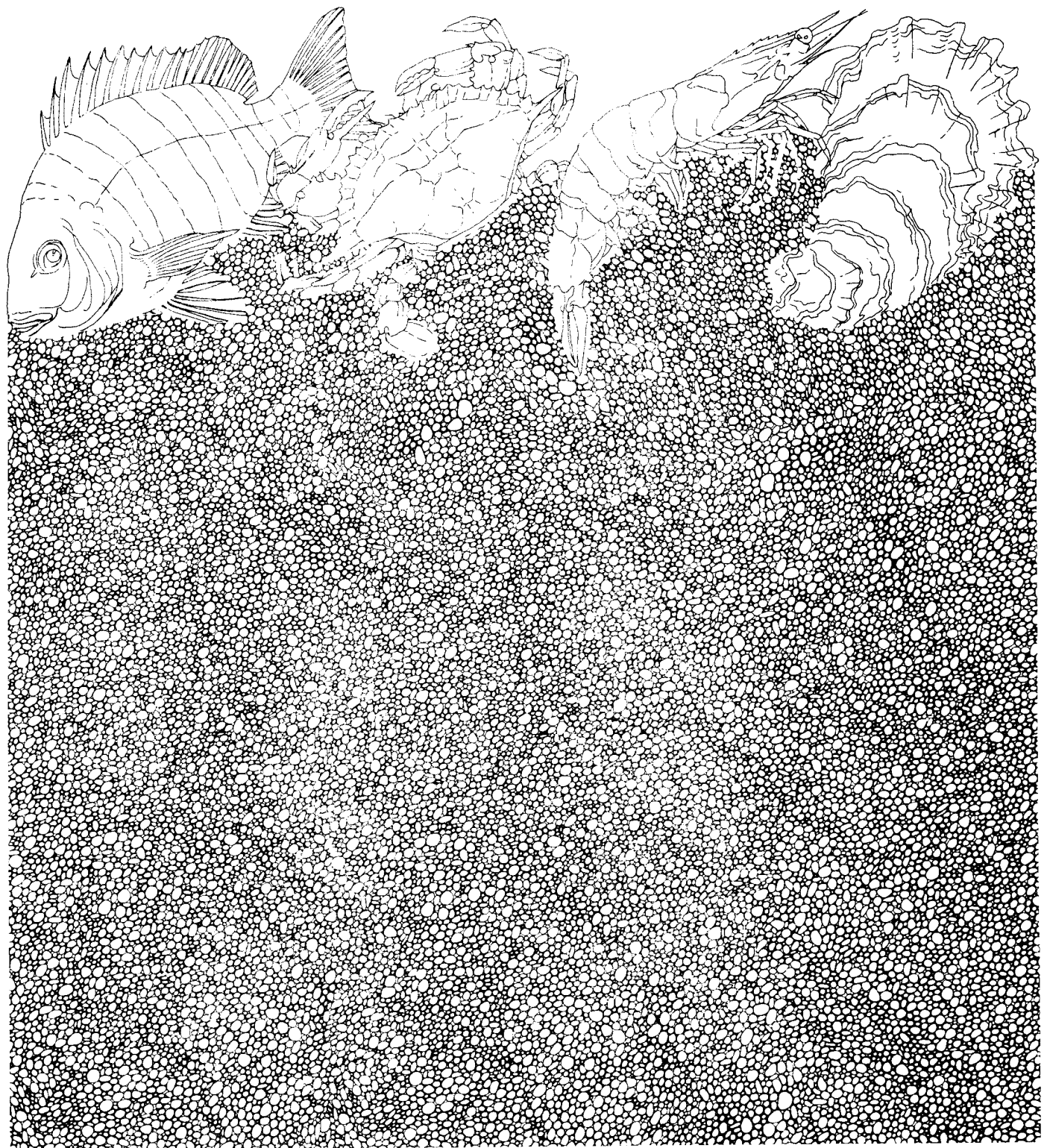


Trends in Finfish Catches by Private Sport-Boat Fishermen in Texas Marine Waters through May 1984

by Hal R. Osburn and Maury O. Ferguson

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Texas Parks and Wildlife Department
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TRENDS IN FINFISH CATCHES BY PRIVATE SPORT-BOAT FISHERMEN
IN TEXAS MARINE WATERS THROUGH MAY 1984

EXECUTIVE SUMMARY

The Texas Parks and Wildlife Department's Coastal Fisheries Branch has been monitoring sport fishing in Texas saltwater bays since May 1974. Monitoring has been accomplished by intercepting fishermen as they completed fishing trips on weekends at boat ramps in all bay systems except Sabine Lake. Over 66,000 weekend sport-boat fishing man-trips have been intercepted during 2,106 weekend survey days during this 10-year period.

Weekend sport-boat fishing pressure (in trip man-hours/year) declined during the first 3 years of this study. In 1974-75 and 1975-76 there were an estimated 3.2 million trip man-hours spent by weekend sport-boat fishermen. The lowest estimate occurred in 1976-77 with 2.0 million trip man-hours. Since 1977-78 the annual estimates have ranged from 2.1 to 2.5 million trip man-hours.

The Galveston Bay system had the highest 10-year mean annual fishing pressure with 899,000 trip man-hours. The San Antonio Bay system had the least mean annual fishing pressure (154,000 trip man-hours). All the other bay systems had mean annual fishing pressures between 192,000 and 368,000 trip man-hours. Fishing intensity was greatest in the Galveston Bay system (2.6 trip man-hours/acre/year) and was least in the Matagorda and San Antonio Bay systems (1.1 trip man-hours/acre/year).

There was a downward trend in the estimated finfish harvest from Texas bays during this 10-year period. In 1974-75 and 1975-76 the estimated annual weekend harvest was 2.6 million fishes. In 1983-84 it was a little greater than 1.0 million fishes. Although these data have not been subjected to statistical analyses to evaluate the true significance of this trend, it should be noted that no succeeding estimate has been greater than a previous estimate except for 1982-83. Furthermore this downward trend cannot be accounted for solely by a decline in fishing pressure. After the first 3 years, a declining catch rate has also contributed to the decline in the harvest.

During the 10-year study the Galveston Bay system accounted for 45% of the annual coastwide harvest. The amount of the annual coastwide harvest coming from any other individual bay system ranged from 6% to 12%.

Weekend sport-boat fishermen harvested more spotted seatrout (by number and weight) than any other species. The species composition (percent by numbers) was 40% spotted seatrout, 18% Atlantic croaker, 17% sand seatrout, 6% red drum and 19% "other" species.

The fish with the greatest mean weight harvested by weekend sport-boat fishermen was black drum (3.2 lb). Gafftopsail catfish and red drum had mean weights of 2.7 lb and 2.3 lb, respectively. The mean weights for sheepshead, southern flounder and spotted seatrout were 1.6 lb, 1.4 lb and 1.1 lb, respectively. The smallest of the economically important fishes were sand seatrout (0.7 lb) and Atlantic croaker (0.5 lb).

ABSTRACT

Creel surveys conducted in Texas bays since fall 1974 have shown a decline in annual finfish landings by weekend sport-boat fishermen. The estimated annual landings during 1974-76 for seven bay systems were 2.6 million fishes (1.2 million kg). During 1983-84 estimated annual landings for these same seven bay systems were 1.0 million fishes (0.7 million kg). This decline in landings was accompanied by a decline in the mean annual catch rates and possibly in fishing pressure. The mean annual catch rate fell from an estimated 0.98 fish/trip man-h during 1974-75 to an estimated 0.44 fish/trip man-h during 1983-84. Pressure fell from 3.2 million fishing trip man-h during 1974-76 to 2.4 million fishing trip man-h during 1983-84. The Galveston Bay system had the highest fishing pressure with a mean of 0.90 million fishing trip man-h/year and the San Antonio Bay system had the lowest fishing pressure with a mean of 0.15 million fishing trip man-h/year. Spotted seatrout (Cynoscion nebulosus) was the fish most frequently landed (40%) in each year, and with the exception of several species grouped in the "other fishes" category, gafftopsail catfish (Bagre marinus) was landed the least (2%). Red drum (Sciaenops ocellatus) and black drum (Pogonias cromis) accounted for 6% and 4% of the total annual landings, respectively.

INTRODUCTION

The Texas Parks and Wildlife Department (TPWD) has conducted surveys of weekend sport-boat fishermen in Texas bays since 1974 (Heffernan et al. 1976; Breuer et al. 1977; Green et al. 1978; McEachron 1980a, 1980b; McEachron and Green 1981, 1982, 1983). These surveys were designed to monitor the species composition, size, number, and catch per unit of effort of economically important species on a yearly basis in Galveston, Matagorda, San Antonio, Aransas, Corpus Christi and the upper and lower Laguna Madre bay systems, and the Gulf of Mexico off Texas.

The objectives of the surveys were to:

1. determine the total daylight harvest, catch per unit effort and size of economically important finfishes by species and method of capture by weekend sport-boat fishermen in Galveston, Matagorda, San Antonio, Aransas, Corpus Christi and the upper and lower Laguna Madre bay systems;
2. determine the species composition, size, number, and catch per unit of effort of economically important finfishes caught in the Gulf waters off Texas by sport-boat fishermen; and,
3. publish the results in report form which will assist resource managers in effectively regulating the harvest of economically important finfishes.

MATERIALS AND METHODS

From May 1974 through May 1984 inventoried boat ramps were surveyed in Galveston, Matagorda (including East Matagorda), San Antonio, Aransas, Corpus Christi and the upper and lower Laguna Madre bay systems. Beginning in May 1983, areas of shore-based boat use (e.g. marinas, boat houses, etc.) were incorporated into the surveys (Appendices A and B). Area descriptions for each bay (Matlock and Weaver 1979) are presented in Appendix C.

Each project year was divided into a high use season (15 May-20 November) and a low use season (21 November-14 May) based on fishing pressure, harvest and catch rate analyses of sport-boat fishermen completing a fishing trip (McEachron et al. 1984). Interviews and roving counts of boat trailers were made on randomly selected weekend days during each season in each bay system. Roving counts and interviews were not necessarily conducted on the same day.

The creel survey sampling design for weekend sport-boat fishermen was described in Heffernan et al. (1976) and was modified by Green et al. (1978). A roving clerk traveled through each bay system at a constant rate on randomly selected weekend days and counted boat trailers. Fishing pressure estimates were obtained by adjusting trailer counts with data collected from interviewed fishermen. Department personnel were stationed

at randomly selected boat ramps on randomly selected weekend days to collect catch data by interviewing fishing parties that had completed a trip.

Interviewers recorded species (Galloway et al. 1972, Hoese and Moore 1977, Robins et al. 1980), number and Weight (kg) of all fish brought to the dock by fishing parties as well as number of persons in the party, fishing location, gear used and trip length. Fish were measured (total length) to the nearest mm.

Interview sites were selected at random in proportion to mean boat trailer counts obtained during the previous 3 years (TPWD unpublished data). This resulted in boat ramps with high mean trailer counts being surveyed more often than boat ramps with low mean trailer counts. Interviews were conducted from 1000 to 1800 as a result of an evaluation of data obtained during the first 2-year study (Heffernan et al. 1976, Breuer et al. 1977) which indicated that sampling during these time periods would increase the amount of data collected per unit of sampling effort (McEachron et al. 1984).

All fishermen fishing inside (bayward) of the surf line but not in a pass were considered to be bay fishermen. Prior to May 1983, pass fishermen were defined as having fished outside (gulfward) of the surf line but within 1.6 km of an "open" pass (bay and Gulf connected by water). Beginning 15 May 1983, pass fishermen were defined as having fished within one of the specific pass areas defined in Appendix D. Jettied areas of a pass were defined as being part of that pass. Texas Territorial Sea (TTS) fishermen were defined as having fished in the Gulf from the surf line to 16.7 km offshore excluding the 1.6 km area around a pass. Fishery Conservation Zone (FCZ) fishermen were defined as having fished in the Gulf beyond 16.7 km offshore. Gulf fishermen were a combination of TTS and FCZ fishermen.

Data presented for bay fishermen are for weekend days only. Data presented for pass and Gulf fishermen are for weekend days and weekdays combined.

In previous surveys conducted by TPWD, the sport fish harvest was estimated as the product of the mean catch rate and the fishing pressure in trip man-h (Heffernan et al. 1976). Since interview sites were selected at random in proportion to total fishing pressure, this technique was dependent upon a roving clerk traveling through the fishery obtaining fishing pressure at all sites at any given time during the survey period. In the fall of 1979 gas shortages and irregular operating hours by gas stations made it impossible to strictly comply with these procedures. The potential for similar problems in the future exists (1979 was the second gas shortage within a 4-year period). Therefore, the development of an alternate method of estimating the sport fish harvest and the fishing pressure which would not depend upon the extensive use of an automobile was required. Data collected since 1974 by TPWD were used to estimate a set of probabilities that described the patterns of fishing pressure that occurred within a day and at each inventoried fishing site (TPWD unpublished data).

The following equations were used to estimate harvest (H):

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

where

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

The variable \bar{h}_i was the mean number of fish landed per day during daylight hours in the i th stratum (weekend, weekday, high and low use seasons) and D_i was the total number of days that occurred in the i th stratum. The number of fish landed per day in the bay system within a given stratum was estimated by adjusting the total number of fish actually observed at the site (h_{ij}) by the proportion of parties missed by the interviewers that day (P_j) and by the estimated proportion of total fishing activity in the bay system that occurred at the site (e_j). The total number of days and sites sampled was n . The adjustment for missed interviews was calculated as the ratio of the total number of parties seen divided by the total number of parties interviewed. The proportion of total fishing activity occurring at site j (e_j) was estimated as:

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

where the total number of trailers or fishermen (FH_j) observed at site j for the most recent 3-year period was divided by the total number of trailers or fishermen observed at all sites ($j=1,2,3,\dots,k$) within a stratum during the same period. This technique is described by Kish (1965) and is used to make estimates from samples selected from clusters which are proportional.

The estimation of the proportion of total pass and Gulf fishing activity at site (e_j) was changed for the 1983-84 estimates. All sites that had any history of pass or Gulf fishing from May 1979 through May 1984 were identified. The amount of activity at each site was computed by averaging the weekend and weekday mean pass and Gulf trip man-h using data from May 1979 to May 1982 site summary. When weekend or weekday data were not available the amount of activity was estimated as:

$$\bar{x} = \frac{3x}{2}$$

when weekend data were not available, and as:

$$\bar{x} = \frac{(X_1 + X_1)}{2}$$

when weekday data were missing.

The variable x_1 was weekend trip man-h and x_2 was weekday trip man-h.

The amount of activity at sites which had pass or Gulf activity in 1983-84 but no prior history was set equal to sites with historical data that had similar pressure. The relative percent activity of boat ramps with pass or Gulf history were computed from a total of 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.

A roving clerk is still required to inventory fishing sites but the objective is no longer to estimate the total pressure occurring at each site but to estimate what proportion of the total pressure is occurring at each site. This can be accomplished with fewer roves by roving during a short time period (0800-1230) when there is little change in boating activity. This reduces the use of the automobile from 16% to 33% of the previous requirements depending on the actual rove schedule adopted. A comparison of estimates made from selecting survey sites as strictly random samples and by selecting survey sites in proportion to the activity that occurs at each site is in Appendix E.

Data collected from this survey, on an annual basis, are comparable to previous survey data. However, one assumption must be made when comparing catch data from year to year. The mean catch rate and mean fish size for parties returning 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 harvest and fishing pressure comparisons, the data of 1974-75 and 1975-76 have been combined. Four of the Texas bay systems were surveyed in 1974-75 (Galveston, San Antonio, Aransas and the upper Laguna Madre) and three were surveyed in 1975-76 (Matagorda, Corpus Christi and the lower Laguna Madre). From 1976-77 through 1983-84 all bay systems were surveyed each year.

Any differences in the estimates in this report compared with previously published estimates for the same item are due to updating of the data base and the most recent report should be considered the most accurate.

RESULTS

Bay Fishery

From 15 May 1974 through 14 May 1984, surveys were conducted on 2106 weekend days in the Galveston, Matagorda, San Antonio, Aransas, Corpus Christi and the upper and lower Laguna Madre bay systems (Appendix F). This effort resulted in the completion of nearly 21,000 interviews representing 66,000 man trips.

The greatest estimated coastwide annual weekend sport-boat fishing pressure of 3,200,000 trip man-h occurred in 1974-76; the lowest estimated pressure of 2,000,000 trip man-h occurred in 1976-77 and 1979-80 (Table 1). All other annual coastwide weekend sport-boat pressure

estimates were similar (2,400,000 trip man-h). The high use season constituted 58-83% (1,382,300-1,982,486 trip man-h) of the coastwide weekend sport-boat fishing pressure in each year. Fishing pressure in Galveston Bay constituted 23-49% (541,639-1,190,500 trip man-h) of the estimated coastwide annual fishing pressure.

Coastwide, the estimated number of finfish landed by weekend sport-boat fishermen decreased 61% from 2,636,900 fish (1,259,000 kg) in 1974-76 to 1,017,000 fish (502,800 kg) in 1981-82, increased slightly to 1,141,500 fish (646,900 kg) in 1982-83 and then decreased slightly to 1,047,500 fish (696,600 kg) in 1983-84 (Tables 2 and 3). Galveston Bay fishermen accounted for 25-64% (259,400-1,300,300 fish) of the annual landings in each year. The high use season yielded 73-88% of the annual landings by number and 66-86% by weight in each year (Tables 4-7).

Spotted seatrout (Cynoscion nebulosus) constituted 29-49% of the total number of fish landed in each year. From 1974-76 to 1978-79 spotted seatrout landings decreased 69% from 1,195,300 fish (574,100 kg) to 368,000 fish (188,900 kg); landings in later years ranged from 422,600 fish (197,800 kg) in 1979-80 to 504,300 fish (322,200 kg) in 1983-84. Annual landings of red drum (Sciaenops ocellatus) were highest in 1974-76 when 148,400 red drum (112,900 kg) were landed. Landings in later years ranged from 53,900 fish (51,400 kg) to 76,100 fish (78,000 kg), except for 1983-84 when 95,400 red drum (134,400 kg) were landed, which represented a 56% increase in number and a 70% increase in weight from 1982-83. Estimated annual black drum (Pogonias cromis) landings ranged from 60,400 fish (74,300 kg) to 89,200 fish (57,700 kg) since 1974 except for 1981-82 and 1983-84 when 35,100 black drum (27,000 kg) and 38,100 black drum (51,499 kg), respectively, were landed. Southern flounder (Paralichthys lethostigma) landings have ranged from 37,800 fish (22,700 kg) to 60,300 fish (33,600 kg) except for 1974-76 (116,000 fish, 77,400 kg) and 1982-83 (97,400 fish, 58,200 kg). The annual landings of sheepshead (Archosargus probatocephalus) were 106,500 fish (86,400 kg) in 1977-78; landings in all other years were \leq 54,900 fish (\leq 39,700 kg). Atlantic croaker (Micropogonias undulatus) landings decreased 74% from 383,500 fish (79,800 kg) in 1974-76 to 122,100 fish (30,800 kg) in 1983-84. Sand seatrout (C. arenarius) landings decreased 81% from 563,300 fish (192,700 kg) in 1974-76 to 104,900 fish (27,600 kg) in 1981-82, increased to 197,000 fish (50,600 kg) in 1982-83, and decreased to 132,900 fish (38,900 kg) in 1983-84. Gafftopsail catfish (Bagre marinus) annual landings ranged from 23,400 fish (30,200 kg) to 37,100 fish (52,800 kg) prior to 1979-80; annual landings since 1979-80 have ranged from 7,100 fish (6,400 kg) to 8,700 fish (10,600 kg). Annual landings of "other" species were \leq 97,800 fish (\leq 41,400 kg) during each year.

The annual coastwide mean catch rate, for all species combined, decreased from 0.83 fish/trip man-h in 1976-77 to 0.44 fish/trip man-h in 1983-84 (Table 8). Coastwide catch rates for spotted seatrout were 0.34 fish/trip man-h in 1976-77; since 1977-78 annual catch rates have ranged from 0.15 to 0.21 fish/trip man-h. Atlantic croaker catch rates declined 69% from 0.16 fish/trip man-h in 1976-77 to 0.05 fish/trip man-h in 1983-84. Sand seatrout catch rates declined 67% from 0.18 fish/trip man-h in 1976-77 to 0.06 fish/trip man-h in 1983-84. Catch rates of all other species ranged from $<$ 0.01 to 0.05 fish/trip man-h annually.

Generally, catch rates during the high use season followed the same pattern as the annual catch rates over the years (Table 9). The catch rates during the low use season did not follow any consistent pattern but instead varied among bay systems and among years (Table 10).

The annual coastwide mean weights for all species varied among bay systems and among years (Table 11). Black drum (0.79-2.95 kg/fish), gafftopsail catfish (0.90-1.48 kg/fish) and red drum (0.75-1.35 kg/fish) were the heaviest fishes landed coastwide and Atlantic croaker (0.20-0.28 kg/fish) was the lightest fish landed coastwide. The mean weights of fishes retained during the high and low use seasons varied among bay systems and among years (Tables 12 and 13).

Gulf of Mexico Fishery

Pass Fishery

Pass sport-boat fishermen generally caught the same species as bay fishermen. On a coastwide basis, pass sport-boat fishermen fished 1,138,000 trip man-h and landed 256,000 fish in 1983-84 which represented a 24% increase from 1982-83 (Tables 14 and 15). Of these 1983-84 landings, spotted seatrout comprised 22%, Atlantic croaker and sand seatrout comprised 20% each, southern flounder comprised 13%, and all other species comprised $\leq 11\%$ of the total landings. Galveston Bay area pass fishermen accounted for 58% of the landings. The high use season comprised 75% of the annual landings (Tables 16 and 17). Sand seatrout was the only species whose landings were greater in the low use season than in the high use season.

Mean catch rates during the high use season for all species combined were < 1.00 fish/trip man-h for all years and areas except for the Corpus Christi Bay area in 1978 (1.19 fish/trip man-h) and in 1982 (1.14 fish/trip man-h) (Table 18). Mean catch rates of individual species varied widely among years and areas except for black drum (≤ 0.02 fish/trip man-h) and gafftopsail catfish (≤ 0.02 fish/trip man-h) in the high use season and southern flounder (≤ 0.03 fish/trip man-h) and gafftopsail catfish (≤ 0.05 fish/trip man-h) in the low use season (Table 19). Catch rates were generally lower in the low use season than in the high use season except in the Matagorda area.

TTS and FCZ Fishery

On a coastwide basis, 511,500 man-hours were fished and ~114,000 fish were landed in 1983-84 by Gulf of Mexico sport-boat fishermen which represented a 39% decrease in landings from 1982-83 (Tables 20 and 21). In 1983-84, red snapper comprised 44%, "other" species comprised 20%, king mackerel comprised 18%, sand seatrout comprised 12%; all other species landings were $< 3\%$ of the total landings. Galveston and lower Laguna Madre area Gulf fishermen accounted for the highest (34%) and lowest (12%)

portions of the Gulf landings, respectively. The high use season comprised 86% of the annual landings, although 90% of the sand seatrout were caught in the low use season (Tables 22 and 23).

Mean catch rates during the high use season for all species combined ranged from 0.13 to 0.75 fish/trip man-h (Table 24). Catch rates for all species combined were lowest in each year for Corpus Christi area Gulf fishermen. Mean catch rates of individual species generally varied widely among years and areas in the high use season except for red drum (≤ 0.01 fish/trip man-h), Atlantic croaker (≤ 0.02 fish/trip man-h) and cobia (≤ 0.02 fish/trip man-h). Catch rates were generally lower in the low use season than in the high use season except in the Matagorda area (Table 25). Low use season catch rates ranged from 0.00 to 6.78 fish/trip man-h but were generally ≤ 0.01 fish/trip man-h.

Cobia and king mackerel were generally the heaviest fishes landed in all areas, while Atlantic croaker was the lightest (Table 24).

Texas Territorial Sea sport-boat fishermen landed 32,700 fish in 1983-84 (Appendix G). These landings accounted for 29% of the annual Gulf of Mexico landings on a coastwide basis and represented a 48% decrease from 1982-83. The majority of spotted seatrout, red drum, king mackerel, spanish mackerel and sand seatrout were caught in the Texas Territorial Sea. Over 61% of the coastwide Gulf of Mexico pressure was exerted in the Texas Territorial Sea (Appendix H).

DISCUSSION

Catch statistics in this report have not been statistically analyzed to determine significant differences. However, the apparently large decline in the Texas weekend sport-boat fish landings from 1974-76 to later survey years may have been caused by concurrent declines in fish availability and sport-boat fishing pressure. A decline in catch rates of sport-boat fishermen supports this suggested decline in fish availability as does the TPWD fisheries independent monitoring projects (using gill nets, trammel nets and bag seines) that have been conducted in Texas bays since fall 1975 (Matlock and Weaver 1979; Hegen and Matlock 1980; Hegen 1981, 1983). These reports indicate a coastwide decline in catch rates for spotted seatrout (which comprise 45-75% of sport landings) and red drum (which comprise 5-10% of sport landings). The declines in catch rates and pressure were also noted in wade-bank and lighted pier fishing (McEachron and Green 1981, and Appendix I).

To curb the decline in finfish availability, the Texas legislature and the TPWD Commission enacted regulations prohibiting the sale of native red drum and spotted seatrout, establishing size, bag, and possession limits, prohibiting the use of monofilament nets, prohibiting the use of nets and trotlines on weekends and prohibiting the retention of red drum and spotted seatrout caught in nets or on trotlines (Anonymous 1979, 1981, 1983). The stabilization of mean catch rates for these two species during the last several years offers encouragement that these regulations are accomplishing their intended purpose. Gill net catch rates of red drum

and spotted seatrout have also increased and stabilized in recent years (McEachron and Green 1985). Sport catch rates of these two species may not reflect the same degree of increase as those of gill nets (which sample a narrower size range) because of the imposition of bag and size limits which have further restricted the allowable sport catch.

The apparent decline in sport-boat saltwater fishing pressure from 1974-76 to later survey years does not appear to be associated with a real decline in the number of fishermen, as evidenced by the number of recreational fishing licenses sold in Texas (Appendix J). These fishing licenses do not distinguish between freshwater and saltwater fishing although Ditton and Felder (1983) reported that 22% of all Texas boat owners who fish do so in saltwater. A decline in saltwater fishing pressure was probably the result of fishermen not going fishing as often or a shift in fishing preference to freshwater. The declining fishing success noted in the present report may well have contributed to this apparent change in fisherman behavior. The increasing cost of a fishing trip could also be an important factor. Ditton et al. (1980) reported that nearly one-half of fishing trip expenditures for bay boat fishermen in the Houston-Galveston area of the Texas coast were for fuel. With a 131% increase in the price of regular gasoline from 1974 through 1980 (U.S. Dept. of Energy 1977, 1980, 1981), fishermen have experienced a substantial increase in the cost of an average fishing trip. This increase has probably caused fishermen to go fishing less often or to go fishing closer to home.

The harvest and pressure estimates in this report should be considered minimum estimates. Ferguson and Green (in preparation) reported that over 71% of all 1982 saltwater sport-boat fishing trips in Texas originated from launch sites surveyed in the present study, not including the recently added sites of shore-based boat use. Although the percentage of potentially surveyed boat fishing trips probably increased in 1983-84, there remain areas (e.g. condominiums and private residences) where boats can be docked but to which TPWD has no access. These estimates also do not include weekday sport fishing in the bays, Sabine Lake fishing and night-time fishing.

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Table 1. Total pressure estimates in trip man-h (x 1000) for weekend sport-boat fishing by season and year in seven Texas bay systems (May 1974-May 1984). ND = no data collected.

Bay system	Season		Annual ^a total
	High use	Low use	
Galveston			
1974-75	684.8	505.5	1190.3
1975-76	ND	ND	ND
1976-77	481.7	82.5	564.2
1977-78	1019.2	171.3	1190.5
1978-79	893.6	184.7	1078.4
1979-80	675.6	225.6	901.3
1980-81	465.4	303.1	768.5
1981-82	809.1	257.5	1066.6
1982-83	712.8	75.2	788.1
1983-84	419.2	122.4	541.6
Matagorda			
1974-75	ND	ND	ND
1975-76	357.3	123.5	480.8
1976-77	171.1	52.4	223.5
1977-78	206.6	75.5	282.1
1978-79	257.4	71.9	329.4
1979-80	165.0	80.8	245.8
1980-81	292.9	63.2	356.1
1981-82	216.3	59.2	275.5
1982-83	173.3	26.2	199.5
1983-84	225.6	106.0	331.6
San Antonio			
1974-75	156.5	59.1	215.6
1975-76	ND	ND	ND
1976-77	119.8	43.6	163.4
1977-78	116.4	51.0	167.5
1978-79	120.6	35.8	156.4
1979-80	81.4	53.8	135.2
1980-81	83.3	86.9	170.2
1981-82	78.5	26.5	105.0
1982-83	101.2	14.0	115.3
1983-84	124.0	32.7	156.6
Aransas			
1974-75	170.6	73.0	243.6
1975-76	ND	ND	ND
1976-77	161.4	58.6	220.0
1977-78	127.0	54.7	181.7
1978-79	131.3	42.1	173.5

Table 1. (Cont'd.).

Bay system	Season		Annual ^a total
	High use	Low use	
Aransas (Continued)			
1979-80	125.8	20.1	145.9
1980-81	119.3	42.0	161.4
1981-82	157.3	50.2	207.5
1982-83	114.1	37.4	151.5
1983-84	233.2	14.1	247.3
Corpus Christi			
1974-75	ND	ND	ND
1975-76	103.8	50.8	154.7
1976-77	92.3	37.4	129.7
1977-78	83.8	27.0	110.9
1978-79	113.0	58.7	171.7
1979-80	79.4	79.3	158.8
1980-81	82.0	71.9	153.9
1981-82	109.6	42.0	151.7
1982-83	140.0	137.4	277.4
1983-84	393.5	27.3	420.8
Upper Laguna Madre			
1974-75	117.1	297.9	415.1
1975-76	ND	ND	ND
1976-77	171.8	62.3	234.1
1977-78	98.2	101.2	199.4
1978-79	132.5	65.9	198.4
1979-80	139.3	108.3	247.6
1980-81	392.9	164.4	557.3
1981-82	371.2	126.3	497.5
1982-83	404.0	105.2	509.1
1983-84	403.0	46.0	449.0
Lower Laguna Madre			
1974-75	ND	ND	ND
1975-76	299.7	182.7	482.4
1976-77	288.3	143.1	431.4
1977-78	208.4	112.8	321.2
1978-79	240.9	48.3	289.2
1979-80	115.7	107.9	223.5
1980-81	134.6	83.9	218.5
1981-82	134.6	48.5	183.1
1982-83	215.2	80.2	295.4
1983-84	184.2	51.9	236.4

Table 1. (Cont'd.).

Bay system	Season		Annual ^a total
	High use	Low use	
Grand Total ^a			
1974-75 ^b	1129.0	935.6	2064.7
1975-76 ^c	760.8	357.0	1117.8
1976-77	1486.0	479.9	1965.9
1977-78	1859.7	593.5	2453.3
1978-79	1889.6	507.6	2397.2
1979-80	1382.3	676.0	2058.3
1980-81	1570.5	815.4	2385.9
1981-82	1876.6	610.2	2486.8
1982-83	1860.7	475.6	2336.3
1983-84	1982.5	400.4	2382.9

^aDue to rounding of numbers these totals may not exactly equal individual totals.

^bOnly four bay systems are represented in the 1974-75 totals.

^cOnly three bay systems are represented in the 1975-76 totals.

Table 2. Estimated annual harvest of fishes (No. x 1000) by species and bay system caught by weekend sport-boat fishermen in Texas bays (May 1974-May 1984). ND = no data collected.

Year	Bay system											Coastwide ^a total			
	Galveston		Matagorda		San Antonio		Aransas		Corpus Christi		Upper		Lower		
											Laguna		Madre	Laguna	Madre
Spotted seatrout															
1974-75	347.3	ND	175.6	184.2	180.5	ND	ND	146.7	ND	ND	118.3	200.2	101.8	76.0	858.9
1975-76	ND	19.6	53.2	ND	ND	42.6	ND	ND	ND	ND	200.1	49.8	29.6	82.8	336.4
1976-77	50.5	71.6	32.9	13.6	62.2	42.2	31.7	84.6	68.0	83.5	110.9	61.8	113.0	422.6	659.7
1977-78	98.6	56.0	28.1	34.4	49.4	32.7	28.2	180.6	118.4	110.9	116.8	113.0	61.8	497.1	459.1
1978-79	111.8	90.7	33.5	36.6	36.9	55.9	45.4	116.8	113.0	61.8	113.0	61.8	113.0	463.4	368.0
1979-80	39.4	78.0	24.6	80.9	61.1	66.1	61.1	113.0	61.8	113.0	61.8	113.0	61.8	504.3	422.6
1980-81	78.0	106.8	81.5	80.9	61.1	66.1	61.1	113.0	61.8	113.0	61.8	113.0	61.8	497.1	423.2
1981-82	106.8	81.5	80.9	61.1	66.1	61.1	61.1	113.0	61.8	113.0	61.8	113.0	61.8	463.4	423.2
1982-83	81.5	80.9	61.1	66.1	61.1	61.1	61.1	113.0	61.8	113.0	61.8	113.0	61.8	504.3	497.1
1983-84	81.5	80.9	61.1	66.1	61.1	61.1	61.1	113.0	61.8	113.0	61.8	113.0	61.8	504.3	463.4
Red drum															
1974-75	34.8	ND	29.5	26.8	12.4	ND	ND	17.1	ND	ND	18.7	10.1	8.4	76.1	91.1
1975-76	ND	10.3	11.2	18.6	11.0	5.3	2.2	4.1	4.1	4.1	10.1	8.4	7.3	70.7	57.3
1976-77	10.3	31.3	7.1	10.7	14.3	2.2	2.5	1.6	1.6	1.6	3.8	3.8	3.8	76.1	70.7
1977-78	31.3	13.1	14.4	15.8	2.7	2.5	6.8	7.0	7.0	7.0	7.3	7.3	7.3	53.9	76.1
1978-79	13.1	9.7	19.3	11.2	5.3	6.8	4.8	17.6	17.6	17.6	6.0	6.0	6.0	66.7	53.9
1979-80	9.7	11.4	20.3	8.2	4.7	4.8	3.4	8.4	8.4	8.4	3.8	3.8	3.8	72.9	66.7
1980-81	11.4	12.4	11.9	9.2	7.5	3.4	5.6	7.5	7.5	7.5	9.0	9.0	9.0	72.9	72.9
1981-82	12.4	14.7	7.4	6.8	10.0	5.6	8.9	7.5	7.5	7.5	9.0	9.0	9.0	56.5	56.5
1982-83	14.7	8.0	22.7	18.1	16.5	8.9	8.9	7.6	7.6	7.6	13.6	13.6	13.6	61.0	61.0
1983-84	8.0	8.0	22.7	18.1	16.5	8.9	8.9	7.6	7.6	7.6	13.6	13.6	13.6	95.4	95.4
Black drum															
1974-75	32.0	ND	9.3	1.7	1.3	ND	ND	8.8	ND	ND	5.2	4.2	5.4	43.9	43.9
1975-76	ND	28.2	6.5	15.6	3.0	2.5	2.4	6.8	6.8	6.8	4.2	4.2	4.2	19.9	19.9
1976-77	28.2	47.2	11.0	3.4	2.2	2.4	2.4	3.5	3.5	3.5	5.4	5.4	5.4	66.9	66.9
1977-78	47.2	39.8	8.6	2.3	0.8	1.2	1.2	2.6	2.6	2.6	2.4	2.4	2.4	75.1	75.1
1978-79	39.8	33.6	8.1	1.4	9.6	3.6	3.6	1.4	1.4	1.4	2.9	2.9	2.9	57.7	57.7
1979-80	33.6	33.6	8.1	1.4	9.6	3.6	3.6	1.4	1.4	1.4	2.9	2.9	2.9	60.8	60.8

Table 2 (Cont'd.).

Year	Bay system											Coastwide ^a total
	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre					
Black drum												
1980-81	45.8	29.1	2.1	0.2	4.3	3.4	4.3					89.2
1981-82	5.5	14.2	2.0	2.9	2.0	6.2	2.5					35.1
1982-83	34.5	7.4	0.8	1.1	7.3	6.0	3.2					60.4
1983-84	11.0	11.4	2.6	5.1	3.7	1.3	3.1					38.1
Southern flounder												
1974-75	25.3	ND	7.4	17.8	ND	37.2	ND					87.8
1975-76	ND	22.9	ND	ND	1.8	ND	3.6					28.2
1976-77	15.9	10.0	4.8	4.1	3.8	1.3	2.9					42.7
1977-78	21.1	9.7	4.7	6.2	2.1	2.3	5.2					51.3
1978-79	19.3	12.8	2.2	4.0	8.4	1.5	4.9					53.1
1979-80	16.8	11.1	2.2	1.9	6.7	3.5	6.9					49.1
1980-81	13.6	6.2	5.2	6.8	1.7	7.6	4.9					46.1
1981-82	16.5	2.7	1.4	3.6	2.8	6.4	4.4					37.8
1982-83	56.5	2.9	3.4	7.3	3.2	11.6	12.5					97.4
1983-84	22.8	16.9	2.5	2.8	6.7	4.2	4.2					60.3
Sheepshead												
1974-75	5.1	ND	2.3	9.1	ND	3.0	ND					19.6
1975-76	ND	10.8	ND	ND	4.7	ND	2.0					17.5
1976-77	10.0	9.6	1.0	5.3	2.8	1.7	4.5					34.9
1977-78	78.1	10.5	3.2	5.4	1.7	2.1	5.4					106.5
1978-79	16.9	13.2	1.0	2.3	3.4	1.5	6.3					44.1
1979-80	14.7	5.8	1.4	2.4	5.1	0.7	14.0					44.6
1980-81	10.3	13.4	1.0	2.2	17.7	5.3	5.0					54.9
1981-82	9.6	17.6	3.4	14.0	1.9	2.5	1.2					50.2
1982-83	17.0	7.0	0.8	1.5	25.6	3.6	2.9					53.4
1983-84	7.7	9.3	2.1	2.0	1.1	1.2	1.9					25.2

Table 2 (Cont'd.)

Year	Bay system											Coastwide ^a total
	Galveston	Matagorda	San		Aransas	Corpus Christi	Upper		Lower			
			Antonio	Antonio			Laguna	Madre	Laguna	Madre		
Atlantic croaker												
1974-75	313.3	ND	2.7	3.0	ND	29.7	ND	ND	ND	ND	348.8	
1975-76	ND	16.7	ND	ND	9.2	ND	8.9	ND	8.9	8.9	34.7	
1976-77	268.0	16.1	0.6	3.2	10.6	17.0	8.8	17.0	8.8	8.8	324.3	
1977-78	437.6	12.0	0.5	2.0	8.1	17.5	5.7	17.5	5.7	5.7	483.4	
1978-79	240.9	12.5	1.4	0.6	8.4	33.9	4.5	33.9	4.5	4.5	302.2	
1979-80	244.4	6.7	1.8	1.3	8.9	6.8	2.3	6.8	2.3	2.3	272.2	
1980-81	108.8	13.7	0.4	0.7	13.5	16.2	2.0	16.2	2.0	2.0	155.3	
1981-82	96.1	4.3	0.3	0.1	26.6	22.5	2.1	22.5	2.1	2.1	152.0	
1982-83	80.9	4.4	0.5	3.5	4.3	21.4	4.6	21.4	4.6	4.6	119.4	
1983-84	67.8	6.7	0.8	6.7	17.5	21.1	2.2	21.1	2.2	2.2	122.1	
Sand seatrout												
1974-75	451.1	ND	1.6	6.6	ND	5.7	ND	5.7	ND	ND	465.1	
1975-76	ND	29.3	ND	ND	49.4	ND	19.5	ND	19.5	19.5	98.2	
1976-77	250.1	13.4	0.1	24.7	47.4	9.6	9.9	9.6	9.9	9.9	355.2	
1977-78	143.2	14.0	1.3	6.0	21.0	2.4	22.8	2.4	22.8	22.8	210.6	
1978-79	287.4	10.8	<.1	4.4	14.9	1.9	2.7	1.9	2.7	2.7	322.2	
1979-80	134.6	8.7	2.0	0.5	16.2	2.6	2.3	2.6	2.3	2.3	166.8	
1980-81	74.4	2.5	0.3	8.4	32.8	2.6	5.0	2.6	5.0	5.0	126.0	
1981-82	30.5	20.5	1.6	5.6	29.8	4.9	12.0	4.9	12.0	12.0	104.9	
1982-83	130.9	7.9	1.3	5.0	38.4	4.0	9.5	4.0	9.5	9.5	197.0	
1983-84	41.5	21.6	2.4	7.2	45.8	8.7	5.7	8.7	5.7	5.7	132.9	
Gafftopsail catfish												
1974-75	15.6	ND	3.4	0.9	ND	0.0	ND	0.0	ND	ND	19.9	
1975-76	ND	8.2	ND	ND	3.3	ND	0.0	ND	0.0	0.0	11.6	
1976-77	8.3	21.1	2.6	1.9	3.1	0.0	<.1	0.0	<.1	<.1	37.1	
1977-78	3.3	15.5	3.0	0.9	0.7	0.0	0.0	0.0	0.0	0.0	23.4	
1978-79	13.0	13.8	1.8	2.5	3.2	<.1	0.2	<.1	0.2	0.2	34.6	
1979-80	3.1	1.3	0.8	0.1	1.6	<.1	0.0	<.1	0.0	0.0	7.1	

Table 2 (Cont'd.).

Year	Bay system											Coastwide ^a total			
	Galveston		Matagorda		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		
Gafftopsail catfish															
1980-81	4.6	0.9	0.4	0.6	1.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1	7.6
1981-82	2.2	2.8	0.5	1.0	0.9	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	7.5
1982-83	0.7	2.1	1.0	0.8	3.6	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1	8.3
1983-84	1.9	1.8	1.1	1.0	2.7	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	8.7
Other species															
1974-75	75.3	ND	4.1	3.5	ND	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	84.4
1975-76	ND	1.2	ND	ND	7.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	13.4
1976-77	13.5	4.1	3.7	3.0	3.8	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	40.6
1977-78	29.3	10.3	3.1	2.4	1.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	52.5
1978-79	30.9	7.9	1.4	2.0	5.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	48.5
1979-80	49.7	6.8	1.2	1.0	5.5	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	66.8
1980-81	47.6	4.7	2.0	2.2	10.2	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	81.3
1981-82	53.0	4.3	1.1	4.0	6.7	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	75.8
1982-83	35.7	2.7	1.9	3.0	24.8	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	81.3
1983-84	17.2	8.0	7.1	4.4	15.1	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	60.5
All species combined^a															
1974-75	1300.3	ND	234.3	235.0	ND	249.8	249.8	249.8	249.8	249.8	249.8	249.8	249.8	249.8	2019.5
1975-76	ND	303.5	ND	ND	133.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	617.4
1976-77	654.7	111.7	100.3	149.0	122.7	242.8	242.8	242.8	242.8	242.8	242.8	242.8	242.8	242.8	1632.1
1977-78	889.7	161.8	62.8	101.6	82.3	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.6	1537.9
1978-79	773.2	150.0	39.7	68.5	78.8	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	1284.9
1979-80	597.3	96.1	56.6	91.1	87.1	108.0	108.0	108.0	108.0	108.0	108.0	108.0	108.0	108.0	1156.2
1980-81	355.9	124.4	56.2	62.6	114.3	245.8	245.8	245.8	245.8	245.8	245.8	245.8	245.8	245.8	1056.3
1981-82	303.9	156.2	49.9	91.7	129.9	173.5	173.5	173.5	173.5	173.5	173.5	173.5	173.5	173.5	1017.0
1982-83	477.6	61.3	45.8	62.6	158.1	180.4	180.4	180.4	180.4	180.4	180.4	180.4	180.4	180.4	1141.5
1983-84	259.4	178.7	76.7	106.7	167.6	162.7	162.7	162.7	162.7	162.7	162.7	162.7	162.7	162.7	1047.5

^aDue to rounding of numbers these totals may not exactly equal individual species totals.

Table 3. Estimated annual harvest of fishes (kg x 1000) by species and bay system caught by weekend sport-boat fishermen in Texas bays (May 1974-May 1984). ND = no data collected.

Year	Bay system											Coastwide ^a total
	San					Corpus Christi		Upper		Lower		
	Galveston	Matagorda	Antonio	Aransas	Aransas	Christi	Laguna	Madre	Laguna	Madre		
Spotted seatrout												
1974-75	217.2	ND	76.2	53.2	ND	ND	79.2	ND	ND	ND	425.8	
1975-76	ND	66.3	ND	ND	15.9	ND	ND	64.2	64.2	64.2	146.4	
1976-77	29.2	8.5	25.2	28.7	19.8	19.8	113.7	101.5	101.5	101.5	326.6	
1977-78	67.3	33.9	15.3	19.7	18.4	18.4	22.4	54.3	54.3	54.3	231.3	
1978-79	79.5	23.5	5.4	15.3	14.4	14.4	16.2	34.6	34.6	34.6	188.9	
1979-80	47.5	11.5	15.6	26.4	17.3	17.3	42.6	36.9	36.9	36.9	197.8	
1980-81	19.4	15.1	16.9	15.6	15.9	15.9	78.9	34.2	34.2	34.2	196.0	
1981-82	53.0	36.1	14.3	20.4	30.2	30.2	55.9	45.1	45.1	45.1	255.0	
1982-83	70.5	12.1	13.9	14.3	22.7	22.7	58.4	72.1	72.1	72.1	264.0	
1983-84	52.7	50.6	22.1	29.9	41.0	41.0	73.8	52.1	52.1	52.1	322.2	
Red drum												
1974-75	24.3	ND	29.7	14.2	ND	ND	19.0	ND	ND	ND	87.2	
1975-76	ND	2.4	ND	ND	7.8	7.8	ND	15.5	15.5	15.5	25.7	
1976-77	13.4	11.0	22.2	10.7	5.5	5.5	4.3	8.4	8.4	8.4	75.5	
1977-78	33.7	8.2	7.6	14.6	2.2	2.2	2.3	9.4	9.4	9.4	78.0	
1978-79	15.9	11.8	12.0	2.0	3.0	3.0	1.7	5.0	5.0	5.0	51.4	
1979-80	5.7	15.9	9.9	3.7	5.8	5.8	5.0	4.7	4.7	4.7	50.7	
1980-81	10.4	24.3	8.8	4.4	4.7	4.7	16.4	4.8	4.8	4.8	76.6	
1981-82	19.4	12.5	10.8	7.0	3.8	3.8	8.8	5.4	5.4	5.4	67.7	
1982-83	15.1	11.3	10.4	14.4	8.3	8.3	11.0	13.5	13.5	13.5	84.0	
1983-84	12.2	30.5	26.9	22.1	10.1	10.1	11.9	20.7	20.7	20.7	134.4	
Black drum												
1974-75	59.6	ND	1.9	1.1	ND	ND	17.6	ND	ND	ND	80.2	
1975-76	ND	8.6	ND	ND	5.6	5.6	ND	4.7	4.7	4.7	18.9	
1976-77	22.4	2.7	26.7	2.7	7.3	7.3	5.6	15.4	15.4	15.4	82.8	
1977-78	48.5	7.6	4.0	1.2	9.2	9.2	4.9	24.7	24.7	24.7	100.1	
1978-79	137.9	14.1	7.9	0.3	2.0	2.0	3.9	4.0	4.0	4.0	170.1	
1979-80	12.6	3.9	2.7	4.8	15.9	15.9	0.9	1.5	1.5	1.5	42.3	

Table 3. (Cont'd.).

Year	Bay system											Coastwide ^a total
	Galveston	Matagorda	San Antonio		Aransas	Corpus Christi		Upper		Lower		
			Galveston	Matagorda		Antonio	Christi	Laguna	Madre	Laguna	Madre	
Black drum												
1980-81	37.8	10.9	1.3	0.2	3.6	2.1	1.8	57.7				
1981-82	4.4	6.3	1.2	4.2	1.1	6.3	3.5	27.0				
1982-83	44.2	3.0	0.6	0.5	15.1	6.7	4.2	74.3				
1983-84	22.6	6.1	2.2	3.6	3.0	11.5	2.4	51.4				
Southern flounder												
1974-75	12.7	ND	4.5	11.3	ND	27.8	ND	56.3				
1975-76	ND	17.0	ND	ND	0.7	ND	3.4	21.1				
1976-77	10.7	5.1	3.3	2.0	2.6	0.7	2.2	26.6				
1977-78	13.7	5.0	2.8	3.9	1.2	1.5	4.3	32.4				
1978-79	11.1	5.3	1.2	2.1	4.7	1.1	2.6	28.1				
1979-80	8.5	6.6	0.9	0.9	4.3	2.6	4.2	28.6				
1980-81	8.9	3.1	3.4	3.2	1.0	4.3	3.5	27.1				
1981-82	9.2	1.2	1.1	1.8	1.6	4.6	3.2	22.7				
1982-83	32.8	1.7	2.1	3.4	1.9	7.9	8.4	58.2				
1983-84	11.0	9.1	1.7	1.9	3.3	3.2	3.4	33.6				
Sheepshead												
1974-75	3.4	ND	1.8	5.1	ND	4.0	ND	14.3				
1975-76	ND	3.8	ND	ND	3.5	ND	2.2	9.5				
1976-77	8.1	9.7	1.1	3.0	2.5	1.2	4.3	29.9				
1977-78	67.5	6.5	2.3	3.1	1.1	2.0	3.9	86.4				
1978-79	13.3	8.0	0.8	1.3	2.8	1.4	3.6	31.1				
1979-80	12.7	4.3	1.3	1.5	5.0	0.8	8.6	34.2				
1980-81	7.9	2.8	0.5	1.2	17.2	5.7	4.4	39.7				
1981-82	8.1	6.1	2.3	13.0	2.1	2.9	2.4	36.9				
1982-83	15.6	0.9	0.6	1.2	22.8	4.2	2.0	47.3				
1983-84	6.2	6.2	2.1	2.3	1.2	1.3	1.6	20.9				

Table 3. (Cont'd.).

Year	Bay system											Coastwide ^a total				
	Galveston			Matagorda		San Antonio		Aransas		Corpus Christi			Upper		Lower	
	Galveston	Matagorda	Antonio	Aransas	Christi	Upper	Laguna	Madre	Upper	Laguna	Madre		Upper	Laguna	Madre	Coastwide ^a total
Atlantic croaker																
1974-75	59.3	ND	0.7	0.5	ND	10.2	ND	ND	ND	ND	70.7	ND	ND	ND	70.7	
1975-76	ND	2.9	ND	ND	2.7	ND	3.5	3.5	3.5	3.5	9.1	3.5	3.5	3.5	9.1	
1976-77	61.7	1.5	0.2	0.7	3.0	4.1	2.7	2.7	2.7	2.7	73.9	2.7	2.7	2.7	73.9	
1977-78	96.3	1.7	0.3	0.5	1.7	5.2	1.3	1.3	1.3	1.3	107.0	1.3	1.3	1.3	107.0	
1978-79	43.3	1.8	0.3	0.1	2.2	11.9	1.2	1.2	1.2	1.2	60.8	1.2	1.2	1.2	60.8	
1979-80	49.9	1.4	0.5	0.2	1.8	1.6	0.6	0.6	0.6	0.6	56.0	0.6	0.6	0.6	56.0	
1980-81	20.9	2.2	0.1	0.2	4.0	4.0	0.4	0.4	0.4	0.4	31.8	0.4	0.4	0.4	31.8	
1981-82	16.4	0.7	0.1	0.1	7.5	6.3	0.5	0.5	0.5	0.5	31.6	0.5	0.5	0.5	31.6	
1982-83	17.8	0.7	0.1	0.8	1.3	6.4	1.5	1.5	1.5	1.5	28.6	1.5	1.5	1.5	28.6	
1983-84	16.1	1.0	0.1	2.3	3.7	7.0	0.6	0.6	0.6	0.6	30.8	0.6	0.6	0.6	30.8	
Sand seatrout																
1974-75	161.1	ND	0.5	1.7	ND	2.3	ND	ND	ND	ND	165.6	ND	ND	ND	165.6	
1975-76	ND	7.3	ND	ND	14.3	ND	5.5	5.5	5.5	5.5	27.1	5.5	5.5	5.5	27.1	
1976-77	90.0	3.2	0.1	5.2	15.3	2.4	3.0	3.0	3.0	3.0	119.1	3.0	3.0	3.0	119.1	
1977-78	52.4	3.6	0.3	1.2	8.4	1.3	6.8	6.8	6.8	6.8	74.0	6.8	6.8	6.8	74.0	
1978-79	83.9	2.9	0.1	1.3	4.5	0.7	0.6	0.6	0.6	0.6	94.0	0.6	0.6	0.6	94.0	
1979-80	27.7	2.1	0.4	0.2	4.7	1.1	0.7	0.7	0.7	0.7	36.9	0.7	0.7	0.7	36.9	
1980-81	15.6	0.6	0.1	1.8	9.9	0.8	1.4	1.4	1.4	1.4	30.2	1.4	1.4	1.4	30.2	
1981-82	7.9	3.8	0.5	1.6	8.2	1.7	3.9	3.9	3.9	3.9	27.6	3.9	3.9	3.9	27.6	
1982-83	32.7	1.6	0.3	1.2	10.4	1.3	3.1	3.1	3.1	3.1	50.6	3.1	3.1	3.1	50.6	
1983-84	10.0	5.0	0.6	1.9	15.6	3.1	2.7	2.7	2.7	2.7	38.9	2.7	2.7	2.7	38.9	
Gafftopsail catfish																
1974-75	21.0	ND	4.3	0.7	ND	0.0	ND	ND	ND	ND	26.0	ND	ND	ND	26.0	
1975-76	ND	9.5	ND	ND	4.2	ND	0.0	0.0	0.0	0.0	13.7	0.0	0.0	0.0	13.7	
1976-77	16.5	26.3	3.2	2.7	4.1	0.0	<.1	<.1	<.1	<.1	52.8	<.1	<.1	<.1	52.8	
1977-78	3.3	21.1	4.1	0.9	0.8	0.0	0.0	0.0	0.0	0.0	30.2	0.0	0.0	0.0	30.2	
1978-79	16.3	20.0	1.6	3.2	4.2	0.2	0.2	0.2	0.2	0.2	45.7	0.2	0.2	0.2	45.7	
1979-80	0.7	1.6	1.0	0.3	2.7	0.1	0.0	0.0	0.0	0.0	6.4	0.0	0.0	0.0	6.4	
1980-81	4.2	1.0	0.6	0.6	1.2	0.1	0.1	0.1	0.1	0.1	7.8	0.1	0.1	0.1	7.8	

Table 3. (Cont'd.).

Year	Bay system										Coastwide ^a total				
	Galveston		Matagorda		San Antonio		Aransas		Corpus Christi			Upper		Lower	
												Laguna	Madre	Laguna	Madre
Gafftopsail catfish															
1981-82	1.9	3.8	0.9	1.1	1.2	1.2	0.5	0.2	0.1				0.1		9.2
1982-83	0.5	2.1	1.7	0.8	4.3	4.3	<.1	<.1	<.1				<.1		9.6
1983-84	1.9	2.7	1.4	1.0	3.5	3.5	0.1	0.1	<.1				<.1		10.6
Other species															
1974-75	23.2	ND	2.5	1.2	ND	ND	0.5	0.5	ND				ND		27.4
1975-76	ND	0.3	ND	ND	3.2	3.2	ND	ND	10.5				10.5		14.0
1976-77	9.0	1.1	3.1	1.1	1.0	1.0	0.3	0.3	8.0				8.0		23.6
1977-78	14.3	8.1	1.5	0.5	0.5	0.5	0.6	0.6	0.7				0.7		26.2
1978-79	31.0	3.2	1.0	0.6	1.7	1.7	0.1	0.1	0.6				0.6		38.2
1979-80	10.8	6.0	0.8	0.1	1.6	1.6	0.3	0.3	0.4				0.4		20.0
1980-81	11.9	6.0	1.9	0.4	3.0	3.0	2.7	2.7	0.5				0.5		22.8
1981-82	16.0	2.2	0.8	2.4	2.0	2.0	0.8	0.8	0.9				0.9		25.1
1982-83	11.1	2.2	1.0	1.2	6.5	6.5	2.1	2.1	6.2				6.2		30.3
1983-84	5.0	2.7	0.7	1.4	36.1	36.1	2.5	2.5	5.3				5.3		53.7
All species combined ^a															
1974-75	581.8	ND	122.1	89.0	ND	ND	160.6	160.6	ND				ND		953.5
1975-76	ND	138.1	ND	ND	57.9	57.9	ND	ND	109.5				109.5		305.5
1976-77	261.0	69.1	85.0	56.8	62.3	62.3	132.3	132.3	145.5				145.5		775.6
1977-78	397.0	95.7	38.2	45.6	43.5	43.5	40.2	40.2	105.4				105.4		765.6
1978-79	432.2	90.6	30.3	26.2	39.2	39.2	37.2	37.2	52.3				52.3		708.0
1979-80	176.2	53.3	33.1	38.1	59.3	59.3	55.0	55.0	57.6				57.6		472.6
1980-81	137.1	65.8	32.4	28.6	60.5	60.5	114.7	114.7	50.7				50.7		489.8
1981-82	136.3	72.7	32.0	51.6	57.7	57.7	87.5	87.5	65.0				65.0		502.8
1982-83	240.3	35.6	30.7	37.8	93.3	93.3	98.1	98.1	111.1				111.1		646.9
1983-84	137.7	113.9	57.8	66.4	117.5	117.5	114.4	114.4	88.9				88.9		696.6

^aDue to rounding of numbers, these totals may not exactly equal individual species totals.

Table 4. Estimated harvest (No. x 1000) of fishes for the high use season (15 May-20 Nov) by species and bay system caught by weekend sport-boat fishermen in Texas bays (May 1974-May 1984). ND = no samples.

Year	Bay system											Coastwide ^a total				
	Galveston					Matagorda		San Antonio		Corpus Christi			Upper		Lower	
	Galveston	Matagorda	San Antonio	Aransas	Christi	Laguna	Madre	Laguna	Madre	Laguna	Madre		Laguna	Madre	Laguna	Madre
Spotted seatrout																
1974	330.3	ND	123.8	146.2	ND	36.9	ND	637.2								
1975	ND	152.1	ND	ND	27.5	ND	77.6	257.2								
1976	38.4	15.2	52.4	83.6	40.6	189.5	123.5	540.4								
1977	96.4	62.7	28.0	55.9	38.1	31.5	85.9	398.5								
1978	107.6	40.7	12.6	41.1	29.0	18.5	67.7	317.1								
1979	70.4	17.7	31.1	59.0	20.9	39.8	46.9	285.7								
1980	33.8	30.1	28.8	28.1	18.5	119.1	56.7	315.1								
1981	67.6	62.7	23.2	39.0	44.2	80.6	65.0	382.4								
1982	105.6	22.7	27.3	26.1	35.5	95.1	88.6	401.0								
1983	68.2	43.9	34.0	60.6	66.0	109.8	57.2	439.9								
Red drum																
1974	21.6	ND	20.2	10.4	ND	9.6	ND	61.8								
1975	ND	14.2	ND	ND	7.2	ND	13.0	34.5								
1976	9.5	9.3	17.7	9.5	5.2	2.5	8.0	61.8								
1977	29.3	4.5	4.0	9.3	1.9	1.4	5.6	56.1								
1978	12.2	10.5	2.2	1.1	2.2	1.4	2.9	32.6								
1979	8.9	12.4	5.4	2.7	2.0	0.6	1.4	33.4								
1980	6.1	18.7	3.5	3.9	3.4	14.5	4.6	54.7								
1981	11.6	5.9	2.8	2.6	2.8	5.1	1.7	32.6								
1982	13.8	5.9	5.8	4.7	5.3	6.0	6.8	48.4								
1983	6.0	18.3	12.4	15.3	8.8	7.5	10.4	78.8								
Black drum																
1974	12.1	ND	1.3	0.4	ND	1.0	ND	14.9								
1975	ND	5.4	ND	ND	4.6	ND	3.4	13.4								
1976	27.7	4.3	14.3	2.3	1.9	6.2	1.7	58.4								
1977	41.8	9.5	1.0	1.2	1.2	1.1	1.4	57.3								
1978	20.8	8.4	1.4	0.4	0.8	0.8	1.0	33.5								
1979	32.9	2.9	0.6	9.6	1.0	0.5	<.1	47.8								

Table 4. (Cont'd.).

Year	Bay system											Coastwide ^a total		
	Galveston			San Antonio		Aransas		Corpus Christi		Upper			Lower	
	Matagorda	Matagorda	Antonio	Antonio	Aransas	Aransas	Christi	Christi	Laguna	Laguna	Laguna		Madre	Madre
Black drum														
1980	14.3	23.2	0.7	0.1	0.1	0.7	3.1	2.9	3.7	48.0				
1981	4.3	11.3	0.6	1.1	1.4	0.7	1.4	0.7	0.9	20.3				
1982	31.6	6.8	0.2	0.8	4.9	5.0	4.9	5.0	0.7	50.0				
1983	4.7	8.2	2.1	4.6	2.9	1.1	2.9	1.1	0.6	24.2				
Southern flounder														
1974	18.8	ND	6.1	16.5	ND	22.6	ND	22.6	ND	64.0				
1975	ND	14.4	ND	ND	0.6	ND	0.6	ND	2.6	17.5				
1976	15.0	3.9	4.3	3.5	3.3	1.2	3.3	1.2	2.9	34.2				
1977	17.7	6.9	3.9	5.6	1.7	1.6	1.7	1.6	3.8	41.1				
1978	16.8	8.9	2.1	2.0	7.6	0.5	7.6	0.5	4.2	42.1				
1979	15.0	9.1	1.3	1.4	4.7	2.3	4.7	2.3	4.5	38.4				
1980	9.4	5.2	5.2	3.5	1.3	5.7	1.3	5.7	3.8	34.1				
1981	9.7	1.9	1.3	2.9	2.0	3.8	2.0	3.8	3.0	24.5				
1982	47.0	2.1	3.4	6.5	2.2	10.1	2.2	10.1	9.7	81.0				
1983	22.2	16.4	2.3	2.7	6.7	4.2	6.7	4.2	4.1	58.6				
Sheepshead														
1974	0.2	ND	1.2	1.6	ND	1.1	ND	1.1	ND	4.1				
1975	ND	8.2	ND	ND	2.0	ND	2.0	ND	0.6	10.8				
1976	8.8	8.9	1.0	4.2	2.0	1.2	2.0	1.2	3.5	29.5				
1977	73.2	8.4	1.6	2.4	1.4	0.8	1.4	0.8	1.1	88.8				
1978	13.6	9.7	0.3	0.7	2.3	0.1	2.3	0.1	1.1	27.9				
1979	14.1	3.0	1.2	2.4	1.7	0.3	1.7	0.3	1.4	24.2				
1980	7.9	5.2	0.5	2.1	0.5	3.7	0.5	3.7	2.4	22.3				
1981	8.8	6.4	1.5	3.7	1.2	0.4	1.2	0.4	0.4	22.5				
1982	16.9	1.6	0.4	6.9	2.1	1.9	2.1	1.9	1.1	25.0				
1983	5.9	1.6	1.7	1.6	1.1	1.2	1.1	1.2	0.8	13.9				

Table 4. (Cont'd.).

Year	Bay system											Coastwide ^a total	
	Galveston			San Antonio			Corpus Christi		Upper		Lower		
	Matagorda	Aransas	Christi	Laguna	Madre	Laguna	Madre	Laguna	Madre	Laguna	Madre		
Atlantic croaker													
1974	199.9	ND	2.6	2.9	ND	27.7	ND	ND	233.1				
1975	ND	13.9	ND	ND	3.7	ND	8.0	8.0	25.6				
1976	265.2	8.3	0.3	3.2	9.7	16.1	7.7	7.7	315.7				
1977	434.3	11.4	0.5	2.1	7.5	16.1	5.2	5.2	477.1				
1978	238.3	12.5	1.4	0.6	8.4	33.9	4.3	4.3	299.4				
1979	231.9	4.2	1.3	1.3	3.9	6.4	2.0	2.0	251.0				
1980	108.5	13.4	0.4	0.7	13.0	15.1	1.4	1.4	152.6				
1981	95.6	4.0	0.3	0.1	26.3	18.6	1.8	1.8	146.7				
1982	79.6	3.4	0.5	3.5	4.1	21.3	3.5	3.5	115.8				
1983	66.5	6.1	0.8	6.7	17.5	21.1	2.2	2.2	120.8				
Sand seatrout													
1974	393.7	ND	1.0	5.9	ND	3.4	ND	ND	404.0				
1975	ND	29.0	ND	ND	41.5	ND	17.1	17.1	87.6				
1976	249.1	13.4	0.1	24.7	30.1	9.6	9.5	9.5	336.4				
1977	129.7	11.6	0.9	5.5	19.4	1.9	21.3	21.3	190.2				
1978	229.8	10.8	<.1	1.3	13.9	0.9	2.3	2.3	259.0				
1979	119.2	8.6	2.0	0.4	13.4	1.4	0.9	0.9	145.9				
1980	74.1	2.5	0.3	8.4	22.4	2.4	4.4	4.4	114.6				
1981	30.5	19.2	1.6	1.2	25.6	4.7	10.6	10.6	93.5				
1982	130.9	7.9	1.3	5.0	32.5	3.8	9.4	9.4	190.7				
1983	41.5	21.6	2.3	7.2	45.8	8.7	5.7	5.7	132.9				
Gafftopsail catfish													
1974	14.7	ND	1.9	0.9	ND	0.0	ND	ND	17.5				
1975	ND	4.2	ND	ND	0.0	ND	0.0	0.0	4.2				
1976	6.6	20.6	1.0	1.6	2.1	0.0	<.1	<.1	31.9				
1977	2.3	13.6	2.6	0.2	0.6	0.0	0.0	0.0	19.3				
1978	3.5	13.6	1.5	1.0	2.2	<.1	0.2	0.2	22.1				
1979	3.1	1.4	0.3	0.1	0.9	<.1	0.0	0.0	5.9				

Table 4. (Cont'd.).

Year	Bay system											Coastwide ^b total	
	Galveston		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		
	Matagorda	Antonio	Aransas	Christi	Laguna Madre	Laguna Madre	Laguna Madre	Laguna Madre	Laguna Madre	Laguna Madre			
Gafftopsail catfish													
1980	4.6	0.4	0.1	0.4	0.7	<.1	0.1	0.1	<.1	0.1		6.2	
1981	2.2	2.6	0.5	0.6	0.9	0.0	<.1	<.1	<.1	<.1		6.8	
1982	0.7	2.1	0.4	0.8	1.0	<.1	<.1	<.1	<.1	<.1		5.1	
1983	0.8	1.8	0.5	1.0	2.6	0.1	0.0	0.0	0.1	0.0		6.9	
Other species													
1974	11.1	ND	3.6	2.4	ND	1.4	ND	ND	1.4	ND		18.6	
1975	ND	0.5	ND	ND	4.5	ND	1.8	1.8	ND	1.8		6.8	
1976	13.4	2.9	2.7	2.9	3.2	2.2	3.7	3.7	2.2	3.7		30.8	
1977	9.1	9.4	1.8	1.5	1.2	3.0	1.5	1.5	3.0	1.5		27.5	
1978	24.0	7.8	1.2	0.9	1.0	0.2	1.0	1.0	0.2	1.0		36.2	
1979	45.7	4.0	0.8	1.0	3.6	0.7	0.8	0.8	0.7	0.8		56.5	
1980	39.6	4.3	1.1	1.0	7.3	11.0	0.2	0.2	11.0	0.2		64.5	
1981	20.1	4.0	1.1	1.1	5.4	3.3	2.3	2.3	3.3	2.3		37.3	
1982	32.6	2.7	1.6	2.7	7.9	8.2	3.9	3.9	8.2	3.9		59.4	
1983	5.6	4.1	6.4	4.3	14.9	3.6	3.1	3.1	3.6	3.1		42.1	
All species combined ^a													
1974	1002.5	ND	161.8	187.2	ND	103.8	ND	ND	103.8	ND		1455.2	
1975	ND	241.8	ND	ND	91.6	ND	124.2	124.2	ND	124.2		457.6	
1976	633.7	91.8	93.8	135.6	98.0	228.5	160.5	160.5	228.5	160.5		1441.9	
1977	833.8	138.0	44.4	83.6	73.0	57.4	125.8	125.8	57.4	125.8		1356.0	
1978	666.6	123.2	22.9	49.1	67.4	56.3	84.6	84.6	56.3	84.6		1070.0	
1979	541.3	63.3	44.1	77.9	52.0	52.0	58.1	58.1	52.0	58.1		888.8	
1980	298.3	103.1	40.6	48.4	70.1	174.4	77.4	77.4	174.4	77.4		812.1	
1981	250.6	118.0	32.8	52.2	110.0	117.2	85.7	85.7	117.2	85.7		766.6	
1982	458.7	55.3	40.9	51.0	95.6	151.4	123.7	123.7	151.4	123.7		976.6	
1983	221.5	122.0	62.5	104.0	166.3	157.5	84.3	84.3	157.5	84.3		918.1	

^aDue to rounding of numbers these totals may not exactly equal individual species totals.

Table 5. Estimated harvest (No. x 1000) of fishes for the low use season (21 Nov-14 May) by species and bay system caught by weekend sport-boat fishermen in Texas bays (May 1974-May 1984). ND = no data collected.

Year	Bay system											Coastwide ^a total					
	Galveston					Matagorda		San Antonio		Corpus Christi			Lower Laguna Madre				
	Galveston	Matagorda	San Antonio	Aransas	Christi	Upper Laguna Madre	Lower Laguna Madre	Galveston	Matagorda	San Antonio	Aransas		Christi	Upper Laguna Madre	Lower Laguna Madre		
Spotted seatrout																	
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1975	17.0	ND	60.4	34.3	ND	110.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	221.8	
1976	ND	23.5	ND	ND	15.1	ND	ND	15.1	ND	ND	ND	ND	ND	40.6	ND	79.2	
1977	12.1	4.3	0.9	9.2	2.7	10.7	ND	2.7	ND	ND	ND	ND	ND	76.7	ND	116.6	
1978	2.3	8.8	4.9	6.3	4.1	18.3	ND	4.1	ND	ND	ND	ND	ND	15.9	ND	60.6	
1979	4.2	15.2	1.1	8.3	2.7	11.1	ND	2.7	ND	ND	ND	ND	ND	8.3	ND	50.9	
1980	20.3	10.5	3.4	10.0	11.8	44.8	ND	11.8	ND	ND	ND	ND	ND	40.0	ND	136.8	
1981	5.6	3.5	7.8	8.7	9.8	61.5	ND	9.8	ND	ND	ND	ND	ND	11.2	ND	108.0	
1982	10.4	15.3	7.1	13.9	11.6	37.8	ND	11.6	ND	ND	ND	ND	ND	18.6	ND	114.7	
1983	1.1	1.9	1.1	4.3	10.0	21.7	ND	10.0	ND	ND	ND	ND	ND	22.3	ND	62.3	
1984	13.3	37.0	5.9	0.5	0.1	3.2	ND	0.1	ND	ND	ND	ND	ND	4.6	ND	64.5	
Red drum																	
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1975	13.2	ND	6.6	2.0	ND	7.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	29.3	29.3
1976	ND	15.3	ND	ND	1.9	ND	ND	1.9	ND	ND	ND	ND	ND	5.7	ND	22.9	22.9
1977	0.8	1.9	0.9	1.5	0.2	1.6	ND	0.2	ND	ND	ND	ND	ND	2.0	ND	8.9	8.9
1978	2.0	2.7	6.7	5.0	0.3	0.7	ND	0.3	ND	ND	ND	ND	ND	2.8	ND	20.0	20.0
1979	0.9	3.9	13.6	1.6	0.3	0.2	ND	0.3	ND	ND	ND	ND	ND	0.9	ND	21.4	21.4
1980	0.8	6.9	5.8	2.7	4.8	6.5	ND	4.8	ND	ND	ND	ND	ND	5.9	ND	33.3	33.3
1981	5.3	1.6	4.7	0.7	1.4	3.2	ND	1.4	ND	ND	ND	ND	ND	1.4	ND	18.3	18.3
1982	0.8	6.0	6.4	4.9	0.6	3.3	ND	0.6	ND	ND	ND	ND	ND	2.0	ND	23.9	23.9
1983	0.8	1.5	0.9	5.3	0.2	1.5	ND	0.2	ND	ND	ND	ND	ND	2.2	ND	12.6	12.6
1984	2.0	4.4	5.7	1.2	0.1	0.1	ND	0.1	ND	ND	ND	ND	ND	3.1	ND	16.6	16.6
Black drum																	
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1975	19.9	ND	0.4	1.0	ND	7.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	29.0	29.0
1976	ND	3.8	ND	ND	0.9	ND	ND	0.9	ND	ND	ND	ND	ND	1.8	ND	6.5	6.5
1977	0.5	2.3	1.3	0.7	0.6	0.7	ND	0.6	ND	ND	ND	ND	ND	2.5	ND	8.5	8.5

Table 5. (Cont'd.).

Year	Bay system											Coastwide ^a total		
	Galveston			San Antonio		Aransas		Corpus Christi		Upper			Lower	
	Matagorda	Matagorda	San Antonio	San Antonio	Aransas	Aransas	Christi	Christi	Laguna Madre	Laguna Madre	Laguna Madre		Laguna Madre	
Black drum														
1978	5.3	1.5	2.4	1.0	1.2	2.4	4.0	17.8						
1979	19.1	0.2	1.0	0.4	0.4	1.8	1.4	24.2						
1980	0.7	5.2	0.8	0.0	2.6	0.9	2.8	13.1						
1981	31.5	5.9	1.3	0.1	1.2	0.5	0.6	41.2						
1982	1.2	2.9	1.4	1.8	0.5	5.5	1.5	14.9						
1983	2.9	0.6	0.6	0.3	2.5	1.0	2.6	10.4						
1984	6.2	3.2	0.5	0.9	0.8	0.2	2.4	13.9						
Southern flounder														
1974	ND	ND	ND	ND	ND	ND	ND	ND						
1975	6.6	ND	1.3	1.3	ND	14.6	ND	23.7						
1976	ND	8.5	ND	ND	1.2	ND	1.1	10.8						
1977	0.9	6.1	0.5	0.6	0.4	<.1	<.1	8.6						
1978	3.4	2.8	0.8	0.6	0.4	0.7	1.4	10.2						
1979	2.5	3.9	0.1	1.9	0.8	1.0	0.8	11.0						
1980	1.7	2.0	0.9	0.4	2.0	1.2	2.3	10.7						
1981	4.2	1.0	0.1	3.3	0.4	1.9	1.1	11.9						
1982	6.8	0.8	0.1	0.8	0.8	2.7	1.4	13.3						
1983	9.5	0.7	<.1	0.8	1.0	1.6	2.7	16.4						
1984	0.6	0.5	0.3	0.1	<.1	0.0	0.1	1.7						
Sheepshead														
1974	ND	ND	ND	ND	ND	ND	ND	ND						
1975	4.9	ND	1.1	7.4	ND	1.9	ND	15.4						
1976	ND	2.6	ND	ND	2.6	ND	1.4	6.7						
1977	1.1	0.7	<.1	1.1	0.9	0.5	1.0	5.3						
1978	5.0	2.1	1.6	3.0	0.3	1.3	4.3	17.7						
1979	3.3	3.4	0.6	1.6	1.1	1.3	5.2	16.7						
1980	0.6	2.8	0.1	0.0	3.5	0.4	12.5	19.9						
1981	2.5	8.2	0.5	0.1	17.2	1.6	2.6	32.5						

Table 5. (Cont'd.).

Year	Bay system										Coastwide ^a total				
	Galveston		Matagorda		San Antonio		Aransas		Corpus Christi			Upper		Lower	
												Laguna	Madre	Laguna	Madre
1982	0.8	11.2	1.9	10.3	0.7	2.0	0.9	27.8							
1983	0.1	0.4	0.4	0.6	23.5	1.7	1.8	28.4							
1984	1.7	7.7	0.4	0.4	0.1	0.0	1.0	11.2							
Atlantic croaker															
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1975	113.5	ND	0.2	0.1	ND	2.0	ND	115.7							
1976	ND	2.9	ND	ND	5.4	ND	0.9	9.2							
1977	2.8	2.8	0.3	0.0	0.9	0.8	1.0	8.7							
1978	3.3	0.7	<.1	0.0	0.6	1.3	0.4	6.3							
1979	2.6	0.0	0.0	0.0	0.0	<.1	0.2	2.8							
1980	12.5	2.6	0.5	0.0	5.0	0.4	0.3	21.1							
1981	0.3	0.3	0.0	<.1	0.4	1.1	0.5	2.7							
1982	0.5	0.3	0.0	0.0	0.3	3.8	0.4	5.3							
1983	1.3	0.9	0.0	0.0	0.1	0.1	1.1	3.6							
1984	1.3	0.0	0.0	0.0	0.0	0.0	0.0	1.3							
Sand seatrout															
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1975	57.5	ND	0.6	0.7	ND	2.3	ND	61.1							
1976	ND	0.3	ND	ND	7.9	ND	2.4	10.6							
1977	1.0	<.1	0.0	0.0	17.3	0.0	0.4	18.8							
1978	13.4	2.4	0.4	0.5	1.6	0.5	1.5	20.3							
1979	57.6	0.0	0.0	3.0	1.0	0.9	0.5	63.1							
1980	15.5	0.1	0.0	<.1	2.8	1.2	1.3	20.9							
1981	0.3	0.0	0.0	0.0	10.4	0.1	0.6	11.4							
1982	0.0	1.3	<.1	4.5	4.1	0.1	1.4	11.4							
1983	0.0	0.0	<.1	0.0	5.9	0.2	0.1	6.2							
1984	0.0	0.0	<.1	0.0	0.0	0.0	<.1	0.1							

Table 5. (Cont'd.).

Year	Bay system											Coastwide ^a total	
	Galveston			San Antonio			Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		
	Galveston	Matagorda	San Antonio	Aransas	Christi	Upper Laguna Madre	Lower Laguna Madre	Upper Laguna Madre	Lower Laguna Madre	Upper Laguna Madre	Lower Laguna Madre		
Gafftopsail catfish													
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1975	1.0	ND	1.5	0.0	ND	0.0	ND	ND	0.0	ND	ND	2.4	
1976	ND	4.0	ND	ND	3.3	ND	3.3	ND	ND	0.0	0.0	7.3	
1977	1.7	0.5	1.7	0.2	1.1	0.2	1.1	0.0	0.0	0.0	0.0	5.2	
1978	1.0	1.9	0.4	0.7	0.1	0.7	0.1	0.0	0.0	0.0	0.0	4.1	
1979	9.5	0.2	0.3	1.5	1.0	1.5	1.0	0.0	0.0	0.0	0.0	12.5	
1980	0.0	0.0	0.5	<.1	0.7	<.1	0.7	0.0	0.0	0.0	0.0	1.3	
1981	0.0	0.5	0.3	0.2	0.5	0.2	0.5	0.0	0.0	0.0	0.0	1.4	
1982	0.0	0.2	0.0	0.4	0.0	0.4	0.0	0.2	0.2	0.0	0.0	0.7	
1983	0.0	0.0	0.6	0.0	2.6	0.0	2.6	0.0	0.0	0.0	0.0	3.2	
1984	1.1	0.0	0.6	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	1.8	
Other species													
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1975	64.3	ND	0.5	1.0	ND	1.0	ND	ND	0.0	ND	ND	65.8	
1976	ND	0.7	ND	ND	3.3	ND	3.3	ND	ND	2.6	2.6	6.6	
1977	0.1	1.3	1.0	0.1	0.7	0.1	0.7	0.0	0.0	6.6	6.6	9.7	
1978	20.2	0.9	1.3	0.9	0.7	0.9	0.7	0.0	0.0	1.0	1.0	25.0	
1979	6.8	<.1	0.2	1.1	4.1	1.1	4.1	0.0	0.0	0.1	0.1	12.3	
1980	4.0	2.8	0.4	0.0	2.0	0.0	2.0	0.5	0.5	0.6	0.6	10.3	
1981	8.0	0.4	0.9	1.2	2.8	1.2	2.8	1.6	1.6	1.7	1.7	16.7	
1982	32.9	0.3	0.1	3.0	1.3	3.0	1.3	0.9	0.9	0.2	0.2	38.6	
1983	3.1	0.0	0.3	0.3	16.9	0.3	16.9	1.2	1.2	0.1	0.1	21.9	
1984	11.6	3.9	0.8	0.0	0.1	0.0	0.1	1.7	1.7	<.1	<.1	18.3	
All species combined^a													
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1975	297.9	ND	72.5	47.9	ND	47.9	ND	146.0	146.0	ND	ND	564.3	
1976	ND	61.7	ND	ND	41.7	ND	41.7	ND	ND	56.4	56.4	159.8	
1977	21.0	19.9	6.5	13.5	24.7	13.5	24.7	14.3	14.3	90.4	90.4	190.3	
1978	55.9	23.9	18.5	18.0	9.3	18.0	9.3	25.2	25.2	31.3	31.3	182.0	

Table 5. (Cont'd.).

Year	Bay system										Coastwide ^a total				
	Galveston		Matagorda		San Antonio		Aransas		Corpus Christi			Upper		Lower	
												Laguna	Madre	Laguna	Madre
All species combined ^a															
1979	106.6	26.9	16.8	19.4	11.4	16.4	17.3	214.9							
1980	56.0	32.8	12.5	13.2	35.1	55.9	61.8	267.4							
1981	57.7	21.3	15.6	14.3	44.3	71.4	19.6	244.2							
1982	53.3	38.1	17.1	39.4	20.0	56.3	26.4	250.5							
1983	18.9	6.1	3.9	11.5	62.6	29.0	32.9	164.9							
1984	37.8	56.7	14.2	3.1	1.3	5.2	11.3	129.6							

^aDue to rounding of numbers these totals may not exactly equal individual species totals.

Table 6. Estimated harvest (kg x 1000) of fishes for the high use season (15 May-20 Nov) by species and bay system caught by weekend sport-boat fishermen in Texas bays (May 1974-May 1984). ND = no data collected.

Year	Bay system											Coastwide ^a total
	San					Corpus Christi		Upper		Lower		
	Galveston	Matagorda	Antonio	Aransas	Christi	Laguna	Madre	Laguna	Madre			
Spotted seatrout												
1974	204.8	ND	50.8	40.9	ND	19.9	ND	ND	ND	316.4		
1975	ND	53.2	ND	ND	10.5	ND	42.7	ND	42.7	106.4		
1976	21.5	6.0	24.6	25.1	18.3	108.0	59.3	108.0	59.3	262.8		
1977	65.5	28.2	12.9	16.7	16.4	13.8	46.3	13.8	46.3	199.8		
1978	76.4	17.1	4.8	11.6	12.7	10.5	29.7	10.5	29.7	162.7		
1979	29.5	6.2	13.7	21.8	10.9	21.1	22.5	21.1	22.5	125.7		
1980	15.9	12.9	13.0	12.0	8.0	51.2	28.3	51.2	28.3	141.3		
1981	46.0	26.3	10.9	14.4	23.9	36.2	31.9	36.2	31.9	189.6		
1982	69.7	11.1	13.1	12.0	17.8	47.6	55.8	47.6	55.8	227.1		
1983	44.3	22.8	18.4	29.7	40.9	71.4	47.5	71.4	47.5	275.0		
Red drum												
1974	12.7	ND	22.8	12.7	ND	11.6	ND	11.6	ND	59.8		
1975	ND	11.8	ND	ND	6.6	ND	10.9	ND	10.9	29.3		
1976	12.2	9.7	20.9	9.0	5.4	3.0	6.3	3.0	6.3	66.5		
1977	31.6	5.4	3.2	10.8	2.1	1.7	7.3	1.7	7.3	62.1		
1978	14.9	9.5	2.8	0.9	2.8	1.6	4.1	1.6	4.1	36.6		
1979	5.3	11.4	6.7	2.0	2.7	0.6	1.3	0.6	1.3	30.0		
1980	5.6	22.6	3.7	3.8	3.4	14.1	4.0	14.1	4.0	57.2		
1981	18.3	6.1	4.3	3.0	3.0	5.6	2.6	5.6	2.6	42.9		
1982	14.2	8.9	8.6	6.7	7.8	9.2	11.6	9.2	11.6	67.0		
1983	9.1	23.6	16.1	20.3	9.9	11.7	16.0	11.7	16.0	106.7		
Black drum												
1974	15.2	ND	1.5	0.2	ND	2.7	ND	2.7	ND	19.6		
1975	ND	6.4	ND	ND	2.7	ND	2.7	ND	2.7	11.8		
1976	21.6	1.8	7.7	1.7	1.4	4.8	1.5	4.8	1.5	40.5		
1977	38.0	4.5	0.8	0.4	0.8	1.3	1.0	1.3	1.0	46.8		
1978	7.9	14.0	1.3	0.1	1.0	2.1	1.5	2.1	1.5	27.9		
1979	12.2	1.3	0.2	4.8	0.7	0.2	<.1	0.2	<.1	19.5		

Table 6. (Cont'd.).

Year	Bay system											Coastwide ^a total				
	Galveston			Matagorda		San Antonio		Aransas		Corpus Christi			Upper		Lower	
	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna	Upper Madre	Lower Laguna	Lower Madre							
Black drum																
1980	6.3	9.7	0.3	<.1	2.5	1.9	1.5						22.3			
1981	3.0	4.5	0.3	0.6	0.8	0.4	2.2						11.8			
1982	42.0	2.6	0.1	0.3	2.3	3.9	1.1						52.3			
1983	3.2	4.4	1.8	3.4	1.9	1.3	1.2						17.2			
Southern flounder																
1974	8.6	ND	3.6	10.7	ND	16.3	ND						39.2			
1975	ND	13.7	ND	ND	0.4	ND	2.8						16.9			
1976	10.2	1.7	3.1	1.5	2.4	0.7	2.2						21.8			
1977	12.1	3.7	2.4	3.5	1.1	1.1	3.1						27.0			
1978	9.9	4.2	1.1	0.9	4.2	0.4	2.2						22.9			
1979	7.7	5.6	0.8	0.7	3.4	1.8	3.2						23.2			
1980	5.9	2.8	3.3	1.8	0.7	3.1	3.1						20.7			
1981	4.6	0.8	1.0	1.4	1.1	3.2	2.7						14.5			
1982	27.7	1.2	2.2	3.1	1.3	7.1	6.5						49.1			
1983	10.7	9.0	1.5	1.8	3.3	3.2	2.7						32.2			
Sheepshead																
1974	0.1	ND	1.0	1.0	ND	1.1	ND						3.2			
1975	ND	2.7	ND	ND	1.8	ND	0.5						5.0			
1976	6.8	9.0	1.1	2.4	1.7	0.8	3.4						25.2			
1977	62.9	5.6	1.4	1.6	0.8	0.8	0.8						73.9			
1978	10.7	5.3	0.3	0.4	1.7	0.1	0.9						19.4			
1979	12.3	2.0	1.2	1.5	1.6	0.3	1.0						19.9			
1980	4.0	1.5	0.4	1.1	0.3	3.9	1.7						12.9			
1981	7.3	3.2	1.4	3.0	1.2	0.4	0.4						16.9			
1982	15.6	0.7	0.5	0.7	1.9	2.2	0.6						22.3			
1983	4.7	1.0	1.7	1.6	1.1	1.3	0.7						12.1			

Table 6. (Cont'd.).

Year	Bay system											Coastwide ^a total
	Galveston			San Antonio			Corpus Christi	Upper		Lower		
	Matagorda	Aransas	San Antonio	Aransas	Christi	Laguna Madre	Laguna Madre	Laguna Madre	Laguna Madre			
Atlantic croaker												
1974	40.0	ND	0.6	0.4	ND	9.7	ND	ND	50.7			
1975	ND	2.6	ND	ND	1.3	ND	3.3	7.2				
1976	61.0	1.2	0.1	0.7	2.8	4.0	2.4	72.2				
1977	95.5	1.5	0.2	0.5	1.6	4.8	1.2	105.3				
1978	42.9	1.8	0.3	0.1	2.2	11.8	1.1	60.2				
1979	48.7	1.1	0.4	0.1	0.9	1.5	0.5	53.2				
1980	20.6	2.1	0.1	0.2	3.9	3.5	0.3	30.7				
1981	16.3	0.6	<.1	<.1	7.4	5.2	0.4	30.1				
1982	17.5	0.5	0.1	0.8	1.3	6.4	1.4	28.0				
1983	16.0	1.0	0.1	2.3	3.7	7.0	0.6	30.7				
Sand seatrout												
1974	145.6	ND	0.3	1.5	ND	1.1	ND	148.5				
1975	ND	7.2	ND	ND	12.0	ND	4.6	23.8				
1976	89.7	3.2	<.1	5.2	9.3	2.4	2.8	112.6				
1977	48.0	3.0	0.2	1.1	7.3	0.9	6.4	66.9				
1978	66.6	2.9	<.1	0.5	4.0	0.4	0.5	75.0				
1979	23.8	2.0	0.1	0.1	3.9	0.5	0.3	31.0				
1980	15.5	0.6	0.1	1.8	6.5	0.7	1.1	26.3				
1981	7.9	3.3	0.4	0.3	6.9	1.6	3.3	23.7				
1982	32.7	1.6	0.3	1.2	8.5	1.2	3.1	48.6				
1983	10.0	5.0	0.6	1.9	15.6	3.1	2.7	38.9				
Gafftopsail catfish												
1974	19.7	ND	2.6	0.7	ND	0.0	ND	23.0				
1975	ND	2.5	ND	ND	0.0	ND	0.0	2.5				
1976	13.6	25.5	1.1	2.4	3.0	0.0	<.1	45.6				
1977	2.0	18.9	3.6	0.4	0.6	0.0	0.0	25.5				
1978	4.4	19.7	1.4	1.4	2.7	0.2	0.2	30.0				
1979	0.7	1.6	0.3	0.1	1.5	0.1	0.0	4.3				
1980	4.2	0.5	0.3	0.4	0.7	0.1	0.1	6.3				

Table 6. (Cont'd.).

Year	Bay system										Coastwide ^a total	
	San Antonio					Corpus Christi		Upper		Lower		
	Galveston	Matagorda	Aransas	Aransas	Christi	Laguna	Madre	Laguna	Madre	Laguna		Madre
Gafftopsail catfish												
1981	1.9	3.6	0.9	0.7	1.2	0.0	<.1	<.1				8.4
1982	0.5	2.1	0.7	0.8	0.8	<.1	<.1					5.1
1983	0.7	2.7	0.5	1.0	3.5	0.1	0.0					8.5
Other species												
1974	5.9	ND	2.3	0.6	ND	0.5	ND					9.3
1975	ND	0.1	ND	ND	1.9	ND	0.7					2.7
1976	8.3	0.8	2.8	1.1	0.8	0.3	6.1					20.2
1977	3.8	7.8	1.2	0.2	0.3	0.6	0.4					14.3
1978	29.3	3.1	0.9	0.4	0.2	0.1	0.4					34.4
1979	10.0	2.9	0.4	0.1	1.2	0.2	0.2					15.0
1980	9.5	2.2	1.6	0.3	1.9	2.3	<.1					17.9
1981	4.8	2.1	0.7	1.1	1.5	0.6	0.8					11.6
1982	10.1	2.2	0.9	1.1	1.9	1.7	6.2					24.1
1983	2.0	1.4	3.6	1.4	36.0	1.7	5.2					51.3
All species combined^a												
1974	452.6	ND	85.5	68.7	ND	62.9	ND					669.7
1975	ND	100.2	ND	ND	37.2	ND	68.2					205.6
1976	244.9	58.9	61.4	49.1	45.1	124.0	84.0					667.4
1977	359.4	78.6	25.9	35.2	31.0	25.0	66.5					621.6
1978	263.0	77.6	13.0	16.2	31.5	27.2	40.6					469.1
1979	150.2	34.1	24.1	31.2	26.8	26.3	29.1					321.8
1980	87.5	54.9	21.5	22.5	27.9	80.8	40.2					335.6
1981	110.1	50.5	20.0	24.6	47.0	53.2	44.1					349.5
1982	230.0	30.9	26.5	26.7	43.6	79.4	86.4					523.6
1983	100.7	70.9	44.3	63.4	116.6	100.8	76.6					572.6

^aDue to rounding of numbers these totals may not exactly equal individual species totals.

Table 7. Estimated harvest (kg x 1000) of fishes for the low use season (21 Nov-14 May) by species and bay system caught by weekend sport-boat fishermen in Texas bays (May 1974-May 1984). ND = no data collected.

Year	Bay system											Coastwide ^a total
	San					Corpus Christi		Upper		Lower		
	Galveston	Matagorda	Antonio	Aransas	Christi	Laguna	Madre	Laguna	Madre			
Spotted seatrout												
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1975	12.4	ND	25.4	12.3	ND	59.3	ND	ND	ND	ND	ND	109.4
1976	ND	13.1	ND	ND	5.4	ND	21.5	ND	ND	21.5	ND	40.0
1977	7.7	2.5	0.6	3.6	1.5	5.7	42.2	5.7	8.0	42.2	8.0	63.8
1978	1.8	5.7	2.4	3.0	2.0	8.6	8.0	8.6	4.9	8.0	4.9	31.5
1979	3.1	6.4	0.6	3.8	1.7	5.7	14.4	21.5	5.9	14.4	5.9	26.2
1980	18.0	5.3	1.9	4.6	6.4	27.7	7.9	19.7	13.2	7.9	13.2	72.1
1981	3.5	2.2	3.9	3.6	7.9	19.7	6.3	12.4	16.5	6.3	16.5	54.7
1982	7.0	9.8	3.4	6.0	5.4	12.4	0.1	2.4	4.6	0.1	4.6	65.4
1983	1.4	1.1	0.8	2.4	0.1	2.4	0.1	0.2	0.2	0.1	0.2	40.0
1984	8.4	27.8	3.7	0.2	0.1	2.4	0.1	0.2	0.2	0.1	0.2	47.2
Red drum												
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1975	11.6	ND	6.9	1.5	ND	7.4	ND	ND	ND	ND	ND	27.4
1976	ND	10.6	ND	ND	1.2	ND	4.6	ND	4.6	ND	4.6	16.4
1977	1.2	1.3	1.3	1.7	<.1	1.3	2.1	1.3	2.1	1.3	2.1	9.0
1978	2.1	2.8	4.4	3.8	0.1	0.6	2.1	0.6	2.1	0.6	2.1	15.9
1979	1.0	2.3	9.2	1.1	0.2	0.1	0.9	0.1	0.9	0.1	0.9	14.8
1980	0.5	4.5	3.2	1.7	3.1	4.4	3.4	4.4	0.8	3.4	0.8	20.8
1981	4.8	1.7	5.1	0.6	1.3	2.3	2.8	3.2	2.8	2.3	2.8	16.6
1982	1.1	6.4	6.5	4.0	0.8	3.2	1.4	1.4	1.9	1.4	1.9	24.8
1983	0.7	2.4	1.6	7.9	0.4	1.4	1.9	0.2	4.7	1.4	1.9	16.3
1984	3.1	6.9	10.8	1.8	0.2	0.2	0.2	0.2	0.2	0.2	0.2	27.7
Black drum												
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1975	44.4	ND	0.4	0.9	ND	14.9	ND	ND	ND	ND	ND	60.6
1976	ND	2.2	ND	ND	2.9	ND	2.0	ND	2.0	ND	2.0	7.1
1977	0.8	0.9	19.0	1.0	5.9	0.8	13.9	0.8	13.9	0.8	13.9	42.3

Table 7. (Cont'd.).

Year	Bay system											Coastwide ^a total			
	Galveston					San Antonio			Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		
	Galveston	Matagorda	Matagorda	Antonio	Aransas	Christi	Christi	Upper Laguna Madre	Lower Laguna Madre	Coastwide ^a total					
Black drum															
1978	10.5	3.1	3.2	0.8	8.4	3.6	23.7	53.3							
1979	130.0	<.1	6.6	0.2	1.0	1.8	2.5	142.2							
1980	0.4	2.6	2.5	0.0	15.2	0.7	1.4	22.8							
1981	31.5	1.2	1.0	0.1	1.1	0.2	0.3	35.4							
1982	1.4	1.8	0.9	3.6	0.3	5.9	1.3	15.2							
1983	1.8	0.4	0.6	0.2	19.3	2.9	3.1	28.3							
1984	19.4	1.7	0.4	0.2	1.1	0.2	1.2	24.2							
Southern flounder															
1974	ND	ND	ND	ND	ND	ND	ND	ND							
1975	4.1	ND	0.9	0.6	ND	11.5	ND	17.1							
1976	ND	3.3	ND	ND	0.3	ND	0.6	4.2							
1977	0.5	3.4	0.2	0.5	0.2	0.1	0.1	4.8							
1978	1.6	1.3	0.4	0.4	0.1	0.4	1.2	5.4							
1979	1.2	1.1	0.1	1.2	0.5	0.7	0.4	5.2							
1980	0.8	1.0	0.1	0.2	0.9	0.8	1.0	4.8							
1981	3.0	0.3	0.1	1.4	0.3	1.2	0.4	6.7							
1982	4.6	0.4	0.1	0.4	0.5	1.4	0.8	8.2							
1983	4.7	0.4	0.1	0.4	0.6	0.9	1.8	8.9							
1984	0.3	0.1	0.2	0.1	<.1	0.0	0.7	1.4							
Sheepshead															
1974	ND	ND	ND	ND	ND	ND	ND	ND							
1975	3.3	ND	0.8	4.1	ND	2.9	ND	11.1							
1976	ND	1.1	ND	ND	1.7	ND	1.7	4.5							
1977	1.3	0.7	0.1	0.6	0.8	0.4	0.9	4.7							
1978	4.6	0.9	0.9	1.5	0.3	1.2	3.1	12.5							
1979	2.6	2.7	0.5	0.9	1.1	1.3	2.6	11.7							
1980	0.4	2.3	0.1	0.0	3.4	0.5	7.6	14.3							
1981	4.0	1.6	0.2	0.1	16.9	1.6	2.6	27.0							
1982	0.8	2.9	0.9	10.0	0.9	2.5	2.0	20.0							

Table 7. (Cont'd.).

Year	Bay system											Coastwide ^a total				
	Galveston			Matagorda		San Antonio		Aransas		Corpus Christi			Upper		Lower	
	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna	Upper Madre	Lower Laguna	Lower Madre							
Sheepshead																
1983	0.1	0.5	0.2	0.4	20.7	2.1	1.4	1.4	25.4							
1984	1.5	5.2	0.4	0.7	0.1	0.0	0.9	8.8								
Atlantic croaker																
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
1975	19.3	ND	<.1	<.1	ND	0.5	ND	20.0								
1976	ND	0.3	ND	ND	1.4	ND	0.2	1.9								
1977	0.7	0.3	0.1	0.0	0.2	0.1	0.3	1.7								
1978	0.8	0.2	<.1	0.0	0.1	0.4	0.1	1.7								
1979	0.4	0.0	0.0	0.0	0.0	<.1	<.1	0.6								
1980	1.2	0.3	0.1	<.1	0.9	0.1	<.1	2.8								
1981	0.3	<.1	0.0	0.0	0.1	0.4	0.1	1.0								
1982	0.1	<.1	0.0	0.0	0.1	1.1	0.1	1.5								
1983	0.4	0.2	0.0	0.0	<.1	<.1	0.1	0.9								
1984	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1								
Sand seatrout																
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
1975	15.5	ND	0.2	0.2	ND	1.2	ND	17.1								
1976	ND	0.1	ND	ND	2.3	ND	0.9	3.3								
1977	0.3	<.1	0.0	0.0	6.0	0.0	0.2	6.5								
1978	4.4	0.6	0.1	0.1	1.1	0.4	0.4	7.1								
1979	17.3	0.0	0.0	0.8	0.5	0.3	0.1	19.0								
1980	3.9	<.1	0.0	<.1	0.8	0.6	0.4	5.9								
1981	0.1	0.0	0.0	0.0	3.4	<.1	0.1	3.7								
1982	0.0	0.5	<.1	1.3	1.3	<.1	0.6	3.9								
1983	0.0	0.0	<.1	0.0	2.1	0.1	0.1	2.4								
1984	0.0	0.0	<.1	0.0	0.0	0.0	<.1	<.1								

Table 7. (Cont'd.).

Year	Bay system											Coastwide ^a total			
	Galveston		Matagorda		San Antonio		Aransas		Corpus Christi		Upper		Lower		
											Laguna		Madre	Laguna	Madre
Gafftopsail catfish															
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1975	1.3	ND	ND	1.7	0.0	0.0	ND	ND	ND	0.0	0.0	ND	ND	ND	3.0
1976	ND	7.0	ND	ND	ND	ND	4.2	ND	ND	ND	ND	0.0	0.0	0.0	11.2
1977	2.9	0.8	2.1	2.1	0.3	0.3	1.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	7.2
1978	1.3	2.2	0.5	0.5	0.5	0.5	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	4.7
1979	11.9	0.3	0.2	0.2	1.8	0.2	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.7
1980	0.0	0.0	0.7	0.7	0.2	0.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1
1981	0.0	0.5	0.3	0.3	0.2	0.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
1982	0.0	0.2	0.2	0.0	0.4	0.4	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.8
1983	0.0	0.0	0.0	<.1	0.0	0.0	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4
1984	1.2	0.0	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1
Other species															
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1975	17.3	ND	0.2	0.2	0.6	0.6	ND	ND	ND	0.0	0.0	ND	ND	ND	18.1
1976	ND	0.2	ND	ND	ND	ND	1.3	0.2	0.0	0.0	0.0	9.8	0.0	0.0	11.3
1977	0.7	0.3	0.3	0.3	<.1	<.1	0.2	0.2	0.0	0.0	0.0	1.9	0.3	0.3	3.4
1978	10.5	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.3	0.2	0.2	11.9
1979	1.7	<.1	0.1	0.1	0.2	0.2	1.5	0.0	0.0	0.0	0.0	0.2	0.2	0.2	3.8
1980	0.8	3.1	0.4	0.4	0.0	0.0	0.6	0.0	0.1	0.1	0.2	0.2	0.2	0.2	5.2
1981	2.4	3.8	0.3	0.3	0.1	0.1	1.1	0.5	0.4	0.4	0.4	0.4	0.4	0.4	8.5
1982	11.2	<.1	<.1	<.1	1.3	1.3	0.5	0.5	0.2	0.2	0.2	0.1	0.1	0.1	13.5
1983	0.9	0.0	0.2	0.2	0.1	0.1	4.7	0.0	0.4	0.4	0.4	<.1	<.1	<.1	6.4
1984	3.1	1.3	0.3	0.3	0.0	0.0	0.1	0.1	0.8	0.8	0.8	0.1	0.1	0.1	5.7
All species combined^a															
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1975	129.2	ND	36.6	36.6	20.3	20.3	ND	ND	ND	97.7	97.7	ND	ND	ND	283.8
1976	ND	37.9	ND	ND	ND	ND	20.7	0.0	0.0	ND	ND	41.3	0.0	0.0	99.9
1977	16.1	10.2	23.6	23.6	7.7	7.7	16.0	0.0	8.3	8.3	8.3	1.5	0.0	0.0	143.4
1978	37.6	17.1	12.3	12.3	10.4	10.4	12.5	0.0	15.2	15.2	15.2	38.9	0.0	0.0	144.0

Table 7. (Cont'd.).

Year	Bay system										Coastwide ^a total				
	Galveston		Matagorda		San Antonio		Aransas		Corpus Christi			Upper		Lower	
												Laguna	Madre	Laguna	Madre
1979	169.2	13.0	17.3	10.0	7.7	10.0	11.7	238.9							
1980	26.0	19.2	9.0	6.9	32.5	28.7	28.5	150.8							
1981	49.6	10.9	10.9	6.1	32.6	33.9	10.5	155.7							
1982	26.2	22.7	12.0	27.2	11.2	34.3	20.9	154.5							
1983	10.0	5.0	3.7	11.4	57.6	20.3	25.0	133.0							
1984	37.1	43.0	16.7	3.0	1.6	3.6	12.2	117.2							

All species combined^a

^aDue to rounding of numbers these totals may not exactly equal individual species totals.

Table 8. Annual mean catch rate of fishes (No./man-h) by species and bay system caught by weekend sport-boat fishermen in Texas bays (May 1974-May 1984). ND = no samples.

Year	Bay system											Coastwide total	
	Galveston			San Antonio			Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		
	Matagorda	Antonio	Aransas	Galveston	Matagorda	Antonio	Aransas	Christi	Laguna	Madre	Laguna		Madre
Spotted seatrout													
1974-75	0.29	ND	0.85	0.74	ND	0.35	ND	0.28	0.35	ND	ND	0.42	
1975-76	ND	0.36	ND	ND	0.28	ND	0.28	0.33	ND	0.25	0.25	0.30	
1976-77	0.09	0.09	0.33	0.42	0.33	0.86	0.33	0.38	0.86	0.45	0.45	0.34	
1977-78	0.08	0.25	0.20	0.34	0.38	0.25	0.38	0.18	0.25	0.32	0.32	0.19	
1978-79	0.10	0.17	0.09	0.28	0.18	0.15	0.18	0.21	0.15	0.26	0.26	0.15	
1979-80	0.10	0.11	0.26	0.47	0.21	0.34	0.21	0.18	0.34	0.37	0.37	0.21	
1980-81	0.05	0.09	0.22	0.23	0.18	0.32	0.18	0.37	0.32	0.31	0.31	0.18	
1981-82	0.07	0.28	0.29	0.26	0.37	0.24	0.37	0.16	0.24	0.46	0.46	0.20	
1982-83	0.14	0.12	0.25	0.21	0.16	0.23	0.16	0.20	0.23	0.38	0.38	0.20	
1983-84	0.15	0.24	0.26	0.25	0.16	0.25	0.16	0.21	0.25	0.26	0.26	0.21	
Red drum													
1974-75	0.03	ND	0.12	0.05	ND	0.04	ND	0.06	0.04	ND	ND	0.04	
1975-76	ND	0.06	ND	ND	0.06	ND	0.06	0.04	ND	0.04	0.04	0.05	
1976-77	0.02	0.05	0.11	0.05	0.04	0.02	0.04	0.02	0.02	0.03	0.03	0.04	
1977-78	0.03	0.03	0.06	0.08	0.02	0.01	0.02	0.01	0.01	0.03	0.03	0.03	
1978-79	0.01	0.04	0.10	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	
1979-80	0.01	0.08	0.08	0.04	0.04	0.03	0.04	0.02	0.03	0.03	0.03	0.03	
1980-81	0.01	0.06	0.05	0.03	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.02	
1981-82	0.02	0.04	0.09	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	
1982-83	0.02	0.04	0.06	0.07	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	
1983-84	0.02	0.07	0.12	0.07	0.02	0.02	0.02	0.02	0.02	0.06	0.06	0.04	
Black drum													
1974-75	0.03	ND	0.01	0.01	ND	0.02	ND	0.04	0.02	ND	ND	0.02	
1975-76	ND	0.02	ND	ND	0.04	ND	0.04	0.02	ND	0.01	0.01	0.02	
1976-77	0.05	0.03	0.10	0.01	0.02	0.03	0.02	0.02	0.03	0.01	0.01	0.04	
1977-78	0.04	0.04	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	
1978-79	0.04	0.03	0.02	<.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	
1979-80	0.04	0.03	0.01	0.07	0.02	0.01	0.02	0.02	0.01	0.01	0.01	0.03	

Table 8. (Cont'd.).

Year	Bay system											Coastwide total	
	San Antonio			Aransas		Christi		Upper		Lower			
	Galveston	Matagorda	Antonio	Aransas	Christi	Laguna	Madre	Laguna	Madre	Laguna	Madre		
Black drum													
1980-81	0.06	0.08	0.01	<.01	0.03	0.01	0.01	0.01	0.01	0.02	0.01	0.02	0.04
1981-82	<.01	0.05	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
1982-83	0.04	0.04	0.01	0.01	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.03
1984-84	0.02	0.03	0.02	0.02	0.01	0.01	<.01	<.01	<.01	0.01	0.01	0.01	0.02
Southern flounder													
1974-75	0.02	ND	0.03	0.07	ND	0.09	0.09	0.09	0.09	ND	ND	0.04	0.04
1975-76	ND	0.05	ND	ND	0.01	ND	ND	ND	ND	0.01	0.01	0.03	0.03
1976-77	0.03	0.05	0.03	0.02	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02
1977-78	0.02	0.03	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02
1978-79	0.02	0.04	0.01	0.02	0.05	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02
1979-80	0.02	0.04	0.02	0.01	0.04	0.01	0.01	0.01	0.01	0.03	0.03	0.01	0.01
1980-81	0.02	0.02	0.03	0.04	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02
1981-82	0.02	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01
1982-83	0.07	0.01	0.03	0.05	0.01	0.02	0.02	0.02	0.02	0.04	0.04	0.04	0.04
1983-84	0.04	0.05	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.03
Sheepshead													
1974-75	<.01	ND	0.01	0.04	ND	0.01	0.01	0.01	0.01	ND	ND	0.01	0.01
1975-76	ND	0.02	ND	ND	0.03	ND	ND	ND	ND	<.01	<.01	0.02	0.02
1976-77	0.02	0.05	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02
1977-78	0.07	0.04	0.02	0.03	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.04	0.04
1978-79	0.02	0.04	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02
1979-80	0.02	0.02	0.01	0.02	0.03	<.01	<.01	<.01	<.01	0.06	0.06	0.01	0.01
1980-81	0.01	0.04	0.01	0.01	0.12	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02
1981-82	<.01	0.06	0.03	0.07	0.01	<.01	<.01	<.01	<.01	0.01	0.01	0.02	0.02
1982-83	0.02	0.01	0.01	0.01	0.09	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02
1983-84	0.01	0.03	0.01	0.01	<.01	<.01	<.01	<.01	<.01	0.01	0.01	0.02	0.01

Table 8. (Cont'd.).

Year	Bay system											Coastwide total
	Galveston	Matagorda	San		Aransas	Corpus Christi	Upper		Lower			
			Antonio	Aransas			Laguna	Madre	Laguna	Madre		
Atlantic croaker												
1974-75	0.26	ND	0.01	0.01	0.01	ND	0.07	ND	0.17			0.17
1975-76	ND	0.04	ND	ND	0.06	0.06	ND	0.02	0.03			0.03
1976-77	0.48	0.05	<.01	0.02	0.08	0.08	0.07	0.02	0.16			0.16
1977-78	0.37	0.04	<.01	0.01	0.07	0.07	0.09	0.02	0.20			0.20
1978-79	0.22	0.04	0.01	<.01	0.05	0.05	0.17	0.02	0.13			0.13
1979-80	0.27	0.03	0.01	0.01	0.06	0.06	0.03	0.01	0.13			0.13
1980-81	0.14	0.04	<.01	<.01	0.09	0.09	0.03	0.01	0.07			0.07
1981-82	0.09	0.02	<.01	0.00	0.18	0.18	0.04	0.01	0.06			0.06
1982-83	0.10	0.02	<.01	0.02	0.02	0.02	0.05	0.02	0.05			0.05
1983-84	0.12	0.02	0.01	0.03	0.04	0.04	0.05	0.01	0.05			0.05
Sand seatrout												
1974-75	0.38	ND	0.01	0.03	ND	0.01	0.01	ND	0.23			0.23
1975-76	ND	0.06	ND	ND	0.32	0.32	ND	0.04	0.09			0.09
1976-77	0.44	0.07	<.01	0.11	0.37	0.37	0.04	0.02	0.18			0.18
1977-78	0.12	0.05	0.01	0.03	0.19	0.19	0.01	0.07	0.09			0.09
1978-79	0.27	0.03	<.01	0.02	0.09	0.09	0.01	0.01	0.13			0.13
1979-80	0.15	0.03	0.01	<.01	0.10	0.10	0.01	0.01	0.08			0.08
1980-81	0.10	0.01	<.01	0.05	0.21	0.21	<.01	0.02	0.05			0.05
1981-82	0.03	0.07	0.01	0.03	0.20	0.20	0.01	0.07	0.04			0.04
1982-83	0.17	0.04	0.01	0.03	0.14	0.14	0.01	0.03	0.08			0.08
1983-84	0.08	0.06	0.02	0.03	0.11	0.11	0.02	0.02	0.06			0.06
Gafftopsail catfish												
1974-75	0.01	ND	0.02	<.01	ND	ND	0.00	ND	0.01			0.01
1975-76	ND	0.02	ND	ND	0.02	0.02	ND	0.00	0.01			0.01
1976-77	0.02	0.09	0.02	0.01	0.02	0.02	0.00	<.01	0.02			0.02
1977-78	.01	0.05	0.02	<.01	0.01	0.01	0.00	0.00	0.01			0.01
1978-79	0.01	0.04	0.01	0.01	0.02	0.02	<.01	<.01	0.01			0.01
1979-80	.01	0.01	0.01	<.01	0.01	0.01	<.01	<.01	<.01			<.01

Table 8. (Cont'd.).

Year	Bay system										Coastwide total
	San Antonio					Upper Laguna Madre					
	Galveston	Matagorda	Aransas	Corpus Christi	Lower Laguna Madre	Galveston	Matagorda	Aransas	Corpus Christi	Upper Laguna Madre	
Gafftopsail catfish											
1980-81	<.01	<.01	<.01	0.01	<.01	<.01	<.01	<.01	0.01	<.01	<.01
1981-82	<.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	<.01
1982-83	<.01	0.01	<.01	0.01	<.01	0.01	0.01	0.01	0.01	0.00	<.01
1983-84	<.01	0.01	<.01	0.01	<.01	0.01	0.01	0.01	0.01	0.00	<.01
Other species											
1974-75	0.06	ND	0.02	ND	0.01	0.01	0.01	0.01	0.01	0.01	0.04
1975-76	ND	<.01	ND	0.05	ND	0.01	0.01	0.01	0.01	ND	0.01
1976-77	0.02	0.02	0.02	0.03	0.01	0.01	0.01	0.01	0.01	0.02	0.02
1977-78	0.02	0.04	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.02
1978-79	0.03	0.02	0.01	0.03	0.01	0.01	0.01	0.01	0.01	<.01	0.02
1979-80	0.06	0.03	0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.03
1980-81	0.06	0.01	0.01	0.07	0.01	0.01	0.01	0.01	0.01	0.01	0.03
1981-82	0.05	0.02	0.01	0.04	0.02	0.01	0.01	0.01	0.01	0.01	0.03
1982-83	0.05	0.01	0.02	0.09	0.02	0.02	0.02	0.02	0.02	0.01	0.04
1983-84	0.05	0.02	0.05	0.04	0.02	0.02	0.02	0.02	0.01	0.01	0.02
All species combined^a											
1974-75	1.09	ND	1.09	ND	0.96	0.96	0.96	0.96	0.96	0.60	0.98
1975-76	ND	0.63	ND	0.86	ND	0.86	0.86	0.86	0.86	ND	0.55
1976-77	1.16	0.50	0.61	0.95	0.68	0.68	0.68	0.68	0.68	1.04	0.83
1977-78	0.75	0.57	0.38	0.74	0.56	0.56	0.56	0.56	0.56	0.41	0.63
1978-79	0.72	0.46	0.25	0.46	0.40	0.40	0.40	0.40	0.40	0.37	0.54
1979-80	0.66	0.39	0.42	0.55	0.62	0.62	0.62	0.62	0.62	0.44	0.56
1980-81	0.46	0.35	0.33	0.74	0.39	0.39	0.39	0.39	0.39	0.44	0.44
1981-82	0.28	0.57	0.48	0.86	0.44	0.44	0.44	0.44	0.44	0.35	0.41
1982-83	0.61	0.31	0.39	0.57	0.41	0.41	0.41	0.41	0.41	0.35	0.49
1983-84	0.48	0.54	0.49	0.40	0.43	0.43	0.43	0.43	0.43	0.36	0.44

^aDue to rounding of numbers these totals may not exactly equal individual species totals.

Table 9. Mean catch rates of fishes (No./man-h) for the high use season (15 May-20 Nov) by species and bay system caught by weekend sport-boat fishermen in Texas bays (May 1974-May 1984). ND = no samples.

Year	Bay system											Coastwide total	
	Galveston			San Antonio			Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		
	Matagorda	Matagorda	Antonio	Aransas	Christi	Christi	Laguna	Madre	Laguna	Madre	Laguna		Madre
Spotted seatrout													
1974	0.48	ND	0.79	0.86	ND	0.32	ND	0.26	0.56	0.34	0.26	0.34	
1975	ND	0.43	ND	ND	0.26	ND	0.45	0.37	0.37	0.45	0.41	0.21	
1976	0.08	0.09	0.44	0.52	0.49	1.10	0.32	0.41	0.21	0.41	0.28	0.17	
1977	0.10	0.30	0.24	0.44	0.46	0.32	0.14	0.26	0.17	0.28	0.41	0.21	
1978	0.12	0.16	0.10	0.31	0.26	0.29	0.26	0.26	0.21	0.41	0.42	0.20	
1979	0.10	0.11	0.38	0.47	0.22	0.30	0.30	0.40	0.20	0.48	0.48	0.20	
1980	0.07	0.10	0.35	0.24	0.40	0.22	0.22	0.25	0.22	0.41	0.41	0.22	
1981	0.08	0.29	0.30	0.25	0.25	0.24	0.24	0.25	0.22	0.41	0.41	0.22	
1982	0.15	0.13	0.27	0.23	0.25	0.27	0.27	0.17	0.22	0.31	0.31	0.22	
1983	0.16	0.20	0.28	0.26	0.17	0.27	0.27	0.17	0.22	0.31	0.31	0.22	
Red drum													
1974	0.03	ND	0.13	0.06	ND	0.08	ND	0.07	0.05	0.04	ND	0.05	
1975	ND	0.04	ND	ND	0.07	ND	0.04	0.04	0.05	0.04	0.04	0.05	
1976	0.02	0.05	0.15	0.06	0.06	0.02	0.02	0.06	0.04	0.04	0.04	0.04	
1977	0.03	0.02	0.04	0.07	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	
1978	0.01	0.04	0.02	0.01	0.02	0.01	0.01	0.02	0.02	0.01	0.01	0.02	
1979	0.01	0.08	0.07	0.02	0.02	<.01	<.01	0.02	0.02	0.01	0.01	0.02	
1980	0.01	0.06	0.04	0.03	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03	
1981	0.01	0.03	0.04	0.02	0.02	0.01	0.01	0.02	0.02	0.01	0.01	0.02	
1982	0.02	0.03	0.06	0.04	0.04	0.02	0.02	0.04	0.03	0.03	0.03	0.03	
1983	0.01	0.08	0.10	0.07	0.02	0.02	0.02	0.04	0.06	0.06	0.06	0.04	
Black drum													
1974	0.02	ND	0.01	<.01	ND	0.01	0.01	ND	0.01	ND	ND	0.01	
1975	ND	0.02	ND	ND	0.04	ND	ND	0.04	0.02	0.01	0.01	0.02	
1976	0.06	0.02	0.12	0.01	0.02	0.04	0.04	0.02	0.04	0.01	0.01	0.04	
1977	0.04	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.03	
1978	0.02	0.03	0.01	<.01	0.01	0.01	0.01	0.01	0.01	<.01	<.01	0.02	
1979	0.05	0.02	0.01	0.08	0.01	<.01	<.01	0.01	0.01	<.01	<.01	0.03	

Table 9. (Cont'd.).

Year	Bay system											Coastwide total
	Galveston	Matagorda	San		Aransas	Corpus Christi		Upper		Lower		
			Antonio	Antonio		Christi	Christi	Laguna	Madre	Laguna	Madre	
Black drum												
1980	0.03	0.08	0.01	0.01	<.01	0.04	0.01	0.01	0.03	0.03	0.03	0.03
1981	<.01	0.05	0.01	0.01	0.01	0.01	<.01	<.01	0.01	0.01	0.01	0.01
1982	0.04	0.04	<.01	<.01	<.01	0.04	0.01	0.01	<.01	<.01	0.03	0.03
1983	0.01	0.04	0.02	0.02	0.02	0.01	<.01	<.01	<.01	<.01	0.01	0.01
Southern flounder												
1974	0.03	ND	0.04	0.04	0.10	ND	0.19	0.19	ND	ND	0.06	0.06
1975	ND	0.04	ND	ND	ND	<.01	ND	ND	0.01	0.01	0.02	0.02
1976	0.03	0.02	0.04	0.02	0.02	0.04	0.01	0.01	0.01	0.01	0.02	0.02
1977	0.02	0.03	0.03	0.04	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.02
1978	0.02	0.04	0.02	0.02	0.02	0.07	<.01	<.01	0.02	0.02	0.02	0.02
1979	0.02	0.06	0.02	0.02	0.01	0.06	0.02	0.02	0.04	0.04	0.03	0.03
1980	0.02	0.02	0.06	0.03	0.03	0.02	0.02	0.02	0.03	0.03	0.02	0.02
1981	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.02	0.02	0.02	0.02
1982	0.07	0.01	0.03	0.06	0.06	0.02	0.03	0.03	0.05	0.05	0.04	0.04
1983	0.05	0.07	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.02	0.03	0.03
Sheepshead												
1974	<.01	ND	0.01	0.01	0.01	ND	0.01	0.01	ND	ND	<.01	<.01
1975	ND	0.02	ND	ND	ND	0.02	ND	ND	<.01	<.01	0.01	0.01
1976	0.02	0.06	0.01	0.03	0.03	0.03	0.01	0.01	0.02	0.02	0.02	0.02
1977	0.07	0.04	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.05	0.05
1978	0.02	0.04	<.01	<.01	<.01	0.02	<.01	<.01	<.01	<.01	0.01	0.01
1979	0.02	0.02	0.01	0.02	0.02	0.02	<.01	<.01	0.12	0.12	0.02	0.02
1980	0.02	0.02	0.01	0.02	0.02	0.01	0.01	0.01	0.02	0.02	0.01	0.01
1981	0.01	0.03	0.02	0.02	0.02	0.01	<.01	<.01	<.01	<.01	0.01	0.01
1982	0.02	0.01	<.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01
1983	0.01	0.01	0.01	0.01	0.01	<.01	<.01	<.01	<.01	<.01	0.01	0.01

Table 9. (Cont'd.).

Year	Bay system											Coastwide total
	San					Corpus Christi		Upper		Lower		
	Galveston	Matagorda	Antonio	Aransas	Christi	Laguna	Madre	Laguna	Madre	Laguna	Madre	
Atlantic croaker												
1974	0.29	ND	0.02	0.02	ND	0.24	ND	ND	0.21			0.21
1975	ND	0.04	ND	ND	0.04	ND	0.03	0.03	0.03			0.03
1976	0.55	0.08	<.01	0.02	0.10	0.09	0.03	0.03	0.24			0.24
1977	0.43	0.06	<.01	0.02	0.09	0.16	0.03	0.03	0.26			0.26
1978	0.27	0.05	0.01	<.01	0.07	0.26	0.02	0.02	0.16			0.16
1979	0.34	0.02	0.01	0.01	0.05	0.05	0.02	0.02	0.18			0.18
1980	0.23	0.05	<.01	0.01	0.16	0.04	0.01	0.01	0.10			0.10
1981	0.12	0.02	<.01	0.00	0.24	0.05	0.01	0.01	0.08			0.08
1982	0.11	0.02	0.01	0.03	0.03	0.05	0.02	0.02	0.06			0.06
1983	0.16	0.03	0.01	0.03	0.04	0.05	0.01	0.01	0.06			0.06
Sand seatrout												
1974	0.58	ND	0.01	0.03	ND	0.03	ND	ND	0.36			0.36
1975	ND	0.08	ND	ND	0.40	ND	0.06	0.06	0.12			0.12
1976	0.52	0.10	<.01	0.15	0.30	0.06	0.04	0.04	0.25			0.25
1977	0.13	0.06	0.01	0.04	0.23	0.02	0.10	0.10	0.10			0.10
1978	0.26	0.04	<.01	0.01	0.12	0.01	0.01	0.01	0.14			0.14
1979	0.18	0.05	0.02	<.01	0.17	0.01	0.01	0.01	0.11			0.11
1980	0.16	0.01	<.01	0.07	0.27	0.01	0.03	0.03	0.07			0.07
1981	0.04	0.09	0.02	0.01	0.23	0.01	0.08	0.08	0.05			0.05
1982	0.18	0.05	0.01	0.04	0.23	0.01	0.04	0.04	0.10			0.10
1983	0.10	0.10	0.02	0.03	0.12	0.02	0.03	0.03	0.07			0.07
Gafftopsail catfish												
1974	0.02	ND	0.01	<.01	ND	0.00	ND	ND	0.02			0.02
1975	ND	0.01	ND	ND	0.00	ND	0.00	0.00	<.01			<.01
1976	0.01	0.09	0.01	0.01	0.02	0.00	<.01	<.01	0.02			0.02
1977	<.01	0.07	0.02	<.01	0.01	0.00	0.00	0.00	0.01			0.01
1978	<.01	0.05	0.01	0.01	0.02	<.01	<.01	<.01	0.01			0.01
1979	<.01	0.01	<.01	<.01	0.01	<.01	0.00	0.00	<.01			<.01
1980	0.01	<.01	<.01	<.01	0.01	<.01	<.01	<.01	0.01			<.01

Table 9. (Cont'd.).

Year	Bay system										Coastwide total	
	San Antonio					Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		
	Galveston	Matagorda	Aransas	Aransas	Christi	Upper Laguna Madre	Lower Laguna Madre	Upper Laguna Madre	Lower Laguna Madre			
Gafftopsail catfish												
1981	<.01	0.01	<.01	0.01	0.01	0.01	0.01	0.00	<.01	<.01	<.01	
1982	<.01	0.01	0.01	<.01	0.01	0.01	0.01	0.00	0.00	<.01	<.01	
1983	<.01	0.01	<.01	<.01	0.01	0.01	0.01	0.00	0.00	0.00	<.01	
Other species												
1974	0.02	ND	0.01	0.02	0.01	ND	0.01	0.01	ND	0.02	0.02	
1975	ND	0.01	ND	ND	0.04	0.04	ND	0.01	0.01	0.01	0.01	
1976	0.03	0.02	0.02	0.02	0.04	0.04	0.01	0.01	0.01	0.02	0.02	
1977	<.01	0.04	0.01	0.02	0.01	0.01	0.03	0.03	0.01	0.01	0.01	
1978	0.03	0.03	0.01	0.01	0.01	0.01	<.01	<.01	<.01	0.02	0.02	
1979	0.07	0.02	0.01	0.01	0.04	0.04	<.01	<.01	0.01	0.04	0.04	
1980	0.08	0.02	0.01	0.01	0.09	0.09	0.03	0.03	<.01	0.04	0.04	
1981	0.02	0.02	0.01	0.01	0.05	0.05	0.01	0.01	0.02	0.02	0.02	
1982	0.05	0.02	0.02	0.02	0.06	0.06	0.20	0.20	0.02	0.03	0.03	
1983	0.01	0.02	0.02	0.05	0.03	0.03	0.01	0.01	0.02	0.02	0.02	
All species combined ^a												
1974	1.46	ND	1.10	1.03	ND	ND	0.89	0.89	ND	1.29	1.29	
1975	ND	0.68	ND	ND	0.88	0.88	ND	ND	0.41	0.60	0.60	
1976	1.32	0.55	0.84	0.78	1.10	1.10	1.33	1.33	0.58	1.03	1.03	
1977	0.82	0.67	0.66	0.38	0.87	0.87	0.58	0.58	0.60	0.73	0.73	
1978	0.75	0.48	0.37	0.19	0.60	0.60	0.43	0.43	0.35	0.57	0.57	
1979	0.80	0.38	0.62	0.54	0.66	0.66	0.37	0.37	0.50	0.64	0.64	
1980	0.64	0.35	0.41	0.49	0.85	0.85	0.44	0.44	0.58	0.52	0.52	
1981	0.31	0.55	0.33	0.42	1.00	1.00	0.32	0.32	0.64	0.41	0.41	
1982	0.64	0.32	0.45	0.40	0.68	0.68	0.38	0.38	0.58	0.53	0.53	
1983	0.53	0.54	0.45	0.50	0.42	0.42	0.39	0.39	0.46	0.46	0.46	

^aDue to rounding of numbers these totals may not exactly equal individual species totals.

Table 10. Mean catch rates of fishes (No./man-h) for the low use season (21 Nov-14 May) by species and bay system caught by weekend sport-boat fishermen in Texas bays (May 1974-May 1984). ND = no data collected.

Year	Bay system											Coastwide total
	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre					
Spotted seatrout												
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1975	0.03	ND	1.02	0.47	ND	0.37	ND	ND	0.24	ND	0.24	0.24
1976	ND	0.19	ND	ND	0.30	ND	0.22	0.22	0.22	0.22	0.22	0.22
1977	0.15	0.08	0.02	0.16	0.07	0.17	0.55	0.24	0.24	0.24	0.24	0.24
1978	0.01	0.11	0.10	0.11	0.15	0.18	0.14	0.10	0.10	0.10	0.10	0.10
1979	0.02	0.21	0.03	0.20	0.05	0.17	0.17	0.10	0.10	0.10	0.10	0.10
1980	0.09	0.13	0.06	0.50	0.15	0.41	0.33	0.20	0.20	0.20	0.20	0.20
1981	0.02	0.06	0.09	0.21	0.14	0.37	0.13	0.13	0.13	0.13	0.13	0.13
1982	0.04	0.26	0.27	0.28	0.28	0.30	0.38	0.19	0.19	0.19	0.19	0.19
1983	0.02	0.07	0.08	0.11	0.07	0.21	0.28	0.13	0.13	0.13	0.13	0.13
1984	0.11	0.35	0.18	0.03	<.01	0.07	0.09	0.16	0.16	0.16	0.16	0.16
Red drum												
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1975	0.03	ND	0.11	0.03	ND	0.03	ND	0.03	0.03	0.03	0.03	0.03
1976	ND	0.12	ND	ND	0.04	ND	0.03	0.06	0.06	0.06	0.06	0.06
1977	0.01	0.04	0.12	0.02	<.01	0.03	0.01	0.02	0.02	0.02	0.02	0.02
1978	0.01	0.03	0.13	0.09	0.01	0.01	0.03	0.03	0.03	0.03	0.03	0.03
1979	<.01	0.05	0.38	0.04	0.01	<.01	0.02	0.04	0.04	0.04	0.04	0.04
1980	<.01	0.07	0.11	0.13	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05
1981	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
1982	<.01	0.10	0.24	0.10	0.01	0.03	0.04	0.04	0.04	0.04	0.04	0.04
1983	0.01	0.06	0.07	0.14	<.01	0.02	0.03	0.03	0.03	0.03	0.03	0.03
1984	0.02	0.04	0.18	0.09	<.01	<.01	0.06	0.04	0.04	0.04	0.04	0.04
Black drum												
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1975	0.03	ND	<.01	0.01	ND	0.03	ND	0.03	0.03	0.03	0.03	0.03
1976	ND	0.03	ND	ND	0.02	ND	0.01	0.01	0.01	0.01	0.01	0.01
1977	0.03	0.01	0.03	0.02	0.02	0.01	0.04	0.02	0.02	0.02	0.02	0.02

Table 10. (Cont'd.).

Year	Bay system											Coastwide total				
	Galveston			Matagorda		San Antonio		Aransas		Corpus Christi			Upper		Lower	
	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	Upper Laguna Madre	Lower Laguna Madre	Upper Laguna Madre	Lower Laguna Madre		Upper Laguna Madre	Lower Laguna Madre		
Black drum																
1978	0.10	0.02	0.05	0.01	0.04	0.02	0.03	0.01	0.02	0.01	0.02	0.03	0.05	0.05		
1979	0.10	<.01	0.03	<.01	0.01	0.03	0.01	0.03	0.01	0.03	0.03	0.03	0.05	0.05		
1980	<.01	0.06	0.02	0.00	0.03	0.01	0.01	0.03	0.01	0.01	0.03	0.03	0.02	0.02		
1981	0.10	0.09	0.02	<.01	0.02	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.05	0.05		
1982	<.01	0.05	0.05	0.04	0.01	0.04	0.01	0.02	0.01	0.04	0.03	0.03	0.02	0.02		
1983	0.04	0.02	0.04	0.01	0.02	0.01	0.02	0.01	0.01	0.01	0.03	0.03	0.02	0.02		
1984	0.05	0.03	0.02	0.03	0.03	0.02	0.03	0.01	0.01	0.01	0.05	0.05	0.04	0.04		
Southern flounder																
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1975	0.01	ND	0.02	0.02	ND	0.05	0.02	0.02	0.02	0.05	ND	ND	0.03	0.03		
1976	ND	0.07	ND	ND	0.02	ND	0.02	0.02	0.02	ND	0.01	0.01	0.03	0.03		
1977	0.01	0.11	0.01	0.01	0.01	<.01	0.01	0.01	0.01	<.01	<.01	<.01	0.03	0.03		
1978	0.01	0.04	0.02	0.01	0.02	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.02	0.02		
1979	0.01	0.05	<.01	0.05	0.01	0.02	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02		
1980	0.01	0.03	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02		
1981	0.01	0.02	<.01	0.08	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01		
1982	0.03	0.01	<.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.02	0.02		
1983	0.13	0.03	<.01	0.02	0.01	0.02	0.01	0.01	0.01	0.02	0.03	0.03	0.04	0.04		
1984	0.01	0.01	0.01	0.01	<.01	0.00	<.01	<.01	<.01	0.00	<.01	<.01	0.04	<.01		
Sheepshead																
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1975	0.01	ND	0.02	0.10	ND	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.02	0.02		
1976	ND	0.02	ND	ND	0.05	ND	ND	0.05	0.05	ND	0.01	0.01	0.02	0.02		
1977	0.01	0.01	<.01	0.02	0.02	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01		
1978	0.02	0.03	0.03	0.06	0.01	0.01	0.03	0.01	0.01	0.01	0.04	0.04	0.03	0.03		
1979	0.01	0.05	0.02	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.07	0.07	0.03	0.03		
1980	<.01	0.02	<.01	0.00	0.04	0.00	0.01	0.04	0.04	<.01	0.11	0.11	0.03	0.03		
1981	0.01	0.13	0.01	<.01	0.24	0.01	0.01	0.24	0.24	0.01	0.03	0.03	0.04	0.04		
1982	<.01	0.19	0.07	0.21	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.04	0.05		

Table 10. (Cont'd.).

Year	Bay system											Coastwide total			
	Galveston		Matagorda		San Antonio		Aransas		Corpus Christi		Upper		Lower		
											Laguna		Madre	Laguna	Madre
Gafftopsail catfish															
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1975	<.01	ND	0.02	0.00	ND	ND	ND	ND	ND	0.00	0.00	ND	ND	<.01	<.01
1976	ND	0.03	ND	ND	ND	0.06	0.03	0.01	0.00	ND	0.00	0.00	0.00	0.02	0.02
1977	0.01	<.01	0.04	<.01	<.01	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
1978	<.01	0.02	<.01	0.01	<.01	<.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01
1979	0.05	<.01	<.01	0.04	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02
1980	0.00	0.00	<.01	<.01	<.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	<.01	<.01
1981	0.00	0.01	<.01	<.01	<.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	<.01	<.01
1982	0.00	<.01	0.00	0.01	0.01	0.00	0.01	0.00	0.00	<.01	0.00	0.00	0.00	<.01	<.01
1983	0.00	0.00	0.04	0.00	0.04	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
1984	0.01	0.00	0.02	0.00	0.02	<.01	<.01	0.00	0.00	0.00	0.00	0.00	0.00	<.01	<.01
Other species															
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1975	0.13	ND	<.01	0.01	<.01	ND	ND	ND	ND	0.00	0.00	ND	ND	0.07	0.07
1976	ND	<.01	ND	ND	ND	0.07	0.02	0.01	0.00	ND	0.01	0.01	0.01	0.02	0.02
1977	<.01	0.02	0.02	<.01	<.01	0.02	0.03	0.00	0.00	0.00	0.00	0.05	0.05	0.02	0.02
1978	0.11	0.01	0.02	0.02	0.02	0.03	0.03	0.00	0.00	0.00	0.00	0.01	0.01	0.04	0.04
1979	0.03	<.01	<.01	0.02	0.02	0.07	0.02	0.00	0.00	0.00	0.00	<.01	<.01	0.02	0.02
1980	0.02	0.02	0.01	0.00	0.00	0.02	0.02	0.00	0.00	<.01	<.01	0.01	0.01	0.02	0.02
1981	0.03	0.01	0.01	0.03	0.03	0.04	0.04	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02
1982	0.13	<.01	<.01	0.06	0.06	0.03	0.03	0.01	0.01	0.01	0.01	<.01	<.01	0.06	0.06
1983	0.04	0.00	0.02	0.01	0.01	0.12	0.03	0.01	0.01	0.01	0.01	<.01	<.01	0.05	0.05
1984	0.10	0.04	0.02	0.00	0.02	0.01	0.01	0.00	0.00	0.01	0.01	<.01	<.01	0.05	0.05
All species combined^a															
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1975	0.58	ND	1.23	0.66	0.66	ND	ND	0.49	0.49	0.49	0.49	ND	ND	0.60	0.60
1976	ND	0.50	ND	ND	ND	0.82	0.82	ND	ND	ND	ND	0.31	0.31	0.45	0.45
1977	0.26	0.37	0.15	0.23	0.23	0.66	0.66	0.23	0.23	0.23	0.23	0.63	0.63	0.40	0.40
1978	0.33	0.32	0.36	0.33	0.33	0.34	0.34	0.25	0.25	0.25	0.25	0.28	0.28	0.31	0.31

Table 10. (Cont'd.).

Year	Bay system											
	Galveston	Matagorda	San		Aransas		Corpus Christi		Upper		Lower	
			Antonio	Aransas	Christi	Christi	Laguna	Madre	Laguna	Madre	Coastwide total	
All species combined ^a												
1979	0.58	0.37	0.47	0.46	0.19	0.25	0.36	0.42				
1980	0.25	0.37	0.23	0.66	0.44	0.52	0.57	0.40				
1981	0.19	0.34	0.18	0.34	0.62	0.43	0.23	0.30				
1982	0.21	0.64	0.64	0.79	0.48	0.45	0.54	0.41				
1983	0.25	0.23	0.28	0.31	0.46	0.28	0.41	0.35				
1984	0.31	0.54	0.44	0.19	0.04	0.11	0.22	0.32				

^aDue to rounding of numbers these totals may not exactly equal individual species totals.

Table 11. Annual mean weight of fishes (kg/fish) by species and bay system caught by weekend sport-boat fishermen in Texas bays (May 1974-May 1984). ND = no data collected. Blank = no fish weighed.

Year	Bay system										Coastwide total
	Galveston	Matagorda	San Antonio	Aranzas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre				
Spotted seatrout											
1974-75	0.63	ND	0.41	0.29	ND	0.54	ND				0.50
1975-76	ND	0.48	ND	ND	0.37	ND	0.55				0.44
1976-77	0.58	0.44	0.47	0.31	0.49	0.56	0.51				0.50
1977-78	0.68	0.47	0.47	0.32	0.44	0.45	0.53				0.50
1978-79	0.71	0.42	0.40	0.31	0.46	0.55	0.46				0.51
1979-80	0.45	0.41	0.45	0.39	0.53	0.50	0.45				0.45
1980-81	0.48	0.44	0.47	0.42	0.52	0.44	0.50				0.46
1981-82	0.68	0.45	0.47	0.38	0.54	0.46	0.53				0.50
1982-83	0.66	0.49	0.49	0.47	0.50	0.50	0.65				0.55
1983-84	0.65	0.59	0.55	0.49	0.62	0.65	0.84				0.63
Red drum											
1974-75	0.70	ND	1.11	1.15	ND	1.12	ND				0.96
1975-76	ND	0.76	ND	ND	0.82	ND	0.81				0.78
1976-77	1.29	0.96	1.19	0.97	1.04	1.05	0.85				1.07
1977-78	1.08	1.15	0.72	1.03	1.05	1.10	1.13				1.02
1978-79	1.22	0.82	0.76	0.74	1.25	1.06	1.35				0.96
1979-80	0.59	0.82	0.76	0.70	0.87	0.73	0.64				0.75
1980-81	0.93	1.20	1.07	0.98	1.00	0.91	0.81				1.01
1981-82	1.56	1.03	1.08	1.03	1.09	1.06	1.47				1.13
1982-83	1.03	1.52	1.53	1.44	1.48	1.46	1.50				1.35
1983-84	1.52	1.33	1.43	1.34	1.14	1.56	2.26				1.50
Black drum											
1974-75	1.86	ND	1.19	0.85	ND	2.02	ND				1.83
1975-76	ND	1.01	ND	ND	1.46	ND	1.04				1.22
1976-77	0.79	0.43	1.64	0.89	2.93	0.81	3.87				1.21
1977-78	1.03	0.69	1.21	0.55	3.83	1.44	4.66				1.33
1978-79	3.46	1.64	3.43	0.43	1.67	1.50	1.67				2.95
1979-80	0.38	0.48	3.04	0.50	4.42	0.64	0.52				1.65

Table 11. (Cont'd.)

Year	Bay system											Coastwide total		
	San Antonio					Aransas		Corpus Christi		Upper			Lower	
	Galveston	Matagorda	Matagorda	Antonio	San Antonio	Aransas	Christi	Christi	Laguna	Madre	Laguna		Madre	
Black drum														
1980-81	0.52	0.35	0.35	0.61	0.61	0.47	0.84	0.84	0.65	0.41	0.41	1.46		
1981-82	0.79	0.43	0.43	0.62	0.62	1.05	0.58	0.58	0.94	1.67	1.67	0.79		
1982-83	1.28	0.40	0.40	0.73	0.73	0.41	2.07	2.07	1.11	1.32	1.32	1.14		
1983-84	1.01	0.54	0.54	0.83	0.83	0.72	0.78	0.78	1.16	1.07	1.07	0.81		
Southern flounder														
1974-75	0.50	ND	ND	0.62	0.62	0.64	ND	ND	0.75	ND	ND	0.64		
1975-76	ND	0.75	0.75	ND	ND	ND	0.41	0.41	ND	0.94	0.94	0.75		
1976-77	0.67	0.52	0.52	0.70	0.70	0.47	0.69	0.69	0.64	0.77	0.77	0.62		
1977-78	0.65	0.52	0.52	0.60	0.60	0.64	0.60	0.60	0.68	0.84	0.84	0.63		
1978-79	0.58	0.42	0.42	0.57	0.57	0.54	0.57	0.57	0.73	0.53	0.53	0.53		
1979-80	0.51	0.60	0.60	0.59	0.59	0.50	0.65	0.65	0.74	0.61	0.61	0.61		
1980-81	0.62	0.41	0.41	0.67	0.67	0.49	0.61	0.61	0.54	0.78	0.78	0.66		
1981-82	0.56	0.44	0.44	0.73	0.73	0.48	0.56	0.56	0.77	0.76	0.76	0.66		
1982-83	0.58	0.59	0.59	0.63	0.63	0.47	0.58	0.58	0.68	0.67	0.67	0.62		
1983-84	0.48	0.55	0.55	0.63	0.63	0.65	0.49	0.49	0.76	0.66	0.66	0.57		
Sheepshead														
1974-75	0.67	ND	ND	0.78	0.78	0.57	ND	ND	1.33	ND	ND	0.73		
1975-76	ND	0.40	0.40	ND	ND	ND	0.76	0.76	ND	1.10	1.10	0.71		
1976-77	0.82	1.01	1.01	1.06	1.06	0.58	0.90	0.90	0.73	0.93	0.93	0.85		
1977-78	0.86	0.63	0.63	0.72	0.72	0.58	0.69	0.69	0.95	0.72	0.72	0.81		
1978-79	0.79	0.61	0.61	0.89	0.89	0.57	0.74	0.74	1.00	0.81	0.81	0.72		
1979-80	0.88	0.75	0.75	1.00	1.00	0.65	0.98	0.98	1.14	0.64	0.64	0.82		
1980-81	0.53	0.26	0.26	0.56	0.56	0.53	0.87	0.87	1.04	0.88	0.88	0.58		
1981-82	0.83	0.37	0.37	0.73	0.73	0.94	0.99	0.99	1.09	0.95	0.95	0.68		
1982-83	0.92	0.44	0.44	0.72	0.72	0.79	0.89	0.89	1.17	0.68	0.68	0.76		
1983-84	0.80	0.65	0.65	0.98	0.98	1.06	0.95	0.95	1.11	0.89	0.89	0.81		

Table 11. (Cont'd.).

Year	Bay system											Coastwide total					
	Galveston			Matagorda		San Antonio		Aransas		Corpus Christi			Upper		Lower		
														Laguna	Madre	Laguna	Madre
Gafftopsail catfish																	
1981-82	0.84	1.37	1.79	1.12	1.33												1.30
1982-83	0.72	0.98	1.72	0.96	1.18							0.20			1.40		1.25
1983-84	0.85	1.50	1.29	1.00	1.37							1.10					1.22
Other species																	
1974-75	0.31	ND	0.61	0.35	ND							0.36			ND		0.32
1975-76	ND	0.27	ND	ND	0.40							ND			2.75		0.99
1976-77	0.67	0.26	0.83	0.39	0.28							0.13			0.64		0.55
1977-78	0.49	0.79	0.50	0.22	0.26							0.21			0.28		0.50
1978-79	1.01	0.41	0.71	0.32	0.33							1.00			0.55		0.79
1979-80	0.22	0.88	0.74	0.08	0.31							0.23			0.32		0.40
1980-81	0.24	0.95	1.19	0.16	0.27							0.20			0.26		0.34
1981-82	0.25	0.51	0.61	0.59	0.29							0.18			0.34		0.35
1982-83	0.31	0.81	0.52	0.41	0.26							0.22			1.56		0.33
1983-84	0.29	0.33	0.55	0.33	2.40							0.48			1.65		0.95

Table 12. Mean weight of fishes (kg/fish) for the high use season (15 May-20 Nov) by species and bay system caught by weekend sport-boat fishermen in Texas bays (May 1974-May 1984). ND = no data collected. Blank = no fish weighed.

Year	Bay system										Coastwide total			
	Galveston					San Antonio		Corpus Christi		Upper		Lower		
	Matagorda	Aransas	San Antonio	Aransas	Christi	Laguna Madre	Laguna Madre	Laguna Madre	Laguna Madre	Laguna Madre		Laguna Madre	Laguna Madre	
Spotted seatrout														
1974	0.62	ND	0.41	0.28	ND	0.54	ND	0.28	ND	0.54	ND	0.50		
1975	ND	0.35	ND	ND	0.38	ND	0.55	ND	ND	ND	0.55	0.44		
1976	0.56	0.39	0.47	0.30	0.45	0.56	0.48	0.30	0.45	0.56	0.48	0.48		
1977	0.68	0.45	0.46	0.30	0.43	0.44	0.54	0.30	0.43	0.44	0.54	0.50		
1978	0.71	0.42	0.38	0.28	0.44	0.57	0.44	0.28	0.44	0.57	0.44	0.51		
1979	0.42	0.35	0.44	0.37	0.52	0.53	0.48	0.37	0.52	0.53	0.48	0.44		
1980	0.47	0.43	0.45	0.43	0.43	0.43	0.50	0.43	0.43	0.43	0.50	0.45		
1981	0.68	0.42	0.47	0.37	0.54	0.45	0.49	0.37	0.54	0.45	0.49	0.49		
1982	0.66	0.49	0.48	0.46	0.50	0.50	0.63	0.46	0.50	0.50	0.63	0.54		
1983	0.65	0.52	0.54	0.49	0.62	0.65	0.83	0.49	0.62	0.65	0.83	0.63		
Red drum														
1974	0.59	ND	1.13	1.23	ND	1.22	ND	1.23	ND	1.22	ND	0.97		
1975	ND	0.84	ND	ND	0.92	ND	0.84	ND	ND	ND	0.84	0.86		
1976	1.28	1.04	1.18	0.95	1.03	1.20	0.77	0.95	1.03	1.20	0.77	1.09		
1977	1.08	1.23	0.81	1.16	1.17	1.22	1.30	1.16	1.17	1.22	1.30	1.11		
1978	1.23	0.90	1.26	0.82	1.32	1.13	1.42	0.82	1.32	1.13	1.42	1.13		
1979	0.60	0.92	1.24	0.77	1.35	1.14	0.94	0.77	1.35	1.14	0.94	1.09		
1980	0.93	1.21	1.06	0.98	1.00	0.97	0.86	0.98	1.00	0.97	0.86	1.02		
1981	1.58	1.03	1.47	1.16	1.08	1.09	1.51	1.16	1.08	1.09	1.51	1.23		
1982	1.03	1.51	1.49	1.42	1.47	1.54	1.71	1.42	1.47	1.54	1.71	1.48		
1983	1.52	1.29	1.30	1.33	1.13	1.56	1.54	1.33	1.13	1.56	1.54	1.35		
Black drum														
1974	1.26	ND	1.16	0.50	ND	2.74	ND	0.50	ND	2.74	ND	1.32		
1975	ND	1.18	ND	ND	0.60	ND	0.79	ND	0.60	ND	0.79	0.74		
1976	0.78	0.42	0.54	0.74	0.72	0.77	0.88	0.74	0.72	0.77	0.88	0.70		
1977	0.91	0.47	0.79	0.34	0.77	1.14	0.79	0.34	0.77	1.14	0.79	0.82		
1978	1.28	1.67	1.03	0.22	1.26	2.66	1.65	0.22	1.26	2.66	1.65	0.83		

Table 12. (Cont'd.).

Year	Bay system										Coastwide total
	Galveston	Matagorda	San			Corpus Christi	Upper		Lower		
			Antonio	Aransas	Madre		Laguna	Madre	Laguna	Madre	
Black drum											
1979	0.37	0.46	0.39	0.50	0.65	0.46	0.58	0.45			
1980	0.44	0.42	0.40	0.38	0.82	0.64	0.40	0.50			
1981	0.69	0.40	0.53	0.54	0.59	0.56	2.39	0.75			
1982	1.33	0.38	0.70	0.35	0.46	0.78	1.55	0.88			
1983	0.69	0.54	0.84	0.74	0.67	1.16	1.99	0.72			
Southern flounder											
1974	0.46	ND	0.60	0.65	ND	0.72	ND	0.61			
1975	ND	0.98	ND	ND	0.81	ND	1.13	0.97			
1976	0.68	0.43	0.72	0.43	0.74	0.59	0.77	0.64			
1977	0.69	0.53	0.63	0.63	0.70	0.76	0.85	0.66			
1978	0.59	0.48	0.52	0.43	0.55	0.85	0.54	0.55			
1979	0.51	0.62	0.62	0.49	0.74	0.80	0.71	0.65			
1980	0.62	0.51	0.67	0.50	0.62	0.52	0.83	0.67			
1981	0.47	0.42	0.77	0.49	0.55	0.84	0.79	0.68			
1982	0.59	0.59	0.64	0.47	0.57	0.70	0.67	0.62			
1983	0.48	0.55	0.64	0.65	0.49	0.76	0.66	0.67			
Sheepshead											
1974	0.72	ND	0.86	0.65	ND	1.00	ND	0.78			
1975	ND	0.33	ND	ND	0.89	ND	0.87	0.56			
1976	0.77	1.03	1.05	0.59	0.86	0.65	0.97	0.84			
1977	0.86	0.67	0.92	0.68	0.61	1.11	0.70	0.83			
1978	0.79	0.55	0.84	0.60	0.76	1.24	0.83	0.70			
1979	0.87	0.69	1.00	0.66	1.01	0.93	0.74	0.85			
1980	0.51	0.29	0.61	0.53	0.62	1.05	0.71	0.56			
1981	0.82	0.50	0.93	0.82	0.90	0.88	0.90	0.74			
1982	0.92	0.41	1.13	0.82	0.91	1.16	0.53	0.89			
1983	0.79	0.60	0.99	1.01	0.97	1.11	0.91	0.87			

Table 12. (Cont'd.).

Year	Bay system										Coastwide total
	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre				
Atlantic croaker											
1974	0.20	ND	0.24	0.15	ND	0.35	ND	0.22			0.22
1975	ND	0.19	ND	ND	0.32	ND	0.41	0.34			0.34
1976	0.23	0.15	0.23	0.22	0.26	0.25	0.31	0.23			0.23
1977	0.22	0.13	0.39	0.27	0.21	0.30	0.23	0.22			0.22
1978	0.18	0.14	0.23	0.12	0.26	0.35	0.25	0.20			0.20
1979	0.21	0.28	0.30	0.10	0.24	0.24	0.23	0.21			0.21
1980	0.19	0.16	0.21	0.31	0.29	0.23	0.22	0.22			0.22
1981	0.17	0.15	0.12	0.34	0.28	0.28	0.21	0.24			0.24
1982	0.22	0.15	0.20	0.24	0.31	0.30	0.39	0.25			0.25
1983	0.24	0.16	0.17	0.34	0.21	0.33	0.26	0.25			0.25
Sand seatrout											
1974	0.37	ND	0.28	0.26	ND	0.33	ND	0.37			0.37
1975	ND	0.25	ND	ND	0.28	ND	0.27	0.27			0.27
1976	0.36	0.24	0.22	0.21	0.31	0.25	0.29	0.34			0.34
1977	0.37	0.26	0.24	0.20	0.38	0.48	0.30	0.35			0.35
1978	0.29	0.27	0.22	0.37	0.29	0.41	0.21	0.29			0.29
1979	0.20	0.23	0.21	0.26	0.29	0.35	0.27	0.21			0.21
1980	0.21	0.24	0.31	0.21	0.29	0.30	0.24	0.25			0.25
1981	0.26	0.17	0.26	0.21	0.27	0.33	0.31	0.26			0.26
1982	0.25	0.20	0.24	0.23	0.26	0.32	0.33	0.26			0.26
1983	0.24	0.23	0.28	0.26	0.34	0.36	0.47	0.29			0.29
Gafftopsail catfish											
1974	1.35	ND	1.39	0.92	ND		ND	1.32			1.32
1975	ND	0.59	ND	ND		ND		0.60			0.60
1976	2.06	1.24	1.11	1.52	1.52		0.22	1.51			1.51
1977	0.88	1.39	1.43	1.93	1.27			1.32			1.32
1978	1.26	1.45	0.91	1.51	1.24	2.42	0.83	1.36			1.36
1979	0.22	1.21	1.51	1.62	1.62	1.02		0.74			0.74
1980	0.92	1.27	0.67	1.37	1.17			1.13			1.13

Table 12. (Cont'd.).

Year	Bay system										Coastwide total
	Galveston	Matagorda	San Antonio		Aransas	Corpus Christi	Upper		Lower		
			Galveston	Matagorda			Laguna	Madre	Laguna	Madre	
Gafftopsail catfish											
1981	0.84	1.37	1.79	1.09	1.33		0.20	1.40			1.30
1982	0.72	0.98	1.72	0.96	0.77		0.20				0.93
1983		1.50	1.04	1.00	1.36		1.10				1.16
Other species											
1974	0.54	ND	0.63	0.24	ND		0.36	ND			0.50
1975	ND	0.34	ND	ND	0.43		ND	0.38			0.42
1976	0.62	0.25	1.04	0.37	0.26		0.13	1.69			0.60
1977	0.42	0.84	0.64	0.13	0.23		0.22	0.26			0.52
1978	1.22	0.40	0.74	0.49	0.22			0.35			0.95
1979	0.22	0.75	0.53	0.08	0.33		0.23	0.31			0.35
1980	0.24	0.52	1.46	0.25	0.25		0.20	0.26			0.33
1981	0.24	0.53	0.62	0.98	0.27		0.18	0.34			0.35
1982	0.31	0.81	0.53	0.41	0.24		0.21	1.59			0.38
1983	0.35	0.33	0.57	0.33	2.41		0.47	1.67			1.22

Table 13. (Cont'd.).

Year	Bay system											Coastwide total
	Galveston	Matagorda	San		Aransas	Corpus Christi	Upper		Lower			
			Antonio	Antonio			Laguna Madre	Laguna Madre	Laguna Madre	Laguna Madre		
Black drum												
1977	1.59	0.43	14.65	1.39	9.84					5.57		4.81
1978	1.98	2.08	1.40	0.84	6.98		1.56			6.08		2.99
1979	6.84	0.45	7.32	0.54	3.48		1.07			1.78		5.88
1980	0.60	0.52	3.36		5.86		0.90			0.50		3.00
1981	1.00	0.20	0.73	0.66	0.93		0.60			0.67		4.61
1982	1.18	0.62	0.65	2.00	0.49		1.08			0.88		0.85
1983	0.62	0.72	0.93	0.75	7.72		2.88			1.18		3.22
1984	1.90	0.53	0.77	0.40	1.34					0.50		1.18
Southern flounder												
1974	ND	ND	ND	ND	ND		ND			ND		ND
1975	0.63	ND	0.71	0.46	ND		0.79			ND		0.72
1976	ND	0.40	ND	ND	0.31		ND			0.68		0.39
1977	0.59	0.57	0.46	0.76	0.49					0.62		0.57
1978	0.46	0.48	0.56	0.62	0.35		0.65			0.89		0.53
1979	0.49	0.27	0.65	0.65	0.69		0.69			0.54		0.48
1980	0.50	0.50	0.16	0.56	0.49		0.65			0.42		0.48
1981	0.72	0.37	0.80	0.42	0.57		0.65			0.39		0.55
1982	0.67	0.46	0.50	0.46	0.62		0.53			0.57		0.59
1983	0.49	0.60	0.55	0.48	0.62		0.56			0.67		0.58
1984	0.51	0.26	0.58	0.59	0.51					0.72		0.47
Sheepshead												
1974	ND	ND	ND	ND	ND		ND			ND		ND
1975	0.68	ND	0.70	0.55	ND		1.54			ND		0.72
1976	ND	0.42	ND	ND	0.68		ND			1.25		0.77
1977	1.19	0.95		0.54	0.91		0.95			0.88		0.88
1978	0.93	0.42	0.54	0.50	0.86		0.95			0.74		0.71
1979	0.80	0.80	0.76	0.58	1.00		0.98			0.80		0.78
1980	0.97	0.85	0.74	1.03	1.03		1.28			0.62		0.78
1981	1.60	0.19	0.41	0.35	0.98		1.02			1.00		0.61

Table 13. (Cont'd.).

Year	Bay system										Coastwide total	
	San Antonio					Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		
	Galveston	Matagorda	Aransas	Aransas	Christi	Upper Laguna Madre	Lower Laguna Madre	Laguna Madre	Laguna Madre	Coastwide total		
Sheepshead												
1982	0.95	0.26	0.46	0.98	1.25	1.23	0.98	0.62				
1983	0.75	1.13	0.58	0.63	0.88	1.22	0.76	0.86				
1984	0.86	0.68	0.89	0.75	0.66		0.88	0.77				
Atlantic croaker												
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1975	0.17	ND	0.32	0.14	ND	0.25	ND	0.17				
1976	ND	ND	ND	ND	0.25	ND	0.20	0.21				
1977	0.26	0.11	0.28		0.22	0.18	0.30	0.20				
1978	0.25	0.25	0.22		0.29	0.34	0.21	0.27				
1979	0.15					0.22	0.19	0.21				
1980	0.10	0.13		0.11	0.18	0.29	0.21	0.13				
1981	1.00	0.07			0.26	0.33	0.21	0.23				
1982	0.25	0.14			0.21	0.29	0.38	0.39				
1983	0.28	0.20			0.23	0.21	0.13	0.18				
1984	0.09							0.09				
Sand seatrout												
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1975	0.27	ND	0.36	0.27	ND	0.54	ND	0.28				
1976	ND	ND	ND	ND	0.31	ND	0.39	0.31				
1977	0.30				0.35		0.38	0.35				
1978	0.33	0.23		0.26	0.76	0.79	0.32	0.35				
1979	0.30			0.25	0.49	0.38	0.34	0.31				
1980	0.25	0.20		0.40	0.26	0.50	0.33	0.28				
1981	0.30				0.31		0.20	0.30				
1982		0.36	0.22	0.28	0.31	0.35	0.40	0.32				
1983			0.15		0.35	0.30	0.45	0.35				
1984			0.38				0.40	0.39				

Table 13. (Cont'd.).

Year	Bay system											Coastwide total		
	Galveston			San Antonio		Aransas		Corpus Christi		Upper Laguna Madre			Lower Laguna Madre	
	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	Upper Laguna Madre	Lower Laguna Madre	Upper Laguna Madre	Lower Laguna Madre			
Gafftopsail catfish														
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1975	1.42	ND	1.20	1.41	ND	1.41	ND	1.25	ND	ND	ND	1.25	1.25	
1976	ND	1.79	ND	ND	1.28	ND	1.53	1.53	ND	ND	ND	1.53	1.53	
1977	1.73	1.67	1.29	1.35	0.97	1.38	1.38	1.38	0.97	ND	ND	1.38	1.38	
1978	1.31	1.15	1.21	0.83	1.50	1.26	1.26	1.26	1.50	ND	ND	1.26	1.26	
1979	1.25	1.56	0.85	1.22	1.47	1.26	1.26	1.26	1.47	ND	ND	1.26	1.26	
1980			1.34	2.13	1.59	1.75	1.75	1.75	1.59	ND	ND	1.75	1.75	
1981		0.70	1.08	2.21	1.34	1.13	1.13	1.13	1.34	ND	ND	1.13	1.13	
1982			1.08	2.21	1.34	1.29	1.29	1.29	1.34	ND	ND	1.29	1.29	
1983					1.65	1.65	1.65	1.65	1.65	ND	ND	1.65	1.65	
1984	1.11		1.57		1.44				1.44	ND	ND	1.44	1.44	
Other species														
1974	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1975	0.27	ND	0.41	0.62	ND	0.11	0.28	0.28	ND	0.11	ND	0.28	0.28	
1976	ND	0.25	ND	ND	0.39	ND	1.17	1.17	0.39	ND	3.93	1.17	1.17	
1977	6.84	0.25	0.25	0.45	0.32	0.29	0.37	0.37	0.32	0.29	0.29	0.37	0.37	
1978	0.52	0.28	0.28	0.35	0.30	0.22	0.48	0.48	0.30	0.22	0.22	0.48	0.48	
1979	0.25		0.53	0.20	0.38	0.31	0.31	0.31	0.38	2.03	2.03	0.31	0.31	
1980	0.21	1.11	1.09	0.20	0.30	0.23	0.55	0.55	0.30	0.33	0.33	0.55	0.55	
1981	0.30	9.55	0.35	0.09	0.38	0.28	0.67	0.67	0.38	0.28	0.28	0.67	0.67	
1982	0.34	0.15	0.42	0.44	0.38	0.20	0.37	0.37	0.38	0.45	0.45	0.37	0.37	
1983	0.30		0.51	0.19	0.28	0.34	0.29	0.29	0.28	0.25	0.25	0.29	0.29	
1984	0.26		0.38		0.93	0.49	0.31	0.31	0.93	0.76	0.76	0.31	0.31	

Table 14. Total pressure estimates in trip man-h (x 1000) for sport-boat fishing in pass areas by season (May 1982-May 1984).

Area	Season		Annual ^a total
	High use	Low use	
Galveston			
1982-83	228.6	13.9	242.5
1983-84	470.2	398.8	869.0
Matagorda			
1982-83	96.6	13.9	110.5
1983-84	88.2	13.3	101.5
Corpus Christi			
1982-83	74.4	39.0	113.4
1983-84	127.8	6.5	134.2
Lower Laguna Madre			
1982-83	1.8	0.1	1.9
1983-84	28.4	4.9	33.3
Coastwide total ^a			
1982-83	401.4	66.9	468.3
1983-84	714.7	423.3	1,138.0

^a Due to rounding of numbers, totals may not exactly equal individual totals

Table 15. Estimated annual harvest (No. X 1000) of fishes by species and area caught by sport-boat fishermen in the pass areas of Texas (May 1982-May 1984).

Species	Year	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide ^a total
Spotted seatrout						
	1982-83	40.9	6.9	8.3	0.3	56.4
	1983-84	28.0	13.0	8.5	7.0	56.5
Red drum						
	1982-83	2.8	1.4	2.0	0.0	6.2
	1983-84	1.9	3.5	3.7	2.5	11.6
Black drum						
	1982-83	3.6	0.8	0.6	0.0	5.0
	1983-84	3.3	1.4	1.5	0.1	6.3
Southern flounder						
	1982-83	17.5	0.4	2.0	0.2	20.1
	1983-84	21.9	1.1	7.7	2.2	33.0
Sheepshead						
	1982-83	10.3	2.5	18.2	0.0	31.0
	1983-84	9.5	2.6	3.3	0.4	15.7
Atlantic croaker						
	1982-83	5.0	0.3	1.8	0.0	7.1
	1983-84	30.2	0.2	19.6	0.3	50.4
Sand seatrout						
	1982-83	48.5	3.9	11.0	0.9	64.3
	1983-84	46.1	1.1	2.4	0.8	50.5
Gafftopsail catfish						
	1982-83	0.7	0.4	0.2	0.0	1.3
	1983-84	0.1	2.3	0.1	<.1	2.5
Other						
	1982-83	0.2	2.6	3.6	0.2	15.6
	1983-84	6.6	7.7	14.1	1.0	29.2

Table 15. (Cont'd.).

Species	Year	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide ^a total
All species combined ^a						
	1982-83	138.5	19.1	47.6	1.6	206.8
	1983-84	147.6	32.9	60.9	14.3	255.7

^a Due to rounding of numbers, totals may not exactly equal individual species totals.

Table 16. Estimated harvest (No. X 1000) of fishes for the high use season (15 May-20 Nov) by species and area caught by sport-boat fishermen in the pass areas of Texas (May 1982-May 1984).

Species	Year	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide ^a total
Spotted seatrout						
	1982	40.9	6.2	7.6	0.3	55.0
	1983	27.9	12.6	8.4	6.3	55.3
Red drum						
	1982	2.8	1.2	1.5	0.0	5.5
	1983	1.7	1.7	3.6	2.4	9.5
Black drum						
	1982	3.1	0.2	0.4	0.0	3.7
	1983	2.2	0.4	1.4	0.1	4.1
Southern flounder						
	1982	16.9	0.4	2.0	0.2	19.5
	1983	21.9	1.1	7.7	2.2	32.9
Sheepshead						
	1982	6.7	0.7	0.6	0.0	8.0
	1983	9.2	1.7	0.5	0.4	11.7
Atlantic croaker						
	1982	5.0	0.3	0.4	0.0	5.7
	1983	30.2	0.2	7.2	0.3	37.9
Sand seatrout						
	1982	48.5	3.7	7.1	0.9	60.2
	1983	13.9	1.0	1.2	0.8	17.0
Gafftopsail catfish						
	1982	0.7	0.2	0.1	0.0	1.0
	1983	0.1	1.9	<.1	<.1	2.0
Other						
	1982	9.2	2.0	3.1	0.2	14.5
	1983	6.5	7.2	7.0	1.0	21.6

Table 16. (Cont'd.).

Species	Year	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide ^a total
All species combined ^a						
	1982	133.7	15.1	22.7	1.6	173.1
	1983	113.6	27.8	37.0	13.5	192.0

^a Due to rounding of numbers, totals may not exactly equal individual species totals.

Table 17. Estimated harvest (No. X 1000) of fishes for the low use season (21 Nov-14 May) by species and area caught by sport-boat fishermen in the pass areas of Texas (May 1982-May 1984).

Species	Year	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide ^a total
Spotted seatrout						
	1983	0.0	0.6	0.8	0.0	1.4
	1984	<.1	0.4	0.1	0.6	1.1
Red drum						
	1983	0.0	0.2	0.5	0.0	0.7
	1984	0.2	1.8	<.1	<.1	2.1
Black drum						
	1983	0.5	0.6	0.2	0.0	1.3
	1984	1.1	1.0	0.1	<.1	2.2
Southern flounder						
	1983	0.7	<.1	<.1	0.0	0.9
	1984	0.0	<.1	0.0	0.0	<.1
Sheepshead						
	1983	3.7	1.8	17.6	0.0	23.1
	1984	0.2	0.9	2.8	0.0	3.9
Atlantic croaker						
	1983	0.0	<.1	1.3	0.0	1.4
	1984	0.0	0.0	12.5	0.0	12.5
Sand seatrout						
	1983	0.0	0.2	3.9	0.0	4.1
	1984	32.2	<.1	1.2	0.0	33.5
Gafftopsail catfish						
	1983	0.0	0.2	0.1	0.0	0.3
	1984	<.1	0.4	0.1	0.0	0.5
Other						
	1983	0.0	0.4	0.5	0.0	0.9
	1984	0.3	0.5	7.1	0.1	8.1

Table 17. (Cont'd.).

Species	Year	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide ^a total
All species combined ^a						
	1983	4.8	4.0	24.9	0.0	33.7
	1984	34.0	5.1	23.9	0.8	63.9

^aDue to rounding of numbers, totals may not exactly equal individual species totals.

Table 18. Mean catch rates (No./man-h) and mean weights of fishes (kg) caught by sport-boat fishermen during the high use season (15 May-20 Nov) by species and area caught in the pass areas in Texas marine waters. Blank = no fish weighed.

Species Year	Pass area						Lower	
	Galveston No./man-h	Kg	Matagorda No./man-h	Kg	Corpus Christi No./man-h	Kg	Laguna Madre No./man-h	Kg
Spotted seatrout								
1978	0.06	0.85	0.08	0.63	0.44	0.37	0.00	0.00
1979	0.20	0.75	0.28	0.62	0.19	0.40	0.00	0.00
1980	0.12	0.78	0.17	0.59	0.03	0.65	0.00	0.00
1981	0.16	0.80	0.33	0.58	0.15	0.60	0.00	0.00
1982	0.17	0.84	0.18	0.78	0.15	0.60	0.08	0.53
1983	0.06	0.87	0.14	0.86	0.07	0.64	0.22	1.10
Red drum								
1978	0.01	5.26	0.01	3.87	0.00		0.00	0.00
1979	0.01	3.82	0.04	3.36	0.01	0.53	0.00	0.00
1980	0.03	2.72	0.05	2.53	0.06	1.77	0.02	8.15
1981	0.01	3.21	0.02	2.66	0.02	1.77	0.00	0.00
1982	0.01	2.50	0.04	2.74	0.02	1.89	0.00	0.00
1983	<.01	2.75	0.02	2.43	0.03	1.55	0.09	1.99
Black drum								
1978	0.01	1.41	0.01	0.43	0.00		0.00	0.00
1979	<.01	1.02	0.01	0.94	0.00		0.00	0.00
1980	0.01	1.18	0.01	2.89	<.01		0.00	0.00
1981	0.01	1.00	<.01	1.46	<.01	1.92	0.00	0.00
1982	0.02	1.45	0.01	1.12	0.01	1.94	0.00	0.00
1983	0.01	1.52	<.01	1.31	0.01	1.00	<.01	1.37
Southern flounder								
1978	0.07	0.75	0.01	0.55	0.15	0.96	0.00	0.00
1979	0.05	0.44	0.02	0.85	0.01	0.91	0.00	0.00
1980	0.02	0.53	<.01	0.47	0.08	0.38	0.00	0.00
1981	0.02	0.69	0.01	0.71	0.02	0.82	0.00	0.00

Table 18. (Cont'd.).

Species Year	Pass area							
	Galveston		Matagorda		Corpus Christi		Lower Laguna Madre	
	No./man-h	Kg	No./man-h	Kg	No./man-h	Kg	No./man-h	Kg
Southern flounder								
1982	0.05	0.64	0.01	0.63	0.03	0.34	0.06	0.49
1983	0.05	0.55	0.01	0.50	0.06	0.50	0.08	0.72
Sheepshead								
1978	0.05	0.64	0.07	0.58	0.03	0.63	0.00	
1979	0.05	0.67	0.02	0.42	0.33	0.53	0.00	
1980	0.06	0.79	0.07	0.70	0.02	1.08	0.06	0.30
1981	0.02	0.76	0.02	0.66	0.11	0.65	0.00	
1982	0.03	0.78	0.02	0.84	0.02	0.91	0.00	
1983	0.02	0.77	0.02	0.84	<.01	0.68	0.01	0.93
Atlantic croaker								
1978	0.06	0.25	<.01	0.13	0.01	0.22	0.00	
1979	0.03	0.16	0.01	0.25	0.02	0.27	0.00	
1980	0.03	0.13	0.06	0.33	0.32	0.29	0.00	
1981	0.03	0.18	<.01	0.41	0.04		0.00	
1982	0.03	0.22	0.02	0.27	0.02	0.37	0.00	
1983	0.06	0.18	<.01	0.25	0.06	0.37	0.01	0.29
Sand seatrout								
1978	0.20	0.22	<.01	0.45	0.55	0.25	0.00	
1979	0.10	0.26	0.19	0.29	0.04	0.14	0.00	
1980	0.07	0.24	0.06	0.34	0.32	0.22	0.00	
1981	0.20	0.28	0.05	0.42	0.08	0.29	0.00	
1982	0.26	0.25	0.09	0.27	0.60	0.26	0.50	0.27
1983	0.03	0.25	0.01	0.32	0.01	0.31	0.03	0.32

Table 18. (Cont'd.).

Species Year	Pass area								Lower	
	Galveston		Matagorda		Corpus Christi		Laguna Madre		Kg	
	No./man-h	Kg	No./man-h	Kg	No./man-h	Kg	No./man-h	Kg		
Gafftopsail catfish										
1978	<.01	1.64	0.02	0.90	0.00				0.00	
1979	<.01	0.91	0.00		0.00				0.00	
1980	0.01	1.20	0.01	0.93	0.00				0.00	
1981	<.01	1.30	0.01	1.10	<.01	1.30			0.00	
1982	0.00	0.97	0.01	0.79	0.01	0.83			0.00	
1983	0.00	0.46	0.02	0.91	<.01	1.51			<.01	0.87
Other										
1978	0.03	0.47	0.03	10.79	0.01	0.22			0.00	
1979	0.09	0.57	0.04	1.24	0.07	0.45			0.00	
1980	0.07	0.39	0.04	1.09	0.07	1.76			0.49	0.69
1981	0.07	0.41	0.03	1.56	0.17	1.59			0.00	
1982	0.06	0.37	0.07	0.96	0.30	0.31			0.15	1.57
1983	0.01	1.00	0.08	2.76	0.05	0.36			0.04	13.89
All species combined ^a										
1978	0.48		0.23		1.19				0.00	
1979	0.53		0.60		0.67				0.00	
1980	0.41		0.48		0.93				0.58	
1981	0.51		0.48		0.59				0.00	
1982	0.63		0.45		1.14				0.79	
1983	0.24		0.32		0.29				0.47	

^aDue to rounding of numbers, these totals may not exactly equal individual species totals.

Table 19. (Cont'd.).

Species Year	Pass area							
	Galveston		Matagorda		Corpus Christi		Lower Laguna Madre	
	No./man-h	Kg	No./man-h	Kg	No./man-h	Kg	No./man-h	Kg
Southern flounder								
1978	0.01	0.49	0.00		0.00		0.00	0.00
1979	0.01	0.47	0.00		0.00		0.00	0.00
1980	0.01	0.82	0.00		0.00		0.00	0.00
1981	0.00		0.00		0.00		0.00	0.00
1982	0.00		0.01		<.01		<.01	0.00
1983	0.03		<.01		<.01		<.01	0.00
1984	0.00		<.01	1.17	0.00		0.00	0.00
Sheepshead								
1978	<.01	0.84	0.19	0.48	0.00		0.00	0.00
1979	<.01	1.81	0.09	0.80	0.47	0.54	0.00	0.00
1980	<.01	1.55	0.18	0.84	0.46	0.66	0.00	0.00
1981	0.02	0.85	0.59	0.84	1.11	0.60	0.00	0.00
1982	0.02	0.95	0.16	0.78	0.01		0.00	0.00
1983	0.31		0.33	0.89	1.58	1.03	0.00	0.00
1984	<.01	0.90	0.07	0.92	0.43		0.00	0.00
Atlantic croaker								
1978	<.01		0.01		0.00		0.00	0.00
1979	0.02	0.21	0.00		0.00		0.00	0.00
1980	0.02	0.11	0.00		0.00		0.00	0.00
1981	0.00		0.00		0.00		0.00	0.00
1982	0.17	0.12	0.00		0.00		0.00	0.00
1983	0.00		<.01	0.50	0.05	0.29	0.00	0.00
1984	0.00		0.00		1.90	0.31	0.00	0.00
Sand seatrout								
1978	<.01	0.31	0.00		0.00		0.00	0.00
1979	0.48	0.26	0.00		0.00		0.00	0.00
1980	0.14	0.23	0.01	0.27	0.05	0.41	0.00	0.00

Table 19. (Cont'd.).

Species Year	Pass area							
	Galveston		Matagorda		Corpus Christi		Lower Laguna Madre	
	No./man-h	Kg	No./man-h	Kg	No./man-h	Kg	No./man-h	Kg
Sand seatrout								
1981	0.16		0.00		0.00		0.00	0.00
1982	0.00		0.16	0.40	0.07	0.22		0.00
1983	0.00		0.03	0.23	0.19	0.28		0.00
1984	0.08	0.27	<.01	0.49	0.18	0.50		0.00
Gafftopsail catfish								
1978	0.05	1.59	0.01	1.64	0.00			0.00
1979	0.01	1.87	0.04	1.48	0.05	0.70		0.00
1980	0.00		0.02	1.07	0.00			0.00
1981	0.01	0.40	0.00		0.00			0.00
1982	0.00		0.02	1.75	0.01	1.63		0.00
1983	0.00		0.02	1.20	<.01	0.48		0.00
1984	<.01	1.10	0.03	1.71	0.01	1.05		0.00
Other								
1978	0.01		0.01	0.45	0.00			0.00
1979	0.02	0.32	<.01		0.09	6.24		0.00
1980	0.02	0.28	0.13	0.31	0.04	0.38		0.00
1981	0.01	9.80	0.00		0.00			0.00
1982	0.00		0.05	0.35	0.05	0.32		0.00
1983	0.00		0.08	0.35	0.04	0.29		0.00
1984	0.00	0.12	0.04	0.40	1.10	0.50		0.04
All species combined ^a								
1978	0.12		0.24		0.00			0.00
1979	0.54		0.20		0.59			0.00
1980	0.20		0.51		0.63			0.00
1981	0.24		0.90		1.42			0.00

Table 19. (Cont'd.).

Species Year	Pass area				Lower			
	Galveston No./man-h	Kg	Matagorda No./man-h	Kg	Corpus Christi No./man-h	Kg	Laguna Madre No./man-h	Kg
All species combined ^a								
1982	0.34		0.53		0.25		0.00	
1983	0.36		0.60		1.96		0.00	
1984	0.09		0.39		0.37		0.17	

^aDue to rounding of numbers, these totals may not exactly equal individual species totals.

Table 20. Total pressure estimates in trip man-h (x 1000) for sport-boat fishing in the Gulf of Mexico off Texas by season and area (May 1982-May 1984).

Area	Season		Annual ^a total
	High use	Low use	
Galveston			
1982-83	128.3	5.4	133.7
1983-84	178.9	0.0	178.9
Matagorda			
1982-83	111.4	7.0	118.4
1983-84	40.5	7.0	47.5
Corpus Christi			
1982-83	159.9	6.9	166.8
1983-84	212.5	27.9	240.5
Lower Laguna Madre			
1982-83	29.3	0.4	29.7
1983-84	25.1	19.5	44.6
Coastwide total^a			
1982-83	428.8	19.7	448.5
1983-84	457.1	45.6	511.5

^a Due to rounding of numbers, totals may not exactly equal individual totals

Table 21. Estimated annual harvest (No. X 1000) of fishes by species and area caught by sport-boat fishermen in the Gulf of Mexico off Texas.

Species	Year	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide ^a total
Spotted seatrout						
	1982-83	1.4	0.8	0.1	0.2	2.5
	1983-84	0.0	3.1	<.1	0.1	3.2
Red drum						
	1982-83	0.0	0.1	<.1	0.0	0.2
	1983-84	0.0	0.5	<.1	<.1	0.5
King mackerel						
	1982-83	13.4	4.2	4.5	1.2	23.3
	1983-84	1.2	2.2	17.0	0.7	21.1
Spanish mackerel						
	1982-83	2.5	0.8	0.3	<.1	3.7
	1983-84	0.7	0.6	0.8	0.3	2.4
Red snapper						
	1982-83	12.1	15.5	2.2	11.3	41.1
	1983-84	26.8	9.9	3.1	10.2	49.9
Atlantic croaker						
	1982-83	0.5	0.2	0.2	0.6	1.5
	1983-84	0.2	0.1	0.0	0.0	0.3
Sand seatrout						
	1982-83	34.0	33.3	3.2	1.0	71.5
	1983-84	0.5	13.0	<.1	<.1	13.6
Cobia						
	1982-83	0.6	0.5	0.1	0.1	1.3
	1983-84	0.4	0.1	0.1	0.1	0.7
Other						
	1982-83	5.8	3.4	3.7	1.2	14.1
	1983-84	8.9	3.6	7.0	2.6	22.4

Table 21. (Cont'd.).

Species	Year	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide ^a total
All species combined ^a						
	1982-83	70.3	58.7	14.4	15.6	159.0
	1983-84	38.7	33.1	28.1	14.1	114.1

^aDue to rounding of numbers, totals may not exactly equal individual species totals.

Table 22. Estimated harvest (No. X 1000) of fishes for the high use season (15 May-20 Nov) by species and area caught by sport-boat fishermen in the Gulf of Mexico off Texas.

Species	Year	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide ^a total
Spotted seatrout						
	1982	1.4	0.8	0.1	0.2	2.5
	1983	0.0	3.1	0.0	0.1	3.2
Red drum						
	1982	0.0	0.1	<.1	0.0	0.2
	1983	0.0	0.4	0.0	0.0	0.4
King mackerel						
	1982	13.4	4.2	4.5	1.2	23.3
	1983	1.3	2.2	17.0	0.7	21.1
Spanish mackerel						
	1982	2.5	0.8	0.3	<.1	3.7
	1983	0.7	0.6	0.8	0.3	2.4
Red snapper						
	1982	9.5	10.3	1.9	11.2	32.9
	1983	26.8	7.4	3.1	10.2	47.4
Atlantic croaker						
	1982	0.3	0.1	0.2	0.6	1.2
	1983	0.2	0.1	0.0	0.0	0.3
Sand seatrout						
	1982	0.2	28.7	3.2	1.0	33.1
	1983	0.5	0.8	<.1	<.1	1.4
Cobia						
	1982	0.6	0.5	0.1	0.1	1.3
	1983	0.4	0.1	0.1	0.1	0.7
Other						
	1982	5.6	2.9	3.5	1.2	13.2
	1983	8.8	2.6	7.1	2.6	21.2

Table 22. (Cont'd.).

Species	Year	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide ^a total
All species combined ^a						
	1982	33.5	48.3	13.8	15.4	111.0
	1983	38.7	17.3	28.1	14.0	98.1

^aDue to rounding of numbers, totals may not exactly equal individual species totals.

Table 23. Estimated harvest (No. X 1000) of fishes for the low use season (21 Nov-14 May) by species and area caught by sport-boat fishermen in the Gulf of Mexico off Texas.

Species	Year	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide ^a total
Spotted seatrout						
	1983	0.0	0.1	0.0	0.0	0.1
	1984	0.0	0.0	0.0	0.0	0.0
Red drum						
	1983	0.0	<.1	0.0	0.0	<.1
	1984	0.0	0.1	0.0	0.1	0.2
King mackerel						
	1983	0.0	0.0	0.0	0.0	0.0
	1984	0.0	0.0	0.0	0.0	0.0
Spanish mackerel						
	1983	0.0	<.1	0.0	0.0	<.1
	1984	0.0	0.0	0.0	0.0	0.0
Red snapper						
	1983	2.6	5.1	0.3	0.1	8.1
	1984	0.0	2.5	0.0	0.0	2.5
Atlantic croaker						
	1983	0.1	0.1	0.0	0.0	0.2
	1984	0.0	<.1	0.0	0.0	<.1
Sand seatrout						
	1983	33.8	4.6	0.0	0.0	38.4
	1984	0.0	12.2	0.0	0.0	12.2
Cobia						
	1983	0.0	0.0	0.0	0.0	0.0
	1984	0.0	0.0	0.0	0.0	0.0
Other						
	1983	0.1	0.5	0.3	0.0	0.9
	1984	0.0	1.1	0.0	0.0	1.1

Table 23. (Cont'd.).

Species	Year	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide ^a total
All species combined ^a						
	1983	36.7	10.4	0.6	0.1	47.8
	1984	0.0	15.9	0.0	0.1	16.0

^aDue to rounding of numbers, totals may not exactly equal individual species totals.

Table 24. Mean catch rates (No./man-h) and mean weights (kg) of fishes caught by sport-boat fishermen by species and area in the Gulf of Mexico during the high use season (15 May-20 Nov). Blank = no fish weighed.

Species Year	Gulf of Mexico							
	Galveston		Matagorda		Corpus Christi		Lower Laguna Madre	
	No./man-h	Kg	No./man-h	Kg	No./man-h	Kg	No./man-h	Kg
Spotted seatrout								
1978	0.00		<.01	0.62	0.00		0.00	
1979	0.00		0.00		0.02	0.40	0.00	
1980	<.01	0.60	0.03	0.67	<.01	0.49	0.00	
1981	<.01	0.40	0.01	0.71	.00		0.01	
1982	0.02	0.77	0.03	0.63	<.01	0.69	0.01	0.59
1983	0.00		0.08	0.82	<.01	1.26	<.01	1.38
Red drum								
1978	<.01	2.98	0.00		<.01	8.97	0.00	
1979	0.00		<.01	10.21	<.01	10.91	0.00	
1980	<.01		0.01	1.11	<.01	11.25	0.00	
1981	0.00		0.00	5.17	<.01	5.36	<.01	11.46
1982	0.00		<.01	1.34	<.01	1.20	0.00	
1983	0.00		0.01	2.27	0.00		0.00	
King mackerel								
1978	0.02	6.86	0.09	5.78	0.05	6.37	0.08	4.18
1979	0.01	3.65	0.10	4.56	0.08	5.86	0.09	4.00
1980	0.08	4.57	0.10	4.06	0.10	4.17	0.14	2.50
1981	0.01	5.44	0.10	4.88	0.11	5.07	0.13	3.65
1982	0.05	5.87	0.09	6.05	0.06	5.98	0.03	4.01
1983	0.01	6.91	0.06	9.82	0.08	9.75	0.03	10.30
Spanish mackerel								
1978	<.01	1.34	0.01	0.85	0.10	0.68	0.00	
1979	0.10	0.43	0.01	1.11	0.02	1.42	0.07	0.46
1980	0.03	1.17	0.01	0.77	0.02	0.45	0.00	
1981	0.02	0.84	0.02	1.40	0.01	0.82	0.02	0.85

Table 24. (Cont'd.).

Species Year	Gulf of Mexico							
	Galveston		Matagorda		Corpus Christi		Lower Laguna Madre	
	No./man-h	Kg	No./man-h	Kg	No./man-h	Kg	No./man-h	Kg
Spanish mackerel								
1982	0.01	0.95	<.01	1.13	<.01	0.54	<.01	
1983	<.01	1.48	0.02	1.09	<.01	1.18	0.01	1.63
Red snapper								
1978	0.10	0.38	0.01	0.52	<.01	0.05	0.25	0.51
1979	0.17	0.43	0.08	0.88	<.01	0.85	0.00	
1980	0.14	0.45	0.18	1.06	0.01	1.73	0.33	
1981	0.15	0.21	0.16	0.41	0.03	0.38	0.14	
1982	0.11	0.44	0.10	0.47	0.02	0.54	0.59	0.86
1983	0.15	0.45	0.18	0.77	0.02	0.42	0.41	0.60
Atlantic croaker								
1978	0.00		0.00		0.02	0.22	0.00	
1979	0.02	0.13	<.01	0.36	<.01	0.19	0.00	
1980	<.01	0.50	<.01	0.32	<.01	0.31	0.00	
1981	0.00		0.01	0.13	0.00		0.00	
1982	0.01		<.01	0.54	<.01	0.21	0.02	
1983	<.01	0.14	<.01	0.44	0.00		0.00	
Sand seatrout								
1978	0.02	0.34	0.01	0.42	0.02	0.24	0.00	
1979	0.03	0.31	0.04	0.40	0.05	0.29	0.00	
1980	0.02	0.26	0.14	0.37	0.01	0.23	0.01	0.22
1981	0.00		0.06	0.43	<.01	0.24	0.01	
1982	<.01	0.45	0.11	0.34	0.04	0.25	0.05	0.40
1983	<.01	0.26	0.02	0.45	<.01	0.34	<.01	

Table 24. (Cont'd.).

Species Year	Gulf of Mexico								Lower Laguna Madre	
	Galveston No./man-h	Kg	Matagorda No./man-h	Kg	Corpus Christi No./man-h	Kg	Corpus Christi No./man-h	Kg	Laguna Madre No./man-h	Kg
Cobia										
1978	0.02	2.49	0.01	2.84	0.01	11.36	0.01	11.36	0.00	0.00
1979	0.01	10.93	<.01	9.51	<.01	9.18	<.01	9.18	0.00	0.00
1980	0.01	7.26	<.01	7.58	<.01	4.05	<.01	4.05	0.00	0.00
1981	0.01	4.58	0.01	10.44	<.01	5.19	<.01	5.19	0.00	0.00
1982	<.01	10.67	0.01	6.72	<.01	9.38	<.01	9.38	<.01	5.10
1983	<.01	14.41	<.01	17.89	<.01	15.01	<.01	15.01	<.01	6.43
Other										
1978	0.06	1.09	0.06	2.72	0.03	2.90	0.03	2.90	0.06	2.74
1979	0.12	0.97	0.07	1.77	0.03	3.26	0.03	3.26	0.15	6.81
1980	0.07	2.22	0.04	3.84	0.05	3.26	0.05	3.26	0.06	68.25
1981	0.19	0.58	0.07	6.45	0.04	3.92	0.04	3.92	0.05	2.82
1982	0.07	1.19	0.06	1.63	0.05	2.17	0.05	2.17	0.04	2.86
1983	0.05	4.62	0.06	2.67	0.03	9.23	0.03	9.23	0.11	
All species combined ^a										
1978	0.22		0.18		0.13		0.13		0.39	
1979	0.45		0.31		0.21		0.21		0.31	
1980	0.35		0.51		0.20		0.20		0.54	
1981	0.38		0.44		0.20		0.20		0.35	
1982	0.27		0.39		0.18		0.18		0.75	
1983	0.22		0.43		0.13		0.13		0.56	

^aDue to rounding of numbers, these totals may not exactly equal individual species totals.

Table 25. Mean catch rates (No./man-h) and mean weights (kg) of fishes caught by sport-boat fishermen by species and area in the Gulf of Mexico during the low use season (21 Nov-14 May). Blank = no fish weighed.

Species Year	Gulf of Mexico							
	Galveston		Matagorda		Corpus Christi		Lower Laguna Madre	
	No./man-h	Kg	No./man-h	Kg	No./man-h	Kg	No./man-h	Kg
Spotted seatrout								
1978	0.00		0.00		0.00		0.35	0.45
1979	0.00		0.01	0.79	0.00		0.00	
1980	0.00		0.00		0.00		0.00	
1981	0.00		0.00		0.00		0.00	
1982	0.00		0.00		0.00		0.00	
1983	0.00		0.02	0.84	0.00		0.00	
1984	0.00		0.00		0.00		0.00	
Red drum								
1978	0.00		<.01	12.84	0.00		0.00	
1979	0.02	11.36	<.01	4.31	0.00		0.00	
1980	0.01	1.82	0.00		0.00		0.00	
1981	0.00		0.00		0.06	3.70	0.00	
1982	0.00		0.01		0.00		0.00	
1983	0.00		0.01	2.02	0.00		0.00	
1984	0.00		0.02	1.59	0.00		<.01	2.25
King mackerel								
1978	0.00		0.00		0.00		0.01	5.91
1979	0.00		0.00		0.00		0.00	
1980	0.05	5.18	0.01	5.95	0.00		0.00	
1981	0.00		0.00		0.00		0.00	
1982	0.00		0.00		0.01	9.37	0.00	
1983	0.00		0.00		0.00		0.00	
1984	0.00		0.00		0.00		0.00	

Table 25. (Cont'd.).

Species Year	Gulf of Mexico								Lower Laguna Madre No./man-h Kg
	Galveston No./man-h	Kg	Matagorda No./man-h	Kg	Corpus Christi No./man-h	Kg	Christi No./man-h	Kg	
Spanish mackerel									
1978	0.00		0.00		0.00		0.00		0.00
1979	0.00		0.00		0.47		0.42		0.00
1980	0.00		0.00		0.00				0.00
1981	0.00		0.00		0.00				0.00
1982	0.00		0.00		0.01		0.25		0.00
1983	0.00		<.01	0.30	0.00				0.00
1984	0.00		0.00		0.00				0.00
Red snapper									
1978	0.00		0.02	0.77	0.00				0.00
1979	1.08	0.32	0.11	0.82	0.00				0.00
1980	0.00		0.37	0.91	0.00				2.14
1981	0.00		0.03		0.00				0.00
1982	0.00		0.42	0.28	0.00				0.03
1983	0.49		0.79	0.46	0.14				0.28
1984	0.00		0.35	0.72	0.00				0.00
Atlantic croaker									
1978	0.00		0.00		0.00				0.00
1979	0.00		0.00		0.00				0.00
1980	0.00		0.00		0.00				0.00
1981	0.14	0.40	0.00		0.00				0.00
1982	0.00		0.00		0.00				0.00
1983	0.03	0.35	0.02	0.39	0.00				0.00
1984	0.00		<.01	0.25	0.00				0.00
Sand seatrout									
1978	0.00		0.00		0.00				0.00
1979	0.10	0.21	0.41		0.00				0.00
1980	0.03	0.24	0.17	0.42	0.00				0.00

Table 25. (Cont'd.).

Species Year	Gulf of Mexico							
	Galveston		Matagorda		Corpus Christi		Lower Laguna Madre	
	No./man-h	Kg	No./man-h	Kg	No./man-h	Kg	No./man-h	Kg
Sand seatrout								
1981	0.00		2.47	0.30	0.00		0.00	0.00
1982	0.00		1.84	0.38	0.00		0.00	0.00
1983	6.24		1.82	0.40	0.00		0.00	0.00
1984	0.00		1.75	0.42	0.00		0.00	0.00
Cobia								
1978	0.00		<.01		0.00		0.00	0.00
1979	0.00		0.00		0.00		0.00	0.00
1980	0.02	6.80	0.00		0.00		0.00	0.00
1981	0.00		0.00		0.00		0.00	0.00
1982	0.00		0.00		<.01	10.66	0.00	0.00
1983	0.00		0.00		0.00		0.00	0.00
1984	0.00		0.00		0.00		0.00	0.00
Other								
1978	0.03	1.59	0.08	13.31	0.23	0.95	0.13	31.87
1979	0.06	0.63	0.10	0.30	0.01	14.55	0.00	
1980	0.01		0.02	3.78	0.01		0.00	
1981	1.29	0.47	0.00		0.00		0.00	
1982	0.00		0.15	5.56	0.05	8.85	0.00	
1983	0.03		0.12	0.67	0.06	2.77	0.00	
1984	0.00		0.16	1.35	0.00		0.01	2.50
All species combined ^a								
1978	0.03		0.10		0.23		0.50	
1979	1.25		0.63		0.49		0.00	
1980	0.11		0.57		0.01		2.14	
1981	1.43		2.50		0.06		0.00	
1982	0.00		2.41		0.08		0.03	

Table 25. (Cont'd.).

Species Year	Gulf of Mexico				Lower Laguna Madre	
	Galveston No./man-h	Kg	Matagorda No./man-h	Kg	Corpus Christi No./man-h	Kg
All species combined ^a						
1983	6.78		2.78		0.20	0.28
1984	0.00		2.27		0.00	0.01

^aDue to rounding of numbers, these totals may not exactly equal individual species totals.

Appendix A. Boat use access points.

Table A.1. Boat use area access points in Texas bay systems (May 1974-May 1984). Bold type designates sites with wet slips or dry storage.

Bay system	Minor Bay	Station number		Latitude	Longitude	Station identification
		In use	Deleted			
Galveston			(1)			(Cedar Bayou Outflow - Deleted 12/1/77)
	330	3	(2)	29°41'00"	94°52'00"	(Woodall's - Deleted 7/26/81)
	180	4		29°40'56"	94°56'09"	Crawleys Ramp - Members only
	330	5		29°43'20"	94°56'35"	Thompson's Ramp
	312	6		29°42'38"	95°00'24"	Roseland Park Ramp
	180	7		29°41'09"	94°59'03"	Tabb's Bay Ramp
	180	8		29°38'55"	95°00'42"	Morgan's Point Ramp
			(9)			Sylvan Beach Ramp
						(Oddo's - Deleted 9/1/80)
	111	10				State Boat Ramp Clear Creek Channel
	180	11		29°30'44"	94°58'39"	Galveston County Park Ramp (Bacliff)
	180	12		29°30'23"	94°57'26"	HL&P Galveston County Park Ramp
	180	13		29°29'47"	94°54'58"	San Leon Marina Ramp
	180	14		29°29'46"	94°54'36"	Eagle Point Camp Ramp
	180	15		29°28'19"	94°55'32"	April Fool Point lift (includes 35 wet slips)
	141	16		29°28'51"	94°56'10"	Marge's Bait Camp Ramp
			(17)			(Fiesta Marina-Deleted 11/20/82)
	241	18		29°35'13"	94°55'39"	Lakeway Ramp and Simpson's Ramp
			(19)			(White Heron Resorts - Deleted 8/31/75)
			(20)			(Moses Lake Bait Camp - Deleted 11/21/82)
	241	21		29°23'28"	94°53'12"	Mowles Camp Ramp
	180	22				C.C. Camp Ramp
			(23)			(Dollar Pt. Public Ramp - Deleted 8/31/75)
	180	24		29°23'20"	94°53'03"	Rilat's Ramp
						Dub's Ramp
	180	25		29°23'20"	94°53'01"	Curll's Ramp
	180	26		29°23'09"	94°52'21"	Public Ramp (Texas City Dike)
	180	27		29°23'00"	94°51'56"	Public Ramp (Texas City Dike)
	180	28		29°22'54"	94°50'51"	Public Ramp (Texas City Dike)
	180	29		29°22'00"	94°48'59"	Texas City Dike Marina Ramps
	201	30		29°18'23"	94°54'22"	Jones Lake State Boat Ramp
			(31)			(Intracoastal Inn - Deleted 9/1/78)
			(32)			(Terry's Lucky 7 - Deleted 10/1/79)
201	33		29°19'50"	94°56'39"	Kelly's Ramp (includes rent boats)	

Table A.1. (Cont'd.).

Bay system	Minor Bay	Station number		Latitude	Longitude	Station identification
		In use	Deleted			
Galveston	201	34		29°19'54"	94°56'47"	Louis' Ramp (includes rent boats)
	191	35		29°17'06"	95°07'41"	Hall's Bayou Camp Ramp
	100	37	(36)	29°15'11"	95°13'58"	(Snug Harbor Marina - Deleted 12/1/78)
	100	38		29°13'43"	95°12'31"	Lute's Marina Boat Lift
	50	39		29°05'24"	95°16'39"	Chocolate Bay State Boat Ramp
	50	40		29°05'37"	95°17'00"	Marlin Marina Ramp
	50	41		29°04'53"	95°17'13"	State Ramp - Bastrop Bayou - (under bridge)
						Jack Booth's Ramp Bastrop Marina (includes boats in wet slips)
	110	43	(42)	29°02'52"	95°09'56"	(Shell Ramp (Christmas Bay) - Deleted 12/1/78)
			(44)			Sy's Bait Camp Ramp
			(45)			Galveston-Freeport Campground Ramp - (Deleted 11-21-84)
		(46)			(Public Launching - Shoreline - Deleted 9/1/80)	
					(San Luis Pass Bait Camp - Deleted 5/15/82)	
350	47		29°07'45"	95°04'22"	Bay Harbor Ramps	
350	48		29°07'55"	95°03'49"	Terramar Beach Ramp	
350	49		29°08'42"	95°02'48"	Sea Isle Ramps	
350	50		29°12'00"	94°59'16"	Jamaica Beach Marina Ramp	
350	51		29°11'37"	94°58'56"	Jamaica Beach Boat Ramp	
					Boat Trailers at non-designated ramps	
350	53		29°12'31"	94°56'57"	Pirate's Beach Marina Ramp	
350	54		29°13'04"	94°56'34"	Pirate's Beach Boat Ramp	
350	55		29°15'38"	94°54'20"	Andy's Bait Camp Ramp	
					Public Ramp	
350	57	(56)	29°17'03"	94°50'09"	(73rd Street County Park - Deleted 7/28/81)	
		(58)			61st Street County Park Ramp	
350	59		26°14'49"	94°52'07"	(Bayou Bay Marina - Deleted 9/1/79)	
		(60)			Newell Marina Ramp	
350	61		29°17'14"	94°52'19"	(M&M Camp - Deleted 9/1/79)	
					Payco Marina Ramp (includes closest dock of wet slips,	
350	62		29°17'18"	94°52'23"	Dock B, 46 slips)	
180	63		29°23'03"	94°46'05"	Pleasure Island Ramp	
					Jim Reid's Ramp	

Table A.1. (Cont'd.)

Bay system	Minor Bay	Station number		Latitude	Longitude	Station Identification
		In use	Deleted			
Galveston	180	64	(65)	29°23'04"	94°46'05"	Shirley's Cafeteria Ramp (Johnson Road - Deleted 3/20/78)
	150	66		29°25'48"	94°42'37"	Bolivar Bait Camp Ramp (includes boats in 2 boat houses)
	50	67		29°05'10"	95°16'44"	2-J's Harbor (Demi-John) - Deleted 8/31/75; reopened 5/15/83
	150	70	(68) (69)	29°28'50"	94°36'16"	(B&P Camp - Deleted 7/15/81) (Bob's Camp - Deleted 9/6/79)
	296	72	(71)	29°30'51"	94°30'45"	Stingaree Marina Ramp (Chocolate Bayou Marina - Deleted 8/31/75)
	330	73		29°32'09"	94°46'54"	Charles W. Lauderdale Public County Boat Ramp
	330	74		29°39'11"	94°41'35"	Smith Point Ramp (Van-to-Un and Robbin's Park)
	330	75	(76) (77)	29°45'19"	94°41'29"	Oak Island County Ramp Fort Anahuac Park Ramp (Anahuac State Ramp - Deleted 12/1/78)
	141	78		29°28'24"	94°57'17"	(Will's - Deleted 11/21/82)
	063	79		29°48'17"	94°48'35"	Dickinson Bayou Public Ramp
	91	80		29°20'06"	94°45'07"	Cotton Lake Ramp South Jetty Ramp - Deleted 4/11/80; Reopened 10/3/81)
	91	81		29°20'02"	94°41'52"	Wilson's Ramp Waddell's Ramp (North Galveston Jetty Ramp - Deleted 11/21/83)
	180	83	(82)	29°19'02"	94°46'32"	Galveston Yacht Basin Ramp
	241	84		29°25'08"	94°55'34"	The Fish Spot Ramp
	123	85		29°33'51"	95°04'03"	Clear Lake Ramp
	142	86		29°25'19"	94°53'29"	Dollar Bay Ramp
	141	87		29°29'08"	94°55'58"	Cotton's Bait Camp Ramp
	172	88		28°59'53"	95°13'57"	Brazoria County Ramp 57 A (Third Street)
	150	89	(90)	29°35'41"	94°23'24"	High Island State Boat Ramp (San Jacinto Bay Bridge - Deleted 10/3/81)
	180	91	(92)	29°37'25"	95°00'34"	Shoreacres Ramp (Tiger Marina - Deleted 10/3/81)
	191	93		29°17'14"	95°08'01"	Hall's Bayou Bridge Ramp
	100	94		29°14'38"	95°13'59"	Horseshoe Bend Marina Ramp
	150	95		29°28'45"	94°36'16"	Charpiot Ramp - Opened 7/15/81

Table A.1. (Cont'd.).

Bay system	Minor Bay	Station number		Latitude	Longitude	Station Identification
		In use	Deleted			
Galveston	201	96		29°19'49"	94°56'12"	Omega Bay Ramp - Opened 7/26/81
	50	97		29°04'56"	95°17'11"	Bastrop Bayou Private Ramp - Opened 7/26/81
	560	98		28°53'57"	95°29'33"	Ernie's Acres Ramp (Freeport)
	172	99		28°57'22"	95°17'12"	Dolphin Street Ramp (Freeport)
	172	100		28°58'47"	95°16'05"	Brazoria County Ramp 57A (Bay Street, Freeport)
	172	101		28°57'46"	95°17'34"	Bridge Harbor Marina Ramp (Freeport)
	172	102		28°57'22"	95°17'32"	State Ramp (Freeport) - (under ICWW bridge)
	560	103		28°52'30"	95°27'19"	Eucroz Ramp (Freeport)
	265	104		29°00'36"	95°19'34"	Oyster Creek Ramp (Freeport)
	570	105		28°57'42"	95°22'13"	City Ramp (in Freeport Municipal Park)(Freeport)
	266	106		28°57'21"	95°21'41"	City Ramp (by Community center/tennis courts) (Freeport)
	265	107		29°00'07"	95°18'26"	Turtle Cove Ramp (Freeport)
	560	108		28°52'35"	95°27'34"	Bennet's Motel Ramp
	560	109		28°52'11"	95°26'46"	Public Ramp (Freeport)
	91	110		29°20'02"	94°41'47"	Tugboat Eddies Ramp (Freeport)
	570	111	(112)	28°53'59"	95°23'03"	New Brazos River Ramp (at end of dike in Freeport) (Harbor Cove Ramp - Deleted 11/21/84)
	241	113		29°25'15"	94°55'34"	Ray Marine and Bait Camp Ramp
	123	114		29°33'00"	95°01'45"	Clear Lake Shores Ramp
	150	115		29°25'43"	94°42'07"	Boyt Road Boat Ramp
	180	116		29°19'02"	94°46'32"	Galveston Yacht Basin Boat Barn (party boats)
	180	117		29°19'02"	94°46'32"	Galveston Yacht Basin Dock A (46 slips; party boats)
	180	118		29°19'02"	94°46'32"	Galveston Yacht Basin Dock B (116 slips; party boats)
	180	119		29°19'02"	94°46'32"	Galveston Yacht Basin Dock C (116 slips; party boats)
	180	120		29°19'02"	94°46'32"	Galveston Yacht Basin Dock D (116 slips; party boats)
	350	121		29°16'38"	94°50'48"	Pirates Cove Apts. Ramp
	350	122		29°15'47"	94°50'29"	Havre Lafitte Ramp
530	123		29°04'33"	95°07'50"	Treasure Island Ramp	
265	124	(125)	29°00'07"	95°18'26"	Turtle Cove North Shore Boat Shed (Turtle Cove South Shore Boat Shed-Deleted 11/21/83)	
265	126		29°00'08"	95°18'06"	Hide-A-Way on the Gulf Ramps	
172	127		29°00'28"	95°18'57"	Kirby Marina (72 wet slips)	
50	128		29°05'48"	95°16'59"	B&H Bait Camp Ramp	
50	129		29°05'24"	95°16'39"	Marlin Marina Boat Shed (14 wet slips)	

Table A.1. (Cont'd.).

Bay system	Minor Bay	Station number		Latitude	Longitude	Station identification
		In use	Deleted			
Galveston	100	130		29°14'38"	95°13'59"	Horseshoe Bend Camp Boat Shed (22 wet slips)
	321	131		29°34'27"	95°03'05"	Timber Cove Subdivision Ramp (Taylor Lake)
	172	132		28°57'46"	95°17'34"	Bridge Harbor Canal Front Slips (30 slips; party boats)
			(133)			(Bridge Harbor Canal Dock A (32 slips; party boats) - Deleted 11/21/83)
	172	134		28°57'46"	95°17'34"	Bridge Harbor Canal Dock B (32 slips; party boats)
	172	135		28°57'46"	95°17'34"	Bridge Harbor Canal Dock C (32 slips; party boats)
	172	136		28°57'46"	95°17'34"	Bridge Harbor Canal Dock D (36 slips; party boats)
	172	137		28°57'46"	95°17'34"	Bridge Harbor Canal Dock E (40 slips; party boats)
			(138)			(Harbor Cove Wet Slips (50 wet slips) - Deleted 11/21/83)
	350	139		29°17'14"	94°52'19"	Payco Marina Boat Shed and Second Dock of Wet Slips (Dock C (24 wet slips))
	100	140		29°15'11"	95°13'58"	Lutes Marina Ramp and Boat House (40 wet slips; party boats)
	172	141		28°57'31"	95°18'16"	Beach, Bait and Tackle Ramp
	180	142		29°29'47"	94°54'58"	San Leon Marina Boat Sheds (2 boat sheds; party boats)
180	143		29°17'39"	94°51'23"	Bonno's Bait Camp Ramp	
180	144		29°35'51"	94°59'10"	El Jardin Ramp	
570	145				Freeport City Ramp (on New Brazos across from Municipal Park)	
110	146		29°01'50"	95°11'51"	Key Largo	
180	147		29°22'00"	94°48'59"	Texas City Dike Marina Lift	
Matagorda	360	1		28°25'55"	96°26'04"	Doc's Dock Ramp
	360	2		28°26'23"	96°24'52"	Fishing Center Ramp
	360	3		28°26'12"	96°25'26"	Bobbie's Ramp (includes boats in wet slips and La Pesca party boats)
	360	4		28°30'41"	96°29'20"	Indianola Fishing Center Ramp (includes boats in wet slips)

Table A.1. (Cont'd.).

Bay system	Minor Bay	Station number		Latitude	Longitude	Station identification
		In use	Deleted			
Matagorda	220	5		28°33'40"	96°32'21"	Magnolia Ramp
	112	6		28°34'41"	96°39'00"	Chocolate Bayou Ramp
	220	7		28°35'43"	96°37'09"	Harbor Refuge Ramp
	220	8		28°38'20"	96°36'44"	Lavaca Causeway Ramp (includes boats in wet slips)
	220	9		28°40'53"	96°33'45"	Point Comfort Ramp
	210	10		28°38'24"	96°27'30"	Olivia Ramp (includes boats in wet slips)
	60	11		28°44'17"	96°24'05"	Crescent V Ramp
	60	12		28°38'08"	96°21'22"	At Last Marina
	340	13		28°43'13"	96°16'24"	Turtle Bridge Ramp
	320	14		28°41'48"	96°13'47"	Hill Ramp (includes boats docked or in wet slips at trailer park camps)
	320	16	(15)	28°42'20"	96°12'32"	(Palacios Bait Camp - Deleted 5/15/80) East Bay Ramp
	320	18	(17)	28°40'10"	96°11'00"	(Grassy Point - Deleted 3/13/78) Palacios River Ramp
	590	19		28°40'14"	95°57'52"	River Bend Ramp
	590	20	(21)	28°38'22"	95°58'02"	Al's Ramp (Gilmer's - Closed 8/17/79 - Reopened 5/15/81; Closed 6/15/82)
590	22		28°37'04"	95°58'24"	Rawlings Ramp	
160	23		28°42'37"	95°54'50"	UFO Ramp	
160	24		28°46'20"	95°38'04"	Plunks Bait Camp (includes boats in wet slips)	
160	25		28°46'16"	95°37'03"	Totsies' Marina Ramp (includes boats in wet slips)	
590	26		28°36'03"	95°58'40"	Cherry's Ramp (Bulkhead Marina - Deleted 5/15/80)	
160	28	(27)	28°45'28"	95°46'23"	Chinquapin Ramp	
60	29		28°38'16"	96°21'20"	The Wharf Ramp	
160	30		28°38'37"	95°57'52"	St. Mary's Bayou Ramp	
220	31		28°41'38"	96°39'50"	Six Mile Ramp	
160	32		28°46'21"	95°36'55"	Don Juan Marina	
320	33		28°42'33"	96°12'35"	Brookings Boat Shed (34 wet slips)	
320	34		28°43'46"	96°11'10"	Collegeport Ramp	

Table A.1. (Cont'd.).

Bay system	Minor Bay	Station number		Latitude	Longitude	Station identification
		In use	Deleted			
Matagorda	210	35		28°41'15"	96°16'27"	Jensen's Point Ramp
	60	36		28°39'30"	96°24'54"	Port Alto Boat Shed (107 wet slips; 2 sheds, 54 and 53)
	220	37		28°39'38"	96°35'03"	East End of Port Lavaca Causeway (launching from shore)
	271	38		28°28'47"	96°33'05"	Powerhorn Bayou (launching from shore)
	360	39		28°26'17"	96°24'55"	Fishing Center Boat Sheds (2 boat sheds with 26 wet slips; party boats included)
	360	41	(40)	28°26'16"	96°24'57"	McKinney Boat Sheds (8 wet slips)
	360	42		28°26'17"	96°25'00"	Power's Boat Sheds (35 set slips)
	360	43		28°26'12"	96°25'17"	Alligator Head East Boat Sheds (20 wet slips)
	360	44		28°26'11"	96°25'18"	Alligator Head West Boat Sheds (49 wet slips)
	360	45		28°26'00"	96°25'48"	Weathersby's Boat Sheds (40 wet slips; 1 party boat)
		52				Boat trailers at non-designated ramps
San Antonio	170	1		28°26'23"	96°24'52"	Fishing Center Ramp
	170	2		28°25'55"	96°26'04"	Doc's Dock Ramp
	170	3		28°26'12"	96°25'26"	Bobbie's Ramp (includes boats in wet slips and La Pesca party boats)
	170	4		28°21'55"	96°34'38"	Fulghum's Ramp (includes boats in wet slips)
	300	5		28°23'24"	96°42'32"	Swan Point Ramp
	300	6		28°24'27"	96°42'38"	Seadrift Ramp
			(7)			(Austwell - Deleted 8/17/79)
	300	8		28°20'48"	96°47'38"	Hopper's Landing Ramp (includes boats in wet slips)
			(9)			(Pete's Bait Camp - Deleted 8/17/79)
			(10)			(Morgan's Bait Camp - Deleted 8/17/79)
	170	11		28°26'17"	96°24'55"	Fishing Center Boat Sheds (2 boat sheds with 26 wet slips; party boats included)

Table A.1. (Cont'd.).

Bay system	Minor Bay	Station number		Latitude	Longitude	Station identification
		In use	Deleted			
San Antonio	170	13	(12)	28°26'16"	96°24'57"	McKinney Boat Sheds (8 wet slips)
	170	14		28°26'17"	96°25'00"	Power's Boat Sheds (35 wet slips; 1 party boat)
	170	15		28°26'12"	96°25'17"	Alligator Head East Boat Sheds (19 wet slips)
	170	16		28°26'11"	96°25'18"	Alligator Head West Boat Sheds (49 wet slips)
	170	17		28°26'00"	96°25'48"	Weathersby's Boat Sheds (40 wet slips; 1 party boat)
		52				Boat trailers at non-designated ramps
Aransas	227	1		28°01'50"	97°02'19"	Little Bay Ramp
	20	2		28°03'36"	97°02'00"	Fulton Harbor Ramp (includes boats in Fulton Boat House)
	120	3		28°06'49"	97°01'32"	S. Copano Causeway Ramp
	20	4		28°08'13"	97°00'22"	Sea Gun Marina Ramp (includes boats in wet slips; party boats)
	310	5		28°07'43"	96°59'07"	Goose Island State Park Ramp
	310	6		28°08'24"	96°58'39"	St. Charles Marina Ramp (includes boats in wet slips)
	120	7		28°09'48"	97°00'35"	Holiday Beach Ramp
	120	8		28°05'07"	97°04'11"	Joe's Ramp (includes boats in wet slips)
		9		28°03'36"	97°07'37"	Klein's Rattlesnake Point Ramp
	270	10		27°59'35"	97°09'07"	Redfish Camp Ramp
	120	11		28°04'14"	97°13'08"	Glenn's Marina-Bayside Ramp
	280	12		27°54'47"	97°08'00"	Aransas Pass Boat Basin Ramp
	280	13		27°53'58"	97°08'14"	Louie's Bait Hut Ramp
	284	14		27°53'18"	97°06'42"	Fin & Feather Marina
	285	15		27°52'55"	97°05'57"	Redfish Bay Marina Ramp (includes rent boats and boats in wet slips)
	280	16		27°58'04"	97°05'21"	Palm Harbor Ramp (includes boats in wet slips)
	280	17		27°59'23"	97°04'42"	Cove Harbor Ramp
						(Port Bay - Deleted 11/20/82)
	20	19		28°01'28"	97°02'57"	Rockport Turning Basin Ramp (includes boats in boat basin wet slips)

Table A.1. (Cont'd.).

Bay system	Minor Bay	Station number		Latitude	Longitude	Station identification
		In use	Deleted			
Arkansas	285	20		27°52'09"	97°05'51"	Bait Hut Ramp
	120	21		28°03'48"	97°06'40"	Pouzee's Ramp
	120	22		28°04'34"	97°13'10"	Bayside Public Ramp - Deleted 12/1/80; Reopened 11/20/82)
	285	23		27°52'28"	97°05'33"	Hogan's Ramp
	20	24		28°04'23"	97°02'07"	Sand Dollar Ramp
			(25)			(Key Allegro Marina - Deleted 5/15/82)
			(26)			(Key Allegro North Ramp - Deleted 12/1/80)
			(27)			(Racquet Club - Deleted 5/15/82)
	284	28		27°53'22"	97°08'53"	Arkansas Airport Ramp
	96	29		27°50'19"	97°04'00"	Port Arkansas Public Ramp
96	30		27°50'18"	97°03'44"	Woody's Ramp	
227	31		28°03'07"	97°02'07"	Harbor Oaks Ramp	
227	32		28°02'30"	97°01'50"	Key Allegro Boat Shed (includes party boats)	
227	33		28°02'30"	97°01'50"	Key Allegro Boat Shed and T-Head (includes party boats)	
20	34		28°03'31"	97°02'00"	Sea Foam Motel Ramp (includes 6 wet slips)	
284	35		27°53'22"	97°08'48"	Harbor East with Marnot and Mac	
284	36		27°53'22"	97°08'59"	Harbor West	
96	37		27°50'18"	97°03'42"	Woody's West Docks ; (3 docks with 48 wet slips; party boats)	
96	38		27°50'18"	97°03'40"	Woody's East Dock (3 docks with 57 wet slips; party boats)	
96	39		27°50'19"	97°03'37"	Sportsman Center South (1 dock with 40 wet slips; party boats)	
96	40		27°50'21"	97°03'37"	Sportsman Center North (1 dock with 26 wet slips; party boats)	
120	41		28°04'34"	97°06'00"	Kellers Marina Boat Ramp	
	52				Boat trailers at non-designated ramps	

Table A.1. (Cont'd.).

Bay system	Minor Bay	Station number		Latitude	Longitude	Station identification
		In use	Deleted			
Corpus Christi	260	1		27°50'16"	97°22'52"	South Nueces Causeway Ramp (North Nueces Causeway - Deleted 10/27/80)
	130	3	(2)	27°50'16"	97°13'15"	Ingleside Cove State Ramp
	130	4		27°49'52"	97°13'29"	Bahia Mar Ramp (includes wet slips)
	130	5		27°49'21"	97°12'58"	Channel View Ramp
	284	7	(6)	27°53'22"	97°08'53"	(Warrens - Deleted 5/15/79)
	284	8		27°53'18"	97°06'42"	Aransas Airport Ramp
	130	9		27°44'14"	97°08'13"	Fin & Feather Marina
	130	10		27°42'39"	97°18'35"	Wilsons Cut Ramp
	130	11		27°47'24"	97°23'22"	Oso Bridge Ramp - (Deleted 10/27/80; Reopened 6/1/82)
	96	12		27°50'19"	97°04'00"	L-Head Ramp
	96	13		27°50'18"	97°03'44"	Port Aransas Public Ramp
	284	14		27°53'19"	97°08'44"	Woody's Ramp
	284	15		27°51'26"	97°10'07"	Causeway Ramp (includes 6 wet slips)
	370	16		27°38'02"	97°14'09"	Sun Oil Co. - (Deleted 11/20/81; Reopened 11/20/82)
	370	17		27°41'10"	97°15'31"	Billings's Ramp
	285	18		27°52'55"	97°05'57"	Naval Ramp (includes boats in boat houses and in wet slips)
	260	19		27°51'14"	97°21'30"	Redfish Bay Marina Ramp (includes rent boat and boats in wet slips)
	260	20		27°51'31"	97°21'04"	Gunderland Marina Ramp
	280	21		27°53'58"	97°08'14"	Portland Shell Bank Ramp
	284	22		27°53'22"	97°08'48"	Louie's Bait Stand Ramp
	284	23		27°53'22"	97°08'59"	Harbor East with Marnot and Mac
	96	24		27°50'21"	97°03'53"	Harbor West
	96	25		27°50'22"	97°03'50"	West City Docks (2 docks with 53 net slips; party boats)
	96	26		27°50'15"	97°03'59"	East City Docks (2 docks and bulkhead with 88 wet slips; party boats)
	96	27		27°50'17"	97°03'54"	Deep Sea Headquarters (11 party boat wet slips)
	96	28		27°50'18"	97°03'42"	Dolphin Docks (6 party boat wet slips)
						Woody's West Docks (3 docks with 48 wet slips; party boats)

Table A.1. (Cont'd.)

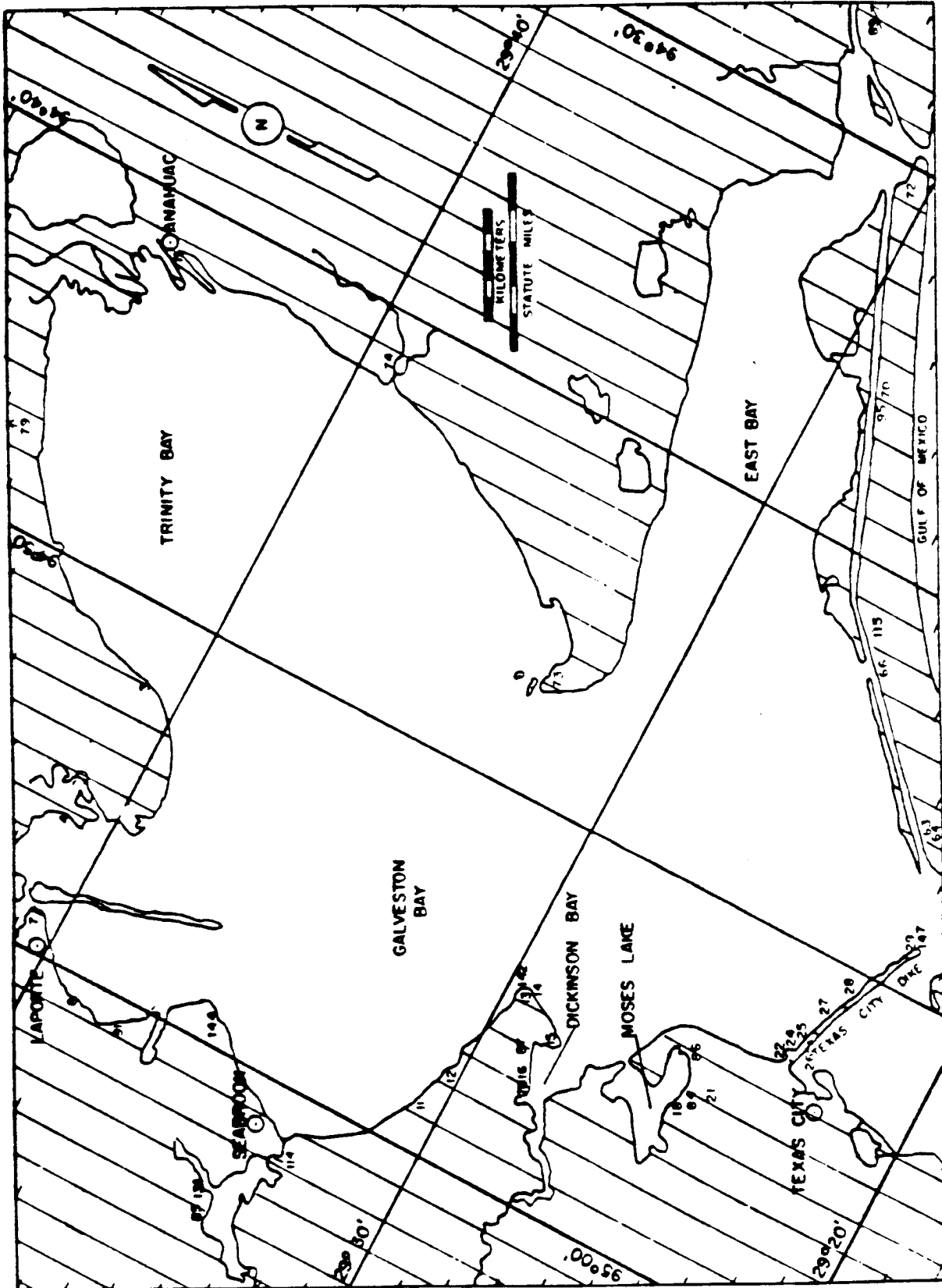
Bay system	Minor Bay	Station number		Latitude	Longitude	Station Identification
		In use	Deleted			
Corpus Christi	96	29		27°50'18"	97°03'40"	Woody's East Docks (3 docks with 57 wet slips; party boats)
	96	30		27°50'19"	97°03'37"	Sportsmen Center South (1 dock with 40 wet slips; party boats)
	96	31		27°50'21"	97°03'37"	Sportsmen Center North (1 dock with 26 wet slips; party boats)
	96	32		27°50'22"	97°03'33"	Fisherman's Wharf (5 party boat wet slips)
	93	33		27°50'15"	97°03'11"	U.T. Boat Basin (42 wet slips)
			52			Boat trailers at non-designated ramps
Upper Laguna Madre	370	1		27°36'42"	97°17'40"	Bluff Landing Ramp (includes boats in wet slips)
	370	2		27°36'57"	97°17'40"	Jerry's Ramp
						Tropic Isles Ramp
	370	3		27°37'44"	97°17'21"	Coburn's Ramp
	370	4		27°37'53"	97°17'21"	Laguna Marine Ramp
	370	5		27°39'44"	97°16'12"	Toll Gate Ramp
			(6)			(Whitt's - Deleted 5/15/82)
			(7)			(Fisherman's Folly - Deleted 5/15/81)
	370	8		27°38'03"	97°14'21"	Water Works Ramp & Rent Boats
	370	9		27°38'06"	97°14'21"	B.G.'s Ramp
	370	10		27°38'02"	97°14'16"	Rainbow Ramp
	370	11		27°38'04"	97°14'16"	Clem's Ramp
	370	12		27°38'02"	97°14'09"	Billing's Ramp
	370	13		27°37'25"	97°13'31"	P.L.V. Ramp I
	370	14		27°40'20"	97°16'09"	Boat Hole Ramp
	370	15		27°41'10"	97°15'31"	Naval Ramp
	80	16		27°19'08"	97°40'56"	Kaufer Ramp
	40	17		27°17'18"	97°39'41"	Kratz's Ramp
	211	18		27°16'38"	97°42'29"	Williamson's Ramp
	370	19		27°28'22"	97°18'31"	Bird Island Basin Ramp
370	20		27°36'51"	97°18'04"	Whiteleys Basin Ramp	

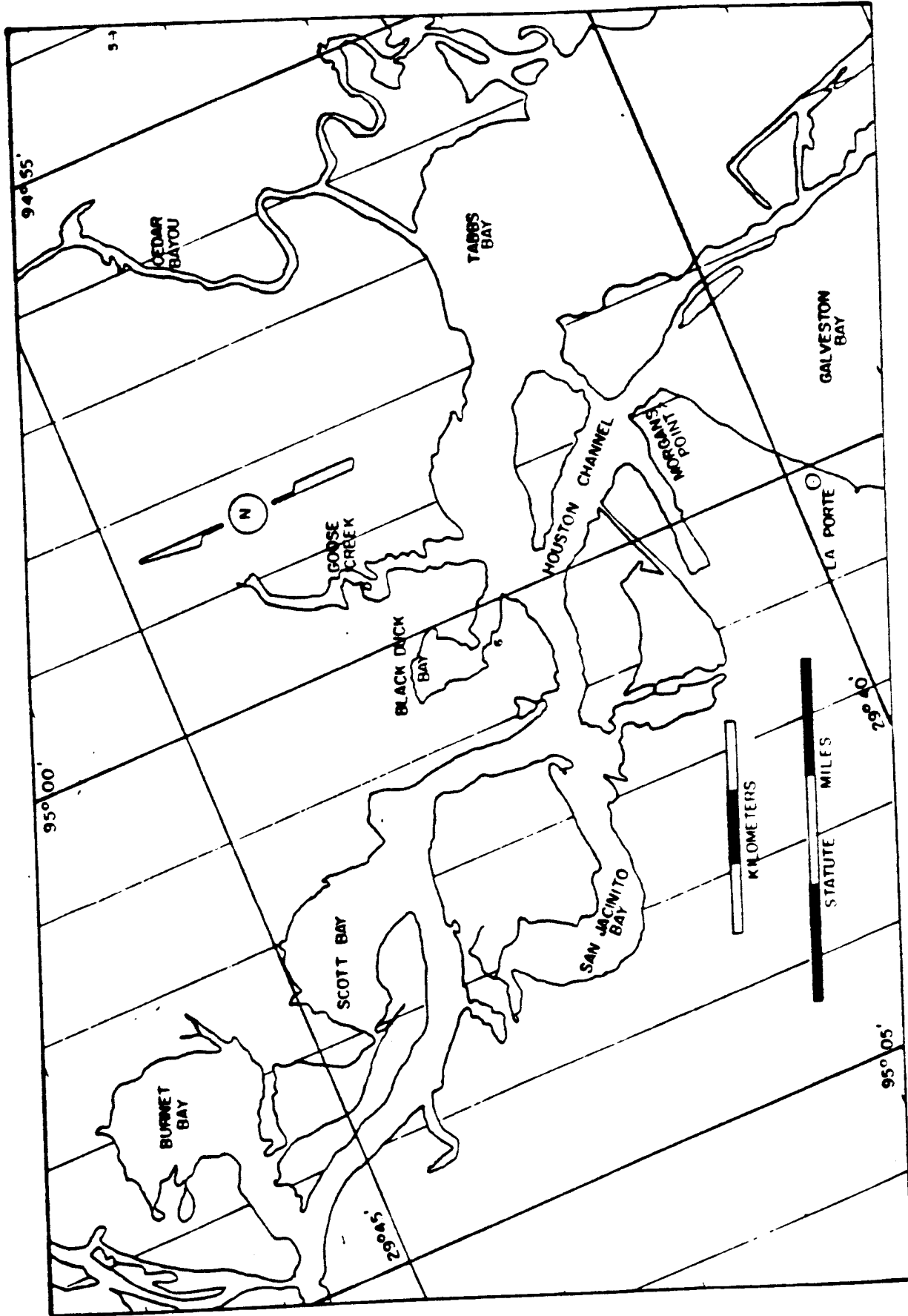
Table A. 1. (Cont'd.).

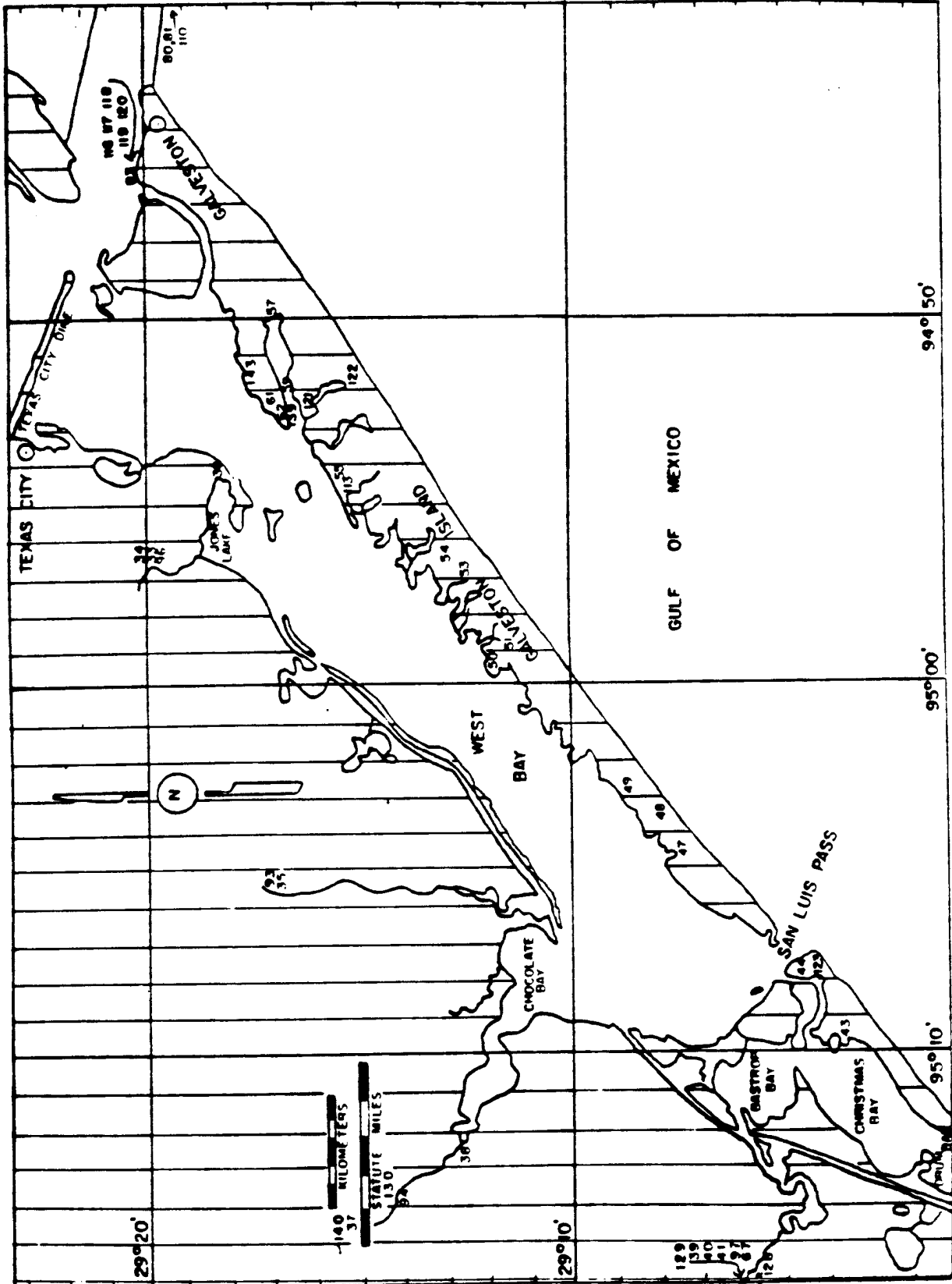
Bay system	Minor Bay	Station number		Latitude	Longitude	Station Identification
		In use	Deleted			
Upper Laguna Madre	370	21		27°36'08"	97°14'28"	P.I.V. Ramp II (White Cap and Caravel)
	370	22		27°36'42"	97°14'22"	P.I.V. Ramp III (End of Cobo de Caba)
	370	23		27°35'57"	97°13'50"	P.I.V. Ramp IV (Gypsy and Bounty Avenue)
	370	24		27°35'43"	97°13'51"	P.I.V. Ramp V (Fortuna Bay and Monte Pelle)
	370	25		27°35'21"	97°13'35"	P.I.V. Ramp VI (Encatada and Cruiser)
		52				Boat trailers at non-designated ramps
Lower Laguna Madre	230	1		26°06'09"	97°10'08"	Fisherman' Wharf (includes boats in wet slips; includes party boats)
	230	2		26°06'06"	97°10'08"	Jim's Ramp (includes boats in wet slips)
	230	3		26°05'05"	97°09'54"	Sea Ranch Ramp (includes party boats between boat ramp and headboat)
			(4)			(Jetties - Deleted 5/15/80)
			(5)			(Marchants - Deleted 9/1/78)
			(6)			(Port Isabel - Deleted 9/1/76)
	230	7		26°05'03"	97°12'07"	White Sands Ramp (includes boats in wet slips)
	294	8		26°00'07"	97°17'55"	San Martin Ramp
	230	9		26°06'12"	97°17'25"	Laguna Vista Ramp (includes boats in wet slips)
	262	10		26°19'35"	97°27'15"	Arroyo Colorado Ramp
	262	11		26°20'10"	97°26'35"	Sanchez Ramp
		(12)			(Al's Place - Deleted 3/27/82)	
230	13		26°33'10"	97°25'40"	Willacy Navigation District Ramp	
282	14		26°33'20"	97°25'41"	Port Mansfield State Ramp	
		(15)			(Redfish Motel Ramp (includes boats in wet slips - Deleted 5/15/84))	
		(16)			(South Padre Marina - Deleted 3/27/82)	
230	17		26°33'05"	97°25'40"	Port Mansfield Boat Basin (includes boats in wet slips; party boats)	
230	18		26°04'42"	97°12'12"	Port Isabel Channel East Side (includes 45 wet slips in boat shed)	
230	19		26°04'36"	97°09'56"	Sea Ranch Motel (includes boat shed and wet slips)	
230	20		26°05'55"	97°10'04"	Palm Bay Pier Ramp (includes 15 wet slips)	
	52				Boat trailers at non-designated ramps	

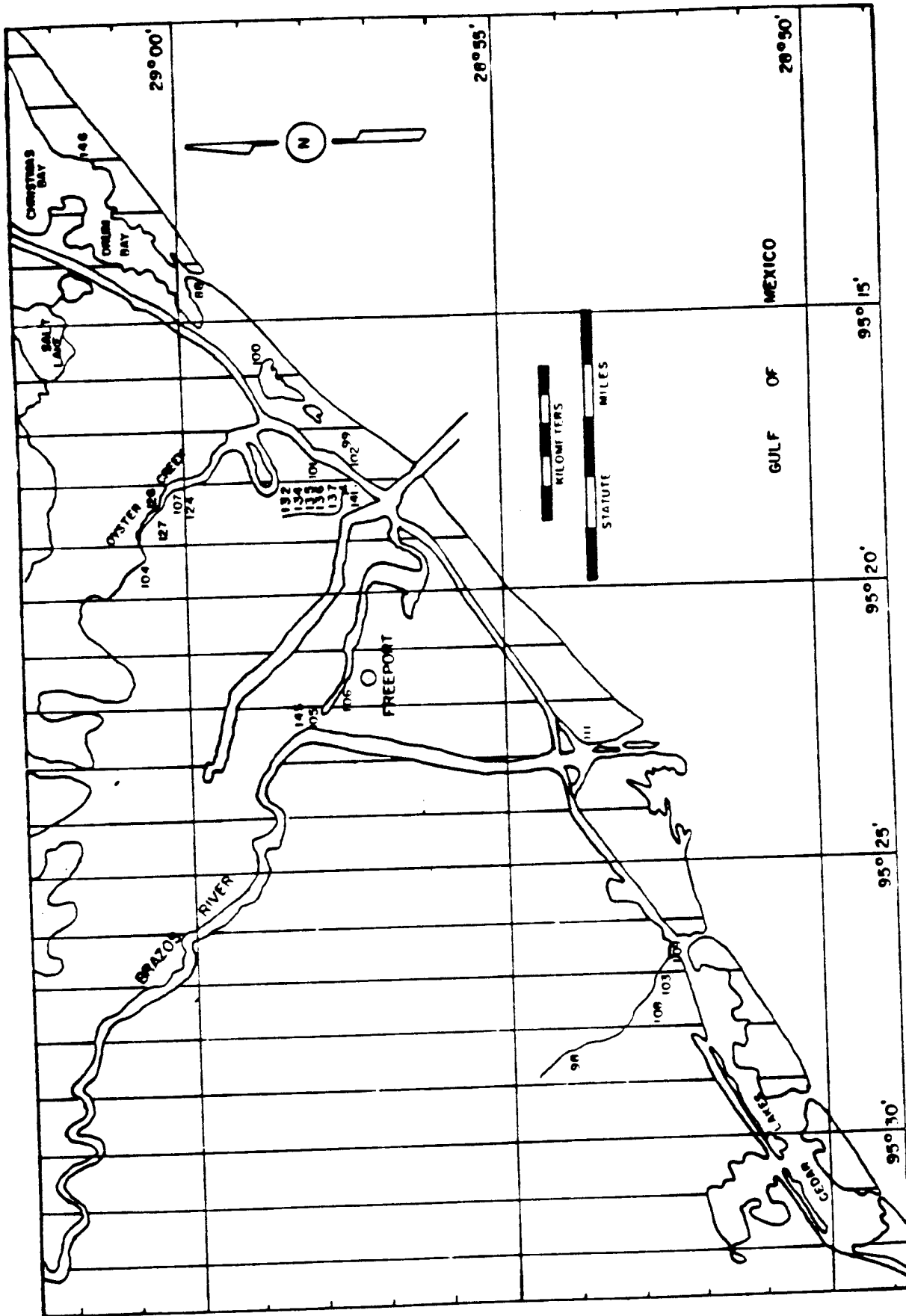
Appendix B. Area maps of boat use access points.

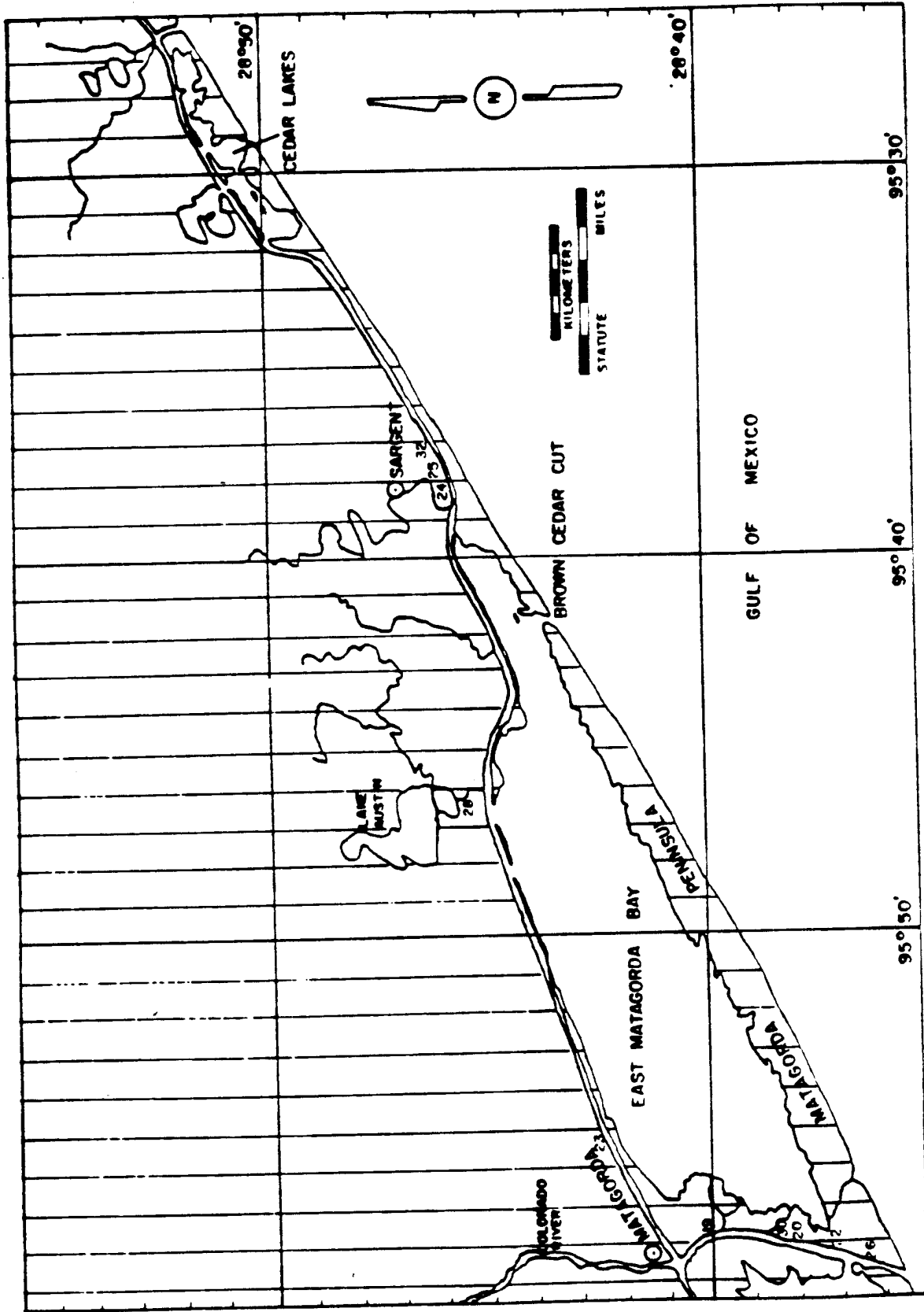
- Figure B.1. Boat use area access points in the Galveston Bay system (May 1974-May 1984).
- Figure B.2. Boat use area access points in the Galveston Bay system (May 1974-May 1984).
- Figure B.3. Boat use area access points in the Galveston Bay system (May 1974-May 1984).
- Figure B.4. Boat use area access points in the Galveston Bay system (May 1974-May 1984).
- Figure B.5. Boat use area access points in the Matagorda Bay system (May 1974-May 1984).
- Figure B.6. Boat use area access points in the Matagorda Bay system (May 1974-May 1984).
- Figure B.7. Boat use area access points in the San Antonio Bay system (May 1974-May 1984).
- Figure B.8. Boat use area access points in the Aransas Bay system (May 1974-May 1984).
- Figure B.9. Boat use area access points in the Corpus Christi Bay system (May 1974-May 1984).
- Figure B.10. Boat use area access points in the upper Laguna Madre Bay system (May 1974-May 1984).
- Figure B.11. Boat use area access points in the lower Laguna Madre Bay system (May 1974-May 1984).
- Figure B.12. Boat use area access points in the lower Laguna Madre Bay system (May 1974-May 1984).

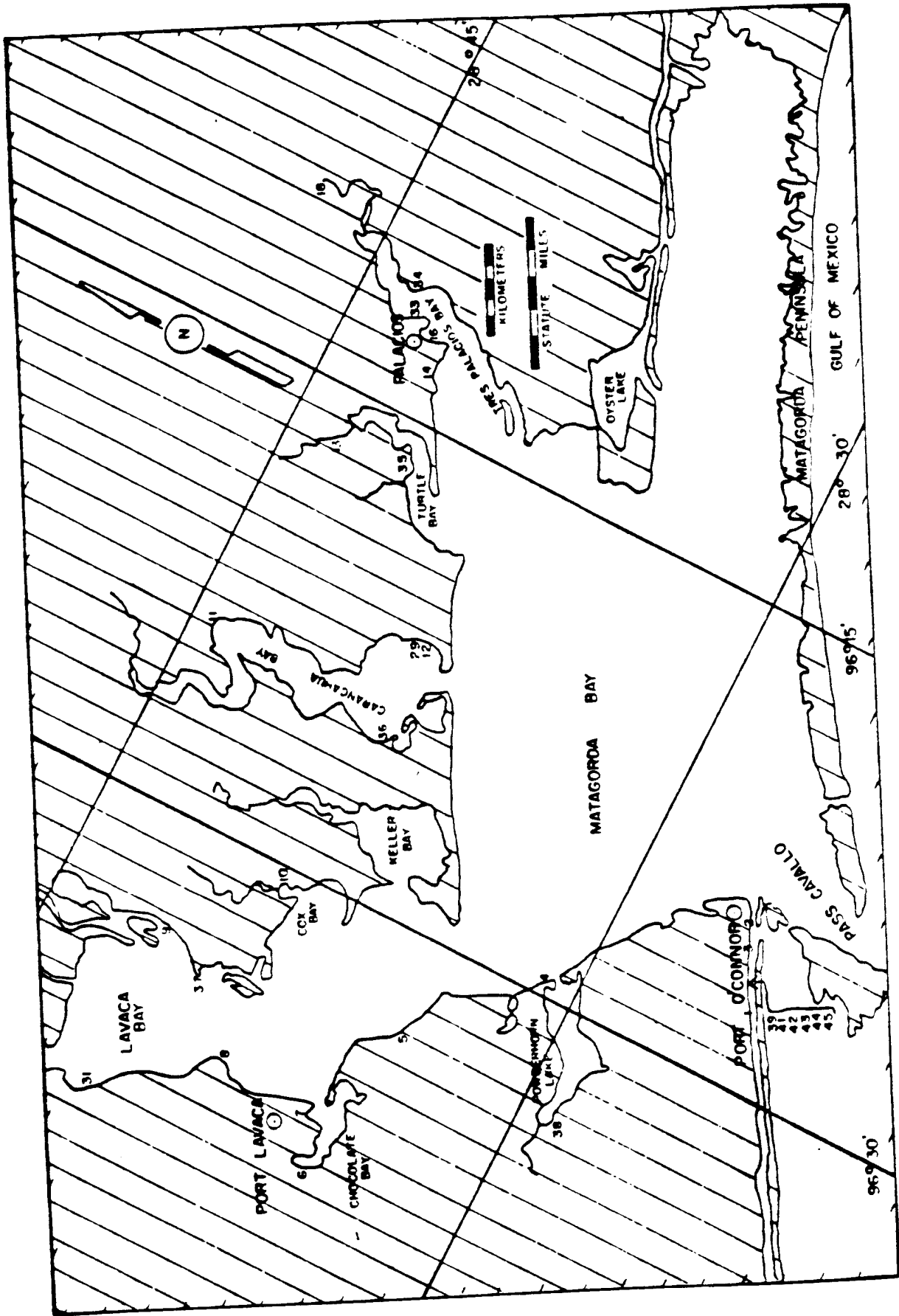


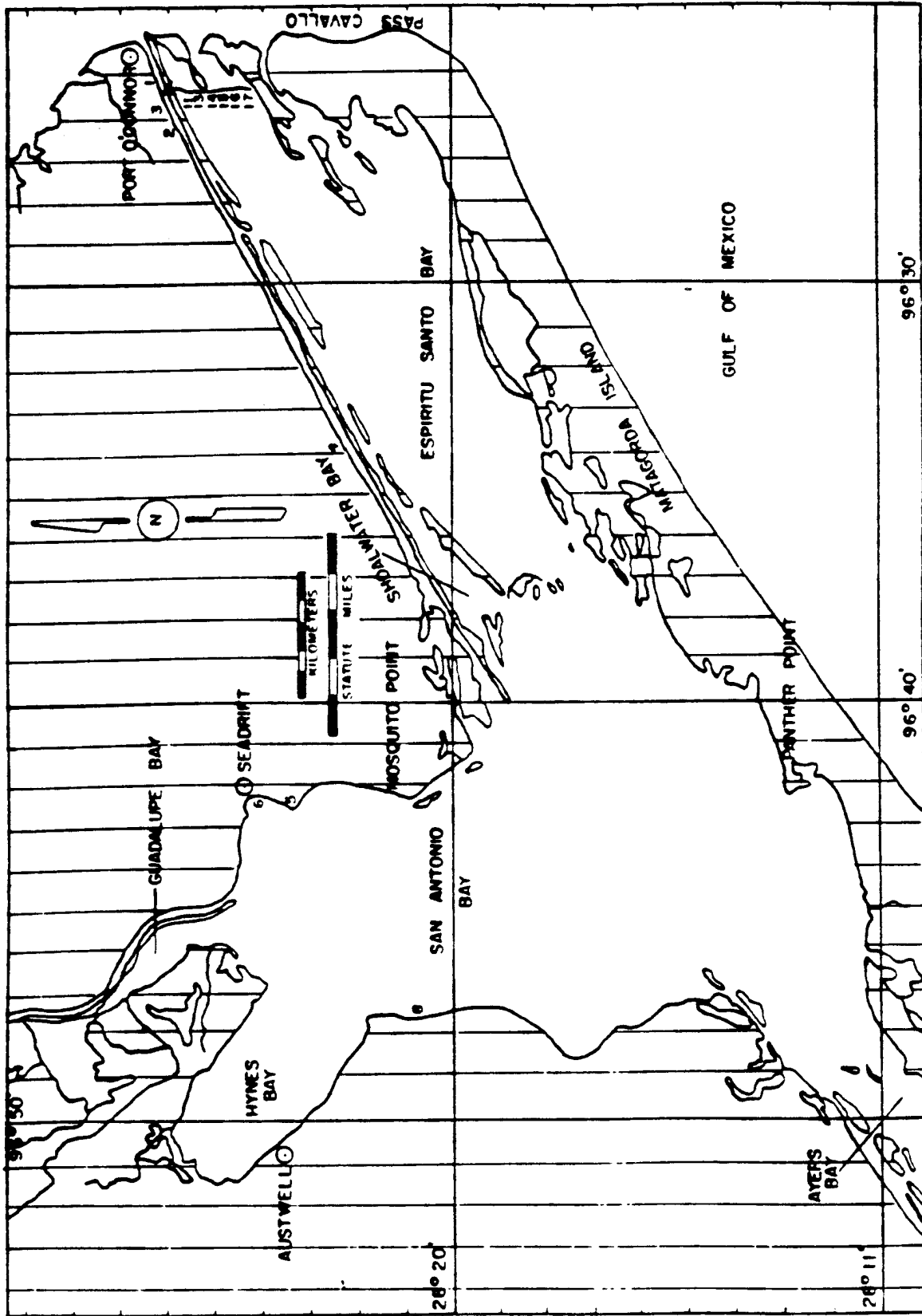


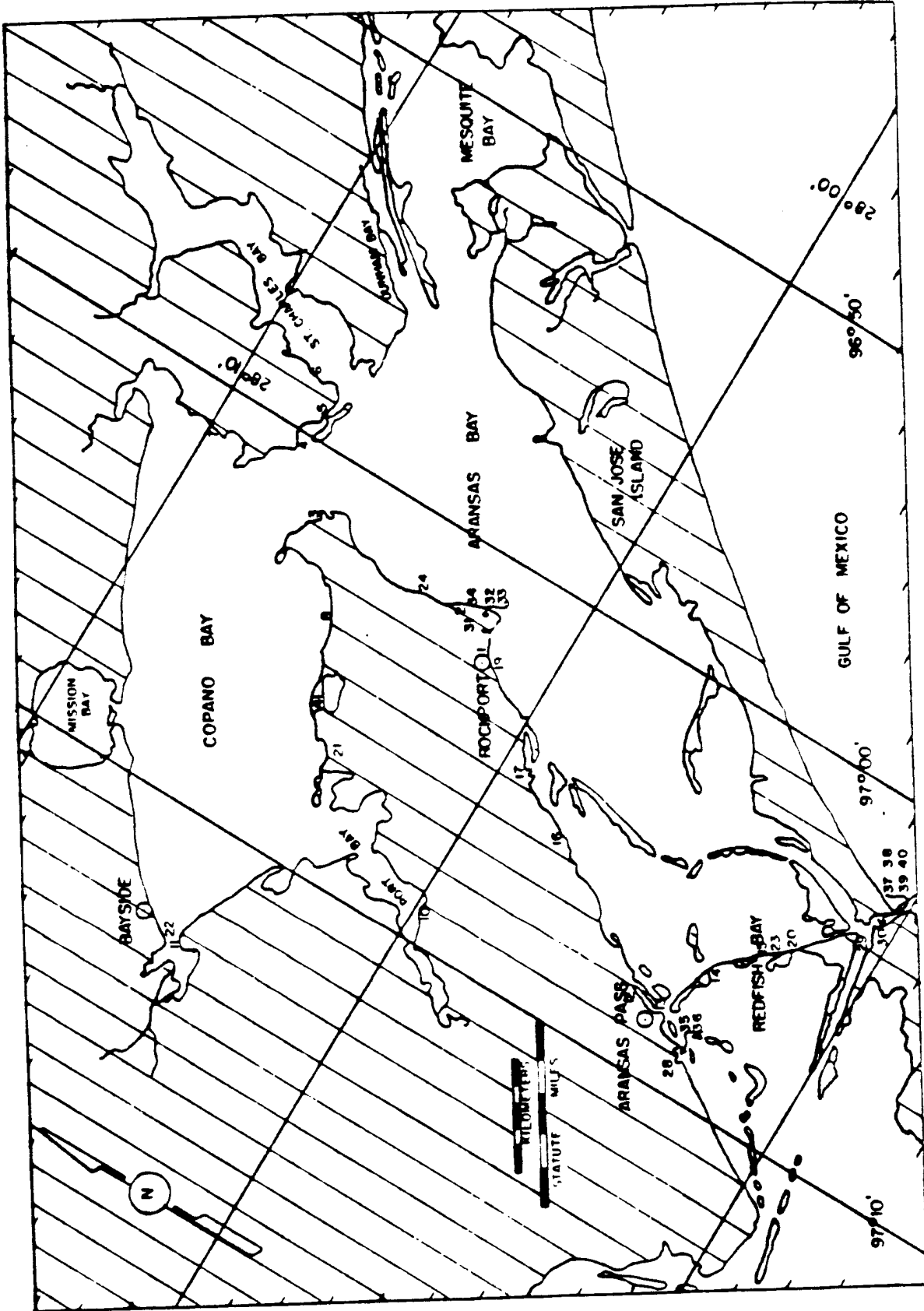


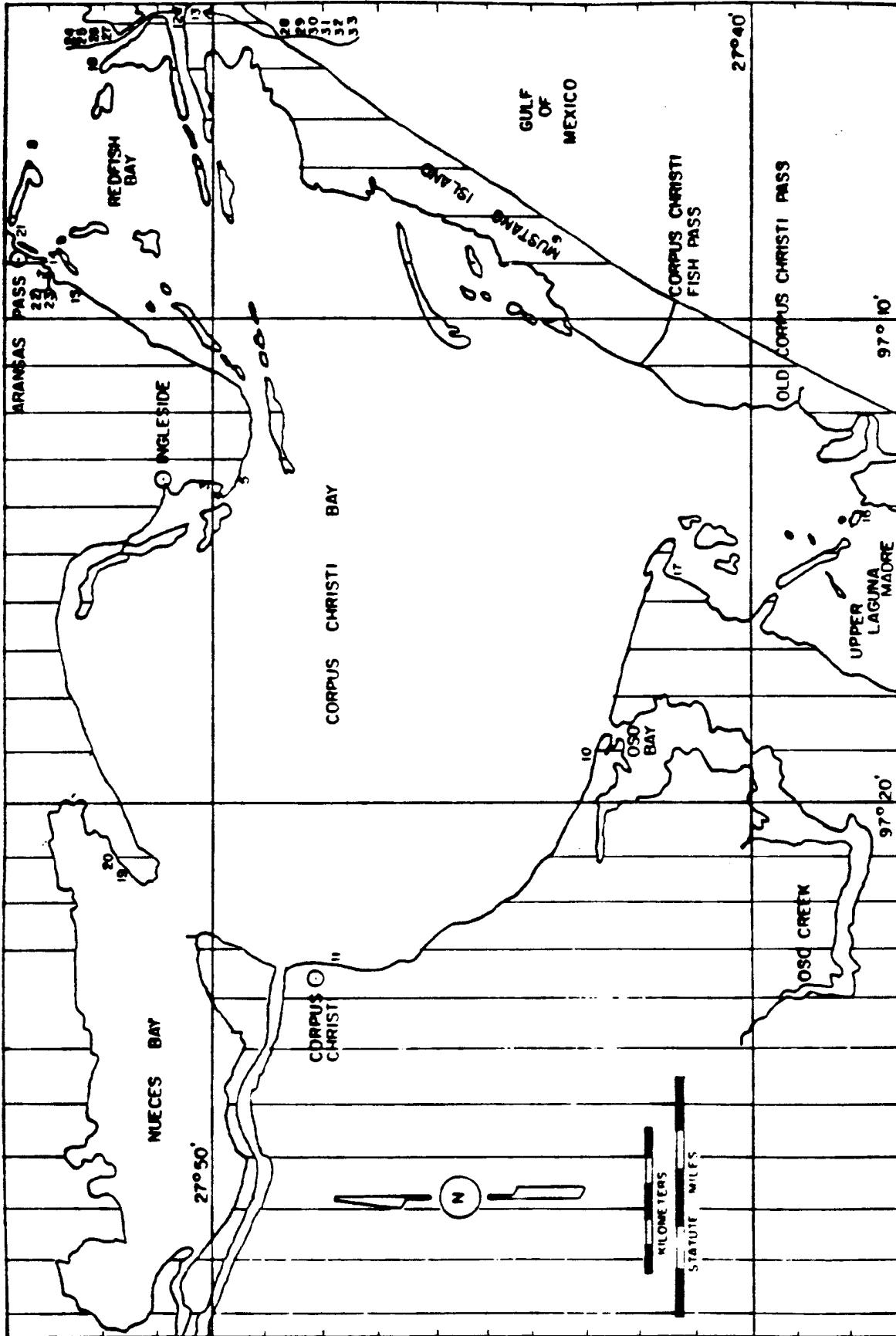


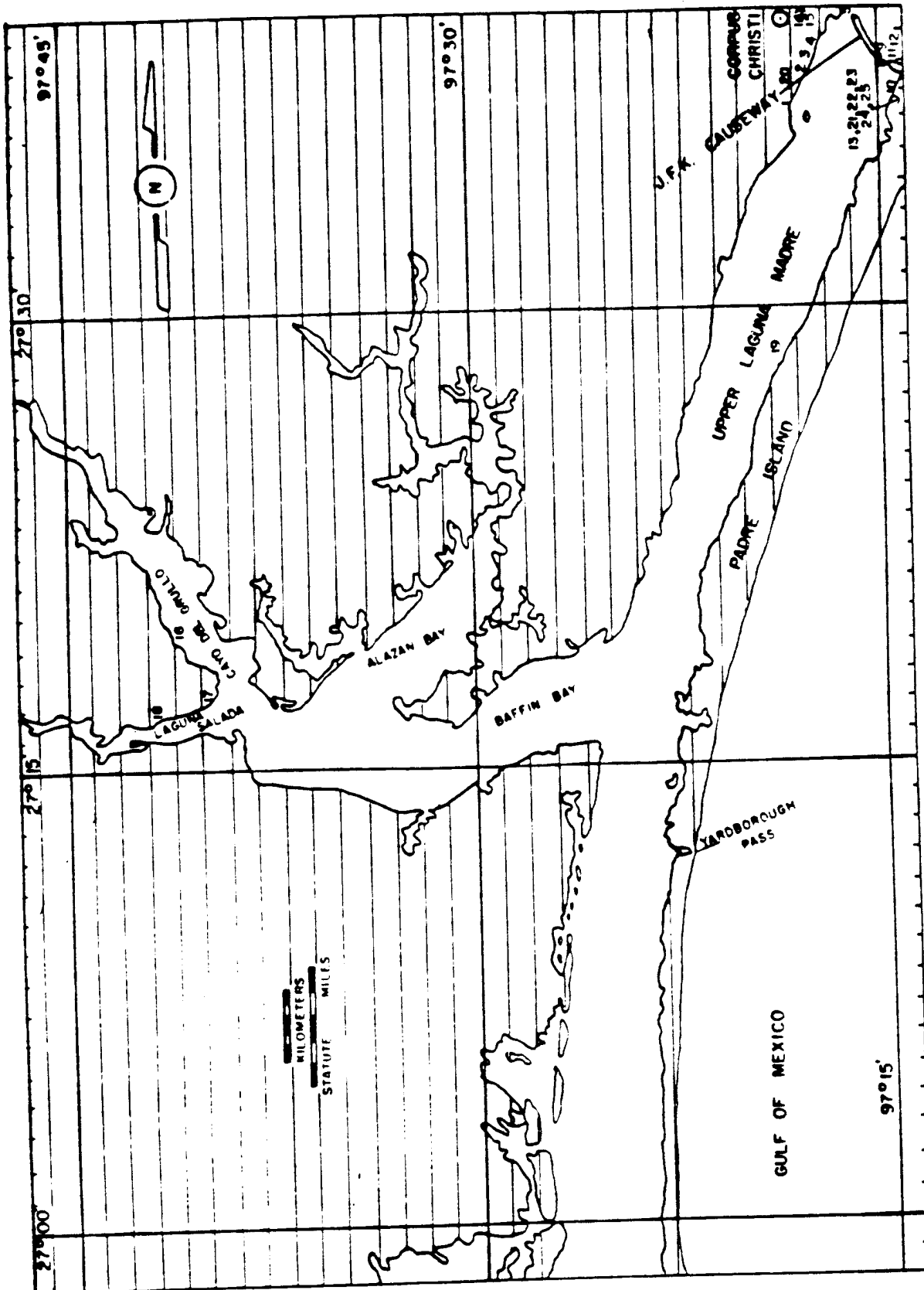


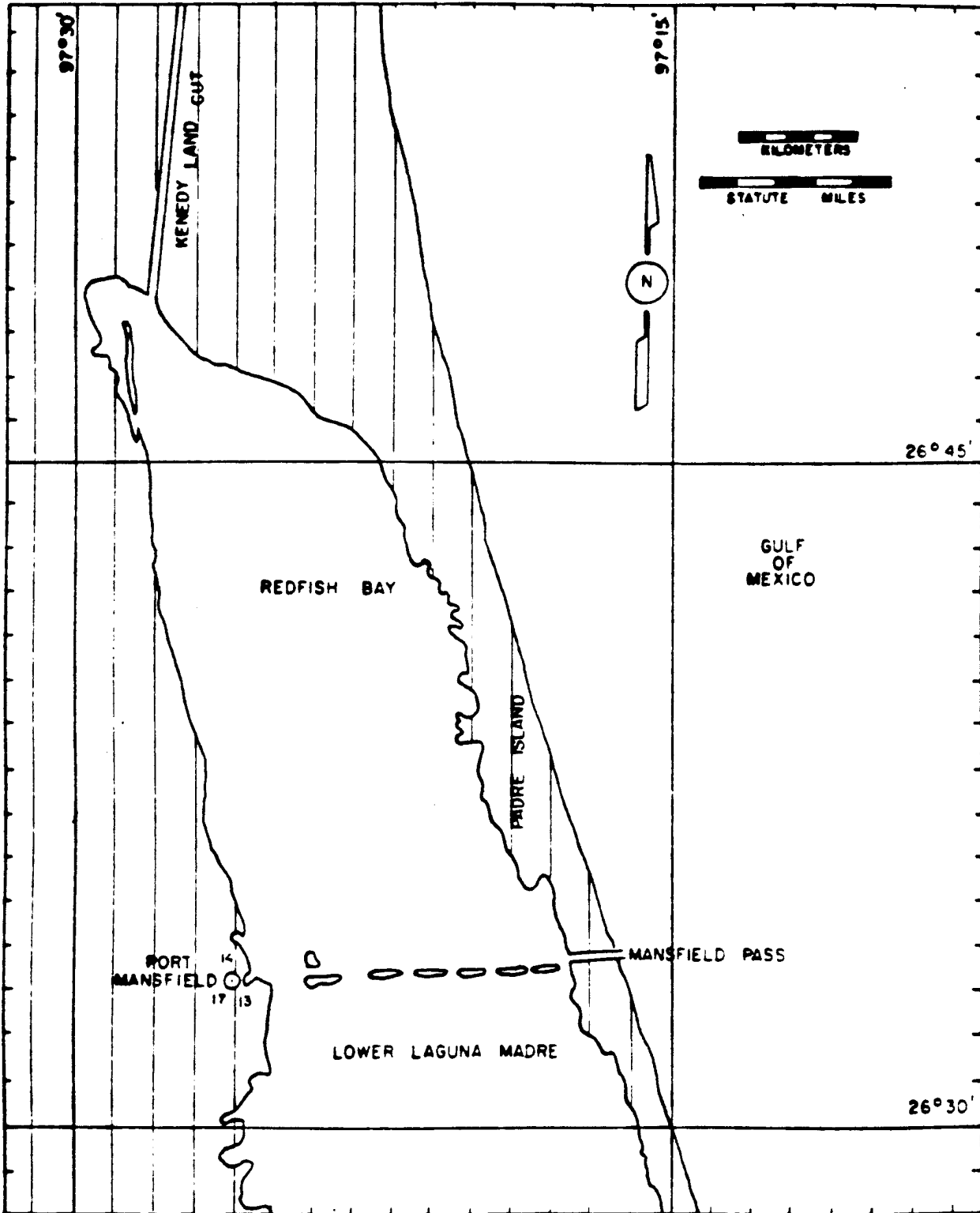


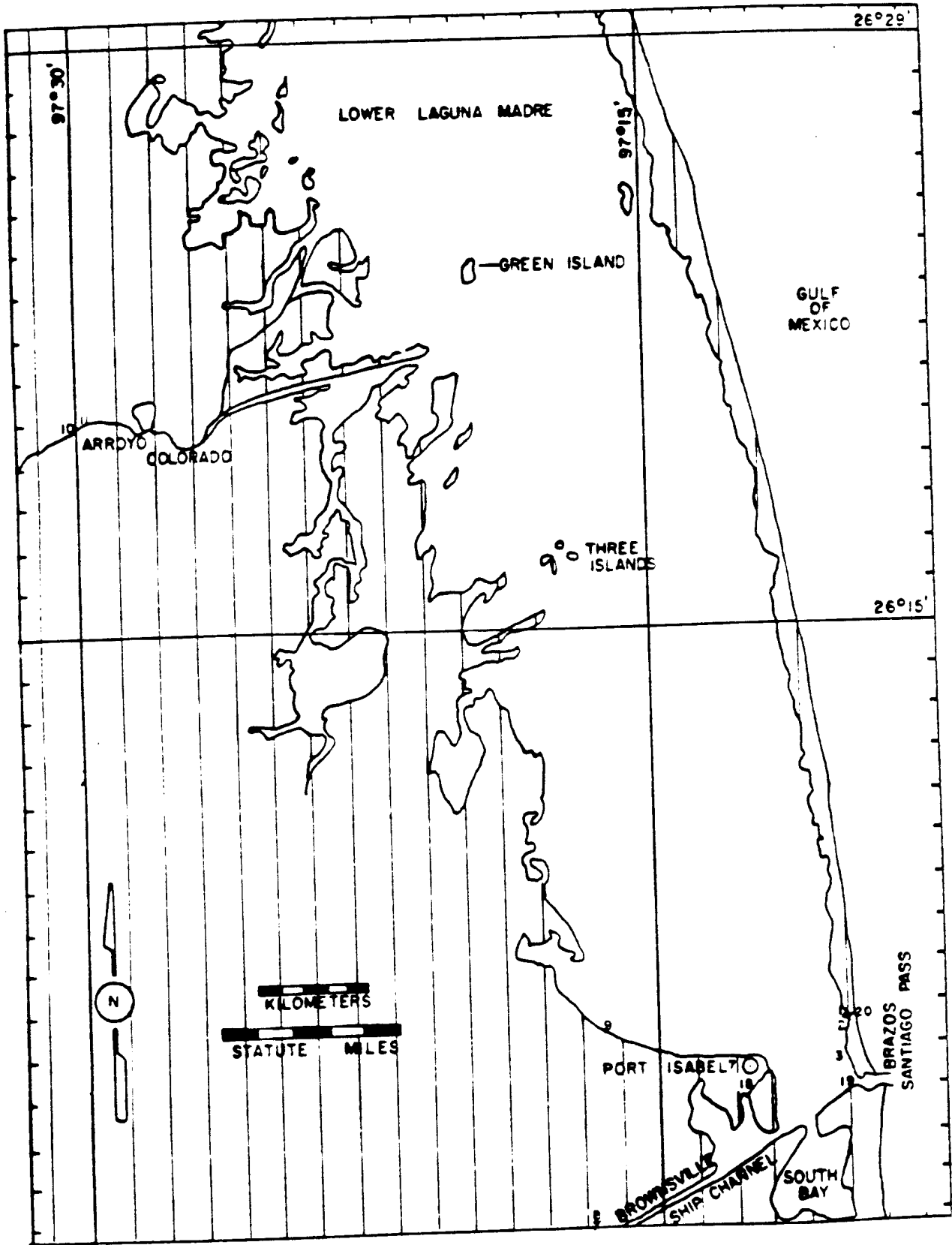












Appendix C. Area descriptions.

AREA DESCRIPTIONS

Descriptions of each bay system except the East Matagorda Bay system were reproduced from Matlock and Weaver (1979).

Galveston Bay

The Galveston Bay system, which includes 353,768 acres, is the largest estuary on the Texas coast (Fisher et al. 1972) and consists of Galveston, Trinity, East, West, Dickinson, Chocolate, Christmas, Bastrop, Dollar, Drum and Tabbs Bays and Clear, Moses and Jones Lakes (Figure 1a-b).

The estuary is separated from the Gulf of Mexico by Bolivar Peninsula, Galveston Island and Follets Island. Two natural passes, Bolivar Roads and San Luis Pass, and one man-made pass, Rollover Pass, connect the estuary with the Gulf.

Bay depths average 6.9 ft or less except in dredged channels. Bolivar Roads, Houston, Texas City, Galveston and Bayport Ship Channels are dredged to 40 ft. The Intracoastal Waterway is dredged to 12.1 ft through East, lower Galveston, and West Bays (Diener 1975).

Bay substrates include mud, shell and clay; barrier island shorelines are predominantly sand. Approximately 7,527 acres of oyster reefs lie in Galveston, Trinity, East, West and Dickinson Bays (Benefield and Hofstetter 1976). Numerous spoil "islands" occur along most dredged channels.

Shoreline marshes are present along portions of East, West, Trinity, Christmas, Bastrop, Drum and Chocolate Bays. Diener (1975) listed 231,342 acres of emergent vegetation--smooth cordgrass (Spartina alterniflora) salt meadow cordgrass (S. patens), bulrush (Scirpus olney), shoregrass (Monothochloe littoralis), rush (Juncus romerianus), seashore saltgrass (Distichlis spicata) and saltwort (Batis maritima)--and 18,095 acres of submergent seagrasses--widgeon grass (Ruppia maritima) and Halodule beaudettei--in Galveston Bay. McEachron, Shaw and Moffett (1977) reported Halophilia engelmanni and turtle grass (Thalassia testudinum) in Christmas and Bastrop Bays.

The bay receives an average of 2642 billion gal of fresh water annually, 90% of which comes from the Trinity and San Jacinto Rivers (Environmental Protection Agency 1971). Diener (1975) reported salinities ranging from 5-15 o/oo in Trinity and upper Galveston Bays to 20-30 o/oo in the lower portions of Galveston Bay near the Gulf. From November 1975 through March 1976 bay salinities at gill net stations ranged from 2.2 to 28.9 o/oo, dissolved oxygen varied from 5 to 18 ppm and water temperatures ranged from 40.1 to 76.1 F (Texas Parks & Wildlife Dept., Seabrook, Texas).

The Galveston Bay complex is adjacent to the most populated and industrialized area of Texas. A population of 2,424,800 people reside in

the eight counties bordering the bay (1974 Census Data, Houston-Galveston Area Council, personal communication). The highest concentrations of people and industrial complexes are on the western shores of Galveston Bay and the eastern shores of West Bay. From 1967 to 1969 the daily average flow of domestic wastewater into the Galveston Bay complex was at least 16.7 million gal and the industrial wastewater inflow at least 300 million gal (Diener 1975).

Sport fishermen caught an estimated 2,774,297 lb of fish in the bay from September 1974 through August 1975 (Heffernan et al. 1977). The commercial fishing industry harvested over 45.1 million lb of shrimp worth \$38,000,000, 15.4 million lb of blue crabs worth \$1,700,000, 6.6 million lb of finfish worth \$1,200,000, 21.4 million lb of shelled oysters worth \$11,700,000 and 9.3 million lb of small bait shrimp worth \$11,100,000 (O. B. Lynam, Texas Parks & Wildlife Dept., Seabrook, Texas, Unpublished data).

East Matagorda Bay

East Matagorda Bay (Figure 2) is a relatively shallow (3.4 ft average depth), medium to high salinity (15-30 o/oo), turbid bay with a surface area of 37,810 acres at mean low water (MLW) (Diener 1975).

The bay's only connection with the Gulf of Mexico has historically been Brown Cedar Cut at the east end. Caney Creek and the Colorado River delta mark the northeast and southwest boundaries, respectively. The Matagorda Peninsula forms the southern boundary while the Intracoastal Waterway borders the northern shoreline of East Matagorda Bay.

Extensive stands of emergent cordgrass (Spartina sp.) occur along both the southern and northern boundaries with rush found on the northern shoreline. Submergent grasses include widgeon grass and Halodule beaudettei.

Oyster reefs are located throughout the system but no estimate of the acreage was available.

East Matagorda Bay receives fresh water from rainfall and runoff entering the Intracoastal Waterway from Caney Creek, the Colorado River and Peyton Creek (via Lake Austin and Live Oak Bayou). No estimates of the amount of annual fresh water inflow were available.

Population centers are located at each end of the bay in Matagorda (population 700) and in Sargent (population unknown). Fishing constitutes the major activity of residents in both towns; however, information concerning commercial and recreational landings has been combined with data from the Matagorda Bay system.

Matagorda Bay

The Matagorda Bay system (Figure 3) encompasses an area of 244,430 acres and has an average depth of about 6.9 ft at MLW (Diener 1975). It includes Tres Palacios, Turtle, Carancahua, Lavaca, Cox, Keller and Chocolate Bays and Oyster, Redfish, Salt and Powderhorn Lakes.

Matagorda Bay is a large primary bay of 167,529 acres and 7.9 ft mean depth (Diener 1975). The southern boundary is the long, narrow Matagorda Peninsula with sand shoreline and extensive areas of submergent and emergent grasses; the eastern confine is the Colorado River delta and the western boundary is a shallow sand shoreline with limited submergent and emergent vegetation. The community of Port O'Connor (population 1,400) is in the southwest corner. Several secondary and tertiary bays associated with major and minor drainages into Matagorda Bay indent the northern perimeter.

Oyster Lake is a shallow muddy tertiary system of 2335 acres and 2.6-ft mean depth (Diener 1975) located along the northwestern shoreline of Matagorda Bay. Numerous oyster reefs are located throughout the system and the periphery is surrounded by emergent vegetation. Tres Palacios Bay is a secondary system of 9436 acres and 3.9-ft mean depth (Diener 1975) with oyster reefs and scattered shell throughout. The community of Palacios (3500 people) is located on the northern shoreline. Turtle Bay, with 1280 acres and 2.5-ft mean depth (Diener 1975), is a muddy system with a moderate number of oyster reefs. The shoreline is primarily clay bluffs with scattered emergent vegetation communities.

Carancahua Bay, along the north central shoreline of Matagorda Bay, covers 13,076 acres and has a 3.9-ft mean depth (Diener 1975). Several resort communities (Port Alto, Schicke Point and Cape Carancahua) are located along the bay. This bay has little marsh except in the southern portion where the tertiary systems of Redfish and Salt Lakes are located. Steep banks and sandy clay constitute the majority of the shore areas.

Lavaca Bay is a large secondary bay in the northwest corner of Matagorda Bay with 44,729 acres and 4.3-ft mean depth (Diener 1975). The shoreline is primarily clay bluffs. On the southeastern shoreline of Lavaca Bay are two smaller secondary areas: Cox Bay and Keller Bay. Cox Bay is a shallow muddy system with a clay bluff periphery and scattered oyster reefs throughout. Keller Bay is a deeper system and the southern perimeter has the largest submerged grass beds found in the Lavaca Bay complex. The community of Olivia (240 people) is located at the head of Keller Bay. On the western shoreline of Lavaca Bay is Chocolate Bay, a small, muddy bay of 699 acres and 2.6-ft mean depth with clay bank shoreline (Diener 1975). North of Chocolate Bay is the city of Port Lavaca (12,000 people). The area of central Lavaca Bay is the most heavily industrialized in the Matagorda Bay system.

South of Lavaca Bay, on the western shoreline of Matagorda Bay, is Powderhorn Lake. This is a moderately saline, shallow body of water of 2889 acres and 2.3-ft mean depth (Diener 1975). This "lake" connects with Matagorda Bay through Powderhorn Bayou on which the community of Indianola

(200 people) is located. The periphery of this bay is surrounded by large emergent grass communities.

There are two direct exchanges with the Gulf of Mexico, Pass Cavallo and the Matagorda Ship Channel, both located in the southwest corner of Matagorda Bay, and one indirect connection, the Colorado River, on the eastern boundary. The western portion of Matagorda Bay and the southern two-thirds of Lavaca Bay are transected by the Matagorda Ship Channel, 35.4 ft deep (Diener 1975), with associated spoil banks. The channel originates at the ALCOA (Aluminum Company of America) plant on the eastern shoreline of Lavaca Bay and terminates at the Gulf of Mexico through the Matagorda jetties. Small channels branch off in Lavaca Bay to the Refuge Harbor at Port Lavaca and to the Lavaca River. The Intracoastal Waterway, dredged to 12.1 ft (Diener 1975), intersects the Matagorda Ship Channel near Port O'Connor. The Palacios Ship Channel branches from the Intracoastal Waterway in south central Matagorda Bay.

Diener (1975) listed 119,970 acres of emergent vegetation--smooth cordgrass, salt meadow cordgrass, saltwort, shoregrass and coastal dropseed (Sporobolus virginicus)--and 7037 acres of submergent vegetation (widgeon grass and Halodule beaudettei) in the Matagorda Bay system.

Between 1957 and 1968 Matagorda Bay received an average 713 billion gal of freshwater discharge annually (Diener 1975), mainly through the Tres Palacios, Carancahua, Lavaca and Navidad Rivers with partial flow entering the bay from the Colorado River. From November 1974 through March 1976, bay water salinities at gill net stations ranged from 10.0 to 28.0 o/oo, dissolved oxygen varied from 6.0 to 13.0 ppm and water temperatures ranged from 44.6 to 78.8 F (Texas Parks & Wildlife Dept., Palacios).

Sport fishermen caught an estimated 844,600 fish weighing 968,832 lb in Matagorda Bay from September 1974 through August 1976; during the same period commercial fishermen landed 176,370 lb of fish (Breuer et al. 1977).

San Antonio Bay

The San Antonio Bay system consists of the primary bays San Antonio and Espiritu Santo and the secondary bays Hynes, Guadalupe and Shoalwater (Figure 4). Several large natural saltwater lakes occur along Matagorda Island and connect with the primary bays via sloughs and small passes. Two major passes, Cedar Bayou Pass to the west and Pass Cavallo to the east, provide circulation routes between the Gulf of Mexico and the bay system.

San Antonio, Hynes and Guadalupe Bays cover approximately 84,012 acres and Espiritu Santo Bay covers 34,099 acres for a total bay system area of 118,111 acres (Collier and Hedgpeth 1950). The average depths of the unaltered bay system are 3.9 ft in San Antonio Bay (maximum of 7.6 ft) and 4.9 ft in Espiritu Santo Bay (maximum of 7.9 ft) (Collier and Hedgpeth 1950).

Bottom substrates are generally silty clay and sand in the upper bay region which gradually change to sand-clay and sand in the lower bay and Espiritu Santo Bay regions (Texas Parks & Wildlife 1975). Approximately 3015 acres of spoil islands and 2001 acres of oyster reefs occur in the bay system (Burg 1974). One of the major oyster reefs is Panther Reef which extends from Panther Point north toward Mosquito Point.

The Guadalupe and San Antonio Rivers are the major sources of fresh water for the San Antonio Bay system, providing an average annual inflow of 449 billion gal from a drainage area of 6,559,920 acres (Childress et al. 1975). The amount of fresh water entering the system generally depends upon rainfall in the upland drainage rather than on local drainage. Local rainy periods usually occur during early summer and fall. The average annual rainfall for the area is 33.9 inches (Texas Parks & Wildlife 1975).

Salinity values for the bay system generally increase as the distance from the rivers increases. Out-flowing fresh water moves along the west shore of San Antonio Bay while incoming Gulf water moves along the east shore (Childress et al. 1975). Average surface salinities range from 0.0 o/oo in Guadalupe Bay to about 8.0 o/oo in lower San Antonio Bay and from 14.0 to 21.0 o/oo in Espiritu Santo Bay (Childress et al. 1975). No seasonal turbidity patterns are noted within the bay system; however, turbidities tend to increase toward the upper bay and river-influenced areas, as well as in areas disturbed by mudshell and channel dredging operations (Childress et al. 1975). Dissolved oxygen concentrations increase during cold months and decrease during warm months. Between May 1972 and August 1973, average dissolved oxygen concentrations ranged from 7.0 to 12.4 ppm (Childress et al. 1975).

About 24,993 acres of emergent and 16,345 acres of submergent vegetation are found in the San Antonio Bay system (Diener 1975). Smooth cordgrass is the dominant emergent plant in all areas of the bay system except in upper San Antonio Bay where common reed, Phragmites communis, is dominant (Childress et al. 1975). Other species of emergent vegetation include saltwort, saltgrass, shoregrass and salt meadow cordgrass (Diener 1975). The dominant submergent vegetation of the San Antonio Bay system is shoal grass, Diplanthera wrightii. This plant is located primarily in the low turbidity areas of lower San Antonio Bay and Espiritu Santo Bay and in the shallow lakes and sloughs found along the northern margin of Matagorda Island. Other species of submergent vegetation found in the bay system include widgeon grass, and the algae Polysiphona gorgoniae, Spyridia filamentosa, Gracilaria folifera, Ulva lactuca and U. fasciata (Childress et al. 1975). The algae are usually found attached to submerged solid objects such as oyster shells or pilings. However, some algae can be found in calm areas attached to mud or sand substrates.

Four small towns occur on the shoreline of the San Antonio Bay system: Austwell, Long Mott, Seadrift and Port O'Connor. Less than 4000 inhabitants live in these four communities combined (1970 census). The primary businesses found in this area are farming, ranching and fishing, including shrimping and oystering. The majority of the bay shoreline as well as the San Antonio-Guadalupe River drainage occurs on or near ranchland and farmland. Two major industries exist on the San Antonio Bay

system; Union Carbide Corporation at Long Mott and DuPont de Nemours E.I. & Company at Bloomington, a town on the Guadalupe River approximately 20 miles from the bay.

The tourist industry is not very extensive, but a few fishing centers at Seadrift and Port O'Connor furnish tackle, guides and access to the bay system. Most of the sport fishing occurs in Espiritu Santo Bay. Between September 1974 and August 1975, sport fishermen harvested an estimated 416,453 lb of fish from the entire bay system; commercial fishermen harvested an estimated 482,592 lb of fish (Heffernan et al. 1977). In addition, approximately 883,172 lb of shrimp, 1,125,239 lb of blue crabs and 196,873 lb of oysters were harvested commercially during the 1974 calendar year (O. B. Lynam, Texas Parks & Wildlife Dept., Seabrook Field Station, personal communication).

Aransas Bay

The Aransas Bay complex consists of primary, secondary and tertiary bays. The system extends from Aransas Pass, Texas, northeastward to Mesquite Bay, and from its eastern boundary of San Jose Island, westward across Copano Bay to the small community of Bayside, Texas (Figure 5).

Aransas Bay is the primary bay with a surface area at MLW of 56,207 acres and an average depth of 7.9 ft (Diener 1975). A direct water circulation and marine life migration route from the Gulf of Mexico to the bay is provided by a deep water (45.0-46.9 ft) pass, 600 to 712 ft in width, between San Jose Island and Mustang Island at Port Aransas, Texas (Anonymous 1971). This accounts for the higher than average salinities in the southern region of the bay (approximately 30 o/oo). The middle of the bay is the deepest part with a maximum value of 13.1 ft at MLW (U. S. Dept. Commerce 1976a). Six major oyster (Crassostrea virginica) reefs ranging in area from 25 to 257 acres are concentrated in the northern portion of Aransas Bay, along with scattered smaller reefs (Heffernan 1961). There are no private oyster leases in the Aransas Bay system (Diener 1975).

Copano, St. Charles, Redfish and Dunham Bays are considerably shallower, secondary areas, supporting extensive growths of algae and "grasses," which provide valuable nursery grounds for juvenile fish and crustaceans (Heffernan 1972a). Nutrient circulation in these bays is generally affected by freshwater runoff as well as by tidal fluctuations.

Copano Bay is the largest secondary bay with 41,730 acres of surface water and an average depth of 3.6 ft with a maximum depth of 8.9 ft (Diener 1975). The Mission and Aransas Rivers flow into the bay with respective discharges of 733.3 and 65.0 gal/s (Diener 1975).

Copano Bay has five large oyster reefs, ranging in size from 22 to 42 acres, plus a complement of smaller reefs (Heffernan 1961). The transverse position of a few of the reefs near the mouth of Copano Bay dampen tidal action in much of the bay (Collier and Hedgpeth (1950).

The narrow St. Charles Bay, extending between Lamar Peninsula and the Aransas National Wildlife Refuge, has a surface area of 8408 acres with a 3.6-ft average depth (Diener 1975). Freshwater flow from five creeks enters the bay along its northern reaches. Nearly the entire bay is considered prime nursery ground (Heffernan 1972a).

Redfish and Dunham Bays, at the southern and northern ends, respectively, of Aransas Bay, are also very shallow nursery areas but these bays do not receive direct freshwater flow. Redfish Bay is densely vegetated while Dunham Bay is a muddy, sparsely vegetated area.

Tertiary nursery grounds are located principally in the lower regions of creeks and streams which enter the secondary bays. Port Bay with 1651 acres extends southward from Copano Bay and receives freshwater from creek drainage at its southern tip (Diener 1975).

Mission Bay and lower Mission River with nearly 3939 acres and located off the northwest shore of Copano Bay are the most valuable nursery grounds of the tertiary areas (Heffernan 1972b).

Copano Creek harbors a small portion of nursery grounds in the northwest corner of Copano Bay (Heffernan 1972a).

Tertiary regions of Chiltipin Creek and the Aransas River system are located along the western shore of Copano Bay (Heffernan 1972a).

The Aransas Bay system contains 137,514 acres of water (Heffernan 1972a) of which 44,989 acres are occupied by eight major species of emergent vegetation--saltwort, shoregrass, glassworts (Salicornia sp.), smooth cordgrass, salt meadow cordgrass, coastal drop-seed, sea purselane (Sesuvium portulacastrum) and seashore saltgrass--and 4124 acres by three major species of submerged vegetation--(Halodule beaudettei), widgeon grass and turtle grass (Diener 1975; W. E. Mercer, TPWD, personal communication).

The climate of this area varies from semi-arid to dry sub-humid. Southeast winds are dominant most of the year but from December through February northerly winds associated with advancing cold fronts are common (Whitehouse and Williams 1953). Winters in the Aransas Bay system produce the lowest average monthly water temperatures (59.2 F) and rainfall (0.8 inch). Water temperatures increase through the spring (70.9 F), reach the highest values in the summer (83.7 F) and decline through the fall (73.6 F). Rainfall is greatest in the fall (6.4 inches). The amounts of rainfall in spring and summer average about 2.6 inches. Salinity values are inversely related to rainfall with the lowest salinity (14.1 o/oo) occurring in the fall. The highest salinity occurs in spring (26.8 o/oo). Dissolved oxygen, pH and turbidity remain relatively constant through the year with average values of about 7.0 ppm, 8 and 50 Jackson Turbidity Units (JTU), respectively (Martinez 1970, 1971).

Water movement in the bay system is strongly influenced by wind action. Generally, however, the surface waters take a serpentine course, flowing during a falling tide from Copano Strait south toward Mud Island where there is a clockwise eddy which tends to return the bay water north-

ward along the face of the more saline water from below Mud Island. On a strong rising tide this water is pushed east so that the eddy constricts into an ellipse (Collier and Hedgpeth 1950). The average tidal range from Aransas Bay is 0.49 ft (Diener 1975).

Mud is the predominant bottom sediment of the Aransas Bay system except along the sandy western shore of San Jose Island (Diener 1975).

The average total weight of finfish caught per year by commercial fishermen in the Aransas Bay system during the period 1969-1971 was 573,612 lb (Martinez 1970, 1971). The annual average harvest of commercially caught shrimp and crabs during the same period was 816,991 lb and 420,827 lb, respectively.

Along the 230 miles of shoreline of the Aransas Bay system, the only communities of notable size are Lamar, Bayside, Fulton, Rockport and, the largest, Aransas Pass which has a population of about 6000.

There are three domestic but no industrial waste outfalls in the bay system. Previous high discharges of toxic oil field brine into Chiltipin Creek and the Mission River were ordered ceased in 1973 by the Texas Railroad Commission (Heffernan 1972b). A total of 14,796 acres in the Aransas Bay system are now closed to shell fishing by the Texas Board of Health (Diener 1975) because of domestic sewage problems.

Corpus Christi Bay

The Corpus Christi Bay system, composed of Corpus Christi, Nueces, lower Redfish and Oso Bays, is located on the lower third of the Texas Gulf coast between longitude 97° 02' and 97° 32' W and latitude 27° 41' and 27° 55' N (Figure 6). It is bordered on the northeast by upper Redfish Bay, on the east by Mustang Island on the south by the upper Laguna Madre. The city of Corpus Christi forms the western boundary of Corpus Christi Bay. Nueces Bay, the former coastal lagoon for the Nueces River basin, is positioned on an east-west axis, entering Corpus Christi Bay at the northwest corner, just north of Corpus Christi. The southern half of Redfish Bay separates Aransas from Corpus Christi Bay and enters Corpus Christi Bay in the northeast quadrant. Oso Bay, the semi-enclosed drainage area for Oso Creek, joins Corpus Christi Bay in the southwest quadrant.

The entire Corpus Christi Bay system has an area of 124,796 acres with 127 miles of shoreline. Corpus Christi Bay is the largest of the four bays in the system, having a total surface area of 95,997 acres. Nueces Bay has an area of 19,518 acres, Oso Bay covers approximately 17,095 acres and lower Redfish Bay covers approximately 5258 acres. The average depth of Corpus Christi Bay is 11.2 ft; Nueces, Oso and lower Redfish Bays average 2.0 ft in depth (Collier and Hedgpeth 1950, Hood 1953, Stevens 1959).

Sediment composition in Corpus Christi Bay ranges from fine sand to black mud. A mixture of gray clay and black mud is the dominant bottom

type for the area. Brown silt occurs in areas of channelization while hard sand and fine shell can be found adjacent to Mustang Island.

Submergent vegetation is sparse in Corpus Christi, except along its eastern shore where shoal grass and widgeon grass dominate. Emergent vegetation, found throughout the bay complex, consists primarily of saltwort, glassworts, shoregrass, smooth cordgrass, coastal drop-seed, seablite, Suaeda linearis, sea oats, Uniola paniculata and saltmarsh bull-rush, Scirpus maritimus. In Corpus Christi Bay, 19 oyster reefs total 563 acres and are confined primarily to the western and northern portions. Oysters occur throughout Nueces Bay (Stevens 1959, 1960; Diener 1975). The primary sources of freshwater inflow into the Corpus Christi Bay system are Oso Creek and the Nueces River. Prior to the construction of Wesley Seale Dam at Mathis, Texas in 1958 the Nueces River averaged 200 billion gal of discharge per year. The reservoir furnishes the industrial and municipal freshwater needs for the city of Corpus Christi and surrounding towns. Freshwater inflow to Nueces and Corpus Christi Bays is now limited to periods of dam overflow and heavy land runoffs (Stevens 1959).

Prior to 1972, the primary source for water exchange between Corpus Christi Bay and the Gulf of Mexico was the Corpus Christi Channel. This ship channel extends approximately 18 miles from the port of Corpus Christi to its intersection with the Aransas Ship Channel, which continues for approximately 1 mile to the Gulf of Mexico. The two channels are maintained at an average depth of 40.0 ft (U. S. Dept. Commerce 1974). Since its completion in 1972, the Corpus Christi Fish Pass has provided intermittent water exchange through the upper Laguna Madre, but in recent years this has only occurred in association with hurricane winds and tides. Water exchange for Corpus Christi Bay with lower Redfish Bay and the upper Laguna Madre takes place primarily through the Intracoastal Waterway and on a limited basis across the shallow flats during high tides.

The climate for the area is intermediate between the semi-arid regions to the west and southwest and the humid sub-tropical region to the northeast. For the period 1936-1975 the mean annual air temperature was 71.2 F and the mean annual rainfall was 28.5 inches (NOAA 1975).

The general water circulation pattern for the Corpus Christi Bay system is a counterclockwise movement along the shoreline (Stevens 1959). The predominant winds, generally from the southeast year-round with occasional "northers" in the winter, and the irregular lunar tides, have the greatest overall influence on the bay water movement. For the period 1968-1972, the mean salinity and the mean water temperature for the entire Corpus Christi Bay system was 26.1 o/oo and 73.4 F, respectively (Martinez 1968, 1969, 1970, 1971 and 1972). The mean turbidity for the same period was 43 JTU, although the mean for Nueces Bay during 1971 and 1972 was 107 JTU.

The entire system lies within Nueces County, Texas. The county, with an area of 536,301 acres, had a population of 237,544 persons as of the 1970 census. The city of Corpus Christi had a population estimate of 204,525 (Diener 1975). Extensive oil and gas exploration has resulted in

numerous well platforms and submerged pipelines throughout Nueces and lower Redfish Bays and along the western shore of Corpus Christi Bay. Heavy industrialization has occurred along the south shore of Nueces Bay and the north shore of Corpus Christi Bay in the area of La Quinta Channel.

Upper Laguna Madre

Located on the lower Texas coast between latitudes 27° 10' and 27° 41' the upper Laguna Madre system consists of the upper Laguna Madre and the Baffin Bay system (Figure 7). The upper Laguna Madre is a long (approximately 41 miles), narrow (9.8 miles) and shallow (average depth 3.3 ft) lagoon extending from the Kenedy Land Cut to Corpus Christi Bay (Simmons 1957, Diener 1975, U. S. Dept. Commerce 1976b). Bordered on the east by Padre Island and on the west by the city of Corpus Christi and the King and Kenedy Ranches, the upper Laguna Madre covers approximately 47,228 acres at MLW (Diener 1975).

This long, narrow coastal lagoon is bisected imperfectly by the Intracoastal Waterway, which is 124.7 ft wide and 12.1 ft deep. Spoil banks from this canal form a dike 13 miles long effectively dividing the northern part of the bay. Beyond this point, spoil banks are staggered and the division is less effective (Simmons 1957). The northern end of the lagoon is restricted by a land fill causeway which has three openings totaling about 899 ft in width at MLW. The southern end is restricted by a land fill through which the Intracoastal Waterway extends.

The upper Laguna Madre is joined in the southern portion by the equally large Baffin Bay system--consisting of Baffin Bay, Alazan Bay, Laguna Salada, Cayo del Grullo and Cayo del Infernillo--which covers an estimated 54,117 acres. Baffin Bay, the central and largest bay of the group, is a narrow body of water, 19 miles long and 5 miles wide, bisected laterally by the demarcation line of Kleberg-Kenedy Counties (Breuer 1957). The average depth in Baffin Bay is 7.9 ft at MLW, with a maximum depth (MLW) of 12.1 ft near the entrance to the Laguna Madre (Breuer 1957, Diener 1975). There are approximately 31,861 acres of surface area (MLW) in Baffin Bay.

Alazan Bay, entirely within Kleberg County and the King Ranch, extends approximately 15 miles northeasterly to the mouth of Petronilla Creek (Breuer 1957, Diener 1975). The average water depth (MLW) in Alazan Bay is approximately 3.0 ft. The surface area of Alazan Bay is approximately 13,867 acres.

Cayo del Infernillo is a shallow slough (0.7 ft) extending westward from the west shore of Alazan Bay whose water surface at MLW covers 699 acres (Breuer 1957, Diener 1975).

Baffin Bay is joined by two small tertiary bays--Laguna Salada entering from the west and Cayo del Grullo from the northwest. Both bays have an average water depth (MLW) of 3.0 ft. Laguna Salada covers approximately 3227 acres and Cayo del Grullo about 4470 acres.

The upper Laguna Madre, with restricted openings at either end, no constant openings into the Gulf of Mexico and limited freshwater inflow, has been characterized as a hypersaline estuary (Simmons 1957, Breuer 1962a), with salinities of 50-60 o/oo common. The Intracoastal Waterway provides for limited water exchange at both ends of the lagoon. Since the dredging of the Intracoastal Waterway salinity "has neither risen above 80 o/oo in the lagoon nor in Baffin Bay (where 100 o/oo was formerly not uncommon), nor have waters of very low salinity remained in the area any length of time" (Simmons 1957). The only substantial source of freshwater is runoff from the Kenedy, Kleberg, Jim Wells and Nueces County watersheds into the Baffin Bay system (Breuer 1957). The dry sand on Padre Island absorbs rain very rapidly and the very gradual slope of the lagoon's western shores make these areas poor watersheds (Simmons 1957).

The upper Laguna Madre system lies in two climatic zones--north of Baffin Bay is sub-humid; south of that point is semi-arid (Simmons 1957). Rainfall in the area is highly variable but averages 27.0-29.1 inches annually (NOAA, Env. Data Sys., Natl. Climatological Center, Ashville, N. C. 1976). Annual average surface water temperatures for the period 1969-1972 ranged from 73.6 to 76.3 F in the upper lagoon (Martinez 1969, 1970, 1971, 1972). No data concerning water temperature from Baffin Bay is available. Southeast or south-southeast winds are prevalent during most of the year and are directly responsible for the water circulation in the system (Simmons 1957). Water in the upper lagoon is generally clear (annual average turbidity during 1969-1972 ranged from 36.8 to 45.6 JTU) (Martinez 1969, 1970, 1971, 1972); while water in Baffin Bay is often turbid and at times becomes a dark brown (Breuer 1957).

The bottom in the upper lagoon consists primarily of quartzose sand, silt and shell with some calcareous sand or mud in isolated areas (Simmons 1957). In the Baffin Bay system bottom types of soft mud, soft and hard clay, sand and concentrated shell (mostly Mulinia lateralis) can be found. Also, in Baffin Bay and near the junction of Baffin Bay and the upper Laguna Madre are extensive rock formations consisting of serpulid worm tubes, calcareous and quartzose material.

Simmons (1957) and Breuer (1957) reported dense vegetation--shoalgrass and widgeon grass--restricted to the northern one-third of the lagoon. They indicated that the remainder of the system has only sparse to moderate vegetation, with the exception of the area near the entrance to Baffin Bay and areas around spoil islands.

The only substantially populated center adjacent to the upper Laguna Madre is Corpus Christi, Texas with a population of 204,525 (U. S. Dept. Commerce 1970a). An additional 33,166 people in Kleberg County (U. S. Dept. Commerce 1970b) are located near the Baffin Bay system.

Industrialization in the area has been held to a minimum because of limited access to the surrounding land. The only major industry in the system is a public utility (Central Power and Light Co.) which displaces approximately 3.3 million gal of water/min from the upper Laguna to Oso Bay (Mr. M. L. Shepard, Central Power and Light Co., June 1976, Personal Communication). Most of the area surrounding Baffin Bay is private ranchland and consequently there is little urban development. There is

considerable oil and gas development on these ranches, resulting in large quantities of oil field brine production. In most cases the brine has been discharged into the bay or a creek which leads to the bay. Mackin (1971) reported that approximately 2,728,897 gal of oil field brine is discharged each day into Petronilla Creek and thence into Alazan and Baffin Bays.

Lower Laguna Madre

The lower Laguna Madre is a long shallow bay that extends 55 miles northward from Port Isabel to the Kenedy Land Cut (Figure 8). It varies from 3 miles to 7.8 miles wide and is imperfectly-bisected by the Intra-coastal Waterway. The bay is bounded on the west by the Texas mainland and on the east by Padre Island and contains approximately 182,809 acres (Stokes 1974). Passes to the Gulf of Mexico are located near Port Isabel and east of Port Mansfield. Limited amounts of fresh water (average of 818.9 gal/s) enter lower Laguna Madre from the Arroyo Colorado and North Floodway (Bryan 1971).

Except for the Intracoastal Waterway with an average depth of 12.0 ft, the deepest areas are found in the northern and southern portions of the bay (Breuer 1962a). In the northern section, which extends from Port Mansfield to the Kenedy Land Cut, water depth is as much as 7.9 ft. From Port Mansfield south to Three Islands the water is shallow with most locations being 3.0 ft deep. South of Three Islands the maximum water depth is 5.9 ft and water depths of 3.9-4.9 ft are prevalent.

Bottom types consist of sand, silty sand or a combination of sand, silt and clay (Shepard and Rusnak 1957). Shell is not commonly found in lower Laguna Madre. In general, sediments are coarser along the eastern or Padre Island side of the bay than along the western or mainland side of the bay.

Shoalgrass is the most common type of vegetation found in lower Laguna Madre (Stokes 1974). Dense stands of shoalgrass can be found in shallow water along most of the shoreline as well as in the entire middle portion (Port Mansfield to Three Islands) of the bay. Light to dense stands of manatee grass (Cymodocea filiforme), turtle grass, widgeon grass, Halophila engelmannii and Acetabularia crenulata can be found scattered throughout the bay.

Hydrological parameters have been described by Stokes (1974). Average monthly salinities range from 16.0 to 41.0 o/oo. Excluding the Arroyo Colorado and North Floodway, salinities as low as 10.5 o/oo and as high as 44.9 o/oo are sometimes encountered. Average monthly bottom water temperatures range from 62.6 F during some winter months to 81.5 F in August. Turbidity values are generally highest from Port Mansfield to Three Islands (the shallowest portion of the bay). The average annual turbidity value in this region is 45 JTU. North of Port Mansfield the average turbidity is 28 JTU and south of Three Islands the average is 32 JTU.

The total population for the counties bordering lower Laguna Madre is 162,608 (Harlingen Chamber of Commerce). In 1973, 1,278,000 out-of-state residents visited the lower Rio Grande Valley. Although there are no figures available, it is probable that many of these people visited this area because of water related activities in lower Laguna Madre. Farming and ranching are the main industries along the bay. The only area of heavy industry is the Brownsville Ship Channel where several shrimp processing plants, a Union Carbide plant, a grain elevator, three ship dismantling plants, two oil loading docks and an oil rig construction company are located.

Appendix D. Pass descriptions.

PASS DESCRIPTIONS

Galveston Bay

Rollover Pass is the area between the junction with Rollover Bay, extending 1.6 km gulfward of the surf line.

Bolivar Roads is the area east of a line between the ferry landings in Port Bolivar to a range marker at the Coast Guard Station at Fort Point and 1.6 km gulfward of the end of the jetties.

Quintana Channel is the area between the Intracoastal Waterway southeast to 1.6 km gulfward of the end of the jetties.

San Luis Pass is the area 0.8 km bayward and 1.6 km gulfward off the Vacek Bridge.

Matagorda Bay

Brown Cedar Cut is the area between the mainland and Matagorda Peninsula extending southeast 1.6 km gulfward of the surf line.

Matagorda Ship Channel is the area from Marker 13 southeast to 1.6 km gulfward of the end of the jetties.

Pass Cavallo is the area south of a line between Decros Point and Saluria Bayou to 1.6 km gulfward of a line between Marker 13 and the Matagorda Light on Matagorda Island.

Aransas/Corpus Christi Bay Area

Cedar Bayou is the area between a line from Cedar Point southeast to the point of land on Matagorda Island out to 1.6 km gulfward of the surf line, including Vincent's Slough.

Port Aransas Pass is the area between a line from the range marker on San Jose Island to the Radio Beacon Tower out to 1.6 km gulfward of the end of the jetties.

Water Exchange Channel is the area through Mustang Island between the junction of Corpus Christi Bay and 1.6 km gulfward of the surf line.

Upper Laguna Madre

Corpus Christi Pass is the area through Mustang Island between the junction with the upper Laguna Madre 1.6 km gulfward of the surf line.

Lower Laguna Madre

Port Mansfield Channel is the area extending from Marker 12 to 1.6 km gulfward of the end of the jetties.

Brazos Santiago Channel is the area between a line from the Radio Beacon area south to Brazos Island out to 1.6 km gulfward of the end of the jetties.

Appendix E. Proportional probability estimates.

Data collected during September 1974 through August 1976 were used to compare estimates made using weightings with estimates using techniques described by Heffernan et al. (1976).

The proportional probability estimates were consistently greater than the previously made estimates indicating a positive bias (Table E.1). The source of this bias could be caused by two different phenomena. The proportion of fishing pressure that occurs at each ramp could be wrong or the number of samples selected at each site was not in proportion to the actual pressure at that site. Both of these occurred to some extent during the earlier phases of the first two years because there were no historical data with which to estimate fishing activity by site and equal probabilities were used to select sites during the first 90 days. This situation was improved later with the collection of pressure data and the bias that was introduced from these two sources was reduced in later years.

Table E.1. A comparison of pressure (trip man-hours), harvest (No.) and catch rates (No./man-hour) estimates made using methods based on random sampling and methods based on proportional sampling. ND = no data.

Bay system	Strata ^a	Pressure		Harvest		Catch rates	
		Random	Proportional	Random	Proportional	Random	Proportional
Galveston ^b	Br	2306	3279	2483	3550	1.08	1.08
	Wb	1576	3183	601	1069	0.38	0.33
	Pr	344	787	195	456	0.57	0.58
	Total	4226	7249	3279	5075	0.77	0.70
Matagorda ^c	Br	668	614	531	358	0.79	0.58
	Wb	818	582	305	194	0.37	0.33
	Pr	48	151	23	64	0.47	0.42
	Total	1534	1347	859	616	0.56	0.46
San Antonio ^b	Br	368	395	373	324	1.01	0.82
	Wb	17	62	15	23	0.88	0.37
	Pr	ND	ND	ND	ND	ND	ND
	Total	385	457	388	347	1.01	0.76
Aransas ^c	Br	462	556	481	494	1.04	0.89
	Wb	299	319	92	198	0.31	0.62
	Pr	236	327	162	165	0.69	0.50
	Total	997	1202	735	857	0.74	0.71
Corpus Christi ^c	Br	346	285	368	267	1.06	0.94
	Wb	629	539	160	160	0.25	0.30
	Pr	138	538	32	150	0.23	0.28
	Total	1113	1362	560	577	0.50	0.42
Upper Laguna Madre ^b	Br	805	882	792	819	0.98	0.92
	Wb	433	304	69	119	0.16	0.39
	Pr	335	295	40	76	0.12	0.26
	Total	1573	1481	901	1014	0.57	0.68

Table E.1. (Cont'd.).

Bay system	Strata ^a	Pressure		Harvest		Catch rates	
		Random	Proportional	Random	Proportional	Random	Proportional
Lower Laguna Madre ^c	Br	627	884	328	461	0.52	0.52
	Wb	448	326	48	81	0.11	0.25
	Pr	664	665	516	705	0.78	1.06
	Total	1739	1875	892	1247	0.51	0.66
Coastwide	Br	5582	6895	5356	6273	0.96	0.91
	Wb	4220	5315	1290	1844	0.31	0.35
	Pr	1765	2763	968	1616	0.55	0.58
	Total	11567	14973	7614	9733	0.66	0.65

^a Br = boat ramps; Wb = wade/bank; Pr = pier.

^b 1974-75

^c 1975-76

Appendix F. Total number of weekend days surveyed.

Table F.1. Total number of weekend days surveyed and the total number of bay fishermen interviewed () in each bay system by season (1974-84). ND = no data collected.

Season	Galveston	Matagorda	San Antonio		Aransas	Corpus Christi	Upper		Lower		Total
			Antonio	Madre			Laguna Madre	Laguna Madre			
1974-75											
High use	7 (865)	ND	13 (1259)	7 (238)	ND	9 (459)	ND	ND	36 (2821)		
Low use	11 (312)	ND	19 (471)	12 (199)	ND	12 (346)	ND	ND	54 (1328)		
Total	18 (1177)	ND	32 (1730)	19 (437)	ND	21 (805)	ND	ND	90 (4149)		
1975-76											
High use	ND	5 (99)	ND	ND	5 (121)	ND	5 (181)	15 (401)			
Low use	ND	9 (130)	ND	ND	11 (202)	ND	10 (253)	30 (585)			
Total	ND	14 (229)	ND	ND	16 (323)	ND	15 (434)	45 (986)			
1976-77											
High use	15 (541)	17 (264)	8 (344)	8 (306)	15 (492)	8 (290)	17 (732)	88 (2969)			
Low use	29 (235)	17 (109)	13 (184)	14 (168)	16 (305)	15 (147)	15 (373)	119 (1521)			
Total	44 (776)	34 (373)	21 (528)	22 (474)	31 (797)	23 (437)	32 (1105)	207 (4490)			
1977-78											
High use	34 (1285)	16 (471)	18 (826)	17 (481)	16 (429)	16 (299)	16 (706)	132 (4497)			
Low use	31 (486)	15 (231)	14 (435)	16 (178)	15 (223)	15 (323)	16 (601)	122 (2477)			
Total	65 (1771)	30 (702)	32 (1261)	33 (659)	31 (652)	31 (622)	32 (1307)	254 (6974)			
1978-79											
High use	32 (1817)	17 (596)	18 (962)	16 (380)	18 (500)	17 (596)	17 (700)	135 (5551)			
Low use	32 (532)	15 (106)	15 (448)	16 (164)	14 (183)	16 (338)	15 (311)	123 (2082)			
Total	64 (2349)	32 (702)	33 (1410)	32 (544)	32 (683)	33 (934)	33 (1011)	259 (7633)			

Table F.1. (Cont'd.).

Season	Galveston		Matagorda		San Antonio		Aransas		Corpus Christi		Upper		Lower		Total	
											Laguna	Madre	Laguna	Madre		
1979-80																
High use	27	(913)	18	(433)	21	(1010)	17	(308)	18	(475)	15	(474)	17	(666)	133	(4279)
Low use	15	(173)	12	(286)	21	(650)	14	(107)	15	(545)	16	(463)	15	(485)	108	(2709)
Total	42	(1086)	30	(719)	42	(1660)	31	(415)	33	(1020)	31	(937)	32	(1151)	241	(6988)
1980-81																
High use	17	(870)	17	(535)	22	(1099)	17	(322)	17	(583)	18	(1076)	17	(690)	125	(5175)
Low use	8	(96)	8	(71)	9	(231)	9	(91)	8	(302)	7	(256)	8	(342)	57	(1389)
Total	25	(966)	25	(606)	31	(1330)	26	(413)	25	(885)	25	(1332)	25	(1032)	182	(6564)
1981-82																
High use	27	(775)	27	(546)	21	(693)	27	(614)	27	(1276)	27	(1280)	23	(1239)	179	(6423)
Low use	12	(178)	12	(115)	12	(311)	12	(98)	12	(259)	12	(325)	12	(377)	84	(1623)
Total	39	(953)	39	(661)	33	(1004)	39	(672)	39	(1535)	39	(1605)	35	(1616)	263	(8046)
1982-83																
High Use	31	(1669)	27	(650)	27	(1031)	27	(422)	27	(1104)	27	(1903)	23	(1593)	185	(8372)
Low Use	12	(64)	12	(66)	12	(251)	12	(71)	12	(453)	12	(342)	12	(581)	84	(1828)
Total	43	(1733)	39	(716)	35	(1282)	79	(493)	39	(1557)	39	(2245)	35	(2174)	269	(10200)
1983-84																
High Use	31	(583)	31	(702)	26	(1351)	31	(873)	31	(940)	31	(2656)	31	(1771)	212	(8876)
Low Use	12	(110)	12	(133)	12	(230)	12	(24)	12	(174)	12	(133)	12	(243)	84	(1047)
Total	43	(693)	43	(835)	38	(1581)	43	(897)	43	(1114)	43	(2789)	43	(2014)	296	(9923)

Appendix G. Estimated harvest of fishes in Texas' Territorial Sea.

Table G.1. Estimated annual harvest (No. X 1000) of fishes by species and area caught by sport-boat fishermen in the Texas Territorial Sea.

Species	Year	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide ^a total
Spotted seatrout						
	1982-83	1.3	0.8	0.1	0.2	2.4
	1983-84	0.0	3.1	<.1	0.1	3.2
Red drum						
	1982-83	0.0	0.1	<.1	0.0	0.2
	1983-84	0.0	0.4	0.1	<.1	0.4
King mackerel						
	1982-83	8.2	1.3	2.6	0.4	12.5
	1983-84	0.0	1.1	9.4	0.5	11.0
Spanish mackerel						
	1982-83	1.2	0.6	0.3	0.0	2.1
	1983-84	0.0	0.5	0.4	0.3	1.2
Red snapper						
	1982-83	0.7	7.9	0.6	2.4	11.6
	1983-84	<.1	1.1	0.8	1.6	3.5
Atlantic croaker						
	1982-83	0.3	0.2	0.1	0.3	0.9
	1983-84	0.1	0.1	0.0	0.0	0.1
Sand seatrout						
	1982-83	0.2	23.9	2.9	0.7	27.7
	1983-84	0.2	7.4	<.1	0.0	7.7
Cobia						
	1982-83	0.6	0.1	<.1	<.1	0.8
	1983-84	0.0	<.1	<.1	<.1	0.1
Other						
	1982-83	2.1	1.1	1.7	0.3	5.2
	1983-84	0.2	2.0	3.3	0.1	5.6

Table G.1. (Cont'd.).

Species	Year	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide ^a total
All species combined ^a						
	1982-83	14.5	35.9	8.3	4.3	63.0
	1983-84	0.5	15.7	13.9	2.7	32.7

^aDue to rounding of numbers, totals may not exactly equal individual species totals.

Table G.2. Estimated harvest (No. X 1000) of fishes for the high use season (15 May-20 November) by species and area caught by sport boat fishermen in the Texas Territorial Sea.

Species	Year	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide ^a total
Spotted seatrout						
	1982	1.3	0.7	0.1	0.2	2.3
	1983	0.0	3.1	<.1	0.1	3.2
Red drum						
	1982	0.0	0.1	<.1	0.0	0.1
	1983	0.0	0.3	<.1	0.0	0.4
King mackerel						
	1982	8.2	1.3	2.6	0.4	12.5
	1983	0.0	1.1	9.4	0.5	11.0
Spanish mackerel						
	1982	1.2	0.7	0.3	0.0	2.2
	1983	0.0	0.5	0.4	0.3	1.2
Red snapper						
	1982	0.7	7.2	0.6	2.3	10.8
	1983	0.0	1.0	0.8	1.6	3.4
Atlantic croaker						
	1982	0.3	0.1	0.1	0.3	0.8
	1983	0.1	0.1	0.0	0.0	0.1
Sand seatrout						
	1982	0.2	21.1	2.9	0.7	24.9
	1983	0.2	0.4	<.1	0.0	0.7
Cobia						
	1982	0.6	0.1	<.1	<.1	0.8
	1983	0.0	<.1	<.1	<.1	0.1
Other						
	1982	2.1	0.9	1.6	0.3	4.9
	1983	0.2	1.6	3.3	0.0	5.1

Table G.2. (Cont'd.).

Species	Year	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide ^a total
All species combined ^a						
	1982	14.5	32.1	8.2	4.2	59.0
	1983	0.5	8.1	13.9	2.5	25.0

^aDue to rounding of numbers, totals may not exactly equal individual species totals.

Table G.3. Estimated harvest (No. X 1000) of fishes for the low use season (21 November-14 May) by species and area caught by sport boat fishermen in the Texas Territorial Sea.

Species	Year	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide ^a total
Spotted seatrout						
	1983	0.0	0.1	0.0	0.0	0.1
	1984	0.0	0.0	0.0	0.0	0.0
Red drum						
	1983	0.0	<.1	0.0	0.0	<.1
	1984	0.0	0.1	0.0	<.1	0.1
King mackerel						
	1983	0.0	0.0	0.0	0.0	0.0
	1984	0.0	0.0	0.0	0.0	0.0
Spanish mackerel						
	1983	0.0	<.1	0.0	0.0	<.1
	1984	0.0	0.0	0.0	0.0	0.0
Red snapper						
	1983	0.0	0.7	0.0	0.1	0.8
	1984	0.0	0.1	0.0	0.0	0.1
Atlantic croaker						
	1983	0.0	<.1	0.0	0.0	<.1
	1984	0.0	0.0	0.0	0.0	0.0
Sand seatrout						
	1983	0.0	2.8	0.0	0.0	2.8
	1984	0.0	7.0	0.0	0.0	7.0
Cobia						
	1983	0.0	0.0	0.0	0.0	0.0
	1984	0.0	0.0	0.0	0.0	0.0
Other						
	1983	0.0	0.2	0.1	0.0	0.3
	1984	0.0	0.4	0.0	0.1	0.5

Table G.3. (Cont'd.).

Species	Year	Galveston	Matagorda	Corpus Christi	Lower Laguna Madre	Coastwide ^a total
All species combined ^a						
	1983	0.0	3.8	0.1	0.1	4.0
	1984	0.0	7.6	0.0	0.1	7.7

^aDue to rounding of numbers, totals may not exactly equal individual species totals.

Appendix H. Percent pressure (trip man-h) in the
Texas Territorial Sea and the U.S.
Fishery Conservation Zone.

Table H.1. Percent pressure (trip man-h) by season and area for sport-boat fishing in the Texas Territorial Sea (TTS) and the U.S. Fishery Conservation Zone (FCZ) off Texas (May 1983-May 1984).

Area	High use		Low use		Annual	
	TTS	FCZ	TTS	FCZ	TTS	FCZ
Galveston	76.7	23.3	-	-	76.7	23.3
Matagorda	45.2	54.8	30.0	70.0	42.9	57.1
Corpus Christi	55.9	44.1	100.0	0.0	61.0	39.0
Lower Laguna Madre	33.1	66.9	4.6	95.4	20.8	79.1
Coastwide	61.8	38.2	57.0	43.0	61.3	38.7

Appendix I. Estimation of total landings.

ESTIMATION OF TOTAL LANDINGS

The Texas Parks and Wildlife Department (TPWD) has conducted extensive recreational surveys for three fishing strata in seven bay systems for two years (Heffernan et al. 1976, Breuer et al. 1977). TPWD has also conducted reduced surveys (weekend boat ramps only) for 5 years (McEachron and Green 1981. Total landings (number of fish harvested) estimates from the 2 years of surveying three fishing strata on weekends and weekdays and data from weekend boat fishing during the same time were used to develop regression models to estimate the total landings from weekend boat fishing statistics. This was done to study the feasibility of estimating the total harvest from the reduced survey which would enable total harvest estimates to be made for years in which only reduced surveys were conducted.

The 2 years of data from each of the bay systems were used to estimate a total harvest for a high use season (15 May-20 November) and a low use season (21 November-14 May). Corresponding weekend boat landings were estimated using weekend boat data only. These estimates (total estimated landings from three strata and total weekend boat landings) along with mean number of fish landed by boat fishermen per weekend day, mean man-h fished by boat fishermen per weekend day and total number of piers and wade-bank areas (access points) available were used to develop regression models. These data were processed using the BMDP2R program from the Biomed statistical package. The general model used was:

$$Y_1 = a + B_1 X_1 + B_2 X_2 + B_3 X_3 + B_4 X_4$$

where Y was the total landings from all three strata within a bay system and season, a was the intercept, X_1 was the mean number of fish landed per weekend day, X_2 was the estimated number of fish harvested at boat ramps on the weekend, X_3 was the estimated mean number of man-h fished on a weekend day and X_4 was the total number of pier and wade-bank fishing areas available (Table I.1).

The first attempt to develop a model was for the total fish landings (all species combined). Inspection of the residuals from the first attempt to fit data to the model showed two data sets as being atypical (the residuals from these data were greater than three standard deviations). An explanation for these large residuals could not be found on any empirical ground regarding total access points or geographical relationship to a population center. The most likely explanation for the discrepancy was probably an inaccurate catch rate from a small sample size. These two data sets were removed and the analysis was performed again. The fit of the model was greatly improved (i.e. R^2 went from 0.96 to 0.99 and the standard error of the estimate went from 166 to 51). The resultant model for estimating total landings (all species combined) included two variables; the estimated mean number of fish landed per weekend day by boat fishermen and the total number of access points (lighted pier and wade-bank areas) available (Table I.2).

Models for estimating the total landings for each of the individual species were attempted using an analysis of covariance. The same general model and the same variables used in developing the total harvest for all species combined was used. An inspection of the residuals showed that the same two data points that had been a problem in the first analysis were also giving problems in this analysis. They were removed and the analysis was attempted again. Significant improvements were made in the fit of all these models and reductions in standard errors were realized. Significant differences were found for the intercepts and coefficients between the species models; however, seven of the models were consistent in that total weekend boat landings and mean man-h of boat fishing per weekend day were selected as significant predictor variables. All of these models had high coefficients of determination (R^2) ranging from 0.81 for gafftopsail catfish to 0.99 for Atlantic croaker (Table I.2). Total landings for southern flounder and sheepshead were only correlated with total number of pier and wade-bank access areas available. These models were much less efficient than the other species models; coefficients of determination were 0.45 and 0.44, respectively.

Examination of residuals indicated that the linear models performed well and there was no reason to suspect any of these relationships of being curvilinear.

The regression models were used to estimate total fish landings in each year (15 May of one calendar year through 14 May of the next) starting with 1 June 1974. Annual estimates were made (Table I.3) by adding the high use season of one year (i.e. 15 May 1975-20 November 1975) to the low use season of the next year (21 November 1975-14 May 1976). Only one change was made to the estimating procedure after the development of these models: any zero or negative estimate was altered to the total estimated weekend boat landings. This means that the estimates were always greater than or equal to the estimated weekend boat landings (in any case they were never less than 0).

Table 1.1. Estimated total landings for lighted piers, wade-bank areas and boat ramps and estimated weekend (WE) boat landings, estimated mean man-h fished by sport-boat fishermen per weekend day, estimated mean number of fish landed by sport-boat fishermen per weekend day and total number of lighted piers and wade-bank areas for each bay system by year and season (all variables are expressed in units x 1000 except mean fish landed per day and access points).

Bay system	Year	Season ^a	Estimated total landings	Estimated WE boat landings	Mean man-h per weekend day	Mean fish landed per weekend day	Access point
Galveston	74-75	High	3910	1336	26.1	23,436	74
	74-75	Low	1165	298	9.7	5729	74
	79-80	High	1591	466	1.9	8959	87
	79-80	Low	442	56	4.3	1077	87
Matagorda	75-76	High	444	136	4.0	2390	26
	75-76	Low	172	62	2.4	1187	26
	79-80	High	303	75	3.8	1443	37
	79-80	Low	117	33	1.6	631	37
San Antonio	74-75	High	206	121	3.4	2114	9
	74-75	Low	141	73	1.1	1395	9
	79-80	High	101	39	1.4	756	5
	79-80	Low	25	13	1.0	241	5
Aransas	74-75	High	444	175	4.0	3064	19
	74-75	Low	415	48	1.4	921	19
	79-80	High	175	50	2.4	953	23
	79-80	Low	97	13	0.4	254	23
Corpus Christi	75-76	High	272	94	1.8	1655	47
	75-76	Low	305	42	1.0	802	47
	79-80	High	220	47	1.5	903	54
	79-80	Low	212	35	1.5	675	54
Upper Laguna Madre	74-75	High	633	358	6.4	6283	19
	74-75	Low	381	146	5.7	2808	19
	79-80	High	328	124	6.7	2377	23
	79-80	Low	147	56	2.1	1075	23

Table 1.1. (Cont'd.).

Bay system	Year	Season ^a	Estimated total landings	Estimated WE boat landings	Mean man-h per weekend day	Mean fish landed per weekend day	Access point
Lower Laguna Madre	75-76	High	1281	185	6.6	3251	49
	75-76	Low	212	56	3.5	1085	49
	79-80	High	376	70	2.5	1352	64
	79-80	Low	303	62	2.1	1189	64

^aThe high use season was the fall of one year combined with the summer of the next year (i.e. 1 Sept. 1974-20 Nov. 1974 and 15 May 1975-31 Aug. 1975) and the low use season was the winter and spring (i.e., 21 Nov. 1974-14 May 1975).

Table 1.2. Regression coefficients used to estimate total landings (number of fish) for each species and all species combined from weekend sport-boat fishing (Y and all variables except total access points are expressed in 1000s).

Species	Variables ^a				Coefficient of determination (R ²)	se (Y)	
	Intercept (a)	Fish/day (X ₁)	Weekend boat landings (X ₂)	Man-h fishing day (X ₃)			Total access points (X ₄)
Spotted seatrout	-16.14	-	1.28	25.75	-	0.90	67
Red drum	+ 5.31	-	0.69	1.92	-	0.85	5
Black drum	- 6.35	-	1.62	4.62	-	0.84	15
Southern flounder	-27.11	-	-	-	1.60	0.45	45
Sheepshead	- 4.30	-	-	-	0.54	0.44	15
Atlantic croaker	- 5.61	-	1.62	9.56	-	0.99	24
Sand seatrout	- 5.80	-	1.48	10.68	-	0.91	48
Gafftopsail catfish	- 3.15	-	1.60	1.13	-	0.81	5
Others	-20.19	-	1.71	11.71	-	0.93	26
Total	-90.9	0.16	-	-	3.74	0.99	51

^aCoefficients are shown only for variables that were significant in predicting the harvest for that species in the model:

$$Y = a + B_1 X_1 + B_2 X_2 + B_3 X_3 + B_4 X_4$$

Table 1.3. Regression estimates^a of total recreational saltwater fish landings (No. x 1000) (May 1974 - May 1984).
 ND = no data collected.

Year	Bay system										Coastwide total
	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre				
Spotted seatrout											
1974-75	972	ND	304	312	ND	356	ND				1944
1975-76	1195	415	281	330	94	825	345				3486
1976-77	291	71	111	188	63	332	317				1374
1977-78	631	188	87	131	74	125	246				1483
1978-79	605	191	58	111	89	98	198				1350
1979-80	500	118	76	127	85	193	179				1278
1980-81	391	182	100	82	80	478	165				1477
1981-82	567	196	57	133	110	352	167				1582
1982-83	469	95	66	78	158	355	248				1469
1983-84	320	225	89	157	213	314	155				1473
Red drum											
1974-75	76	ND	36	28	ND	37	ND				178
1975-76	93	48	29	37	22	39	40				309
1976-77	37	22	29	26	17	22	28				181
1977-78	72	25	24	27	16	19	27				210
1978-79	57	32	27	18	18	18	23				194
1979-80	49	33	23	19	21	24	24				192
1980-81	46	38	23	19	20	43	23				211
1981-82	56	28	21	23	18	34	20				200
1982-83	48	23	19	23	24	34	27				198
1983-84	35	38	28	30	29	31	28				219
Black drum											
1974-75	140	ND	9	10	ND	38	ND				196
1975-76	228	42	18	44	10	43	36				422
1976-77	79	11	28	11	2	18	20				170
1977-78	160	28	7	7	3	10	23				238
1978-79	141	29	7	5	4	8	16				211
1979-80	117	21	2	20	7	10	11				189

Table 1.3. (Cont'd.).

Year	Bay system											Coastwide total
	Galveston	Matagorda	San Antonio			Aransas	Corpus Christi	Upper		Lower		
			Antonio	Aransas	Christi			Laguna Madre	Laguna Madre	Laguna Madre		
Black drum												
1980-81	128	66	6	4	8			41	13			266
1981-82	86	33	2	10	6			39	8			185
1982-83	109	20	3	5	23			40	17			216
1983-84	50	33	2	15	25			26	12			163
Southern flounder												
1974-75	182	ND	7	18	ND			37	ND			245
1975-76	183	29	4	12	96			15	103			441
1976-77	192	35	4	7	103			10	115			467
1977-78	205	45	5	10	109			13	125			512
1978-79	215	55	2	16	115			16	138			557
1979-80	224	64	2	19	119			19	151			599
1980-81	224	64	6	19	119			19	151			602
1981-82	224	64	1	19	119			19	151			543
1982-83	224	64	3	19	119			20	151			600
1983-84	224	64	3	19	119			20	151			600
Sheepshead												
1974-75	71	ND	2	13	ND			12	ND			98
1975-76	71	19	4	11	42			12	44			204
1975-77	74	22	1	12	44			13	49			215
1977-78	113	25	3	13	46			14	52			266
1978-79	82	28	0	15	49			15	56			246
1979-80	85	31	1	16	50			16	60			261
1980-81	85	31	1	16	50			16	60			260
1981-82	85	31	3	18	50			16	60			247
1982-83	85	31	1	16	50			16	60			260
1983-84	85	31	2	16	50			16	60			260

Table 1.3. (Cont'd.).

Year	Bay system											Coastwide total
	Galveston	Matagorda	San Antonio		Aransas	Corpus Christi		Upper		Lower		
			Galveston	Matagorda		Antonio	Aransas	Christi	Laguna	Madre	Laguna	
Atlantic croaker												
1974-75	704	ND	30	36	ND	111	ND	ND	882			
1975-76	2016	98	42	66	30	162	87	2503				
1976-77	519	41	18	32	19	56	55	741				
1977-78	897	56	18	23	21	52	53	1120				
1978-79	564	65	18	20	32	78	45	821				
1979-80	540	42	15	18	31	43	32	720				
1980-81	311	74	20	16	40	115	31	607				
1981-82	330	44	8	25	58	112	25	602				
1982-83	255	30	12	21	45	112	48	523				
1983-84	191	56	16	41	83	98	32	517				
Sand seatrout												
1974-75	888	ND	32	45	ND	80	ND	1046				
1975-76	631	124	49	155	91	108	111	1270				
1976-77	466	42	20	67	63	48	61	767				
1977-78	423	63	22	32	40	31	84	695				
1978-79	620	67	18	28	44	30	48	854				
1979-80	361	49	18	18	44	41	36	565				
1980-81	259	62	23	31	70	104	40	590				
1981-82	241	72	12	37	62	92	44	559				
1982-83	334	39	15	25	100	93	60	666				
1983-84	153	84	21	45	130	85	42	560				
Gafftopsail catfish												
1974-75	43	ND	4	2	ND	3	ND	53				
1975-76	58	17	7	7	3	8	4	104				
1976-77	19	19	3	3	2	0	0	46				
1977-78	22	25	4	1	1	0	1	53				
1978-79	36	24	2	3	4	0	2	71				
1979-80	17	2	1	0	2	0	0	22				
1980-81	18	4	0	1	1	6	0	31				

Table 1.3. (Cont'd.).

Year	Bay system											Coastwide total				
	Galveston			Matagorda		San Antonio		Aransas		Corpus Christi			Upper		Lower	
	Galveston	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna	Upper Madre	Lower Laguna	Lower Madre							
Gafftopsail catfish																
1981-82	19	6	0	1	1	4	0	0					32			
1982-83	12	4	1	1	5	5	1	1					29			
1983-84	8	3	1	1	6	3	0	0					22			
Other species																
1974-75	343	ND	19	20	ND	53	ND	ND					435			
1975-76	604	63	41	54	12	98	70	70					942			
1976-77	102	12	10	18	4	19	44	44					207			
1977-78	254	38	8	9	2	7	31	31					350			
1978-79	238	46	7	9	9	7	31	31					348			
1979-80	236	23	1	7	6	15	10	10					298			
1980-81	214	51	2	8	14	105	12	12					407			
1981-82	278	32	1	18	13	73	13	13					427			
1982-83	188	21	4	9	62	84	32	32					398			
1983-84	115	59	7	21	68	63	17	17					350			
Total harvest																
1974-75	4102	ND	563	625	ND	701	ND	ND					5992			
1975-76	4954	881	411	730	555	1519	707	707					9757			
1976-77	2238	283	209	382	472	653	784	784					5021			
1977-78	2896	504	76	254	430	211	681	681					5051			
1978-79	2646	501	40	180	439	191	558	558					4555			
1979-80	2161	374	64	250	476	308	650	650					4283			
1980-81	1550	469	66	155	571	744	592	592					4148			
1981-82	1349	549	50	261	498	730	633	633					3811			
1982-83	1838	271	48	172	688	512	752	752					4281			
1983-84	1196	609	71	286	641	440	563	563					3806			

^aEstimates were made for a 1 year period beginning on May 15 and ending the next year on May 14.

Appendix J. Total number of recreational licenses sold in Texas.

Table J.1. Total number of recreational fishing licenses sold in Texas by fiscal year (1955-1984).

Fiscal year	Type of License				Total
	Fishing ^a	Resident combination hunting and fishing	3-day saltwater sport fishing	Fishing exempt for blind	
1955-56	458,404				458,404
1956-57	465,168				465,168
1957-58	782,402				782,402
1958-59	825,729				825,729
1959-60	846,632				846,632
1960-61	872,236				872,236
1961-62	832,913				832,913
1962-63	882,111				882,111
1963-64	902,671				902,671
1964-65	927,210				927,210
1965-66	1,017,336				1,017,336
1966-67	1,139,969				1,139,969
1967-68	1,231,134				1,231,134
1968-69	1,369,646				1,369,646
1969-70	1,447,167				1,447,167
1970-71	1,494,707				1,494,707
1971-72	1,541,693				1,541,693
1972-73	1,599,905				1,599,905
1973-74	1,195,306	414,850	23,070	52	1,633,278
1974-75	1,142,088	467,342	30,055	67	1,639,552
1975-76	1,088,687	442,197	32,608	106	1,563,598
1976-77	1,090,807	430,186	35,684	152	1,556,829
1977-78	978,976	447,567	55,177		1,482,821
1978-79	1,090,807	518,403	70,024		1,681,368
1979-80	1,100,281	569,165	73,073		1,745,119
1980-81	1,101,346	612,959	81,84		1,799,447
1981-82	1,217,728	671,581	18,268		1,910,906
1982-83	1,271,334	719,630	56		1,994,791
1983-84	1,130,546	680,730			1,814,973

^aResident, nonresident and temporary (5 and 14-days) nonresident licenses included in total.

Table J.2. Total number of sport oyster dredge licenses, sport shrimp trawl licenses and boat registrations sold in Texas by fiscal year (1958-1984).

Fiscal Year	Sport oyster dredge license	Sport shrimp trawl license	Boat Registration
1958-59	60		
1959-60	17	8,837	
1960-61	58	7,399	
1961-62	39	6,249	
1962-63	45	7,003	
1963-64	52	6,367	
1964-65	80	7,034	
1965-66	66	7,144	
1966-67	42	7,324	
1967-68	44	7,508	
1968-69	35	8,553	
1969-70	38	9,662	
1970-71	35	9,947	
1971-72	28	9,296	
1972-73	25	9,537	
1973-74	24	10,521	
1974-75	31	9,281	
1975-76	48	8,866	485,977
1976-77	68	9,707	515,476
1977-78	91	9,982	536,712
1978-79	136	10,349	542,368
1979-80	178	8,926	546,040
1980-81	235	8,729	561,657
1981-82	218	7,433	580,055
1982-83	402	6,110	598,900
1983-84	323	5,339	603,761

