0.03
1985-86		0.57 ± 0.03	0.73	0.48 ± 0.02	1.70 ± 0.04	0.69 ± 0.04	0.63 ± 0.04	0.81 ± 0.05	0.73 ± 0.11
1986-87		0.65 ± 0.05	0.70 ± 0.02	0.70 ± 0.06	0.73 ± 0.05	0.78 ± 0.09	0.76 ± 0.03	0.84 ± 0.04	0.78 ± 0.04
1987-88		1.00 ± 0.28	0.74 ± 0.03		0.83 ± 0.06	0.86 ± 0.11	0.98 ± 0.09	0.89 ± 0.05	0.88 ± 0.02
1988-89		1.17 ± 0.54		0.88 ± 0.03	0.78 ± 0.07	0.81 ± 0.05	0.97 ± 0.10	0.79 ± 0.03	0.85 ± 0.05
1989-90		0.72 ± 0.11	0.40		0.82 ± 0.03	0.89 ± 0.06	0.95 ± 0.04	0.71 ± 0.03	0.80 ± 0.04
1990-91		1.16 ± 0.14	0.82 ± 0.22		0.85 ± 0.05	0.72 ± 0.04	0.88 ± 0.05	0.77 ± 0.03	0.79 ± 0.02
All species combined*									
1983-84		0.93 ± 0.16	0.45 ± 0.08	0.47 ± 0.14	0.48 ± 0.08	0.60 ± 0.12		0.78 ± 0.06	0.63 ± 0.09
1984-85		1.27 ± 0.27	1.52 ± 0.21	1.10	1.76 ± 0.55	1.42 ± 0.23		0.90 ± 0.09	1.05 ± 0.17
1985-86		0.43 ± 0.09	0.80 ± 0.00	0.99 ± 0.13	1.10 ± 0.10	0.94 ± 0.10	0.75 ± 0.10	1.19 ± 0.15	1.02 ± 0.10
1986-87		0.57 ± 0.07	1.19 ± 0.13	0.98 ± 0.30	1.16 ± 0.14	1.43 ± 0.19	0.84 ± 0.05	1.07 ± 0.08	1.09 ± 0.05
1987-88		0.85 ± 0.39	1.07 ± 0.24	1.25 ± 0.05	1.26 ± 0.16	1.04 ± 0.24	1.19 ± 0.10	1.34 ± 0.08	1.21 ± 0.06
1988-89		0.93 ± 0.45	4.00	0.84 ± 0.10	1.22 ± 0.08	1.05 ± 0.12	1.13 ± 0.08	1.30 ± 0.12	1.17 ± 0.05
1989-90		0.63 ± 0.11	2.71 ± 1.00		1.46 ± 0.09	1.11 ± 0.07	1.27 ± 0.06	1.16 ± 0.06	1.19 ± 0.14
1990-91	0.40	1.43 ± 0.27	1.23 ± 0.27	1.70	1.55 ± 0.12	1.38 ± 0.11	1.77 ± 0.22	1.16 ± 0.09	1.35 ± 0.10

\*Includes "other" species.

Table C.7. Annual mean total lengths of fishes (mm/fish)  $\pm$  1 SE caught by party-boat fishermen in Texas bays and passes by bay system, species and year (1983-1991). Blank = no fish measured. No standard error = fish measured on only one survey day.

Species Year	Bay system								
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	Coastwide
<b>Atlantic croaker</b>									
1983-84		265			326 $\pm$ 1	281 $\pm$ 7		310 $\pm$ 8	298 $\pm$ 20
1984-85		226				287		315 $\pm$ 20	289 $\pm$ 102
1985-86					250				250
1986-87							324		324
1987-88		257					312 $\pm$ 30		265 $\pm$ 13
1988-89					228	369	318 $\pm$ 15	300	291 $\pm$ 27
1989-90		244				270	361 $\pm$ 1		299 $\pm$ 40
1990-91	216					184		259	204 $\pm$ 19
<b>Black drum</b>									
1983-84		442			419	375		516 $\pm$ 23	445 $\pm$ 137
1984-85		565	425	429	430	503		511 $\pm$ 1	499 $\pm$ 139
1985-86			354		370		408	602 $\pm$ 7	404 $\pm$ 299
1986-87		429	471 $\pm$ 74		319 $\pm$ 47	453 $\pm$ 13	383 $\pm$ 29	377 $\pm$ 6	431 $\pm$ 22
1987-88			364	392	419	440	882 $\pm$ 31	508 $\pm$ 21	444 $\pm$ 50
1988-89					414 $\pm$ 46	435	540 $\pm$ 26	527 $\pm$ 22	452 $\pm$ 23
1989-90		328			409 $\pm$ 13		587 $\pm$ 78	517 $\pm$ 49	448 $\pm$ 38
1990-91			495	418	433 $\pm$ 21	549 $\pm$ 5	479 $\pm$ 26	502 $\pm$ 38	491 $\pm$ 36
<b>Gafftopsail catfish</b>									
1983-84			424			566 $\pm$ 1		710	551 $\pm$ 50
1984-85					430	420			429 $\pm$ 376
1985-86						395			395
1986-87			500	470 $\pm$ 100	441 $\pm$ 41				468 $\pm$ 12
1987-88			492	431		414	550		463 $\pm$ 34
1988-89					555 $\pm$ 44	372			513 $\pm$ 65
1989-90					544 $\pm$ 34				544
1990-91					471 $\pm$ 28				470
<b>Red drum</b>									
1983-84		430	502 $\pm$ 16	520 $\pm$ 25	486 $\pm$ 18	476 $\pm$ 70		501 $\pm$ 13	495 $\pm$ 20
1984-85		647 $\pm$ 19	581 $\pm$ 26		583 $\pm$ 51	609 $\pm$ 27		570 $\pm$ 8	584 $\pm$ 19
1985-86		526	536 $\pm$ 64	476 $\pm$ 20	543 $\pm$ 11	561 $\pm$ 26	552 $\pm$ 17	576 $\pm$ 16	557 $\pm$ 18
1986-87		510	543 $\pm$ 44	517 $\pm$ 47	559 $\pm$ 6	626 $\pm$ 27	521 $\pm$ 12	572 $\pm$ 17	570 $\pm$ 11
1987-88			656 $\pm$ 17	539 $\pm$ 41	620 $\pm$ 16	617 $\pm$ 11	605 $\pm$ 21	598 $\pm$ 14	610 $\pm$ 6
1988-89			746	534 $\pm$ 12	596 $\pm$ 6	598 $\pm$ 21	617 $\pm$ 16	611 $\pm$ 17	603 $\pm$ 4
1989-90		596 $\pm$ 29	654		619 $\pm$ 5	600 $\pm$ 6	606 $\pm$ 9	591 $\pm$ 6	606 $\pm$ 8
1990-91		566	730	577	590 $\pm$ 5	575 $\pm$ 7	608 $\pm$ 6	613 $\pm$ 9	591 $\pm$ 7



Table C.7. (Cont'd.)

Species Year	Bay system							Coastwide	
	Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre		Lower Laguna Madre
<b>Sand seatrout</b>									
1983-84		352	293	290	278 ± 6	315 ± 4		281	301 ± 107
1984-85		281	336			309 ± 9			308 ± 22
1985-86		296					361	290 ± 15	294 ± 202
1986-87		276 ± 17	300	287 ± 40	310 ± 13		317 ± 23		291 ± 8
1987-88					401	273 ± 10		333	292 ± 27
1988-89		324			298	330	371 ± 34	280	324 ± 3
1989-90		304			312	316			305 ± 1
1990-91					260 ± 3	274 ± 1		305 ± 22	275 ± 13
<b>Sheepshead</b>									
1983-84					337	376 ± 20		325 ± 14	359 ± 52
1984-85								374 ± 26	374 ± 26
1985-86					385			341	365 ± 365
1986-87			425 ± 26		543	308	385		517 ± 31
1987-88					312 ± 5	362			319 ± 12
1988-89			314			361	491	390	364 ± 5
1989-90					400		423	410 ± 33	409 ± 2
1990-91			398					482	422 ± 34
<b>Southern flounder</b>									
1983-84		336 ± 40			300 ± 35	361 ± 13		390 ± 8	375 ± 8
1984-85					374 ± 16	506		363 ± 16	404 ± 97
1985-86		288 ± 4	352	364	362 ± 7	265	363 ± 15	346 ± 18	348 ± 28
1986-87		442	355	328	408 ± 24	441 ± 12	397 ± 8	393 ± 5	397 ± 3
1987-88					350 ± 36		378 ± 11	405 ± 14	382 ± 16
1988-89		380 ± 28		354 ± 4	380 ± 18	360 ± 0	407 ± 14	424 ± 9	400 ± 10
1989-90		389 ± 12	394 ± 8		399 ± 14	347 ± 14	396 ± 22	405 ± 7	393 ± 4
1990-91	357	406 ± 26			381 ± 15	396 ± 24	367 ± 8	392 ± 27	385 ± 9
<b>Spotted seatrout</b>									
1983-84		474 ± 24	364 ± 4	362 ± 11	359 ± 8	410 ± 34		421 ± 11	402 ± 11
1984-85		450 ± 4	499		412 ± 14	451 ± 26		401 ± 4	408 ± 3
1985-86		392 ± 6	424	373 ± 5	413 ± 7	412 ± 6	401 ± 7	432 ± 8	420 ± 47
1986-87		407 ± 9	416 ± 3	414 ± 14	419 ± 8	431 ± 16	422 ± 5	436 ± 6	426 ± 5
1987-88		460 ± 41	425 ± 5		435 ± 8	440 ± 15	452 ± 12	442 ± 7	440 ± 3
1988-89		473 ± 72		445 ± 5	426 ± 11	429 ± 8	450 ± 12	429 ± 5	435 ± 6
1989-90		411 ± 19	350		433 ± 5	446 ± 9	448 ± 6	416 ± 5	430 ± 6
1990-91		496 ± 20	440 ± 43		441 ± 8	421 ± 7	446 ± 9	426 ± 5	429 ± 4

Table C.B. Percent composition of "other" species caught by party-boat fishermen in Texas bays and passes by bay system (1990-1991). Values represent percentages of the observed coastwide total of "other" species.

Common name	Scientific name	Bay system							Coastwide	
		Sabine Lake	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre		Lower Laguna Madre
Atlantic sharpnose shark	<u>Rhizoprionodon terraenovae</u>			12.50		6.25				18.75
Blacktip shark	<u>Carcharhinus limbatus</u>						12.50			12.50
Bonnethead	<u>Sphyrna tiburo</u>			6.25	12.50					18.75
Gulf flounder	<u>Paralichthys albigutta</u>						6.25		18.75	25.00
Gulf kingfish	<u>Menticirrhus littonalis</u>				12.50					12.50
Southern kingfish	<u>Menticirrhus americanus</u>								6.25	6.25
Spinner shark	<u>Carcharhinus brevipinna</u>				6.25					6.25

Table C.9. Residential origin (%) of party-boat fishermen in Texas bays and passes by bay system and year (1983-1991). Blank = no fishermen interviewed.

Bay system	Adjacent coastal counties	Non-adjacent coastal counties	Non-coastal counties	Other states and countries
Year				
<b>Sabine Lake</b>				
1987-88				
1988-89				
1989-90				
1990-91	50	33	17	0
<b>Galveston</b>				
1983-84	89	0	11	0
1984-85	100	0	0	0
1985-86	100	0	0	0
1986-87	100	0	0	0
1987-88	83	0	0	17
1988-89	100	0	0	0
1989-90	85	0	15	0
1990-91	100	0	0	0
<b>Matagorda</b>				
1983-84	31	48	21	0
1984-85	11	44	0	44
1985-86	63	11	26	0
1986-87	27	6	67	0
1987-88	20	15	55	10
1988-89	33	0	67	0
1989-90	12	24	53	12
1990-91	50	0	50	0
<b>San Antonio</b>				
1983-84	28	44	28	0
1984-85	0	70	30	0
1985-86	33	24	43	0
1986-87	27	20	53	0
1987-88	29	29	43	0
1988-89	65	25	10	0
1989-90	100	0	0	0
1990-91	70	20	10	0

Table C.9. (Cont'd.)

Bay system	Adjacent coastal counties	Non-adjacent coastal counties	Non-coastal counties	Other states and countries
Year				
<b>Aransas</b>				
1983-84	10	28	60	3
1984-85	19	19	53	9
1985-86	19	11	66	3
1986-87	14	19	64	3
1987-88	28	23	42	7
1988-89	23	17	53	7
1989-90	25	19	53	3
1990-91	25	18	51	6
<b>Corpus Christi</b>				
1983-84	14	9	77	0
1984-85	18	0	82	0
1985-86	31	22	47	0
1986-87	22	8	69	1
1987-88	31	6	62	1
1988-89	22	10	67	0
1989-90	34	15	47	3
1990-91	25	3	68	3
<b>Upper Laguna Madre</b>				
1983-84	33	0	67	0
1984-85	50	0	0	50
1985-86	41	8	46	4
1986-87	53	20	17	10
1987-88	40	16	39	5
1988-89	35	30	30	5
1989-90	43	23	29	5
1990-91	36	22	38	4
<b>Lower Laguna Madre</b>				
1983-84	22	22	46	10
1984-85	32	21	37	9
1985-86	31	24	40	6
1986-87	39	20	36	5
1987-88	37	17	40	6
1988-89	38	21	31	10
1989-90	36	17	33	14
1990-91	40	25	23	12

Table C.9. (Cont'd.)

Bay system	Adjacent coastal counties	Non-adjacent coastal counties	Non-coastal counties	Other states and countries
Year				
Coastwide				
1983-84	23	23	47	7
1984-85	32	19	40	9
1985-86	32	19	45	4
1986-87	34	18	44	4
1987-88	35	17	43	6
1988-89	33	22	39	6
1989-90	35	19	39	7
1990-91	34	20	39	7

APPENDIX D: Headboat fishing estimates for Texas bays and passes.

Table D.1. Number of days surveyed and number of headboat fishermen interviewed (in parentheses) in Texas bays and passes by area and year (1983-1991).

Year	Area			
	Galveston	Corpus Christi	Lower Laguna Madre	Coastwide
1983-84	44 (1196)	43 (883)	45 (596)	132 (2675)
1984-85	42 (1431)	42 (765)	42 (599)	126 (2795)
1985-86	42 (1510)	41 (696)	42 (765)	125 (2971)
1986-87	42 (1326)	42 (513)	42 (727)	126 (2566)
1987-88	42 (1671)	42 (633)	42 (631)	126 (2935)
1988-89	42 (1187)	42 (683)	42 (720)	126 (2590)
1989-90	42 (1066)	41 (665)	38 (677)	121 (2408)
1990-91	42 (1034)	42 (585)	42 (930)	126 (2549)

Table D.2. Estimated headboat fishing pressure (man-h x 1000)  $\pm$  1SE, mean fishing-party size (No. of fishermen) and mean fishing time (h) for headboat fishermen in Texas bays and passes by area and year (1983-1991).

Area Year	Pressure	Mean fishing party size	Mean fishing time
<b>Galveston</b>			
1983-84	76.1 $\pm$ 18.7	41.2	2.4
1984-85	62.1 $\pm$ 20.2	40.9	2.4
1985-86	107.1 $\pm$ 38.3	43.1	2.5
1986-87	51.2 $\pm$ 7.6	37.9	2.2
1987-88	88.5 $\pm$ 15.9	49.1	2.3
1988-89	59.7 $\pm$ 10.6	28.3	2.2
1989-90	38.1 $\pm$ 6.3	24.2	2.1
1990-91	32.9 $\pm$ 6.0	24.6	2.2
<b>Corpus Christi</b>			
1983-84	80.8 $\pm$ 14.8	24.5	2.6
1984-85	48.2 $\pm$ 8.3	23.2	2.7
1985-86	65.5 $\pm$ 11.5	19.3	2.6
1986-87	33.7 $\pm$ 6.0	15.5	2.6
1987-88	67.3 $\pm$ 23.8	20.4	3.4
1988-89	33.5 $\pm$ 4.2	16.3	2.8
1989-90	32.3 $\pm$ 4.3	16.2	2.7
1990-91	30.3 $\pm$ 4.9	13.6	2.9
<b>Lower Laguna Madre</b>			
1983-84	33.8 $\pm$ 5.4	18.1	2.5
1984-85	29.0 $\pm$ 4.3	16.6	2.3
1985-86	36.9 $\pm$ 6.2	23.2	2.7
1986-87	24.1 $\pm$ 4.9	21.4	2.4
1987-88	26.5 $\pm$ 5.1	19.7	2.4
1988-89	27.0 $\pm$ 4.4	17.1	2.4
1989-90	29.8 $\pm$ 5.1	17.8	2.4
1990-91	35.1 $\pm$ 5.1	22.1	2.4



Table D.2. (Cont'd.)

Area Year	Pressure	Mean fishing party size	Mean fishing time
Coastwide*			
1983-84	190.7 ± 24.4	27.3	2.5
1984-85	139.3 ± 22.2	26.8	2.5
1985-86	209.6 ± 40.5	28.6	2.5
1986-87	108.9 ± 10.8	25.2	2.4
1987-88	182.3 ± 29.1	30.2	2.7
1988-89	120.2 ± 12.2	20.6	2.5
1989-90	100.2 ± 9.2	19.6	2.4
1990-91	98.3 ± 9.3	20.1	2.6

Table D.3. Estimated annual landings of fishes (No. x 1000)  $\pm$  1 SE caught by headboat fishermen in Texas bays and passes by area, species and year (1983-1991).

Species Year	Area			
	Galveston	Corpus Christi	Lower Laguna Madre	Coastwide <sup>a</sup>
<b>Atlantic croaker</b>				
1983-84	22.7 $\pm$ 10.4	0.6 $\pm$ 0.2	0.6 $\pm$ 0.3	24.1 $\pm$ 10.4
1984-85	12.3 $\pm$ 4.4	<.1 $\pm$ <.1	0.2 $\pm$ 0.1	12.5 $\pm$ 4.4
1985-86	20.7 $\pm$ 5.7	1.1 $\pm$ 0.5	0.7 $\pm$ 0.4	22.5 $\pm$ 5.7
1986-87	31.9 $\pm$ 8.6	0.1 $\pm$ 0.1	0.2 $\pm$ 0.1	32.2 $\pm$ 8.6
1987-88	9.3 $\pm$ 2.6	0.4 $\pm$ 0.2	0.2 $\pm$ 0.1	9.9 $\pm$ 2.7
1988-89	19.9 $\pm$ 5.3	0.2 $\pm$ 0.1	0.1 $\pm$ 0.1	20.3 $\pm$ 5.3
1989-90	4.5 $\pm$ 1.6	0.0	0.2 $\pm$ 0.1	4.7 $\pm$ 1.7
1990-91	1.6 $\pm$ 0.7	0.3 $\pm$ 0.2	<.1 $\pm$ <.1	1.9 $\pm$ 1.7
<b>Black drum</b>				
1983-84	2.5 $\pm$ 0.8	0.2 $\pm$ 0.1	<.1 $\pm$ <.1	2.8 $\pm$ 0.8
1984-85	1.3 $\pm$ 0.5	0.1 $\pm$ <.1	0.0	1.3 $\pm$ 0.5
1985-86	1.2 $\pm$ 0.4	0.2 $\pm$ 0.1	0.0	1.4 $\pm$ 0.4
1986-87	0.9 $\pm$ 0.3	0.0	<.1 $\pm$ <.1	0.9 $\pm$ 0.3
1987-88	0.3 $\pm$ 0.1	<.1 $\pm$ <.1	<.1 $\pm$ <.1	0.3 $\pm$ 0.1
1988-89	<.1 $\pm$ <.1	0.0	0.0	<.1 $\pm$ <.1
1989-90	0.6 $\pm$ 0.3	0.0	0.0	0.6 $\pm$ 0.3
1990-91	0.4 $\pm$ 0.2	0.1 $\pm$ 0.1	0.0	0.4 $\pm$ 0.2
<b>Gafftopsail catfish</b>				
1983-84	0.7 $\pm$ 0.4	0.8 $\pm$ 0.3	0.0	1.5 $\pm$ 0.5
1984-85	0.4 $\pm$ 0.2	0.9 $\pm$ 0.4	0.0	1.2 $\pm$ 0.5
1985-86	1.5 $\pm$ 0.8	0.4 $\pm$ 0.1	0.0	1.9 $\pm$ 0.8
1986-87	0.4 $\pm$ 0.2	0.7 $\pm$ 0.3	0.0	1.1 $\pm$ 0.3
1987-88	1.0 $\pm$ 0.3	0.4 $\pm$ 0.2	<.1 $\pm$ <.1	1.4 $\pm$ 0.4
1988-89	0.8 $\pm$ 0.5	0.2 $\pm$ 0.1	0.0	1.0 $\pm$ 0.5
1989-90	0.7 $\pm$ 0.3	0.4 $\pm$ 0.2	0.0	1.1 $\pm$ 0.4
1990-91	0.3 $\pm$ 0.1	0.3 $\pm$ 0.2	<.1 $\pm$ <.1	0.6 $\pm$ 0.2

Table D.3. (Cont'd.)

Species Year	Area			
	Galveston	Corpus Christi	Lower Laguna Madre	Coastwide*
<b>Red drum</b>				
1983-84	<.1 ± <.1	0.0	0.0	<.1 ± <.1
1984-85	<.1 ± <.1	0.0	0.0	<.1 ± <.1
1985-86	<.1 ± <.1	0.0	<.1 ± <.1	0.1 ± 0.1
1986-87	<.1 ± <.1	0.0	0.0	<.1 ± <.1
1987-88	0.1 ± 0.1	0.0	0.0	0.1 ± 0.1
1988-89	0.0	0.0	0.0	0.0
1989-90	0.2 ± 0.1	0.0	0.0	0.2 ± 0.1
1990-91	0.2 ± 0.2	0.0	0.0	0.2 ± 0.2
<b>Sand seatrout</b>				
1983-84	26.1 ± 9.3	39.5 ± 8.4	8.2 ± 2.3	73.8 ± 12.7
1984-85	24.1 ± 10.5	5.8 ± 1.9	19.1 ± 4.6	49.0 ± 11.6
1985-86	118.5 ± 50.6	37.6 ± 9.8	21.7 ± 5.1	177.8 ± 51.8
1986-87	25.8 ± 8.5	7.7 ± 2.5	12.3 ± 4.4	45.8 ± 9.9
1987-88	64.3 ± 19.6	24.8 ± 10.7	14.0 ± 4.3	103.2 ± 22.7
1988-89	36.8 ± 11.0	13.3 ± 2.8	15.6 ± 3.3	65.7 ± 11.8
1989-90	12.3 ± 4.0	8.8 ± 2.3	11.7 ± 3.8	32.8 ± 6.0
1990-91	11.4 ± 5.6	10.4 ± 3.3	16.1 ± 3.1	37.9 ± 7.2
<b>Sheepshead</b>				
1983-84	0.1 ± <.1	0.0	0.2 ± 0.1	0.3 ± 0.1
1984-85	<.1 ± <.1	0.0	1.0 ± 0.9	1.1 ± 0.9
1985-86	0.0	0.1 ± 0.1	0.0	0.1 ± 0.1
1986-87	0.0	0.0	<.1 ± <.1	<.1 ± <.1
1987-88	<.1 ± <.1	0.4 ± 0.4	0.0	0.4 ± 0.4
1988-89	0.0	0.0	0.0	0.0
1989-90	0.0	0.0	0.0	0.0
1990-91	<.1 ± <.1	1.1 ± 0.5	0.0	1.1 ± 0.5

Table D.3. (Cont'd.)

Species Year	Area			
	Galveston	Corpus Christi	Lower Laguna Madre	Coastwide*
<b>Southern flounder</b>				
1983-84	0.1 ± <.1	<.1 ± <.1	0.0	0.1 ± <.1
1984-85	<.1 ± <.1	<.1 ± <.1	<.1 ± <.1	0.1 ± <.1
1985-86	0.2 ± 0.1	0.6 ± 0.4	0.1 ± 0.1	0.9 ± 0.4
1986-87	0.2 ± 0.1	0.4 ± 0.3	0.1 ± 0.1	0.7 ± 0.3
1987-88	<.1 ± <.1	0.1 ± 0.1	0.1 ± <.1	0.2 ± 0.1
1988-89	0.1 ± 0.1	0.1 ± 0.1	0.0	0.2 ± 0.1
1989-90	<.1 ± <.1	0.0	<.1 ± <.1	<.1 ± <.1
1990-91	0.1 ± 0.1	<.1 ± <.1	<.1 ± <.1	0.1 ± 0.1
<b>Spotted seatrout</b>				
1983-84	0.0	4.2 ± 3.4	0.1 ± 0.1	4.3 ± 3.4
1984-85	0.0	0.4 ± 0.3	0.3 ± 0.1	0.6 ± 0.3
1985-86	<.1 ± <.1	1.5 ± 0.9	0.6 ± 0.5	2.2 ± 1.1
1986-87	<.1 ± <.1	1.0 ± 0.6	<.1 ± <.1	1.1 ± 0.6
1987-88	<.1 ± <.1	0.6 ± 0.4	<.1 ± <.1	0.6 ± 0.4
1988-89	0.3 ± 0.2	0.4 ± 0.3	0.0	0.7 ± 0.3
1989-90	0.0	0.3 ± 0.2	0.0	0.3 ± 0.2
1990-91	0.0	0.0	<.1 ± <.1	<.1 ± <.1
<b>Other species</b>				
1983-84	10.7	3.4	15.6	29.7
1984-85	3.2	1.5	4.7	9.4
1985-86	8.6	3.7	7.0	19.3
1986-87	4.3	2.6	7.6	14.6
1987-88	8.3	1.6	5.9	15.9
1988-89	5.1	2.4	8.5	16.1
1989-90	4.0	2.1	6.6	12.7
1990-91	1.2	2.0	7.4	10.5

Table D.3. (Cont'd.)

Species Year	Area			
	Galveston	Corpus Christi	Lower Laguna Madre	Coastwide <sup>a</sup>
All species combined <sup>a</sup>				
1983-84	63.0 ± 16.5	48.8 ± 8.9	24.8 ± 9.8	136.6 ± 21.1
1984-85	41.3 ± 13.6	8.7 ± 2.1	25.3 ± 5.4	75.3 ± 14.8
1985-86	152.5 ± 57.5	49.4 ± 11.5	30.1 ± 6.3	232.0 ± 59.0
1986-87	63.7 ± 11.7	12.5 ± 2.8	20.3 ± 6.9	96.5 ± 13.9
1987-88	83.4 ± 22.6	28.3 ± 10.9	20.3 ± 5.1	132.0 ± 25.6
1988-89	63.1 ± 14.4	16.6 ± 3.1	24.3 ± 4.9	104.0 ± 15.5
1989-90	22.3 ± 5.6	11.6 ± 2.6	18.5 ± 5.1	52.4 ± 8.0
1990-91	15.1 ± 6.0	14.2 ± 3.3	23.6 ± 4.1	52.9 ± 8.0

<sup>a</sup>Due to rounding of numbers, these totals may not exactly equal individual totals.

Table D.4. Annual mean catch rates of fishes (No./man-h)  $\pm$  1 SE caught by headboat fishermen in Texas bays and passes by area, species and year (1983-1991).

Species Year	Area			
	Galveston	Corpus Christi	Lower Laguna Madre	Coastwide
<b>Atlantic croaker</b>				
1983-84	0.30 $\pm$ 0.15	0.01 $\pm$ <.01	0.02 $\pm$ 0.01	0.13 $\pm$ 0.06
1984-85	0.20 $\pm$ 0.09	<.01 $\pm$ <.01	0.01 $\pm$ <.01	0.09 $\pm$ 0.03
1985-86	0.19 $\pm$ 0.08	0.02 $\pm$ 0.01	0.02 $\pm$ 0.01	0.11 $\pm$ 0.03
1986-87	0.62 $\pm$ 0.19	<.01 $\pm$ <.01	0.01 $\pm$ <.01	0.30 $\pm$ 0.08
1987-88	0.10 $\pm$ 0.04	0.01 $\pm$ <.01	0.01 $\pm$ <.01	0.05 $\pm$ 0.02
1988-89	0.33 $\pm$ 0.10	0.01 $\pm$ <.01	<.01 $\pm$ <.01	0.17 $\pm$ 0.05
1989-90	0.12 $\pm$ 0.05	0.00	<.01 $\pm$ <.01	0.05 $\pm$ 0.02
1990-91	0.05 $\pm$ 0.02	0.01 $\pm$ 0.01	<.01 $\pm$ <.01	0.02 $\pm$ 0.01
<b>Black drum</b>				
1983-84	0.03 $\pm$ 0.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.02 $\pm$ <.01
1984-85	0.02 $\pm$ 0.01	<.01 $\pm$ <.01	0.00	0.01 $\pm$ <.01
1985-86	0.01 $\pm$ 0.01	<.01 $\pm$ <.01	0.00	0.01 $\pm$ <.01
1986-87	0.02 $\pm$ 0.01	0.00	<.01 $\pm$ <.01	0.01 $\pm$ <.01
1987-88	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01
1988-89	<.01 $\pm$ <.01	0.00	0.00	<.01 $\pm$ <.01
1989-90	0.02 $\pm$ 0.01	0.00	0.00	<.01 $\pm$ <.01
1990-91	0.01 $\pm$ 0.01	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01
<b>Gafftopsail catfish</b>				
1983-84	0.01 $\pm$ 0.01	0.01 $\pm$ <.01	0.00	0.01 $\pm$ <.01
1984-85	0.01 $\pm$ <.01	0.02 $\pm$ 0.01	0.00	0.01 $\pm$ <.01
1985-86	0.01 $\pm$ 0.01	0.01 $\pm$ <.01	0.00	0.01 $\pm$ <.01
1986-87	0.01 $\pm$ <.01	0.02 $\pm$ 0.01	0.00	0.01 $\pm$ <.01
1987-88	0.01 $\pm$ <.01	0.01 $\pm$ <.01	<.01 $\pm$ <.01	0.01 $\pm$ <.01
1988-89	0.01 $\pm$ 0.01	0.01 $\pm$ <.01	0.00	0.01 $\pm$ <.01
1989-90	0.02 $\pm$ 0.01	0.01 $\pm$ <.01	0.00	0.01 $\pm$ <.01
1990-91	0.01 $\pm$ <.01	0.01 $\pm$ 0.01	<.01 $\pm$ <.01	0.01 $\pm$ <.01

Table D.4. (Cont'd.)

Species Year	Area			
	Galveston	Corpus Christi	Lower Laguna Madre	Coastwide
<b>Red drum</b>				
1983-84	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1984-85	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1985-86	<.01 ± <.01	0.00	<.01 ± <.01	<.01 ± <.01
1986-87	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1987-88	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1988-89	0.00	0.00	0.00	0.00
1989-90	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1990-91	0.01 ± <.01	0.00	0.00	<.01 ± <.01
<b>Sand seatrout</b>				
1983-84	0.34 ± 0.14	0.49 ± 0.14	0.24 ± 0.08	0.39 ± 0.08
1984-85	0.39 ± 0.20	0.12 ± 0.04	0.66 ± 0.19	0.35 ± 0.10
1985-86	1.11 ± 0.59	0.57 ± 0.18	0.59 ± 0.17	0.85 ± 0.29
1986-87	0.50 ± 0.18	0.23 ± 0.08	0.51 ± 0.21	0.42 ± 0.10
1987-88	0.73 ± 0.25	0.37 ± 0.20	0.53 ± 0.19	0.57 ± 0.15
1988-89	0.62 ± 0.21	0.40 ± 0.10	0.58 ± 0.15	0.55 ± 0.11
1989-90	0.32 ± 0.12	0.27 ± 0.01	0.39 ± 0.14	0.33 ± 0.07
1990-91	0.35 ± 0.18	0.34 ± 0.12	0.46 ± 0.11	0.39 ± 0.08
<b>Sheepshead</b>				
1983-84	<.01 ± <.01	0.00	0.01 ± <.01	<.01 ± <.01
1984-85	<.01 ± <.01	0.00	0.04 ± 0.03	0.01 ± 0.01
1985-86	0.00	<.01 ± <.01	0.00	<.01 ± <.01
1986-87	0.00	0.00	<.01 ± <.01	<.01 ± <.01
1987-88	<.01 ± <.01	<.01 ± <.01	0.00	<.01 ± <.01
1988-89	0.00	0.00	0.00	0.00
1989-90	0.00	0.00	0.00	0.00
1990-91	<.01 ± <.01	0.04 ± 0.02	0.00	0.01 ± 0.01

Table D.4. (Cont'd.)

Species Year	Area			
	Galveston	Corpus Christi	Lower Laguna Madre	Coastwide
<b>Southern flounder</b>				
1983-84	<.01 ± <.01	<.01 ± <.01	0.00	<.01 ± <.01
1984-85	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01
1985-86	<.01 ± <.01	0.01 ± 0.01	<.01 ± <.01	<.01 ± <.01
1986-87	<.01 ± <.01	0.01 ± 0.01	<.01 ± <.01	0.01 ± <.01
1987-88	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01
1988-89	<.01 ± <.01	<.01 ± <.01	0.00	<.01 ± <.01
1989-90	<.01 ± <.01	0.00	<.01 ± <.01	0.00
1990-91	<.01 ± <.01	<.01	<.01 ± <.01	<.01 ± <.01
<b>Spotted seatrout</b>				
1983-84	0.00	0.05 ± 0.04	<.01 ± <.01	0.02 ± 0.02
1984-85	0.00	0.01 ± <.01	0.01 ± <.01	<.01 ± <.01
1985-86	<.01 ± <.01	0.02 ± 0.01	0.02 ± 0.01	0.01 ± <.01
1986-87	<.01 ± <.01	0.03 ± 0.02	<.01 ± <.01	0.01 ± 0.01
1987-88	<.01 ± <.01	0.01 ± 0.01	<.01 ± <.01	<.01 ± <.01
1988-89	<.01 ± <.01	0.01 ± 0.01	0.00	0.01 ± <.01
1989-90	0.00	<.01 ± <.01	0.00	<.01 ± <.01
1990-91	0.00	0.00	<.01 ± <.01	<.01 ± <.01
<b>Other species</b>				
1983-84	0.14	0.04	0.46	0.16
1984-85	0.05	0.03	0.16	0.07
1985-86	0.08	0.06	0.19	0.09
1986-87	0.09	0.08	0.32	0.13
1987-88	0.09	0.02 ± 0.01	0.22	0.08
1988-89	0.09	0.07	0.32	0.13
1989-90	0.10	0.07	0.22	0.13
1990-91	0.04	0.06	0.21	0.11



Table D.4. (Cont'd.)

Species Year	Area			
	Galveston	Corpus Christi	Lower Laguna Madre	Coastwide
All species combined <sup>a</sup>				
1983-84	0.83 ± 0.29	0.60 ± 0.15	0.74 ± 0.31	0.72 ± 0.14
1984-85	0.66 ± 0.30	0.18 ± 0.05	0.87 ± 0.22	0.54 ± 0.14
1985-86	1.42 ± 0.72	0.76 ± 0.22	0.82 ± 0.22	1.11 ± 0.35
1986-87	1.24 ± 0.29	0.37 ± 0.10	0.84 ± 0.33	0.89 ± 0.15
1987-88	0.94 ± 0.30	0.42 ± 0.21	0.77 ± 0.24	0.72 ± 0.18
1988-89	1.06 ± 0.30	0.50 ± 0.11	0.90 ± 0.23	0.86 ± 0.16
1989-90	0.59 ± 0.18	0.36 ± 0.09	0.62 ± 0.20	0.52 ± 0.09
1990-91	0.46 ± 0.20	0.47 ± 0.13	0.67 ± 0.14	0.54 ± 0.10

<sup>a</sup>Due to rounding of numbers, these totals may not exactly equal individual totals.

Table D.5. Annual mean weights of fishes (kg/fish)  $\pm$  1 SE caught by headboat fishermen in Texas bays and passes by area, species and year (1983-1991). Blank = no fish weighed. No standard error = fish weighed on only one survey day.

Species Year	Area			
	Galveston	Corpus Christi	Lower Laguna Madre	Coastwide
<b>Atlantic croaker</b>				
1983-84	0.12 $\pm$ 0.01	0.20 $\pm$ 0.05	0.26 $\pm$ 0.05	0.12 $\pm$ 0.02
1984-85	0.12 $\pm$ 0.01	0.13 $\pm$ 0.07	0.14 $\pm$ 0.02	0.12 $\pm$ 0.01
1985-86	0.12 $\pm$ 0.01	0.12 $\pm$ 0.03	0.12 $\pm$ 0.02	0.12 $\pm$ 0.01
1986-87	0.14 $\pm$ 0.02	0.14 $\pm$ 0.02	0.16 $\pm$ 0.06	0.14 $\pm$ 0.02
1987-88	0.13 $\pm$ 0.01	0.12 $\pm$ 0.02	0.12 $\pm$ 0.02	0.13 $\pm$ <.01
1988-89	0.10 $\pm$ 0.02	0.13 $\pm$ 0.02	0.14 $\pm$ 0.03	0.10 $\pm$ <.01
1989-90	0.10 $\pm$ 0.01		0.15 $\pm$ 0.02	0.10 $\pm$ 0.00
1990-91	0.11 $\pm$ 0.01	0.08 $\pm$ 0.02	0.14 $\pm$ 0.04	0.11 $\pm$ 0.01
<b>Black drum</b>				
1983-84	2.54 $\pm$ 0.99	7.66 $\pm$ 2.01	0.46	2.99 $\pm$ 1.08
1984-85	3.52 $\pm$ 0.83	11.01 $\pm$ 1.34		3.96 $\pm$ 0.86
1985-86	5.81 $\pm$ 0.92	8.62 $\pm$ 0.69		6.22 $\pm$ 0.89
1986-87	5.08 $\pm$ 0.89		10.03 $\pm$ 0.25	5.15 $\pm$ 0.88
1987-88	6.50 $\pm$ 0.71	10.26 $\pm$ 0.43	14.80	6.92 $\pm$ 0.59
1988-89	3.83			3.83
1989-90	1.89 $\pm$ 0.10			1.89 $\pm$ 0.00
1990-91	1.71 $\pm$ 0.12	1.91 $\pm$ 0.39		1.75 $\pm$ 0.06
<b>Gafftopsail catfish</b>				
1983-84	0.76 $\pm$ 0.30	1.44 $\pm$ 0.20		1.14 $\pm$ 0.24
1984-85	0.94 $\pm$ 0.25	0.75 $\pm$ 0.19		0.78 $\pm$ 0.20
1985-86	0.68 $\pm$ 0.13	0.81 $\pm$ 0.21		0.71 $\pm$ 0.15
1986-87	0.75 $\pm$ 0.22	0.55 $\pm$ 0.10		0.62 $\pm$ 0.14
1987-88	0.89 $\pm$ 0.10	1.23 $\pm$ 0.19	0.98	1.02 $\pm$ 0.14
1988-89	0.59 $\pm$ 0.10	1.05 $\pm$ 0.21		0.67 $\pm$ 0.14
1989-90	1.17 $\pm$ 0.14	1.07 $\pm$ 0.23		1.13 $\pm$ 0.04
1990-91	0.69 $\pm$ 0.14	0.88 $\pm$ 0.14	0.28	0.78 $\pm$ 0.08

Table D.5. (Cont'd.)

Species Year	Area			
	Galveston	Corpus Christi	Lower Laguna Madre	Coastwide
Red drum				
1983-84	0.71			0.71
1984-85	3.83			3.83
1985-86	0.81		1.12	0.92
1986-87	0.32			0.32
1987-88	3.10 ± 0.19			3.10
1988-89				2.77 ± 0.00
1989-90	2.77 ± 0.42			3.40
1990-91	3.40 ± 0.48			
Sand seatrout				
1983-84	0.23 ± 0.01	0.24 ± 0.01	0.27 ± 0.02	0.24 ± 0.01
1984-85	0.23 ± 0.01	0.23 ± 0.01	0.23 ± 0.01	0.23 ± 0.01
1985-86	0.18 ± 0.01	0.20 ± 0.01	0.23 ± 0.01	0.19 ± 0.01
1986-87	0.24 ± 0.01	0.20 ± 0.02	0.26 ± 0.01	0.24 ± 0.01
1987-88	0.20 ± 0.01	0.22 ± 0.01	0.22 ± 0.01	0.21 ± 0.01
1988-89	0.22 ± 0.02	0.21 ± 0.01	0.43 ± 0.21	0.27 ± 0.06
1989-90	0.19 ± 0.11	0.20 ± 0.01	0.22 ± 0.01	0.20 ± 0.01
1990-91	0.19 ± 0.01	0.21 ± 0.01	0.24 ± 0.01	0.21 ± 0.02
Sheepshead				
1983-84	1.15 ± 0.14		0.55 ± 0.03	0.67 ± 0.06
1984-85	0.85		0.63 ± 0.02	0.64 ± 0.03
1985-86		0.72		0.72
1986-87			0.77	0.77
1987-88	2.00	0.50		0.54 ± 0.06
1988-89				
1989-90				1.23 ± 0.04
1990-91	2.02 ± 0.40	1.21 ± 0.05		

Table D.5. (Cont'd.)

Species Year	Area			
	Galveston	Corpus Christi	Lower Laguna Madre	Coastwide
<b>Southern flounder</b>				
1983-84	0.50 ± 0.16	0.56		0.51 ± 0.26
1984-85	0.41 ± 0.07	0.39 ± 0.30	0.43	0.41 ± 0.23
1985-86	0.41 ± 0.07	0.43 ± 0.08	0.36 ± 0.09	0.42 ± 0.08
1986-87	0.60 ± 0.02	0.53 ± 0.13	0.49 ± 0.08	0.54 ± 0.08
1987-88	0.37	0.53 ± 0.21	0.36 ± 0.03	0.45 ± 0.06
1988-89	0.43 ± 0.07	0.39 ± 0.14		0.41 ± 0.02
1989-90	0.98 ± 0.00		0.35	0.67 ± 0.32
1990-91	0.38	0.67 ± 0.05	0.60 ± 0.15	0.48 ± 0.09
<b>Spotted seatrout</b>				
1983-84		0.34 ± 0.03	0.41 ± 0.06	0.34 ± 0.03
1984-85		0.29	0.39 ± 0.02	0.35 ± 0.13
1985-86	0.58 ± 0.20	0.59 ± 0.02	0.25 ± 0.06	0.49 ± 0.04
1986-87	0.38	0.60 ± 0.04	0.38	0.59 ± 0.06
1987-88	1.74	0.70 ± 0.11	0.43	0.75 ± 0.09
1988-89	0.70 ± 0.08	0.48 ± 0.03		0.57 ± 0.10
1989-90		0.43 ± 0.02		0.43
1990-91				
<b>All species combined<sup>a</sup></b>				
1983-84	0.55 ± 0.14	0.36 ± 0.04	0.32 ± 0.02	0.45 ± 0.09
1984-85	0.40 ± 0.10	0.51 ± 0.18	0.21 ± 0.01	0.35 ± 0.08
1985-86	0.34 ± 0.12	0.27 ± 0.08	0.18 ± 0.01	0.30 ± 0.10
1986-87	0.34 ± 0.10	0.19 ± 0.03	0.25 ± 0.03	0.30 ± 0.07
1987-88	0.35 ± 0.10	0.26 ± 0.06	0.90 ± 0.69	0.41 ± 0.11
1988-89	0.16 ± 0.02	0.17 ± 0.02	0.36 ± 0.19	0.21 ± 0.06
1989-90	0.34 ± 0.07	0.18 ± 0.02	0.25 ± 0.07	0.27 ± 0.05
1990-91	0.24 ± 0.06	0.50 ± 0.12	0.20 ± 0.02	0.29 ± 0.09

<sup>a</sup>Includes "other" species.

Table D.6. Annual mean total lengths of fishes (mm/fish)  $\pm$  1 SE caught by headboat fishermen in Texas bays and passes by area, species and year (1983-1991). Blank - no fish measured. No standard error - fish measured on only one survey day.

Species Year	Area			
	Galveston	Corpus Christi	Lower Laguna Madre	Coastwide
<b>Atlantic croaker</b>				
1983-84	206 $\pm$ 7	238 $\pm$ 22	266 $\pm$ 18	209 $\pm$ 8
1984-85	208 $\pm$ 4	213 $\pm$ 41	224 $\pm$ 12	210 $\pm$ 4
1985-86	208 $\pm$ 4	205 $\pm$ 17	210 $\pm$ 10	208 $\pm$ 5
1986-87	219 $\pm$ 8	222 $\pm$ 10	224 $\pm$ 21	219 $\pm$ 8
1987-88	216 $\pm$ 4	207 $\pm$ 12	213 $\pm$ 8	215 $\pm$ 1
1988-89	195 $\pm$ 8	212 $\pm$ 12	219 $\pm$ 20	195 $\pm$ 1
1989-90	199 $\pm$ 4		224 $\pm$ 13	200 $\pm$ 2
1990-91	204 $\pm$ 3	182 $\pm$ 14	220 $\pm$ 23	201 $\pm$ 4
<b>Black drum</b>				
1983-84	479 $\pm$ 74	783 $\pm$ 88	320	507 $\pm$ 77
1984-85	587 $\pm$ 45	910 $\pm$ 29		610 $\pm$ 42
1985-86	714 $\pm$ 50	837 $\pm$ 31		732 $\pm$ 47
1986-87	664 $\pm$ 62		894 $\pm$ 7	668 $\pm$ 62
1987-88	760 $\pm$ 32	898 $\pm$ 12	1018	775 $\pm$ 21
1988-89	649			649
1989-90	507 $\pm$ 10			507 $\pm$ 0
1990-91	490 $\pm$ 11	506 $\pm$ 32		493 $\pm$ 4
<b>Gafftopsail catfish</b>				
1983-84	400 $\pm$ 53	514 $\pm$ 25		464 $\pm$ 24
1984-85	446 $\pm$ 36	398 $\pm$ 33		407 $\pm$ 18
1985-86	402 $\pm$ 21	405 $\pm$ 36		402 $\pm$ 24
1986-87	391 $\pm$ 39	374 $\pm$ 24		381 $\pm$ 29
1987-88	436 $\pm$ 15	489 $\pm$ 25	309	475 $\pm$ 45
1988-89	385 $\pm$ 17	463 $\pm$ 34		299 $\pm$ 23
1989-90	484 $\pm$ 25	455 $\pm$ 34		474 $\pm$ 13
1990-91	406 $\pm$ 21	448 $\pm$ 22	318	426 $\pm$ 18

Table D.6. (Cont'd.)

Species Year	Area			
	Galveston	Corpus Christi	Lower Laguna Madre	Coastwide
Red drum				
1983-84	408			408
1984-85	704			704
1985-86	425		473	442
1986-87	315			315
1987-88	656 ± 12			656
1988-89				
1989-90	629 ± 30			629
1990-91	674 ± 37			674
Sand seatrout				
1983-84	275 ± 5	280 ± 5	291 ± 8	279 ± 5
1984-85	278 ± 6	276 ± 5	279 ± 3	278 ± 4
1985-86	254 ± 4	265 ± 3	278 ± 3	259 ± 4
1986-87	280 ± 4	265 ± 10	290 ± 2	280 ± 5
1987-88	262 ± 5	272 ± 5	273 ± 3	266 ± 4
1988-89	271 ± 7	270 ± 4	273 ± 3	271 ± 1
1989-90	257 ± 4	262 ± 4	271 ± 3	263 ± 4
1990-91	259 ± 4	266 ± 5	279 ± 3	269 ± 6
Sheepshead				
1983-84	405 ± 17		312 ± 6	335 ± 5
1984-85	366		328 ± 2	330 ± 4
1985-86		345		345
1986-87			354	354
1987-88	493	301		305 ± 8
1988-89				
1989-90				
1990-91	492 ± 34	411 ± 4		413 ± 4

Table D.6. (Cont'd.)

Species Year	Area			
	Galveston	Corpus Christi	Lower Laguna Madre	Coastwide
<b>Southern flounder</b>				
1983-84	330 ± 42	365		342 ± 98
1984-85	330 ± 17	304 ± 76	336	323 ± 89
1985-86	• 324 ± 18	325 ± 21	311 ± 25	324 ± 21
1986-87	367 ± 9	348 ± 26	348 ± 19	354 ± 19
1987-88	320	345 ± 48	316 ± 10	332 ± 11
1988-89	334 ± 17	314 ± 39		325 ± 10
1989-90	437		314	377 ± 61
1990-91	322	387 ± 10	371 ± 31	345 ± 20
<b>Spotted seatrout</b>				
1983-84		331 ± 8	351 ± 17	332 ± 8
1984-85		318	349 ± 6	337 ± 82
1985-86	393 ± 43	395 ± 4	295 ± 20	366 ± 9
1986-87	345	398 ± 9	345	395 ± 23
1987-88	568	419 ± 22	361	425 ± 12
1988-89	416 ± 15	373 ± 7		390 ± 21
1989-90		359 ± 5		359
1990-91				

Table D.7. Percent composition of "other" species caught by headboat fishermen in Texas bays and passes by area (1990-1991). Values represent percentages of the observed coastwide total of "other" species.

Common name	Scientific name	Area				Coastwide
		Galveston	Aransas	Corpus Christi	Lower Laguna Madre	
Atlantic sharpnose shark	<u>Rhizoprionodon terraenovae</u>	2.34				2.34
Atlantic spadefish	<u>Chaetodipterus faber</u>	0.13				0.13
Atlantic stingray	<u>Dasyatis sabina</u>	0.13			0.13	0.26
Barred grunt	<u>Conodon nobilis</u>				0.13	0.13
Bull shark	<u>Carcharchinus leucas</u>	0.13				0.13
Bluefish	<u>Pomatomus saltatrix</u>				0.13	0.13
Bonnethead	<u>Sphyrna tiburo</u>	1.82		0.13	0.13	2.08
Cownose ray	<u>Rhinoptera bonasus</u>				0.13	0.13
Creville jack	<u>Caranx hippos</u>			0.13		0.13
Gray triggerfish	<u>Balistes capriscus</u>			0.39	0.39	0.78
Gulf kingfish	<u>Menticirrhus littoralis</u>				1.30	1.30
Hardhead catfish	<u>Arius felis</u>	1.30	0.13	1.04	0.52	2.99
King mackerel	<u>Scomberomorus cavalla</u>				0.26	0.26
Ladyfish	<u>Elops saurus</u>	0.26		0.26	0.26	0.78
Lane snapper	<u>Cutjanus synagris</u>				0.13	0.13
Ocellated flounder	<u>Ancylopsetta quadeocellata</u>			0.13		0.13
Pigfish	<u>Orthopristis chrysoptera</u>	0.39		0.13	9.64	10.16
Pinfish	<u>Lagodon rhomboides</u>	0.65		0.39		1.04
Puffer sp.	Family Tetraodontidae				0.26	0.26
Red snapper	<u>Lutjanus campechanus</u>				0.13	0.13
Smooth puffer	<u>Lagocephalus laevigatus</u>				0.13	0.13
Southern hake	<u>Urophycis floridana</u>	0.13				0.13
Southern kingfish	<u>Menticirrhus americanus</u>	3.65	0.13	10.55	61.46	75.78
Spanish mackerel	<u>Scomberomorus maculatus</u>			0.26	0.13	0.39



Table D.8. Residential origin (%) of headboat fishermen in Texas bays and passes by area and year (1983-1991).

Area Year	Adjacent coastal counties	Non-adjacent coastal counties	Non-coastal counties	Other states and countries
<b>Galveston</b>				
1983-84	59	0	25	16
1984-85	64	1	17	17
1985-86	68	1	19	12
1986-87	68	0	19	14
1987-88	69	0	19	10
1988-89	71	1	17	11
1989-90	67	1	22	10
1990-91	55	1	30	15
<b>Corpus Christi</b>				
1983-84	20	6	58	15
1984-85	19	9	57	15
1985-86	17	12	55	17
1986-87	17	8	60	15
1987-88	20	9	61	10
1988-89	17	9	56	19
1989-90	23	5	55	18
1990-91	17	9	54	20
<b>Lower Laguna Madre</b>				
1983-84	10	10	48	33
1984-85	18	8	40	34
1985-86	17	12	41	31
1986-87	21	10	34	35
1987-88	14	8	43	34
1988-89	12	11	38	39
1989-90	15	12	36	37
1990-91	23	8	32	37
<b>Coastwide</b>				
1983-84	34	4	42	20
1984-85	42	5	33	20
1985-86	43	6	33	18
1986-87	44	4	31	20
1987-88	47	4	33	15
1988-89	40	6	33	21
1989-90	40	5	35	20
1990-91	35	5	36	24

APPENDIX E: Private-boat fishing estimates for the Texas Territorial Sea (TTS).

Table E.1. Number of days surveyed and number of private-boat fishermen interviewed (in parentheses) in the TTS by area and year (1982-1991).

Year	Area					Coastwide
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
1982-83		133 (53)	242 (393)	248 (974)	114 (116)	737 (1536)
1983-84		131 (27)	195 (324)	206 (510)	133 (94)	665 (955)
1984-85		132 (23)	189 (695)	201 (854)	133 (136)	655 (1708)
1985-86		133 (94)	190 (648)	206 (885)	133 (70)	662 (1700)
1986-87		133 (138)	241 (366)	266 (524)	133 (28)	773 (1056)
1987-88	108 (162)	131 (68)	237 (364)	269 (505)	133 (10)	878 (1109)
1988-89	108 (118)	132 (26)	236 (434)	260 (637)	131 (35)	867 (1253)
1989-90	108 (34)	131 (97)	240 (131)	266 (561)	133 (35)	878 (857)
1990-91	108 (80)	131 (76)	241 (296)	266 (489)	133 (45)	879 (986)

Table E.2. Estimated private-boat fishing pressure (man-h x 1000)  $\pm$  1SE, mean fishing-party size (No. of fishermen) and mean trip length (h) for private-boat fishermen in the TFS by area and year (1982-1991).

Area Year	Pressure	Mean fishing party size	Mean trip length
<b>Sabine Lake</b>			
1987-88	9.7 $\pm$ 3.1	2.5	5.9
1988-89	4.9 $\pm$ 2.0	2.7	6.2
1989-90	2.7 $\pm$ 1.1	2.7	6.3
1990-91	6.1 $\pm$ 2.2	2.7	6.8
<b>Galveston</b>			
1982-83	41.7 $\pm$ 34.6	3.2	6.8
1983-84	137.3 $\pm$ 135.9	3.0	4.5
1984-85	7.9 $\pm$ 4.5	3.8	5.1
1985-86	13.7 $\pm$ 6.3	3.2	5.7
1986-87	31.6 $\pm$ 17.9	3.1	6.3
1987-88	33.3 $\pm$ 13.4	3.0	6.1
1988-89	26.5 $\pm$ 17.0	3.2	5.4
1989-90	18.9 $\pm$ 9.1	3.6	5.7
1990-91	32.2 $\pm$ 22.6	2.7	5.8
<b>Matagorda</b>			
1982-83	47.6 $\pm$ 8.1	3.0	6.5
1983-84	21.9 $\pm$ 5.6	3.0	6.8
1984-85	38.4 $\pm$ 8.7	3.1	6.9
1985-86	35.4 $\pm$ 6.5	3.0	7.3
1986-87	118.9 $\pm$ 61.4	3.0	6.3
1987-88	31.3 $\pm$ 6.6	3.0	7.3
1988-89	33.7 $\pm$ 6.7	3.1	6.5
1989-90	46.8 $\pm$ 19.9	3.0	6.4
1990-91	39.4 $\pm$ 2.2	2.8	6.6
<b>Corpus Christi</b>			
1982-83	86.0 $\pm$ 8.4	3.0	5.7
1983-84	175.6 $\pm$ 52.4	3.0	5.8
1984-85	80.2 $\pm$ 16.7	3.0	5.3
1985-86	100.8 $\pm$ 19.2	2.9	5.7
1986-87	124.9 $\pm$ 52.3	2.7	5.7
1987-88	132.2 $\pm$ 32.2	3.1	5.8
1988-89	64.7 $\pm$ 12.5	3.0	5.7
1989-90	150.2 $\pm$ 31.1	3.0	5.6
1990-91	94.8 $\pm$ 19.0	2.8	5.8

Table E.2. (Cont'd.)

Area Year	Pressure	Mean fishing party size	Mean trip length
<b>Lower Laguna Madre</b>			
1982-83	11.9 ± 3.1	3.0	6.7
1983-84	9.3 ± 2.6	2.9	5.8
1984-85	22.2 ± 7.9	2.8	5.1
1985-86	26.0 ± 12.0	2.9	7.3
1986-87	5.0 ± 2.4	2.9	6.3
1987-88	1.0 ± 0.6	2.5	6.2
1988-89	6.8 ± 3.4	2.7	9.6
1989-90	4.8 ± 1.6	2.5	8.8
1990-91	5.6 ± 2.1	2.4	5.3
<b>Coastwide<sup>a</sup></b>			
1982-83	188.2 ± 37.9	3.0	6.0
1983-84	344.0 ± 146.0	3.0	6.1
1984-85	148.6 ± 20.9	3.0	5.9
1985-86	176.9 ± 24.4	2.9	6.4
1986-87	280.9 ± 82.7	2.8	6.0
1987-88	207.5 ± 35.6	2.9	6.3
1988-89	137.6 ± 22.5	3.0	6.2
1989-90	223.4 ± 38.1	3.0	5.9
1990-91	178.6 ± 32.1	2.8	6.1

Table E.3. Estimated annual landings of fishes (No. x 1000)  $\pm$  1 SE caught by private-boat fishermen in the TTS by area, species and year (1982-1991).

Species Year	Area					Coastwide <sup>a</sup>
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
<b>Atlantic croaker</b>						
1982-83		0.3 $\pm$ 0.2	0.3 $\pm$ 0.1	0.1 $\pm$ <.1	0.3 $\pm$ 0.3	1.1 $\pm$ 0.4
1983-84		0.1 $\pm$ 0.1	0.1 $\pm$ 0.1	0.0	0.0	0.1 $\pm$ 0.1
1984-85		<.1 $\pm$ <.1	0.2 $\pm$ 0.1	<.1 $\pm$ <.1	0.0	0.2 $\pm$ 0.1
1985-86		0.1 $\pm$ 0.1	0.8 $\pm$ 0.7	0.0	0.0	0.8 $\pm$ 0.7
1986-87		0.3 $\pm$ 0.3	0.3 $\pm$ 0.3	0.0	0.0	0.6 $\pm$ 0.4
1987-88	0.5 $\pm$ 0.3	0.0	<.1 $\pm$ <.1	0.1 $\pm$ 0.1	0.0	0.6 $\pm$ 0.3
1988-89	<.1 $\pm$ <.1	0.0	<.1 $\pm$ <.1	0.1 $\pm$ 0.1	0.0	0.2 $\pm$ 0.1
1989-90	0.0	0.0	0.3 $\pm$ 0.3	<.1 $\pm$ <.1	0.0	0.3 $\pm$ 0.3
1990-91	<.1 $\pm$ <.1	0.5 $\pm$ 0.4	0.2 $\pm$ 0.2	<.1 $\pm$ <.1	0.0	0.8 $\pm$ 0.4
<b>Atlantic sharpnose shark</b>						
1982-83 <sup>b</sup>						
1983-84		0.0	<.1 $\pm$ <.1	0.5 $\pm$ 0.4	0.0	0.5 $\pm$ 0.4
1984-85		0.0	<.1 $\pm$ <.1	0.2 $\pm$ 0.2	0.0	0.3 $\pm$ 0.2
1985-86		<.1 $\pm$ <.1	0.2 $\pm$ 0.1	1.5 $\pm$ 0.5	0.0	1.8 $\pm$ 0.5
1986-87		0.1 $\pm$ 0.1	1.1 $\pm$ 0.8	0.8 $\pm$ 0.4	0.0	2.0 $\pm$ 0.9
1987-88	<.1 $\pm$ <.1	0.1 $\pm$ 0.1	0.2 $\pm$ 0.1	1.7 $\pm$ 1.1	0.0	2.0 $\pm$ 1.1
1988-89	0.1 $\pm$ <.1	0.0	0.3 $\pm$ 0.1	0.8 $\pm$ 0.4	0.0	1.1 $\pm$ 0.4
1989-90	0.0	0.1 $\pm$ 0.1	0.1 $\pm$ 0.1	1.4 $\pm$ 0.6	0.0	1.6 $\pm$ 0.6
1990-91	<.1 $\pm$ <.1	<.1 $\pm$ <.1	0.1 $\pm$ 0.1	<.1 $\pm$ <.1	0.0	0.2 $\pm$ 0.1
<b>Cobia</b>						
1982-83		0.6 $\pm$ 0.6	0.2 $\pm$ <.1	0.1 $\pm$ <.1	<.1 $\pm$ <.1	0.9 $\pm$ 0.6
1983-84		0.0	<.1 $\pm$ <.1	<.1 $\pm$ <.1	<.1 $\pm$ <.1	0.1 $\pm$ <.1
1984-85		0.0	<.1 $\pm$ <.1	0.1 $\pm$ 0.1	<.1 $\pm$ <.1	0.1 $\pm$ 0.1
1985-86		<.1 $\pm$ <.1	<.1 $\pm$ <.1	<.1 $\pm$ <.1	<.1 $\pm$ <.1	0.1 $\pm$ <.1
1986-87		0.0	<.1 $\pm$ <.1	<.1 $\pm$ <.1	<.1 $\pm$ <.1	0.1 $\pm$ <.1
1987-88	0.0	0.0	<.1 $\pm$ <.1	<.1 $\pm$ <.1	<.1 $\pm$ <.1	0.1 $\pm$ <.1
1988-89	<.1 $\pm$ <.1	0.0	<.1 $\pm$ <.1	<.1 $\pm$ <.1	0.0	<.1 $\pm$ <.1
1989-90	<.1 $\pm$ <.1	0.0	0.0	0.1 $\pm$ 0.1	0.0	0.1 $\pm$ 0.1
1990-91	<.1 $\pm$ <.1	<.1 $\pm$ <.1	0.0	0.0	0.0	<.1 $\pm$ <.1

Table E.3. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide <sup>a</sup>
<b>King mackerel</b>						
1982-83		8.2 ± 7.3	2.5 ± 0.5	5.2 ± 0.8	0.4 ± 0.2	16.4 ± 7.5
1983-84		0.0	1.1 ± 0.5	9.4 ± 3.5	0.5 ± 0.3	11.0 ± 3.6
1984-85		0.0	0.7 ± 0.2	7.4 ± 2.2	0.7 ± 0.4	8.8 ± 2.2
1985-86		0.4 ± 0.3	1.6 ± 0.5	4.6 ± 1.5	0.1 ± <.1	6.6 ± 1.6
1986-87		0.4 ± 0.2	0.3 ± 0.1	2.3 ± 0.8	0.1 ± 0.1	3.1 ± 0.8
1987-88	0.0	4.0 ± 3.0	0.6 ± 0.2	4.4 ± 1.2	0.0	9.0 ± 3.2
1988-89	0.0	0.3 ± 0.2	1.2 ± 0.5	3.2 ± 0.9	0.1 ± 0.1	4.8 ± 1.0
1989-90	0.0	0.4 ± 0.3	0.9 ± 0.7	5.9 ± 2.0	0.2 ± 0.2	7.4 ± 2.1
1990-91	<.1 ± <.1	1.0 ± 0.9	0.3 ± 0.2	4.1 ± 2.1	0.6 ± 0.4	6.1 ± 2.3
<b>Red drum</b>						
1982-83		0.0	0.2 ± <.1	<.1 ± <.1	0.0	0.2 ± 0.1
1983-84		0.0	0.4 ± 0.2	<.1 ± <.1	<.1 ± <.1	0.4 ± 0.2
1984-85		0.0	0.2 ± 0.1	0.3 ± 0.3	<.1 ± <.1	0.5 ± 0.3
1985-86		0.0	0.2 ± 0.1	0.0	0.0	0.2 ± 0.1
1986-87		0.0	0.6 ± 0.3	<.1 ± <.1	0.0	0.6 ± 0.3
1987-88	0.1 ± <.1	0.0	0.5 ± 0.2	0.0	0.0	0.6 ± 0.2
1988-89	0.1 ± <.1	0.0	0.3 ± 0.1	0.0	0.0	0.4 ± 0.1
1989-90	0.0	<.1 ± <.1	0.2 ± 0.1	0.1 ± 0.1	0.0	0.3 ± 0.1
1990-91	<.1 ± <.1	<.1 ± <.1	0.6 ± 0.4	0.1 ± 0.1	0.0	0.8 ± 0.4
<b>Red snapper</b>						
1982-83		0.7 ± 0.7	15.8 ± 7.0	1.2 ± 0.5	2.4 ± 1.1	20.1 ± 13.5
1983-84		<.1 ± <.1	1.1 ± 0.6	0.8 ± 0.5	1.6 ± 0.7	3.5 ± 1.1
1984-85		0.0	3.1 ± 2.6	0.1 ± <.1	0.1 ± 0.1	3.3 ± 2.6
1985-86		0.0	0.8 ± 0.3	0.6 ± 0.4	4.6 ± 4.1	6.0 ± 4.1
1986-87		3.5 ± 3.5	0.4 ± 0.2	0.1 ± 0.1	0.3 ± 0.3	4.4 ± 3.5
1987-88	0.1 ± <.1	0.1 ± 0.1	0.9 ± 0.5	0.2 ± 0.1	<.1 ± <.1	1.4 ± 0.5
1988-89	0.3 ± 0.2	0.1 ± 0.1	3.4 ± 1.3	0.1 ± 0.1	0.4 ± 0.3	4.3 ± 1.4
1989-90	0.0	0.3 ± 0.2	9.0 ± 9.0	2.4 ± 1.0	1.1 ± 0.6	12.8 ± 9.1
1990-91	0.4 ± 0.4	5.8 ± 4.9	2.9 ± 1.8	1.6 ± 1.3	0.9 ± 0.6	11.5 ± 5.5

Table E.3. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide <sup>a</sup>
<b>Sand seatrout</b>						
1982-83		0.2 ± 0.2	47.7 ± 18.5	5.7 ± 1.6	0.7 ± 0.4	54.3 ± 35.6
1983-84		0.2 ± 0.2	7.4 ± 4.2	<.1 ± <.1	0.0	7.7 ± 4.2
1984-85		1.6 ± 1.6	19.3 ± 16.6	0.6 ± 0.4	0.0	21.5 ± 16.7
1985-86		0.2 ± 0.1	7.7 ± 3.5	0.4 ± 0.2	0.0	8.2 ± 3.5
1986-87		40.6 ± 35.1	17.4 ± 11.7	0.0	0.0	58.0 ± 37.0
1987-88	0.8 ± 0.4	0.0	0.5 ± 0.3	1.0 ± 1.0	0.0	2.3 ± 1.1
1988-89	1.5 ± 1.0	0.0	1.1 ± 0.8	<.1 ± <.1	0.0	2.6 ± 1.3
1989-90	<.1 ± <.1	<.1 ± <.1	4.5 ± 3.5	0.4 ± 0.3	0.0	4.9 ± 3.5
1990-91	1.5 ± 1.3	0.1 ± 0.1	1.5 ± 0.9	0.0	0.0	3.1 ± 1.6
<b>Spanish mackerel</b>						
1982-83		1.2 ± 1.1	1.4 ± 0.6	0.5 ± 0.1	0.0	3.0 ± 1.7
1983-84		0.0	0.5 ± 0.4	0.4 ± 0.2	0.3 ± 0.3	1.2 ± 0.6
1984-85		0.0	0.1 ± <.1	<.1 ± <.1	2.6 ± 2.6	2.7 ± 2.6
1985-86		0.1 ± 0.1	0.3 ± 0.2	0.2 ± 0.1	<.1 ± <.1	0.5 ± 0.2
1986-87		1.1 ± 1.0	<.1 ± <.1	<.1 ± <.1	<.1 ± <.1	1.1 ± 1.0
1987-88	0.1 ± <.1	<.1 ± <.1	0.3 ± 0.2	3.0 ± 1.3	<.1 ± <.1	3.4 ± 1.3
1988-89	0.1 ± <.1	0.0	0.5 ± 0.4	0.1 ± <.1	0.2 ± 0.1	0.9 ± 0.4
1989-90	<.1 ± <.1	0.6 ± 0.4	0.3 ± 0.3	5.4 ± 4.2	0.1 ± <.1	6.3 ± 4.3
1990-91	0.7 ± 0.6	0.7 ± 0.6	0.7 ± 0.3	0.3 ± 0.2	0.1 ± 0.1	2.5 ± 0.9
<b>Spotted seatrout</b>						
1982-83		1.3 ± 1.1	1.5 ± 0.3	0.3 ± 0.1	0.2 ± 0.2	3.4 ± 1.3
1983-84		0.0	3.1 ± 1.8	<.1 ± <.1	0.1 ± 0.1	3.1 ± 1.9
1984-85		0.3 ± 0.3	0.9 ± 0.4	<.1 ± <.1	0.2 ± 0.2	1.4 ± 0.5
1985-86		0.0	0.7 ± 0.3	0.1 ± 0.1	0.0	1.0 ± 0.3
1986-87		0.9 ± 0.8	2.3 ± 1.4	0.1 ± 0.1	0.0	3.4 ± 1.7
1987-88	1.4 ± 0.5	4.2 ± 2.7	3.4 ± 2.3	<.1 ± <.1	0.0	9.0 ± 3.5
1988-89	0.3 ± 0.2	0.0	1.5 ± 0.5	0.2 ± 0.1	<.1 ± <.1	1.9 ± 0.6
1989-90	0.2 ± 0.1	0.0	0.1 ± 0.1	0.0	0.0	0.3 ± 0.1
1990-91	0.3 ± 0.3	0.9 ± 0.9	4.3 ± 3.6	0.0	0.0	5.5 ± 3.7



Table E.3. (Cont'd.)

Species Year	Area					Coastwide <sup>a</sup>
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
<b>Vermilion snapper</b>						
1982-83 <sup>b</sup>						
1983-84		0.0	0.0	0.0	0.0	0.0
1984-85		0.0	0.0	0.0	0.0	0.0
1985-86		0.0	0.0	0.0	0.0	0.0
1986-87		0.0	0.0	0.0	0.0	0.0
1987-88	0.0	0.0	0.0	0.0	0.0	0.0
1988-89	0.0	0.0	0.0	0.0	0.0	0.0
1989-90	0.0	0.0	0.0	0.0	0.0	0.0
1990-91	0.0	0.0	0.0	0.0	0.0	0.0
<b>Other species</b>						
1982-83		2.1 ± 1.3	2.3 ± 0.7	3.3 ± 0.1	0.3 ± 0.1	8.0 ± 2.1
1983-84		0.1 ± 0.1	2.0	2.8	0.1	5.1
1984-85		<.1	3.2	2.1	0.3 ± 0.2	5.8
1985-86		0.2 ± 0.2	4.1	9.8	0.4 ± 0.4	14.6
1986-87		0.4 ± 0.3	2.3	3.9 ± 3.2	0.1 ± 0.1	8.6
1987-88	0.8	3.0	3.2	2.7	<.1 ± <.1	9.7
1988-89	0.4	0.4 ± 0.4	6.4	1.9	0.2 ± 0.2	9.3
1989-90	0.2	1.6	7.9	1.7	0.3	11.8
1990-91	0.5 ± 0.2	1.5 ± 1.0	6.8 ± 3.4	2.2 ± 0.9	0.1 ± 0.1	11.1 ± 3.7
<b>All species combined<sup>a</sup></b>						
1982-83		14.5 ± 9.8	71.9 ± 26.6	16.5 ± 2.6	4.3 ± 1.7	107.3 ± 52.4
1983-84		0.5 ± 0.3	15.7 ± 5.4	13.9 ± 4.4	2.7 ± 0.9	32.7 ± 7.0
1984-85		1.9 ± 1.9	27.1 ± 17.2	9.9 ± 2.7	4.0 ± 2.8	42.8 ± 17.8
1985-86		1.0 ± 0.6	16.5 ± 4.6	17.2 ± 7.8	5.1 ± 4.1	39.8 ± 9.9
1986-87		47.7 ± 35.3	29.4 ± 17.0	4.2 ± 1.1	0.5 ± 0.4	81.9 ± 39.2
1987-88	3.7 ± 1.1	11.4 ± 4.9	9.7 ± 3.1	13.2 ± 2.9	0.1 ± 0.1	38.0 ± 6.6
1988-89	2.7 ± 1.1	0.8 ± 0.5	14.7 ± 4.6	6.4 ± 1.5	1.0 ± 0.6	25.6 ± 5.0
1989-90	0.5 ± 0.2	3.0 ± 1.8	23.3 ± 16.6	17.3 ± 5.1	1.7 ± 0.6	45.7 ± 17.5
1990-91	3.6 ± 1.7	10.8 ± 7.7	20.4 ± 7.6	8.6 ± 2.7	1.7 ± 0.8	45.2 ± 11.3

<sup>a</sup>Due to rounding of numbers, these totals may not exactly equal individual totals.

<sup>b</sup>This species is included in "other" species in this year.

Table E.4. Annual mean catch rates of fishes (No./man-h)  $\pm$  1 SE caught by private-boat fishermen in the TTS by area, species and year (1982-1991).

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide
<b>Atlantic croaker</b>						
1982-83		0.01 $\pm$ 0.01	0.01 $\pm$ <.01	<.01 $\pm$ <.01	0.02 $\pm$ 0.02	0.01 $\pm$ <.01
1983-84		<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.00	0.00	<.01 $\pm$ <.01
1984-85		<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01
1985-86		<.01 $\pm$ <.01	0.02 $\pm$ 0.02	0.00	0.00	<.01 $\pm$ <.01
1986-87		0.01 $\pm$ 0.01	<.01 $\pm$ <.01	0.00	0.00	<.01 $\pm$ <.01
1987-88	0.05 $\pm$ 0.03	0.00	<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01
1988-89	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01
1989-90	0.00	0.00	0.01 $\pm$ 0.01	0.00	0.00	<.01 $\pm$ <.01
1990-91	<.01 $\pm$ <.01	0.02 $\pm$ 0.01	<.01 $\pm$ <.01	0.00	0.00	<.01 $\pm$ <.01
<b>Atlantic sharpnose shark</b>						
1982-83 <sup>a</sup>						
1983-84		0.00	<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01
1984-85		0.00	<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01
1985-86		<.01 $\pm$ <.01	0.01 $\pm$ <.01	0.02 $\pm$ 0.01	0.00	0.01 $\pm$ <.01
1986-87		<.01 $\pm$ <.01	0.01 $\pm$ 0.01	0.01 $\pm$ <.01	0.00	0.01 $\pm$ <.01
1987-88	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.01 $\pm$ <.01	0.00	0.01 $\pm$ 0.01
1988-89	0.01 $\pm$ 0.01	0.00	0.01 $\pm$ <.01	0.01 $\pm$ 0.01	0.00	0.01 $\pm$ <.01
1989-90	0.00	<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.01 $\pm$ <.01	0.00	0.01 $\pm$ <.01
1990-91	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01	0.00	0.00	<.01 $\pm$ <.01
<b>Cobia</b>						
1982-83		0.01 $\pm$ 0.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01
1983-84		0.00	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01
1984-85		0.00	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01
1985-86		<.01 $\pm$ <.01	0.00	0.00	0.00	<.01 $\pm$ <.01
1986-87		0.00	0.00	0.00	0.01 $\pm$ 0.01	<.01 $\pm$ <.01
1987-88	0.00	0.00	<.01 $\pm$ <.01	0.00	0.01 $\pm$ 0.01	<.01 $\pm$ <.01
1988-89	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01	0.00	0.00	<.01 $\pm$ <.01
1989-90	0.01 $\pm$ 0.01	0.00	0.00	<.01 $\pm$ <.01	0.00	<.01 $\pm$ 0.00
1990-91	<.01 $\pm$ <.01	0.00	0.00	0.00	0.00	0.01

Table E.4. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide
King mackerel						
1982-83		0.20 ± 0.19	0.05 ± 0.02	0.06 ± 0.02	0.03 ± 0.02	0.09 ± 0.04
1983-84		0.00	0.05 ± 0.03	0.06 ± 0.03	0.06 ± 0.04	0.04 ± 0.02
1984-85		0.00	0.02 ± 0.01	0.09 ± 0.03	0.03 ± 0.02	0.06 ± 0.02
1985-86		0.03 ± 0.02	0.04 ± 0.02	0.05 ± 0.02	<.01 ± <.01	0.04 ± 0.01
1986-87		0.01 ± 0.01	<.01 ± <.01	0.02 ± 0.01	0.02 ± 0.01	0.01 ± <.01
1987-88	0.00	0.12 ± 0.09	0.02 ± <.01	0.03 ± 0.01	0.00	0.04 ± 0.02
1988-89	0.00	0.01 ± 0.01	0.04 ± 0.02	0.05 ± 0.02	0.01 ± 0.01	0.04 ± 0.01
1989-90	0.00	0.02 ± 0.02	0.02 ± 0.02	0.04 ± 0.02	0.05 ± 0.03	0.03 ± 0.01
1990-91	<.01 ± <.01	0.03 ± 0.03	0.01 ± 0.01	0.04 ± 0.02	0.11 ± 0.08	0.03 ± 0.01
Red drum						
1982-83		0.00	<.01 ± <.01	<.01 ± <.01	0.00	<.01 ± <.01
1983-84		0.00	0.02 ± 0.01	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01
1984-85		0.00	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01
1985-86		0.00	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1986-87		0.00	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1987-88	<.01 ± <.01	0.00	0.02 ± 0.01	0.00	0.00	<.01 ± <.01
1988-89	0.02 ± 0.01	0.00	0.01 ± <.01	0.00	0.00	<.01 ± <.01
1989-90	0.00	0.00	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1990-91	<.01 ± <.01	0.00	0.02 ± 0.01	<.01 ± <.01	0.00	<.01 ± <.01
Red snapper						
1982-83		0.02 ± 0.02	0.33 ± 0.23	0.01 ± 0.01	0.20 ± 0.10	0.11 ± 0.07
1983-84		<.01 ± <.01	0.05 ± 0.03	<.01 ± <.01	0.18 ± 0.09	0.01 ± 0.01
1984-85		0.00	0.08 ± 0.07	<.01 ± <.01	<.01 ± <.01	0.02 ± 0.02
1985-86		0.00	0.02 ± 0.01	0.01 ± <.01	0.18 ± 0.16	0.03 ± 0.02
1986-87		0.11 ± 0.11	<.01 ± <.01	<.01 ± <.01	0.06 ± 0.06	0.02 ± 0.01
1987-88	<.01 ± <.01	<.01 ± <.01	0.03 ± 0.02	<.01 ± <.01	0.03 ± 0.03	0.01 ± <.01
1988-89	0.06 ± 0.04	<.01 ± <.01	0.10 ± 0.04	<.01 ± <.01	0.06 ± 0.05	0.03 ± 0.01
1989-90	0.00	0.02 ± 0.01	0.19 ± 0.19	0.02 ± 0.01	0.23 ± 0.14	0.06 ± 0.04
1990-91	0.01 ± 0.01	0.18 ± 0.17	0.07 ± 0.05	0.02 ± 0.01	0.16 ± 0.12	0.06 ± 0.03

Table E.4. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide
<b>Sand seatrout</b>						
1982-83		<.01 ± <.01	1.00 ± 0.64	0.07 ± 0.04	0.06 ± 0.04	0.29 ± 0.19
1983-84		<.01 ± <.01	0.36 ± 0.22	<.01 ± <.01	0.00	0.02 ± 0.02
1984-85		0.20 ± 0.20	0.49 ± 0.43	<.01 ± <.01	0.00	0.14 ± 0.11
1985-86		0.01 ± 0.01	0.22 ± 0.10	<.01 ± <.01	0.00	0.05 ± 0.02
1986-87		1.28 ± 1.17	0.15 ± 0.11	0.00	0.00	0.21 ± 0.14
1987-88	0.08 ± 0.04	0.00	0.02 ± 0.01	0.01 ± 0.01	0.00	0.01 ± 0.01
1988-89	0.31 ± 0.22	0.00	0.03 ± 0.02	0.00	0.00	0.02 ± 0.01
1989-90	0.01 ± 0.01	0.00	0.10 ± 0.08	<.01 ± <.01	0.00	0.02 ± 0.02
1990-91	0.24 ± 0.21	<.01 ± <.01	0.04 ± 0.02	0.00	0.00	0.02 ± 0.01
<b>Spanish mackerel</b>						
1982-83		0.03 ± 0.03	0.03 ± 0.02	0.01 ± <.01	0.00	0.02 ± 0.01
1983-84		0.00	0.02 ± 0.02	<.01 ± <.01	0.03 ± 0.03	<.01 ± <.01
1984-85		0.00	<.01 ± <.01	<.01 ± <.01	0.12 ± 0.12	0.02 ± 0.02
1985-86		0.01 ± <.01	0.01 ± <.01	<.01 ± <.01	0.00	<.01 ± <.01
1986-87		0.04 ± 0.03	0.00	0.00	<.01 ± <.01	<.01 ± <.01
1987-88	<.01 ± <.01	<.01 ± <.01	0.01 ± <.01	0.02 ± 0.01	0.01 ± 0.01	0.01 ± 0.01
1988-89	0.02 ± 0.01	0.00	0.02 ± 0.01	<.01 ± <.01	0.03 ± 0.02	0.01 ± <.01
1989-90	0.02 ± 0.01	0.03 ± 0.02	0.01 ± 0.01	0.04 ± 0.03	0.01 ± 0.01	0.03 ± 0.02
1990-91	0.12 ± 0.10	0.02 ± 0.02	0.02 ± 0.01	<.01 ± <.01	0.02 ± 0.01	0.01 ± 0.01
<b>Spotted seatrout</b>						
1982-83		0.03 ± 0.03	0.03 ± 0.02	<.01 ± <.01	0.02 ± 0.02	0.02 ± 0.01
1983-84		0.00	0.15 ± 0.10	<.01 ± <.01	0.01 ± 0.01	0.01 ± 0.01
1984-85		<.01 ± <.01	0.02 ± 0.01	<.01 ± <.01	0.01 ± 0.01	0.01 ± <.01
1985-86		0.00	0.02 ± 0.01	<.01 ± <.01	0.00	0.01 ± <.01
1986-87		0.03 ± 0.03	0.02 ± 0.02	<.01 ± <.01	0.00	0.01 ± 0.01
1987-88	0.15 ± 0.07	0.12 ± 0.09	0.11 ± 0.08	0.00	0.00	0.04 ± 0.02
1988-89	0.06 ± 0.04	0.00	0.04 ± 0.02	<.01 ± <.01	<.01 ± <.01	0.01 ± <.01
1989-90	0.06 ± 0.04	0.00	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1990-91	0.05 ± 0.04	0.03 ± 0.03	0.11 ± <.09	0.00	0.00	0.03 ± 0.02

Table E.4. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide
<b>Vermilion snapper</b>						
1982-83 <sup>a</sup>						
1983-84		0.00	0.00	0.00	0.00	0.00
1984-85		0.00	0.00	0.00	0.00	0.00
1985-86		0.00	0.00	0.00	0.00	0.00
1986-87		0.00	0.00	0.00	0.00	0.00
1987-88	0.00	0.00	0.00	0.00	0.00	0.00
1988-89	0.00	0.00	0.00	0.00	0.00	0.00
1989-90	0.00	0.00	0.00	0.00	0.00	0.00
1990-91	0.00	0.00	0.00	0.00	0.00	0.00
<b>Other species</b>						
1982-83		0.05 ± 0.04	0.05 ± 0.02	0.04 ± 0.01	0.03 ± 0.01	0.04 ± 0.01
1983-84		<.01 ± <.01	0.10	0.02 ± 0.01	0.02	0.02
1984-85		<.01 ± <.01	0.08	0.03	0.02 ± 0.01	0.04
1985-86		0.02 ± 0.01	0.12	0.01	0.02 ± 0.01	0.08
1986-87		0.01 ± 0.01	0.06	0.01 ± <.01	0.01 ± 0.01	0.03
1987-88	0.08	0.09	0.10	0.02 ± 0.01	0.03 ± 0.02	0.05
1988-89	0.08	0.02 ± 0.02	0.19	0.03	0.03 ± 0.03	0.07
1989-90	0.08	0.08	0.17	0.01 ± <.01	0.07	0.05
1990-91	0.08 ± 0.05	0.05 ± 0.04	0.17 ± 0.10	0.02 ± 0.01	0.02 ± 0.01	0.06 ± 0.02
<b>All species combined<sup>b</sup></b>						
1982-83		0.35 ± 0.30	1.51 ± 0.92	0.19 ± 0.06	0.36 ± 0.17	0.57 ± 0.30
1983-84		<.01 ± <.01	0.77 ± 0.32	0.10 ± 0.04	0.29 ± 0.12	0.10 ± 0.05
1984-85		0.24 ± 0.24	0.70 ± 0.46	0.14 ± 0.04	0.18 ± 0.14	0.30 ± 0.13
1985-86		0.07 ± 0.05	0.47 ± 0.15	0.17 ± 0.08	0.20 ± 0.17	0.22 ± 0.06
1986-87		1.51 ± 1.26	0.25 ± 0.18	0.03 ± 0.02	0.10 ± 0.08	0.29 ± 0.16
1987-88	0.38 ± 0.16	0.34 ± 0.19	0.31 ± 0.12	0.10 ± 0.03	0.08 ± 0.06	0.18 ± 0.04
1988-89	0.55 ± 0.31	0.03 ± 0.02	0.44 ± 0.16	0.10 ± 0.03	0.14 ± 0.10	0.19 ± 0.05
1989-90	0.17 ± 0.10	0.16 ± 0.11	0.50 ± 0.38	0.12 ± 0.04	0.35 ± 0.18	0.20 ± 0.08
1990-91	0.59 ± 0.34	0.34 ± 0.29	0.52 ± 0.24	0.09 ± 0.03	0.30 ± 0.17	0.25 ± 0.08

<sup>a</sup>This species is included in other species in this year.

<sup>b</sup>Due to rounding of numbers, these totals may not exactly equal individual totals.

Table E.5. Annual mean weights of fishes (kg/fish)  $\pm$  1 SE caught by private-boat fishermen in the TTS by area, species and year (1982-1991). Blank = no fish weighed. No standard error = fish weighed on only one survey day.

Species Year	Area					Coastwide
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
<b>Atlantic croaker</b>						
1982-83			0.47 $\pm$ 0.11			0.47 $\pm$ 0.21
1983-84		0.10	0.44			0.28 $\pm$ 0.28
1984-85		0.20	0.34 $\pm$ 0.05	0.11		0.32 $\pm$ 0.07
1985-86		0.16	0.19 $\pm$ 0.06			0.19 $\pm$ 0.07
1986-87		0.06	0.23 $\pm$ 0.12			0.15 $\pm$ 0.09
1987-88	0.21 $\pm$ 0.05		0.29 $\pm$ 0.23	0.31 $\pm$ 0.17		0.23 $\pm$ 0.03
1988-89	0.22 $\pm$ 0.10		0.18 $\pm$ 0.03	0.31 $\pm$ 0.02		0.27 $\pm$ 0.04
1989-90			0.27	0.14		0.26 $\pm$ 0.02
1990-91	0.20	0.31 $\pm$ 0.08	0.19 $\pm$ 0.06	0.25		0.28 $\pm$ 0.04
<b>Atlantic sharpnose shark</b>						
1982-83*						
1983-84			7.53	5.89 $\pm$ 0.10		5.94 $\pm$ 0.32
1984-85			1.82 $\pm$ 1.23	1.51 $\pm$ 0.09		1.54 $\pm$ 0.21
1985-86		4.79	4.85 $\pm$ 1.09	5.70 $\pm$ 0.48		5.58 $\pm$ 0.62
1986-87		5.34 $\pm$ 0.29	3.19 $\pm$ 0.63	6.37 $\pm$ 0.57		4.56 $\pm$ 0.59
1987-88	2.79 $\pm$ 0.04	6.08	4.52 $\pm$ 1.98	5.97 $\pm$ 0.59		5.82 $\pm$ 0.20
1988-89	3.83 $\pm$ 0.48		5.80 $\pm$ 0.32	5.60 $\pm$ 0.31		5.56 $\pm$ 0.14
1989-90		0.73 $\pm$ 0.29	5.96 $\pm$ 1.05	6.12 $\pm$ 0.47		5.87 $\pm$ 0.39
1990-91	2.20	6.75	2.60 $\pm$ 0.59	5.54		3.44 $\pm$ 0.88
<b>Cobia</b>						
1982-83			10.78 $\pm$ 3.13	9.01 $\pm$ 1.60	4.55	9.29 $\pm$ 1.56
1983-84			11.81 $\pm$ 1.32	19.16	3.92	15.00 $\pm$ 10.64
1984-85			9.30 $\pm$ 1.39	9.85 $\pm$ 1.28		9.80 $\pm$ 1.29
1985-86		3.74	7.17 $\pm$ 0.73	4.83 $\pm$ 4.06	16.8	6.17 $\pm$ 4.20
1986-87		0.00	5.68 $\pm$ 0.20	5.42	5.42	5.47 $\pm$ 4.45
1987-88			5.28 $\pm$ 1.18	6.55	7.66	5.87 $\pm$ 0.63
1988-89	6.49		12.94	6.62		10.32 $\pm$ 2.37
1989-90	14.40			3.32 $\pm$ 1.22		4.67 $\pm$ 2.37
1990-91	12.81 $\pm$ 3.44	24.57				16.16 $\pm$ 4.79

Table E.5. (Cont'd.)

Species Year	Area					Coastwide
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
<b>King mackerel</b>						
1982-83		5.63	6.82 ± 1.25	6.39 ± 1.06	4.42 ± 1.61	6.19 ± 0.88
1983-84			9.70 ± 0.72	10.14 ± 0.61	11.28 ± 1.15	10.15 ± 0.64
1984-85			9.62 ± 0.61	8.42 ± 0.53	5.95 ± 0.56	8.32 ± 0.54
1985-86		9.16 ± 0.04	7.82 ± 0.54	7.61 ± 0.34	7.53	7.76 ± 0.44
1986-87		9.61 ± 0.49	9.66 ± 1.28	8.18 ± 0.46	9.01 ± 0.85	8.51 ± 0.57
1987-88		8.58 ± 0.21	8.44 ± 0.95	8.90 ± 0.61		8.73 ± 0.14
1988-89		7.00 ± 1.08	8.54 ± 0.80	8.00 ± 0.22	6.72 ± 0.68	8.06 ± 0.17
1989-90		7.30 ± 0.54	14.16 ± 1.15	8.86 ± 0.57	6.90 ± 0.18	9.37 ± 0.84
1990-91	5.24	7.85 ± 0.18	8.81 ± 1.14	8.58 ± 0.70	8.32 ± 1.01	8.44 ± 0.16
<b>Red drum</b>						
1982-83			1.38 ± 0.15	1.20		1.36 ± 0.14
1983-84			2.26 ± 0.27		2.25	2.26 ± 0.44
1984-85			2.45 ± 0.09		4.10	2.52 ± 0.26
1985-86			1.77 ± 0.26			1.77 ± 0.26
1986-87			2.12 ± 0.17	3.38		2.14 ± 0.21
1987-88	2.14 ± 0.34		2.56 ± 0.26			2.52 ± 0.07
1988-89	2.45 ± 0.30		2.62 ± 0.28			2.59 ± 0.05
1989-90	0.97 ± 0.00	2.61	2.42 ± 0.24	2.57		2.46 ± 0.04
1990-91	4.13 ± 2.50	1.38	2.66 ± 0.17	3.44 ± 0.53		2.84 ± 0.21
<b>Red snapper</b>						
1982-83			0.35 ± 0.06	0.33 ± 0.19	0.64 ± 0.50	0.40 ± 0.15
1983-84			0.45 ± 0.03	0.27 ± 0.08	0.48 ± 0.07	0.43 ± 0.06
1984-85			0.50 ± 0.07	0.09 ± 0.03	0.22 ± 0.07	0.48 ± 0.07
1985-86			0.35 ± 0.07	0.35 ± 0.09	0.94 ± 0.43	0.81 ± 0.35
1986-87		0.87	0.31 ± 0.03	0.37 ± 0.01	0.68 ± 0.21	0.78 ± 0.71
1987-88	0.17 ± 0.03	0.47	0.25 ± 0.05	0.22 ± 0.03	1.30 ± 0.41	0.29 ± 0.05
1988-89	0.56 ± 0.13	0.37	0.70 ± 0.14	0.22 ± 0.02	0.64 ± 0.10	0.67 ± 0.04
1989-90		0.24 ± 0.05	0.32	0.30 ± 0.09	0.78 ± 0.12	0.35 ± 0.05
1990-91	0.63 ± 0.10	0.93 ± 0.25	0.72 ± 0.24	0.51 ± 0.14		0.78 ± 0.10

Table E.5. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide
<b>Sand seatrout</b>						
1982-83		0.45	0.38 ± 0.33	0.26 ± 0.05	0.40	0.35 ± 0.21
1983-84		0.11	0.44 ± 0.02	0.34		0.43 ± 0.03
1984-85		0.20	0.46 ± 0.02	0.26 ± 0.04		0.44 ± 0.04
1985-86		0.15 ± 0.07	0.41 ± 0.03	0.35 ± 0.04		0.40 ± 0.03
1986-87		0.21 ± 0.01	0.38 ± 0.03			0.26 ± 0.02
1987-88	0.26 ± 0.03		0.44 ± 0.06	0.23 ± 0.01		0.28 ± 0.05
1988-89	0.30 ± 0.03		0.38 ± 0.05	0.32		0.33 ± 0.04
1989-90	0.35	0.45	0.27 ± 0.10	0.40 ± 0.03		0.28 ± 0.02
1990-91	0.45 ± 0.03	0.28 ± 0.05	0.40 ± 0.01			0.42 ± 0.02
<b>Spanish mackerel</b>						
1982-83		1.05	0.67 ± 0.35	0.81 ± 0.07		0.67 ± 0.18
1983-84			1.02 ± 0.06	1.20 ± 0.09		1.10 ± 0.07
1984-85			1.23 ± 0.27	1.07	0.44	0.47 ± 0.44
1985-86		1.91 ± 0.75	1.32 ± 0.32	1.03 ± 0.13	1.90	1.33 ± 0.35
1986-87		1.77 ± 1.19		0.96 ± 0.32	1.45	1.76 ± 1.18
1987-88	0.96 ± 0.17	1.09 ± 0.02	1.09 ± 0.26	0.45 ± 0.04	1.23	0.52 ± 0.09
1988-89	1.07 ± 0.15		0.58 ± 0.11	1.49 ± 0.08	0.40 ± 0.09	0.66 ± 0.13
1989-90	0.97	0.72 ± 0.09	0.48	0.60 ± 0.07	1.04 ± 0.46	0.61 ± 0.02
1990-91	1.02 ± 0.06	0.42 ± 0.09	0.75 ± 0.04	1.06 ± 0.30	0.72 ± 0.15	0.77 ± 0.14
<b>Spotted seatrout</b>						
1982-83		0.76	0.69 ± 0.39	0.80 ± 0.52	0.59	0.69 ± 0.29
1983-84			0.82 ± 0.12	1.26	1.38	0.83 ± 0.15
1984-85		0.84 ± 0.11	1.15 ± 0.07	0.99 ± 0.06	0.81	1.03 ± 0.16
1985-86			0.91 ± 0.08			0.91 ± 0.08
1986-87		0.93 ± 0.05	0.82 ± 0.14	1.00		0.86 ± 0.15
1987-88	0.74 ± 0.04	0.92 ± 0.38	0.81 ± 0.04	1.35		0.85 ± 0.05
1988-89	0.84 ± 0.13		0.87 ± 0.06	1.22 ± 0.09	0.92	0.90 ± 0.04
1989-90	0.69 ± 0.12		0.97 ± 0.26			0.80 ± 0.13
1990-91	0.70 ± 0.04	0.53 ± 0.13	0.87 ± 0.09			0.80 ± 0.09



Table E.5. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide
Vermilion snapper						
1982-83 <sup>a</sup>						
1983-84						
1984-85						
1985-86						
1986-87						
1987-88						
1988-89						
1989-90						
1990-91						
All species combined <sup>b</sup>						
1982-83		2.00 ± 7.90	0.79 ± 1.77	2.77 ± 2.28	1.40 ± 1.10	1.50 ± 1.47
1983-84		0.10 ± 0.10	1.82 ± 0.51	6.83 ± 1.19	1.54 ± 0.82	3.90 ± 0.82
1984-85		0.46 ± 0.09	2.41 ± 0.54	6.23 ± 0.87	4.14 ± 1.01	3.43 ± 0.65
1985-86		4.51 ± 2.03	2.47 ± 0.57	5.67 ± 0.39	2.02 ± 0.95	3.85 ± 0.58
1986-87		2.06 ± 1.20	1.93 ± 0.54	5.82 ± 0.69	2.21 ± 1.37	2.21 ± 0.26
1987-88	0.68 ± 0.07	6.09 ± 1.12	2.59 ± 0.54	4.26 ± 1.07	2.15 ± 0.50	4.03 ± 0.88
1988-89	0.67 ± 0.18	1.78 ± 1.61	2.64 ± 0.36	6.09 ± 0.68	0.97 ± 0.32	3.20 ± 0.94
1989-90	1.71 ± 1.03	2.42 ± 0.58	2.30 ± 1.12	5.54 ± 0.72	1.62 ± 0.53	3.50 ± 1.11
1990-01	1.04 ± 0.29	1.53 ± 0.60	1.68 ± 0.38	5.02 ± 0.89	1.28 ± 0.66	2.21 ± 0.69

<sup>a</sup>Mean weights are not available for this species for this year.

<sup>b</sup>Includes "other" species.

Table E.6. Annual mean total lengths of fishes (mm/fish)  $\pm$  1 SE caught by private-boat fishermen in the TTS by area, species and year (1983-1991). Blank = no fish measured. No standard error = fish measured on only one survey day.

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide
<b>Atlantic croaker</b>						
1983-84		201	322			266 $\pm$ 173
1984-85		253	288 $\pm$ 14	208		281 $\pm$ 36
1985-86		234	237 $\pm$ 32			237 $\pm$ 49
1986-87		174	255 $\pm$ 45			217 $\pm$ 104
1987-88	250 $\pm$ 18		260 $\pm$ 67	278 $\pm$ 53		259 $\pm$ 10
1988-89	242 $\pm$ 34		239 $\pm$ 14	284 $\pm$ 7		269 $\pm$ 15
1989-90			275	225		271 $\pm$ 7
1990-91	251	284 $\pm$ 25	241 $\pm$ 20	264		272 $\pm$ 13
<b>Atlantic sharpnose shark</b>						
1983-84			1010	958 $\pm$ 13		959 $\pm$ 19
1984-85			651 $\pm$ 119	500 $\pm$ 37		516 $\pm$ 24
1985-86		893	842 $\pm$ 79	913 $\pm$ 37		903 $\pm$ 54
1986-87		919 $\pm$ 14	613 $\pm$ 108	959 $\pm$ 25		766 $\pm$ 70
1987-88	766 $\pm$ 2	954	790 $\pm$ 112	936 $\pm$ 33		919 $\pm$ 23
1988-89	821 $\pm$ 42		930 $\pm$ 17	928 $\pm$ 15		923 $\pm$ 8
1989-90		523 $\pm$ 60	934 $\pm$ 48	942 $\pm$ 28		922 $\pm$ 30
1990-91	721	982	720 $\pm$ 34	930		779 $\pm$ 62
<b>Cobia</b>						
1983-84			1133 $\pm$ 38	1325	800	1214 $\pm$ 745
1984-85			1048 $\pm$ 51	1071 $\pm$ 44		1069 $\pm$ 24
1985-86		788	968 $\pm$ 32	785 $\pm$ 216	1276	879 $\pm$ 443
1986-87			895 $\pm$ 7	887	877	888 $\pm$ 723
1987-88			873 $\pm$ 67	942	990	905 $\pm$ 30
1988-89	939		1160	945		1071 $\pm$ 81
1989-90	1210			738 $\pm$ 85		796 $\pm$ 101
1990-91	1140 $\pm$ 106	1434				1224 $\pm$ 120

Table E.6. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide
King mackerel						
1983-84			997 ± 24	1014 ± 16	1044 ± 36	1014 ± 17
1984-85			992 ± 17	956 ± 19	842 ± 14	950 ± 17
1985-86		1549 ± 349	934 ± 20	926 ± 13	915	966 ± 44
1986-87		1005 ± 17	993 ± 46	947 ± 15	993 ± 32	959 ± 22
1987-88		944 ± 19	952 ± 31	960 ± 24		954 ± 6
1988-89		914 ± 46	956 ± 26	945 ± 8	903 ± 30	945 ± 4
1989-90		923 ± 23	1134 ± 31	974 ± 19	901 ± 9	989 ± 25
1990-91	835	948 ± 7	962 ± 38	951 ± 25	935 ± 31	949 ± 2
Red drum						
1983-84			574 ± 26		595	575 ± 67
1984-85			605 ± 8		725	610 ± 37
1985-86			540 ± 23			540 ± 23
1986-87			572 ± 15	680		573 ± 22
1987-88	572 ± 32		609 ± 22			606 ± 5
1988-89	606 ± 25		611 ± 23			610 ± 1
1989-90		625	604 ± 22	622		608 ± 5
1990-91	672 ± 124	507	623 ± 14	679 ± 37		632 ± 12
Red snapper						
1983-84			318 ± 3	255 ± 11	326 ± 14	305 ± 7
1984-85			308 ± 8	187 ± 20	244 ± 22	302 ± 9
1985-86			282 ± 11	282 ± 29	370 ± 50	350 ± 43
1986-87		399	281 ± 11	303 ± 1	356 ± 46	381 ± 323
1987-88	234 ± 23	321	260 ± 17	251 ± 8	444 ± 39	264 ± 7
1988-89	326 ± 25	303 ± 1	356 ± 22	255 ± 8	351 ± 23	350 ± 6
1989-90		257 ± 16	289	268 ± 28	376 ± 20	292 ± 10
1990-91	352 ± 12	395 ± 38	348 ± 28	320 ± 33	341 ± 10	367 ± 18

Table E.6. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide
<b>Sand seatrout</b>						
1983-84		219	343 ± 6	318		339 ± 11
1984-85		267	346 ± 7	286 ± 11		339 ± 25
1985-86		236 ± 27	333 ± 9	308 ± 11		330 ± 9
1986-87		268 ± 5	325 ± 9			286 ± 6
1987-88	284 ± 12		342 ± 16	276 ± 5		294 ± 18
1988-89	300 ± 9		327 ± 11	311		312 ± 11
1989-90	321	348	281 ± 29	335 ± 7		285 ± 6
1990-91	341 ± 8	294 ± 34	334 ± 2			336 ± 3
<b>Spanish mackerel</b>						
1983-84			578 ± 12	612 ± 17		595 ± 10
1984-85			593 ± 53	595	432	438 ± 215
1985-86		694 ± 87	611 ± 62	580 ± 25	721	616 ± 60
1986-87		590 ± 137		564 ± 68	660	590 ± 139
1987-88	553 ± 27	585 ± 6	583 ± 51	433 ± 14	623	445 ± 16
1988-89	587 ± 34		469 ± 25	665 ± 13	414 ± 25	484 ± 30
1989-90	567 ± 6	509 ± 21	451	476 ± 21	561 ± 71	480 ± 5
1990-91	580 ± 14	421 ± 35	516 ± 8	572 ± 65	508 ± 38	514 ± 37
<b>Spotted seatrout</b>						
1983-84			430 ± 19	511	513	432 ± 31
1984-85		445 ± 20	487 ± 9	469 ± 12	442	471 ± 55
1985-86			448 ± 17			448 ± 17
1986-87		456 ± 10	432 ± 22	468		440 ± 35
1987-88	420 ± 7	441 ± 53	438 ± 7	516		437 ± 3
1988-89	436 ± 17		444 ± 9	488 ± 20	444	447 ± 6
1989-90	411 ± 20		459 ± 39			430 ± 23
1990-91	413 ± 7	378 ± 31	445 ± 16			432 ± 17

Table E.6. (Cont'd.)

Species Year	Area					Coastwide
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
Vermilion snapper						
1983-84						
1984-85						
1985-86						
1986-87						
1987-88						
1988-89						
1989-90						
1990-91						

Table E.7. Percent composition of "other" species caught by private-boat fishermen in the TTS by area (1989-1991). Values represent percentages of the observed coastwide total of "other" species.

Common name	Scientific name	Area					Coastwide
		Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
Atlantic spadefish	<u>Chaetodipterus faber</u>	0.36	0.90	14.70	0.54	0.18	16.67
Black drum	<u>Pogonias cromis</u>	0.36	0.36	4.66			5.38
Blacktip shark	<u>Carcharhinus limbatus</u>		0.54	1.61	0.90		3.05
Bluefish	<u>Pomatomus saltatrix</u>		0.36	3.76	1.25		5.38
Bonnethead	<u>Sphyrna tiburo</u>			1.79			1.79
Bull shark	<u>Carcharhinus leucas</u>			0.18	0.18		0.36
Combtooth blenny sp.	Family Blenniidae				0.36		0.36
Crevalle jack	<u>Caranx hippos</u>	0.18	0.54		0.90		1.61
Dolphin	<u>Coryphaena hippurus</u>	0.18	1.08		1.97		5.91
Drum sp.	Family Sciaenidae			0.18			0.18
Florida pompano	<u>Trachinotus canolinus</u>			0.36	0.18		0.54
Gafftopsail catfish	<u>Bagre marinus</u>			0.36			0.36
Gag	<u>Mycteroperca microlepis</u>			0.18			0.18
Gray anglefish	<u>Pemacanthus arcuatus</u>			0.18			0.18
Gray triggerfish	<u>Balistes capricus</u>	0.72	0.18	11.83	5.56	1.25	19.53
Great barracuda	<u>Sphyrna barracuda</u>						
Greater amberjack	<u>Seriola dumerilii</u>			0.18			0.18
Gulf kingfish	<u>Menticirrhus littoralis</u>			0.54	0.18		0.72
Gulf toadfish	<u>Opsanus beta</u>			0.18			0.18
Hardhead catfish	<u>Arius felis</u>		2.87	0.36	0.18		3.41
Jack sp.	Family Carangidae	0.36					0.36
Ladyfish	<u>Elops saurus</u>			0.18			0.18
Lane snapper	<u>Lutianus synaaris</u>		1.25	4.12			5.38
Lefteye flounder sp.	Family Buthidae			0.18			0.18
Little tunny	<u>Euthynnus alletteratus</u>			0.18		0.18	0.36
Pigfish	<u>Orthopristis chrysoptera</u>	0.36	0.36		0.36		1.08
Pinfish	<u>Lagodon rhomboides</u>				0.72		0.72
Pompano dolphin	<u>Coryphaena equisetis</u>			0.18			0.18
Requiem sharks sp.	Family Carcharhinidae	1.97		0.90	0.54		3.41
Sheepshead	<u>Archosargus probatocephalus</u>	1.08		1.61	1.43		4.12
Silver seatrout	<u>Cynoscion nothus</u>			2.51			2.51
Snapper sp.	Family Lutjanidae			7.53			7.53
Southern flounder	<u>Paralichthys lethostigma</u>		0.36	0.54	0.36		1.25
Southern kingfish	<u>Menticirrhus americanus</u>	0.54		2.87			3.41
Spinner shark	<u>Carcharhinus brevipinna</u>					0.36	0.36
Tripletail	<u>Lobotes surinamensis</u>	1.79		0.18			1.97
Warsaw grouper	<u>Epinephelus nigritus</u>			0.36			0.36
Yellow snapper	<u>Ocyurus chrysurus</u>					0.36	0.36

Table E.8. Residential origin of private-boat fishermen in the TTS by area and year (1982-1991). Blank - no fishermen interviewed.

Area Year <sup>a</sup>	Adjacent coastal counties	Non-adjacent coastal counties	Non-coastal counties	Other states and countries
<b>Sabine Lake</b>				
1987-88	92	5	2	1
1988-89	90	3	6	2
1989-90	94	0	6	0
1990-91	82	15	0	3
<b>Galveston</b>				
1982-83	91	0	9	0
1983-84	96	0	0	4
1984-85	61	13	26	0
1985-86	95	0	5	0
1986-87	88	5	6	1
1987-88	93	3	3	1
1988-89	88	12	0	0
1989-90	97	0	1	2
1990-91	89	1	7	3
<b>Matagorda</b>				
1982-83	50	23	26	1
1983-84	43	21	32	3
1984-85	55	15	30	0
1985-86	44	23	31	2
1986-87	48	15	37	1
1987-88	53	11	34	2
1988-89	49	22	28	2
1989-90	51	21	25	2
1990-91	39	22	38	1
<b>Corpus Christi</b>				
1982-83	28	10	56	6
1983-84	29	17	50	4
1984-85	23	20	54	3
1985-86	28	13	56	5
1986-87	29	16	50	5
1987-88	14	23	57	6
1988-89	27	17	55	1
1989-90	21	23	50	6
1990-91	19	27	51	3

Table E.B. (Cont'd.)

Area Year <sup>a</sup>	Adjacent coastal counties	Non-adjacent coastal counties	Non-coastal counties	Other states and countries
<b>Lower Laguna Madre</b>				
1982-83	71	11	14	4
1983-84	39	32	29	0
1984-85	72	4	14	10
1985-86	65	9	17	9
1986-87	53	25	18	4
1987-88	20	40	40	0
1988-89	66	0	34	0
1989-90	80	9	9	3
1990-91	38	18	40	4
<b>Coastwide</b>				
1982-83	39	13	43	4
1983-84	37	20	41	3
1984-85	41	17	40	3
1985-86	40	16	42	3
1986-87	44	14	38	3
1987-88	43	15	38	4
1988-89	43	16	39	1
1989-90	40	18	37	5
1990-91	37	22	39	2

<sup>a</sup> Prior to May 1983 all fishermen in a fishing party were assigned to the boat owner's residence.



APPENDIX F: Party-boat fishing estimates for the Texas Territorial Sea (TTS).

Table F.1. Number of days surveyed and number of party-boat fishermen interviewed (in parentheses) in the TTS by area and year (1983-1991).

Year	Area											
	Sabine Lake		Galveston		Matagorda		Corpus Christi		Lower Laguna Madre		Coastwide	
1983-84			131	(12)	195	(13)	206	(31)	133	(26)	665	(72)
1984-85			132	(0)	189	(8)	201	(39)	133	(16)	655	(63)
1985-86			133	(0)	190	(0)	206	(51)	133	(28)	662	(79)
1986-87			133	(0)	241	(0)	266	(32)	133	(2)	773	(34)
1987-88	108	(0)	131	(0)	237	(12)	269	(32)	133	(0)	878	(44)
1988-89	108	(0)	132	(0)	236	(10)	260	(21)	131	(4)	867	(35)
1989-90	108	(0)	131	(0)	240	(19)	266	(25)	133	(20)	878	(64)
1990-91	108	(0)	133	(0)	169	(8)	166	(30)	133	(2)	839	(40)

Table F.2. Estimated party-boat fishing pressure (man-h x 1000)  $\pm$  1SE, mean fishing-party size (No. of fishermen) and mean trip length (h) for party-boat fishermen in the TTS by area and year (1983-1991).

Area Year	Pressure	Mean fishing party size	Mean trip length
<b>Sabine Lake</b>			
1987-88	0.0		
1988-89	0.0		
1989-90	0.0		
1990-91	0.0		
<b>Galveston</b>			
1983-84	2.0 $\pm$ 2.0	2.0	7.0
1984-85	0.0		
1985-86	0.0		
1986-87	0.0		
1987-88	0.0		
1988-89	0.0		
1989-90	0.0		
1990-91	0.0		
<b>Matagorda</b>			
1983-84	3.8 $\pm$ 3.5	3.2	4.6
1984-85	0.2 $\pm$ 0.2	4.0	3.0
1985-86	0.0		
1986-87	0.0		
1987-88	0.5 $\pm$ 0.3	4.0	6.5
1988-89	0.5 $\pm$ 0.4	5.0	6.5
1989-90	4.0 $\pm$ 3.2	6.3	8.7
1990-91	1.3 $\pm$ 1.2	4.0	10.2
<b>Corpus Christi</b>			
1983-84	25.3 $\pm$ 17.4	3.4	7.8
1984-85	10.3 $\pm$ 6.7	4.3	6.7
1985-86	13.4 $\pm$ 5.1	4.2	7.3
1986-87	7.2 $\pm$ 6.0	4.0	7.7
1987-88	13.0 $\pm$ 7.4	3.6	7.8
1988-89	7.0 $\pm$ 5.3	5.2	8.8
1989-90	33.8 $\pm$ 20.7	5.0	7.6
1990-91	13.8 $\pm$ 8.5	5.0	7.9

Table F.2. (Cont'd.)

Area Year	Pressure	Mean fishing party size	Mean trip length
<b>Lower Laguna Madre</b>			
1983-84	15.3 ± 10.7	3.7	6.7
1984-85	5.4 ± 4.5	5.3	3.3
1985-86	5.2 ± 2.6	4.0	5.9
1986-87	0.4 ± 0.4	2.0	5.0
1987-88	0.0		
1988-89	2.4 ± 2.4	4.0	6.0
1989-90	9.9 ± 9.5	3.3	4.5
1990-91	0.6 ± 0.6	2.0	5.5
<b>Coastwide*</b>			
1983-84	46.5 ± 20.9	3.4	6.8
1984-85	15.9 ± 8.1	4.5	5.5
1985-86	18.6 ± 5.7	4.2	6.8
1986-87	7.6 ± 6.0	3.8	7.4
1987-88	13.5 ± 7.4	3.7	7.5
1988-89	9.9 ± 5.8	5.0	7.7
1989-90	47.8 ± 23.1	4.6	6.5
1990-91	15.6 ± 8.6	4.4	8.2

Table F.3. Estimated annual landings of fishes (No. x 1000)  $\pm$  1 SE caught by party-boat fishermen in the TTS by area, species and year (1983-1991).

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide <sup>a</sup>
<b>Atlantic croaker</b>						
1983-84		0.0	0.0	0.0	0.0	0.0
1984-85		0.0	0.0	0.0	0.0	0.0
1985-86		0.0	0.0	0.0	0.0	0.0
1986-87		0.0	0.0	0.0	0.0	0.0
1987-88	0.0	0.0	0.0	0.0	0.0	0.0
1988-89	0.0	0.0	0.0	0.0	0.0	0.0
1989-90	0.0	0.0	0.0	0.0	0.0	0.0
1990-91	0.0	0.0	0.0	0.0	0.0	0.0
<b>Atlantic sharpnose shark</b>						
1983-84		0.0	0.0	0.0	0.0	0.0
1984-85		0.0	0.0	0.0	0.0	0.0
1985-86		0.0	0.0	0.3 $\pm$ 0.2	0.0	0.3 $\pm$ 0.2
1986-87		0.0	0.0	0.3 $\pm$ 0.2	0.0	0.3 $\pm$ 0.2
1987-88	0.0	0.0	<.1 $\pm$ <.1	0.5 $\pm$ 0.4	0.0	0.5 $\pm$ 0.4
1988-89	0.0	0.0	<.1 $\pm$ <.1	0.2 $\pm$ 0.2	0.0	0.2 $\pm$ 0.2
1989-90	0.0	0.0	0.2 $\pm$ 0.1	0.5 $\pm$ 0.5	0.0	0.7 $\pm$ 0.5
1990-91	0.0	0.0	0.0	0.1 $\pm$ 0.1	0.0	0.1 $\pm$ 0.1
<b>Cobia</b>						
1983-84		0.0	0.0	<.1 $\pm$ <.1	0.0	<.1 $\pm$ <.1
1984-85		0.0	0.0	0.0	0.0	0.0
1985-86		0.0	0.0	0.0	0.0	0.0
1986-87		0.0	0.0	0.0	0.0	0.0
1987-88	0.0	0.0	0.0	0.1 $\pm$ 0.1	0.0	0.1 $\pm$ 0.1
1988-89	0.0	0.0	0.0	0.0	0.0	0.0
1989-90	0.0	0.0	0.0	0.0	0.0	0.0
1990-91	0.0	0.0	0.0	0.0	0.0	0.0

Table F.3. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide <sup>a</sup>
<b>King mackerel</b>						
1983-84		0.0	0.0	8.6 ± 5.7	0.9 ± 0.6	9.5 ± 5.8
1984-85		0.0	<.1 ± <.1	0.8 ± 0.5	0.5 ± 0.5	1.3 ± 0.7
1985-86		0.0	0.0	2.4 ± 1.1	0.3 ± 0.2	2.7 ± 1.1
1986-87		0.0	0.0	0.7 ± 0.7	0.0	0.7 ± 0.7
1987-88	0.0	0.0	0.0	3.1 ± 2.0	0.0	3.1 ± 2.0
1988-89	0.0	0.0	<.1 ± <.1	0.4 ± 0.3	0.7 ± 0.7	1.1 ± 0.7
1989-90	0.0	0.0	0.1 ± 0.1	3.2 ± 2.5	<.01 ± <.01	3.3 ± 2.5
1990-91	0.0	0.00	0.2 ± 0.2	1.5 ± 1.0	0.0	1.7 ± 1.0
<b>Red drum</b>						
1983-84		0.0	0.3 ± 0.3	0.0	0.0	0.3 ± 0.3
1984-85		0.0	0.0	0.0	0.0	0.0
1985-86		0.0	0.0	0.0	0.0	0.0
1986-87		0.0	0.0	0.0	0.0	0.0
1987-88	0.0	0.0	0.0	0.0	0.0	0.0
1988-89	0.0	0.0	<.1 ± <.1	0.0	0.0	<.1 ± <.1
1989-90	0.0	0.0	0.0	0.0	1.0 ± 1.0	1.0 ± 1.0
1990-91	0.0	0.0	0.2 ± 0.2	0.0	0.0	0.2 ± 0.2
<b>Red snapper</b>						
1983-84		0.0	0.0	0.0	7.3 ± 6.2	7.3 ± 6.2
1984-85		0.0	0.0	0.0	0.0	0.0
1985-86		0.0	0.0	0.0	0.7 ± 0.5	0.7 ± 0.5
1986-87		0.0	0.0	0.0	0.0	0.0
1987-88	0.0	0.0	0.0	0.0	0.0	0.0
1988-89	0.0	0.0	0.1 ± 0.1	0.0	0.0	0.1 ± 0.1
1989-90	0.0	0.0	0.4 ± 0.4	0.0	0.0	0.4 ± 0.4
1990-91	0.0	0.0	0.0	<.1 ± <.1	0.0	<.1 ± 0.1

Table F.3. (Cont'd.)

Species Year	Area						
	Sabine Lake	Galveston	Matagorda		Corpus Christi	Lower Laguna Madre	Coastwide <sup>a</sup>
<b>Sand seatrout</b>							
1983-84		0.0	0.0		0.0	0.0	0.0
1984-85		0.0	0.0		0.0	0.0	0.0
1985-86		0.0	0.0		0.0	0.0	0.0
1986-87		0.0	0.0		0.0	0.0	0.0
1987-88	0.0	0.0	0.1 ±	0.1	0.0	0.0	0.1 ± 0.1
1988-89	0.0	0.0	0.0		0.0	0.0	0.0
1989-90	0.0	0.0	0.0		0.0	0.0	0.0
1990-91	0.0	0.0	0.0		0.0	0.0	0.0
<b>Spanish mackerel</b>							
1983-84		0.0	0.0		0.4 ± 0.4	0.0	0.4 ± 0.4
1984-85		0.0	0.0		0.0	<.1 ± <.1	<.1 ± <.1
1985-86		0.0	0.0		0.0	0.0	0.0
1986-87		0.0	0.0		0.0	0.0	0.0
1987-88	0.0	0.0	0.0		0.3 ± 0.3	0.0	0.3 ± 0.3
1988-89	0.0	0.0	0.0		0.0	0.0	0.0
1989-90	0.0	0.0	<.01 ±	<.01	0.2 ± 0.2	0.0	0.2 ± 0.2
1990-91	0.0	0.0	0.0		<.1 ± <.1	0.0	<.1 ± <.1
<b>Spotted seatrout</b>							
1983-84		0.0	0.9 ±	0.6	0.0	0.0	0.9 ± 0.6
1984-85		0.0	0.3 ±	0.3	0.0	0.0	0.3 ± 0.3
1985-86		0.0	0.0		0.0	0.0	0.0
1986-87		0.0	0.0		0.0	0.0	0.0
1987-88	0.0	0.0	0.1 ±	0.1	0.0	0.0	0.1 ± 0.1
1988-89	0.0	0.0	0.0		0.0	0.0	0.0
1989-90	0.0	0.0	0.0		0.0	9.9 ± 9.9	9.9 ± 9.9
1990-91	0.00	0.0	0.2 ±	0.2	0.0	0.0	0.2 ± 0.2

Table F.3. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide <sup>a</sup>
<b>Vermilion snapper</b>						
1983-84		0.0	0.0	0.0	0.0	0.0
1984-85		0.0	0.0	0.0	0.0	0.0
1985-86		0.0	0.0	0.0	0.0	0.0
1986-87		0.0	0.0	0.0	0.0	0.0
1987-88	0.0	0.0	0.0	0.0	0.0	0.0
1988-89	0.0	0.0	0.0	0.0	0.0	0.0
1989-90	0.0	0.0	0.0	0.0	0.0	0.0
1990-91	0.0	0.0	0.0	0.0	0.0	0.0
<b>Other species</b>						
1983-84		0.0	1.2	0.4 ± 0.4	0.5 ± 0.3	2.1
1984-85		0.0	0.0	0.3 ± 0.2	0.9 ± 0.8	1.1 ± 0.8
1985-86		0.0	0.0	0.8 ± 0.4	1.1 ± 0.8	1.9 ± 0.9
1986-87		0.0	0.0	0.4	0.6 ± 0.6	0.9 ± 0.6
1987-88	0.0	0.0	0.2 ± 0.2	0.4 ± 0.2	0.0	0.6 ± 0.3
1988-89	0.0	0.0	0.1 ± 0.1	0.3 ± 0.3	0.4 ± 0.4	0.8 ± 0.5
1989-90	0.0	0.0	0.4	0.3 ± 0.2	0.5 ± 0.5	1.3
1990-91	0.0	0.0	<.1 ± <.1	0.1 ± 0.1	0.5 ± 0.5	0.2 ± 0.1
<b>All species combined<sup>a</sup></b>						
1983-84		0.0	2.5 ± 2.0	9.5 ± 6.4	8.7 ± 7.1	20.7 ± 9.7
1984-85		0.0	0.4 ± 0.3	1.1 ± 0.6	1.4 ± 1.3	2.9 ± 1.5
1985-86		0.0	0.0	3.6 ± 1.6	2.1 ± 1.0	5.6 ± 1.9
1986-87		0.0	0.0	1.4 ± 1.2	0.6 ± 0.6	1.9 ± 1.4
1987-88	0.0	0.0	0.5 ± 0.3	4.4 ± 2.8	0.0	4.8 ± 2.8
1988-89	0.0	0.0	0.2 ± 0.2	0.8 ± 0.5	1.1 ± 1.1	2.2 ± 1.2
1989-90	0.0	0.0	1.2 ± 0.8	4.2 ± 2.7	11.5 ± 11.0	16.8 ± 11.3
1990-91	0.0	0.0	0.6 ± 0.5	1.8 ± 1.1	0.1 ± 0.1	2.4 ± 1.2

<sup>a</sup>Due to rounding of numbers, these tables may not exactly equal individual totals.



Table F.4. Annual mean catch rates of fishes (No./man-h)  $\pm$  1 SE caught by party-boat fishermen in the TTS by area, species and year (1983-1991). Blank = no fishermen interviewed.

Species Year	Area				
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre Coastwide
<b>Atlantic croaker</b>					
1983-84			0.00	0.00	0.00
1984-85			0.00	0.00	0.00
1985-86				0.00	0.00
1986-87				0.00	0.00
1987-88			0.00	0.00	0.00
1988-89			0.00	0.00	0.00
1989-90			0.00	0.00	0.00
1990-91			0.00	0.00	0.00
<b>Atlantic sharpnose shark</b>					
1983-84			0.00	0.00	0.00
1984-85			0.00	0.00	0.00
1985-86				0.02 $\pm$ 0.02	0.02 $\pm$ 0.01
1986-87				0.04 $\pm$ 0.03	0.03 $\pm$ 0.03
1987-88			0.03 $\pm$ 0.03	0.04 $\pm$ 0.03	0.04 $\pm$ 0.03
1988-89			0.02 $\pm$ 0.02	0.02 $\pm$ 0.02	0.02 $\pm$ 0.02
1989-90			0.04 $\pm$ 0.04	0.02 $\pm$ 0.02	0.01 $\pm$ 0.01
1990-91			0.00	0.01 $\pm$ 0.01	0.01 $\pm$ 0.01
<b>Cobia</b>					
1983-84			0.00	<.01 $\pm$ <.01	<.01 $\pm$ <.01
1984-85			0.00	0.00	0.00
1985-86				0.00	0.00
1986-87				0.00	0.00
1987-88			0.00	<.01 $\pm$ <.01	<.01 $\pm$ <.01
1988-89			0.00	0.00	0.00
1989-90			0.00	0.00	0.00
1990-91			0.00	0.00	0.00

Table F.4. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide
<b>King mackerel</b>						
1983-84			0.00	0.34 ± 0.29	0.06 ± 0.05	0.20 ± 0.14
1984-85			0.02 ± 0.02	0.08 ± 0.06	0.10 ± 0.10	0.08 ± 0.06
1985-86				0.18 ± 0.10	0.05 ± 0.04	0.14 ± 0.07
1986-87				0.10 ± 0.10	0.00	0.10 ± 0.10
1987-88			0.00	0.24 ± 0.18		0.23 ± 0.17
1988-89			0.05 ± 0.05	0.05 ± 0.04	0.29 ± 0.29	0.11 ± 0.09
1989-90			0.02 ± 0.02	0.09 ± 0.08	<.01 ± <.01	0.07 ± 0.06
1990-91			0.12 ± 0.12	0.11 ± 0.09	0.00	0.10 ± 0.08
<b>Red drum</b>						
1983-84			0.09 ± 0.09	0.00	0.00	0.01 ± 0.01
1984-85			0.00	0.00	0.00	0.00
1985-86				0.00	0.00	0.00
1986-87				0.00	0.00	0.00
1987-88			0.00	0.00		0.00
1988-89			0.02 ± 0.02	0.00	0.00	<.01 ± <.01
1989-90			0.00	0.00	0.10 ± 0.10	0.02 ± 0.02
1990-91			0.16 ± 0.16	0.00	0.00	0.01 ± 0.01
<b>Red snapper</b>						
1983-84			0.00	0.00	0.48 ± 0.44	0.16 ± 0.14
1984-85			0.00	0.00	0.00	0.00
1985-86				0.00	0.14 ± 0.11	0.04 ± 0.03
1986-87				0.00	0.00	0.00
1987-88			0.00	0.00		0.00
1988-89			0.25 ± 0.24	0.00	0.00	0.01 ± 0.01
1989-90			0.11 ± 0.11	0.00	0.00	0.01 ± 0.01
1990-91			0.00	<.01 ± <.01	0.00	<.01 ± <.01

Table F.4. (Cont'd.)

Species Year	Area				
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre Coastwide
<b>Sand seatrout</b>					
1983-84			0.00	0.00	0.00
1984-85			0.00	0.00	0.00
1985-86				0.00	0.00
1986-87				0.00	0.00
1987-88			0.18 ± 0.18	0.00	<.01 ± <.01
1988-89			0.00	0.00	0.00
1989-90			0.00	0.00	0.00
1990-91			0.00	0.00	0.00
<b>Spanish mackerel</b>					
1983-84			0.00	0.02 ± 0.02	0.00
1984-85			0.00	0.00	<.01 ± <.01
1985-86				0.00	0.00
1986-87				0.00	0.00
1987-88			0.00	0.02 ± 0.02	0.02 ± 0.02
1988-89			0.00	0.00	0.00
1989-90			0.01 ± 0.01	0.01 ± 0.01	0.00
1990-91			0.00	<.01 ± <.01	0.00
<b>Spotted seatrout</b>					
1983-84			0.25 ± 0.24	0.00	0.00
1984-85			1.59 ± 1.59	0.00	0.00
1985-86				0.00	0.00
1986-87				0.00	0.00
1987-88			0.15 ± 0.15	0.00	<.01 ± <.01
1988-89			0.00	0.00	0.00
1989-90			0.00	0.00	1.00 ± 1.00
1990-91			0.14 ± 0.14	0.00	0.00

Table F.4. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide
<b>Vermilion snapper</b>						
1983-84			0.00	0.00	0.00	0.00
1984-85			0.00	0.00	0.00	0.00
1985-86				0.00	0.00	0.00
1986-87				0.00	0.00	0.00
1987-88			0.00	0.00		0.00
1988-89			0.00	0.00	0.00	0.00
1989-90			0.00	0.00	0.00	0.00
1990-91			0.00	0.00	0.00	0.00
<b>Other species</b>						
1983-84			0.32	0.02 ± 0.02	0.03 ± 0.03	0.05
1984-85			0.00	0.02 ± 0.02	0.16 ± 0.16	0.07 ± 0.06
1985-86				0.06 ± 0.04	0.21 ± 0.18	0.10 ± 0.06
1986-87				0.05	1.50 ± 1.50	0.12 ± 0.10
1987-88			0.42 ± 0.41	0.03 ± 0.02		0.03
1988-89			0.13 ± 0.12	0.04 ± 0.04	0.17 ± 0.17	0.08 ± 0.06
1989-90			0.11	0.01 ± 0.01	0.05 ± 0.05	0.03 ± 0.02
1990-91			0.02 ± 0.02	0.01 ± 0.01	0.09 ± 0.09	0.01 ± 0.01
<b>All species combined*</b>						
1983-84			0.66 ± 0.64	0.38 ± 0.32	0.57 ± 0.52	0.45 ± 0.27
1984-85			1.62 ± 1.60	0.10 ± 0.08	0.27 ± 0.26	0.18 ± 0.12
1985-86				0.27 ± 0.15	0.40 ± 0.26	0.30 ± 0.14
1986-87				0.19 ± 0.18	1.50 ± 1.50	0.25 ± 0.23
1987-88			0.77 ± 0.63	0.34 ± 0.26		0.35 ± 0.26
1988-89			0.46 ± 0.44	0.12 ± 0.10	0.46 ± 0.46	0.22 ± 0.16
1989-90			0.29 ± 0.26	0.12 ± 0.10	1.16 ± 1.15	0.35 ± 0.27
1990-91			0.44 ± 0.44	0.13 ± 0.10	0.09 ± 0.09	0.15 ± 0.11

\*Due to rounding of numbers, these totals may not exactly equal individual totals.

Table F.5. Mean catch rates of fishes (No./man-h)  $\pm$  1 SE caught by party-boat fishermen in the Gulf of Mexico (TTS and EEZ combined) off Texas during June-August by species, area and year (1979-1990)<sup>a</sup>. Number in parentheses indicates number of interviews. Blank - no fishermen interviewed.

Area Year	King mackerel	Red snapper	Spanish mackerel	Cobia	Atlantic <sup>b</sup> sharpnose shark	Other species	All species combined <sup>c</sup>
Sabine Lake							
1987 (0)							
1988 (0)							
1989 (0)							
1990 (0)							
Galveston							
1979 (5)	0.17 $\pm$ 0.08	0.05 $\pm$ 0.02	0.20 $\pm$ 0.14	<.01	0.00	0.04	0.45 $\pm$ 0.10
1981 (26)	0.28 $\pm$ 0.04	0.14 $\pm$ 0.07	0.04 $\pm$ 0.04	0.02 $\pm$ 0.01	0.01 $\pm$ 0.01	0.23	0.72 $\pm$ 0.11
1982 (21)	0.27 $\pm$ 0.06	0.25 $\pm$ 0.20	0.01 $\pm$ 0.01	0.04 $\pm$ 0.01	<.01	0.10	0.66 $\pm$ 0.19
1983 (1)	0.32 $\pm$ 0.32	0.00	0.06 $\pm$ 0.06	0.00	0.00	0.03	0.41 $\pm$ 0.41
1984 (0)							
1985 (1)	0.09 $\pm$ 0.09	0.15 $\pm$ 0.15	0.02 $\pm$ 0.02	0.00	0.00	0.06	0.32 $\pm$ 0.32
1986 (3)	0.10 $\pm$ 0.10	0.00	0.01 $\pm$ 0.01	0.00	<.01 $\pm$ <.01	0.06 $\pm$ 0.06	0.17 $\pm$ 0.17
1987 (3)	0.02 $\pm$ 0.02	0.00	0.01 $\pm$ 0.01	0.00	0.00	0.10 $\pm$ 0.10	0.13 $\pm$ 0.13
1988 (0)							
1989 (0)							
1990 (0)							
Matagorda							
1979 (0)							
1981 (0)							
1982 (7)	0.20 $\pm$ 0.07	0.04 $\pm$ 0.03	0.01 $\pm$ 0.01	0.01 $\pm$ 0.01	0.00	0.06	0.48 $\pm$ 0.14
1983 (5)	0.01 $\pm$ 0.01	<.01	0.00	0.00	0.00	0.60	0.61 $\pm$ 0.58
1984 (3)	0.04 $\pm$ 0.04	0.00	0.00	0.00	0.00	0.50	0.54 $\pm$ 0.50
1985 (0)							
1986 (3)	0.05 $\pm$ 0.05	0.00	0.00	0.01 $\pm$ 0.01	0.00	0.08 $\pm$ 0.08	0.14 $\pm$ 0.13
1987 (5)	0.01 $\pm$ 0.01	0.04 $\pm$ 0.04	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01	0.04	0.10 $\pm$ 0.10
1988 (3)	0.14 $\pm$ 0.12	0.46 $\pm$ 0.39	0.02 $\pm$ 0.02	0.00	0.18 $\pm$ 0.15	0.11	0.92 $\pm$ 0.71
1989 (5)	0.05 $\pm$ 0.04	0.11 $\pm$ 0.08	0.01 $\pm$ 0.01	0.00	0.02 $\pm$ 0.02	0.19 $\pm$ 0.14	0.37 $\pm$ 0.25
1990 (4)	0.06 $\pm$ 0.05	0.00	0.02 $\pm$ 0.02	0.00	0.01 $\pm$ 0.01	0.12	0.21 $\pm$ 0.18

Table F.5. (Cont'd.)

Area Year	King mackerel	Red snapper	Spanish mackerel	Cobia	Atlantic <sup>a</sup> sharpnose shark	Other species	All species combined <sup>b</sup>
<b>Corpus Christi</b>							
1979 (11)	0.29 ± 0.07	0.00	0.00	0.01 ± 0.01	<.01	0.08	0.37 ± 0.09
1981 (24)	0.41 ± 0.07	<.01	0.01 ± 0.01	0.01 ± 0.01	0.06 ± 0.03	0.05	0.56 ± 0.09
1982 (33)	0.20 ± 0.03	0.02 ± 0.02	<.01	0.01 ± 0.01	0.02 ± 0.01	0.03	0.28 ± 0.04
1983 (23)	0.18 ± 0.14	0.00	<.01	0.00	<.01	0.14	0.33 ± 0.23
1984 (24)	0.18 ± 0.10	0.00	0.00	<.01	0.00	0.04	0.22 ± 0.22
1985 (17)	0.15 ± 0.08	0.17 ± 0.15	0.00	<.01 ± <.01	0.02 ± 0.01	0.07	0.41 ± 0.22
1986 (11)	0.11 ± 0.08	0.00	0.00	0.00	0.02 ± 0.02	0.15	0.28 ± 0.21
1987 (19)	0.21 ± 0.15	0.00	0.02 ± 0.02	<.01 ± <.01	0.03 ± 0.03	0.06 ± 0.05	0.33 ± 0.22
1988 (13)	0.09 ± 0.06	0.00	<.01 ± <.01	0.00	0.02 ± 0.01	0.04 ± 0.03	0.15 ± 0.09
1989 (4)	0.04 ± 0.04	0.00	0.01 ± 0.01	0.00	0.04 ± 0.04	0.02 ± 0.02	0.11 ± 0.09
1990 (7)	0.14 ± 0.09	0.00	0.00	0.00	0.01 ± 0.01	0.19 ± 0.17	0.34 ± 0.25
<b>Lower Laguna Madre</b>							
1979 (0)							
1981 (10)	0.42 ± 0.15	0.28 ± 0.28	<.01	0.00	0.02 ± 0.01	0.08	0.94 ± 0.31
1982 (11)	0.38 ± 0.17	0.56 ± 0.38	0.00	0.02 ± 0.01	0.00	0.09	1.05 ± 0.36
1983 (14)	0.04 ± 0.03	0.21 ± 0.16	0.00	0.00	0.00	0.06	0.30 ± 0.21
1984 (5)	0.00	0.00	0.00	0.00	0.00	0.10	0.10 ± 0.09
1985 (14)	0.03 ± 0.02	0.08 ± 0.06	0.00	0.00	0.00	0.42	0.53 ± 0.31
1986 (12)	0.04 ± 0.04	0.07 ± 0.07	0.00	0.00	0.00	0.29 ± 0.21	0.40 ± 0.26
1987 (5)	0.16 ± 0.15	1.05 ± 0.95	0.00	0.00	0.00	0.24 ± 0.20	1.45 ± 1.18
1988 (4)	0.08 ± 0.07	0.34 ± 0.34	0.00	0.00	0.00	0.15 ± 0.12	0.57 ± 0.43
1989 (5)	0.03 ± 0.03	0.00	0.00	0.00	0.00	0.45 ± 0.31	0.48 ± 0.33
1990 (6)	0.01 ± 0.01	0.00	0.02 ± 0.02	0.00	0.00	0.05 ± 0.04	0.09 ± 0.06
<b>Coastwide</b>							
1979 (16)	0.25 ± 0.06	0.02 ± 0.01	0.09 ± 0.04	0.01 ± 0.01	<.01	0.06	0.41 ± 0.05
1981 (60)	0.37 ± 0.04	0.11 ± 0.02	0.02 ± 0.01	0.01 ± 0.01	0.03 ± 0.01	0.14	0.69 ± 0.04
1982 (72)	0.25 ± 0.03	0.18 ± 0.05	0.01 ± 0.01	0.02 ± 0.01	0.01 ± 0.01	0.07	0.53 ± 0.05
1983 (43)	0.15 ± 0.10	0.03 ± 0.02	<.01	0.00	<.01	0.14	0.34 ± 0.19
1984 (32)	0.16 ± 0.08	0.00	0.00	<.01	0.00	0.06	0.21 ± 0.10
1985 (32)	0.11 ± 0.05	0.14 ± 0.10	<.01	<.01	0.01 ± 0.01	0.18	0.44 ± 0.17

Table F.5. (Cont'd.)

Area Year	King mackerel	Red snapper	Spanish mackerel	Cobia	Atlantic <sup>a</sup> sharpnose shark	Other species	All species combined <sup>b</sup>
Coastwide (Cont'd.)							
1986 (29)	0.08 ± 0.05	0.02 ± 0.02	<.01 ± <.01	0.00	0.01 ± 0.01	0.17	0.28 ± 0.15
1987 (32)	0.05 ± 0.04	0.01 ± 0.01	0.01 ± 0.01	<.01 ± <.01	<.01 ± <.01	0.09 ± 0.09	0.17 ± 0.15
1988 (20)	0.09 ± 0.05	0.16 ± 0.15	<.01 ± <.01	0.00	0.02 ± 0.01	0.09 ± 0.05	0.35 ± 0.19
1989 (14)	0.04 ± 0.03	0.03 ± 0.02	0.01 ± 0.01	0.00	0.03 ± 0.02	0.15 ± 0.07	0.25 ± 0.12
1990 (17)	0.10 ± 0.05	0.00	0.01 ± <.01	0.00	<.01 ± <.01	0.15	0.27 ± 0.16

<sup>a</sup>1979-1982 data from McEachron (1984).

<sup>b</sup>Includes all species of shark retained during 1979-82.

<sup>c</sup>Due to rounding of numbers, these totals may not exactly equal individual totals.

Table F.6. Annual mean weights of fishes (kg/fish)  $\pm$  1 SE caught by party-boat fishermen in the TTS by area, species and year (1983-1991). Blank = no fish weighed. No standard error = fish weighed on only one survey day.

Species Year	Area					Coastwide
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
<b>Atlantic croaker</b>						
1983-84						
1984-85						
1985-86						
1986-87						
1987-88						
1988-89						
1989-90						
1990-91						
<b>Atlantic sharpnose shark</b>						
1983-84						
1984-85						
1985-86				5.69 $\pm$ 0.57		5.69 $\pm$ 0.57
1986-87				5.97		5.97
1987-88			1.95	6.12 $\pm$ 0.72		6.00 $\pm$ 0.23
1988-89			2.93	6.57		6.39 $\pm$ 0.35
1989-90			2.14	6.60		5.52 $\pm$ 1.64
1990-91				5.63		5.63
<b>Cobia</b>						
1983-84				19.50		19.50
1984-85						
1985-86						
1986-87						
1987-88				10.37		10.37
1988-89						
1989-90						
1990-91						



Table F.6. (Cont'd.)

Species Year	Area					Coastwide
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
King mackerel				9.04 ± 0.76	9.10	9.05 ± 0.72
1983-84				5.46 ± 0.28	6.59	5.90 ± 2.75
1984-85				8.55 ± 0.46	10.49	8.73 ± 1.40
1985-86				9.08 ± 0.13		9.08
1986-87				7.98 ± 0.89		7.98
1987-88			12.29	9.31	6.17	7.33 ± 1.22
1988-89			10.02	11.50 ± 2.13	6.45	11.43 ± 0.10
1989-90			9.58	6.92 ± 1.99		7.16 ± 0.45
1990-91						
Red drum			2.97			2.97
1983-84						
1984-85						
1985-86						
1986-87						
1987-88			4.10			4.10
1988-89					2.39	2.39
1989-90			2.29 ± 0.07			2.29
1990-91						
Red snapper					0.31 ± 0.01	0.31 ± 0.01
1983-84						
1984-85					1.00	1.00
1985-86						
1986-87						
1987-88			0.40 ± 0.02			0.40 ± 0.02
1988-89			3.18			3.18
1989-90				0.10		0.10
1990-91						

Table F.6. (Cont'd.)

Species Year	Area					Coastwide
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
<b>Sand seatrout</b>						
1983-84			0.35			0.35
1984-85						
1985-86						
1986-87						
1987-88			0.43			0.43
1988-89						
1989-90						
1990-91						
<b>Spanish mackerel</b>						
1983-84			1.00	1.55		1.54
1984-85						
1985-86						
1986-87						
1987-88				1.11 ± 0.01		1.11 ± 0.01
1988-89						
1989-90				0.65		0.65
1990-91				0.58		0.58
<b>Spotted seatrout</b>						
1983-84			0.95 ± 0.03			0.95 ± 0.03
1984-85			1.56			1.56
1985-86						
1986-87						
1987-88			0.87			0.87
1988-89						
1989-90					0.76	0.76
1990-91			1.19 ± 0.14			1.19

Table F.6. (Cont'd.)

Species Year	Area					Coastwide
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
Vermilion snapper						
1983-84						
1984-85						
1985-86						
1986-87						
1987-88						
1988-89						
1989-90						
1990-91						
All species combined*						
1983-84			1.02 ± 0.14	8.86 ± 0.93	4.21 ± 1.39	5.96 ± 1.03
1984-85			1.50	5.43 ± 0.25	6.50	5.49 ± 3.54
1985-86				7.83 ± 0.57	1.60	5.55 ± 0.94
1986-87				8.20 ± 0.01		8.20 ± 0.01
1987-88			0.80	7.17 ± 0.74		6.63 ± 0.98
1988-89			4.68 ± 0.71	7.62 ± 1.34	6.10	6.53 ± 0.63
1989-90			3.15 ± 0.09	9.67 ± 1.18	2.40 ± 1.96	4.26 ± 2.27
1990-91			3.23 ± 1.26	5.25 ± 1.88		4.77 ± 0.74

\*Includes "other" species.

Table F.7. Annual mean total lengths of fishes (mm/fish)  $\pm$  1 SE caught by party-boat fishermen in the TTS by area, species and year (1983-1991). Blank = no fish measured. No standard error = fish measured on only one survey day.

Species Year	Area					Coastwide
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
<b>Atlantic croaker</b>						
1983-84						
1984-85						
1985-86						
1986-87						
1987-88						
1988-89						
1989-90						
1990-91						
<b>Atlantic sharpnose shark</b>						
1983-84						
1984-85						
1985-86				925 $\pm$ 39		925 $\pm$ 38
1986-87				936		936
1987-88			690	951 $\pm$ 30		944 $\pm$ 14
1988-89			780	974		964 $\pm$ 19
1989-90			715	970		908 $\pm$ 94
1990-91				934		934
<b>Cobia</b>						
1983-84				1292		1292
1984-85						
1985-86						
1986-87						
1987-88				1090		1090
1988-89						
1989-90						
1990-91						

Table F.7. (Cont'd.)

Species Year	Area					Coastwide
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
King mackerel						
1983-84				984 ± 23	990 ± 15	985 ± 22
1984-85				840 ± 11	896	862 ± 358
1985-86				973 ± 19	1045	980 ± 115
1986-87				988 ± 3		988 ± 3
1987-88				940 ± 32		940 ± 32
1988-89			1078	1003	873	920 ± 50
1989-90			1030	1061 ± 61	893	1059 ± 3
1990-91			996	888 ± 91		898 ± 18
Red drum						
1983-84			651			651
1984-85						
1985-86						
1986-87						
1987-88						725
1988-89			725		600	600
1989-90						591
1990-91			591 ± 3			
Red snapper						
1983-84					287 ± 4	287 ± 4
1984-85						
1985-86					392	392
1986-87						
1987-88						
1988-89			309 ± 5			309 ± 5
1989-90			594			594
1990-91				204		204

Table F.7. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide
<b>Sand seatrout</b>						
1983-84			320			320
1984-85						
1985-86						
1986-87						
1987-88			342			342
1988-89						
1989-90						
1990-91						
<b>Spanish mackerel</b>						
1983-84			580	674		673
1984-85						
1985-86						
1986-87						
1987-88				586 ± 10		586 ± 10
1988-89						
1989-90				501		501
1990-91				482		482
<b>Spotted seatrout</b>						
1983-84			464 ± 5			464 ± 5
1984-85			547			547
1985-86						
1986-87						
1987-88			451			451
1988-89						
1989-90					423	423
1990-91			493 ± 19			493

Table F.7. (Cont'd.)

Species Year	Area					Coastwide
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
Vermilion snapper						
1983-84						
1984-85						
1985-86						
1986-87						
1987-88						
1988-89						
1989-90						
1990-91						

Table F.8. Percent composition of "other" species caught by party-boat fishermen in the TTS by area (1990-1991). Values represent percentages of the observed coastwide total of "other" species.

Common name	Scientific name	Area					Coastwide
		Sabine Lake	Galveston	Matagorda	Aransas	Lower Laguna Madre	
Atlantic needlefish	<u>Strongylura marina</u>			14.29			14.25
Blacktip shark	<u>Carcharhinus limbatus</u>				14.29		14.29
Bluntnose jack	<u>Hemicaranx amblyrhynchus</u>				14.29		14.29
Gray triggerfish	<u>Balistes capricus</u>				28.57		28.57
Lane snapper	<u>Lutjanus synagris</u>				14.29		14.29
Little tunny	<u>Euthynnus alletteratus</u>					14.29	14.29



Table F.9. Residential origin (%) of party-boat fishermen in the TTS by area and year (1983-1991). Blank = no fishermen interviewed.

Area Year	Adjacent coastal counties	Non-adjacent coastal counties	Non-coastal counties	Other states and countries
<b>Sabine Lake</b>				
1987-88				
1988-89				
1989-90				
1990-91				
<b>Galveston</b>				
1983-84	100	0	0	0
1984-85				
1985-86				
1986-87				
1987-88				
1988-89				
1989-90				
1990-91				
<b>Matagorda</b>				
1983-84	31	0	69	0
1984-85	100	0	0	0
1985-86				
1986-87				
1987-88	17	83	0	0
1988-89	50	0	50	0
1989-90	37	21	42	0
1990-91	50	0	50	0
<b>Corpus Christi</b>				
1983-84	0	6	84	10
1984-85	8	8	56	28
1985-86	0	20	76	4
1986-87	0	3	75	22
1987-88	0	6	78	16
1988-89	62	0	19	19
1989-90	20	0	80	0
1990-91	30	27	37	7

Table F.9. (Cont'd.)

Area Year	Adjacent coastal counties	Non-adjacent coastal counties	Non-coastal counties	Other states and countries
<b>Lower Laguna Madre</b>				
1983-84	15	15	42	27
1984-85	19	0	31	50
1985-86	46	4	36	14
1986-87	0	0	100	0
1987-88				
1988-89	0	0	100	0
1989-90	20	0	35	45
1990-91	0	0	100	0
<b>Coastwide</b>				
1983-84	14	8	64	14
1984-85	22	5	43	30
1985-86	16	14	62	8
1986-87	0	3	76	21
1987-88	5	27	57	11
1988-89	51	0	37	11
1989-90	25	6	55	14
1990-91	32	20	42	5

APPENDIX G: Private-boat fishing estimates for the United States Exclusive Economic Zone (EEZ) off Texas.

Table G.1. Number of days surveyed and number of private-boat fishermen interviewed (in parentheses) in the EEZ by area and year (1982-1991).

Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide
1982-83		133 (169)	242 (537)	248 (620)	114 (105)	737 (1431)
1983-84		131 (122)	195 (366)	206 (321)	133 (78)	665 (887)
1984-85		132 (34)	189 (445)	201 (762)	133 (176)	655 (1417)
1985-86		133 (375)	190 (511)	206 (691)	133 (74)	662 (1651)
1986-87		133 (369)	241 (311)	266 (317)	133 (65)	773 (1065)
1987-88	108 (151)	131 (156)	237 (320)	269 (238)	133 (19)	878 (884)
1988-89	108 (54)	132 (51)	236 (293)	260 (175)	131 (41)	867 (618)
1989-90	108 (42)	131 (183)	240 (80)	266 (258)	133 (38)	878 (601)
1990-91	108 (47)	131 (315)	241 (168)	266 (398)	133 (28)	879 (956)

Table G.2. Estimated private-boat fishing pressure (man-h x 1000)  $\pm$  1SE, mean fishing-party size (No. of fishermen) and mean trip length (h) for private-boat fishermen in the EEZ by area and year (1982-1991).

Area Year	Pressure	Mean fishing party size	Mean trip length
<b>Sabine Lake</b>			
1987-88	9.6 $\pm$ 3.8	3.0	8.4
1988-89	2.4 $\pm$ 1.1	3.2	7.8
1989-90	2.4 $\pm$ 1.2	3.2	8.8
1990-91	3.0 $\pm$ 1.4	2.7	6.8
<b>Galveston</b>			
1982-83	91.9 $\pm$ 37.8	3.0	8.0
1983-84	41.8 $\pm$ 14.3	3.0	9.2
1984-85	30.5 $\pm$ 11.1	3.0	7.0
1985-86	114.5 $\pm$ 40.4	3.2	8.8
1986-87	98.6 $\pm$ 32.0	3.3	8.4
1987-88	39.3 $\pm$ 19.1	2.9	7.4
1988-89	57.8 $\pm$ 24.9	2.7	8.2
1989-90	115.6 $\pm$ 38.1	2.8	7.6
1990-91	32.2 $\pm$ 22.6	3.1	7.6
<b>Matagorda</b>			
1982-83	69.7 $\pm$ 6.9	3.1	8.1
1983-84	28.8 $\pm$ 8.6	3.1	7.5
1984-85	29.4 $\pm$ 6.0	3.2	7.9
1985-86	38.5 $\pm$ 9.7	3.2	7.4
1986-87	32.3 $\pm$ 8.5	3.3	8.6
1987-88	44.4 $\pm$ 10.4	3.2	8.3
1988-89	30.9 $\pm$ 8.0	3.3	8.0
1989-90	14.9 $\pm$ 6.6	3.1	7.4
1990-91	25.8 $\pm$ 7.8	3.2	7.8
<b>Corpus Christi</b>			
1982-83	79.4 $\pm$ 8.2	3.2	7.1
1983-84	114.7 $\pm$ 52.9	3.2	7.6
1984-85	84.6 $\pm$ 21.7	3.3	6.9
1985-86	103.2 $\pm$ 18.1	3.3	7.7
1986-87	39.4 $\pm$ 15.1	2.9	7.5
1987-88	41.5 $\pm$ 13.7	3.0	7.4
1988-89	34.2 $\pm$ 9.7	3.0	7.6
1989-90	133.7 $\pm$ 40.0	3.1	7.3
1990-91	127.5 $\pm$ 33.8	2.9	7.7

Table G.2. (Cont'd.)

Area Year	Pressure	Mean fishing party size	Mean trip length
Lower Laguna Madre			
1982-83	17.9 ± 5.1	3.3	8.0
1983-84	35.4 ± 20.1	2.6	7.8
1984-85	24.5 ± 9.0	3.3	7.5
1985-86	11.3 ± 4.6	3.7	7.7
1986-87	18.0 ± 8.0	3.2	7.4
1987-88	4.7 ± 2.5	2.1	11.7
1988-89	7.7 ± 2.5	3.2	7.2
1989-90	6.0 ± 2.4	2.9	10.7
1990-91	2.5 ± 1.0	2.8	6.8
Coastwide*			
1982-83	260.2 ± 43.6	3.2	7.6
1983-84	220.7 ± 59.0	3.1	7.8
1984-85	169.1 ± 26.7	3.2	7.3
1985-86	267.5 ± 45.6	3.3	7.8
1986-87	188.7 ± 37.3	3.2	8.1
1987-88	139.6 ± 26.1	3.0	8.0
1988-89	143.9 ± 30.1	3.1	8.0
1989-90	272.8 ± 55.7	3.0	7.7
1990-91	234.8 ± 49.0	3.0	7.7

Table G.3. Estimated annual landings of fishes (No. x 1000)  $\pm$  1 SE caught by private-boat fishermen in the EEZ by area, species and year (1982-1991).

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide <sup>a</sup>
<b>Atlantic croaker</b>						
1982-83		0.1 $\pm$ 0.1	0.1 $\pm$ <.1	0.3 $\pm$ 0.1	0.3 $\pm$ 0.3	0.8 $\pm$ 0.5
1983-84		0.1 $\pm$ 0.1	<.1 $\pm$ <.1	0.0	0.0	0.1 $\pm$ 0.1
1984-85		0.0	0.2 $\pm$ 0.1	<.1 $\pm$ <.1	0.0	0.2 $\pm$ 0.1
1985-86		0.0	<.1 $\pm$ <.1	0.0	0.0	<.1 $\pm$ <.1
1986-87		<.1 $\pm$ <.1	0.0	0.0	<.1 $\pm$ <.1	<.1 $\pm$ <.1
1987-88	0.1 $\pm$ 0.1	0.4 $\pm$ 0.4	<.1 $\pm$ <.1	0.0	0.0	0.5 $\pm$ 0.4
1988-89	<.1 $\pm$ <.1	0.0	<.1 $\pm$ <.1	0.0	0.0	0.1 $\pm$ <.1
1989-90	0.0	<.1 $\pm$ <.1	0.0	0.5 $\pm$ 0.5	0.0	0.5 $\pm$ 0.5
1990-91	<.1 $\pm$ <.1	0.0	0.0	0.0	0.0	<.1 $\pm$ <.1
<b>Atlantic sharpnose shark</b>						
1982-83 <sup>b</sup>					0.0	0.3 $\pm$ 0.1
1983-84		0.2 $\pm$ 0.1	<.1 $\pm$ <.1	0.1 $\pm$ 0.1		2.1 $\pm$ 1.6
1984-85		0.5 $\pm$ 0.3	<.1 $\pm$ <.1	<.1 $\pm$ <.1	1.6 $\pm$ 1.6	1.8 $\pm$ 0.7
1985-86		0.4 $\pm$ 0.4	0.2 $\pm$ 0.1	1.2 $\pm$ 0.5	0.0	0.5 $\pm$ 0.2
1986-87		0.2 $\pm$ 0.1	0.1 $\pm$ <.1	0.1 $\pm$ <.1	0.1 $\pm$ 0.1	0.9 $\pm$ 0.4
1987-88	0.1 $\pm$ 0.1	0.1 $\pm$ 0.1	0.4 $\pm$ 0.3	0.3 $\pm$ 0.2	0.0	0.6 $\pm$ 0.2
1988-89	<.1 $\pm$ <.1	0.0	0.3 $\pm$ 0.1	0.3 $\pm$ 0.2	0.0	1.8 $\pm$ 1.3
1989-90	<.1 $\pm$ <.1	0.0	<.1 $\pm$ <.1	1.7 $\pm$ 1.3	<.1 $\pm$ <.1	0.5 $\pm$ 0.2
1990-91	<.1 $\pm$ <.1	<.1 $\pm$ <.1	0.2 $\pm$ 0.1	0.2 $\pm$ 0.2	0.0	
<b>Cobia</b>						
1982-83		0.1 $\pm$ 0.1	0.8 $\pm$ 0.2	0.2 $\pm$ <.1	<.1 $\pm$ <.1	1.1 $\pm$ 0.4
1983-84		0.4 $\pm$ 0.2	<.1 $\pm$ <.1	0.1 $\pm$ 0.1	0.1 $\pm$ <.1	0.6 $\pm$ 0.3
1984-85		<.1 $\pm$ <.1	0.1 $\pm$ <.1	<.1 $\pm$ <.1	0.2 $\pm$ 0.2	0.3 $\pm$ 0.2
1985-86		0.2 $\pm$ 0.1	0.1 $\pm$ 0.1	0.3 $\pm$ 0.2	<.1 $\pm$ <.1	0.6 $\pm$ 0.2
1986-87		<.1 $\pm$ <.1	0.7 $\pm$ 0.6	0.1 $\pm$ 0.1	0.0	0.8 $\pm$ 0.1
1987-88	0.1 $\pm$ 0.1	<.1 $\pm$ <.1	0.1 $\pm$ 0.1	<.1 $\pm$ <.1	0.0	0.3 $\pm$ 0.1
1988-89	<.1 $\pm$ <.1	<.1 $\pm$ <.1	0.2 $\pm$ 0.1	<.1 $\pm$ <.1	<.1 $\pm$ <.1	0.3 $\pm$ 0.1
1989-90	<.1 $\pm$ <.1	<.1 $\pm$ <.1	0.1 $\pm$ 0.1	0.1 $\pm$ 0.1	<.1 $\pm$ <.1	0.2 $\pm$ 0.1
1990-91	<.1 $\pm$ <.1	0.1 $\pm$ 0.1	0.1 $\pm$ 0.1	<.1 $\pm$ <.1	0.0	0.2 $\pm$ 0.1

Table G.3. (Cont'd.)

Species Year	Area					Coastwide <sup>a</sup>
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
<b>King mackerel</b>						
1982-83		5.2 ± 3.5	5.8 ± 0.7	3.7 ± 0.5	0.8 ± 0.4	15.5 ± 3.8
1983-84		1.2 ± 0.8	1.1 ± 0.4	7.6 ± 3.9	0.2 ± 0.1	10.1 ± 4.1
1984-85		0.9 ± 0.5	1.6 ± 0.5	6.3 ± 1.8	0.5 ± 0.2	9.3 ± 2.0
1985-86		5.0 ± 0.2	3.7 ± 2.0	4.6 ± 1.2	0.1 ± <.1	13.4 ± 3.2
1986-87		6.3 ± 3.2	1.9 ± 1.3	0.9 ± 0.5	0.3 ± 0.3	9.4 ± 3.5
1987-88	0.1 ± 0.1	1.5 ± 1.1	2.1 ± 0.9	2.2 ± 1.0	0.1 ± 0.1	6.1 ± 1.7
1988-89	0.0	2.9 ± 2.5	0.8 ± 0.4	1.5 ± 0.7	0.3 ± 0.1	5.5 ± 2.6
1989-90	0.0	2.7 ± 1.8	0.3 ± 0.2	4.3 ± 1.9	0.1 ± 0.1	7.4 ± 2.6
1990-91	0.0	0.9 ± 0.8	0.8 ± 0.4	13.4 ± 5.7	0.1 ± 0.1	15.2 ± 5.8
<b>Red drum</b>						
1982-83		0.0	<.1 ± <.1	0.0	0.0	<.1 ± <.1
1983-84		0.0	0.1 ± <.1	0.0	0.0	0.1 ± <.1
1984-85		0.1 ± 0.1	0.1 ± 0.1	0.0	0.0	0.2 ± 0.1
1985-86		0.3 ± 0.3	<.1 ± <.1	0.0	0.0	0.3 ± 0.3
1986-87		<.1 ± <.1	0.1 ± 0.1	0.0	0.0	0.2 ± 0.1
1987-88	<.1 ± <.1	0.2 ± 0.2	0.1 ± 0.1	0.0	0.0	0.3 ± 0.2
1988-89	<.1 ± <.1	0.0	<.1 ± <.1	0.0	0.1 ± 0.1	0.1 ± 0.1
1989-90	<.1 ± <.1	0.0	0.0	0.0	0.0	<.1 ± <.1
1990-91	<.1 ± <.1	0.0	0.1 ± 0.1	0.0	0.0	0.1 ± 0.1
<b>Red snapper</b>						
1982-83		11.4 ± 4.6	15.2 ± 4.0	3.2 ± 0.6	8.9 ± 3.2	38.7 ± 9.5
1983-84		26.7 ± 17.1	8.8 ± 3.9	2.4 ± 1.5	8.5 ± 3.9	46.4 ± 18.1
1984-85		0.3 ± 0.2	5.8 ± 2.8	9.9 ± 5.6	4.8 ± 2.6	20.8 ± 6.7
1985-86		17.6 ± 13.1	2.5 ± 0.9	1.4 ± 0.8	2.0 ± 1.6	23.5 ± 13.2
1986-87		4.3 ± 3.3	5.7 ± 2.5	2.2 ± 1.5	4.7 ± 4.3	16.9 ± 6.2
1987-88	0.8 ± 0.4	4.7 ± 2.7	8.4 ± 4.1	9.4 ± 9.0	0.5 ± 0.4	23.9 ± 10.3
1988-89	0.7 ± 0.4	42.9 ± 39.8	6.1 ± 2.3	2.7 ± 1.3	1.3 ± 0.8	53.7 ± 39.9
1989-90	0.7 ± 0.4	14.0 ± 11.8	6.3 ± 3.3	4.2 ± 3.8	1.4 ± 0.8	26.7 ± 12.9
1990-91	0.3 ± 0.2	1.5 ± 0.8	4.9 ± 2.4	0.8 ± 0.5	1.6 ± 1.1	9.1 ± 2.8



Table G.3. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide <sup>a</sup>
<b>Sand seatrout</b>						
1982-83		33.8 ± 33.8	18.8 ± 6.9	0.6 ± 0.2	0.3 ± 0.3	53.6 ± 36.3
1983-84		0.3 ± 0.2	5.6 ± 2.9	0.0	<.1 ± <.1	5.9 ± 2.9
1984-85		1.7 ± 1.3	2.6 ± 1.0	0.1 ± 0.1	0.0	4.4 ± 1.7
1985-86		0.9 ± 0.6	2.7 ± 2.0	0.0	0.0	3.6 ± 2.1
1986-87		0.8 ± 0.6	1.9 ± 1.2	0.0	0.0	2.7 ± 1.4
1987-88	0.5 ± 0.3	0.6 ± 0.4	0.3 ± 0.3	0.0	0.0	1.3 ± 0.6
1988-89	<.1 ± <.1	<.1 ± <.1	0.2 ± 0.2	0.0	0.0	0.3 ± 0.2
1989-90	0.0	0.5 ± 0.4	0.4 ± 0.4	4.8 ± 4.8	0.0	5.8 ± 4.9
1990-91	0.1 ± 0.1	0.3 ± 0.3	1.1 ± 0.8	0.1 ± 0.1	0.0	1.5 ± 0.8
<b>Spanish mackerel</b>						
1982-83		1.3 ± 0.8	0.2 ± 0.1	0.1 ± <.1	<.1 ± <.1	1.7 ± 0.9
1983-84		0.7 ± 0.5	0.1 ± 0.1	0.4 ± 0.3	<.1 ± <.1	1.2 ± 0.5
1984-85		0.5 ± 0.5	0.1 ± 0.1	0.1 ± 0.1	<.1 ± <.1	0.8 ± 0.5
1985-86		1.3 ± 0.8	0.3 ± 0.2	0.1 ± <.1	0.1 ± 0.1	1.8 ± 0.9
1986-87		2.6 ± 2.4	<.1 ± <.1	<.1 ± <.1	0.0	2.6 ± 2.4
1987-88	0.1 ± 0.1	2.0 ± 1.2	0.1 ± 0.1	0.2 ± 0.2	0.0	2.5 ± 1.2
1988-89	<.1 ± <.1	0.0	0.1 ± 0.1	0.1 ± 0.1	0.0	0.3 ± 0.1
1989-90	<.1 ± <.1	0.6 ± 0.5	<.1 ± <.1	0.4 ± 0.3	0.0	1.1 ± 0.6
1990-91	0.1 ± <.1	0.1 ± 0.1	0.1 ± 0.1	0.2 ± 0.1	<.1 ± <.1	0.5 ± 0.1
<b>Spotted seatrout</b>						
1982-83		0.1 ± 0.1	0.1 ± <.1	<.1 ± <.1	0.0	0.2 ± 0.2
1983-84		0.0	<.1 ± <.1	0.0	0.0	<.1 ± <.1
1984-85		0.0	<.1 ± <.1	0.0	0.0	<.1 ± <.1
1985-86		<.1 ± <.1	0.1 ± <.1	<.1 ± <.1	0.0	0.1 ± 0.1
1986-87		1.2 ± 0.9	<.1 ± <.1	0.0	0.0	1.2 ± 0.9
1987-88	<.1 ± <.1	0.0	<.1 ± <.1	0.0	0.0	<.1 ± <.1
1988-89	0.2 ± 0.1	0.1 ± 0.1	0.2 ± 0.1	0.0	0.1 ± 0.1	0.5 ± 0.2
1989-90	0.0	0.0	0.0	0.0	0.0	0.0
1990-91	0.0	16.5 ± 16.5	0.0	0.0	0.0	16.5 ± 16.5

Table G.3. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide <sup>a</sup>
<b>Vermilion snapper</b>						
1982-83 <sup>b</sup>						
1983-84		0.0	0.0	<.1 ± <.1	0.0	<.1 ± <.1
1984-85		0.0	0.0	<.1 ± <.1	0.0	<.1 ± <.1
1985-86		0.0	0.0	0.0	0.0	0.0
1986-87		<.1 ± <.1	0.0	0.0	0.0	<.1 ± <.1
1987-88	0.0	0.0	<.1 ± <.1	0.1 ± 0.1	0.0	0.1 ± 0.1
1988-89	0.0	0.0	0.6 ± 0.4	<.1 ± <.1	0.0	0.6 ± 0.4
1989-90	0.1 ± 0.1	0.0	0.2 ± 0.2	0.0	0.0	0.2 ± 0.2
1990-91	0.0	0.0	0.0	0.0	0.0	0.0
<b>Other species</b>						
1982-83		3.7 ± 1.5	4.5 ± 0.8	4.1 ± 0.7	0.8 ± 0.3	13.1 ± 2.6
1983-84		8.6	1.7	3.7	2.7 ± 2.6	16.6
1984-85		3.4	7.0	2.9	3.0	16.2
1985-86		13.5	6.5	5.5	1.5 ± 1.1	27.0
1986-87		10.6 ± 6.4	5.0 ± 2.4	1.8 ± 1.0	0.7 ± 0.3	18.0 ± 6.9
1987-88	1.0	2.6	10.6	1.4 ± 0.7	0.3	15.9
1988-89	0.3	5.7	4.6	0.9 ± 0.3	0.3 ± 0.2	11.8
1989-90	0.2	34.8	1.3	7.6	0.5 ± 0.3	44.3
1990-91	<.1 ± <.1	4.0 ± 2.7	3.3 ± 1.1	2.5 ± 1.0	0.1 ± <.1	9.9 ± 3.0
<b>All species combined<sup>a</sup></b>						
1982-83		55.7 ± 37.4	45.6 ± 8.2	12.2 ± 1.5	11.2 ± 3.7	124.8 ± 40.9
1983-84		38.2 ± 19.2	17.4 ± 5.7	14.2 ± 7.0	11.5 ± 4.8	81.3 ± 21.8
1984-85		7.3 ± 3.7	17.3 ± 5.8	16.6 ± 7.1	10.0 ± 3.8	51.2 ± 10.6
1985-86		39.2 ± 17.5	16.2 ± 4.7	13.1 ± 3.3	3.7 ± 2.4	72.1 ± 18.6
1986-87		26.0 ± 10.3	15.7 ± 5.8	5.0 ± 3.1	5.9 ± 4.4	52.6 ± 13.0
1987-88	2.8 ± 1.1	12.1 ± 4.8	22.2 ± 8.1	13.6 ± 9.6	0.9 ± 0.6	51.7 ± 13.5
1988-89	1.2 ± 0.6	51.7 ± 41.9	13.2 ± 4.4	5.5 ± 1.6	2.1 ± 1.1	73.7 ± 42.2
1989-90	1.1 ± 0.6	52.7 ± 25.2	8.6 ± 4.1	23.7 ± 10.7	2.0 ± 1.0	88.1 ± 27.7
1990-91	0.6 ± 0.3	23.5 ± 17.0	10.6 ± 3.8	17.2 ± 6.5	1.8 ± 1.1	53.8 ± 18.6

<sup>a</sup>Due to rounding of numbers, these totals may not exactly equal individual totals.

<sup>b</sup>This species is included in "other" species in this year.

Table G.4. Annual mean catch rates of fishes (No./man-h)  $\pm$  1 SE caught by private-boat fishermen in the EEZ by area, species and year (1982-1991).

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide
<b>Atlantic croaker</b>						
1982-83		<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.02 $\pm$ 0.02	<.01 $\pm$ <.01
1983-84		<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.00	0.00	<.01 $\pm$ <.01
1984-85		0.00	<.01 $\pm$ <.01	0.00	0.00	<.01 $\pm$ <.01
1985-86		0.00	0.00	0.00	0.00	0.00
1986-87		0.00	0.00	0.00	<.01 $\pm$ <.01	<.01 $\pm$ <.01
1987-88	0.01 $\pm$ 0.01	0.01 $\pm$ 0.01	0.00	0.00	0.00	<.01 $\pm$ <.01
1988-89	0.02 $\pm$ 0.02	0.00	<.01 $\pm$ <.01	0.00	0.00	<.01 $\pm$ <.01
1989-90	0.00	0.00	0.00	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01
1990-91	<.01 $\pm$ <.01	0.00	0.00	0.00	0.00	0.00
<b>Atlantic sharpnose shark</b>						
1982-83 <sup>b</sup>					0.00	<.01 $\pm$ <.01
1983-84		<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.00	0.01 $\pm$ 0.01
1984-85		0.02 $\pm$ 0.01	0.01 $\pm$ 0.01	0.00	0.06 $\pm$ 0.06	0.01 $\pm$ <.01
1985-86		<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.01 $\pm$ <.01	0.00	0.01 $\pm$ <.01
1986-87		<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.01 $\pm$ 0.01	<.01 $\pm$ <.01
1987-88	0.01 $\pm$ <.01	<.01 $\pm$ <.01	0.01 $\pm$ 0.01	0.01 $\pm$ 0.01	0.00	0.01 $\pm$ <.01
1988-89	<.01 $\pm$ <.01	0.00	0.01 $\pm$ <.01	0.01 $\pm$ 0.01	0.00	<.01 $\pm$ <.01
1989-90	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01	0.01 $\pm$ 0.01	<.01 $\pm$ <.01	0.01 $\pm$ <.01
1990-91	0.01 $\pm$ 0.01	<.01 $\pm$ <.01	0.01 $\pm$ <.01	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01
<b>Cobia</b>						
1982-83		<.01 $\pm$ <.01	0.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01
1983-84		0.01 $\pm$ 0.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01
1984-85		0.00	<.01 $\pm$ <.01	0.00	0.01 $\pm$ 0.01	<.01 $\pm$ <.01
1985-86		<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01
1986-87		0.00	0.02 $\pm$ 0.02	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01
1987-88	0.01 $\pm$ 0.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01
1988-89	<.01 $\pm$ <.01	0.00	0.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01	<.01 $\pm$ <.01
1989-90	0.1 $\pm$ 0.1	0.00	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01
1990-91	<.01 $\pm$ <.01	<.01 $\pm$ <.01	<.01 $\pm$ <.01	0.00	0.00	<.01

Table G.4. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide
<b>King mackerel</b>						
1982-83		0.06 ± 0.04	0.08 ± 0.02	0.05 ± 0.01	0.04 ± 0.02	0.06 ± 0.02
1983-84		0.03 ± 0.02	0.04 ± 0.02	0.08 ± 0.05	<.01 ± <.01	0.01 ± <.01
1984-85		0.03 ± 0.02	0.05 ± 0.02	0.08 ± 0.03	0.02 ± 0.01	0.06 ± 0.01
1985-86		0.04 ± 0.02	0.10 ± 0.06	0.04 ± 0.01	0.01 ± <.01	0.05 ± 0.01
1986-87		0.06 ± 0.04	0.06 ± 0.04	0.02 ± 0.02	0.02 ± 0.02	0.05 ± 0.02
1987-88	0.01 ± 0.01	0.04 ± 0.03	0.05 ± 0.02	0.05 ± 0.03	0.03 ± 0.03	0.04 ± <.01
1988-89	0.00	0.05 ± 0.04	0.03 ± 0.01	0.04 ± 0.02	0.04 ± 0.02	0.04 ± 0.02
1989-90	0.00	0.02 ± 0.02	0.02 ± 0.02	0.03 ± 0.02	0.01 ± 0.01	0.03 ± 0.01
1990-91	0.00	0.01 ± 0.01	0.03 ± 0.02	0.10 ± 0.05	0.03 ± 0.03	0.06 ± 0.03
<b>Red drum</b>						
1982-83		0.00	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1983-84		0.00	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1984-85		<.01 ± <.01	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1985-86		<.01 ± <.01	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1986-87		0.00	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1987-88	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1988-89	<.01 ± <.01	0.00	<.01 ± <.01	0.00	0.01 ± 0.01	<.01 ± <.01
1989-90	0.01 ± 0.01	0.00	0.00	0.00	0.00	0.00
1990-91	<.01 ± <.01	0.00	<.01 ± <.01	0.00	0.00	0.00
<b>Red snapper</b>						
1982-83		0.12 ± 0.07	0.22 ± 0.10	0.04 ± 0.02	0.50 ± 0.22	0.15 ± 0.04
1983-84		0.64 ± 0.44	0.32 ± 0.17	0.02 ± 0.02	0.24 ± 0.16	0.24 ± 0.10
1984-85		0.01 ± 0.01	0.19 ± 0.10	0.12 ± 0.07	0.19 ± 0.12	0.12 ± 0.04
1985-86		0.15 ± 0.12	0.06 ± 0.03	0.01 ± 0.01	0.18 ± 0.15	0.09 ± 0.05
1986-87		0.04 ± 0.04	0.18 ± 0.09	0.06 ± 0.04	0.26 ± 0.25	0.09 ± 0.04
1987-88	0.09 ± 0.05	0.12 ± 0.08	0.19 ± 0.10	0.23 ± 0.22	0.10 ± 0.09	0.17 ± 0.08
1988-89	0.28 ± 0.20	0.74 ± 0.70	0.20 ± 0.09	0.08 ± 0.04	0.16 ± 0.11	0.37 ± 0.28
1989-90	0.29 ± 0.21	0.12 ± 0.10	0.42 ± 0.27	0.03 ± 0.03	0.23 ± 0.15	0.10 ± 0.05
1990-91	0.10 ± 0.07	0.02 ± 0.01	0.19 ± 0.11	0.01 ± <.01	0.64 ± 0.48	0.04 ± 0.01

Table G.4. (Cont'd.)

Species Year	Area					Coastwide
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
<b>Sand seatrout</b>						
1982-83		0.37 ± 0.37	0.27 ± 0.16	0.01 ± 0.01	0.02 ± 0.02	0.21 ± 0.14
1983-84		0.01 ± <.01	0.21 ± 0.12	0.00	<.01 ± <.01	<.01 ± <.01
1984-85		0.06 ± 0.05	0.08 ± 0.04	<.01 ± <.01	0.00	0.03 ± 0.01
1985-86		0.01 ± 0.01	0.07 ± 0.05	0.00	0.00	0.01 ± 0.01
1986-87		0.01 ± 0.01	0.06 ± 0.04	0.00	0.00	0.01 ± 0.01
1987-88	0.05 ± 0.03	0.01 ± 0.01	0.01 ± 0.01	0.00	0.00	0.01 ± <.01
1988-89	<.01 ± <.01	<.01 ± <.01	0.01 ± 0.01	0.00	0.00	<.01 ± <.01
1989-90	0.00	<.01 ± <.01	0.03 ± 0.03	0.04 ± 0.04	0.00	0.02 ± 0.02
1990-91	0.02 ± 0.02	<.01 ± <.01	0.04 ± 0.03	<.01 ± <.01	0.00	0.01 ± <.01
<b>Spanish mackerel</b>						
1982-83		0.02 ± 0.01	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01	0.01 ± <.01
1983-84		0.02 ± 0.01	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01
1984-85		0.02 ± 0.02	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01
1985-86		0.01 ± 0.01	0.01 ± 0.01	<.01 ± <.01	0.01 ± <.01	0.01 ± <.01
1986-87		0.03 ± 0.02	0.00	0.00	0.00	0.01 ± 0.01
1987-88	0.01 ± 0.01	0.05 ± 0.04	<.01 ± <.01	0.01 ± 0.01	0.00	0.02 ± 0.01
1988-89	0.01 ± 0.01	0.00	<.01 ± <.01	<.01 ± <.01	0.00	<.01 ± <.01
1989-90	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01	0.00	<.01 ± <.01
1990-91	0.03 ± 0.02	<.01 ± <.01	<.01 ± <.01	<.01 ± <.01	0.01 ± 0.01	<.01 ± <.01
<b>Spotted seatrout</b>						
1982-83		<.01 ± <.01	<.01 ± <.01	<.01 ± <.01	0.00	<.01 ± <.01
1983-84		0.00	0.00	0.00	0.00	0.00
1984-85		0.00	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1985-86		0.00	<.01 ± <.01	0.00	0.00	<.01 ± <.01
1986-87		0.01 ± 0.01	<.01 ± <.01	0.00	0.00	0.01 ± <.01
1987-88	<.01 ± <.01	0.00	0.00	0.00	0.00	<.01 ± <.01
1988-89	0.06 ± 0.05	<.01 ± <.01	<.01 ± <.01	0.00	0.01 ± 0.01	<.01 ± <.01
1989-90	0.00	0.00	0.00	0.00	0.00	0.00
1990-91	0.00	0.22 ± 0.22	0.00	0.00	0.00	0.07 ± 0.07

Table G.4. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide
<b>Vermilion snapper</b>						
1982-83 <sup>a</sup>						
1983-84		0.00	0.00	0.00	0.00	0.00
1984-85		0.00	0.00	<.01 ± <.01	0.00	<.01 ± <.01
1986-87		0.00	0.00	0.00	0.00	0.00
1987-88	0.00	0.00	0.00	<.01 ± <.01	0.00	<.01 ± <.01
1988-89	0.00	0.00	0.02 ± 0.01	<.01 ± <.01	0.00	<.01 ± <.01
1989-90	0.03 ± 0.03	0.00	0.01 ± 0.01	0.00	0.00	<.01 ± <.01
1990-91	0.00	0.00	0.00	0.00	0.00	0.00
<b>Other species</b>						
1982-83		0.04 ± 0.02	0.06 ± 0.02	0.05 ± 0.02	0.05 ± 0.02	0.05 ± 0.01
1983-84		0.21	0.06	0.04	0.08 ± 0.07	0.08
1984-85		0.12	0.23	0.03	0.12	0.10
1985-86		0.12	0.17	0.05 ± 0.02	0.14 ± 0.10	0.10
1986-87		0.11 ± 0.07	0.16	0.04 ± 0.03	0.04 ± 0.02	0.10
1987-88	0.11	0.07	0.24	0.03 ± 0.02	0.06	0.11
1988-89	0.12	0.10	0.15	0.02 ± 0.01	0.04 ± 0.03	0.08
1989-90	0.09	0.30	0.08	0.06	0.08 ± 0.06	0.16
1990-91	0.01 ± 0.01	0.05 ± 0.04	0.13 ± 0.06	0.02 ± 0.01	0.03 ± 0.02	0.04 ± 0.02
<b>All species combined<sup>b</sup></b>						
1982-83		0.61 ± 0.45	0.65 ± 0.22	0.15 ± 0.05	0.63 ± 0.27	0.48 ± 0.18
1983-84		0.92 ± 0.54	0.64 ± 0.28	0.15 ± 0.10	0.32 ± 0.22	0.41 ± 0.15
1984-85		0.24 ± 0.14	0.58 ± 0.22	0.23 ± 0.10	0.41 ± 0.21	0.32 ± 0.08
1985-86		0.34 ± 0.19	0.42 ± 0.16	0.13 ± 0.04	0.32 ± 0.23	0.27 ± 0.08
1986-87		0.26 ± 0.13	0.49 ± 0.22	0.13 ± 0.09	0.33 ± 0.26	0.28 ± 0.09
1987-88	0.29 ± 0.16	0.31 ± 0.18	0.50 ± 0.21	0.34 ± 0.26	0.19 ± 0.15	0.37 ± 0.12
1988-89	0.50 ± 0.31	0.89 ± 0.76	0.43 ± 0.18	0.16 ± 0.06	0.27 ± 0.16	0.51 ± 0.31
1989-90	0.44 ± 0.31	0.46 ± 0.26	0.58 ± 0.35	0.18 ± 0.09	0.33 ± 0.21	0.32 ± 0.12
1990-91	0.20 ± 0.14	0.31 ± 0.24	0.41 ± 0.19	0.14 ± 0.06	0.72 ± 0.50	0.23 ± 0.09

<sup>a</sup>This species is included in other species in this year.

<sup>b</sup>Due to rounding of numbers, these totals may not exactly equal individual totals.

Table G.5. Annual mean weights of fishes (kg/fish)  $\pm$  1 SE caught by private-boat fishermen in the EEZ by area, species and year (1982-1991). Blank = no fish weighed. No standard error = fish weighed on only one survey day.

Species Year	Area					Coastwide
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
<b>Atlantic croaker</b>						
1982-83		0.35	0.53 $\pm$ 0.05	0.21		0.26 $\pm$ 0.14
1983-84		0.17 $\pm$ 0.01	0.25			0.18 $\pm$ 0.04
1984-85			0.36 $\pm$ 0.04	0.54		0.40 $\pm$ 0.13
1985-86			0.14			0.14
1986-87		0.26			0.27	0.27 $\pm$ <.01
1987-88	0.12	0.25	0.13			0.22 $\pm$ 0.04
1988-89	0.11		0.34			0.22 $\pm$ 0.12
1989-90		0.14		0.06		0.67 $\pm$ 0.01
1990-91	0.11					0.11
<b>Atlantic sharpnose shark</b>						
1982-83 <sup>a</sup>			5.76	5.39 $\pm$ 0.24		5.40 $\pm$ 0.70
1983-84		5.34 $\pm$ 0.08		8.62 $\pm$ 0.88	7.70	7.37 $\pm$ 5.75
1984-85		6.44 $\pm$ 0.08	3.17 $\pm$ 0.72	6.09 $\pm$ 0.40		6.06 $\pm$ 1.61
1985-86		6.18	5.65 $\pm$ 0.37	5.74 $\pm$ 0.74	7.69	6.11 $\pm$ 2.88
1986-87		5.09 $\pm$ 0.06	5.72 $\pm$ 1.89	6.75 $\pm$ 0.50		5.00 $\pm$ 1.07
1987-88	5.82 $\pm$ 0.44	5.73 $\pm$ 0.12	3.42 $\pm$ 0.35	6.79 $\pm$ 0.43		5.68 $\pm$ 1.00
1988-89	5.76		4.41 $\pm$ 0.84	6.81 $\pm$ 0.35	8.05	6.78 $\pm$ 0.05
1989-90	6.16		5.70 $\pm$ 0.01	6.10 $\pm$ 0.60		5.38 $\pm$ 0.61
1990-91	2.58	7.05	4.58 $\pm$ 0.39			
<b>Cobia</b>						
1982-83		10.68	5.58 $\pm$ 1.59	9.14 $\pm$ 1.13	5.38	7.16 $\pm$ 1.57
1983-84		14.41 $\pm$ 3.46	7.26 $\pm$ 2.53	12.94 $\pm$ 2.04	8.94	11.01 $\pm$ 1.81
1984-85		5.50	15.66 $\pm$ 2.78	4.23	6.10	7.74 $\pm$ 5.23
1985-86		8.67 $\pm$ 2.68	9.92 $\pm$ 1.14	7.03 $\pm$ 1.36	6.08	7.99 $\pm$ 1.83
1986-87		6.23	11.24 $\pm$ 3.05	6.04 $\pm$ 0.29		10.63 $\pm$ 2.77
1987-88	4.56 $\pm$ 2.19	10.65	9.92 $\pm$ 2.55	9.61 $\pm$ 2.20		8.00 $\pm$ 1.79
1988-89	4.11	12.44	7.68 $\pm$ 1.81	5.79	7.43 $\pm$ 0.23	7.87 $\pm$ 0.47
1989-90	4.30 $\pm$ 2.57	10.13	9.05	9.27 $\pm$ 1.79		8.66 $\pm$ 0.72
1990-91	7.44	21.94	13.68 $\pm$ 2.89	16.77		15.84 $\pm$ 2.41

Table G.5. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide
<b>King mackerel</b>						
1982-83		5.98 ± 1.27	5.76 ± 0.92	5.69 ± 0.42	3.40 ± 0.40	5.72 ± 0.44
1983-84		6.91 ± 1.35	9.91 ± 0.84	9.32 ± 0.83	5.62 ± 1.56	9.02 ± 0.91
1984-85		7.87 ± 1.10	8.15 ± 1.01	7.16 ± 0.24	6.48 ± 0.96	7.36 ± 0.49
1985-86		8.12 ± 1.09	7.81 ± 0.56	8.51 ± 1.17	7.14 ± 2.79	8.16 ± 0.98
1986-87		8.30 ± 0.64	10.87 ± 0.74	8.18 ± 0.61	6.84	8.76 ± 0.88
1987-88	5.36 ± 3.30	7.82 ± 0.27	9.30 ± 1.09	7.34 ± 0.74	13.37	8.26 ± 0.59
1988-89		8.18 ± 1.40	9.04 ± 1.35	8.45 ± 0.94	8.54 ± 3.87	8.41 ± 0.18
1989-90		7.65 ± 0.99	10.00 ± 1.20	7.95 ± 0.66	4.15	7.44
1990-91		7.08 ± 0.13	8.87 ± 0.79	8.20 ± 0.71	8.89 ± 2.11	8.17 ± 0.09
<b>Red drum</b>						
1982-83			3.15			3.15
1983-84			1.90 ± 0.38			1.90 ± 0.38
1984-85		3.30	2.40 ± 0.27			2.83 ± 1.71
1984-85		2.61	1.80 ± 0.61			2.54 ± 2.44
1986-87		3.18	2.78 ± 0.37			2.90 ± 1.21
1987-88	2.56	3.13 ± 0.02	2.66 ± 0.43			2.95 ± 0.18
1988-89	1.64 ± 0.24		2.94 ± 0.18		2.91	2.77 ± 0.19
1989-90	2.74					2.74
1990-91	7.22		2.76 ± 0.14			3.32 ± 0.99
<b>Red snapper</b>						
1982-83		0.44 ± 0.22	0.51 ± 0.14	0.57 ± 0.15	0.91 ± 0.53	0.66 ± 0.19
1983-84		0.45 ± 0.05	0.82 ± 0.24	0.56 ± 0.09	0.66 ± 0.09	0.56 ± 0.09
1984-85		0.51 ± 0.02	0.92 ± 0.18	0.98 ± 0.35	0.77 ± 0.09	0.91 ± 0.24
1985-86		1.10 ± 0.49	0.49 ± 0.04	0.73 ± 0.09	0.99 ± 0.36	1.00 ± 0.41
1986-87		0.43 ± 0.04	0.64 ± 0.11	0.56 ± 0.11	0.92 ± 0.13	0.65 ± 0.10
1987-88	0.58 ± 0.15	0.58 ± 0.05	1.21 ± 0.29	0.75 ± 0.25	0.56 ± 0.09	0.87 ± 0.16
1988-89	0.56 ± 0.10	0.79 ± 0.24	0.92 ± 0.18	0.63 ± 0.10	0.52 ± 0.01	0.79 ± 0.02
1989-90	1.04 ± 0.14	0.62 ± 0.11	0.82 ± 0.20	0.59 ± 0.08	0.72 ± 0.08	0.68 ± 0.06
1990-91	0.73 ± 0.28	0.83 ± 0.09	0.76 ± 0.07	0.54 ± 0.09	0.73 ± 0.07	0.75 ± 0.03



Table G.5. (Cont'd.)

Species Year	Area					Coastwide
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
<b>Sand seatrout</b>						
1982-83			0.43 ± 0.15	0.25 ± 0.44		0.39 ± 0.22
1983-84		0.39	0.40 ± 0.04			0.40 ± 0.04
1984-85		0.25 ± 0.04	0.50 ± 0.03	0.41		0.40 ± 0.40
1985-86		0.39 ± 0.08	0.51 ± 0.06			0.48 ± 0.06
1986-87		0.23 ± 0.08	0.37 ± 0.04			0.33 ± 0.05
1987-88	0.37 ± 0.03	0.36 ± 0.04	0.42 ± 0.02			0.38 ± 0.02
1988-89	0.22 ± 0.04	0.23	0.47 ± 0.09			0.43 ± 0.05
1989-90		0.13	0.17 ± 0.12	0.38		0.34 ± 0.05
1990-91	0.33	0.33	0.41 ± 0.05	0.33 ± 0.07		0.39 ± 0.02
<b>Spanish mackerel</b>						
1982-83		0.94 ± 0.09	1.44 ± 0.17	0.31		1.00 ± 0.21
1983-84		1.48 ± 0.24	1.29 ± 0.09	1.14 ± 0.15	1.63	1.35 ± 0.23
1984-85		1.06 ± 0.02	0.68 ± 0.10	0.83 ± 0.09	0.62 ± 0.62	0.96 ± 0.06
1985-86		0.99	0.97 ± 0.09	1.10 ± 0.29	1.36 ± 0.40	1.00 ± 0.11
1986-87		0.90 ± 0.16	1.96	1.27		0.91 ± 0.17
1987-88	0.77 ± 0.06	0.82 ± 0.10	1.29 ± 0.08	0.52 ± 0.19		0.82 ± 0.04
1988-89	1.02 ± 0.28		0.81 ± 0.23	1.65		1.13 ± 0.32
1989-90	0.75	0.96 ± 0.91	1.23 ± 0.23	0.45 ± 0.09		0.78 ± 0.19
1990-91	0.92 ± 0.12	1.11 ± 0.23	1.76	0.65 ± 0.09	0.69 ± 0.32	0.96 ± 0.17
<b>Spotted seatrout</b>						
1982-83		1.05	0.29			0.40 ± 0.35
1983-84			0.60 ± 0.26			0.60 ± 0.26
1984-85			1.73			1.73
1985-86		1.02	0.98 ± 0.26	0.50		0.91 ± 0.46
1986-87		1.24 ± 0.20	0.82 ± 0.02			1.23 ± 0.19
1987-88	0.52	0.36 ± 0.04	0.50			0.52 ± 0.01
1988-89	0.99 ± 0.10	0.96	0.78 ± 0.07		0.55	0.84 ± 0.09
1989-90						
1990-91		0.76				0.76

Table G.5. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide
<b>Vermilion snapper</b>						
1982-83 <sup>a</sup>						
1983-84				0.24		0.24
1984-85				0.36		0.36
1985-86						
1986-87		0.19				0.19
1987-88			0.10	0.37		0.32 ± 0.07
1988-89			0.29 ± 0.03	0.18		0.29 ± 0.01
1989-90	0.13		0.26			0.22 ± 0.05
1990-91						
<b>All species combined<sup>b</sup></b>						
1982-83		1.52 ± 1.51	2.01 ± 1.57	2.70 ± 2.14	1.13 ± 2.02	2.11 ± 1.34
1983-84		2.37 ± 0.87	3.27 ± 0.27	5.61 ± 1.00	0.96 ± 0.30	3.44 ± 0.25
1984-85		3.44 ± 0.24	2.89 ± 0.41	4.56 ± 0.69	2.48 ± 0.57	3.49 ± 0.52
1985-86		3.64 ± 1.10	3.41 ± 0.66	5.43 ± 0.62	2.96 ± 1.23	3.88 ± 0.92
1986-87		4.73 ± 1.22	3.14 ± 0.61	3.35 ± 0.70	1.17 ± 0.51	3.73 ± 0.69
1987-88	1.67 ± 0.44	2.77 ± 1.36	3.70 ± 0.53	4.19 ± 1.02	1.32 ± 0.86	3.45 ± 0.33
1988-89	0.85 ± 0.22	1.63 ± 0.37	2.47 ± 0.57	3.82 ± 0.83	2.11 ± 1.08	1.94 ± 0.31
1989-90	1.44 ± 1.31	2.26 ± 0.46	2.68 ± 0.50	4.18 ± 0.88		
1990-91	1.18 ± 0.31	5.00 ± 0.85	4.93 ± 0.96	5.83 ± 0.69	1.06 ± 0.38	5.08 ± 0.32

<sup>a</sup>Mean weights are not available for this species in this year.

<sup>b</sup>Includes "other" species.

Table G.6. Annual mean total lengths of fishes (mm/fish)  $\pm$  1 SE caught by private-boat fishermen in the EEZ by area, species and year (1983-1991). Blank = no fish measured. No standard error = fish measured on only one survey day.

Species Year	Area					Coastwide
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
<b>Atlantic croaker</b>						
1983-84		236 $\pm$ 4	270			241 $\pm$ 38
1984-85			298 $\pm$ 11	343		307 $\pm$ 63
1985-86			225			225
1986-87		274			275	275 $\pm$ <1
1987-88	210 $\pm$ 2	269	217			255 $\pm$ 17
1988-89	209		297			251 $\pm$ 44
1989-90		226		175		177 $\pm$ 4
1990-91	210					210
<b>Atlantic sharpnose shark</b>						
1983-84		918 $\pm$ 3	940	918 $\pm$ 10		920 $\pm$ 73
1984-85		968 $\pm$ 3	788 $\pm$ 44	1025 $\pm$ 23	1017	1003 $\pm$ 434
1985-86		950	928 $\pm$ 18	943 $\pm$ 22		943 $\pm$ 216
1986-87		898 $\pm$ 2	904 $\pm$ 101	900 $\pm$ 51	1016	936 $\pm$ 341
1987-88	913 $\pm$ 20	937 $\pm$ 5	722 $\pm$ 68	965 $\pm$ 33		846 $\pm$ 81
1988-89	938		849 $\pm$ 54	982 $\pm$ 18		920 $\pm$ 56
1989-90	958		937 $\pm$ 0	982 $\pm$ 14	1031	981 $\pm$ 2
1990-91	738	994	866 $\pm$ 22	954 $\pm$ 26		910 $\pm$ 35
<b>Cobia</b>						
1983-84		1175 $\pm$ 97	995 $\pm$ 104	1163 $\pm$ 62	1040	1151 $\pm$ 150
1984-85		891	1198 $\pm$ 82	820	921	963 $\pm$ 452
1985-86		1001 $\pm$ 112	1061 $\pm$ 44	954 $\pm$ 61	982	987 $\pm$ 98
1986-87		950	1071 $\pm$ 90	918 $\pm$ 14		1053 $\pm$ 87
1987-88	761 $\pm$ 82	1087	1042 $\pm$ 97	1051 $\pm$ 82		944 $\pm$ 94
1988-89	812	1155	966 $\pm$ 70	906	981 $\pm$ 10	978 $\pm$ 19
1989-90	791 $\pm$ 146	1082	1043	1040 $\pm$ 59		1014 $\pm$ 36
1990-91	981	1368	1177 $\pm$ 84	1270		1227 $\pm$ 56

Table G.6. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide
<b>King mackerel</b>						
1983-84		899 ± 45	998 ± 24	979 ± 22	837 ± 69	970 ± 25
1984-85		941 ± 41	932 ± 37	909 ± 9	875 ± 41	914 ± 18
1985-86		940 ± 35	932 ± 20	933 ± 29	869 ± 93	935 ± 29
1986-87		953 ± 26	1036 ± 21	945 ± 21	903	967 ± 57
1987-88	778 ± 162	935 ± 15	978 ± 35	910 ± 35	1130	943 ± 20
1988-89		953 ± 49	955 ± 42	951 ± 24	926 ± 143	951 ± 2
1989-90		908 ± 47	1013 ± 33	938 ± 26	927	946
1990-91		905 ± 5	965 ± 27	935 ± 25	979 ± 76	935 ± 3
<b>Red drum</b>						
1983-84			546 ± 33			546 ± 33
1984-85		675	598 ± 22			635 ± 217
1985-86		623	540 ± 55			616 ± 576
1986-87		666	626 ± 28			638 ± 218
1987-88	621	660 ± 2	621 ± 34			646 ± 15
1988-89	535 ± 26		649 ± 13		644	633 ± 17
1989-90	635					635
1990-91	873		634 ± 12			665 ± 53
<b>Red snapper</b>						
1983-84		312 ± 12	356 ± 28	334 ± 20	350 ± 11	329 ± 13
1984-85		288 ± 2	355 ± 18	379 ± 42	367 ± 12	368 ± 22
1985-86		373 ± 54	322 ± 7	352 ± 7	390 ± 42	368 ± 46
1986-87		306 ± 9	343 ± 17	328 ± 16	386 ± 15	344 ± 14
1987-88	329 ± 28	325 ± 7	393 ± 30	347 ± 43	342 ± 17	358 ± 16
1988-89	340 ± 23	349 ± 38	372 ± 12	346 ± 19	337 ± 2	351 ± 3
1989-90	402 ± 24	344 ± 19	372 ± 20	347 ± 18	368 ± 12	354 ± 8
1990-91	358 ± 45	373 ± 12	368 ± 10	321 ± 22	372 ± 13	365 ± 5

Table G.6. (Cont'd.)

Species Year	Area					Coastwide
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
<b>Sand seatrout</b>						
1983-84		332	333 ± 10			333 ± 5
1984-85		284 ± 14	356 ± 7	338		328 ± 14
1985-86		325 ± 18	358 ± 15			349 ± 16
1986-87		277 ± 28	321 ± 13			307 ± 18
1987-88	323 ± 10	320 ± 15	335 ± 6			325 ± 4
1988-89	277 ± 17	280	338 ± 14			328 ± 12
1989-90		232	251 ± 6	326		312 ± 18
1990-91	315	313	335 ± 13	312 ± 19		329 ± 6
<b>Spanish mackerel</b>						
1983-84		656 ± 40	631 ± 15	598 ± 28	687	631 ± 47
1984-85		584 ± 4	502 ± 24	542 ± 21	494	563 ± 24
1985-86		552 ± 21	571 ± 22	581 ± 64	638 ± 59	560 ± 24
1986-87		544 ± 36	732	630		545 ± 39
1987-88	527 ± 15	536 ± 23	632 ± 13	453 ± 68		535 ± 10
1988-89	580 ± 57		513 ± 41	688		582 ± 67
1989-90	527	568 ± 1	621 ± 41	427 ± 28		517 ± 52
1990-91	548 ± 26	585 ± 41	705	492 ± 21	498 ± 85	553 ± 33
<b>Spotted seatrout</b>						
1983-84			393 ± 60			393 ± 60
1984-85			566			566
1985-86		477	459 ± 37	379		449 ± 187
1986-87		501 ± 33	442 ± 4			500 ± 32
1987-88	377		378			377
1988-89	463 ± 15	462	435 ± 13		387	440 ± 14
1989-90						
1990-91		432				432

Table G.6. (Cont'd.)

Species Year	Area					Coastwide
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
<b>Vermilion snapper</b>						
1983-84				281		281
1984-85				319		319
1985-86						
1986-87		262				262
1987-88			217	312		296 ± 27
1988-89			296 ± 11	259		295 ± 2
1989-90	233		286			272 ± 20
1990-91						

Table G.7. Percent composition of "other" species caught by private-boat fishermen in the EEZ by area (1989-1991). Values represent percentages of the observed coastwide total of "other" species.

Common name	Scientific name	Area					Coastwide
		Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
Atlantic spadefish	<u>Chaetodipterus faber</u>	0.23	1.38	3.45	0.23		5.29
Bermuda chub	<u>Kyphosus sectatrix</u>				0.11		0.11
Black drum	<u>Pogonias cromis</u>	0.46	0.11	0.57			1.15
Black grouper	<u>Mycteroperca bonaci</u>			0.11			0.11
Blackfin tuna	<u>Thunnus atlanticus</u>				0.34		0.34
Blacktip shark	<u>Carcharhinus limbatus</u>				0.11	0.11	0.34
Blue runner	<u>Caranx crysos</u>		0.11	0.34	0.57		1.49
Bluefish	<u>Pomatomus saltatrix</u>	0.11	2.41	1.49	0.11		4.14
Bony fish sp.	Class Osteichthyes		0.11				0.11
Creville jack	<u>Caranx hippos</u>		0.23		0.46		0.69
Dolphin	<u>Coryphaena hippurus</u>		30.23	15.52	8.16	0.69	54.60
Dolphin sp.	Family Coryphaenidae			2.30			2.30
Dwarf sand perch	<u>Diplectrum biuttatum</u>		0.11				0.11
Gafftopsail catfish	<u>Bagre marinus</u>	0.46					0.46
Gag	<u>Mycteroperca microlepis</u>					0.23	0.23
Gray snapper	<u>Lutjanus griseus</u>		0.23				0.23
Gray triggerfish	<u>Balistes capriscus</u>		2.18	3.91	1.15		7.24
Great barracuda	<u>Sphyraena barracuda</u>				5.93		5.93
Greater amberjack	<u>Seriola dumerilli</u>		0.11	1.38			1.49
Gulf flounder	<u>Paralichthys albigutta</u>				0.11		0.11
Jacks sp.	Family Carangidae				0.11		0.11
Ladyfish	<u>Elops saurus</u>				1.69		1.69
Lane snapper	<u>Lutjanus synagris</u>		3.68	2.99			6.67
Little tunny	<u>Euthynnus alletteratus</u>		0.46		0.46	0.11	1.03
Marlin sucker	<u>Remora osteochir</u>		0.11				0.11
Pigfish	<u>Orthopristis chrysoptera</u>				0.11		0.11
Pompano dolphin	<u>Coryphaena equisetis</u>			0.23			0.23
Remora	<u>Remora remora</u>				0.11		0.11
Requiem sharks sp.	Family Carcharhinidae	1.72					1.72
Rock hind	<u>Epinephelus adscensionis</u>			0.57			0.57
Rock sea bass	<u>Centropristis philadelphica</u>			0.11			0.11
Scamp	<u>Mycteroperca phenax</u>			0.34			0.34
Sea bass sp.	Family Serranidae	0.11					0.11
Sheepshead	<u>Archosargus probatocephalus</u>	0.11	0.11				0.22
Silky shark	<u>Carcharhinus falciformis</u>				0.11		0.11
Silver seatrout	<u>Gynoscion nothus</u>			3.56			3.56
Southern flounder	<u>Paralichthys lethostigma</u>		0.57		0.11		0.69
Southern kingfish	<u>Menticirrhus americanus</u>			0.80	0.11		0.92
Spinner shark	<u>Carcharhinus brevipinna</u>			0.11			0.11
Spotfin hogfish	<u>Bodianus pulchellus</u>			0.11			0.11
Squirrelfish	<u>Holocentrus ascensionis</u>			0.11			0.11
Tomtate	<u>Haemulon aurolineatum</u>		0.11				0.11
Tripletail	<u>Lobotes surinamensis</u>		0.11				0.11
Warsaw grouper	<u>Epinephelus nigritus</u>			1.03			1.03

Table G.8. Residential origin of private-boat fishermen in the EEZ by area and year (1982-1991). Blank = no fishermen interviewed.

Area Year*	Adjacent coastal counties	Non-adjacent coastal counties	Non-coastal counties	Other states and countries
<b>Sabine Lake</b>				
1987-88	90	5	1	4
1988-89	87	2	11	0
1989-90	79	10	10	2
1990-91	96	4	0	0
<b>Galveston</b>				
1982-83	100	0	0	0
1983-84	87	0	10	3
1984-85	93	7	0	0
1985-86	89	1	10	1
1986-87	85	2	9	3
1987-88	92	1	5	1
1988-89	94	4	2	0
1989-90	95	2	4	0
1990-91	93	1	5	1
<b>Matagorda</b>				
1982-83	61	18	21	0
1983-84	43	25	29	3
1984-85	49	17	33	0
1985-86	54	18	27	1
1986-87	42	20	37	1
1987-88	39	28	31	2
1988-89	48	18	34	0
1989-90	50	25	25	0
1990-91	44	3	22	1
<b>Corpus Christi</b>				
1982-83	28	16	55	1
1983-84	26	26	44	3
1984-85	18	17	62	2
1985-86	24	13	60	2
1986-87	27	23	49	1
1987-88	23	13	62	2
1988-89	33	15	51	1
1989-90	26	24	45	4
1990-91	17	35	45	3



Table G.8. (Cont'd.)

Area Year*	Adjacent coastal counties	Non-adjacent coastal counties	Non-coastal counties	Other states and countries
Lower Laguna Madre				
1982-83	85	6	9	0
1983-84	60	8	29	3
1984-85	69	16	14	1
1985-86	66	9	16	8
1986-87	62	12	26	0
1987-88	68	21	11	0
1988-89	83	5	5	7
1989-90	47	26	26	0
1990-91	79	14	7	0
Coastwide				
1982-83	54	14	32	1
1983-84	44	21	32	3
1984-85	38	17	44	1
1985-86	50	12	37	2
1986-87	53	14	31	2
1987-88	53	15	29	2
1988-89	53	14	32	1
1989-90	55	17	26	2
1990-91	53	21	24	2

\* Prior to May 1983 all fishermen in a fishing party were assigned to the boat owner's residence.

APPENDIX H: Party-boat fishing estimates for the United States Exclusive Economic Zone (EEZ) off Texas.

Table H.1. Number of days surveyed and number of party-boat fishermen interviewed (in parentheses) in the EEZ by area and year (1983-1991):

Year Season	Area											
	Sabine Lake		Galveston		Matagorda		Corpus Christi		Lower Laguna Madre		Coastwide	
1983-84			131	(10)	195	(10)	206	(68)	133	(35)	665	(123)
1984-85			132	(0)	188	(6)	201	(68)	133	(31)	655	(105)
1985-86			133	(6)	190	(0)	206	(35)	133	(41)	662	(82)
1986-87			133	(12)	241	(30)	266	(13)	133	(60)	773	(115)
1987-88	108	(0)	131	(17)	237	(37)	269	(31)	133	(34)	878	(119)
1988-89	108	(0)	132	(0)	236	(14)	260	(40)	131	(18)	867	(72)
1989-90	108	(0)	131	(0)	240	(13)	266	(4)	133	(14)	878	(31)
1990-91	108	(0)	131	(0)	169	(15)	166	(21)	133	(32)	839	(68)

Table H.2. Estimated party-boat fishing pressure (man-h x 1000)  $\pm$  1SE, mean fishing-party size (No. of fishermen) and mean trip length (h) for party-boat fishermen in the EEZ by area and year (1983-1991).

Area Year	Pressure	Mean fishing party size	Mean trip length
<b>Sabine Lake</b>			
1987-88	0.0		
1988-89	0.0		
1989-90	0.0		
1990-91	0.0		
<b>Galveston</b>			
1983-84	8.3 $\pm$ 5.9	5.0	8.0
1984-85	0.0		
1985-86	3.5 $\pm$ 3.5	6.0	11.0
1986-87	15.7 $\pm$ 14.9	4.0	10.3
1987-88	124.7 $\pm$ 117.7	4.2	6.8
1988-89	0.0		
1989-90	0.0		
1990-91	0.00		
<b>Matagorda</b>			
1983-84	1.7 $\pm$ 1.4	5.0	6.2
1984-85	0.5 $\pm$ 0.5	6.0	10.5
1985-86	0.0		
1986-87	1.3 $\pm$ 1.0	7.5	8.5
1987-88	5.3 $\pm$ 3.9	7.4	9.6
1988-89	1.2 $\pm$ 0.7	4.7	8.8
1989-90	3.7 $\pm$ 2.3	4.3	10.2
1990-91	1.9 $\pm$ 1.4	5.0	9.5
<b>Corpus Christi</b>			
1983-84	101.1 $\pm$ 45.9	4.2	7.8
1984-85	21.2 $\pm$ 7.5	4.0	8.1
1985-86	7.0 $\pm$ 4.0	3.9	7.4
1986-87	9.0 $\pm$ 6.3	4.3	9.8
1987-88	3.5 $\pm$ 2.4	3.1	8.0
1988-89	11.3 $\pm$ 5.9	4.0	8.4
1989-90	4.8 $\pm$ 4.8	4.0	9.0
1990-91	20.1 $\pm$ 12.2	4.2	8.6

Table H.2. (Cont'd.)

Area Year	Pressure	Mean fishing party size	Mean trip length
Lower Laguna Madre			
1983-84	6.0 ± 3.4	3.2	10.6
1984-85	8.2 ± 4.8	5.2	5.9
1985-86	7.5 ± 2.8	3.7	6.2
1986-87	18.4 ± 8.1	4.6	6.4
1987-88	6.9 ± 3.2	3.8	6.7
1988-89	7.8 ± 4.7	6.0	6.8
1989-90	5.3 ± 3.1	3.5	5.8
1990-91	9.7 ± 3.9	4.0	6.1
Coastwide*			
1983-84	117.1 ± 46.4	4.0	8.7
1984-85	30.0 ± 8.9	4.4	7.7
1985-86	18.0 ± 6.0	3.9	7.0
1986-87	44.4 ± 18.1	5.0	7.7
1987-88	139.3 ± 117.8	4.2	7.7
1988-89	20.2 ± 7.6	4.5	8.2
1989-90	13.8 ± 6.2	3.9	7.9
1990-91	31.7 ± 12.9	4.2	7.5

Table H.3. Estimated annual landings of fishes (No. x 1000)  $\pm$  1 SE caught by party-boat fishermen in the EEZ by area, species and year (1983-1991).

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide <sup>a</sup>
<b>Atlantic croaker</b>						
1983-84		0.0	0.0	0.0	0.0	0.0
1984-85		0.0	0.0	0.0	0.0	0.0
1985-86		0.0	0.0	0.0	0.0	0.0
1986-87		0.0	0.0	0.0	0.0	0.0
1987-88	0.0	0.0	0.0	0.0	0.0	0.0
1988-89	0.0	0.0	<.1 $\pm$ <.1	0.0	0.0	<.1 $\pm$ <.1
1989-90	0.0	0.0	0.0	0.0	0.0	0.0
1990-91	0.0	0.0	0.0	0.0	0.0	0.0
<b>Atlantic sharpnose shark</b>						
1983-84		0.0	0.0	0.4 $\pm$ 0.4	0.0	0.4 $\pm$ 0.4
1984-85		0.0	0.0	0.0	0.0	0.0
1985-86		0.0	0.0	0.0	<.1 $\pm$ <.1	<.1 $\pm$ <.1
1986-87		<.1 $\pm$ <.1	0.0	0.1 $\pm$ 0.1	0.0	0.1 $\pm$ 0.1
1987-88	0.0	0.0	<.1 $\pm$ <.1	0.0	0.0	<.1 $\pm$ <.1
1988-89	0.0	0.0	0.1 $\pm$ 0.1	0.1 $\pm$ 0.1	0.0	0.2 $\pm$ 0.1
1989-90	0.0	0.0	0.0	0.0	0.0	0.0
1990-91	0.0	0.0	<.1 $\pm$ <.1	0.0	0.0	<.1 $\pm$ <.1
<b>Cobia</b>						
1983-84		0.0	0.0	0.0	0.0	0.0
1984-85		0.0	0.0	<.1 $\pm$ <.1	0.0	<.1 $\pm$ <.1
1985-86		0.0	0.0	<.1 $\pm$ <.1	0.0	<.1 $\pm$ <.1
1986-87		0.0	<.1 $\pm$ <.1	0.0	0.0	<.1 $\pm$ <.1
1987-88	0.0	0.0	0.0	0.0	0.0	0.0
1988-89	0.0	0.0	0.0	0.0	0.0	0.0
1989-90	0.0	0.0	0.0	0.0	0.0	0.0
1990-91	0.0	0.0	0.0	0.0	0.0	0.0
<b>King mackerel</b>						
1983-84		1.6 $\pm$ 1.6	0.1 $\pm$ 0.1	11.7 $\pm$ 5.6	0.2 $\pm$ 0.1	13.5 $\pm$ 7.4
1984-85		0.0	<.1 $\pm$ <.1	4.2 $\pm$ 2.2	<.1 $\pm$ <.1	4.2 $\pm$ 4.2
1985-86		0.3 $\pm$ 0.3	0.0	0.0	<.1 $\pm$ <.1	0.8 $\pm$ 0.5
1986-87		1.6 $\pm$ 1.6	<.1 $\pm$ <.1	1.0 $\pm$ 0.9	0.7 $\pm$ 0.7	3.4 $\pm$ 1.9
1987-88	0.0	3.0 $\pm$ 2.5	0.1 $\pm$ <.1	0.4 $\pm$ 0.3	0.2 $\pm$ 0.2	3.7 $\pm$ 2.6
1988-89	0.0	0.0	0.1 $\pm$ 0.1	0.9 $\pm$ 0.5	0.1 $\pm$ 0.1	1.0 $\pm$ 0.5
1989-90	0.0	0.0	0.3 $\pm$ 0.2	0.1 $\pm$ 0.1	0.2 $\pm$ 0.2	0.6 $\pm$ 0.3
1990-91	0.0	0.0	<.1 $\pm$ <.1	2.0 $\pm$ 1.1	0.2 $\pm$ 0.1	2.3 $\pm$ 1.1

Table H.3. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide <sup>a</sup>
<b>Red drum</b>						
1983-84		0.0	0.0	0.0	0.0	0.0
1984-85		0.0	0.0	0.0	0.0	0.0
1985-86		0.0	0.0	0.0	0.0	0.0
1986-87		0.0	0.0	0.0	0.0	0.0
1987-88	0.0	0.0	0.0	0.0	0.0	0.0
1988-89	0.0	0.0	0.0	0.0	0.0	0.0
1989-90	0.0	0.0	0.0	0.0	0.0	0.0
1990-91	0.0	0.0	0.0	0.0	0.0	0.0
<b>Red snapper</b>						
1983-84		0.0	<.1 ± <.1	0.0	3.3 ± 2.0	3.3 ± 2.0
1984-85		0.0	0.0	0.0	0.2 ± 0.2	0.2 ± 0.2
1985-86		0.5 ± 0.5	0.0	2.6 ± 2.3	0.5 ± 0.4	3.7 ± 2.4
1986-87		0.0	<.1 ± <.1	0.0	1.0 ± 1.0	1.1 ± 1.0
1987-88	0.0	0.0	0.2 ± 0.2	0.0	1.8 ± 1.3	2.0 ± 1.3
1988-89	0.0	0.0	0.5 ± 0.3	0.0	3.5 ± 3.5	4.0 ± 3.5
1989-90	0.0	0.0	0.4 ± 0.3	0.0	0.0	0.4 ± 0.3
1990-91	0.0	0.0	0.0	0.6 ± 0.6	0.0	0.6 ± 0.6
<b>Sand seatrout</b>						
1983-84		0.0	0.0	0.0	0.0	0.0
1984-85		0.0	0.0	0.0	0.0	0.0
1985-86		0.0	0.0	0.0	0.0	0.0
1986-87		0.0	0.0	0.0	0.0	0.0
1987-88	0.0	0.0	0.0	0.0	0.0	0.0
1988-89	0.0	0.0	0.0	0.0	0.0	0.0
1989-90	0.0	0.0	0.0	0.0	0.0	0.0
1990-91	0.0	0.0	0.0	0.0	0.0	0.0
<b>Spanish mackerel</b>						
1983-84		0.3 ± 0.3	0.0	0.2 ± 0.2	0.0	0.5 ± 0.3
1984-85		0.0	0.0	0.0	<.1 ± <.1	<.1 ± <.1
1985-86		0.1 ± 0.1	0.0	0.0	<.1 ± <.1	0.1 ± 0.1
1986-87		0.2 ± 0.2	0.0	0.0	0.0	0.2 ± 0.2
1987-88	0.0	2.6 ± 1.8	<.1 ± <.1	<.1 ± <.1	0.0	2.6 ± 1.8
1988-89	0.0	0.0	<.1 ± <.1	<.1 ± <.1	0.0	0.1 ± <.1
1989-90	0.0	0.0	<.1 ± <.1	0.0	0.0	<.1 ± <.1
1990-91	0.0	0.0	0.1 ± 0.1	<.1 ± <.1	0.2 ± 0.1	0.3 ± 0.1

Table H.3. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide <sup>a</sup>
<b>Spotted seatrout</b>						
1983-84		0.0	0.0	0.0	0.0	0.0
1984-85		0.0	0.0	0.0	0.0	0.0
1985-86		0.0	0.0	0.0	0.0	0.0
1986-87		0.0	0.0	0.0	0.0	0.0
1987-88	0.0	0.0	0.0	0.0	0.0	0.0
1988-89	0.0	0.0	0.0	0.0	0.0	0.0
1989-90	0.0	0.0	0.0	0.0	0.0	0.0
1990-91	0.0	0.0	0.0	0.0	0.0	0.0
<b>Vermilion snapper</b>						
1983-84		0.0	0.0	0.0	0.0	0.0
1984-85		0.0	0.0	0.0	0.0	0.0
1985-86		0.0	0.0	0.0	0.0	0.0
1986-87		0.0	0.0	0.0	0.0	0.0
1987-88	0.0	0.0	0.0	0.0	0.0	0.0
1988-89	0.0	0.0	0.0	0.0	0.0	0.0
1989-90	0.0	0.0	0.0	0.0	0.0	0.0
1990-91	0.0	0.0	0.0	<.1 ± <.1	0.0	<.1 ± <.1
<b>Other species</b>						
1983-84		0.2 ± 0.2	<.1 ± <.1	14.8 ± 12.1	0.8 ± 0.4	15.8 ± 12.1
1984-85		0.0	<.1 ± <.1	0.8 ± 0.3	1.4 ± 0.9	2.1 ± 1.0
1985-86		0.2 ± 0.2	0.0	0.6	3.4 ± 2.4	4.2
1986-87		0.9 ± 0.8	0.3 ± 0.3	2.1 ± 2.0	5.2 ± 2.9	8.5 ± 3.7
1987-88	0.0	11.4 ± 11.3	0.2	0.7 ± 0.6	5.4 ± 2.9	17.6
1988-89	0.0	0.0	<.1 ± <.1	1.5 ± 1.3	1.1 ± 1.0	2.6 ± 1.6
1989-90	0.0	0.0	0.9 ± 0.7	4.3 ± 4.3	1.9 ± 1.1	7.2 ± 4.5
1990-91	0.0	0.0	<.1 ± <.1	9.1 ± 6.1	0.8 ± 0.4	9.8 ± 6.1
<b>All species combined<sup>a</sup></b>						
1983-84		2.1 ± 2.0	0.1 ± 0.1	27.0 ± 14.5	4.3 ± 2.1	33.5 ± 14.8
1984-85		0.0	0.1 ± 0.1	5.0 ± 2.4	1.6 ± 1.0	6.6 ± 2.6
1985-86		1.1 ± 1.1	0.0	3.7 ± 2.5	4.0 ± 2.4	8.8 ± 3.6
1986-87		2.7 ± 2.5	0.4 ± 0.4	3.3 ± 2.4	6.9 ± 3.2	13.3 ± 4.7
1987-88	0.0	16.9 ± 15.2	0.4 ± 0.3	1.1 ± 0.9	7.4 ± 3.2	25.9 ± 15.5
1988-89	0.0	0.0	0.8 ± 0.5	2.4 ± 1.4	4.7 ± 3.6	7.9 ± 3.9
1989-90	0.0	0.0	1.6 ± 1.1	4.4 ± 4.4	2.1 ± 1.2	8.1 ± 4.7
1990-91	0.0	0.0	0.1 ± 0.1	11.7 ± 7.0	1.2 ± 0.5	13.0 ± 7.0

<sup>a</sup>Due to rounding of numbers, these totals may not exactly equal individual totals.



Table H.4. Annual mean catch rates of fishes (No./man-h)  $\pm$  1 SE caught by party-boat fishermen in the EEZ by area, species and year (1983-1991). Blank = no fishermen interviewed.

Species Year	Area					Coastwide
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
<b>Atlantic croaker</b>						
1983-84		0.00	0.00	0.00	0.00	0.00
1984-85			0.00	0.00	0.00	0.00
1985-86		0.00		0.00	0.00	0.00
1986-87		0.00	0.00	0.00	0.00	0.00
1987-88		0.00	0.00	0.00	0.00	0.00
1988-89			0.01 $\pm$ 0.01	0.00	0.00	<.01 $\pm$ <.01
1989-90			0.00	0.00	0.00	0.00
1990-91			0.00	0.00	0.00	0.00
<b>Atlantic sharpnose shark</b>						
1983-84		0.00	0.00	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01
1984-85			0.00	0.00	0.00	0.00
1985-86		0.00		<.01 $\pm$ <.01	0.01 $\pm$ 0.01	<.01 $\pm$ <.01
1986-87		<.01 $\pm$ <.01	0.00	0.01 $\pm$ 0.01	0.00	<.01 $\pm$ <.01
1987-88		0.00	<.01 $\pm$ <.01	0.00	0.00	<.01 $\pm$ <.01
1988-89			0.12 $\pm$ 0.10	0.01 $\pm$ 0.01	0.00	0.01 $\pm$ 0.01
1989-90			0.00	0.00	0.00	0.00
1990-91			0.02 $\pm$ 0.02	0.00	0.00	<.01 $\pm$ <.01
<b>Cobia</b>						
1983-84		0.00	0.00	0.00	0.00	0.00
1984-85			0.00	<.01 $\pm$ <.01	0.00	<.01 $\pm$ <.01
1985-86		0.00		0.01 $\pm$ 0.01	0.00	<.01 $\pm$ <.01
1986-87		0.00	0.00	0.00	0.00	0.00
1987-88		0.00	0.00	0.00	0.00	0.00
1988-89			0.00	0.00	0.00	0.00
1989-90			0.00	0.00	0.00	0.00
1990-91			0.00	0.00	0.00	0.00
<b>King mackerel</b>						
1983-84		0.19 $\pm$ 0.19	0.03 $\pm$ 0.03	0.11 $\pm$ 0.08	0.03 $\pm$ 0.02	0.12 $\pm$ 0.07
1984-85			0.05 $\pm$ 0.05	0.20 $\pm$ 0.12	0.01 $\pm$ 0.01	0.14 $\pm$ 0.08
1985-86		0.09 $\pm$ 0.09		0.06 $\pm$ 0.06	<.01 $\pm$ <.01	0.04 $\pm$ 0.03
1986-87		0.10 $\pm$ 0.10	0.02 $\pm$ 0.02	0.12 $\pm$ 0.11	0.04 $\pm$ 0.04	0.08 $\pm$ 0.05
1987-88		0.02 $\pm$ 0.02	0.01 $\pm$ 0.01	0.11 $\pm$ 0.10	0.03 $\pm$ 0.03	0.03 $\pm$ 0.02
1988-89			0.07 $\pm$ 0.07	0.08 $\pm$ 0.06	0.01 $\pm$ 0.01	0.05 $\pm$ 0.03
1989-90			0.08 $\pm$ 0.07	0.03 $\pm$ 0.03	0.03 $\pm$ 0.03	0.04 $\pm$ 0.03
1990-91			0.02 $\pm$ 0.02	0.10 $\pm$ 0.08	0.02 $\pm$ 0.01	0.07 $\pm$ 0.04

Table H.4 (Cont'd.)

Species Year	Area					Coastwide
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
<b>Red drum</b>						
1983-84		0.00	0.00	0.00	0.00	0.00
1984-85			0.00	0.00	0.00	0.00
1985-86		0.00		0.00	0.00	0.00
1986-87		0.00	0.00	0.00	0.00	0.00
1987-88		0.00	0.00	0.00	0.00	0.00
1988-89			0.00	0.00	0.00	0.00
1989-90			0.00	0.00	0.00	0.00
1990-91			0.00	0.00	0.00	0.00
<b>Red snapper</b>						
1983-84		0.00	<.01 ± <.01	0.00	0.55 ± 0.42	0.03 ± 0.02
1984-85			0.00	0.00	0.02 ± 0.02	0.01 ± 0.01
1985-86		0.15 ± 0.15		0.37 ± 0.34	0.07 ± 0.06	0.21 ± 0.14
1986-87		0.00	0.02 ± 0.02	0.00	0.06 ± 0.06	0.02 ± 0.02
1987-88		0.00	0.04 ± 0.04	0.00	0.26 ± 0.20	0.01 ± 0.01
1988-89			0.41 ± 0.34	0.00	0.45 ± 0.45	0.20 ± 0.18
1989-90			0.10 ± 0.09	0.00	0.00	0.03 ± 0.02
1990-91			0.00	0.03 ± 0.03	0.00	0.02 ± 0.02
<b>Sand seatrout</b>						
1983-84		0.00	0.00	0.00	0.00	0.00
1984-85			0.00	0.00	0.00	0.00
1985-86		0.00		0.00	0.00	0.00
1986-87		0.00	0.00	0.00	0.00	0.00
1987-88		0.00	0.00	0.00	0.00	0.00
1988-89			0.00	0.00	0.00	0.00
1989-90			0.00	0.00	0.00	0.00
1990-91			0.00	0.00	0.00	0.00
<b>Spanish mackerel</b>						
1983-84		0.03 ± 0.03	0.00	<.01 ± <.01	0.00	<.01 ± <.01
1984-85			0.00	0.00	<.01 ± <.01	<.01 ± <.01
1985-86		0.02 ± 0.02		0.00	<.01 ± <.01	<.01 ± <.01
1986-87		0.01 ± 0.01	0.00	0.00	0.00	<.01 ± <.01
1987-88		0.02 ± 0.02	<.01 ± <.01	<.01 ± <.01	0.00	0.02 ± 0.02
1988-89			0.02 ± 0.02	<.01 ± <.01	0.00	<.01 ± <.01
1989-90			<.01 ± <.01	0.00	0.00	<.01 ± <.01
1990-91			0.03 ± 0.03	<.01 ± <.01	0.02 ± 0.01	0.01 ± <.01

Table H.4 (Cont'd.)

Species Year	Area					Coastwide
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
<b>Spotted seatrout</b>						
1983-84		0.00	0.00	0.00	0.00	0.00
1984-85			0.00	0.00	0.00	0.00
1985-86		0.00		0.00	0.00	0.00
1986-87		0.00	0.00	0.00	0.00	0.00
1987-88		0.00	0.00	0.00	0.00	0.00
1988-89			0.00	0.00	0.00	0.00
1989-90			0.00	0.00	0.00	0.00
1990-91			0.00	0.00	0.00	0.00
<b>Vermilion snapper</b>						
1983-84		0.00	0.00	0.00	0.00	0.00
1984-85			0.00	0.00	0.00	0.00
1985-86		0.00		0.00	0.00	0.00
1986-87		0.00	0.00	0.00	0.00	0.00
1987-88		0.00	0.00	0.00	0.00	0.00
1988-89			0.00	0.00	0.00	0.00
1989-90			0.00	0.00	0.00	0.00
1990-91			0.00	<.01 ± <.01	0.00	<.01 ± <.01
<b>Other species</b>						
1983-84		0.03 ± 0.02	<.01 ± <.01	0.15 ± 0.13	0.14 ± 0.10	0.14 ± 0.11
1984-85			0.06 ± 0.06	0.04 ± 0.02	0.16 ± 0.13	0.07 ± 0.04
1985-86		0.06 ± 0.06		0.08	0.45 ± 0.34	0.23
1986-87		0.06 ± 0.06	0.26 ± 0.25	0.23 ± 0.23	0.28 ± 0.19	0.19 ± 0.11
1987-88		0.09 ± 0.09	0.04	0.20 ± 0.19	0.78 ± 0.51	0.13 ± 0.12
1988-89			0.04 ± 0.03	0.13 ± 0.12	0.14 ± 0.13	0.13 ± 0.09
1989-90			0.25 ± 0.21	0.90 ± 0.90	0.37 ± 0.28	0.52 ± 0.37
1990-91			<.01 ± <.01	0.45 ± 0.36	0.08 ± 0.05	0.31 ± 0.22
<b>All species combined*</b>						
1983-84		0.26 ± 0.25	0.04 ± 0.04	0.27 ± 0.18	0.72 ± 0.50	0.29 ± 0.16
1984-85			0.11 ± 0.11	0.23 ± 0.14	0.20 ± 0.15	0.22 ± 0.11
1985-86		0.32 ± 0.32		0.52 ± 0.42	0.53 ± 0.36	0.49 ± 0.25
1986-87		0.17 ± 0.17	0.31 ± 0.29	0.36 ± 0.32	0.38 ± 0.23	0.30 ± 0.16
1987-88		0.14 ± 0.13	0.11 ± 0.10	0.32 ± 0.29	1.08 ± 0.64	0.19 ± 0.17
1988-89			0.67 ± 0.51	0.21 ± 0.16	0.60 ± 0.52	0.39 ± 0.23
1989-90			0.43 ± 0.35	0.92 ± 0.92	0.40 ± 0.30	0.59 ± 0.40
1990-91			0.07 ± 0.06	0.58 ± 0.45	0.12 ± 0.07	0.41 ± 0.26

\*Due to rounding of numbers, these totals may not exactly equal individual totals.

Table H.5. Annual mean weights of fishes (kg/fish)  $\pm$  1 SE caught by party-boat fishermen in the EEZ by area, species and year (1983-1991). Blank = no fish weighed. No standard error = fish weighed on only one survey day.

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide
<b>Atlantic croaker</b>						
1983-84						
1984-85						
1985-86						
1986-87						
1987-88						
1988-89			0.46			0.46
1989-90						
1990-91						
<b>Atlantic sharpnose shark</b>						
1983-84						
1984-85						
1985-86					4.49	4.49
1986-87				6.08 $\pm$ 0.27		6.08
1987-88			2.69 $\pm$ 0.55			2.69
1988-89			3.95 $\pm$ 0.71	7.34		5.06 $\pm$ 1.49
1989-90						
1990-91			1.51			1.51
<b>Cobia</b>						
1983-84						
1984-85						
1985-86						
1986-87			7.51 $\pm$ 1.17			7.51 $\pm$ 1.17
1987-88						
1988-89						
1989-90						
1990-91						
<b>King mackerel</b>						
1983-84		9.33	14.24	9.55 $\pm$ 0.73	5.49 $\pm$ 0.93	9.49 $\pm$ 1.81
1984-85			7.76	9.97 $\pm$ 1.87	4.83	9.90 $\pm$ 1.93
1985-86		5.68		8.33	13.34	7.43
1986-87		4.69	9.32	10.52 $\pm$ 1.38	3.85	6.40 $\pm$ 1.88
1987-88		7.03 $\pm$ 5.27	9.94 $\pm$ 1.02	7.33 $\pm$ 0.36	5.89 $\pm$ 1.29	7.04 $\pm$ 0.11
1988-89			13.84	8.32 $\pm$ 0.93	5.84	8.51 $\pm$ 0.60
1989-90			11.06 $\pm$ 1.68	6.72	10.45	9.95 $\pm$ 1.14
1990-91			11.34	7.71 $\pm$ 2.06	5.04 $\pm$ 1.38	7.53 $\pm$ 0.34

Table H.5. (Cont'd.)

Species Year	Area					Coastwide
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
<b>Red drum</b>						
1983-84						
1984-85						
1985-86						
1986-87						
1987-88						
1988-89						
1989-90						
1990-91						
<b>Red snapper</b>						
1983-84			2.12		0.68	0.69 ± 0.69
1984-85					1.01	1.01
1985-86		2.13			0.58 ± 0.18	1.36 ± 1.16
1986-87			2.09		1.12	1.15 ± 0.06
1987-88			2.13 ± 0.08		0.70 ± 0.17	0.83 ± 0.24
1988-89			2.38 ± 1.43		2.40	2.39
1989-90			0.54			0.54
1990-91				0.67		0.67
<b>Sand seatrout</b>						
1983-84						
1984-85						
1985-86						
1986-87						
1987-88						
1988-89						
1989-90						
1990-91						
<b>Spanish mackerel</b>						
1983-84		1.01		1.12 ± 0.05		1.06 ± 0.59
1984-85					1.04	1.04
1985-86		1.94			1.83	1.90
1986-87		0.38				0.38
1987-88		1.07				1.07
1988-89			1.37	0.44		1.18 ± 0.26
1989-90			1.52 ± 0.43	0.97		1.07
1990-91			1.07			0.74 ± 0.08
			0.57	0.51	0.81 ± 0.16	

Table H.5. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide
<b>Spotted seatrout</b>						
1983-84						
1984-85						
1985-86						
1986-87						
1987-88						
1988-89						
1989-90						
1990-91						
<b>Vermillion snapper</b>						
1983-84						
1984-85						
1985-86						
1986-87						
1987-88						
1988-89						
1989-90						
1990-91				0.25		0.25
<b>All species combined*</b>						
1983-84		7.20 ± 7.20	12.50 ± 12.50	15.17 ± 7.14	1.56 ± 1.04	12.92 ± 6.38
1984-85			7.70 ± 7.70	10.93 ± 1.19	2.70 ± 2.70	8.91 ± 1.61
1985-86		3.30		8.80	2.09 ± 1.52	5.07 ± 4.81
1986-87		4.20 ± 4.20	4.84 ± 2.68	11.70 ± 2.92	1.18 ± 0.15	4.50 ± 2.85
1987-88		4.65 ± 4.44	6.22 ± 2.03	6.68 ± 0.30	1.52 ± 0.79	3.99 ± 0.97
1988-89			3.79 ± 1.16	7.85 ± 0.89	2.57 ± 0.51	4.31 ± 1.84
1989-90			7.76 ± 0.59	6.70	10.40	7.86 ± 1.11
1990-91			1.34 ± 1.44	7.61 ± 3.36	3.53 ± 1.30	7.17 ± 0.63

\*Includes "other" species.

Table H.6. Annual mean total lengths of fishes (mm/fish)  $\pm$  1 SE caught by party-boat fishermen in the EEZ by area, species and year (1983-1991). Blank = no fish measured. No standard error = fish measured on only one survey day.

Species Year	Area					Coastwide
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
<b>Atlantic croaker</b>						
1983-84						
1984-85						
1985-86						
1986-87						
1987-88						
1988-89			327			327
1989-90						
1990-91						
<b>Atlantic sharpnose shark</b>						
1983-84						
1984-85						
1985-86					864	864
1986-87				940 $\pm$ 9		940
1987-88			750 $\pm$ 47			750
1988-89			830 $\pm$ 47	1002		886 $\pm$ 76
1989-90						
1990-91			649			649
<b>Cobia</b>						
1983-84						
1984-85						
1985-86						
1986-87						
1987-88						
1988-89						
1989-90						
1990-91						
<b>King mackerel</b>						
1983-84	974		1136	990 $\pm$ 23	832 $\pm$ 40	985 $\pm$ 139
1984-85			941	1001 $\pm$ 62	812	825 $\pm$ 75
1985-86	853			953	1130	919
1986-87	798		979	1039 $\pm$ 40	752	867 $\pm$ 78
1987-88	840 $\pm$ 254		1017 $\pm$ 39	906 $\pm$ 12	857 $\pm$ 63	851 $\pm$ 13
1988-89			1130	958 $\pm$ 32	865	962 $\pm$ 19
1989-90			1048 $\pm$ 43	905	1038	1014 $\pm$ 37
1990-91			1072	916 $\pm$ 85	794 $\pm$ 71	907 $\pm$ 16

Table H.6. (Cont'd.)

Species Year	Area					
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide
<b>Red drum</b>						
1983-84						
1984-85						
1985-86						
1986-87						
1987-88						
1988-89						
1989-90						
1990-91						
<b>Red snapper</b>						
1983-84			530		354	357 ± 177
1984-85					407	407
1985-86		454			340 ± 32	398 ± 245
1986-87			511		419	421 ± 5
1987-88			512 ± 10		363 ± 23	376 ± 25
1988-89			442 ± 105		540	528 ± 20
1989-90			340			340
1990-91				366		366
<b>Sand seatrout</b>						
1983-84						
1984-85						
1985-86						
1986-87						
1987-88						
1988-89						
1989-90						
1990-91						
<b>Spanish mackerel</b>						
1983-84		578		603 ± 8		588 ± 227
1984-85					588	588
1985-86		729			714	724
1986-87		416				416
1987-88		595	647	440		594 ± 1
1988-89			662 ± 71	575		608 ± 41
1989-90			594			594
1990-91			476	461	533 ± 35	516 ± 19



Table H.6. (Cont'd.)

Species Year	Area					Coastwide
	Sabine Lake	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	
<b>Spotted seatrout</b>						
1983-84						
1984-85						
1985-86						
1986-87						
1987-88						
1988-89						
1989-90						
1990-91						
<b>Vermilion snapper</b>						
1983-84						
1984-85						
1985-86						
1986-87						
1987-88						
1988-89						
1989-90						
1990-91				285		285

Table H.7. Percent composition of "other" species caught by party-boat fishermen in the EEZ by area (1989-1991). Values represent percentages of the observed coastwide total of "other" species.

Common name	Scientific name	Area					Coastwide
		Sabine Lake	Galveston	Matagorda	Aransas	Lower Laguna Madre	
Blackfin tuna	<u>Thunnus atlanticus</u>				21.31		21.31
Bonnethead	<u>Sphyrna tiburo</u>			1.64			1.64
Crevalle jack	<u>Caranx hippos</u>					1.64	1.64
Dolphin	<u>Goryphaena hippurus</u>				45.90	8.20	54.10
Gray triggerfish	<u>Balistes capriscus</u>				3.28		3.28
Little tunny	<u>Euthynnus alletteratus</u>					18.03	18.03

Table H.8. Residential origin (%) of party-boat fishermen in the EEZ by area and year (1983-1991). Blank = no fishermen interviewed.

Area Year	Adjacent coastal counties	Non-adjacent coastal counties	Non-coastal counties	Other states and countries
Sabine Lake				
1987-88				
1988-89				
1989-90				
1990-91				
Galveston				
1983-84	100	0	0	0
1984-85				
1985-86	100	0	0	0
1986-87	100	0	0	0
1987-88	88	0	12	0
1988-89				
1989-90				
1990-91				
Matagorda				
1983-84	30	20	50	0
1984-85	0	100	0	0
1985-86				
1986-87	67	0	33	0
1987-88	16	51	32	0
1988-89	14	0	71	14
1989-90	46	23	31	0
1990-91	33	7	60	0
Corpus Christi				
1983-84	4	13	66	16
1984-85	9	24	60	7
1985-86	11	17	54	17
1986-87	0	0	100	0
1987-88	6	0	90	3
1988-89	18	28	52	2
1989-90	25	0	75	0
1990-91	38	14	48	0

Table H.B. (Cont'd.)

Area Year	Adjacent coastal counties	Non-adjacent coastal counties	Non-coastal counties	Other states and countries
<b>Lower Laguna Madre</b>				
1983-84	23	26	51	0
1984-85	26	0	61	13
1985-86	10	22	54	15
1986-87	7	0	76	17
1987-88	35	0	47	18
1988-89	33	0	61	6
1989-90	0	29	36	36
1990-91	19	19	62	0
<b>Coastwide</b>				
1983-84	20	16	55	9
1984-85	13	21	57	9
1985-86	17	18	50	15
1986-87	31	0	60	9
1987-88	29	16	49	6
1988-89	21	15	58	6
1989-90	23	23	39	16
1990-91	28	15	57	0



PWD-RP-N3400-390-10/92

Dispersal of this publication conforms with Texas State Documents Depository Law, and it is available at Texas State Publications Clearinghouse and/or Texas Depository Libraries.