Trends in Relative Abundance and Size of Selected Finfishes and Shellfishes Along the Texas Coast: November 1975-December 1992

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Norman W. Boyd
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and
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Management Data Series
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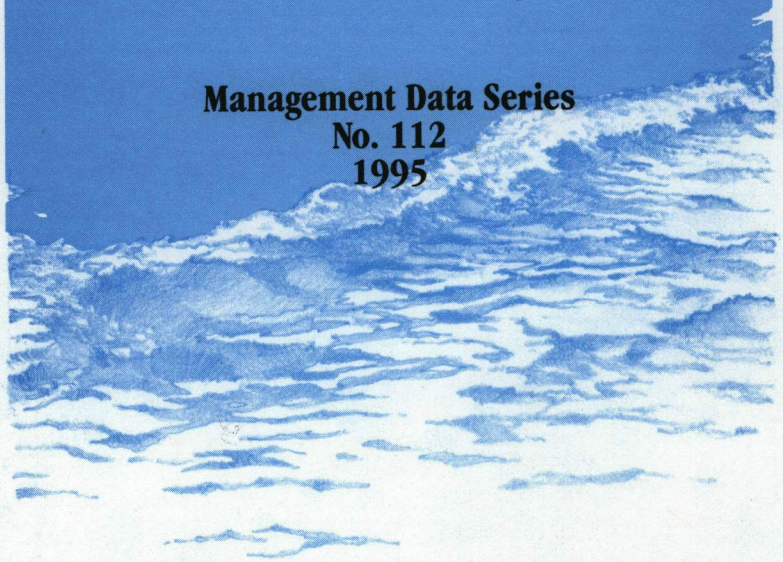

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ABSTRACT

The objective of coastal monitoring projects is to determine the status of marine resources for management and harvest purposes. Trends in relative abundance and size of finfishes and shellfishes have been monitored since 1975 using a standardized fishery-independent sampling program in Texas bay systems. Bag seines were used along bay and gulf shorelines, gill nets along bay shorelines, beach seines along gulf shorelines, and trawls in coastal bay waters and in the Texas Territorial Sea. Oyster dredges were used to sample bay "reef" areas.

Comparisons were made for coastwide catch rates for all gears between 1991 and 1992. Gill net catch rates revealed spring red drum (Sciaenops ocellatus) increased almost two-fold to the highest level recorded, whereas fall catch rates remained the same; spotted seatrout (Cynoscion nebulosus) catch rates were similar in both seasons; black drum (Pogonias cromis)catch rates increased and decreased for spring and fall, respectively. Annual bay bag seine catch rates decreased for red drum, spotted seatrout, black drum, brown shrimp (Penaeus aztecus), white shrimp (P. setiferus) and blue crab (Callinectes sapidus). Annual bay trawl catch rates increased for blue crab and brown shrimp and decreased slightly for white shrimp. Annual gulf trawl catch rates decreased for blue crab and brown shrimp and increased for white shrimp. Coastwide, catch rates for market size Eastern oysters (Crassostrea virginica) increased in 1992; however, only the Galveston Bay system recorded an increased catch. The 1992 data were used to make management decisions and to measure effects of catastrophic events.

INTRODUCTION

Fishery independent monitoring program data are used to determine relative abundance and size of finfishes and shellfishes to allocate and regulate harvest in Texas bays. To collect this type data, the Texas Parks and Wildlife Department (TPWD) has used various gears systematically in Texas estuaries and the Gulf of Mexico since 1975 (Appendix A, Tables A.1-5). Eastern oyster populations have been monitored in Galveston Bay since 1951 (Hofstetter 1977). Penaeid shrimp populations have been monitored in at least some bays since 1958 (Benefield and Baker 1980). Blue crab populations have been monitored in Texas bays since 1977 (Hammerschmidt 1982). The TPWD initiated a standardized fishery independent monitoring program in 1975 using gill nets, in 1977 using bag seines, in 1982 using trawls in bays, in 1984 using oyster dredges in bay "reef" areas, in 1985 using trawls in the gulf, and in 1987 using beach seines to monitor and assess relative trends in abundance and size of finfishes and shellfishes. Gill nets set during spring (9 April-23 June) and fall (9 September-23 November), and monthly bag seine, trawl, oyster dredge, and beach seine samples provide a statistically consistent and cost efficient method for obtaining information on juvenile, sub-adult, and adult finfish and shellfish populations.

The objectives of the present study were to:

1. monitor and determine trends in species composition, size and relative abundance of selected finfishes and shellfishes in the coastal bay systems and in the gulf off Texas.

2. publish the results in a report which will assist resource managers to effectively manage selected finfishes and shellfishes.

Differences in the information in this report compared to previous versions are due to updating the data base. The present report should be considered the most accurate to date.

MATERIALS AND METHODS

Bag seines, trawls and monofilament gill nets (Appendix A) were used in each of the 9 Texas bay systems; Sabine Lake, Galveston, East Matagorda, Matagorda, San Antonio, Aransas, Corpus Christi, upper Laguna Madre and lower Laguna Madre. Trawls, identical to those used in the bays, were used in five gulf areas of the TTS (Figure 1) $\leq$16.7 km from shore: 24.1 km either side of each of the Sabine Pass jetties (Sabine), Galveston jetties (Galveston), Matagorda jetties (Port O'Connor), Aransas Pass jetties (Port Aransas), and 48.2 km north from the Texas-Mexico border (Port Isabel). Oyster dredges (Appendix A) were used in the Galveston, Matagorda, San Antonio and Aransas bay systems. Bag seines, identical to those used in Texas bays, and beach seines (Appendix A) were used along gulf beach shorelines in five areas: Sabine Pass-Bolivar Peninsula, Galveston Island-Follets Island-Surfside Beach, Matagorda Peninsula, Matagorda Island and Mustang Island-South Padre Island (Figure 1).

Gill net, bag seine, and beach seine sites were randomly selected from grids (1 minute longitude by 1 minute latitude) that contained ≥15.2 m of shoreline. Each selected grid was subdivided into 144 5-second "gridlets". All "gridlets" that contained shoreline were used to randomly choose sample sites.

Gill net sets were conducted overnight during each spring and fall season (Appendix A). The spring season began with the 2nd full week in April and extended for 10 full weeks. The fall season began with the 2nd full week in September and extended for 10 full weeks. Between three and five nets were set each week in each bay, except in East Matagorda Bay where only two overnight sets were made during each week. On no more than six nights during each season could as many as three nets be set in a bay system. Each sampling week extended from 1 h before sunset on Sunday through 4 h after sunrise the following Sunday. Gill nets were set perpendicular to shore with the smallest mesh shoreward. Nets were set within 1 h before sunset and were retrieved within 4 h after the following sunrise. Total fishing time was recorded (nearest 0.1 h).

One half of the monthly gulf and bay bag seine samples were collected during each of the 1st-15th and the 16th-31st of the month (Appendix A). Bay and gulf bag seines were pulled parallel to the shoreline for 15.2 m; gulf bag seines were pulled in the same direction as the longshore current. The rectangular surface area sampled (nearest 0.01 ha) was estimated using distance pulled and length of extension of the bag seine. No grid was duplicated in a month.

One half of the monthly beach seine samples were collected during each of the 1st-15th and 16th-31st of the month (Appendix A). Beach seines were pulled parallel to gulf shorelines in the same direction as the long-shore current for 30.5 m. The rectangular surface area sampled (nearest 0.01 ha) was estimated using distance pulled and length of extension of the beach seine. No grid was duplicated in a month.

Trawls were used in bays which were stratified into three zones: Zone 1 (upper bay nearest mouths of rivers), Zone 2 (lower bay farthest from rivers), and Zone 5 [Intracoastal Waterway (ICWW)]. Trawl sites in Zones 1 and 2 were randomly selected from bay grids (1-minute longitude by 1-minute latitude) that contained water ≥1 m deep in at least 1/3 of the grid and which were known to be free of obstructions. One half of the monthly trawl samples in each zone in each bay system were collected during each of the 1st-15th and 16th-31st of the month (Appendix A). In East Matagorda Bay all water was designated as Zone 1; in each of Sabine Lake, upper and lower Laguna Madre all water was designated as Zone 2. In Zones 1 and 2, trawls were towed in a circular motion near the center of each grid. Trawl sites for Zone 5 were randomly selected from all grids containing the ICWW. Each randomly selected grid was divided into 144 5-second "gridlets"; the center-most gridlet which contained the center of the ICWW within that grid was used as a starting point for the sample. Trawls in Zone 5 were pulled linearly in the channel either toward the nearest gulf pass or away from it; this direction was alternated with each sample. All trawl tows within bays were 10 minutes in duration. No grid was duplicated in a month.

Gulf trawl sites in each area were randomly selected from gulf grids in the TTS (Figure 1) that contained water ≥1.8 m deep in at least 1/3 of the grid and which was known to be free of obstructions. One half of the samples in each area were collected during each of the 1st-15th and 16th-31st of the month (Appendix A). Trawls were towed linearly, parallel to the fathom curve; direction of tow (north or south) was randomly chosen for the initial tow and alternated on subsequent tows. All tows were 10 minutes long. No grid was duplicated in a month.

Trawls were used during daylight in the gulf off Sabine Pass, Galveston, Port O'Connor, Port Aransas, and Port Isabel during June and November 1992 in conjunction with the Southeast Area Monitoring and Assessment Program (SEAMAP). Detailed descriptions of the gear, sample stations, and sample procedures are reported by Stuntz et al. (1985).

Each bay was stratified into "reef" (mapped area in which Eastern oysters form reefs which are ≥0.2 m higher than adjacent bottom for a continuous distance of ≥91.4 m long and 0.4 m wide) and "non-reef" (remaining bay bottom ≥1 m deep) areas. Oyster dredge sites in each "reef" area were randomly selected from bay grids. Each selected grid was divided into 144 5-second "gridlets". All gridlets that contained the respective "reef" area were used to randomly choose sample sites. One half of the "reef" grid samples were collected during each of the 1st-15th and 16th-31st of the month (Appendix A). Dredges were pulled linearly for 30 seconds. Stations were duplicated no more than twice each month.

Sample catch rates for each species, or category of species, were calculated by dividing total number captured by either total hours fished (gill net, trawl, and oyster dredge) or ha sampled (bag seine and beach seine). Catch rates for each bay system were then calculated by month, year or season. Coastwide catch rates were weighted (Matlock and Ferguson 1982) either by: 1) the length of each bay system's shoreline (gill net, bay bag seine); 2) the amount of surface area with water ≥1 m deep in each bay system (bay trawl); 3) the total number of trawlable grids in each gulf area (gulf trawl); 4) the number of "reef" grids in each bay system (oyster dredge); 5) the number of gulf shoreline grids in each gulf area (beach seine and beach bag seine). Fish greater than 204 mm long were eliminated from bag seine catch rate calculations based on the findings of McEachron and Green (1986). Live Eastern oysters were grouped into spat (5-25 mm), small oysters (26-75 mm), and market oysters (≥76 mm).

Mean total lengths of individual species in gill nets were calculated for each of the four mesh sizes in each sample. Mean lengths for the combined meshes were calculated by weighting individual species mean lengths in each mesh by the number of each species caught in each mesh. For all other gears, mean lengths of individual species were calculated from individuals measured in each sample. Coastwide total mean lengths for each species in all gears were weighted according to the catch rate in each bay system, and by bay specific and gear specific weighting factors used for coastwide catch rates.

Surface salinity, water temperature and turbidity were measured at the set and pickup for each gill net and prior to each bag seine and beach seine sample (Appendix B). Bottom salinity (ppt), water temperature (°C), and turbidity [Nephelometric Units (NTU)] were measured prior to each trawl and oyster dredge sample (Appendix B).

RESULTS

Gill Net

Highest spring coastwide red drum catch rates (1.3/h) occurred in 1992 (Table 1; Figure 2). Lowest catch rates occurred during 1977-79 (0.3/h).

The highest fall coastwide catch rate for red drum (1.0/h) occurred in 1979; lowest catch rates (0.5/h) occurred in 1982 and 1983 (Table 2; Figure 3). Generally, fall catch rates from upper Laguna Madre (0.2-0.7/h) have been consistently lower than in any other bay system.

The spring coastwide spotted seatrout catch rate was highest (1.1/h) in 1976 (Table 1; Figure 2). Lowest catch rates occurred in 1979 and 1984 (0.3/h). Catch rates in the lower Laguna Madre (0.6-3.4/h) were generally higher than in any other bay system.

The highest fall coastwide spotted seatrout catch rate (0.7/h) occurred in 1976 (Table 2; Figure 3). All catch rates since 1977 have ranged from 0.2 to 0.4/h.

The spring coastwide black drum catch rate was highest (1.2/h) in 1992 (Table 1; Figure 2). It was lowest (0.3/h) in 1978.

The highest fall coastwide black drum catch rate (1.3/h) occurred in 1989 (Table 2; Figure 3). Lowest catch rates (0.3/h) occurred in 1979 and 1984. East Matagorda Bay and upper and lower Laguna Madre catch rates (0.1-2.4/h) were generally higher than in any other bay system.

Fall and spring coastwide southern flounder (Paralichthys lethostigma) and sheepshead (Archosargus probatocephalus) catch rates were both $\leq$0.3/h during all years (Tables 1 and 2).

Atlantic croaker (Micropogonias undulatus) spring and fall coastwide catch rates were $\leq$0.4/h during all years (Tables 1 and 2; Figures 2 and 3).

Spring and fall coastwide blue crab catch rates were $\leq$0.2/h in all years (Tables 1 and 2).

Spring and fall coastwide finfish mean lengths did not vary over about 125 mm among years for any species (Tables 1 and 2; Figures 4 and 5).

Bay Bag Seine

Annual (calendar year) catch rates for select species are listed in Table 3. For the following select species, seasonal trends in catch rates and mean lengths are presented.

Coastwide red drum catch rates were highest during November 1990-March 1991 (Figure 6). Mean lengths have fluctuated between 46 and 58 mm TL (Figure 7).

Coastwide spotted seatrout catch rates were highest during July through November 1991 (Figure 6). Mean lengths have fluctuated between 44 and 56 mm TL (Figure 7).

Coastwide black drum catch rates were highest in 1990 (Figure 6). Mean lengths fluctuated between 54 and 84 mm TL (Figure 7).

Coastwide Atlantic croaker catch rates were highest in 1982 (Figure 6). Mean coastwide lengths fluctuated between 58 and 66 mm TL (Figure 7).

Coastwide blue crab catch rates were highest in 1985 (Figure 8). Coastwide mean lengths fluctuated between 25 and 28 mm TL (Figure 9).

Highest brown shrimp coastwide catch rate occurred in 1987 (Figure 8). Mean coastwide lengths fluctuated between 54 and 64 mm TL (Figure 9).

Highest coastwide white shrimp catch rate occurred during 1982 (Figure 8). Coastwide mean lengths have fluctuated between 54 and 58 mm TL (Figure 9).

Bay Trawl

Coastwide annual blue crab bay trawl catch rates ranged from 15/h in 1984 to 24/h in 1988 (Table 4; Figure 10). Coastwide mean lengths have generally declined (Figure 11).

Coastwide brown shrimp catch rates were highest (44-49/h) during 1987-89 (Table 4; Figure 10). Coastwide mean lengths ranged from 83-97 mm TL (Figure 11).

Coastwide pink shrimp catch rates were $\leq$5/h in all years (Table 4). Highest catch rates were generally reported in Aransas Bay.

Coastwide white shrimp catch rates decreased from 46/h in 1982 to 21/h in 1990 then increased to 36/h in 1992 (Table 4; Figure 10). Mean coastwide lengths fluctuated between 90 and 100 mm TL (Figure 11).

Coastwide Atlantic croaker catch rates ranged from 27/h in 1985 to 94/h in 1992 (Table 4; Figure 10). Coastwide mean lengths have generally declined (Figure 11).

Gulf Trawl

Coastwide blue crab gulf trawl catch rates were ≤6/h in all years (Table 5; Figure 12). Generally, the Sabine area had highest catch rates (2-18/h). Coastwide mean lengths decreased from 127 mm in 1985 to 69 mm in 1992 (Table 5; Figure 13).

Coastwide brown shrimp catch rates ranged from 9/h to 58/h (Table 5; Figure 12). Coastwide mean lengths ranged from 97 to 109 mm TL (Figure 13).

Coastwide annual pink shrimp catch rates were ≤2/h in all years (Table 5).

Coastwide annual white shrimp catch rates decreased from 24/h in 1985 and 1986 to 10/h in 1990 then increased to 21 in 1992. (Table 5; Figure 12). Mean coastwide lengths ranged from 105 to 115 mm TL (Figure 13).

Oyster Dredge

Coastwide catch rates of Eastern oyster spat ranged from 491/h in 1984 to 1,880/h in 1989 (Table 6; Figure 14).

Coastwide catch rates of small Eastern oysters ranged from 1,001/h in 1986 to 2,615/h in 1991 (Table 6; Figure 14). Mean coastwide lengths fluctuated around 50 mm TL (Figure 15).

Coastwide catch rates of market Eastern oysters were lowest in 1990 (214/h); they ranged from 275-674/h in all other years (Table 6; Figure 14). Coastwide mean lengths fluctuated around 90 mm TL (Figure 15).

Beach Seine

Select finfish and shellfish species coastwide and annual catch rates and mean lengths varied among species, among gulf areas and among years (Table 7). Striped mullet (Mugil cephalus) generally had highest catch rates.

Beach Bag Seine

Coastwide and annual catch rates and mean lengths of individual select finfish and shellfish species varied among species, among gulf areas and among years (Table 8). Generally, striped mullet, hardhead catfish (Arius felis), blue crab and white shrimp had highest catch rates.

Intracoastal Waterway Trawl

Coastwide annual catch rates and mean length of individual select finfish and shellfish species varied among species and among bays (Table 9). Atlantic croaker had the highest coastwide catch rate (241/h); the San Antonio Bay system had the highest total finfish catch rate (1,670/h).

Hydrologic Data

Hydrologic data varied among years, among bay systems and among gulf areas (Appendix B). Bay salinities were generally higher in upper Laguna Madre than in any other bay. Gulf salinities were generally higher off Port Isabel and Port Aransas. Water temperatures followed seasonal trends.

Seamap

Summer

Catch rates of brown shrimp by depth zone ranged from 234/h in 0-18 m to 10/h in 74-91 m during 1992 (Appendix C, Table C.1). Brown shrimp were predominately caught in water 19-37 m deep.

White shrimp were caught primarily in water from 0-18 m deep during all years (Appendix C, Table C.1). At these depths catch rates ranged from 4/h-41/h in all years.

Pink shrimp were captured in waters from 0-55 m deep (0-195/h) during all years (Appendix C, Table C.1). They were caught predominately in waters 0-37 m deep.

Blue crab were caught primarily in the 0-18 m zone (Appendix C, Table C.1). Catch rates at these depths ranged from 3-20/h in all years.

Fall

Brown shrimp were caught in all depth zones, with highest catch rates generally >18 m (Appendix C, Table C.2). White shrimp and pink shrimp were predominately caught in waters 0-37 m deep. Blue crab catch rates were $\leq$2/h in all years.

OVERVIEW

TPWD is mandated by the Texas Legislature and the TPWD Commission to investigate the supply, economic value, environment, breeding habits, sex ratios, effects of fishing, and other factors or conditions causing increases or decreases in the supply of finfishes and shellfishes in Texas waters. Long-term trend data based on independent standardized monitoring programs are necessary to assess changes in relative abundance of these populations. Shrimp data were used to recommend dates for the annual closure of Texas gulf waters to shrimping. Oyster data were used to establish the oyster transplant season in Galveston Bay. Finfish data were used to recommend changes in fishing regulations. These data were used to develop management plans for shrimp, oysters, and blue crabs as mandated by the Texas Legislature. Additionally, these data are used routinely by "outside" scientists in the private and public sector, especially the Gulf of Mexico Fisheries Management Council and the Gulf States Marine Fisheries Commission. Data in the present report can be used to determine long-term trends in abundance and stability of finfishes and shellfish populations in Texas coastal waters and to implement management regulations.

Effective management of marine species populations requires knowledge of the relationship between spawning and subsequent adult abundance (Cushing 1970, Gulland 1977). Since it has been possible to detect changes in annual abundances with bag seines and gill nets, it may be possible to determine stock-recruitment relationships utilizing these gears. To determine these relationships, it is imperative that the standardized monitoring program used by TPWD be maintained.

To determine effects of natural or man induced events in the Texas coastal ecosystem, standardized monitoring programs used by TPWD should be maintained. The following "unusual/significant" meta events affecting coastal waters were documented in 1992. Other unreported events may have occurred.

1. Heavier than normal rainfall over the entire coast during spring and early summer resulted in heavier than normal freshwater inflows to Texas estuaries. As a result, several bays experienced freshwater conditions; severe oyster mortality was reported in San Antonio Bay, Tres Palacios Bay, Carancahua Bay, Lavaca Bay and the east end of Matagorda Bay.

2. In January an anhydrous ammonia spill in the Victoria Barge Canal killed 2,500 fish. Spot (Leiostomus xanthurus) was the dominant species killed; interestingly, two common snook (Centropomis undecimalis) were also found.

3. In January exotic white shrimp (P. vannamei) were found in the lower Laguna Madre. A commercial gulf shrimper caught eight P. vannamei and TPWD personnel caught two near the mouth of the Arroyo Colorado. In November, during the draining of a commercial shrimp pond, P. vannamei were released into a discharge ditch. About 3 hours later two P. vannamei were caught by TPWD personnel in a trawl in the Arroyo Colorado in the area adjacent to the discharge pipe.

4. The Texas Marine Mammal Stranding Network (TMMSN) reported dolphin strandings on the Texas coast during March and April were 4-10 times greater than the historical mean. The strandings were concentrated between Rockport and Matagorda. As a result, an investigation was conducted in Matagorda and Espiritu Santo Bays in July by a consortium of federal and state agencies and universities. Live animals were captured and examined and water samples were analyzed. No definitive cause of the deaths has been identified to date.

5. Brown tide was present in the Laguna Madre (upper and lower) periodically throughout most of the year, and was noted in the Corpus Christi-Rockport vicinity in July. No mortalities were associated with these blooms but low dissolved oxygen was associated with the bloom in the Corpus Christi-Rockport area.

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Table 1. Mean catch rates (No./h) and mean total lengths (mm) of selected fishes and blue crab caught with gill nets (all meshes combined) by bay system during spring 1976-92. Blank indicates no measurement taken; ND = no data.

		Bay system																	
		Sabine Lake		Galveston		East Matagorda		Matagorda		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		Coastwide	
Species	Year	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length
Red drum	1976	ND		0.1	310	ND		1.0	429	1.0	410	1.0	451	0.6	412	0.1	509	1.2	458	0.7	435
	1977	ND		0.3	450	0.2	418	0.1	467	0.3	380	0.4	409	0.4	401	0.1	438	0.5	442	0.3	426
	1978	ND		0.1	394	0.4	429	0.5	485	0.2	400	0.2	444	0.3	461	0.2	495	0.5	462	0.3	460
	1979	ND		0.2	480	0.1	466	0.2	414	0.2	421	0.4	423	0.3	479	0.2	477	0.3	452	0.3	448
	1980	ND		0.9	449	0.4	451	1.1	387	0.7	400	0.4	373	1.0	430	0.8	415	0.6	438	0.8	418
	1981	ND		0.3	431	0.2	465	0.2	408	0.6	396	0.4	399	0.3	424	0.3	412	1.0	438	0.4	420
	1982	ND		0.9	474	0.4	436	0.5	425	0.4	408	0.4	430	0.5	469	0.3	496	1.0	497	0.6	464
	1983	ND		0.9	474	1.0	475	0.6	411	0.7	402	0.5	385	0.4	427	0.2	479	0.8	479	0.6	444
	1984	ND		0.9	482	0.7	446	0.1	430	0.2	513	0.3	419	0.8	457	0.3	436	0.7	514	0.5	473
	1985	ND		0.6	538	0.5	514	0.2	457	0.2	465	0.4	463	0.6	457	0.3	505	0.6	508	0.4	500
	1986	0.4	520	1.4	497	0.8	456	0.8	463	0.6	454	0.6	395	0.7	463	0.3	474	1.0	493	0.8	474
	1987	0.2	516	0.6	497	0.6	501	0.9	465	0.7	451	0.6	459	0.6	463	0.4	519	1.1	508	0.7	483
	1988	0.3	498	0.7	492	0.9	473	0.7	434	1.1	470	0.5	436	0.6	495	0.6	550	1.2	499	0.8	481
	1989	0.5	480	0.7	478	1.7	492	0.6	452	0.7	438	0.7	438	0.5	469	0.4	545	0.9	517	0.7	476
	1990	0.5	509	0.5	529	0.8	568	0.4	483	0.3	474	0.5	494	1.0	505	0.2	538	0.8	534	0.5	515
	1991	0.5	581	0.3	548	0.5	532	0.3	495	0.3	447	0.4	472	0.9	476	0.3	544	1.2	509	0.5	504
	1992	0.7	470	1.2	465	2.1	456	1.3	397	1.3	429	1.6	402	1.2	481	0.7	544	1.5	494	1.3	450
Spotted seatrout	1976	ND		<.1	530	ND		0.3	422	0.5	382	3.3	465	0.4	365	<.1	405	3.4	457	1.1	453
	1977	ND		0.2	516	2.0	434	0.2	381	0.9	392	1.0	422	0.4	372	1.2	442	1.5	422	0.8	422
	1978	ND		0.2	523	0.4	441	0.6	409	1.4	408	0.1	435	0.5	437	0.9	474	1.4	503	0.7	456
	1979	ND		0.2	515	0.4	426	0.3	490	0.1	436	0.4	507	0.3	524	0.4	442	0.6	525	0.3	495
	1980	ND		0.1	419	0.8	402	0.6	426	0.9	402	0.2	465	0.3	506	0.5	473	0.9	497	0.5	449
	1981	ND		0.4	483	1.8	416	0.4	406	0.7	453	0.8	468	0.5	445	0.4	423	2.2	471	0.8	456
	1982	ND		0.4	491	0.9	454	0.5	456	0.8	440	0.7	435	0.8	489	0.8	481	2.5	485	0.9	472
	1983	ND		0.4	510	1.7	441	0.7	452	0.8	444	0.6	447	0.7	478	0.7	509	1.3	500	0.7	476
	1984	ND		0.3	498	0.7	468	0.3	439	0.3	483	0.2	435	0.2	473	<.1	483	0.7	475	0.3	472
	1985	ND		0.5	506	0.6	467	0.3	424	0.3	457	0.4	430	0.4	471	0.1	427	1.4	485	0.5	473
	1986	0.3	460	0.5	449	1.0	432	0.5	441	0.4	426	0.4	430	1.0	447	0.4	449	1.5	488	0.7	456
	1987	0.2	339	0.6	449	0.7	436	0.4	434	0.4	447	0.5	456	0.9	478	0.4	490	1.9	508	0.7	474
	1988	0.2	386	0.7	459	0.8	456	0.5	430	0.5	435	0.5	458	0.8	478	0.4	507	1.6	498	0.7	470
	1989	0.2	441	0.6	481	0.5	494	0.5	428	0.6	459	0.6	463	0.7	487	0.4	514	1.1	485	0.6	474
	1990	0.1	441	0.5	457	0.6	510	0.3	432	0.6	480	0.5	442	1.1	447	0.2	468	1.3	455	0.6	456
	1991	0.1	467	0.5	449	0.3	498	0.4	431	0.8	440	1.0	467	1.0	460	0.6	447	1.9	461	0.8	455
	1992	0.2	406	0.7	446	0.4	511	0.4	440	0.4	449	0.7	443	1.3	463	0.6	529	1.9	483	0.8	467
Black drum	1976	ND		0.2	290	ND		0.8	418	1.0	306	0.9	389	0.6	360	0.5	352	0.9	387	0.7	366
	1977	ND		0.4	388	0.3	262	0.5	519	1.0	314	1.2	316	0.5	347	0.4	377	0.9	428	0.7	374
	1978	ND		0.2	439	0.4	345	0.2	300	0.1	306	0.4	358	0.4	325	0.1	398	0.8	395	0.3	373
	1979	ND		0.3	292	0.7	328	0.5	415	<.1	370	0.3	323	0.1	375	0.3	371	0.9	413	0.4	371
	1980	ND		0.4	314	1.0	272	0.9	355	0.5	263	1.0	320	0.3	352	0.7	384	0.4	452	0.6	341
	1981	ND		0.8	418	0.8	312	0.3	301	0.4	352	0.8	362	0.1	379	1.1	390	0.9	391	0.7	381
	1982	ND		0.6	343	0.8	294	0.5	363	0.7	317	1.1	300	0.4	339	0.7	374	1.2	400	0.8	347

Table 1. (Cont'd.)

Species	Year	Bay system: Sabine Lake No./h	Sabine Lake Length	Galveston No./h	Galveston Length	East Matagorda No./h	East Matagorda Length	Matagorda No./h	Matagorda Length	San Antonio No./h	San Antonio Length	Aransas No./h	Aransas Length	Corpus Christi No./h	Corpus Christi Length	Upper Laguna Madre No./h	Upper Laguna Madre Length	Lower Laguna Madre No./h	Lower Laguna Madre Length	Coastwide No./h	Coastwide Length
Black Drum (Cont'd.)	1983	ND		0.9	337	2.7	365	0.6	355	0.6	323	1.2	340	0.9	371	1.0	400	1.6	441	1.0	372
	1984	ND		0.6	373	1.0	391	0.2	368	0.2	460	0.1	559	0.5	414	0.6	442	0.6	459	0.4	417
	1985	ND		0.5	346	0.4	313	0.2	476	0.1	426	0.2	396	0.2	342	0.8	361	0.4	372	0.4	374
	1986	0.3		0.5	383	0.6	345	0.3	402	0.1	313	0.4	316	0.6	369	0.7	418	0.4	464	0.4	387
	1987	0.1	399	0.5	368	0.6	320	0.4	366	0.2	392	0.5	382	0.5	459	1.1	453	0.5	458	0.7	409
	1988	0.1	410	0.4	380	0.7	376	0.4	390	0.4	339	0.4	375	0.8	444	0.7	397	0.3	451	0.5	396
	1989	0.2	326	0.6	350	1.8	378	0.4	412	0.3	363	0.6	371	0.4	406	1.0	426	0.5	408	0.6	386
	1990	0.2	378	0.5	372	1.5	393	0.8	341	0.3	330	0.7	336	0.6	411	1.4	418	0.7	410	0.7	381
	1991	0.3	318	0.6	356	1.4	347	0.8	354	0.5	294	1.1	308	0.4	361	3.0	366	1.2	369	1.0	350
	1992	0.2	366	0.5	370	1.3	391	0.4	339	0.8	388	0.7	335	1.6	374	3.0	349	2.3	408	1.2	372
Sheeps-head	1976	ND		0.0		ND		0.1	420	0.3	341	0.6	342	0.0		0.3	367	0.3	318	0.2	345
	1977	ND		<.1	338	<.1	234	0.1	280	0.2	308	<.1	232	0.1	294	0.1	380	0.1	336	0.1	311
	1978	ND		0.0		0.4	296	<.1	278	0.1	313	0.2	354	0.2	356	0.2	394	0.2	358	0.1	350
	1979	ND		<.1	305	0.1	297	<.1	391	<.1	402	0.1	320	0.5	362	0.1	370	0.2	340	0.1	350
	1980	ND		<.1	353	0.3	347	0.1	334	0.1	320	0.2	352	0.2	322	0.2	369	0.3	343	0.2	345
	1981	ND		<.1	393	0.2	326	<.1	453	0.6	335	0.3	349	0.1	319	0.2	390	0.6	325	0.2	342
	1982	ND		0.1	332	0.0		0.1	330	0.2	354	<.1	326	0.2	343	0.2	361	0.6	326	0.2	336
	1983	ND		0.1	313	0.4	311	0.1	373	0.2	372	0.1	349	0.3	370	0.2	392	0.4	342	0.2	354
	1984	ND		0.1	351	0.3	354	<.1	387	0.2	398	<.1	401	0.2	379	0.1	385	0.2	348	0.1	370
	1985	ND		<.1	352	0.2	372	<.1	337	<.1	409	<.1	382	0.1	424	<.1	427	0.1	353	0.1	382
	1986	<.1	372	<.1	372	0.2	356	<.1	369	0.1	417	<.1	305	0.1	388	<.1	427	0.1	370	<.1	382
	1987	<.1	364	<.1	361	0.2	314	<.1	340	<.1	447	<.1	342	<.1	350	<.1	403	0.2	372	0.1	366
	1988	0.0		<.1	405	0.1	350	<.1	357	<.1	342	0.1	348	0.1	371	<.1	407	0.1	369	<.1	366
	1989	<.0	529	0.1	384	0.3	324	<.1	371	<.1	379	<.1	350	0.2	412	<.1	371	0.2	371	0.1	374
	1990	<.1	364	<.1	378	0.3	364	<.1	400	<.1	444	<.1	372	0.2	388	<.1	358	0.1	396	0.1	387
	1991	<.1	354	<.1	381	0.2	343	<.1	359	<.1	491	<.1	304	<.1	367	<.1	406	0.1	389	<.1	382
	1992	<.1	278	<.1	346	0.1	356	0.1	367	0.1	415	<.1	348	0.1	436	<.1	434	0.2	379	0.1	390
Southern flounder	1976	ND		0.0		ND		0.0		0.1	335	0.0		0.0		0.0		0.2	350	<.1	345
	1977	ND		<.1	351	0.1	358	<.1	328	<.1	208	0.1	358	<.1	430	0.0		<.1	345	<.1	347
	1978	ND		<.1	249	0.1	352	<.1	330	0.1	279	<.1	338	0.1	338	<.1	345	0.1	344	<.1	323
	1979	ND		<.1	451	0.1	348	<.1	290	0.1	388	<.1	291	0.1	373	<.1	320	0.2	366	0.1	354
	1980	ND		0.1	344	0.1	325	0.1	307	<.1	292	0.1	292	0.1	316	<.1	364	0.1	364	0.1	330
	1981	ND		<.1	244	<.1	340	<.1	270	<.1	291	<.1	368	0.1	332	0.1	348	0.1	338	<.1	322
	1982	ND		0.1	343	<.1	319	<.1	307	<.1	305	0.1	299	0.1	361	0.1	337	0.1	350	0.1	332
	1983	ND		0.1	366	0.1	318	0.1	327	<.1	333	<.1	329	0.1	385	0.1	359	0.1	371	0.1	357
	1984	ND		0.1	338	0.1	388	<.1	317	<.1	321	<.1	310	0.1	377	<.1	344	<.1	355	<.1	342
	1985	ND		0.1	349	0.1	348	<.1	346	0.1	329	<.1	347	0.1	353	0.1	346	0.1	336	0.1	344
	1986	<.1	294	<.1	345	0.2	329	<.1	358	<.1	316	<.1	357	<.1	395	0.1	354	0.1	370	0.1	354
	1987	<.1	364	<.1	338	0.1	330	<.1	304	0.1	345	<.1	336	<.1	333	0.1	407	<.1	401	<.1	353
	1988	<.1	292	0.1	367	0.1	349	<.1	354	<.1	350	<.1	334	<.1	353	<.1	400	<.1	360	<.1	359
	1989	<.1	288	<.1	347	0.1	362	<.1	318	<.1	317	<.1	340	<.1	381	<.1	402	<.1	392	<.1	349

Table 1. (Cont'd.)

Species	Year	Bay system																	
		Sabine Lake		Galveston		East Matagorda		Matagorda		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		Coastwide	
		No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length
Southern flounder (Cont'd.)	1990	<.1	309	<.1	351	0.1	360	<.1	354	<.1	350	<.1	311	<.1	347	<.1	333	0.1	410	<.1	358
	1991	<.1	329	0.1	322	0.1	365	<.1	322	<.1	348	<.1	326	0.1	343	0.1	363	0.1	358	0.1	346
	1992	<.1	319	0.1	371	0.1	366	<.1	346	<.1	373	<.1	355	<.1	377	<.1	438	0.1	394	<.1	374
Atlantic croaker	1976	ND		0.2	298	ND		0.1		0.2	332	0.0		1.0	277	0.0		0.8	333	0.3	306
	1977	ND		0.3	268	0.1	255	0.0		<.1	227	<.1	285	1.0	264	0.4	297	0.2	269	0.2	271
	1978	ND		0.1	247	<.1	270	<.1	293	<.1	250	<.1	248	0.1	281	0.2	281	0.1	276	0.1	268
	1979	ND		0.2	260	<.1	257	<.1	263	0.0		0.0		0.1	265	0.1	298	0.2	308	0.1	279
	1980	ND		0.1	268	0.1	250	0.0		<.1	254	<.1	240	0.1	272	0.2	312	0.1	286	0.1	286
	1981	ND		0.1	264	0.1	250	<.1	276	0.0		0.1	289	0.1	266	0.3	302	0.1	277	0.1	282
	1982	ND		0.2	268	0.1	258	<.1	270	<.1	265	<.1	261	0.1	285	0.2	313	0.4	347	0.1	308
	1983	ND		0.3	268	0.1	278	<.1	273	<.1	277	<.1	286	0.2	265	0.2	289	0.4	314	0.1	286
	1984	ND		0.1	265	<.1	322	<.1	225	<.1	298	<.1	260	<.1	262	<.1	304	<.1	285	<.1	266
	1985	ND		0.2	273	<.1	318	<.1	260	<.1	184	<.1	115	0.1	265	0.2	267	0.1	261	0.1	266
	1986	0.1	259	0.4	271	0.1	250	<.1	245	<.1	250	<.1	292	0.3	255	0.2	297	0.1	288	0.1	272
	1987	<.1	263	0.2	260	<.1	242	<.1	236	<.1	268	<.1	246	<.1	282	<.1	319	<.1	251	0.1	263
	1988	0.1	259	0.1	265	<.1	226	<.1	278	0.0		<.1	260	0.1	261	0.1	337	<.1	296	<.1	276
	1989	0.1	268	0.1	264	<.1	280	<.1	250	0.0		<.1	262	<.1	284	<.1	342	0.0	283	<.1	274
	1990	<.1	278	0.1	269	0.1	264	<.1	268	<.1	283	<.1	276	<.1	267	<.1	245	<.1	272	<.1	269
	1991	0.1	297	0.1	262	<.1	256	<.1	237	<.1	239	<.1	252	0.1	261	<.1	269	0.1	267	<.1	263
	1992	0.1	263	0.2	253	0.2	270	<.1	257	0.0		<.1	232	0.1	204	<.1	290	0.1	266	0.1	261
Sand seatrout	1976	ND		<.1	195	ND		0.0		0.0		0.0		0.3	266	0.0		0.0		<.1	244
	1977	ND		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
	1978	ND		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
	1979	ND		<.1	217	0.0		0.0		<.1	209	0.0		<.1	284	<.1	333	<.1	245	<.1	231
	1980	ND		0.0		0.0		0.0		0.0		0.0		<.1	312	0.0		0.0		<.1	312
	1981	ND		0.0		0.0		<.1	270	<.1	378	0.0		0.0		0.0		0.0		<.1	318
	1982	ND		0.0		0.0		<.1	171	0.0		<.1	230	<.1	286	<.1	390	<.1	295	<.1	274
	1983	ND		<.1	302	0.0		<.1	227	0.0		0.0		<.1	337	0.0		0.0		<.1	291
	1984	ND		<.1	200	0.0		<.1	180	<.1	236	0.0		<.1	247	0.0		0.0		<.1	210
	1985	ND		<.1	356	0.0		<.1	172	0.0		0.0		0.0		<.1	296	<.1	269	<.1	259
	1986	<.1	277	<.1	209	0.0		0.0		0.0		0.0		<.1	232	0.0		0.0		<.1	215
	1987	0.0		<.1	536	0.0		0.0		0.0		0.0		<.1	261	0.0		0.0		<.1	478
	1988	0.0		<.1	218	0.0		<.1	279	0.0		0.0		<.1	232	0.0		<.1	238	<.1	234
	1989	0.0		<.1	199	0.0		0.0		0.0		0.0		<.1	230	0.0		0.0		<.1	203
	1990	0.0		<.1	198	0.0		<.1	234	<.1	268	0.0		<.1	89	0.0		<.1	270	<.1	208
	1991	0.0		<.1	235	0.0		<.1	238	<.1		0.0		<.1	261	0.0		0.0		<.1	242
	1992	0.0		<.1	230	0.0		<.1	217	<.1	210	0.0		<.1	290	0.0		0.0		<.1	232

Table 1. (Cont'd.)

Species	Year	Bay system: Sabine Lake No./h	Sabine Lake Length	Galveston No./h	Galveston Length	East Matagorda No./h	East Matagorda Length	Matagorda No./h	Matagorda Length	San Antonio No./h	San Antonio Length	Aransas No./h	Aransas Length	Corpus Christi No./h	Corpus Christi Length	Upper Laguna Madre No./h	Upper Laguna Madre Length	Lower Laguna Madre No./h	Lower Laguna Madre Length	Coastwide No./h	Coastwide Length
Gafftop-sail catfish	1976	ND		6.4	504	ND		0.5	494	2.3	456	0.0		0.0		0.0		0.0		1.8	496
	1977	ND		0.2	480	0.4	506	0.9	556	3.3	538	3.1	506	0.0		0.0		0.0		1.0	524
	1978	ND		0.3	539	0.1	546	1.1	546	1.8	496	0.1	545	<.1	436	0.0		0.0		0.5	521
	1979	ND		0.3	520	0.5	534	0.4	553	0.4	534	0.5	544	0.2	551	0.0		0.0		0.3	539
	1980	ND		0.2	511	0.2	566	0.5	554	1.2	547	0.4	552	0.1	598	0.0		0.0		0.3	546
	1981	ND		0.2	514	0.3	480	0.8	541	0.5	537	1.4	541	0.1	521	<.1	577	0.0		0.4	536
	1982	ND		0.4	513	0.2	496	0.4	544	1.4	540	0.9	542	0.3	530	<.1	534	<.1	372	0.5	535
	1983	ND		0.2	544	<.1	475	0.3	537	2.0	530	0.9	537	0.1	536	<.1	575	0.0		0.5	534
	1984	ND		0.2	527	<.1	580	1.0	529	1.1	530	0.6	550	0.2	532	<.1	472	<.1	211	0.4	533
	1985	ND		0.3	532	<.1	467	0.4	517	0.8	537	0.1	557	0.1	507	<.1	413	<.1	388	0.2	530
	1986	0.2	490	0.4	515	0.3	468	0.3	533	0.5	554	0.4	529	0.4	534	<.1	374	0.0		0.3	528
	1987	<.1	509	0.4	552	0.1	507	0.2	539	0.1	565	0.2	567	0.2	550	<.1	532	<.1	518	0.2	551
	1988	0.1	538	0.2	511	0.1	530	0.5	531	0.3	563	0.2	562	0.2	550	0.0		<.1	428	0.2	537
	1989	<.1	494	0.3	536	0.1	535	0.6	530	0.4	557	0.1	569	0.1	533	0.0		<.1	536	0.2	539
	1990	<.1	518	0.8	528	0.2	460	0.8	534	0.6	555	0.4	546	0.4	554	0.0		0.0		0.4	537
	1991	<.1	520	0.2	504	0.2	528	0.5	531	0.7	527	0.4	565	0.4	530	<.1	546	<.1	454	0.3	532
	1992	<.1	519	0.1	521	0.2	556	0.3	530	0.6	578	0.1	559	0.2	530	0.0		<.1	508	0.2	549
Gulf menhaden	1976	ND		0.2	261	ND		0.1	250	0.1	275	0.0		0.0		0.0		0.0		0.1	261
	1977	ND		2.5	251	0.7	299	0.1	245	0.1	233	0.3	247	2.6	255	<.1	282	<.1	229	0.9	253
	1978	ND		0.3	242	<.1	194	0.2	245	1.2	258	0.0		0.2	263	1.2	264	<.1	246	0.4	256
	1979	ND		1.2	251	0.0		0.1	251	<.1	132	<.1	241	0.1	255	0.2	260	0.0		0.3	251
	1980	ND		<.1	193	0.0		<.1	252	0.1	287	<.1	271	<.1	257	0.6	269	<.1	253	0.1	265
	1981	ND		0.4	260	0.0		0.2	254	0.1	252	0.2	254	0.1	243	0.1	246	0.1	244	0.2	255
	1982	ND		0.4	254	0.0		<.1	248	0.3	252	0.1	249	<.1	250	0.4	268	<.1	303	0.2	257
	1983	ND		0.8	252	0.0		0.2	251	0.2	243	0.1	244	0.1	248	0.1	304	0.1	252	0.3	252
	1984	ND		0.5	254	0.0		0.1	251	0.2	279	0.2	246	0.1	257	<.1	284	<.1	265	0.2	256
	1985	ND		0.8	253	<.1	281	0.5	242	0.3	243	0.4	250	0.6	250	<.1	244	0.8	260	0.5	252
	1986	0.1	279	1.3	251	<.1	226	0.1	242	0.1	244	0.2	245	0.4	258	<.1	252	<.1	253	0.4	251
	1987	<.1	348	1.2	245	<.1	227	<.1	241	0.0	226	0.0	226	0.2	242	<.1	240	0.1	253	0.3	245
	1988	<.1	278	0.1	244	0.0		0.2	244	<.1	278	<.1	236	0.1	253	<.1	257	<.1	290	0.1	249
	1989	<.1	269	1.4	249	0.0		<.1	232	<.1	226	0.0	187	0.1	235	0.0		0.0		0.3	248
	1990	<.1	270	1.6	242	<.1	237	0.1	216	<.1	263	<.1	255	<.1	237	<.1	308	<.1	239	0.4	242
	1991	<.1	253	0.3	252	<.1		0.1	216	0.1	239	<.1	281	0.1	255	0.0	251	0.0	241	0.1	247
	1992	<.1	266	0.7	257	0.0		<.1	207	0.1	245	0.1	256	0.1	275	<.1	252	<.1	279	0.2	257
Hardhead catfish	1976	ND		3.1	318	ND		0.4	296	1.5	315	2.3	336	0.7	291	0.0		0.2	333	1.4	320
	1977	ND		2.2	332	0.3	309	1.8	316	0.8	322	0.4	305	1.2	323	0.8	295	0.4	321	1.2	321
	1978	ND		2.1	338	0.3	318	0.2	295	1.0	317	0.3	346	0.6	317	1.0	283	0.7	306	0.9	322
	1979	ND		3.2	335	0.3	330	0.6	315	0.5	333	0.5	325	0.4	327	0.5	298	0.4	295	1.0	328
	1980	ND		2.7	331	1.0	319	0.2	316	0.8	328	0.3	342	0.4	326	0.3	291	0.6	332	0.9	329
	1981	ND		1.6	335	1.1	341	1.6	328	1.1	327	0.9	346	0.7	346	0.9	295	0.7	315	1.1	329
	1982	ND		3.6	334	1.4	339	0.9	329	2.0	333	1.0	337	1.0	347	0.9	318	1.8	337	1.8	334

Table 1. (Cont'd.)

Species	Year	Bay system																	
		Sabine Lake		Galveston		East Matagorda		Matagorda		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		Coastwide	
		No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length
Hardhead catfish (Cont'd.)	1983	ND		4.0	333	0.9	338	0.5	319	1.5	341	0.8	346	1.4	338	1.8	311	1.6	338	1.8	333
	1984	ND		2.3	343	0.5	336	1.0	326	2.0	334	1.2	346	1.4	340	1.4	318	1.5	334	1.6	336
	1985	ND		3.4	337	1.2	340	1.2	332	1.6	344	0.9	345	2.2	342	1.4	307	1.0	337	1.8	336
	1986	0.8	320	3.3	334	1.8	345	1.4	326	1.3	343	0.6	351	1.4	333	0.7	319	1.4	364	1.6	338
	1987	0.1	333	4.2	334	1.6	332	1.0	349	0.8	358	0.6	360	0.9	355	0.6	318	1.6	375	1.6	344
	1988	0.3	323	3.6	341	1.2	328	0.8	339	1.4	352	0.6	358	2.6	354	1.0	325	1.5	367	1.7	346
	1989	0.2	318	4.5	329	1.6	306	1.4	352	2.9	354	1.2	341	1.5	361	0.6	331	1.6	354	2.1	340
	1990	0.2	320	5.5	334	3.7	328	2.3	339	3.1	352	2.0	349	2.2	343	0.9	320	1.2	340	2.7	339
	1991	0.2	329	3.6	338	8.1	341	2.7	349	2.6	358	2.0	362	1.6	363	0.6	310	2.2	374	2.5	350
	1992	0.3	342	3.8	347	3.2	344	1.8	352	1.7	365	2.4	360	1.6	367	0.6	341	1.9	381	2.1	356
Pinfish	1976	ND		0.0		ND		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
	1977	ND		0.0		0.0		0.0		<.1	222	0.0		0.0		0.0		0.0		<.1	222
	1978	ND		0.0		0.0		0.0		<.1	196	0.0		0.0		<.1	204	<.1	165	<.1	187
	1979	ND		0.0		0.0		0.0		<.1		<.1	226	<.1	305	0.0		0.0		<.1	256
	1980	ND		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
	1981	ND		0.0		<.1	230	0.0		<.1	246	0.0		0.0		<.1	190	<.1	200	<.1	214
	1982	ND		0.0		<.1	205	<.1	217	<.1	216	<.1	230	0.1	233	0.1	208	<.1	220	<.1	219
	1983	ND		<.1	210	0.0		0.0		0.0		<.1	160	<.1	248	<.1	209	<.1	199	<.1	217
	1984	ND		0.0		0.0		0.0		0.0		<.1	125	<.1	162	<.1	310	0.0		<.1	255
	1985	ND		0.0		0.0		0.0		0.0		<.1	237	<.1	178	<.1	178	<.1	165	<.1	179
	1986	0.0		0.0		0.0		<.1	150	0.0		<.1	174	<.1	168	<.1	252	0.0		<.1	196
	1987	0.0		0.0		0.0		0.0		0.0		<.1	160	<.1	234	<.1	164	<.1	184	<.1	186
	1988	0.0		0.0		0.0		0.0		0.0		<.1	244	<.1	302	<.1	162	0.0		<.1	241
	1989	0.0		<.1	200	0.0		<.1	162	0.0		<.1	206	<.1	255	<.1	223	<.1	180	<.1	209
	1990	0.0		<.1	173	0.0		0.0		0.0		<.1	181	<.1	174	0.0		0.0		<.1	175
	1991	0.0		0.0		0.0		0.0		0.0		<.1	175	<.1	189	<.1	193	<.1	182	<.1	188
	1992	0.0		1.0	181	0.0		0.0		0.0		<.1	176	<.1	182	<.1	190	<.1	152	<.1	176
Spot	1976	ND		0.4	218	ND		0.0		0.0		0.0		0.3	233	0.0		0.1	230	0.1	222
	1977	ND		0.1	227	<.1	233	0.0		0.1	230	0.1	226	0.6	219	0.2	228	0.1	215	0.1	223
	1978	ND		<.1	225	<.1	256	<.1	232	0.1	242	<.1	259	0.2	214	0.1	227	0.1	234	0.1	228
	1979	ND		0.0		<.1	259	<.1	250	0.0		<.1	245	<.1	233	0.1	238	0.1	252	<.1	246
	1980	ND		0.0		<.1	233	0.0		<.1	239	0.0		0.1	247	0.1	234	<.1	234	<.1	239
	1981	ND		<.1	250	<.1	230	<.1	240	0.0		<.1	268	<.1	222	0.1	223	<.1	241	<.1	235
	1982	ND		<.1	244	0.0		<.1	260	<.1	244	<.1	249	0.1	234	0.5	231	0.1	237	0.1	234
	1983	ND		0.1	240	<.1	234	0.1	238	0.1	248	<.1	235	0.1	235	0.2	232	0.1	239	0.1	238
	1984	ND		<.1	247	<.1	288	<.1	291	<.1	255	<.1	253	0.1	248	0.1	234	<.1	238	<.1	253
	1985	ND		<.1	234	0.0		<.1	235	<.1	238	<.1	240	<.1	220	0.1	220	<.1	240	<.1	228
	1986	<.1	250	<.1	233	<.1	249	<.1	240	<.1	232	<.1	224	0.1	216	0.1	238	<.1	230	<.1	232
	1987	<.1	233	<.1	238	0.0		<.1	241	<.1	230	<.1	245	<.1	233	<.1	224	<.1	236	<.1	233
	1988	<.1	232	<.1	228	<.1	252	<.1	241	<.1	233	<.1	272	<.1	234	0.1	226	<.1	232	<.1	232
	1989	<.1	233	<.1	228	<.1	249	<.1	244	<.1	249	<.1	237	0.1	227	<.1	229	<.1	225	<.1	232

Table 1. (Cont'd.)

Species	Year	Bay system: Sabine Lake No./h	Sabine Lake Length	Galveston No./h	Galveston Length	East Matagorda No./h	East Matagorda Length	Matagorda No./h	Matagorda Length	San Antonio No./h	San Antonio Length	Aransas No./h	Aransas Length	Corpus Christi No./h	Corpus Christi Length	Upper Laguna Madre No./h	Upper Laguna Madre Length	Lower Laguna Madre No./h	Lower Laguna Madre Length	Coastwide No./h	Coastwide Length
Spot	1990	<.1	248	<.1	240	<.1	234	<.1	243	<.1	233	<.1	251	0.1	244	<.1	243	<.1	226	<.1	240
(Cont'd.)	1991	<.1	237	0.1	234	<.1	286	<.1	240	<.1	241	<.1	236	<.1	222	0.1	227	0.1	225	<.1	233
	1992	<.1	243	<.1	243	<.1	240	<.1	241	<.1	269	<.1	241	0.1	232	0.1	233	<.1	239	<.1	237
Striped	1976	ND		0.1	385	ND		0.2	322	0.2	338	0.6	366	0.0		<.1	375	0.0		0.2	358
mullet	1977	ND		0.2	322	0.0		0.2	314	0.9	317	0.8	319	0.1	340	0.2	368	0.2	345	0.3	323
	1978	ND		0.0		0.1	327	0.4	336	0.2	334	0.2	327	0.2	366	<.1	327	0.1	354	0.2	338
	1979	ND		0.2	320	0.1	336	0.1	341	0.7	343	0.2	339	0.1	333	0.1	404	0.1	354	0.2	341
	1980	ND		0.1	343	<.1	338	0.4	335	0.2	328	0.1	337	0.1	320	0.2	379	0.2	356	0.2	343
	1981	ND		<.1	318	0.1	345	<.1	336	<.1	341	0.1	336	0.1	321	0.2	353	0.2	353	0.1	344
	1982	ND		0.2	344	0.2	295	0.2	326	0.2	330	0.2	333	0.2	344	0.2	359	0.3	361	0.2	341
	1983	ND		0.2	350	0.1	346	0.1	346	0.2	341	0.2	341	0.1	351	0.2	367	0.2	368	0.2	352
	1984	ND		0.2	344	0.2	340	0.3	328	0.2	337	0.4	337	0.1	336	0.6	352	0.5	347	0.3	342
	1985	ND		0.2	340	0.2	339	0.3	332	0.1	328	0.3	340	0.1	338	0.2	380	0.1	339	0.2	342
	1986	<.1	326	0.2	350	0.2	321	0.2	330	0.1	328	0.2	336	0.1	340	0.1	368	0.1	341	0.1	340
	1987	<.1	312	0.2	366	0.1	319	0.2	343	0.2	348	0.2	354	0.1	336	0.1	402	0.2	359	0.2	357
	1988	<.1	327	0.1	344	0.2	333	0.1	323	0.2	348	0.1	343	0.1	350	0.1	371	0.1	364	0.1	348
	1989	<.1	323	0.2	348	0.4	339	0.2	337	0.1	356	0.2	356	0.1	344	0.1	400	0.1	372	0.2	354
	1990	<.1	325	0.2	341	0.3	342	0.4	342	0.2	357	0.2	340	0.2	340	0.4	389	0.4	353	0.3	354
	1991	<.1	325	0.1	347	0.2	341	0.2	347	0.2	343	0.3	335	0.1	343	0.2	386	0.1	377	0.2	350
	1992	<.1	310	0.1	352	0.3	340	0.3	341	0.2	342	0.4	352	0.2	355	0.2	389	0.2	374	0.2	355
Other	1976	ND		0.3	619	ND		1.6	360	0.4	619	0.9	486	2.4	351	0.1	356	0.0		0.7	423
finfishes	1977	ND		2.5	320	0.2	479	1.9	524	0.7	504	0.5	712	0.8	363	0.4	363	0.4	388	1.2	416
	1978	ND		1.6	345	0.2	283	1.5	456	1.7	505	0.4	535	0.7	308	0.5	400	0.9	407	1.1	414
	1979	ND		1.0	403	0.2	402	1.2	419	1.1	520	0.6	510	0.4	341	0.2	342	0.3	445	0.7	439
	1980	ND		0.4	520	0.2	309	1.5	521	0.7	537	0.5	515	0.3	337	0.2	364	0.2	530	0.6	506
	1981	ND		0.8	351	0.9	277	1.6	459	2.1	483	0.9	475	0.5	323	0.5	329	0.6	416	1.0	425
	1982	ND		1.2	414	0.7	348	2.1	516	0.8	557	1.1	494	0.6	436	1.3	384	0.8	407	1.0	467
	1983	ND		1.0	419	0.5	312	1.2	525	0.9	529	0.9	510	1.1	445	0.2	375	0.6	406	0.9	467
	1984	ND		0.7	424	0.3	328	1.2	600	1.1	587	0.8	531	1.2	403	0.2	392	0.4	467	0.8	505
	1985	ND		0.9	434	0.4	556	1.7	577	0.6	813	0.8	658	0.5	410	0.4	373	0.4	440	0.8	547
	1986	2.7	514	1.2	381	0.4	294	1.3	579	0.2	661	0.5	580	0.7	350	0.2	482	0.4	440	0.8	475
	1987	1.2	607	0.7	389	0.3	458	0.8	547	0.3	521	0.6	539	0.2	443	0.1	480	0.3	397	0.5	484
	1988	1.3	548	0.7	426	0.5	512	1.0	406	0.8	613	0.5	568	1.0	347	0.2	423	0.4	465	0.7	466
	1989	1.3	568	0.6	437	0.8	385	1.3	513	1.2	621	0.8	478	0.8	380	0.1	481	0.3	499	0.7	501
	1990	1.4	560	0.6	426	0.5	382	1.6	585	0.9	662	0.6	530	1.0	403	0.2	513	0.5	494	0.8	530
	1991	2.0	508	1.1	447	0.6	368	1.3	513	0.9	629	0.7	415	1.2	363	0.3	438	0.2	492	0.9	474
	1992	1.0	503	1.0	489	0.9	573	1.7	483	0.8	656	1.0	559	0.6	405	0.3	499	0.3	467	0.9	515

Table 1. (Cont'd.)

Species	Year	Bay system: Sabine Lake No./h	Sabine Lake Length	Galveston No./h	Galveston Length	East Matagorda No./h	East Matagorda Length	Matagorda No./h	Matagorda Length	San Antonio No./h	San Antonio Length	Aransas No./h	Aransas Length	Corpus Christi No./h	Corpus Christi Length	Upper Laguna Madre No./h	Upper Laguna Madre Length	Lower Laguna Madre No./h	Lower Laguna Madre Length	Coastwide No./h	Coastwide Length
Total finfishes	1976	ND		11.1	429	ND		5.2	394	7.6	391	9.5	415	6.2	332	1.1	378	7.1	419	7.3	408
	1977	ND		8.8	316	4.3	395	5.9	442	8.2	428	8.1	428	7.6	297	3.8	366	4.3	395	6.7	377
	1978	ND		5.0	357	2.4	359	4.8	437	7.7	409	2.0	406	3.4	343	4.6	365	5.0	406	4.6	390
	1979	ND		6.8	345	2.5	396	3.4	409	3.2	453	3.2	433	2.7	393	2.2	360	3.2	411	3.8	387
	1980	ND		5.0	380	4.2	347	5.4	428	5.2	422	3.1	405	2.8	387	3.9	368	3.5	419	4.3	400
	1981	ND		4.6	369	5.5	363	5.3	408	6.1	417	6.0	432	2.8	634	4.2	353	6.5	406	5.2	396
	1982	ND		8.1	378	4.7	368	5.3	435	6.8	411	5.8	417	4.6	400	4.5	367	8.8	394	6.4	397
	1983	ND		9.0	369	7.6	384	4.5	417	7.2	422	5.5	404	5.5	397	5.0	373	7.5	409	6.6	394
	1984	ND		6.2	389	3.7	397	4.3	449	5.6	431	3.9	432	4.8	397	3.2	369	4.6	412	4.7	410
	1985	ND		7.6	381	3.8	408	5.2	446	4.1	479	3.6	452	5.0	368	3.6	350	5.2	384	5.1	404
	1986	4.9	432	9.3	377	5.4	381	5.0	425	3.5	422	3.2	418	5.7	371	2.9	387	5.2	425	5.3	398
	1987	2.0	517	8.7	373	4.3	384	4.0	430	2.9	420	3.4	431	3.8	420	3.0	432	5.9	434	4.8	408
	1988	2.5	472	6.7	385	4.6	401	4.5	411	4.7	444	3.0	436	6.4	390	3.2	407	5.4	436	4.8	411
	1989	2.6	474	9.0	365	7.4	396	5.1	428	6.4	437	4.2	403	4.4	402	2.8	432	4.7	425	5.5	403
	1990	2.5	485	10.5	367	8.2	403	6.6	432	6.1	448	5.1	410	6.8	410	3.5	405	5.2	424	6.5	405
	1991	3.1	474	6.9	367	11.7	358	6.4	415	6.1	437	6.0	400	5.8	405	5.3	381	7.2	409	6.4	398
	1992	2.6	445	8.4	395	8.8	423	6.3	407	5.9	448	7.1	412	7.0	410	5.7	409	8.4	431	7.0	414
Blue crab	1983	ND		0.2	151	0.3	154	0.1	151	0.2	142	0.3	142	0.2	151	0.1	156	0.2	145	0.2	147
	1984	ND		0.2	150	0.4	135	0.1	143	0.2	137	0.2	142	0.3	147	0.3	145	0.2	142	0.2	144
	1985	ND		0.3	149	0.5	151	0.2	144	0.3	136	0.2	141	0.2	149	0.3	141	0.2	158	0.2	147
	1986	0.2	146	0.3	151	0.6	133	0.2	140	0.1	135	0.1	144	0.1	154	<.1	147	0.1	148	0.2	145
	1987	0.3	152	0.3	139	0.3	138	0.1	138	0.2	140	0.1	155	0.1	151	<.1	137	0.1	142	0.1	141
	1988	0.3	154	0.1	148	0.1	159	<.1	135	<.1	141	<.1	150	0.1	145	<.1	115	0.1	152	0.1	147
	1989	0.2	157	0.1	137	0.4	128	<.1	136	<.1	128	<.1	131	<.1	149	<.1	72	<.1	147	0.1	136
	1990	0.2	154	0.2	141	0.2	129	<.1	138	0.2	135	0.1	135	0.2	140	<.1	114	0.1	139	0.1	138
	1991	0.1	141	0.2	132	0.4	135	0.2	144	0.1	136	0.1	144	0.1	140	<.1	105	0.1	152	0.1	138
	1992	0.1	151	0.2	153	0.1	135	<.1	144	0.1	133	0.1	142	0.3	150	0.4	146	0.1	146	0.1	147

Table 2. Mean catch rates (No./h) and mean total lengths (mm) of selected fishes and blue crab caught with gill nets (all meshes combined) by bay system during fall 1975-92. Blank indicates no measurment taken; ND = no data.

		Bay system																			
		Sabine Lake		Galveston		East Matagorda		Matagorda		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		Coastwide	
Species	Year	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length
Red drum	1975	0.8	382	1.1	403	ND		1.2	337	0.9	326	1.1	339	0.4	330	0.3	424	0.7	474	0.9	373
	1976	ND		1.0	509	1.1	487	0.5	415	1.6	406	0.5	395	0.5	460	0.4	442	1.3	465	0.9	452
	1977	ND		0.6	445	0.9	390	0.8	435	1.0	386	0.6	392	0.5	427	0.2	364	0.4	448	0.6	416
	1978	ND		0.3	429	0.7	376	1.1	395	0.6	384	1.0	401	0.4	429	0.3	455	0.4	493	0.6	412
	1979	ND		0.8	386	0.7	403	1.4	353	1.9	376	0.9	378	0.8	352	0.5	387	0.5	449	1.0	378
	1980	ND		0.5	436	0.8	473	0.6	434	0.9	411	1.1	386	0.7	370	0.5	454	0.7	449	0.7	419
	1981	ND		0.5	429	0.7	405	0.6	390	0.7	373	0.8	403	0.6	396	0.3	515	0.8	488	0.6	422
	1982	ND		0.6	440	0.9	401	0.6	390	0.5	360	0.4	386	0.3	417	0.2	456	0.5	440	0.5	412
	1983	ND		0.6	436	0.8	394	0.5	418	0.6	407	0.4	410	0.3	448	0.2	486	0.7	509	0.5	440
	1984	ND		0.9	451	1.1	551	0.4	381	0.6	383	0.5	377	0.8	400	0.7	457	0.7	472	0.7	433
	1985	ND		0.9	421	1.3	420	0.8	394	1.3	385	0.9	427	0.7	436	0.3	460	0.9	478	0.9	423
	1986	0.4	481	0.7	468	0.9	453	0.8	403	1.2	441	0.9	454	0.5	450	0.4	486	0.9	495	0.8	456
	1987	0.4	449	0.5	459	0.9	446	0.8	372	1.0	473	0.6	459	0.4	424	0.3	527	1.5	532	0.7	467
	1988	0.5	399	0.8	437	1.5	486	0.9	418	1.1	457	0.9	454	0.5	458	0.3	520	1.3	522	0.8	463
	1989	0.4	461	0.6	479	1.1	511	0.4	402	1.1	468	0.7	423	0.6	476	0.3	533	1.1	521	0.7	475
	1990	0.4	500	0.3	488	0.8	497	0.5	408	1.1	458	1.0	477	0.8	432	0.7	553	1.0	534	0.7	482
	1991	1.1	412	0.5	393	0.9	380	0.6	402	1.3	375	1.0	442	1.5	451	0.6	517	1.5	514	0.9	441
	1992	0.5	531	0.7	482	2.0	494	0.8	419	0.7	453	1.4	435	1.0	477	0.7	502	1.3	479	0.9	465
Spotted seatrout	1975	0.1	413	0.2	447	ND		0.6	419	1.0	389	0.6	474	0.4	479	0.2	455	0.8	413	0.5	428
	1976	ND		0.3	463	0.9	451	0.4	437	0.7	427	0.2	448	0.6	387	0.2	455	2.4	431	0.7	433
	1977	ND		0.3	501	0.3	461	0.4	455	0.5	387	0.1	485	0.3	483	0.6	412	0.8	464	0.4	449
	1978	ND		0.3	544	0.3	400	0.8	406	0.5	387	0.1	383	0.2	417	0.4	431	0.5	437	0.4	432
	1979	ND		0.2	449	0.1	385	0.6	418	0.2	439	0.1	476	0.2	413	0.1	434	0.4	472	0.2	438
	1980	ND		0.4	476	0.2	418	0.3	406	0.3	435	0.2	446	0.3	465	0.2	434	0.5	490	0.3	458
	1981	ND		0.3	483	0.8	419	0.4	437	0.3	428	0.2	442	0.4	437	0.2	469	0.7	486	0.4	457
	1982	ND		0.3	456	0.4	468	0.3	430	0.4	428	0.2	446	0.2	458	0.4	435	0.5	453	0.3	445
	1983	ND		0.3	464	0.5	420	0.3	438	0.5	425	0.2	459	0.3	435	0.3	459	0.6	476	0.4	452
	1984	ND		0.4	465	0.3	459	0.2	430	0.2	420	0.1	453	0.2	467	0.1	400	0.4	458	0.3	453
	1985	ND		0.3	470	0.3	418	0.4	439	0.2	430	0.2	438	0.4	432	0.2	443	0.6	475	0.3	453
	1986	0.2	395	0.4	438	0.4	444	0.5	419	0.4	432	0.3	442	0.4	464	0.3	437	1.0	472	0.4	446
	1987	0.1	410	0.2	459	0.5	425	0.6	425	0.3	422	0.3	452	0.5	461	0.2	456	0.7	461	0.4	446
	1988	0.1	420	0.5	444	0.7	432	0.3	439	0.4	438	0.3	430	0.4	442	0.2	428	0.9	479	0.4	449
	1989	0.1	430	0.3	441	0.4	447	0.2	435	0.4	457	0.3	446	0.4	475	0.1	464	0.6	460	0.3	453
	1990	<.1	399	0.2	460	0.5	461	0.2	427	0.2	479	0.3	459	0.5	474	0.1	505	0.5	477	0.3	467
	1991	0.1	378	0.2	442	0.3	473	0.5	406	0.4	415	0.3	436	0.6	449	0.4	482	0.8	466	0.4	443
	1992	0.1	392	0.3	418	0.5	452	0.4	417	0.2	436	0.4	457	0.6	463	0.5	508	0.8	443	0.4	448
Black drum	1975	0.5	294	0.4	366	ND		0.9	326	0.5	315	0.8	290	0.4	358	1.2	422	1.0	454	0.7	367
	1976	ND		0.3	337	0.7	305	0.9	344	1.2	325	0.6	376	0.3	366	1.0	503	2.4	419	0.9	388
	1977	ND		0.4	384	0.5	371	0.5	338	0.7	336	0.4	341	0.3	365	0.8	406	2.2	410	0.7	383
	1978	ND		0.4	383	1.0	346	0.5	383	0.3	306	0.5	311	0.1	383	0.8	425	0.4	377	0.5	372
	1979	ND		0.2	398	0.1	410	0.2	404	0.4	361	0.3	380	0.4	308	0.4	391	0.5	423	0.3	387
	1980	ND		0.8	391	0.9	341	0.7	306	1.2	298	0.9	340	0.5	370	0.6	365	1.0	400	0.8	352

Table 2. (Cont'd.)

Species	Year	Bay system																			
		Sabine Lake		Galveston		East Matagorda		Matagorda		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		Coastwide	
		No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length
Black drum (cont'd.)	1981	ND		0.3	408	0.4	343	0.4	383	0.5	315	0.5	341	0.4	357	0.5	390	0.8	384	0.5	369
	1982	ND		0.6	355	2.4	346	0.6	352	1.0	296	1.1	337	0.6	369	0.9	388	1.9	387	1.0	356
	1983	ND		0.2	381	1.0	361	0.6	375	0.6	328	0.6	345	0.7	406	0.5	422	0.9	418	0.6	381
	1984	ND		0.5	405	0.7	348	0.2	386	0.3	269	0.2	329	0.2	376	0.4	438	0.5	442	0.3	389
	1985	ND		0.8	379	0.6	363	0.4	357	0.3	295	0.4	325	0.2	363	0.9	389	0.5	435	0.5	372
	1986	0.4	360	0.7	380	0.6	303	0.6	351	0.4	342	0.5	357	0.3	388	0.5	417	0.5	441	0.5	379
	1987	0.3	378	0.4	376	1.5	376	0.4	383	0.3	364	0.5	370	0.2	384	0.4	403	0.6	465	0.4	393
	1988	0.2	355	0.5	387	1.2	339	0.7	346	1.0	334	0.7	330	0.7	337	1.5	405	0.6	422	0.8	368
	1989	0.5	324	2.0	384	1.4	358	0.8	351	1.0	337	1.4	373	1.3	416	1.5	421	1.2	401	1.3	383
	1990	0.3	342	0.4	375	0.8	368	0.6	362	1.0	298	1.0	334	0.6	398	1.0	431	1.0	423	0.8	372
	1991	0.3	347	0.5	382	1.0	364	0.6	375	1.3	369	0.7	321	0.9	340	2.2	359	1.8	367	1.0	361
	1992	0.4	373	0.5	402	1.1	422	0.7	394	0.3	352	0.9	372	0.8	372	1.4	363	2.2	366	0.9	375
Sheeps-head	1975	0.0	<.1	362	ND		0.1	316	0.2	291	1.1	296	0.2	376	0.3	409	0.1	352	0.3	323	
	1976	ND		<.1	331	0.2	308	0.2	273	0.4	329	1.0	255	0.1	328	0.2	360	0.4	341	0.3	297
	1977	ND		<.1	342	0.3	316	0.1	314	0.2	321	0.5	267	0.2	335	0.2	406	0.3	356	0.2	323
	1978	ND		0.1	308	0.2	307	0.1	342	0.5	371	0.6	306	0.2	361	0.2	376	0.1	300	0.2	337
	1979	ND		<.1	335	0.2	352	0.1	312	0.4	362	0.8	318	0.2	339	0.1	395	0.2	349	0.2	338
	1980	ND		0.1	283	0.1	309	<.1	353	0.7	296	0.6	307	0.2	361	0.2	382	0.4	330	0.3	316
	1981	ND		<.1	321	0.1	277	0.2	292	0.3	335	0.2	322	0.1	343	0.1	382	0.3	332	0.2	327
	1982	ND		0.1	330	0.3	332	0.1	313	0.1	296	0.2	350	0.1	365	0.2	383	0.3	330	0.1	339
	1983	ND		<.1	342	0.5	345	0.1	338	0.2	302	0.1	355	0.1	361	0.2	395	0.3	340	0.2	346
	1984	ND		<.1	369	0.3	383	<.1	369	<.1	427	<.1	436	<.1	383	0.1	417	0.1	333	0.1	379
	1985	ND		<.1	380	0.2	379	<.1	374	<.1	362	<.1	326	<.1	352	<.1	435	0.1	369	<.1	369
	1986	<.1	340	<.1	359	0.1	297	0.1	336	0.1	329	0.1	304	0.1	359	<.1	407	0.1	351	0.1	336
	1987	<.1	402	<.1	381	0.1	366	0.1	352	0.1	371	0.2	360	0.1	340	<.1	386	0.2	342	0.1	355
	1988	0.0		<.1	368	0.1	340	<.1	358	0.1	346	0.1	304	<.1	354	<.1	398	0.2	382	0.1	359
	1989	<.1	299	0.1	371	0.2	343	<.1	324	0.2	341	0.1	329	0.1	361	<.1	422	0.2	371	0.1	357
	1990	<.1	303	<.1	418	0.3	354	<.1	332	<.1	417	<.1	360	<.1	367	<.1	422	0.1	403	<.1	385
	1991	<.1	336	<.1	435	0.1	392	<.1	359	<.1	365	<.1	353	<.1	413	<.1	446	0.1	384	<.1	387
	1992	<.1	373	<.1	402	0.1	422	0.2	394	<.1	352	0.1	372	<.1	372	<.1	363	0.1	366	0.1	375
Southern flounder	1975	0.1	337	<.1	317	ND		0.1	323	0.1	250	0.1	309	0.2	380	0.1	448	0.1	338	0.1	342
	1976	ND		<.1	365	0.5	321	<.1	296	0.2	363	0.1	304	0.2	351	0.1	347	0.1	389	0.1	348
	1977	ND		0.2	331	0.2	342	<.1	322	0.2	312	0.2	368	0.1	383	<.1	491	<.1	353	0.1	342
	1978	ND		0.1	359	0.1	354	<.1	310	0.1	310	0.1	377	0.2	372	<.1	354	<.1	335	0.1	352
	1979	ND		<.1	348	0.1	331	0.1	338	0.2	388	0.1	336	0.1	347	0.1	396	0.2	366	0.2	363
	1980	ND		0.2	345	0.3	369	0.2	330	0.1	325	0.1	359	0.2	367	<.1	363	0.2	400	0.1	354
	1981	ND		0.1	326	0.1	351	0.1	335	0.1	311	0.1	356	0.1	348	0.1	387	0.1	358	0.1	346
	1982	ND		0.2	345	0.3	354	0.1	350	0.2	311	0.1	360	0.1	353	0.1	349	0.2	354	0.2	346
	1983	ND		0.1	348	0.2	350	0.1	324	0.2	342	<.1	335	0.1	367	0.1	345	0.1	389	0.1	351
	1984	ND		0.1	341	0.2	364	<.1	328	0.1	322	0.1	323	0.1	328	0.1	326	0.1	293	0.1	326
	1985	ND		0.1	340	0.2	370	0.1	333	0.1	330	0.1	336	0.1	337	0.2	347	0.1	331	0.1	339
	1986	0.1	299	0.1	363	0.1	376	0.1	346	0.1	377	<.1	348	0.1	371	0.1	368	0.2	363	0.1	361

Table 2. (Cont'd.)

Species	Year	Bay system: Sabine Lake No./h	Sabine Lake Length	Galveston No./h	Galveston Length	East Matagorda No./h	East Matagorda Length	Matagorda No./h	Matagorda Length	San Antonio No./h	San Antonio Length	Aransas No./h	Aransas Length	Corpus Christi No./h	Corpus Christi Length	Upper Laguna Madre No./h	Upper Laguna Madre Length	Lower Laguna Madre No./h	Lower Laguna Madre Length	Coastwide No./h	Coastwide Length
Southern flounder (cont'd.)	1987	0.1	335	0.1	336	0.1	350	0.1	308	0.1	345	0.1	394	0.1	337	<.1	381	0.1	402	0.1	351
	1988	<.1	346	0.1	350	0.2	353	0.1	365	0.1	342	0.1	372	<.1	350	<.1	419	0.1	387	0.1	363
	1989	<.1	324	0.1	349	0.2	362	0.1	328	0.1	353	0.1	342	<.1	336	<.1	392	0.1	382	0.1	352
	1990	<.1	325	0.1	326	0.2	340	0.1	326	0.1	324	0.1	344	0.1	333	0.1	279	0.1	340	0.1	326
	1991	<.1	313	<.1	354	0.1	371	0.1	332	0.1	352	0.1	366	0.1	354	0.1	384	0.1	365	0.1	360
	1992	<.1	330	0.1	356	0.3	375	0.1	352	<.1	370	0.1	385	0.1	379	<.1	461	0.1	386	0.1	374
Atlantic croaker	1975	0.0		<.1	245	ND		0.0		0.1	312	0.2	338	0.4	321	0.1	314	0.1	343	0.1	323
	1976	ND		0.2	262	0.1	248	0.3	263	0.4	296	0.2	314	0.6	320	0.5	329	0.3	326	0.3	301
	1977	ND		0.1	291	0.1	275	0.2	274	0.2	290	0.8	307	0.6	350	0.7	345	0.2	340	0.3	319
	1978	ND		0.1	274	0.1	248	0.2	255	0.1	242	0.5	314	0.4	296	0.4	283	<.1	331	0.2	288
	1979	ND		<.1	271	0.2	248	0.1	287	0.2	270	0.2	303	0.5	326	0.1	316	0.2	331	0.2	305
	1980	ND		0.2	284	0.1	262	0.2	261	0.1	264	0.2	320	1.7	320	0.1	302	0.2	298	0.3	303
	1981	ND		0.2	279	0.2	254	0.1	273	0.2	268	0.7	328	0.8	320	0.2	323	0.4	320	0.3	310
	1982	ND		0.4	282	0.4	256	0.1	277	0.2	278	0.4	328	1.0	327	0.4	338	0.3	330	0.4	310
	1983	ND		0.3	275	0.4	261	0.2	263	0.5	286	0.3	309	1.0	320	0.1	312	0.5	314	0.4	299
	1984	ND		0.2	274	0.2	259	0.2	259	0.2	252	0.1	261	0.5	274	0.1	264	0.2	270	0.2	268
	1985	ND		0.6	272	0.4	258	0.1	254	0.1	261	0.3	268	0.6	279	0.2	307	0.3	281	0.3	274
	1986	0.2	296	0.4	281	0.1	261	0.2	253	0.2	256	0.3	280	1.4	305	0.1	322	0.3	299	0.4	289
	1987	0.1	287	0.8	288	0.1	252	0.3	253	<.1	253	0.2	283	1.5	323	0.1	321	0.3	322	0.4	298
	1988	0.2	276	0.6	291	0.1	267	0.3	255	0.2	255	0.3	301	0.8	317	0.1	357	0.3	318	0.3	295
	1989	0.1	284	0.6	271	0.2	257	0.2	250	0.2	262	0.2	266	0.3	317	<.1	324	<.1	308	0.2	273
	1990	0.2	283	0.4	286	0.2	270	0.1	261	<.1	260	0.1	261	0.3	290	<.1	298	0.1	264	0.2	280
	1991	0.1	271	0.2	274	0.1	290	0.2	260	0.2	251	0.2	262	0.4	283	<.1	269	1.4	279	0.3	275
	1992	0.2	293	0.4	269	0.1	278	0.1	258	0.1	268	0.3	278	1.0	299	0.1	328	0.7	291	0.3	286
Sand seatrout	1975	0.0		0.2	309	ND		0.3	291	0.0		<.1	308	<.1	288	0.0		0.0		0.1	299
	1976	ND		0.1	293	0.1	297	<.1	301	0.0		0.0		0.2	301	<.1	398	0.0		0.1	307
	1977	ND		0.1	312	0.0		<.1	321	0.0		0.0		0.0		<.1	377	0.0		<.1	315
	1978	ND		<.1	303	0.0		<.1	184	0.0		0.0		0.0		0.0		0.0		<.1	254
	1979	ND		<.1	252	0.0		<.1	256	<.1	211	0.0		0.1	294	<.1	268	0.0		<.1	272
	1980	ND		0.1	302	0.0		<.1	220	0.0		0.0		0.0		0.0		<.1	326	<.1	299
	1981	ND		<.1	252	<.1	238	<.1	242	<.1	175	<.1	226	<.1	247	<.1	335	<.1	305	<.1	255
	1982	ND		0.1	299	<.1	246	<.1	250	<.1	250	<.1	297	<.1	290	<.1	265	<.1	305	<.1	288
	1983	ND		<.1	306	<.1	235	<.1	274	<.1	240	<.1	297	<.1	278	0.0		<.1	291	<.1	291
	1984	ND		0.1	308	<.1	315	<.1	284	<.1	282	<.1	277	<.1	296	0.0		<.1	301	<.1	302
	1985	ND		0.1	280	<.1	255	<.1	252	<.1	332	<.1	237	<.1	262	0.0		<.1	325	<.1	279
	1986	<.1	281	<.1	304	<.1	239	<.1	254	<.1	254	<.1	206	<.1	250	<.1	249	<.1	279	<.1	288
	1987	<.1	300	<.1	285	<.1	220	<.1	240	0.0		0.0		<.1	250	0.0		<.1	338	<.1	276
	1988	<.1	230	0.1	302	<.1	249	<.1	251	<.1	291	0.0		<.1	319	0.0		<.1	328	<.1	301
	1989	<.1	215	<.1	316	<.1	241	<.1	234	<.1	237	0.0		<.1	229	0.0		<.1	293	<.1	272
	1990	<.1	254	<.1	290	<.1	252	<.1	258	<.1	260	0.0		<.1	267	<.1	277	<.1	296	<.1	277
	1991	<.1	264	<.1	269	<.1	296	0.1	249	<.1	221	<.1	288	<.1	272	<.1	255	<.1	311	<.1	266

Table 2. (Cont'd.)

Species	Year	Bay system: Sabine Lake No./h	Sabine Lake Length	Galveston No./h	Galveston Length	East Matagorda No./h	East Matagorda Length	Matagorda No./h	Matagorda Length	San Antonio No./h	San Antonio Length	Aransas No./h	Aransas Length	Corpus Christi No./h	Corpus Christi Length	Upper Laguna Madre No./h	Upper Laguna Madre Length	Lower Laguna Madre No./h	Lower Laguna Madre Length	Coastwide No./h	Coastwide Length
Sand seatrout (cont'd.)	1992	<.1	249	<.1	275	<.1	288	<.1	262	<.1	261	<.1	250	<.1	350	<.1	350	<.1	316	<.1	277
Gafftop-sail catfish	1975	<.1	530	0.0		ND		0.1	571	<.1	493	<.1	552	0.1	575	0.0		0.0		<.1	567
	1976	ND		0.1	482	0.0		0.2	526	0.4	498	<.1	587	<.1	475	0.0		0.0		0.1	509
	1977	ND		<.1	516	0.0		<.1	499	0.2	526	<.1	385	<.1	600	0.1	529	0.0		<.1	516
	1978	ND		0.0		0.0		<.1	514	<.1	543	0.0		0.1	551	0.0		0.0		<.1	534
	1979	ND		0.0		0.2	542	0.0		0.1	499	<.1	533	0.0		0.0		<.1	282	<.1	511
	1980	ND		0.1	550	0.0		<.1	478	0.3	509	0.1	522	0.1	517	0.0		0.0		0.1	525
	1981	ND		0.1	492	0.0		<.1	505	<.1	542	0.1	511	0.1	523	0.0		<.1	379	<.1	507
	1982	ND		<.1	423	<.1	616	<.1	520	0.3	527	0.1	533	<.1	545	<.1	541	0.0		0.1	517
	1983	ND		<.1	492	0.1	473	<.1	498	0.3	514	0.1	544	0.1	532	0.0		<.1	408	0.1	514
	1984	ND		<.1	517	0.1	474	0.1	510	0.3	507	0.1	521	<.1	488	0.0		<.1	315	0.1	509
	1985	ND		0.1	525	0.1	482	<.1	498	0.1	546	0.1	556	0.1	519	<.1	556	<.1	511	0.1	528
	1986	0.1	462	<.1	521	<.1	473	<.1	474	0.2	485	0.1	532	<.1	514	0.0		<.1	356	<.1	495
	1987	<.1	423	<.1	491	0.1	527	<.1	512	<.1	519	0.1	542	<.1	528	0.0		<.1	390	<.1	514
	1988	<.1	370	<.1	515	<.1	534	0.2	521	0.1	544	0.1	538	0.1	521	<.1	495	<.1	325	0.1	525
	1989	<.1	321	<.1	480	<.1	485	0.2	509	0.1	549	<.1	547	0.1	384	0.0		<.1	358	0.1	524
	1990	<.1	465	0.1	504	0.1	499	0.2	499	0.2	509	<.1	583	0.1	549	<.1	598	<.1	429	0.1	513
	1991	<.1	469	<.1	502	0.1	518	<.1	476	<.1	562	<.1	569	<.1	472	0.0		<.1	299	<.1	513
	1992	<.1	464	0.1	444	0.1	556	0.1	519	0.1	565	<.1	541	<.1	496	<.1	495	<.1	406	0.1	499
Gulf menhaden	1975	0.0		0.5	272	ND		1.7	302	0.4	221	0.2	307	0.5	284	0.3	280	0.1	312	0.5	286
	1976	ND		2.7	240	<.1	270	0.3	246	0.3	275	0.1	267	0.5	275	0.2	304	0.1	275	0.8	255
	1977	ND		3.0	246	<.1	248	0.2	244	0.1	240	<.1	237	2.0	254	1.4	258	0.1	211	1.0	249
	1978	ND		0.6	249	0.5	249	<.1	241	0.1	239	0.6	242	1.4	250	0.2	254	0.0		0.4	248
	1979	ND		0.1	249	0.1	231	0.4	250	<.1	235	0.1	251	0.3	251	0.1	261	<.1	294	0.1	252
	1980	ND		0.3	253	0.0		<.1	260	0.1	255	0.1	245	<.1	243	0.6	249	0.1	325	0.2	254
	1981	ND		0.7	259	<.1	260	0.1	246	0.1	242	0.1	238	0.3	255	0.7	262	0.1	273	0.3	258
	1982	ND		0.6	251	<.1	310	<.1	246	0.1	243	<.1	238	0.8	255	0.1	264	<.1	239	0.2	252
	1983	ND		1.7	257	0.1	248	<.1	249	0.2	239	0.2	246	0.2	258	<.1	290	<.1	250	0.5	255
	1984	ND		1.0	256	0.2	255	0.4	248	0.4	246	0.6	251	0.5	284	0.2	273	0.2	295	0.5	259
	1985	ND		1.5	249	<.1	233	0.1	254	0.1	249	0.1	263	0.5	260	0.2	281	0.1	279	0.4	253
	1986	0.2	246	1.5	244	0.1	233	0.3	239	0.1	244	0.1	249	0.8	263	<.1	249	<.1	262	0.5	247
	1987	0.1	244	1.8	250	0.0		0.1	244	<.1	278	<.1	250	0.2	259	<.1	256	<.1	278	0.4	250
	1988	0.2	268	0.8	244	<.1	206	0.2	233	0.1	241	<.1	252	0.1	264	<.1	249	0.1	317	0.2	247
	1989	0.2	253	0.8	245	<.1	236	0.2	231	<.1	240	<.1	276	<.1	252	0.0		<.1	253	0.2	244
	1990	0.1	256	1.3	253	<.1	247	0.6	224	<.1	251	0.1	214	<.1	294	0.0		<.1	226	0.4	247
	1991	0.3	255	1.4	257	0.0		<.1	217	<.1	239	<.1	229	<.2	256	<.1	287	<.1	240	0.3	256
	1992	<.1	299	1.3	257	<.1	232	0.1	239	0.1	245	<.1	257	0.1	271	<.1	266	0.1	237	0.3	256
Hardhead catfish	1975	0.0		0.8	318	ND		0.2	309	0.5	320	0.2	303	0.3	325	0.5	307	0.3	298	0.4	314
	1976	ND		0.7	347	<.1	322	0.2	283	0.8	310	0.2	289	0.3	300	0.4	291	0.5	292	0.4	314

Table 2. (Cont'd.)

Species	Year	Bay system: Sabine Lake No./h	Sabine Lake Length	Galveston No./h	Galveston Length	East Matagorda No./h	East Matagorda Length	Matagorda No./h	Matagorda Length	San Antonio No./h	San Antonio Length	Aransas No./h	Aransas Length	Corpus Christi No./h	Corpus Christi Length	Upper Laguna Madre No./h	Upper Laguna Madre Length	Lower Laguna Madre No./h	Lower Laguna Madre Length	Coastwide No./h	Coastwide Length
Hardhead catfish (cont'd.)	1977	ND		0.6	338	<.1	331	0.1	305	0.2	321	0.1	323	0.2	322	0.3	309	0.7	320	0.3	325
	1978	ND		1.4	340	0.1	304	0.2	283	0.1	318	0.2	337	0.3	318	0.4	285	0.6	341	0.5	330
	1979	ND		1.5	350	0.2	338	0.2	321	0.7	338	0.2	348	0.3	331	0.4	291	0.4	335	0.6	340
	1980	ND		0.7	333	0.4	329	0.1	331	0.7	316	0.3	326	0.3	353	0.4	294	0.5	330	0.4	326
	1981	ND		1.0	341	0.3	319	<.1	313	1.0	345	0.4	345	0.4	347	0.2	312	0.7	348	0.6	340
	1982	ND		1.7	341	0.4	334	0.2	332	0.8	342	0.3	347	0.3	346	0.6	305	0.8	331	0.7	336
	1983	ND		1.1	344	0.4	337	0.4	331	0.6	326	0.4	353	0.5	342	1.0	317	0.9	352	0.7	339
	1984	ND		1.6	330	1.3	322	0.8	326	1.0	337	0.6	340	0.4	342	0.9	307	0.9	329	1.0	329
	1985	ND		1.2	329	0.5	327	0.7	346	0.9	355	0.5	354	0.5	349	0.7	313	0.9	317	0.8	335
	1986	0.1	335	1.0	338	0.4	342	0.5	336	1.0	351	0.6	355	0.4	356	0.5	299	0.8	353	0.7	342
	1987	0.1	320	0.7	337	0.5	320	0.8	343	0.9	358	0.3	355	0.4	369	0.3	314	0.5	366	0.6	346
	1988	0.2	315	1.2	337	1.0	338	1.2	341	1.1	351	0.5	349	0.7	347	0.4	318	1.0	340	0.9	341
	1989	0.1	326	1.0	353	0.9	328	1.1	346	1.4	351	0.7	334	0.5	362	0.4	313	1.0	358	0.9	348
	1990	0.3	325	1.0	332	1.1	339	1.2	339	1.4	363	0.6	351	0.5	367	0.4	303	0.9	360	0.9	345
	1991	0.2	325	1.0	348	1.2	346	1.5	346	1.6	360	1.5	379	0.7	372	0.4	330	0.9	368	1.1	358
	1992	0.1	347	1.1	343	0.8	348	1.3	350	0.7	369	1.2	376	0.7	379	0.2	338	1.1	368	0.9	359
Pinfish	1975	0.0		0.0		ND		0.0		0.0		0.0		<.1	180	<.1	178	0.0		<.1	179
	1976	ND		0.0		0.1	199	0.0		0.2	212	0.0		<.1	212	<.1	240	<.1	220	<.1	212
	1977	ND		0.0		0.0		0.0		0.0		<.1	210	0.0		0.1	277	0.1	209	<.1	250
	1978	ND		<.1	238	<.1	168	0.0		0.1	222	<.1	247	<.1	217	<.1	190	<.1	230	<.1	221
	1979	ND		0.0		0.0		<.1	181	0.0		0.0		<.1	224	<.1	155	<.1	218	<.1	210
	1980	ND		<.1	157	0.0		0.0		0.0		0.0		0.2	238	<.1	186	0.0		<.1	221
	1981	ND		<.1	221	0.0		<.1	230	<.1	177	<.1	214	<.1	231	<.1	231	<.1	206	<.1	218
	1982	ND		<.1	207	<.1	227	<.1	202	<.1	187	<.1	217	0.1	241	<.1	217	<.1	239	<.1	220
	1983	ND		<.1	192	<.1	202	<.1	178	<.1	187	<.1	174	0.2	236	0.1	185	<.1	209	<.1	206
	1984	ND		<.1	154	0.0		<.1	194	<.1	154	<.1	179	<.1	224	<.1	190	<.1	172	<.1	183
	1985	ND		<.1	192	<.1	170	<.1	193	<.1	206	<.1	162	<.1	189	<.1	182	<.1	182	<.1	185
	1986	<.1	51	<.1	200	<.1	211	<.1	150	0.0		<.1	218	<.1	176	<.1	188	<.1	143	<.1	183
	1987	0.0		<.1	176	<.1	226	0.1	177	<.1	143	<.1	177	0.3	225	<.1	181	<.1	191	<.1	202
	1988	0.0		<.1	204	<.1	220	<.1	171	<.1	165	<.1	169	<.1	228	<.1	206	<.1	185	<.1	200
	1989	0.0		<.1	188	<.1	205	<.1	182	<.1	180	<.1	172	<.1	223	<.1	160	<.1	240	<.1	191
	1990	0.0		<.1	194	<.1	224	<.1	242	<.1	184	<.1	228	<.1	210	<.1	192	<.1	246	<.1	206
	1991	0.0		<.1	158	0.0		0.0		<.1	167	<.1	200	0.1	188	<.1	198	<.1	191	<.1	187
	1992	0.0		<.1	227	<.1	208	<.1	195	<.1	191	<.1	187	<.1	193	<.1	195	<.1	213	<.1	202
Spot	1975	<.1	230	0.0		ND		<.1	305	<.1	245	0.1	247	0.9	245	0.4	267	0.2	236	0.2	251
	1976	ND		0.4	236	<.1	260	0.2	229	0.3	236	<.1	238	0.3	228	0.2	236	0.5	257	0.3	240
	1977	ND		0.2	234	<.1	257	<.1	256	0.2	240	0.1	243	0.3	231	0.2	252	0.4	250	0.2	243
	1978	ND		0.1	226	0.1	234	0.4	236	0.1	267	0.1	259	0.2	248	0.3	256	0.1	223	0.2	244
	1979	ND		0.0		0.0		<.1	260	<.1	274	<.1	295	<.1	257	0.1	246	0.2	249	<.1	257
	1980	ND		0.1	235	<.1	222	0.4	235	0.1	246	<.1	217	0.3	244	0.1	240	<.1	250	0.1	238
	1981	ND		0.1	240	0.2	237	<.1	240	<.1	253	<.1	264	0.1	244	0.2	243	0.1	237	0.1	243
	1982	ND		0.3	238	<.1	246	0.1	232	0.1	245	0.1	241	0.5	260	0.2	240	0.2	246	0.2	245

Table 2. (Cont'd.)

Species	Year	Sabine Lake		Galveston		East Matagorda		Matagorda		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		Coastwide	
		No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length
Spot (cont'd.)	1983	ND		0.2	242	0.2	245	<.1	243	0.2	246	0.1	246	0.3	263	0.1	235	0.2	244	0.2	246
	1984	ND		0.1	238	0.1	242	0.1	240	0.1	241	0.1	240	0.4	251	<.1	230	<.1	231	0.1	243
	1985	ND		0.3	233	<.1	229	0.1	234	0.1	237	0.1	237	0.3	240	0.5	230	0.3	231	0.2	233
	1986	0.1	233	0.2	237	0.1	239	0.1	238	0.1	231	0.1	237	0.5	245	0.1	229	0.2	243	0.2	239
	1987	0.1	233	0.2	235	<.1	230	0.1	220	<.1	225	0.1	232	0.4	249	<.1	238	0.1	236	0.1	236
	1988	0.1	237	0.2	237	<.1	242	0.2	232	<.1	246	0.1	234	0.5	257	0.1	240	0.2	245	0.2	243
	1989	<.1	234	0.2	236	0.1	240	0.2	238	0.2	250	0.1	234	0.4	260	<.1	233	0.2	234	0.2	242
	1990	0.1	232	0.1	240	<.1	242	0.1	246	<.1	242	0.1	239	0.1	239	<.1	244	0.1	233	0.1	239
	1991	<.1	249	0.1	241	0.1	243	<.1	234	0.1	236	0.1	242	0.3	243	0.1	232	0.3	234	0.1	238
	1992	<.1	238	0.2	241	<.1	245	0.1	239	<.1	241	0.1	247	0.3	244	0.2	242	0.2	244	0.1	242
Striped mullet	1975	<.1	390	0.3	331	ND		0.4	347	0.6	322	2.5	328	1.0	382	0.3	358	0.5	345	0.7	339
	1976	ND		0.3	346	0.2	320	0.3	349	1.6	331	0.5	360	0.3	342	0.6	402	2.0	397	0.7	367
	1977	ND		0.2	345	0.2	380	0.4	330	0.9	343	0.3	321	0.4	371	0.3	396	0.6	354	0.4	348
	1978	ND		0.2	423	0.6	330	0.6	342	0.5	322	1.1	336	0.1	336	0.1	364	0.3	387	0.4	347
	1979	ND		0.1	351	0.1	338	0.3	340	0.7	344	0.7	344	0.3	353	0.6	410	0.3	365	0.4	357
	1980	ND		0.2	363	<.1	319	0.2	343	0.6	357	0.6	357	0.3	340	0.3	360	0.4	346	0.3	353
	1981	ND		0.1	395	0.1	349	0.1	332	0.6	341	0.5	334	0.3	353	0.3	364	0.9	363	0.4	352
	1982	ND		0.2	376	0.4	329	0.3	330	0.4	341	0.8	331	0.2	345	0.1	348	0.4	372	0.4	347
	1983	ND		0.2	370	0.2	335	0.2	339	0.3	334	0.5	350	0.2	347	0.3	383	0.6	375	0.3	358
	1984	ND		0.4	362	0.7	328	0.3	331	0.5	350	0.6	342	0.4	357	0.5	376	0.4	356	0.5	352
	1985	ND		0.2	338	0.2	326	0.2	323	0.5	355	0.3	343	0.2	342	0.3	397	0.3	375	0.3	354
	1986	<.1	328	0.1	377	0.3	328	0.1	337	0.4	369	0.2	356	0.2	358	<.1	370	0.6	359	0.2	359
	1987	<.1	325	0.2	375	0.4	333	0.7	319	1.1	360	0.6	348	0.3	338	0.2	391	0.4	382	0.5	351
	1988	<.1	331	0.2	362	0.4	344	0.4	326	0.4	347	0.4	365	0.3	370	0.4	409	0.4	396	0.3	366
	1989	<.1	329	0.2	349	0.2	334	0.2	328	0.3	350	0.4	348	0.2	359	0.3	394	0.4	366	0.3	357
	1990	0.1	334	0.4	341	0.3	368	0.2	344	0.8	369	0.7	358	0.2	353	0.2	387	0.4	383	0.4	361
	1991	0.1	331	0.2	333	0.6	366	0.1	343	0.8	364	0.5	351	0.3	368	0.1	383	0.4	401	0.3	363
	1992	<.1	328	0.3	376	0.3	387	0.4	330	0.2	350	0.7	364	0.4	360	0.2	389	0.3	383	0.3	364
Other finfishes	1975	1.3	427	1.4	505	ND		1.0	461	0.6	438	1.1	415	1.0	358	0.5	383	1.0	365	1.0	439
	1976	ND		1.0	397	0.1	316	1.4	483	1.1	493	1.6	420	1.0	380	0.2	439	1.1	380	1.0	428
	1977	ND		0.5	563	0.2	322	2.7	408	2.0	346	0.4	473	1.1	321	0.4	311	0.9	379	1.1	397
	1978	ND		0.5	311	0.2	293	1.2	365	2.0	463	0.6	403	0.2	325	0.5	443	0.8	403	0.8	393
	1979	ND		0.6	386	<.1	540	0.9	371	0.6	418	0.5	514	0.4	330	0.2	360	0.6	410	0.5	403
	1980	ND		0.4	375	0.1	314	0.6	376	1.1	315	0.6	323	0.3	295	0.3	424	0.2	388	0.5	350
	1981	ND		0.9	371	0.5	344	0.6	469	0.9	468	1.0	455	1.1	403	0.2	397	0.6	415	0.7	421
	1982	ND		1.0	353	0.7	319	1.1	491	1.0	491	0.8	437	0.8	386	0.3	380	0.7	422	0.8	422
	1983	ND		1.2	412	1.7	286	1.5	415	1.0	420	0.8	574	1.8	367	0.1	394	0.6	417	1.1	418
	1984	ND		1.1	393	0.8	308	1.6	515	0.3	633	0.8	679	0.7	412	0.1	441	0.6	526	0.8	491
	1985	ND		1.0	369	0.4	341	0.7	516	0.5	582	0.3	719	0.3	429	0.1	376	0.5	435	0.6	460
	1986	0.8	482	0.8	373	1.1	455	1.3	499	0.6	529	0.6	483	0.6	339	0.1	465	0.5	407	0.7	447
	1987	0.8	549	0.9	358	0.4	438	0.9	350	1.2	507	0.3	464	0.5	331	0.1	449	0.4	448	0.6	412
	1988	1.0	462	1.0	342	1.2	434	1.1	424	1.3	496	0.9	551	0.8	350	<.1	366	0.5	407	0.9	429

Table 2. (Cont'd.)

		Bay system																			
		Sabine Lake		Galveston		East Matagorda		Matagorda		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		Coastwide	
Species	Year	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length
Other finfishes	1989	0.8	485	1.0	362	0.5	434	0.8	436	0.8	535	0.6	447	1.4	314	0.1	447	0.5	398	0.7	407
	1990	0.8	471	0.8	383	0.3	329	0.6	371	0.6	554	0.5	567	1.1	449	0.2	446	0.3	503	0.6	445
	1991	1.0	462	1.2	374	0.7	408	1.3	419	0.6	536	0.6	392	1.1	354	0.1	362	0.2	399	0.7	405
	1992	1.3	464	1.2	382	0.7	503	1.4	355	0.5	513	1.0	616	0.8	333	0.2	392	0.5	479	0.9	431
Total finfishes	1975	3.0	383	5.1	396	ND		6.6	355	4.9	339	7.9	345	5.7	343	4.3	374	4.8	394	5.5	365
	1976	ND		7.2	334	4.0	385	4.9	388	9.1	365	5.0	363	5.0	349	5.1	383	11.1	400	6.8	369
	1977	ND		6.2	334	3.2	362	5.4	389	6.2	348	3.6	344	5.8	326	5.2	343	6.5	381	5.5	353
	1978	ND		4.0	342	4.0	325	5.0	359	5.1	383	5.2	341	3.8	322	3.6	358	3.1	395	4.3	355
	1979	ND		3.5	367	2.0	372	4.3	350	5.6	368	3.8	372	3.5	327	2.6	367	3.5	393	3.7	365
	1980	ND		4.0	371	2.9	375	3.3	346	6.1	342	4.8	350	5.0	336	2.5	354	4.2	390	4.3	357
	1981	ND		4.2	357	3.3	355	3.0	384	4.8	358	4.4	375	4.8	364	3.1	357	5.5	388	4.2	369
	1982	ND		6.2	346	6.2	354	3.7	372	5.1	360	4.5	366	5.1	338	3.5	363	5.9	381	5.0	360
	1983	ND		6.0	350	6.2	341	4.0	378	5.3	352	3.9	396	5.8	356	3.0	362	5.5	399	4.9	367
	1984	ND		6.5	364	5.7	379	4.4	369	3.9	362	3.8	399	4.2	347	3.1	373	4.2	406	4.6	373
	1985	ND		7.1	335	4.5	366	3.7	380	4.2	376	3.3	396	4.0	358	3.4	362	4.6	390	4.6	364
	1986	2.6	395	6.0	349	4.4	390	4.6	379	4.7	408	4.0	378	5.3	347	2.2	381	5.2	404	4.6	377
	1987	2.2	430	5.8	334	4.7	390	5.0	323	5.2	428	3.3	391	4.9	353	1.6	406	4.6	444	4.4	374
	1988	2.5	371	6.2	346	6.5	398	5.5	361	5.8	393	4.3	382	5.0	358	3.1	396	5.7	410	5.2	374
	1989	2.2	394	6.8	363	5.2	387	4.3	361	5.6	402	4.7	374	5.4	388	2.9	417	5.2	408	5.0	382
	1990	2.4	401	5.2	343	4.9	387	4.2	345	5.5	399	4.5	400	4.5	398	2.7	433	4.5	431	4.4	384
	1991	3.1	389	5.4	341	5.4	376	4.9	362	6.5	389	4.9	373	6.3	371	4.0	397	7.6	389	5.5	372
	1992	2.7	439	6.1	356	6.1	439	5.6	366	2.8	408	6.2	419	5.8	377	3.4	425	7.3	399	5.4	389
Blue crab	1983	ND		0.1	136	0.3	153	0.1	151	0.1	138	0.2	146	0.2	146	0.3	146	0.3	146	0.2	144
	1984	ND		0.1	151	0.1	140	0.1	147	0.1	147	0.2	145	0.2	141	0.2	138	0.2	148	0.1	145
	1985	ND		<.1	149	0.1	154	<.1	142	0.1	139	0.1	141	0.1	143	0.2	147	0.1	148	0.1	145
	1986	0.2	150	<.1	146	<.1	144	<.1	161	0.1	146	<.1	138	0.1	144	<.1	147	0.1	149	<.1	147
	1987	0.2	154	0.1	140	0.1	158	0.2	154	0.3	153	<.1	158	0.1	157	0.3	157	0.1	152	0.2	153
	1988	0.2	155	0.1	144	0.2	150	<.1	137	0.1	138	0.1	145	0.1	147	<.1	129	<.1	152	0.1	147
	1989	0.1	157	<.1	136	<.1	144	<.1	139	<.1	133	<.1	148	<.1	159	0.0		<.1	152	<.1	143
	1990	0.2	146	0.1	149	0.1	144	0.2	144	0.1	144	<.1	149	0.1	138	0.1	129	0.2	142	0.1	144
	1991	0.1	152	<.1	151	0.1	152	0.1	131	0.2	150	<.1	136	0.1	153	0.1	139	0.2	148	0.1	146
	1992	0.1	161	<.1	143	0.1	156	0.1	153	<.1	136	0.1	140	<.1	148	0.2	138	0.1	152	0.1	144

Table 3. Annual mean catch rate (No./ha) and mean total lengths (mm) of selected fishes and shellfishes caught with 18.3-m bag seines by bay system during 1977-92. Blank indicateds no measurement taken; ND = no data.

Species / Year	Bay system																			
	Sabine Lake		Galveston		East Matagorda		Matagorda		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		Coastwide	
	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length
FINFISHES																				
Red drum																				
1977[a]	ND		20	35	ND		8	51	85	51	14	44	1	41	0		1	39	18	46
1978	ND		3	67	ND		4	43	13	51	4	94	3	67	11	58	17	52	7	58
1979	ND		17	62	ND		6	92	11	67	5	92	18	85	27	66	15	64	14	70
1980	ND		59	74	ND		8	68	28	50	5	88	16	75	4	82	15	72	23	70
1981	ND		26	52	ND		9	86	29	53	30	38	40	46	5	46	45	56	26	52
1982	ND		53	62	ND		9	76	19	102	26	103	21	62	1	55	16	89	24	76
1983	ND		47	67	11[b]	66	4	70	7	99	12	98	7	88	2	59	41	92	20[b]	78
1984	ND		13	66	6	70	2	105	12	56	4	100	4	80	2	52	4	73	6	69
1985	ND		3	131	10	106	7	96	7	114	19	82	9	67	1	61	17	69	9	86
1986	19	66	7	87	8	86	2	78	6	105	1	117	4	98	3	84	22	94	7	90
1987	6	99	45	58	47	61	16	88	15	89	9	59	7	71	2	117	32	63	21	66
1988	13	78	8	78	27	79	3	114	6	89	10	78	9	49	4	66	21	63	10	73
1989	61	44	3	59	24	47	4	92	10	82	8	65	4	83	1	54	18	69	9	63
1990	5	62	17	53	27	50	14	51	19	50	43	40	20	57	4	32	25	39	20	46
1991	6	97	14	73	30	53	30	81	36	79	25	61	28	72	5	88	43	61	24	71
1992	5	71	9	85	23	56	15	77	22	84	23	83	7	74	14	51	13	70	14	76
Spotted seatrout																				
1977[a]	ND		34	87	ND		39	84	50	73	1	99	7	84	16	83	5	85	23	82
1978	ND		35	52	ND		6	86	11	69	8	50	4	59	14	93	2	52	14	61
1979	ND		37	79	ND		3	83	12	70	7	68	12	53	13	80	2	86	14	75
1980	ND		17	72	ND		3	84	21	71	11	74	11	79	3	56	<1	60	10	73
1981	ND		16	85	ND		7	110	9	68	13	70	12	65	4	73	6	84	10	80
1982	ND		37	82	ND		7	99	19	62	15	76	4	75	5	78	3	76	15	79
1983	ND		26	84	4[b]	101	7	73	8	72	14	81	4	79	5	101	4	80	11[b]	82
1984	ND		7	71	2	85	3	77	1	83	10	74	1	54	1	88	5	98	4	77
1985	ND		5	80	24	73	11	87	4	64	24	61	3	50	9	70	2	78	9	70
1986	2	67	2	85	17	66	5	71	5	78	12	60	4	68	1	72	2	58	5	68
1987	2	92	22	73	14	68	3	82	19	70	13	69	10	76	1	104	3	63	11	72
1988	7	88	6	88	14	75	5	96	7	67	28	68	7	65	5	65	3	87	9	74
1989	5	63	6	79	14	80	6	69	20	61	16	71	6	71	4	50	2	56	8	68
1990	3	69	5	56	10	74	8	66	8	61	14	61	13	65	2	54	<1	86	7	63
1991	1	67	16	63	13	71	15	70	34	59	20	65	8	72	6	63	2	59	14	64
1992	2	73	6	73	4	82	10	59	42	52	12	64	8	69	18	50	2	54	12	58
Black drum																				
1977[a]	ND		0		ND		11	147	6	179	1	142	1	150	0		0		3	156
1978	ND		36	95	ND		9	112	22	110	2	165	1	122	4	106	0		13	102
1979	ND		40	83	ND		12	106	5	97	1	85	8	89	6	140	18	98	15	92

Table 3 (Cont'd.)

Species / Year	Bay system: Sabine Lake No./ha	Sabine Lake Length	Galveston No./ha	Galveston Length	East Matagorda No./ha	East Matagorda Length	Matagorda No./ha	Matagorda Length	San Antonio No./ha	San Antonio Length	Aransas No./ha	Aransas Length	Corpus Christi No./ha	Corpus Christi Length	Upper Laguna Madre No./ha	Upper Laguna Madre Length	Lower Laguna Madre No./ha	Lower Laguna Madre Length	Coastwide No./ha	Coastwide Length
Black drum (Cont'd.)																				
1980	ND		4	93	ND		4	102	0		2	100	2	75	3	95	1	142	2	97
1981	ND		12	122	ND		11	110	2	141	5	141	2	113	11	44	6	130	8	108
1982	ND		4	124	ND		5	138	9	90	7	94	1	109	<1	155	2	117	4	110
1983	ND		23	91	3[b]	123	3	118	1	132	2	145	2	108	2	107	<1	141	7[b]	
1984	ND		8	108	1	103	3	156	0		1	140	0		1	82	<1	91	2	115
1985	ND		4	141	3	83	3	113	1	122	<1	124	1	68	6	86	0		2	112
1986	2	141	2	107	5	85	0		1	149	0		<1	96	2	68	1	145	1	110
1987	0		1	106	0		4	130	1	118	0		6	74	44	63	1	89	6	72
1988	2	146	5	107	5	94	6	126	2	132	2	128	2	112	8	90	2	158	4	114
1989	0		4	124	8	87	3	109	1	125	3	116	1	110	11	77	4	150	4	108
1990	3	128	4	99	41	75	14	117	6	123	2	127	15	64	833	45	7	126	102	49
1991	1	124	3	111	10	99	7	155	2	113	<1	174	<1	112	61	77	1	171	9	92
1992	<1	123	<1	142	3	114	1	146	3	23	0		3	70	6	59	4	118	2	80
Sheepshead																				
1977[a]	ND		0		ND		1	128	0		0		0		0		0		<1	128
1978	ND		0		ND			<1	86	<1	68	1	54	1	59	1	122	1	61	10
1979	ND		15	66	ND		1	94	6	63	3	56	13	41	0		1	50	6	61
1980	ND		1	114	ND		1	163	1	41	1	51	0		0		1	60	1	86
1981	ND		1	158	ND		2	68	0		1	95	1	41	0		1	92	1	101
1982	ND		1	174	ND		0		3	67	<1	62	<1	50	0		0		1	90
1983	ND		1	23	<1[b]	93	<1	50	1	102	<1	67	<1	99	0		3	52	1[b]	52
1984	ND		0		<1	178	<1	90	1	30	<1	36	<1	30	0		0		<1	43
1985	ND		2	20	1	58	1	157	3	39	1	35	0		0		2	57	1	43
1986	0		<1	114	<1	32	<1	203	1	48	1	50	0		0		1	73	<1	80
1987	0		0		1	91	<1	94	<1	53	0		0		0		1	47	<1	64
1988	0		<1	60	2	69	<1	124	2	58	1	55	3	35	0		<1	40	1	56
1989	1	91	<1	59	1	35	1	116	25	40	0		0		0		<1	89	3	44
1990	<1	153	<1	126	<1	36	<1	79	<1	85	<1	115	0		0		1	48	<1	86
1991	<1	146	1	55	0		<1	101	1	81	<1	29	0		0		<1	70	<1	69
1992	<1	97	0		1	33	1	36	5	39	<1	66	<1	40	0		4	63	1	49
Southern Flounder																				
1977[a]	ND		0		ND		1	171	0		0		0		0		0		<1	171
1978	ND		9	40	ND		<1	43	3	37	<1	98	1	44	<1	128	1	46	3	42
1979	ND		1	85	ND		<1	135	2	85	0		1	122	2	46	1	38	1	71
1980	ND		10	54	ND		1	38	2	55	0		3	64	1	43	5	38	4	51
1981	ND		5	57	ND		7	79	2	53	2	90	1	67	1	66	11	55	4	64
1982	ND		9	67	ND		3	82	6	56	18	37	2	62	1	53	13	39	8	51

Table 3 (Cont'd.)

Species / Year	Bay system: Sabine Lake No./ha	Sabine Lake Length	Galveston No./ha	Galveston Length	East Matagorda No./ha	East Matagorda Length	Matagorda No./ha	Matagorda Length	San Antonio No./ha	San Antonio Length	Aransas No./ha	Aransas Length	Corpus Christi No./ha	Corpus Christi Length	Upper Laguna Madre No./ha	Upper Laguna Madre Length	Lower Laguna Madre No./ha	Lower Laguna Madre Length	Coastwide No./ha	Coastwide Length
Southern Flounder (Cont'd.)																				
1983	ND		9	46	1[b]	75	2	54	3	58	6	39	1	34	0		2	45	4[b]	46
1984	ND		2	83	2	69	1	78	1	67	3	62	3	45	1	86	1	64	2	69
1985	ND		4	58	5	78	2	112	1	43	7	55	5	55	<1	71	2	67	3	64
1986	2	83	4	83	6	70	19	66	2	78	4	64	2	54	1	79	12	44	6	63
1987	2	47	21	51	9	54	1	62	3	44	1	103	1	37	<1	69	3	56	6	53
1988	15	66	14	61	3	76	3	85	3	69	5	48	1	65	<1	60	5	60	6	63
1989	10	74	3	62	10	60	3	67	10	51	24	38	8	53	<1	106	2	62	7	50
1990	12	68	22	59	12	55	15	48	11	50	3	55	12	47	4	67	9	51	12	54
1991	7	58	5	34	7	56	3	53	2	94	1	55	2	46	<1	27	2	60	3	49
1992	7	66	3	41	3	67	2	34	3	48	1	41	5	44	<1	22	<1	56	2	46
Atlantic croaker																				
1977[a]	ND		20	96	ND		0		0		1	36	11	50	1	181	4	83	6	88
1978	ND		320	61	ND		239	59	10	100	37	73	1	30	11	86	29	38	121	61
1979	ND		463	52	ND		109	74	52	49	7	76	25	65	3	92	221	44	162	53
1980	ND		1,085	55	ND		82	69	17	89	16	56	24	49	1	40	198	42	290	54
1981	ND		528	57	ND		24	94	26	73	26	42	20	55	1	112	32	46	136	58
1982	ND		1,812	61	ND		165	74	67	67	142	61	32	54	0		49	53	471	62
1983	ND		888	55	56[b]	79	236	66	67	80	63	62	6	61	2	86	49	51	254[b]	58
1984	ND		815	59	210	64	483	60	25	83	155	68	1,160	61	4	102	133	59	404	60
1985	ND		242	64	121	63	299	72	13	88	46	78	4	76	11	87	87	42	122	66
1986	126	74	148	77	198	68	2,138	52	17	99	12	72	12	78	<1	89	62	57	364	55
1987	79	70	335	54	110	56	207	78	33	47	9	81	4	40	<1	60	10	62	113	61
1988	154	68	485	53	160	51	60	80	13	66	3	50	8	50	0		15	63	125	56
1989	111	56	36	77	190	45	22	56	9	49	18	62	10	61	0		9	38	27	59
1990	97	67	316	51	117	46	82	68	24	32	58	65	14	59	2	78	46	62	103	55
1991	208	57	635	52	343	47	1,035	58	156	57	63	63	35	66	11	36	169	46	353	55
1992	225	56	505	47	450	47	626	48	430	47	215	44	95	50	13	54	157	44	326	47
Sand seatrout																				
1977[a]	ND		0		ND		11	61	0		0		0		0		0		2	61
1978	ND		13	58	ND		3	59	0		0		<1	54	0		0		4	58
1979	ND		35	58	ND		14	70	2	75	<1	33	1	77	0		0		10	61
1980	ND		8	61	ND		7	82	<1	64	<1	89	0		0		0		3	69
1981	ND		21	60	ND		2	72	0		0		1	76	0		<1	78	5	61
1982	ND		47	57	ND		12	67	<1	35	<1	76	<1	73	0		<1	65	13	58
1983	ND		47	53	10[b]	59	30	64	<1	47	1	70	2	53	0		0		15[b]	56
1984	ND		49	55	7	66	22	54	0		0		0		0		8	41	15	54
1985	ND		11	60	8	59	12	71	0		<1	67	1	82	0		<1	60	5	65
1986	6	71	9	50	4	60	9	64	0		0		<1	57	0		0		3	57
1987	4	63	16	58	11	61	14	65	1	61	0		0		0		0		6	61

Table 3 (Cont'd.)

Species / Year	Bay system: Sabine Lake No./ha	Length	Galveston No./ha	Length	East Matagorda No./ha	Length	Matagorda No./ha	Length	San Antonio No./ha	Length	Aransas No./ha	Length	Corpus Christi No./ha	Length	Upper Laguna Madre No./ha	Length	Lower Laguna Madre No./ha	Length	Coastwide No./ha	Length
Sand seatrout (Cont'd.)																				
1988	5	54	5	53	38	40	6	66	<1	69	0		0		0		0		3	52
1989	9	54	43	55	7	66	4	68	<1	31	0		<1	106	0		0		10	56
1990	24	52	75	46	10	59	13	56	1	36	0		0		0		0		19	47
1991	7	48	76	55	25	59	39	56	<1	76	3	50	2	42	0		<1	65	23	55
1992	7	54	30	53	10	52	36	54	0	0	<1	81	1	61	0		0		12	53
Gulf menhaden																				
1977[a]	ND		21	76	ND		0		0		0		1	58	0		0		5	76
1978	ND		533	31	ND		3,963	47	169	64	3,310	44	1	41	44	42	71	29	1,249	44
1979	ND		122	53	ND		867	43	0		817	38	335	38	6	37	1	31	312	41
1980	ND		14,717	46	ND		115	50	24	52	48	30	7	49	4	40	54	31	3,343	46
1981	ND		196	45	ND		348	51	52	41	355	48	8	41	721	42	11	38	246	45
1982	ND		4,788	50	ND		820	48	1,008	37	137	33	1,068	36	9	31	130	32	1,466	47
1983	ND		4,971	66	1,324[b]	44	809	44	67	42	16	34	619	33	2	30	5	47	1,312[b]	62
1984	ND		1,839	44	470	48	1,260	45	1,084	42	866	39	553	52	128	49	69	56	928	44
1985	ND		486	42	243	43	3,819	50	868	45	48	39	122	37	62	44	20	49	819	48
1986	3,049	48	3,024	38	1,502	37	10,076	53	612	36	27	34	11	46	36	44	12	36	2,333	48
1987	633	47	264	50	755	49	3,550	60	35	40	68	36	11	34	32	63	18	27	637	57
1988	600	40	2,625	45	438	41	363	60	<1	43	80	30	<1	44	14	31	81	35	660	45
1989	526	48	781	42	386	51	187	45	53	37	43	37	11	43	2	45	71	39	245	43
1990	774	49	5,106	43	640	44	527	56	797	71	943	35	869	32	21	38	<1	38	1,487	44
1991	270	41	4,298	40	1,258	42	3,044	42	296	42	569	41	244	38	123	36	0		1,533	41
1992	593	45	6,025	37	291	36	1,919	38	1,810	35	259	33	43	46	4	30	21	40	1,815	37
Hardhead catfish																				
1977[a]	ND		1	192	ND		1	108	15	91	0		0		6	105	1	114	3	106
1978	ND		12	114	ND		20	107	11	104	2	88	1	72	6	88	3	84	9	105
1979	ND		43	126	ND		16	116	5	148	1	119	7	154	4	116	10	120	16	125
1980	ND		42	118	ND		13	122	1	107	1	134	2	88	<1	83	1	87	12	118
1981	ND		14	119	ND		34	126	10	99	1	100	4	105	5	76	4	95	11	116
1982	ND		32	103	ND		47	121	16	96	8	85	3	108	1	84	3	106	18	108
1983	ND		70	113	26[b]	111	47	119	7	116	4	96	1	103	2	90	1	125	25[b]	114
1984	ND		32	91	21	124	38	88	16	94	25	97	7	82	5	72	14	96	22	92
1985	ND		36	86	10	118	29	115	2	112	19	101	2	85	9	74	3	134	17	97
1986	17	122	24	125	38	112	54	127	30	103	15	96	<1	104	<1	62	11	94	21	116
1987	4	105	38	107	70	104	49	111	6	94	<1	107	<1	150	0		3	88	18	107
1988	5	109	21	97	17	129	27	118	1	122	5	113	4	91	0		41	88	15	102
1989	15	73	30	124	42	118	34	106	25	98	3	86	3	113	<1	85	14	94	19	109
1990	1	140	6	123	26	125	60	106	9	95	8	89	8	88	1	73	63	80	22	96
1991	4	132	27	116	53	124	40	112	16	105	5	110	2	101	1	101	16	82	18	110
1992	6	121	19	117	13	139	19	118	12	114	2	100	2	118	1	95	7	86	10	115

Table 3 (Cont'd.)

Species / Year	Bay system																			
	Sabine Lake		Galveston		East Matagorda		Matagorda		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		Coastwide	
	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length
Pinfish																				
1977[a]	ND		0		ND		32	114	24	105	22	105	66	93	167	102	13	101	39	103
1978	ND		116	55	ND		24	61	77	75	54	74	133	69	41	84	7	64	65	65
1979	ND		73	75	ND		43	79	60	79	47	85	81	61	13	122	1	107	47	77
1980	ND		151	38	ND		16	50	363	57	167	66	250	61	17	88	153	59	152	55
1981	ND		270	55	ND		68	69	131	70	107	85	267	67	40	84	132	75	151	66
1982	ND		144	67	ND		34	66	590	55	448	67	265	62	100	73	349	57	260	61
1983	ND		138	65	61[b]	79	115	80	510	49	642	68	533	66	25	82	211	68	279[b]	64
1984	ND		247	59	180	64	107	71	172	66	471	62	214	54	146	79	120	77	214	64
1985	ND		362	55	401	65	209	71	396	55	274	66	234	67	133	68	261	66	280	62
1986	64	74	183	61	676	64	117	58	161	66	696	59	304	58	245	62	329	63	287	61
1987	8	72	50	64	227	57	44	68	442	63	321	67	463	58	42	56	339	64	206	63
1988	7	84	128	61	373	62	43	77	246	63	589	62	983	54	312	59	660	60	357	60
1989	24	75	80	62	359	58	308	53	607	61	300	63	361	57	60	70	251	61	254	60
1990	37	75	182	58	499	61	251	65	552	52	609	55	566	57	392	62	660	60	415	58
1991	8	79	138	58	307	60	39	68	248	65	119	61	435	63	240	69	696	57	243	61
1992	12	73	96	46	371	56	67	49	431	53	545	59	475	50	174	59	531	58	293	55
Spot																				
1977[a]	ND		56	100	ND		23	118	0		2	170	12	100	0		1	125	18	105
1978	ND		407	52	ND		182	49	361	48	80	55	310	47	227	59	149	52	253	51
1979	ND		352	42	ND		21	64	201	44	58	60	210	55	103	70	57	59	156	49
1980	ND		269	57	ND		76	56	256	51	101	61	95	58	86	59	165	48	160	55
1981	ND		331	52	ND		154	57	135	64	97	54	121	61	115	63	220	67	185	58
1982	ND		404	62	ND		143	58	467	52	623	54	225	60	180	58	340	66	350	58
1983	ND		459	57	50[b]	64	95	58	169	47	350	56	135	55	57	60	526	63	273[b]	58
1984	ND		238	53	96	61	146	58	247	46	659	56	564	58	493	66	948	67	433	60
1985	ND		179	62	158	59	216	59	274	44	254	64	227	55	80	77	169	54	197	58
1986	118	65	135	68	319	56	825	51	102	58	258	51	160	60	114	55	614	54	314	54
1987	19	80	264	60	383	60	83	58	203	49	476	58	359	49	17	70	307	47	239	55
1988	44	82	229	69	210	66	116	64	132	54	361	59	158	65	212	54	270	59	209	62
1989	96	52	87	63	256	58	173	59	264	62	253	53	158	62	271	50	151	64	183	58
1990	16	70	222	62	525	54	330	57	691	51	566	52	831	49	684	57	854	55	525	54
1991	22	65	270	56	304	59	131	49	198	69	295	53	279	52	174	53	950	51	314	54
1992	27	70	211	55	89	61	63	53	194	59	164	53	387	45	219	58	347	54	204	54
Striped mullet																				
1977[a]	ND		31	140	ND		129	106	129	117	27	132	179	156	15	158	62	103	74	126
1978	ND		56	120	ND		26	124	126	66	68	103	121	76	53	94	105	81	74	90
1979	ND		135	89	ND		93	99	273	66	152	103	202	135	16	102	383	53	174	81
1980	ND		90	117	ND		15	107	41	121	61	102	49	88	57	70	95	85	61	100
1981	ND		229	57	ND		41	92	249	84	205	81	79	85	31	63	161	98	152	76

Table 3 (Cont'd.)

Species / Year	Bay system: Sabine Lake No./ha	Sabine Lake Length	Galveston No./ha	Galveston Length	East Matagorda No./ha	East Matagorda Length	Matagorda No./ha	Matagorda Length	San Antonio No./ha	San Antonio Length	Aransas No./ha	Aransas Length	Corpus Christi No./ha	Corpus Christi Length	Upper Laguna Madre No./ha	Upper Laguna Madre Length	Lower Laguna Madre No./ha	Lower Laguna Madre Length	Coastwide No./ha	Coastwide Length
Striped mullet (Cont'd.)																				
1982	ND		128	66	ND		553	118	179	77	177	85	29	110	23	86	43	94	174	98
1983	ND		85	94	62[b]	104	26	136	57	64	110	106	37	61	15	99	44	84	57[b]	94
1984	ND		52	95	33	110	34	53	69	73	102	57	142	52	154	68	255	96	106	77
1985	ND		75	110	199	89	49	92	22	134	95	58	22	62	70	53	119	81	72	84
1986	84	103	34	134	20	144	23	86	37	93	22	91	62	67	23	57	41	66	35	92
1987	48	98	244	75	60	89	33	96	63	115	127	73	141	56	94	37	72	103	116	76
1988	42	80	115	115	69	90	44	64	16	116	84	50	189	49	64	62	27	125	74	80
1989	61	68	41	96	40	61	24	82	10	147	77	47	131	49	61	33	78	58	55	61
1990	43	88	194	71	151	81	21	71	47	100	156	41	322	44	226	59	114	89	144	63
1991	83	78	234	80	162	60	79	65	73	97	40	88	138	41	283	50	49	126	133	71
1992	23	94	149	79	97	78	52	78	72	81	132	80	141	50	70	53	44	99	95	75
Other finfishes																				
1977[a]	ND		776	51	ND		233	72	2,797	45	1,315	62	2,510	54	1,575	60	743	53	1,273	54
1978	ND		2,562	52	ND		379	82	866	67	1,471	58	936	64	869	56	522	50	1,218	57
1979	ND		1,814	60	ND		450	69	2,745	55	1,999	63	1,277	64	1,157	67	1,657	79	1,591	64
1980	ND		2,090	68	ND		289	79	1,124	69	994	65	1,031	63	1,939	62	381	62	1,180	66
1981	ND		1,682	67	ND		384	82	1,136	56	1,179	64	1,657	63	856	62	637	63	1,094	64
1982	ND		1,546	68	ND		278	88	1,942	54	3,419	53	946	65	1,034	52	393	57	1,390	59
1983	ND		1,959	74	471[b]	75	481	80	1,249	54	2,839	58	814	59	620	59	490	61	1,268[b]	65
1984	ND		1,341	61	591	65	524	77	1,058	61	1,277	61	704	59	880	52	340	65	905	62
1985	ND		585	70	737	69	494	82	609	60	1,727	56	759	50	1,152	50	775	58	846	60
1986	287	77	343	76	535	72	1,225	69	874	51	1,246	54	280	61	1,127	45	563	62	767	59
1987	346	69	931	65	798	63	307	83	521	65	1,006	53	354	57	778	44	788	54	691	59
1988	258	64	704	67	667	60	236	87	963	54	1,981	60	980	54	1,652	46	1,020	65	990	59
1989	323	64	1,042	68	761	60	593	71	962	60	1,333	55	1,312	52	1,950	43	1,740	53	1,185	56
1990	304	75	1,036	65	891	55	767	69	1,306	52	1,566	50	1,243	55	3,216	42	1,204	50	1,351	53
1991	101	84	1,806	63	939	64	520	76	2,026	59	1,158	55	1,100	58	2,067	45	2,082	47	1,468	56
1992	235	53	836	61	569	59	604	69	1,663	54	1,268	55	1,208	53	3,732	44	1,764	52	1,401	53
Total finfishes																				
1977[a]	ND		959	59	ND		489	88	3,106	52	1,383	64	2,788	60	1,780	67	830	59	1,464	61
1978	ND		4,103	53	ND		4,855	67	1,671	65	5,038	64	1,515	66	1,282	62	908	54	3,030	61
1979	ND		3,149	60	ND		1,635	71	3,375	57	3,096	60	2,191	70	1,354	69	2,368	72	2,518	64
1980	ND		18,543	86	ND		632	77	1,879	67	1,407	68	1,490	67	2,116	63	1,070	59	5,241	82
1981	ND		3,334	63	ND		1,093	83	1,781	61	2,020	66	2,213	64	1,792	54	1,267	70	2,028	65
1982	ND		9,007	68	ND		2,077	78	4,321	56	5,021	57	2,596	66	1,355	58	1,342	61	4,194	65
1983	ND		8,725	71	2,078[b]	63	1,857	80	2,147	55	4,059	63	2,160	59	734	61	1,378	68	3,528[b]	68
1984	ND		4,644	59	1,617	66	2,625	62	2,687	58	3,574	62	3,353	52	1,817	60	1,906	71	3,044	60
1985	ND		1,995	63	1,921	68	5,152	82	2,200	65	2,514	60	1,389	56	1,534	55	1,458	60	2,383	68
1986	3,776	69	3,916	71	3,329	63	14,493	73	1,849	60	2,294	57	841	62	1,554	51	1,672	61	4,146	69

Table 3 (Cont'd.)

Species / Year	Bay system: Sabine Lake		Galveston		East Matagorda		Matagorda		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		Coastwide	
	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length
Total finfishes (Cont'd.)																				
1987	1,153	67	2,231	64	2,484	63	4,312	79	1,344	65	2,030	58	1,357	55	1,012	46	1,575	60	2,073	66
1988	1,153	62	4,347	71	2,024	63	913	83	1,391	58	3,150	54	2,344	56	2,271	50	2,144	65	2,464	63
1989	1,243	62	2,157	67	2,097	59	1,362	69	1,997	62	2,079	55	2,006	56	2,360	45	2,341	56	2,010	59
1990	1,319	67	7,186	58	2,951	59	2,106	68	3,470	57	3,968	55	3,913	52	5,385	48	2,993	59	4,209	57
1991	719	62	7,525	62	3,452	63	4,982	69	3,090	63	2,300	59	2,273	60	2,971	50	4,012	54	4,138	61
1992	1,143	56	7,886	54	1,924	57	3,414	57	4,687	53	2,622	57	2,373	52	4,251	47	2,893	55	4,188	54
SHELLFISHES																				
Blue crab																				
1977[a]	ND		103	43	ND		31	46	51	46	95	56	56	38	16	58	8	63	56	47
1978	ND		66	52	ND		10	38	52	51	57	62	33	43	98	61	19	60	48	55
1979	ND		106	52	ND		27	51	76	49	84	62	152	43	90	48	61	54	83	51
1980	ND		122	54	ND		24	56	119	45	65	52	80	38	65	40	176	46	95	48
1981	ND		58	53	ND		43	44	51	54	85	45	86	40	42	58	167	35	74	44
1982	ND		101	48	ND		31	51	107	42	193	48	52	49	35	54	175	42	102	46
1983	ND		148	43	15	77	35	34	105	40	145	43	48	40	36	59	112	33	94	41
1984	ND		88	58	58	60	58	42	42	46	63	50	62	42	37	61	80	46	64	51
1985	ND		144	49	107	54	56	46	41	42	141	38	184	37	73	52	152	34	113	42
1986	37	79	90	55	86	55	57	53	62	46	30	48	77	40	23	45	91	41	63	49
1987	23	68	163	41	87	38	36	51	64	55	35	35	80	47	50	59	72	44	77	45
1988	44	64	160	46	138	31	29	36	48	42	54	35	89	44	38	43	78	37	78	42
1989	50	45	85	48	121	30	45	25	74	31	56	34	72	43	22	41	31	35	59	38
1990	67	47	141	44	94	46	75	31	98	30	83	35	150	42	37	51	68	40	94	39
1991	46	56	165	47	92	44	58	37	198	38	107	35	158	40	49	45	107	43	117	42
1992	36	55	90	36	54	37	45	26	117	30	140	34	164	38	105	58	129	35	103	37
Brown shrimp																				
1977[a]	ND		139	46	ND		64	52	200	49	229	54	99	58	9	63	200	53	137	51
1978	ND		540	50	ND		167	63	102	63	152	60	258	56	188	68	120	53	245	56
1979	ND		482	58	ND		194	66	69	63	438	63	499	61	53	59	155	59	285	61
1980	ND		495	52	ND		143	68	553	60	386	60	183	62	64	64	234	56	314	58
1981	ND		719	57	ND		157	74	310	64	355	60	679	53	102	76	1,008	58	490	59
1982	ND		915	64	ND		207	64	599	51	505	54	428	57	62	63	565	61	510	60
1983	ND		484	60	99	76	248	66	310	57	530	60	295	56	57	65	532	50	360	58
1984	ND		628	64	294	65	197	56	244	66	740	66	291	58	82	61	389	63	396	64
1985	ND		522	60	413	59	364	63	306	56	755	61	370	55	288	70	1,007	56	525	59
1986	605	74	166	58	558	63	524	67	137	65	231	63	204	58	193	66	627	54	318	62
1987	401	70	1,162	58	387	56	445	64	158	60	464	62	293	60	417	56	961	58	610	59
1988	248	61	516	62	570	57	208	61	206	53	357	58	394	64	756	73	461	62	416	63

Table 3 (Cont'd.)

Species / Year	Bay system																			
	Sabine Lake		Galveston		East Matagorda		Matagorda		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		Coastwide	
	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length
Brown shrimp (Cont'd.)																				
1989	110	70	519	59	889	56	369	54	739	55	726	51	522	54	167	58	411	59	493	56
1990	127	69	356	56	723	61	477	61	482	56	1,005	60	592	62	77	74	2,128	59	694	59
1991	14	68	601	57	790	61	453	60	624	56	511	67	660	70	248	56	1,064	63	591	61
1992	245	71	708	57	455	55	270	52	726	52	455	62	629	58	328	62	926	55	565	57
Pink shrimp																				
1977[a]	ND		0		ND		0		12	41	0		0		48	77	0		7	69
1978	ND		0		ND		0		<1	100	<1	63	0		26	77	0		3	77
1979	ND		0		ND		0		0		0		58	51	12	78	<1	106	7	57
1980	ND		0		ND		0		6	51	13	50	58	55	10	60	2	75	10	55
1981	ND		0		ND		0		28	54	87	44	67	54	8	62	5	49	24	49
1982	ND		0		ND		0		0		124	47	67	46	7	61	3	52	25	48
1983	ND		0		0		0		9	51	50	56	31	47	12	54	0		12	53
1984	ND		0		0		<1	25	1	73	16	48	26	48	14	65	<1	79	6	53
1985	ND		0		0		0		0		17	59	7	49	8	76	0		4	61
1986	0		0		<1	73	0		<1	68	15	39	25	49	6	43	3	65	5	46
1987	0		0		0		<1	32	0		11	52	60	52	14	50	0		8	52
1988	0		0		0		0		<1	38	135	49	106	50	<1	55	6	54	28	50
1989	0		0		0		0		1	52	45	42	64	46	20	59	0		14	47
1990	0		0		<1	131	<1	72	<1	36	99	49	106	48	4	48	15	51	25	49
1991	0		0		<1	142	0		<1	110	61	52	25	46	31	42	1	52	14	49
1992	0		<.1	59	0		0		1	40	32	53	77	54	38	55	176	59	38	57
White shrimp																				
1977[a]	ND		1,586	55	ND		1,054	102	115	47	26	63	84	57	36	85	23	57	553	69
1978	ND		858	66	ND		554	70	130	61	92	49	62	52	21	55	130	53	335	65
1979	ND		1,720	61	ND		543	70	212	56	99	64	817	52	5	53	143	47	608	61
1980	ND		571	64	ND		522	68	291	57	133	61	141	69	62	71	18	45	288	64
1981	ND		1,393	62	ND		805	59	66	64	183	50	173	51	19	56	264	61	527	60
1982	ND		3,560	58	ND		1,750	64	650	51	297	43	369	54	14	51	326	50	1,276	58
1983	ND		1,524	50	348	70	394	65	135	64	129	53	135	42	7	67	218	52	478	53
1984	ND		1,557	59	409	65	1,438	71	166	56	415	53	311	63	17	58	625	58	759	62
1985	ND		307	61	552	61	584	63	37	44	239	44	33	53	6	73	204	54	241	58
1986	308	73	1,389	62	173	65	675	66	140	66	287	44	101	58	2	48	175	49	491	61
1987	682	68	972	53	577	61	579	67	90	54	111	65	152	61	7	37	121	61	386	58
1988	796	63	482	66	429	66	341	68	168	52	425	47	155	61	73	51	534	73	361	63
1989	615	61	559	55	76	59	384	78	145	52	631	60	372	59	2	68	194	54	356	60
1990	425	65	1,698	54	690	57	451	63	335	58	821	50	537	67	35	40	368	49	704	55
1991	385	71	1,723	50	273	51	624	58	236	55	361	71	445	62	77	49	381	61	645	55
1992	463	68	924	54	264	62	643	60	115	68	211	71	167	66	32	58	85	52	383	58

[a]Data for October - December only.
[b]East Matagorda Bay data are only for February-September 1983. Coastwide values do not include East Matagorda Bay data.

Table 4. Annual mean catch rate (No./h) and mean total lengths (mm) of selected fishes and shellfishes caught with 6.1-m trawls in Texas bay systems during 1982-92. Blank indicates no measurement taken; ND = no data.

		Bay system																			
		Sabine Lake		Galveston		East Matagorda		Matagorda		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		Coastwide[b]	
Species	Year	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length
FINFISHES																					
Atlantic croaker	1982[a]	ND		43		ND		102		10		87	75	110		37		28		62	75
	1983	ND		30	131	ND		31	117	18	110	44	106	43	149	15	157	32	154	30	127
	1984	ND		15	126	ND		30	104	22	87	52	83	120	121	15	137	44	138	35	112
	1985	ND		20	124	ND		41	110	17	105	33	101	42	138	13	151	24	148	27	119
	1986	10	157	31	123	ND		52	114	44	105	57	96	83	125	14	139	28	153	43	117
	1987	25	139	26	117	17[c]	133	126	103	146	96	87	100	50	129	7	152	44	122	70	106
	1988	45	135	56	98	13	131	43	121	90	109	100	102	38	125	5	137	21	138	55	109
	1989	45	145	36	116	4	98	75	120	88	102	71	99	40	127	2	158	19	131	52	115
	1990	40	113	36	109	12	113	79	118	50	97	45	92	55	125	12	129	66	123	50	112
	1991	31	115	41	106	8	120	135	106	175	93	223	93	74	125	14	127	34	132	94	103
	1992	40	139	54	107	4	120	211	100	155	93	238	87	54	114	17	140	37	140	112	98
Black drum	1982[a]	ND		<1	259	ND		0		<1	221	<1	166	2	235	<1	264	0		<1	238
	1983	ND		<1	274	ND		<1	199	<1	192	<1	201	1	347	1	266	<1	440	<1	283
	1984	ND		<1	168	ND		0		0		<1	251	<1	341	1	202	<1	544	<1	258
	1985	ND		<1	242	ND		0		0		<1	403	<1	315	1	280	0		<1	268
	1986	<1	226	<1	233	ND		0		0		0		<1	334	<1	236	<1	335	<1	250
	1987	<1	278	<1	246	0[c]		0		<1	200	0		<1	186	1	247	<1	160	<1	231
	1988	1	271	<1	271	<1	192	<1	170	<1	154	<1	204	<1	299	1	197	0		<1	256
	1989	2	260	<1	274	<1	192	0		<1	267	<1	170	<1	356	2	212	<1	418	<1	258
	1990	1	272	<1	254	<1	146	<1	930	<1	114	<1	173	<1	560	97	109	<1	169	5	115
	1991	2	268	<1	313	1	218	0		<1	194	<1	247	<1	170	71	152	1	229	4	160
	1992	2	320	<1	210	<1	235	0		<1	212	<1	183	<1	359	10	225	1	233	1	236
Gafftop-sail catfish	1982[a]	ND		<1		ND		4		3		3		1	138	1	193	0		2	141
	1983	ND		<1	137	ND		1	132	2	123	2	135	<1	175	0		0		1	133
	1984	ND		<1	139	ND		1	144	5	121	2	109	<1	218	<1	131	<1	196	1	126
	1985	ND		<1	154	ND		2	137	2	128	3	128	1	150	0		<1	210	1	134
	1986	0		1	126	ND		2	134	5	128	2	121	<1	92	<1	158	0		1	128
	1987	<1	174	<1	145	1[c]	143	2	138	9	122	2	124	<1	132	<1	183	<1	175	2	127
	1988	0		<1	149	1	135	3	14	3	131	3	127	<1	14	0		0		1	124
	1989	<1	299	<1	126	<1	139	1	134	4	136	4	139	<1	156	0		0		1	137
	1990	0		1	218	1	127	1	137	4	130	2	143	<1	173	0		0		1	159
	1991	0		1	145	1	142	2	145	5	127	3	141	<1	206	0		0		2	137
	1992	<1	144	<1	161	<1	128	2	125	5	132	10	117	1	126	0		<1	203	2	127
Gulf menhaden	1982[a]	ND		12		ND		10		11		24		2		<1		<1		10	
	1983	ND		7	103	ND		10	109	17	76	3	89	3	104	1	87	0		8	96
	1984	ND		3	98	ND		3	93	23	58	45	44	4	82	6	76	<1	59	9	61
	1985	ND		18	112	ND		10	109	27	79	12	92	2	119	4	106	0		14	101
	1986	<1	121	17	95	ND		4	79	18	64	8	55	1	156	<1	49	0		9	84
	1987	3	101	20	95	15[c]	84	12	101	34	77	22	62	1	128	<1	92	0		16	88
	1988	3	94	22	80	1	96	16	96	11	99	4	106	1	124	1	58	<1	110	13	88

Table 4. (Cont'd.)

Species	Year	Bay system																			
		Sabine Lake		Galveston		East Matagorda		Matagorda		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		Coastwide[b]	
		No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length
Gulf menhaden (cont'd.)	1989	3	79	14	107	7	97	3	111	21	103	3	65	7	115	<1	60	<1	78	9	105
	1990	5	68	11	94	2	94	4	121	24	85	19	102	2	97	2	85	<1	111	10	95
	1991	6	83	21	87	4	82	17	98	34	92	16	88	2	128	1	73	<1	98	17	91
	1992	2	95	22	103	7	71	31	103	17	94	38	87	3	102	1	108	1	107	20	100
Hardhead catfish	1982[a]	ND		1		ND		3		2		8		29		25		6		7	
	1983	ND		1	177	ND		2	183	2	206	8	125	26	191	12	205	5	196	5	184
	1984	ND		1	186	ND		2	169	1	199	5	128	21	186	7	215	5	193	4	182
	1985	ND		2	159	ND		4	149	1	165	4	144	14	171	5	207	5	176	4	165
	1986	4	178	8	167	ND		3	147	1	187	9	149	18	172	2	233	10	207	7	170
	1987	5	186	4	176	4[c]	168	7	155	5	171	5	186	19	173	3	207	2	205	6	173
	1988	6	210	3	150	3	182	11	164	7	166	10	161	16	167	3	205	2	180	7	167
	1989	4	213	7	183	2	160	14	162	9	156	11	154	26	163	2	224	2	203	11	167
	1990	3	234	3	198	2	173	8	191	7	192	5	194	19	202	1	222	4	213	7	197
	1991	3	195	3	168	3	162	8	166	5	176	29	135	16	183	1	201	4	197	8	164
	1992	10	180	10	187	3	173	22	153	10	163	12	163	11	171	3	179	7	178	12	168
Pinfish	1982[a]	ND		1		ND		7		5		2		85		44		39		19	
	1983	ND		1	121	ND		6	110	14	106	38	106	119	124	20	133	45	109	24	119
	1984	ND		1	121	ND		6	107	7	96	39	96	25	113	67	108	73	111	15	107
	1985	ND		1	120	ND		9	111	23	104	53	110	48	118	18	133	48	110	18	113
	1986	4	117	2	118	ND		10	101	18	98	55	103	100	116	32	109	95	108	27	109
	1987	<1	126	1	122	5[c]	113	13	103	32	91	83	106	130	121	12	131	56	113	32	112
	1988	4	126	2	114	5	107	18	111	92	104	139	100	272	115	20	112	65	100	59	109
	1989	1	117	2	121	9	98	16	113	53	103	82	103	463	117	16	110	81	104	75	114
	1990	3	109	5	107	5	103	34	109	64	101	109	101	164	107	104	77	282	101	61	102
	1991	1	111	4	120	8	100	6	116	26	102	32	109	247	111	81	105	278	107	52	109
	1992	1	98	2	127	1	112	5	112	10	103	23	101	159	110	45	117	130	109	31	110
Red drum	1982[a]	ND		0		ND		<1		<1	230	<1	102	<1	649	<1	619	0		<1	402
	1983	ND		0		ND		0		<1	319	<1	224	0		0		<1	280	<1	242
	1984	ND		<1	583	ND		<1	305	<1	344	<1	142	<1	81	<1	241	<1	401	<1	304
	1985	ND		0		ND		<1	56	0		<1	54	<1	276	<1	475	<1	90	<1	292
	1986	<1	212	0		ND		0		<1	35	<1	78	0		<1	630	<1	340	<1	289
	1987	<1	405	<1	34	0[c]		0		0		0		<1	399	0		0		<1	154
	1988	<1	272	<1	53	0		0		0		<1	23	0		0		0<1	308	<1	72
	1989	<1	254	<1	44	0		<1	42	0		0		<1	525	0		<1	68	<1	72
	1990	0		<1	320	0		0		<1	53	0		0		<1	40	<1	342	<1	268
	1991	0		<1	135	0		0		<1	75	0		<1	264	<1	383	<1	256	<1	211
	1992	0		<1	197	0		<1	63	<1	349	<1	369	<1	117	0		<1	303	<1	207

Table 4. (Cont'd.)

Species	Year	Bay system: Sabine Lake No./h	Sabine Lake Length	Galveston No./h	Galveston Length	East Matagorda No./h	East Matagorda Length	Matagorda No./h	Matagorda Length	San Antonio No./h	San Antonio Length	Aransas No./h	Aransas Length	Corpus Christi No./h	Corpus Christi Length	Upper Laguna Madre No./h	Upper Laguna Madre Length	Lower Laguna Madre No./h	Lower Laguna Madre Length	Coastwide[b] No./h	Coastwide[b] Length
Sand seatrout	1982[a]	ND		4		ND		5	185	<1	141	3	126	14	147	1	201	6	164	5	161
	1983	ND		3	134	ND		4	132	<1	108	3	111	9	158	<1	196	1	164	3	140
	1984	ND		2	147	ND		1	121	<1	115	1	107	4	141	0		1	161	1	138
	1985	ND		4	127	ND		3	126	<1	136	1	119	7	144	1	160	1	117	3	131
	1986	1	152	3	141	ND		2	117	<1	112	<1	133	5	148	0		<1	154	2	137
	1987	2	121	2	110	2	112	5	114	1	99	1	94	9	134	<1	156	<1	160	3	118
	1988	1	140	3	107	1	117	2	126	<1	123	2	107	3	125	<1	109	<1	128	2	115
	1989	2	102	10	96	<1	81	3	111	1	110	4	85	12	143	0		2	152	6	109
	1990	1	110	5	109	1	96	3	119	<1	117	1	113	3	124	0		2	102	3	113
	1991	1	118	7	130	1	103	2	123	1	119	4	113	5	143	0		2	140	1	130
	1992	2	113	6	113	<1	150	6	113	2	104	4	128	2	142	<1	209	2	155	4	117
Sheeps-head	1982[a]	ND		<1	295	ND		0		<1	119	<1	85	<1	345	1	366	1	241	<1	290
	1983	ND		<1	344	ND		0		<1	113	<1	138	<1	365	1	358	<1	248	<1	323
	1984	ND		<1	339	ND		<1	147	0		<1	157	<1	342	<1	402	<1	300	<1	314
	1985	ND		<1	341	ND		<1	102	<1	112	<1	143	<1	259	<1	412	<1	80	<1	242
	1986	1	215	<1	451	ND		0		0		<1	122	<1	288	<1	356	1	160	<1	228
	1987	<1	279	<1	356	0[c]		<1	111	<1	124	<1	115	<1	299	<1	377	<1	156	<1	255
	1988	<1	332	<1	423	0		<1	112	<1	80	<1	95	<1	155	<1	247	<1	152	<1	238
	1989	1	252	<1	253	<1	104	<1	120	<1	120	<1	116	<1	251	<1	518	<1	366	<1	240
	1990	3	248	<1	343	0		0		<1	89	<1	99	0		0		<1	234	<1	274
	1991	2	300	<1	339	<1	192	0		<1	145	<1	145	<1	229	0		<1	136	<1	295
	1992	3	267	<1	354	0		<1	65	1	121	<1	149	<1	164	<1	465	<1	187	<1	242
Southern flounder	1982[a]	ND		<1	158	ND		<1	169	1	155	1	186	1	181	2	203	<1	296	1	176
	1983	ND		<1	175	ND		<1	196	<1	120	1	180	<1	242	<1	203	<1	161	<1	180
	1984	ND		<1	193	ND		<1	194	<1	153	2	148	<1	175	1	145	<1	168	<1	160
	1985	ND		<1	234	ND		<1	202	1	147	1	152	1	221	1	197	<1	261	<1	191
	1986	<1	141	1	161	ND		<1	165	1	141	1	144	1	184	1	262	<1	212	1	166
	1987	1	168	<1	231	<1[c]	154	<1	191	1	160	1	167	<1	171	0		<1	183	<1	181
	1988	1	144	<1	195	<1	132	<1	148	1	118	2	168	<1	214	<1	226	<1	205	<1	157
	1989	2	173	<1	166	<1	181	<1	194	1	130	1	169	<1	193	<1	348	<1	211	1	168
	1990	2	119	<1	174	<1	161	<1	166	2	121	1	136	1	167	1	190	1	170	1	145
	1991	1	152	<1	160	<1	147	<1	242	1	148	1	190	<1	228	<1	266	1	229	<1	180
	1992	1	185	<1	184	<1	186	<1	210	1	191	<1	135	0		0		<1	205	<1	188
Spanish mackerel	1982[a]	ND		0		ND		<1	326	0		0		0		0		0		<1	326
	1983	ND		0		ND		0		0		0		0		0		0		0	
	1984	ND		0		ND		1	202	0		0		0		0		0		<1	202
	1985	ND		0		ND		<1	171	0		0		<1	233	0		0		<1	183
	1986	0		0		ND		0		0		0		0		0		0		0	
	1987	0		0		0[c]		0		0		0		<1	138	0		0		<1	138

Table 4. (Cont'd.)

Species	Year	Bay system: Sabine Lake No./h	Sabine Lake Length	Galveston No./h	Galveston Length	East Matagorda No./h	East Matagorda Length	Matagorda No./h	Matagorda Length	San Antonio No./h	San Antonio Length	Aransas No./h	Aransas Length	Corpus Christi No./h	Corpus Christi Length	Upper Laguna Madre No./h	Upper Laguna Madre Length	Lower Laguna Madre No./h	Lower Laguna Madre Length	Coastwide[b] No./h	Coastwide[b] Length
Spanish mackerel (Cont'd.)	1988	<1	170	<1	163	0		0		0		0		0		0		0		<1	163
	1989	<1	90	<1	118	0		<1	184	0		0		<1	149	0		0		<1	125
	1990	1	159	<1	201	0		<1	153	0		<1	169	<1	235	0		0		<1	190
	1991	<1	121	<1	167	0		<1	157	<1	159	<1	194	0		0		0		<1	162
	1992	<1	135	<1	132	0		<1	165	0		0		0		0		0		<1	151
Spot	1982[a]	ND		9		ND		26		5		68		33		10		4		19	
	1983	ND		6	120	ND		17	122	5	112	18	118	36	140	2	163	6	135	12	127
	1984	ND		8	115	ND		34	107	35	84	131	91	74	112	82	118	10	108	39	103
	1985	ND		13	121	ND		20	118	13	110	60	116	215	132	24	137	19	129	41	126
	1986	6	120	14	120	ND		29	121	21	99	92	106	115	129	6	118	5	135	35	119
	1987	9	134	11	127	12	119	38	115	34	97	86	117	122	125	4	158	13	112	37	119
	1988	24	113	14	117	5	107	42	127	116	108	151	116	235	127	4	140	18	118	66	120
	1989	19	130	11	123	6	111	85	118	73	105	97	127	240	136	6	129	18	119	68	125
	1990	6	130	8	117	12	95	94	119	117	96	165	101	164	113	71	110	104	104	78	109
	1991	6	124	9	120	6	108	44	124	39	105	52	108	206	116	24	130	82	117	50	116
	1992	10	137	19	125	2	125	71	128	25	119	78	100	66	130	9	149	25	133	40	123
Spotted seatrout	1982[a]	ND		<1	173	ND		0		<1	232	<1	163	<1	187	1	166	<1	142	<1	171
	1983	ND		<1	288	ND		<1	155	<1	168	2	207	<1	327	2	188	<1	200	<1	212
	1984	ND		<1	418	ND		<1	174	<1	252	<1	237	<1	385	<1	351	<1	236	<1	329
	1985	ND		<1	286	ND		<1	171	<1	156	1	156	<1	171	1	146	<1	218	<1	188
	1986	<1	187	<1	259	ND		<1	193	<1	170	<1	162	1	176	<1	151	1	196	<1	201
	1987	<1	147	<1	134	<1[c]	162	<1	143	1	166	1	164	<1	163	1	206	<1	198	<1	167
	1988	<1	188	<1	172	<1	166	<1	249	<1	159	2	166	<1	175	<1	176	<1	95	<1	172
	1989	<1	227	<1	142	<1	128	<1	174	<1	190	1	168	<1	214	1	186	1	139	<1	173
	1990	<1	334	<1	118	0		0		<1	119	<1	176	<1	123	<1	114	0		<1	150
	1991	<1	251	<1	165	<1	184	<1	134	<1	136	1	154	<1	161	1	124	1	177	<1	155
	1992	<1	195	<1	155	<1	150	<1	155	1	149	2	182	<1	219	2	175	1	185	1	167
Striped mullet	1982[a]	ND		<1		ND		<1		1		2		2	212	1	311	<1		1	232
	1983	ND		1	204	ND		<1	131	2	137	3	209	1	211	2	323	1	331	1	210
	1984	ND		1	244	ND		<1	204	<1	174	1	192	1	209	6	287	1	307	1	250
	1985	ND		2	195	ND		<1	163	<1	136	7	158	<1	168	1	243	<1	254	2	181
	1986	<1	187	4	255	ND		<1	116	<1	157	<1	158	1	226	<1	278	<1	266	1	250
	1987	1	168	2	292	<1[c]	158	<1	200	4	145	1	171	1	192	0		0		1	210
	1988	2	239	2	294	<1	167	<1	138	1	130	<1	156	3	185	<1	334	0		1	243
	1989	5	183	5	249	1	164	<1	237	1	188	<1	187	2	206	0		<1	365	2	234
	1990	<1	234	1	192	<1	133	<1	141	<1	136	1	155	<1	239	<1	292	0		<1	180
	1991	4	174	3	213	<1	114	<1	178	7	141	2	141	<1	216	2	279	<1	276	2	181
	1992	6	232	5	232	0		<1	129	3	145	4	143	1	213	<1	215	<1	178	3	206

Table 4. (Cont'd.)

Species	Year	Bay system: Sabine Lake No./h	Sabine Lake Length	Galveston No./h	Galveston Length	East Matagorda No./h	East Matagorda Length	Matagorda No./h	Matagorda Length	San Antonio No./h	San Antonio Length	Aransas No./h	Aransas Length	Corpus Christi No./h	Corpus Christi Length	Upper Laguna Madre No./h	Upper Laguna Madre Length	Lower Laguna Madre No./h	Lower Laguna Madre Length	Coastwide[b] No./h	Coastwide[b] Length
Other finfishes	1982[a]	ND		17	197	ND		35	104	9	67	51	69	93	113	192	204	67	219	44	146
	1983	ND		13	103	ND		90	80	46	73	52	86	69	121	114	82	52	137	52	90
	1984	ND		15	112	ND		34	95	11	73	33	77	44	92	13	65	35	138	24	96
	1985	ND		22	98	ND		25	103	11	84	62	60	51	116	27	67	50	131	29	96
	1986	2	171	15	94	ND		25	101	11	83	35	85	52	125	30	77	47	130	24	101
	1987	7	87	16	108	8[c]	116	38	94	34	93	64	69	38	117	36	85	40	136	31	96
	1988	15	89	33	84	18	109	51	104	40	91	99	83	60	115	40	80	60	126	47	95
	1989	14	66	25	94	12	93	66	111	42	96	72	88	65	127	24	65	72	124	46	105
	1990	18	88	22	105	6	96	48	101	35	86	34	98	55	118	79	43	103	134	42	106
	1991	14	88	84	99	9	89	144	82	54	85	58	83	63	104	12	63	120	128	83	92
	1992	16	109	46	116	6	77	107	80	38	85	34	71	38	105	16	71	100	136	55	96
Total finfishes	1982[a]	ND		88	199	ND		193	139	48	179	270	119	371	166	313	232	152	183	171	167
	1983	ND		63	126	ND		162	99	107	93	174	108	308	139	170	115	143	139	139	116
	1984	ND		46	123	ND		111	104	104	82	312	86	294	124	197	123	169	130	134	108
	1985	ND		82	117	ND		115	114	96	101	236	99	380	129	96	127	149	128	143	117
	1986	28	151	96	122	ND		127	112	118	97	261	104	378	132	86	109	188	132	151	117
	1987	53	136	83	121	64[c]	117	242	107	302	100	354	101	370	131	64	117	157	126	200	112
	1988	101	131	138	101	49	122	186	118	363	107	512	108	630	127	76	104	167	119	259	113
	1989	98	137	111	119	44	105	265	122	295	106	347	109	857	133	53	103	197	121	272	122
	1990	85	122	94	116	41	108	282	118	304	102	381	106	464	123	368	88	564	119	259	113
	1991	72	127	176	106	41	109	359	104	347	97	423	102	614	122	208	125	524	123	318	109
	1992	94	152	166	121	23	102	455	105	268	98	443	97	335	121	106	130	305	129	281	111
SHELLFISHES																					
Blue crab	1982[a]	ND		28	91	ND		5	99	17	81	29	66	7	97	9	148	10	100	17	89
	1983	ND		24	88	ND		10	86	21	80	40	81	2	96	7	113	12	97	18	86
	1984	ND		19	92	ND		4	88	8	82	31	81	8	88	24	106	50	86	15	90
	1985	ND		30	79	ND		10	85	19	76	23	72	5	115	21	103	36	86	21	81
	1986	6	132	28	79	ND		13	85	19	85	25	78	14	88	8	100	15	85	19	83
	1987	5	135	19	78	28[c]	87	10	77	40	93	18	84	6	95	8	108	19	88	17	86
	1988	5	137	9	71	13	91	3	77	89	75	57	63	7	88	7	98	18	84	22	74
	1989	9	135	25	66	51	63	6	80	50	74	24	68	2	94	2	107	9	77	19	72
	1990	6	98	31	72	15	79	4	90	39	69	17	71	14	96	5	93	33	91	21	76
	1991	7	117	10	64	26	76	6	75	68	58	51	58	7	102	5	105	35	89	20	65
	1992	7	139	8	77	2	102	6	65	105	54	38	56	10	81	26	110	27	98	24	65
Brown shrimp	1982[a]	ND		23	90	ND		25	94	17	101	54	80	40	90	40	101	6	61	27	91
	1983	ND		12	99	ND		26	100	31	99	56	91	8	99	8	102	9	66	21	97
	1984	ND		13	102	ND		7	102	58	96	107	80	50	103	25	108	6	74	30	94

Table 4. (Cont'd.)

Species	Year	Bay system																			
		Sabine Lake		Galveston		East Matagorda		Matagorda		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		Coastwide[b]	
		No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length
Brown shrimp (Cont'd.)	1985	ND		33	75	ND		24	89	27	90	67	81	24	96	16	108	11	63	30	83
	1986	<1	99	15	94	ND		29	99	69	98	111	96	42	95	7	108	15	64	34	96
	1987	4	92	24	88	7[c]	76	47	91	93	85	101	88	66	94	8	100	5	70	46	89
	1988	3	85	24	84	10	91	32	100	124	91	139	86	17	89	6	93	3	73	44	90
	1989	8	84	29	84	47	97	39	91	156	90	105	90	17	88	5	92	9	63	49	89
	1990	1	113	11	98	40	100	26	96	104	92	78	90	28	88	12	91	27	79	34	92
	1991	1	93	13	87	63	96	21	86	51	89	158	91	29	91	19	97	8	80	32	90
	1992	3	83	38	82	9	90	23	82	65	82	64	81	30	92	40	110	7	73	37	84
Pink shrimp	1982[a]	ND		<1	94	ND		<1	113	<1	96	7	89	2	100	1	96	0		1	94
	1983	ND		<1	95	ND		1	112	5	95	9	94	2	103	1	113	1	88	2	99
	1984	ND		0		ND		<1	76	<1	72	3	86	3	109	<1	94	<1	71	1	98
	1985	ND		<1	88	ND		<1	104	3	98	4	100	5	96	4	107	1	98	2	99
	1986	0		<1	118	ND		2	114	4	103	11	101	12	103	1	109	<1	70	3	104
	1987	0		<1	111	2[c]	102	5	95	2	92	6	84	12	101	1	107	2	72	3	95
	1988	0		1	79	<1	110	2	89	6	86	20	82	8	93	<1	76	2	77	4	85
	1989	0		<1	90	<1	94	1	102	8	93	14	91	8	95	<1	85	1	80	3	93
	1990	0		<1	84	0		<1	106	1	97	23	88	4	97	3	71	3	85	3	90
	1991	0		<1	101	1	115	2	102	8	84	27	88	8	97	4	103	4	79	5	90
	1992	0		<1	58	<1	101	<1	87	<1	70	7	77	10	95	9	103	20	82	3	89
White shrimp	1982[a]	ND		88	93	ND		39	86	14	99	16	95	26	101	17	110	4	61	46	92
	1983	ND		78	93	ND		20	102	13	96	18	100	14	111	6	112	2	86	36	95
	1984	ND		60	98	ND		15	99	8	99	38	106	24	106	11	126	10	109	32	101
	1985	ND		62	99	ND		21	110	23	91	17	106	22	104	6	120	1	105	33	101
	1986	14	105	45	95	ND		60	98	15	96	13	101	19	98	3	108	5	57	34	97
	1987	23	101	37	97	22[c]	92	16	97	42	87	10	94	15	99	2	105	2	76	24	95
	1988	39	107	21	91	8	95	16	98	41	93	16	91	12	95	3	102	<1	79	20	94
	1989	29	87	29	89	11	98	9	98	43	99	7	98	9	100	3	97	<1	114	20	93
	1990	50	90	14	98	14	103	16	115	47	97	13	108	22	98	21	100	1	113	21	100
	1991	17	91	76	97	7	99	11	95	27	94	30	89	24	121	14	113	1	107	37	98
	1992	37	88	59	93	5	99	31	96	24	95	53	93	5	111	6	114	1	104	36	94

[a]Values incude May-Dec only.
[b]1986 values include Sabine Lake; 1987 values include East Matagorda.
[c]Values include Apr-Dec only.

Table 5. Annual mean catch rates (No./h) and mean total lengths (mm) of select finfishes and shellfishes caught with 6.1-m trawls in the Texas Territorial Sea during 1985-92. Blank indicates no measurement taken; ND = no data.

Species	Year	Sabine		Galveston		Port O'Connor		Port Aransas		Port Isabel		Coastwide	
		No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length
FINFISHES													
Atlantic croaker	1985[a]	ND[b]		22	145	42	139	17	145	9	149	23	142
	1986	44	134	45	126	98	136	43	130	9	132	49	132
	1987	9	114	110	119	65	131	28	134	<1	157	44	124
	1988	79	122	78	118	89	132	23	130	2	128	55	125
	1989	64	115	117	117	75	128	28	128	6	137	60	121
	1990	175	117	139	111	69	135	65	131	4	119	91	119
	1991	272	111	153	114	201	121	87	129	4	162	145	117
	1992	229	110	228	116	153	116	81	106	6	126	142	113
Black drum	1985[a]	ND[b]		0		0		<1	825	0		<1	825
	1986	0		0		<1	900	0		0		<1	900
	1987	<1	851	<1	760	<1	680	<1	680	0		<1	741
	1988	0		<1	752	0		0		0		<1	752
	1989	<1	698	0		<1	506	0		0		<1	631
	1990	0		<1	528	0		0		0		<1	538
	1991	0		<1	970	0		0		0		<1	970
	1992	0		0		<1	889	0		0		<1	889
Gafftopsail	1985[a]	ND[b]		<1	165	<1	156	<1	136	0		<1	160
catfish	1986	13	121	<1	118	<1	115	<1	176	0		3	121
	1987	3	116	0		<1	158	<1	134	0		<1	118
	1988	2	118	<1	169	<1	168	0		<1	180	<1	126
	1989	2	144	1	123	<1	546	<1	187	0		<1	143
	1990	3	119	<1	123	0		0		0		<1	119
	1991	1	145	<1	170	<1	181	<1	178	0		<1	150
	1992	12	125	1	148	<1	148	<1	209	0		3	127
Gulf menhaden	1985[a]	ND[b]		2	150	1	159	1	151	0		1	152
	1986	4	125	2	147	<1	180	<1	197	0		1	135
	1987	3	132	5	135	1	146	<1	159	0		2	136
	1988	5	124	10	57	6	107	<1	122	0		4	87
	1989	1	137	1	144	<1	131	<1	177	<1	51	1	138
	1990	2	133	4	136	1	122	<1	162	0		1	134
	1991	7	134	1	144	1	130	<1	148	0		2	135
	1992	4	141	14	116	1	139	1	145	0		4	123
Hardhead catfish	1985[a]	ND[b]		2	157	3	143	9	157	<1	256	4	154
	1986	4	164	5	163	2	156	8	156	<1	211	4	160
	1987	3	131	6	148	4	145	4	161	<1	180	4	148
	1988	8	187	2	155	11	122	4	172	<1	206	5	152
	1989	6	180	3	164	7	144	4	141	7	147	5	155
	1990	6	158	2	157	3	168	2	227	<1	159	3	170

Table 5. (Cont'd.)

Species	Year	Sabine		Galveston		Port O'Connor		Port Aransas		Port Isabel		Coastwide	
		No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length
Hardhead catfish (Cont'd.)	1991	18	150	9	169	72	107	11	153	<1	313	23	123
	1992	22	135	20	171	12	120	15	140	<1	217	14	144
King mackerel	1985[a]	ND[b]		<1	173	0		<1	124	0		<1	142
	1986	0		<1	159	0		0		0		<1	159
	1987	0		0		<1	120	<1	200	0		<1	131
	1988	0		0		0		0		0		0	
	1989	0		0		<1	161	<1	164	0		<1	162
	1990	0		<1	201	<1	223	0		0		<1	210
	1991	0		<1	172	<1	157	<1	99	0		<1	132
	1992	0		<1	149	<1	152	1	136	<1	192	<1	144
Pinfish	1985[a]	ND[b]		<1	124	3	109	4	110	1	135	2	112
	1986	<1	98	2	104	2	105	4	107	2	103	2	105
	1987	0		<1	100	3	111	3	115	<1	112	1	113
	1988	<1	93	<1	112	8	105	8	110	3	105	4	107
	1989	<1	100	1	108	3	116	7	110	6	105	3	109
	1990	<1	86	1	111	4	110	18	105	2	98	5	105
	1991	<1	121	1	132	2	116	18	113	2	118	4	114
	1992	<1	115	2	121	3	110	6	103	3	107	3	108
Red drum	1985[a]	ND[b]		0		0		<1	84	0		<1	84
	1986	0		0		0		0		0		0	
	1987	0		0		<1	948	0		<1	42	<1	520
	1988	0		0		0		0		0		0	
	1989	0		<1	1,110	0		0		0		<1	1,110
	1990	0		<1		0		0		0		<1	61
	1991	0		0		0		0		0		0	
	1992	0		0		0		0		<1	95	<1	95
Red snapper	1985[a]	ND[b]		0		0		2	85	7	89	2	88
	1986	0		0		<1	152	1	95	<1	103	<1	100
	1987	0		0	68	<1	88	1	122	<1	83	<1	107
	1988	0		0		0		1	111	1	106	<1	109
	1989	0		<1	74	2	87	4	87	3	90	2	88
	1990	0		0		<1	94	3	105	2	113	1	106
	1991	0		0		0		9	80	2	106	2	84
	1992	0		0		2	79	6	77	2	99	2	81
Sand seatrout	1985[a]	ND[b]		10	141	6	168	3	140	<1	221	5	150
	1986	5	164	4	141	3	151	1	174	0		3	154
	1987	7	131	6	133	5	134	2	162	<1	108	4	135
	1988	3	148	5	114	11	129	1	184	<1	137	4	130
	1989	22	133	41	110	16	127	7	155	2	123	18	122

Table 5. (Cont'd.)

Species	Year	Sabine		Galveston		Port O'Connor		Port Aransas		Port Isabel		Coastwide	
		No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length
Sand seatrout (Cont'd.)	1990	50	136	8	126	7	139	2	130	1	118	14	135
	1991	28	130	12	143	7	146	12	129	1	153	12	135
	1992	41	132	11	138	6	148	5	131	<1	161	13	135
Sheepshead	1985[a]	ND[b]		0		0		0		0		0	
	1986	0		0		0		0		0		0	
	1987	0		0		0		0		0		0	
	1988	0		0		0		0		0		0	
	1989	0		0		0		0		<1	510	<1	510
	1990	0		<1	196	0		0		0		<1	196
	1991	0		0		0		<1	500	0		<1	500
	1992	0		0		0		0		0		0	
Southern flounder	1985[a]	ND[b]		0		<1	280	<1	137	0		<1	199
	1986	1	162	<1	255	<1	184	<1	311	0		<1	173
	1987	<1	256	<1	197	0		<1	179	<1	168	<1	191
	1988	<1	204	0		<1	214	<1	225	0		<1	214
	1989	0		0		<1	210	<1	298	0		<1	239
	1990	<1	187	0		<1	212	<1	164	<1	250	<1	197
	1991	<1	286	<1	260	<1	194	<1	188	0		<1	220
	1992	<1	143	<1	240	0		<1	284	<1	418	<1	270
Spanish mackerel	1985[a]	ND[b]		0		0		0		0		0	
	1986	<1	200	0		0		0		0		<1	200
	1987	<1	93	<1	183	0		<1	258	0		<1	203
	1988	<1	166	<1	178	<1	182	<1	110	<1	200	<1	180
	1989	<1	206	<1	172	<1	175	<1	175	0		<1	182
	1990	<1	174	1	176	<1	225	<1	192	0		<1	180
	1991	1	184	1	163	<1	144	<1	134	0		<1	168
	1992	<1	158	<1	175	<1	181	<1	164	0		<1	168
Spot	1985[a]	ND[b]		3	132	20	130	21	141	1	142	11	136
	1986	3	124	8	128	7	124	25	123	2	125	9	124
	1987	5	140	9	126	4	125	22	129	<1	170	8	129
	1988	4	115	7	116	23	128	23	122	3	110	12	123
	1989	6	120	27	108	18	124	48	121	4	121	21	118
	1990	9	123	25	121	102	125	93	117	4	112	47	125
	1991	18	117	4	125	67	122	37	127	1	129	26	123
	1992	5	127	12	126	6	122	10	126	2	117	7	125
Spotted seatrout	1985[a]	ND[b]		0		0		<1	140	0		<1	140
	1986	<1	163	<1	172	<1	165	0		0		<1	165
	1987	<1	178	0		0		0		0		<1	178
	1988	0		<1	65	<1	110	0		0		<1	88
	1989	<1	98	0		<1	173	0		0		<1	137

Table 5. (Cont'd.)

Species	Year	Sabine		Galveston		Port O'Connor		Port Aransas		Port Isabel		Coastwide	
		No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length
Spotted seatrout (Cont'd.)	1990	<1	110	<1	160	<1	122	<1	144	0		<1	132
	1991	0		0		<1	148	0		0		<1	148
	1992	<1	112	0		0		0		0		<1	112
Striped mullet	1985[a]	ND[b]		0		0		0		0		0	
	1986	0		0		0		0		0		0	
	1987	0		0		0		0		0			
	1988	0		0		0		0		0		0	
	1989	<1	243	<1	217	<1	232	0		0		<1	228
	1990	0		0		0		0		0		0	
	1991	0		0		0		0		0		0	
	1992	<1	138	0		0		0		0		<1	138
Other finfishes	1985[a]	ND[b]		108	109	111	106	170	106	112	97	125	105
	1986	85	112	139	111	101	114	210	115	58	106	119	113
	1987	127	89	152	98	146	111	165	106	79	95	135	101
	1988	52	102	170	97	230	106	232	101	43	99	148	102
	1989	76	99	109	99	228	113	256	108	78	102	150	107
	1990	231	112	175	103	278	125	153	109	67	100	183	113
	1991	82	96	142	118	315	107	284	98	114	97	189	104
	1992	210	100	210	101	338	106	207	96	115	94	219	101
Total finfishes	1985[a]	ND[b]		148	119	188	118	227	114	130	101	174	114
	1986	159	122	207	118	215	123	292	119	72	110	190	120
	1987	158	98	289	111	229	118	226	114	80	96	199	110
	1988	153	120	273	104	379	114	291	106	52	103	234	110
	1989	178	114	301	111	350	118	354	113	106	108	261	114
	1990	477	121	355	113	464	138	337	115	80	103	346	122
	1991	427	117	322	125	666	115	458	108	124	102	404	115
	1992	524	115	499	116	523	111	332	103	128	96	406	111
SHELLFISHES													
Blue crab	1985[a]	ND[b]		<1	105	1	134	1	127	<1	144	<1	127
	1986	4	96	6	105	1	141	1	145	1	123	3	110
	1987	3	96	1	112	2	105	<1	142	<1	140	1	106
	1988	2	85	<1	104	1	113	1	128	<1	160	1	105
	1989	4	61	2	72	1	130	<1	134	<1	146	1	78

Table 5. (Cont'd.)

Species	Year	Sabine		Galveston		Port O'Connor		Port Aransas		Port Isabel		Coastwide	
		No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length
Blue crab	1990	15	80	4	63	1	118	1	126	1	127	4	84
(Cont'd.)	1991	19	72	6	58	1	102	2	114	<1	121	6	73
	1992	7	58	1	104	<1	85	1	95	<1	123	2	69
Brown shrimp	1985[a]	ND[b]		7	103	7	125	47	109	18	106	19	109
	1986	10	107	13	99	6	114	10	105	6	110	9	105
	1987	7	104	24	104	9	108	14	106	1	118	11	106
	1988	15	102	5	109	24	103	28	106	<1	116	15	104
	1989	33	103	50	96	56	105	140	95	12	94	58	98
	1990	34	101	10	108	55	107	58	114	20	106	36	108
	1991	12	90	2	102	12	93	9	101	17	123	10	104
	1992	9	91	20	103	4	96	19	92	2	115	11	97
Pink shrimp	1985[a]	ND[b]		<1	120	<1	130	1	119	1	108	1	116
	1986	0		<1	124	2	110	4	105	3	118	2	111
	1987	0		0		1	114	5	102	1	124	1	108
	1988	<1	87	0		1	108	7	103	1	125	2	106
	1989	0		<1	105	1	103	7	100	4	117	2	105
	1990	0		<1	104	1	101	2	118	3	117	1	114
	1991	<1	101	<1	99	1	109	6	112	2	118	2	112
	1992	<1	88	<1	79	<1	114	4	102	<1	122	1	104
White shrimp	1985[a]	ND[b]		53	110	26	124	11	126	1	105	24	115
	1986	41	101	53	101	15	120	8	124	2	137	24	105
	1987	26	105	14	109	16	112	8	119	1	121	13	110
	1988	14	105	17	100	19	110	9	116	<1	133	12	107
	1989	21	102	25	106	22	108	14	113	1	122	17	107
	1990	18	104	11	115	15	118	6	136	2	136	10	115
	1991	28	105	10	117	30	106	6	127	1	122	15	109
	1992	51	98	31	108	11	112	10	118	1	145	21	105

[a] Values include Feb-Dec only off Port Aransas and Aug-Dec only off all other areas.
[b] Values include Jun-Dec only.

Table 6. Annual mean catch rates (No./h) and mean total lengths (mm) by size class[a] of Eastern oyster caught with 46.0-cm wide dredges on "reef" stations in Texas bay systems during 1984-92. Blank indicates no measurment taken; ND = no data.

Size class	Year	Galveston		Matagorda		San Antonio		Aransas		Coastwide	
		No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length
Spat	1984	491		ND		ND		ND		491	
	1985	891		ND		ND		ND		891	
	1986	1,010		764		499		551		770	
	1987	1,054		654		66		4,269		1,382	
	1988	1,440		938		439		1,772		1,202	
	1989	1,322		2,019		1,864		3,071		1,880	
	1990	2,147		1,289		1,117		1,611		1,685	
	1991	1,458		718		894		410		1,022	
	1992	3,083		454		268		82		1,487	
Small	1984	1,705	47			ND		ND		1,705	47
	1985	2,096	54			ND		ND		2,095	54
	1986	1,316	54	382	51	565	58	1,273	51	1,001	54
	1987	1,070	51	555	51	240	55	2,499	50	1,077	51
	1988	1,500	53	580	52	235	42	2,187	52	1,208	52
	1989	1,086	47	706	48	1,985	50	2,278	49	1,463	48
	1990	2,996	45	417	48	1,401	53	1,495	45	1,971	46
	1991	4,927	48	1,040	51	538	54	1,016	48	2,615	49
	1992	4,601	51	622	52	92	48	263	54	2,168	51
Market	1984	447	91		ND	ND		ND		447	91
	1985	674	88		ND	ND		ND		674	88
	1986	617	88	212	92	444	92	191	86	438	89
	1987	370	91	167	91	258	93	411	86	323	90
	1988	397	89	201	91	23	89	402	87	284	88
	1989	232	90	177	90	414	90	282	85	275	89
	1990	179	88	114	89	445	88	99	83	215	88
	1991	502	87	216	89	377	91	65	84	349	88
	1992	796	87	164	88	24	93	40	83	384	87

[a] Spat (5-25 mm), small (26-75 mm), market (≥76 mm).

Table 7. Seasonal (May-Nov) mean catch rates (No./ha) and mean total lengths (mm) of select finfishes and shellfishes caught with 60.9-m beach seines in 5 Texas gulf shoreline areas during 1987-92. Blank indicates no measurment taken; ND = no data.

		Gulf-17		Gulf-18		Gulf-19		Gulf-20		Gulf-21		Coastwide	
Species	Year	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length
FINFISHES													
Atlantic croaker	1987[a]	2	267	<1	306	<1	239	0		0		1	267
	1988	1	264	1	252	<1	260	0		<1	292	<1	262
	1989	2	257	<1	263	<1	205	0		0		<1	255
	1990	1	260	<1	250	0		0		<1	230	<1	259
	1991	2	257	<1	224	<1	251	<1	238	0		<1	256
	1992	<1	307	<1	233	<1	255	0		0		<1	264
Black drum	1987[a]	1	344	<1	215	1	287	<1	249	<1	236	1	293
	1988	1	240	1	226	1	281	<1	272	0		1	253
	1989	1	286	4	262	2	249	1	236	<1	216	2	256
	1990	2	318	2	243	2	300	2	276	1	280	2	292
	1991	3	264	3	231	1	257	11	240	1	233	3	245
	1992	1	258	3	254	2	305	2	287	<1	340	2	286
Gulf menhaden	1987[a]	0		0		0		0		0		0	
	1988	7	158	1	166	<1	197	<1	197	<1	226	2	159
	1989	0		<1	158	<1	63	0		0		<1	69
	1990	0		<1	214	0		<1	237	<1	234	<1	232
	1991	0		<1	211	<1	187	<1	213	0		<1	206
	1992	0		2	197	0		0		0		<1	197
Hardhead catfish	1987[a]	2	368	0		<1	340	<1	380	0		<1	367
	1988	16	330	2	325	2	312	<1	340	0		4	328
	1989	3	324	1	299	2	338	1	342	<1	326	2	330
	1990	7	329	1	333	3	344	1	352	<1	532	3	337
	1991	11	320	1	322	1	345	<1	354	<1	365	3	324
	1992	<1	326	1	332	3	350	<1	287	0		1	344
Pinfish	1987[a]	0		0		0		0		0		0	
	1988	0		0		<1	155	<1	154	0		<1	155
	1989	0		0		<1	155	<1	118	<1	142	<1	133
	1990	0		<1	155	<1	152	<1	166	0		<1	160
	1991	0		<1	161	<1	156	<1	153	0		<1	155
	1992	0		0		0		<1	189	0		<1	189
Red drum	1987[a]	0		0		1	337	<1	340	<1	345	<1	338
	1988	<1	460	<1	324	<1	528	<1	305	<1	702	<1	459
	1989	<1	552	<1		<1	370	<1	547	<1	352	<1	485
	1990	0		<1	501	<1	391	<1	344	<1	356	<1	384
	1991	4	321	1	320	1	317	2	318	<1	375	2	320
	1992	<1	436	<1	496	1	415	<1	395	<1	365	1	417

Table 7. (Cont'd.)

Species	Year	Gulf-17		Gulf-18		Gulf-19		Gulf-20		Gulf-21		Coastwide	
		No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length
Sand seatrout	1987[a]	1	328	0		0		0		0		<1	328
	1988	<1	322	<1	276	<1	298	0		<1	286	<1	297
	1989	0		<1	353	0		0		0		<1	353
	1990	<1	291	<1	284	<1	287	0		0		<1	287
	1991	0		<1	251	<1	319	0		<1		<1	307
	1992	0		<1	301	0		0		0		<1	301
Sheepshead	1987[a]	0		0		0		0		0		0	
	1988	<1	416	<1	445	<1	292	<1	288	0		<1	366
	1989	0		0		0		<1	370	0		<1	370
	1990	0		<1	375	<1	312	<1	322	<1	298	<1	344
	1991	0		<1	270	<1	328	0		<1	460	<1	314
	1992	0		<1	458	<1	327	0		<1	441	<1	382
Southern flounder	1987[a]	0		1	250	0		<1	313	0		<1	262
	1988	<1	279	1	261	<1	203	<1	207	<1	434	<1	265
	1989	<1	375	<1	276	0		<1	270	0		<1	319
	1990	<1	264	1	220	<1	226	<1	193	<1	217	<1	231
	1991	<1	308	1	267	<1	267	<1	265	0		<1	279
	1992	<1	465	<1	270	<1	307	<1	309	<1	192	<1	303
Spanish mackerel	1987[a]	0		0		0		0		0		0	
	1988	0		0		0		0		<1	392	<1	392
	1989	0		<1	606	0		0		0		<1	606
	1990	0		0		<1	415	<1	477	<1	521	<1	486
	1991	0		<1	264	<1	353	0		0		<1	303
	1992	0		0		<1	54	0		<1	518	<1	135
Spot	1987[a]	2	244	2	248	<1	248	2	214	0		1	235
	1988	3	245	1	235	<1	225	1	243	<1	237	1	242
	1989	<1	210	1	230	<1	277	<1	230	2	236	<1	237
	1990	<1	319	<1	224	<1	246	1	212	1	238	<1	227
	1991	<1	238	1	231	<1	210	1	217	<1	230	<1	220
	1992	<1	231	1	235	<1	227	1	241	<1	257	<1	236
Spotted seatrout	1987[a]	<1	408	<1	403	<1	397	<1	516	0		<1	417
	1988	3	410	2	431	1	397	<1	440	<1	469	2	414
	1989	1	419	3	431	1	419	1	428	<1	445	1	426
	1990	2	440	2	417	<1	431	<1	457	1	473	1	437
	1991	3	406	2	441	1	421	1	399	<1	424	1	415
	1992	<1	432	2	428	2	423	1	431	<1	489	1	426
Striped mullet	1987[a]	13	393	5	358	1	351	5	343	17	349	7	368

Table 7. (Cont'd.)

Species	Year	Gulf-17		Gulf-18		Gulf-19		Gulf-20		Gulf-21		Coastwide	
		No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length
	1988	19	362	32	342	7	344	14	356	5	346	14	351
	1989	39	370	28	344	3	334	1	360	8	341	15	358
Striped mullet	1990	44	350	52	336	5	333	6	349	6	376	21	344
(cont'd.)	1991	23	345	65	338	34	320	25	326	13	326	32	330
	1992	34	343	51	341	42	341	25	355	10	344	34	343
Other finfishes	1987[a]	1	211	1	213	2	177	1	176	1	177	2	187
	1988	1	217	2	221	32	58	24	91	5	335	16	82
	1989	3	98	10	101	11	139	34	61	4	227	12	97
	1990	2	165	5	169	4	240	7	185	3	235	4	203
	1991	3	150	5	141	5	121	7	184	6	323	5	168
	1992	1	174	5	203	4	174	6	196	2	293	4	193
Total finfishes	1987[a]	23	327	9	305	6	266	10	295	18	332	12	312
	1988	54	322	44	326	43	141	40	189	11	343	41	237
	1989	52	341	48	288	20	218	39	100	15	298	34	254
	1990	59	337	63	314	16	309	18	269	13	323	32	319
	1991	50	322	80	309	45	293	46	284	20	324	48	304
	1992	37	338	65	316	55	322	35	316	13	334	44	323
SHELLFISHES													
Blue crab	1987[a]	<1	118	<1	159	0		0		0		<1	129
	1988	2	117	<1	143	<1	137	<1	138	<1	126	1	125
	1989	2	137	2	135	<1	140	0		<1	153	1	137
	1990	5	139	7	136	<1	129	<1	132	<1	128	2	137
	1991	7	143	20	137	5	127	1	123	1	131	6	136
	1992	3	133	3	126	2	142	<1	88	1	132	2	133

[a] Values include Oct-Nov only.

Table 8. Seasonal (May-Nov) mean catch rates (No./ha) and mean total lengths (mm) of select finfishes and shellfishes caught with 18.3-m bag seines in 5 Texas gulf shoreline areas during 1987-92. Blank indicates no measurement taken.

		Gulf-17		Gulf-18		Gulf-19		Gulf-20		Gulf-21		Coastwide	
Species	Year	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length
FINFISHES													
Atlantic croaker	1987[a]	0		0		0		0		0		0	
	1988	30	37	1	62	1	64	0		0		7	39
	1989	3	32	0		0		0		0		1	32
	1990	1	171	1	84	0		<1	22	2	157	1	127
	1991	50	31	0		1	150	5	31	0		13	33
	1992	0		1	91	1	61	0		0		1	70
Black drum	1987[a]	0		0		0		0		0		0	
	1988	1	111	1	104	<1	168	0		1	182	<1	132
	1989	2	170	0		0		0		0		<1	170
	1990	4	154	6	142	1	114	0		0		2	143
	1991	3	151	2	151	1	193	0		0		1	162
	1992	4	159	1	179	0		0		0		1	160
Gulf menhaden	1987[a]	0		0		4	48	0		0		1	48
	1988	2	93	22	87	5	87	28	37	0		10	63
	1989	2	86	6	76	9	100	0		2	74	5	92
	1990	3	59	0		5	57	1	83	17	81	5	68
	1991	0		3	46	2	71	0		0		1	62
	1992	1	91	9	72	4	50	0		0		3	63
Hardhead catfish	1987[a]	133	77	0		0		0		0		31	77
	1988	12	66	13	108	2	101	0		0		5	85
	1989	123	131	104	128	3	142	0		0		44	130
	1990	12	124	27	145	0		0		0		7	136
	1991	36	129	5	138	5	135	1	103	0		11	130
	1992	5	112	36	114	2	128					7	114
King mackerel	1987[a]	0		0		0		0		0		0	
	1988	0		0		0		0		2	67	<1	67
	1989	0		0		0		0		0		0	
	1990	0		0		3	48	0		0		1	48
	1991	0		0		0		0		0		0	
	1992	0		0		0		0		0		0	
Pinfish	1987[a]	0		0		1	85	0		0		<1	85
	1988	0		1	100	1	122	0		103	105	12	105
	1989	0		0		<1	69	0		0		<1	69
	1990	0		0		1	97	<1	52	2	133	1	101
	1991	0		2	98	26	71	1	55	27	67	12	70
	1992	1	68	1	125	0		0		1	62	<1	77

Table 8. (Cont'd.)

Species	Year	Gulf-17		Gulf-18		Gulf-19		Gulf-20		Gulf-21		Coastwide	
		No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length
Sand seatrout	1987[a]	0		0		0		0		0		0	
	1988	0		12	48	1	61	0		0		2	50
	1989	11	44	0		0		0		0		3	44
	1990	0		0		<1	124	0		0		<1	124
	1991	5	31	2	40	6	86	0		0		3	64
	1992	2	34	<1	42	0		0		0		1	35
Sheepshead	1987[a]	0		0		0		0		0		0	
	1988	0		0		<1	40	0		0		<1	40
	1989	0		0		<1	27	0		0		<1	27
	1990	0		0		0		0		0		0	
	1991	0		0		0		0		0		0	
	1992	0		0		0		0		0		0	
Southern flounder	1987[a]	0		0		0		0		0		0	
	1988	0		5	107	1	126	0		0		1	112
	1989	1	114	10	91	0		0		0		2	95
	1990	0		2	107	1	183	0		0		1	151
	1991	0		0		0		2	102	0		<1	102
	1992	1	134	11	120	0		4	90	2	162	3	116
Spanish mackerel	1987[a]	41	50	0		0		0		0		9	50
	1988	0		1	59	2	53	0		2	110	1	64
	1989	0		6	37	0		8	60	0		2	51
	1990	0		1	25	2	35	0		0		1	34
	1991	0		<1	40	0		0		0		<1	40
	1992	0		0		0		1	55	0		<1	55
Spot	1987[a]	0		0		0		0		0		0	
	1988	0		1	80	0		0		52	92	6	91
	1989	0		0		1	78	0		2	104	<1	89
	1990	1	182	0		1	86	<1	66	0		1	119
	1991	0		<1	182	0		<1	64	0		<1	122
	1992	1	109	0		0		1	26	0		<1	81
Striped mullet	1987[a]	7	26	0		0		2	100	14	146	4	84
	1988	50	97	36	115	22	59	1	31	0		24	88
	1989	253	86	42	90	15	187	1	93	3	191	69	95
	1990	49	66	86	79	3	170	10	32	5	155	27	75
	1991	18	173	141	130	23	140	1	144	2	106	32	138
	1992	11	70	10	138	4	73	2	53	3	127	6	89
Other finfishes	1987[a]	162	63	449	60	469	73	667	45	2,127	81	614	69

Table 8. (Cont'd.)

Species	Year	Gulf-17		Gulf-18		Gulf-19		Gulf-20		Gulf-21		Coastwide	
		No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length	No./ha	Length
	1988	952	63	6,180	88	2,316	56	1,673	49	3,004	87	2,503	71
	1989	2,017	85	2,625	69	3,562	67	9,505	58	1,152	80	3,880	66
Other finfishes	1990	1,097	75	1,001	68	1,272	54	3,062	46	1,056	106	1,492	60
(Cont'd.)	1991	1,028	80	1,469	76	3,941	62	7,501	52	2,110	73	3,364	61
	1992	1,285	83	959	60	1,079	59	2,506	47	917	57	1,349	60
Total finfishes	1987[a]	344	66	449	60	475	73	668	45	2,142	83	659	69
	1988	1,046	65	6,271	96	2,351	58	1,702	48	3,164	84	2,572	74
	1989	2,413	95	2,794	75	3,590	68	9,527	59	1,159	80	4,009	69
	1990	1,168	76	1,125	71	1,292	55	3,075	46	1,081	105	1,538	61
	1991	1,140	84	1,625	83	4,006	64	7,512	54	2,140	73	3,439	63
	1992	1,312	84	1,029	65	1,090	59	2,514	47	923	58	1,371	61
SHELLFISHES													
Blue crab	1987[a]	0		0		0		0		3	22	<1	22
	1988	14	101	1	25	4	83	0		0		5	93
	1989	33	95	65	34	2	108	0		0		17	63
	1990	11	85	52	90	1	113	1	24	0		10	89
	1991	42	107	72	69	24	117	1	91	0		28	96
	1992	30	92	49	84	9	116	2	21	1	174	17	92
Brown shrimp	1987[a]	0		0		0		0		0		0	
	1988	7	52	0		3	76	0		1	46	3	60
	1989	7	56	0		0		0		0		2	56
	1990	0		47	76	0		0		0		7	76
	1991	9	44	1	54	<1	58	0		0		2	45
	1992	27	66	10	52	0		1	31	0		8	63
White shrimp	1987[a]	11	78	16	71	71	69	2	72	0		29	70
	1988	35	64	6	77	2	61	<1	45	1	69	10	65
	1989	38	58	4	70	20	65	2	52	0		16	61
	1990	8	75	9	57	0		<1	59	0		3	67
	1991	664	53	4	70	1	69	0		0		154	53
	1992	285	75	12	86	2	81	0		0		68	75

[a] Values include Oct-Dec only.

Table 9. Annual mean catch rate (No./h) and mean total lengths (mm) of selected fishes and shellfishes caught with 6.1-m trawls within the Intracoastal Waterway in Texas bay systems during 1992.

		Bay system																			
		Sabine Lake		Galveston		East Matagorda		Matagorda		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		Coastwide	
Species	Year	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length
FINFISHES																					
Red drum	1992	0		0		<1	81	0		0		0		0		0		<1	106	<1	104
Spotted seatrout	1992	<1	184	3	144	2	145	<1	165	3	115	5	120	<1	158	2	200	3	205	2	142
Black drum	1992	1	234	<1	250	1	180	0		0		0		0		1	240	<1	282	<1	245
Sheeps-head	1992	<1	160	<1	155	<1	132	<1	137	<1	96	<1	96	<1	121	<1	405	<1	115	<1	143
Striped mullet	1992	<1	136	3	183	1	147	0		2	125	3	188	<1	281	<1	291	<1	250	1	178
Southern flounder	1992	1	256	5	239	1	220	3	209	1	211	1	193	<1	198	<1	398	<1	248	2	230
Sand seatrout	1992	9	113	17	127	4	134	4	110	32	114	12	133	4	149	1	138	11	157	11	123
Spot	1992	3	134	149	124	10	122	44	110	150	102	55	103	38	111	12	148	32	127	56	116
Gulf menhaden	1992	1	120	5	93	5	89	13	113	19	90	25	102	1	138	<1	119	1	139	6	101
Atlantic croaker	1992	88	133	306	125	38	109	130	96	1181	83	684	82	26	114	27	119	45	122	241	97
Hardhead catfish	1992	9	169	12	183	2	208	4	170	26	115	14	120	5	169	8	205	7	214	10	155
Gafftop-sail catfish	1992	32	110	11	153	2	151	8	129	81	135	44	130	<1	176	0		<1	186	18	135
Pinfish	1992	0		2	142	1	121	6	106	5	95	31	113	206	105	57	119	18	112	24	108
Other finfish	1992	145	129	71	98	17	83	109	78	171	82	98	88	53	104	48	77	80	125	90	91
Total finfish	1992	291	131	585	125	83	115	322	98	1670	94	972	94	333	111	157	119	200	134	461	107

Table 9. (Cont'd.)

Species	Year	Bay system																	
		Sabine Lake		Galveston		East Matagorda		Matagorda		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		Coastwide	
		No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length	No./h	Length
SHELLFISHES																					
Blue crab	1992	40	74	67	73	64	78	41	62	222	55	238	57	14	94	66	95	26	72	77	64
Brown shrimp	1992	44	79	209	79	21	84	19	84	269	81	340	82	34	83	92	99	33	84	117	81
Pink shrimp	1992	0		0		<1	91	<1	87	2	74	40	73	18	86	48	104	57	90	20	87
White shrimp	1992	35	100	77	90	8	82	5	92	28	85	42	91	5	94	4	104	5	106	28	90

Figure 1. Texas gulf shoreline and Texas Territorial Sea (TTS).

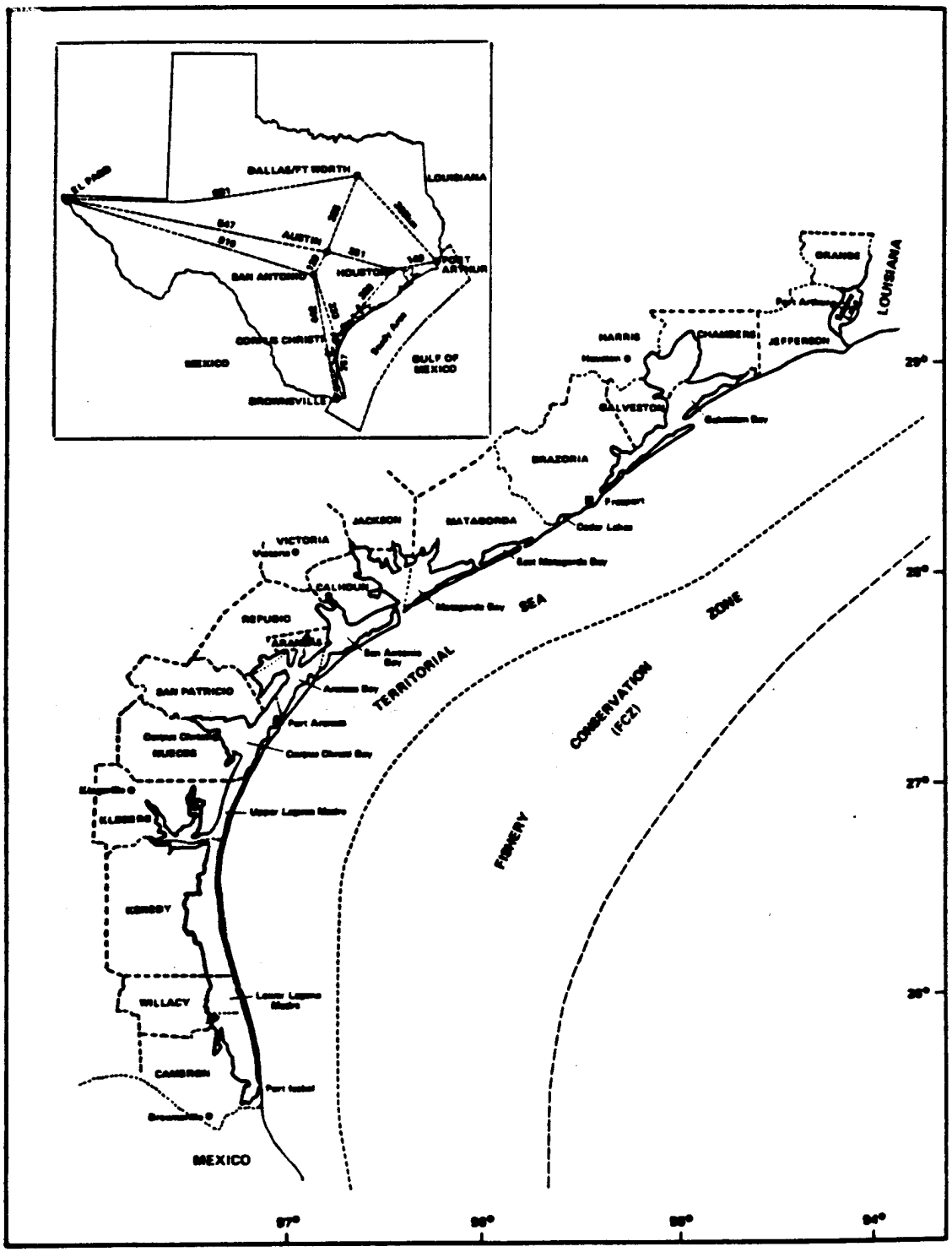

EL PASO
DALLAS/FT WORTH
LOUISIANA
AUSTIN
SAN ANTONIO
HOUSTON
PORT ARTHUR
CORPUS CHRISTI
MEXICO
BROWNSVILLE
GULF OF MEXICO
GRANDE
HARRIS
CHAMBERS
JEFFERSON
GALVESTON
BRAZORIA
MATAGORDA
JACKSON
VICTORIA
CALHOUN
REFUGIO
ARANSAS
SAN PATRICIO
NUECES
KLEBERG
KENEDY
WILLACY
CAMERON
MEXICO
TERRITORIAL SEA
CONSERVATION ZONE (FCZ)
FISHERY
29°
28°
27°
26°
97°
96°
95°
94°

Figure 2. Spring gill net mean catch rates (No./h ± 1SE) for red drum, black drum, spotted seatrout and Atlantic croaker during 1976-92.

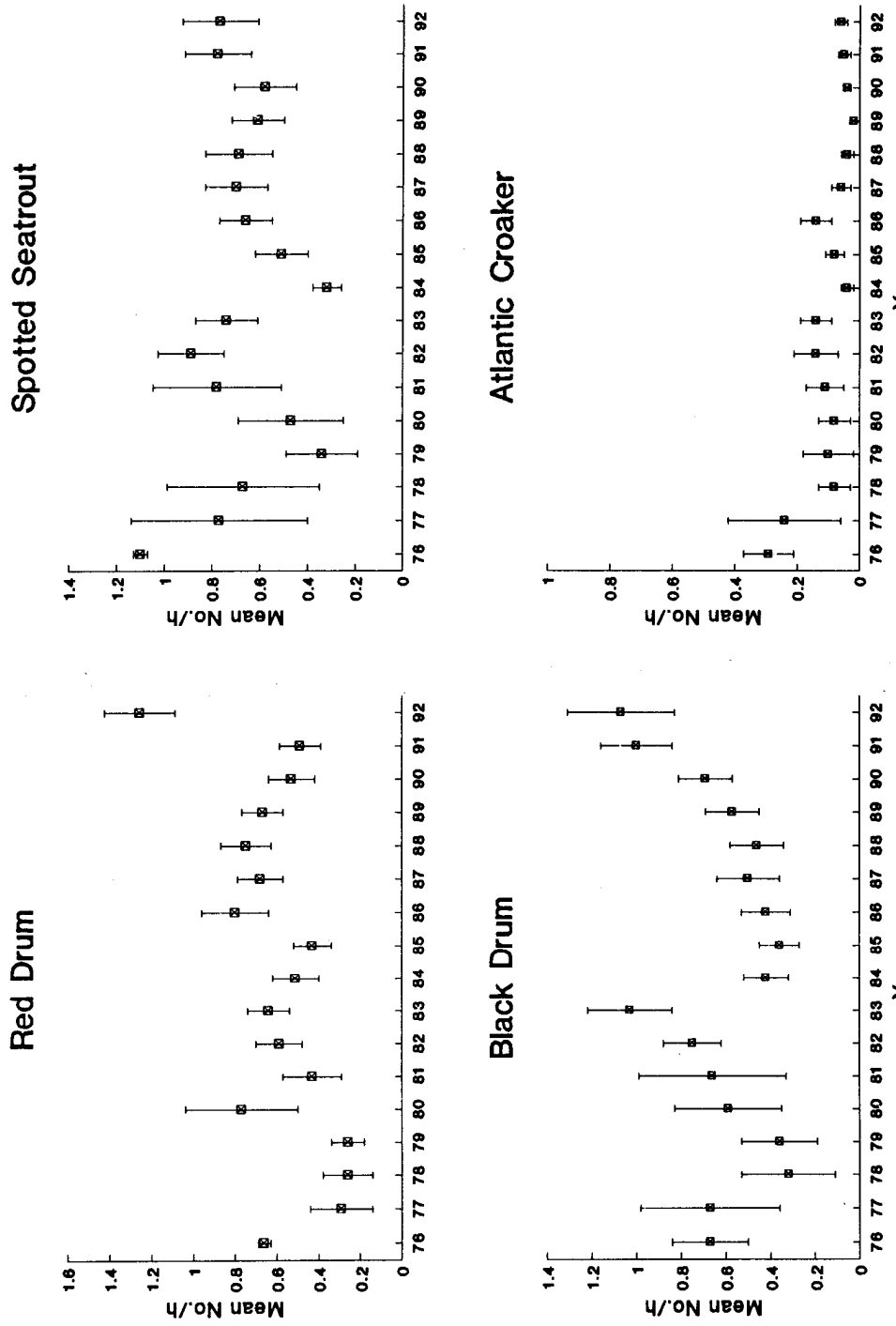

Spotted Seatrout
Atlantic Croaker
Red Drum
Black Drum
Mean No./h
Year
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92

Figure 3. Fall gill net mean catch rates (No./h ± 1SE) for red drum, black drum, spotted seatrout and Atlantic croaker during 1975-92.

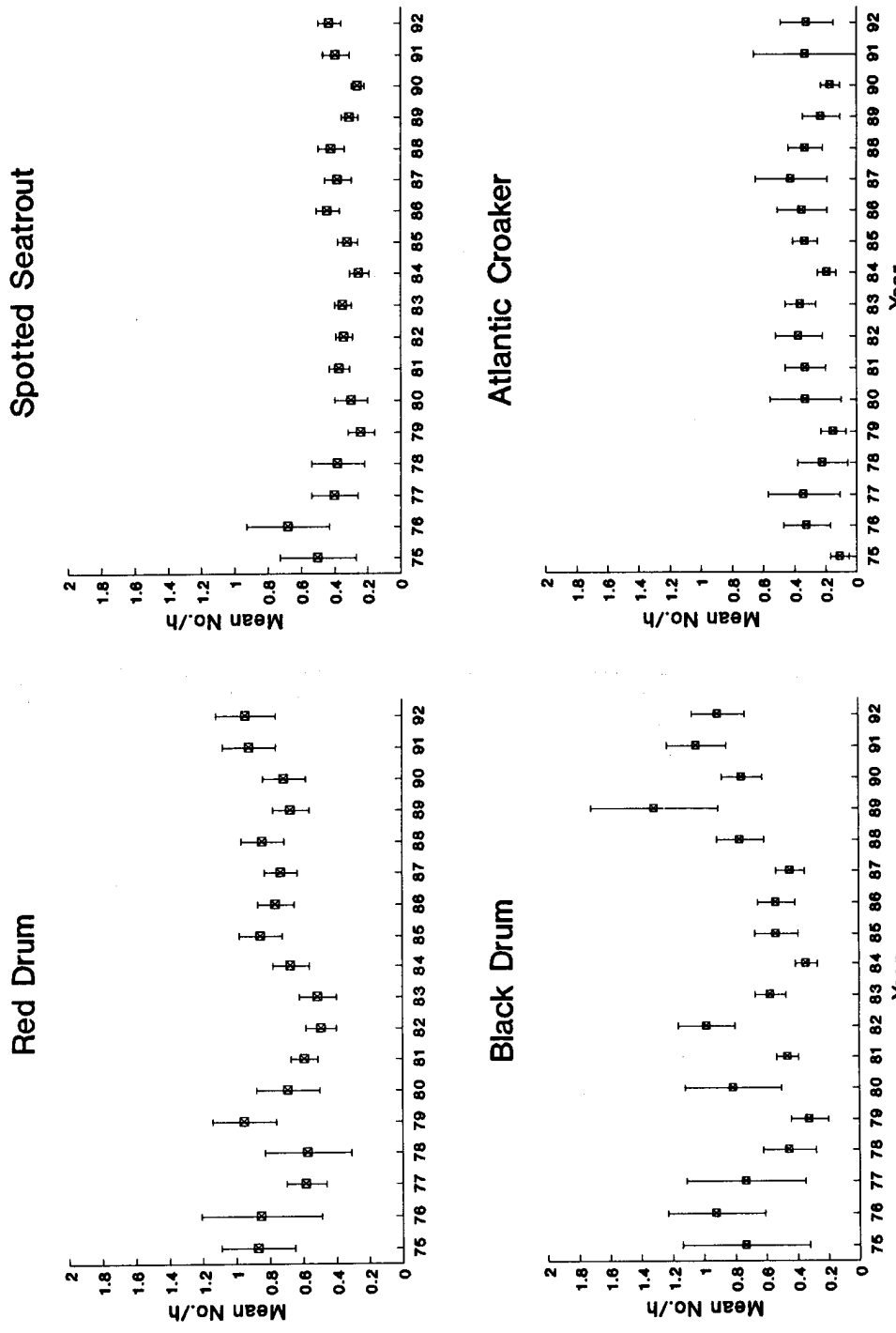

Spotted Seatrout
Atlantic Croaker
Red Drum
Black Drum
Mean No./h
Year
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92

Figure 4. Spring gill net mean total lengths (mm ± 1SE) for red drum, black drum, spotted seatrout and Atlantic croaker during 1976-92.

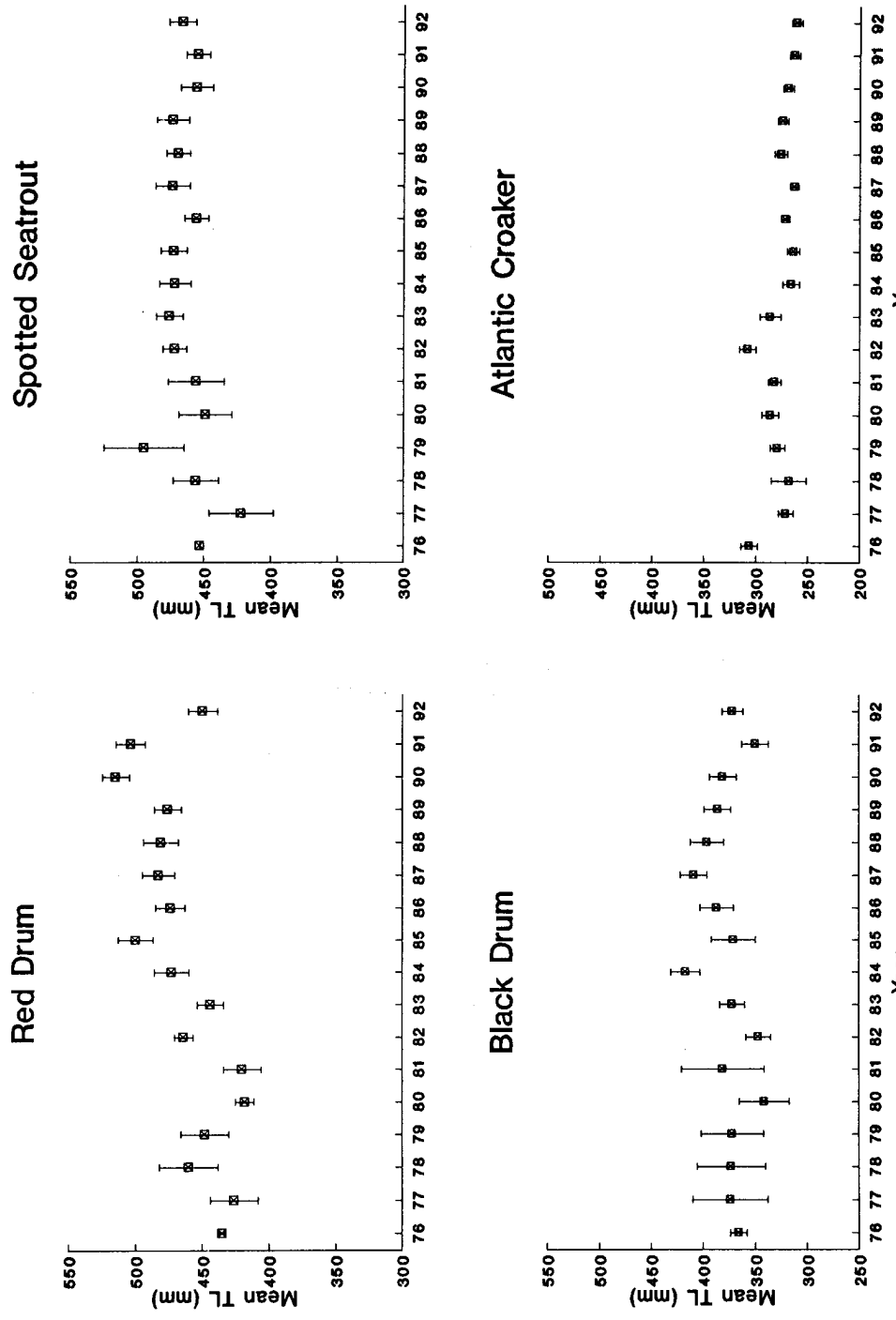

Spotted Seatrout
Red Drum
Atlantic Croaker
Black Drum
Mean TL (mm)
Year
76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92

Figure 5. Fall gill net mean total lengths (mm ± 1SE) for red drum, black drum, spotted seatrout and Atlantic croaker during 1975-92.

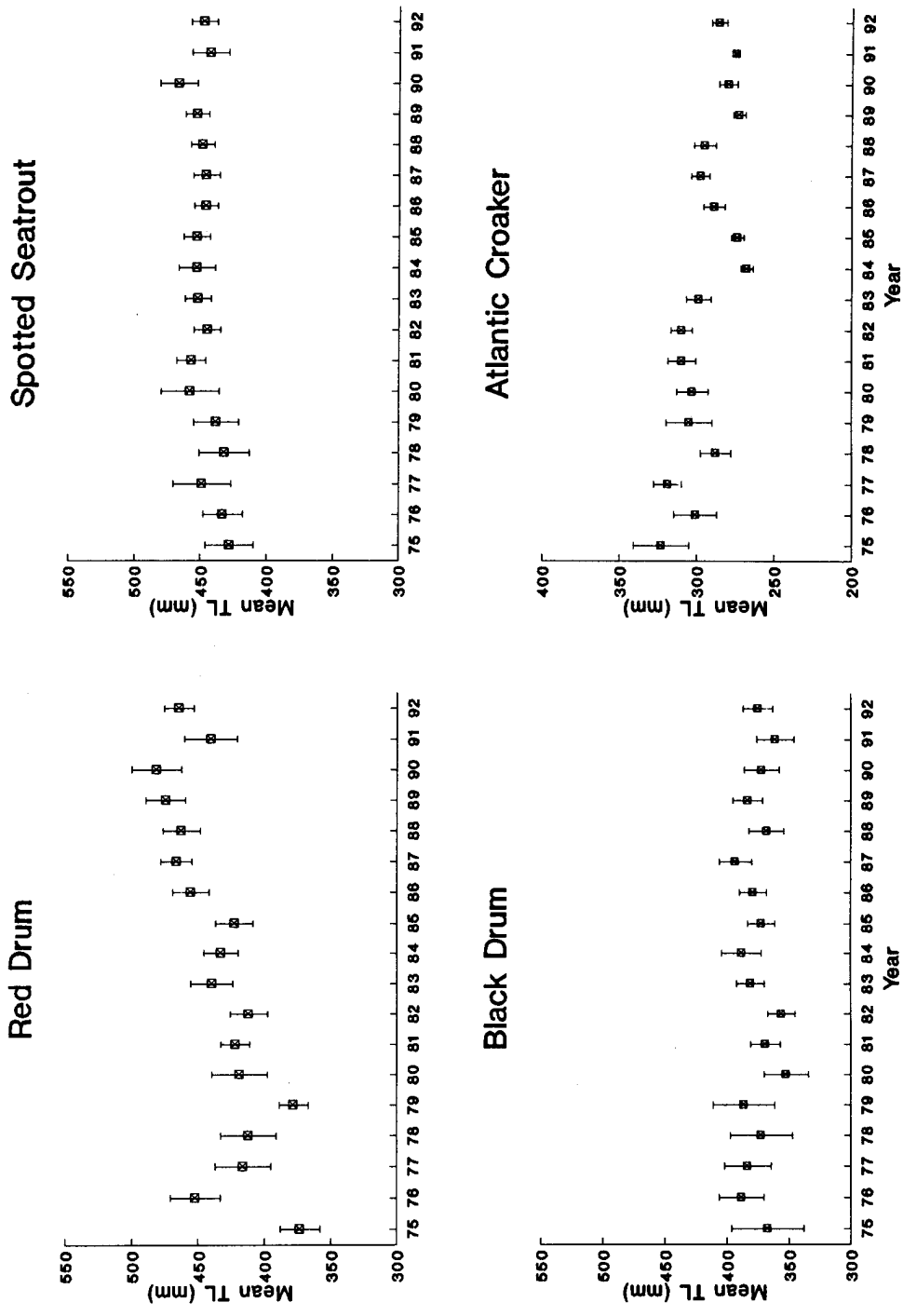

Spotted Seatrout
Atlantic Croaker
Red Drum
Black Drum
Mean TL (mm)
Year
75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92
300 350 400 450 500 550
200 250 300 350 400

Figure 6. Seasonal bag seine mean catch rates (No./ha) for juvenile red drum (Nov-Mar), black drum (Jun-Jul), spotted seatrout (Jul-Nov) and Atlantic croaker (Feb-May) during 1978-92. Red drum 35-75 mm, spotted seatrout 20-75 mm, black drum 35-110 mm and Atlantic croaker 30-85 mm are considered to be young-of-the-year.

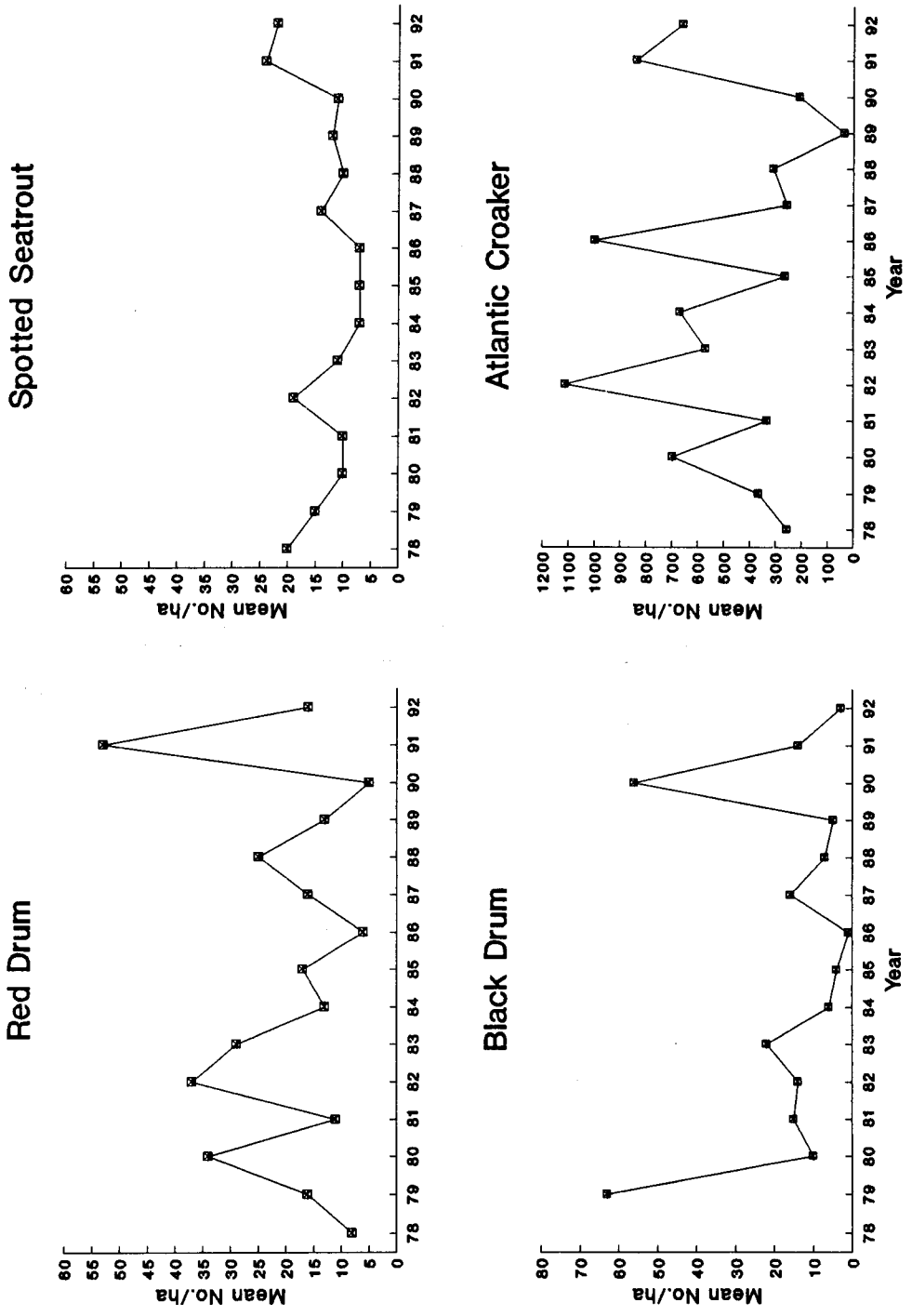

Spotted Seatrout
Mean No./ha
Red Drum
Mean No./ha
Atlantic Croaker
Mean No./ha
Black Drum
Mean No./ha
Year

Figure 7. Seasonal bag seine mean total lengths (mm ± 1SE) for juvenile red drum (Nov-Mar), black drum (Jun-Jul), spotted seatrout (Jul-Nov) and Atlantic croaker (Feb-May) during 1978-92. Red drum 35-75 mm, spotted seatrout 20-75 mm, black drum 35-110 mm and Atlantic croaker 30-85 mm are considered to be young-of-the-year.

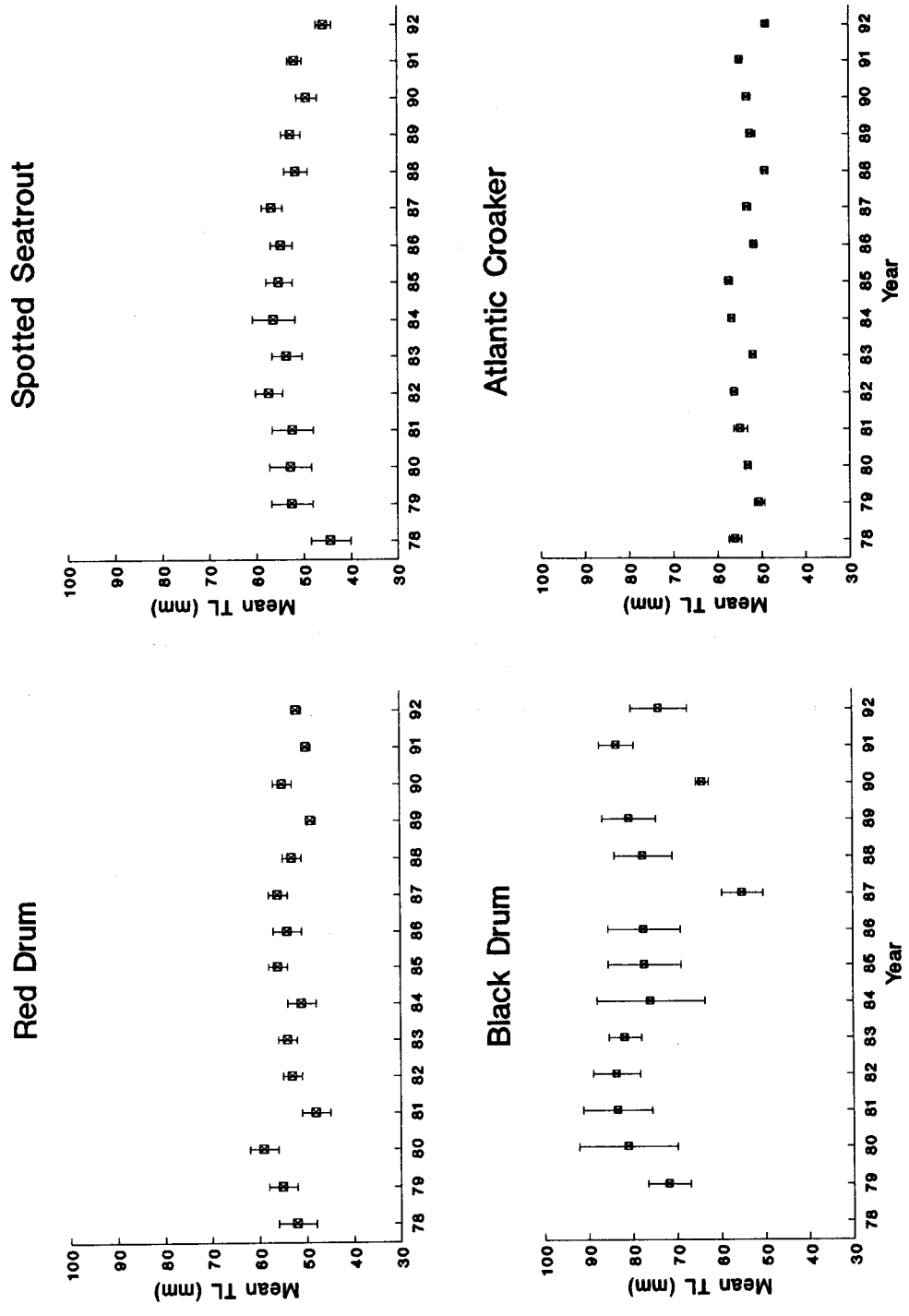

Spotted Seatrout
Atlantic Croaker
Red Drum
Black Drum
Mean TL (mm)
Year
100
90
80
70
60
50
40
30
78 79 80 81 82 83 84 85 86 87 88 89 90 91 92

Figure 8. Seasonal bag seine mean catch rates (No./ha) for juvenile brown shrimp (Apr-Jul), white shrimp (Jul-Nov) and blue crab (Mar-Jun) during 1978-92. Brown and white shrimp 33-82 mm and blue crab 13-42 mm are considered to be young-of-the-year.

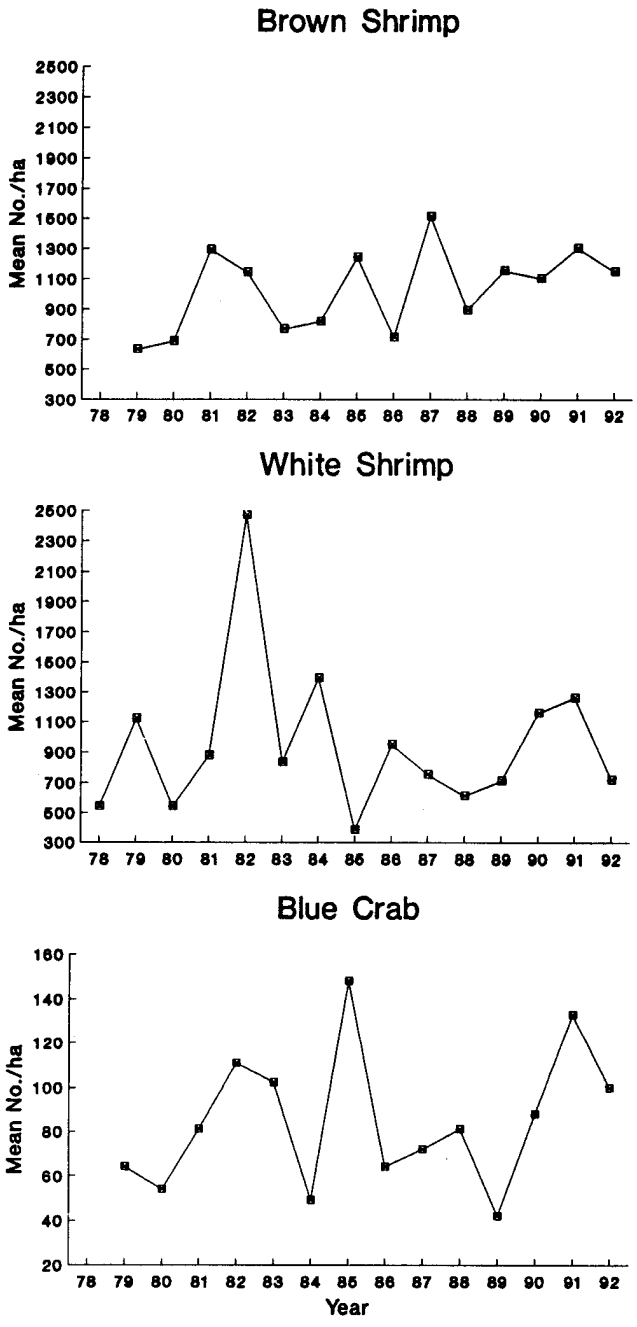

Brown Shrimp
Mean No./ha
2500
2300
2100
1900
1700
1600
1300
1100
900
700
600
300
78 79 80 81 82 83 84 85 86 87 88 89 90 91 92
White Shrimp
Mean No./ha
2500
2300
2100
1900
1700
1600
1300
1100
900
700
600
300
78 79 80 81 82 83 84 85 86 87 88 89 90 91 92
Blue Crab
Mean No./ha
160
140
120
100
80
60
40
20
78 79 80 81 82 83 84 85 86 87 88 89 90 91 92
Year

Figure 9. Seasonal bag seine mean total lengths (mm ± 1SE) for brown shrimp (Apr-Jul), white shrimp (Jul-Nov) and blue crab (Mar-Jun) during 1978-92. Brown and white shrimp 33-82 mm and blue crab 13-42 mm are considered to be young-of-the-year.

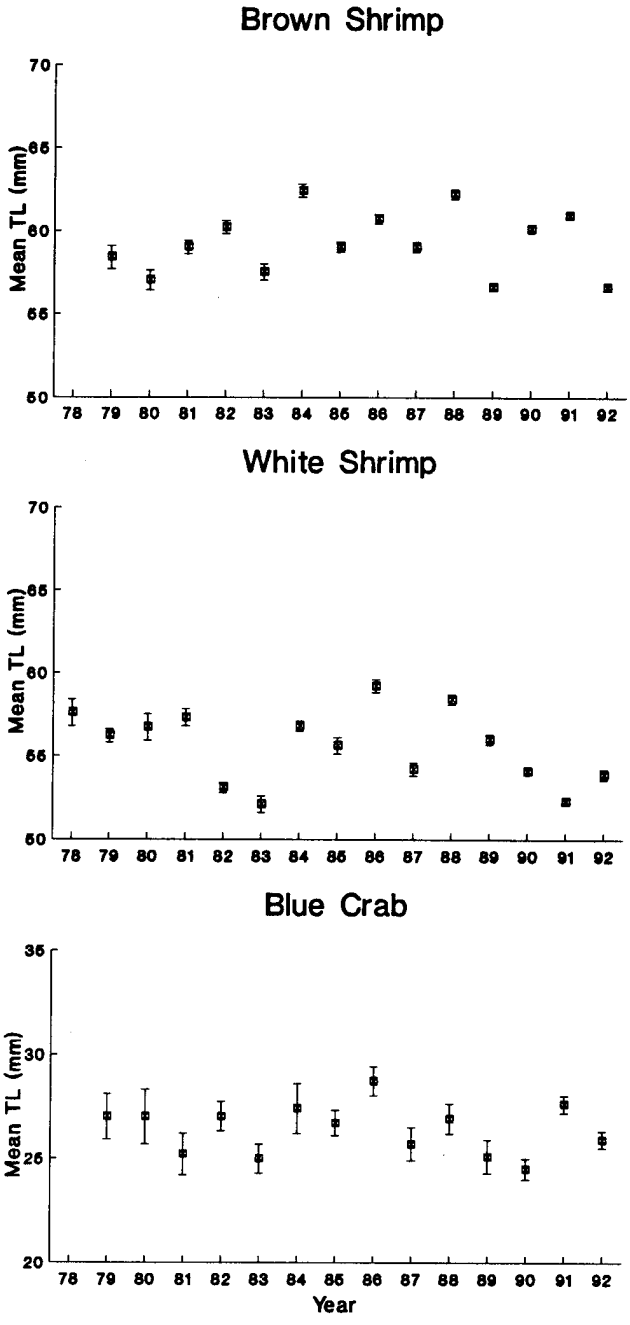

Brown Shrimp
Mean TL (mm)
70
65
60
55
50
78 79 80 81 82 83 84 85 86 87 88 89 90 91 92
White Shrimp
Mean TL (mm)
70
65
60
55
50
78 79 80 81 82 83 84 85 86 87 88 89 90 91 92
Blue Crab
Mean TL (mm)
35
30
25
20
78 79 80 81 82 83 84 85 86 87 88 89 90 91 92
Year

Figure 10. Annual bay trawl catch rates (No./h ± 1SE) for brown shrimp, white shrimp, blue crab and Atlantic croaker during 1982-92.

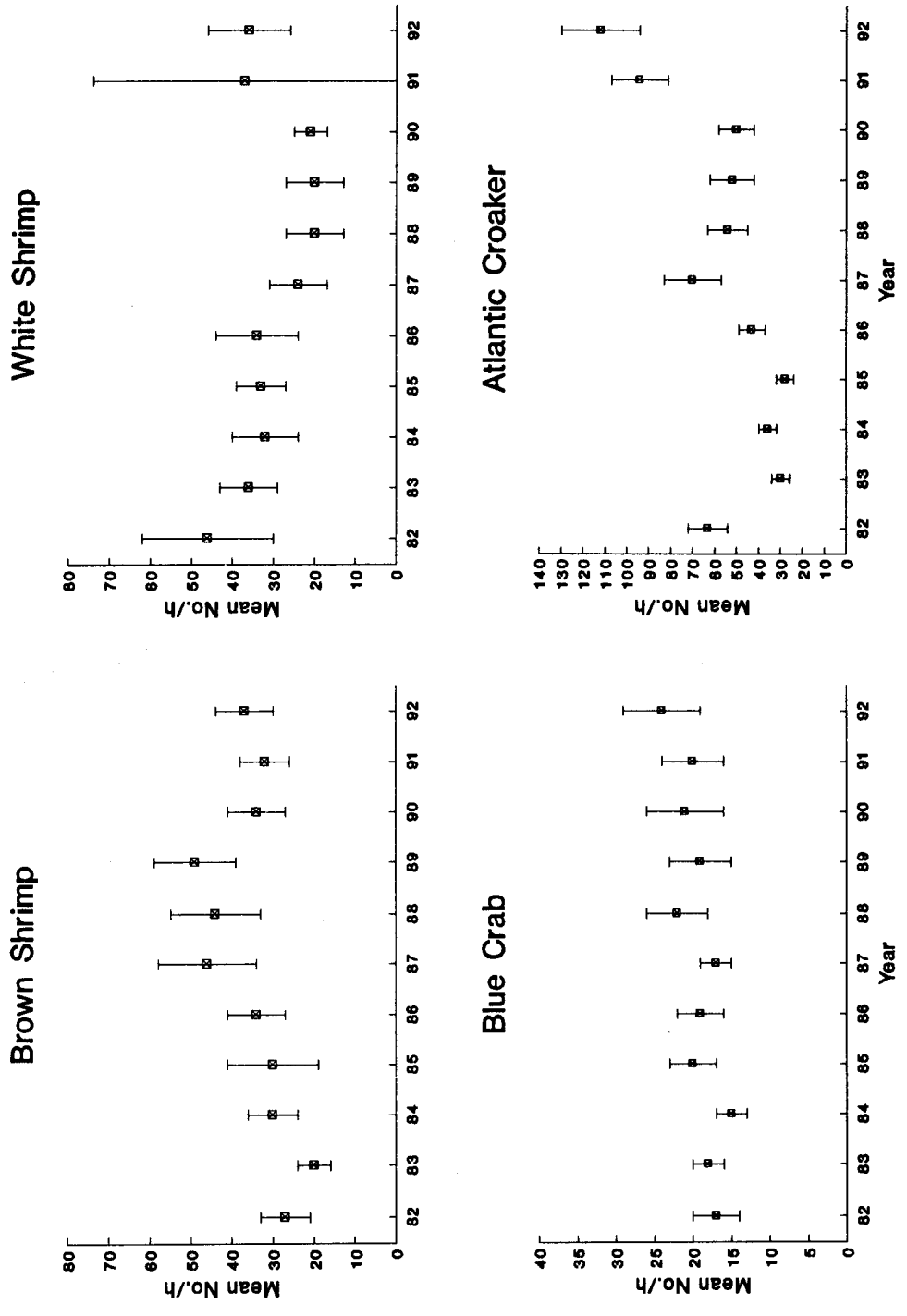

White Shrimp
Atlantic Croaker
Brown Shrimp
Blue Crab
Mean No./h
Year

Figure 11. Annual bay trawl mean total lengths (mm ± 1SE) for brown shrimp, white shrimp, blue crab and Atlantic croaker during 1982-92.

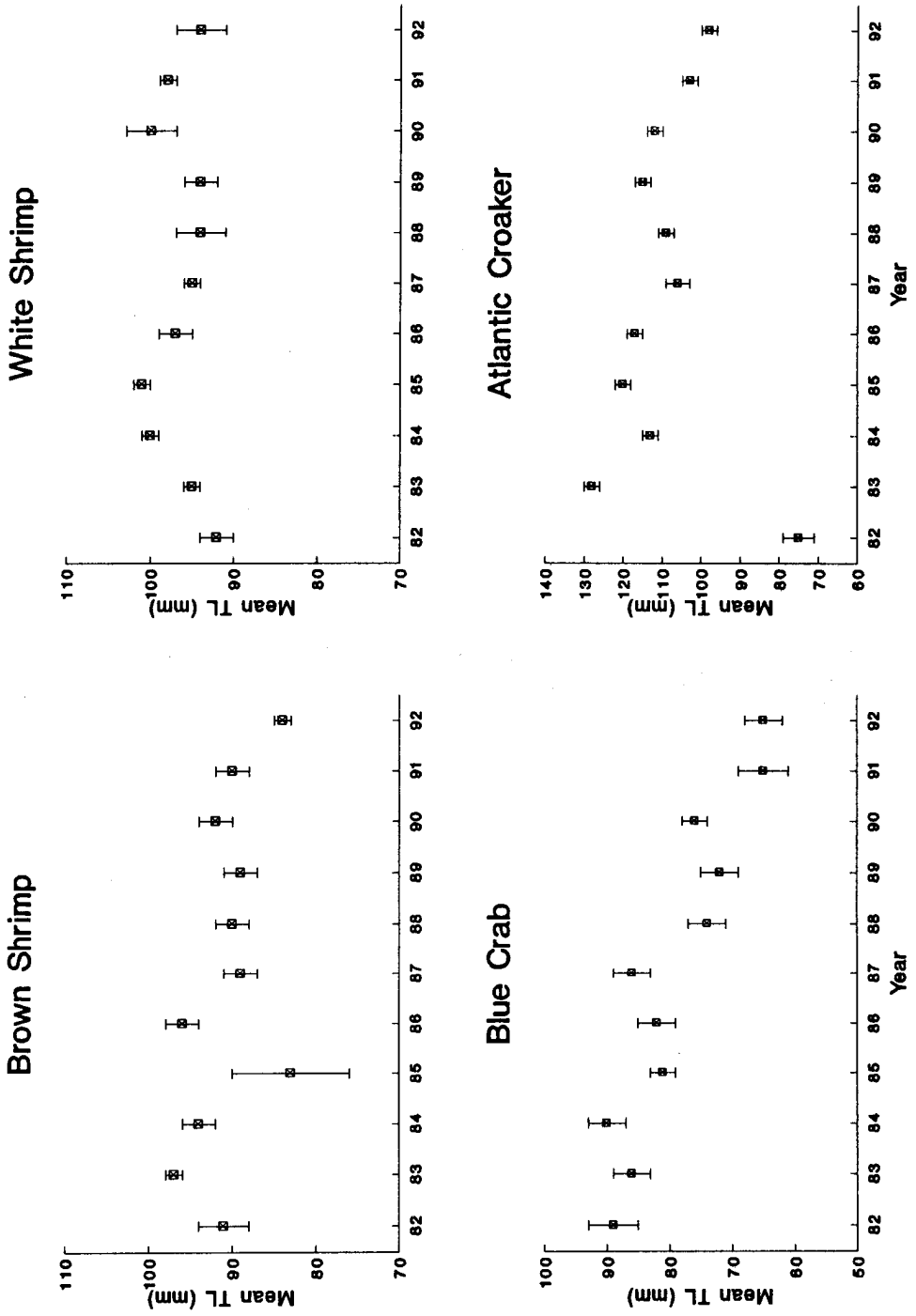

White Shrimp
Brown Shrimp
Atlantic Croaker
Blue Crab
Mean TL (mm)
Year

Figure 12. Annual gulf trawl mean catch rates (No./h ± 1SE) for brown shrimp, white shrimp, blue crab and Atlantic croaker during 1982-92.

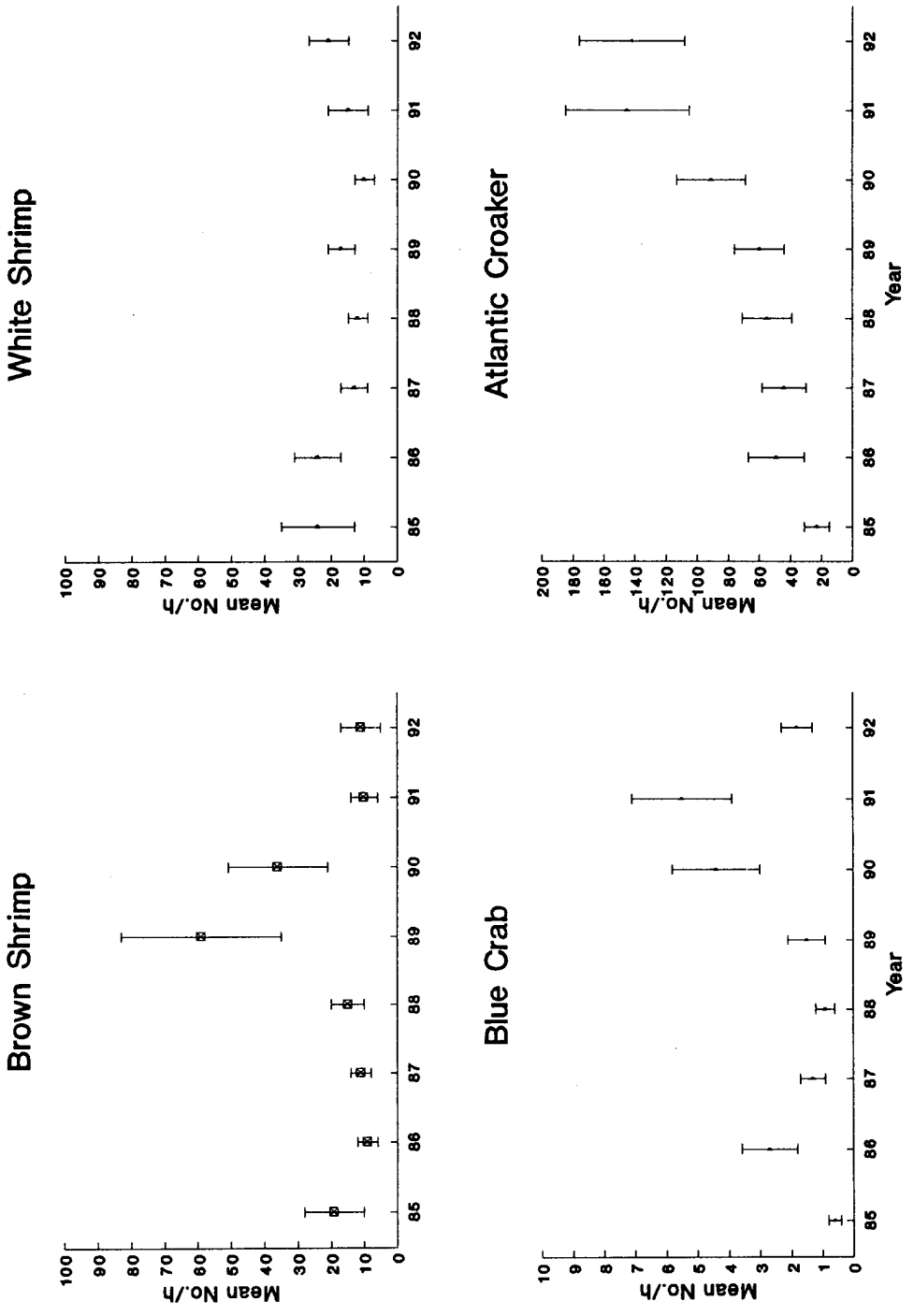

White Shrimp
Mean No./h
0
10
20
30
40
50
60
70
80
90
100
85
86
87
88
89
90
91
92
Atlantic Croaker
Mean No./h
0
20
40
60
80
100
120
140
160
180
200
85
86
87
88
89
90
91
92
Year
Brown Shrimp
Mean No./h
0
10
20
30
40
50
60
70
80
90
100
85
86
87
88
89
90
91
92
Blue Crab
Mean No./h
0
1
2
3
4
5
6
7
8
9
10
85
86
87
88
89
90
91
92
Year

Figure 13. Annual gulf trawl mean total lengths (mm ± 1SE) for brown shrimp, white shrimp, blue crab and Atlantic croaker during 1982-92.

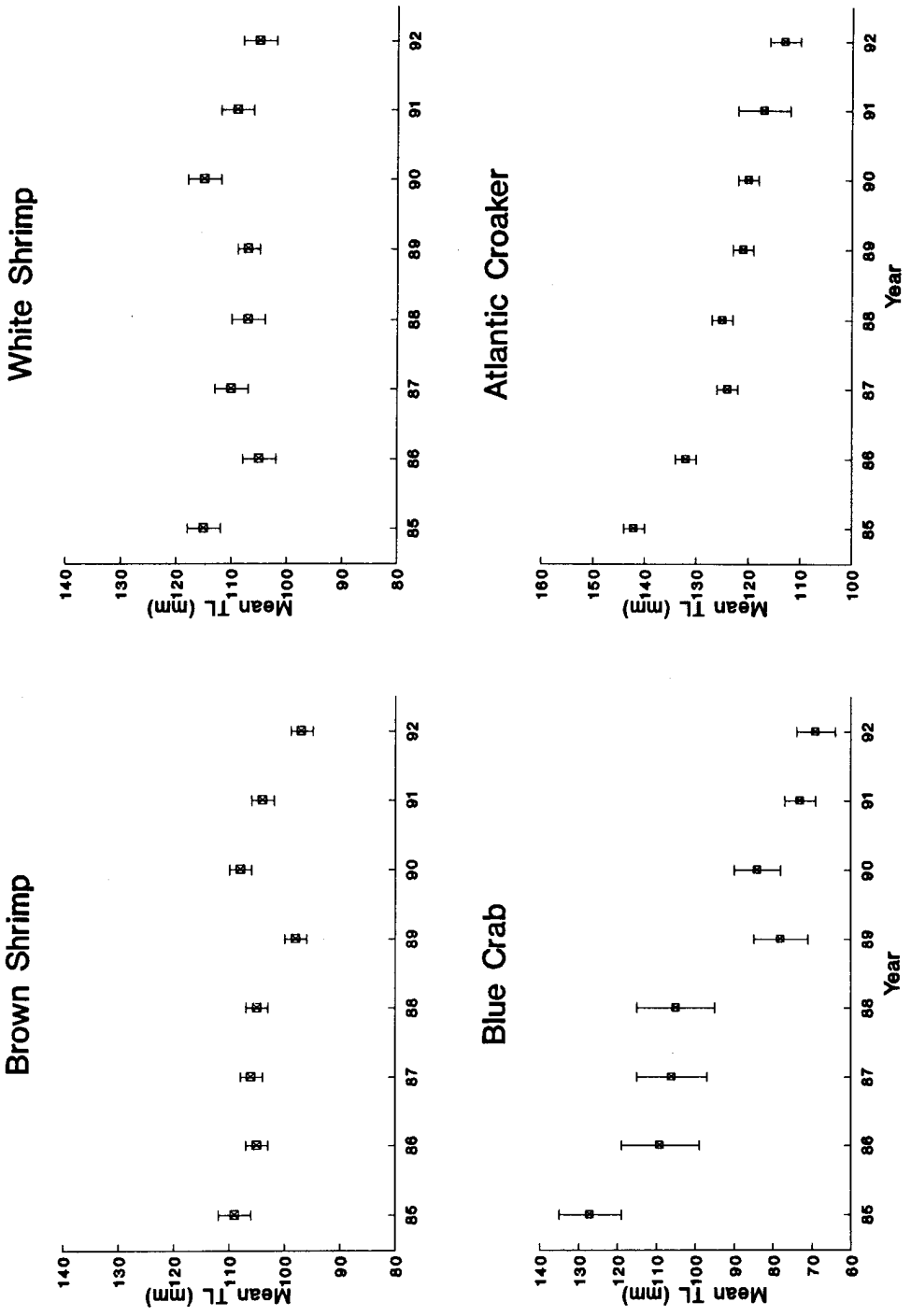

White Shrimp
Atlantic Croaker
Brown Shrimp
Blue Crab
Mean TL (mm)
Year

Figure 14. Annual mean catch rates (No./h) for Eastern oyster spat (≤25 mm), small oysters (26-75 mm) and market oysters (≥76 mm) during 1984-92.

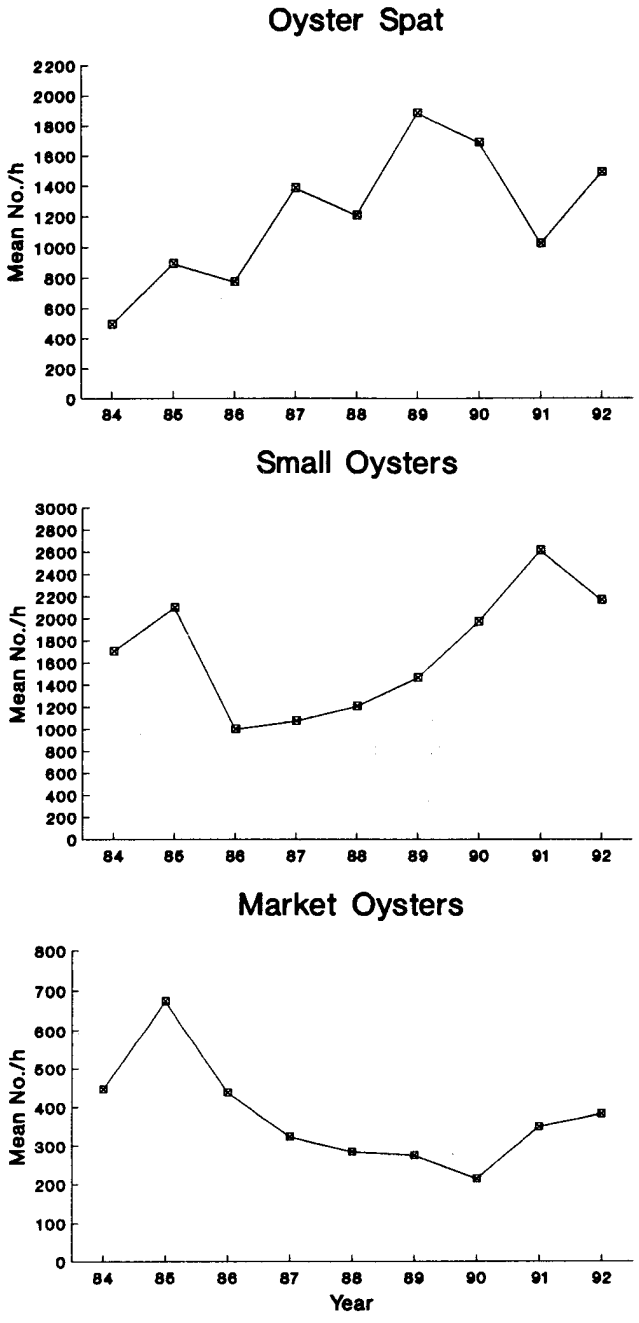
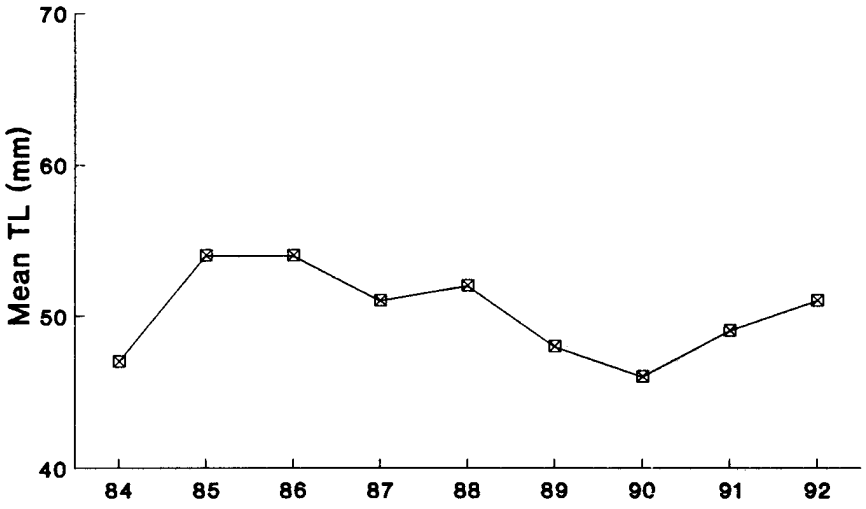
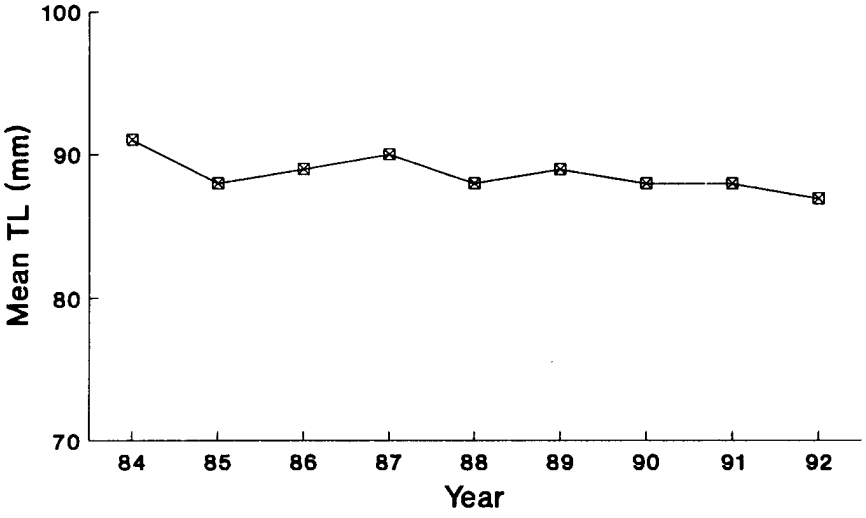

Oyster Spat
Mean No./h
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
84
85
86
87
88
89
90
91
92
Small Oysters
Mean No./h
3000
2800
2600
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
84
85
86
87
88
89
90
91
92
Market Oysters
Mean No./h
800
700
600
500
400
300
200
100
0
84
85
86
87
88
89
90
91
92
Year

Figure 15. Annual mean total lengths (mm ± 1SE) for small and market Eastern oysters during 1984-92.

Small Oysters



Market Oysters



Appendix A. Summary of gear description, historical sampling dates and procedures, and number of samples collected.

Table A. 1. Gear descriptions.

GEAR	GEAR DESCRIPTION
Gill Net	Monofilament, 183 m long; 1.2 m deep with separate 45.7-m sections of 7.6-, 10.2- (#12 monofilament), 12.7- and 15.2-cm (#18 monofilament) stretched mesh tied together in ascending mesh size.
Trawl	6.1 m wide at mouth with 3.8-cm stretched nylon multifilament mesh throughout, and doors 1.2 m long and 0.6 m tall.
Beach Seine	60.9-m long; 1.8-m deep with 7.6-cm stretched #12 monofilament mesh.
Bag Seine	18.3 m long; 1.8 m deep with 1.3-cm stretched nylon multifilament mesh in the 1.8 m wide central bag with remaining webbing 1.9-cm stretched mesh.
Oyster Dredge	Louisiana style 8-tooth: 46 cm wide, 25 cm tall with a 36-cm deep bag. 6 bottom rows of linked metal rings 5 cm in diameter; four top rows of 7.6-cm mesh webbing made of 0.8-cm nylon rope.

Table A.2. Historical sampling dates (month/year) by bay system and gear.

GEAR	SABINE	GALVESTON	EAST MATAGORDA	MATAGORDA	SAN ANTONIO	ARANSAS-COPANO	CORPUS CHRISTI	UPPER LAGUNA	LOWER LAGUNA
GILL NET	April 1986-Present.	Nov. 1975-Present.	Feb. 1983-Present.	Nov. 1975-Present.	Nov. 1975-Present.	Nov. 1975-Present.	Nov. 1975-Present.	Nov. 1975-Present.	Nov. 1975-Present.
GULF TRAWL	Jan. 1986-Present.	Jan. 1986-Present.	Not used.	Jan. 1986-Present.	Not used.	Not used.	Jan. 1986-Present.	Not used.	Jan. 1986-Present.
BAY TRAWL	Jan. 1986-Present.	Jan. 1982-Present.	April 1977-Present.	Jan. 1982-Present.	Jan. 1982-Present.	Jan. 1982-Present.	Jan. 1982-Present.	Jan. 1982-Present.	Jan. 1982-Present.
ICWW TRAWL	Jan. 1991-Present.	Jan. 1991-Present.	Jan. 1991-Present.	Jan. 1991-Present.	Jan. 1991-Present.	Jan. 1991-Present.	Jan. 1991-Present.	Jan. 1991-Present.	Jan. 1991-Present.
BEACH SEINE	Oct. 1987-Present.	Oct. 1987-Present.	Oct. 1987-Present.	Not used.	Oct. 1987-Present.	Oct. 1987-1991.	Not used.	Oct. 1987-Present.	Oct. 1987-Present.
BEACH BAG SEINE	Oct. 1987-Present.	Oct. 1987-Present.	Oct. 1987-Present.	Not used.	Oct. 1987-Present.	Oct. 1987-1991.	Not used.	Oct. 1987-Present.	Oct. 1987-Present.
BAY BAG SEINE	Jan. 1986-Present.	Oct. 1977-Present.	Feb. 1983-Present.	Oct. 1977-Present.	Oct. 1977-Present.	Oct. 1977-Present.	Oct. 1977-Present.	Oct. 1977-Present.	Oct. 1977-Present.
OYSTER REEF DREDGE	Jan. 1986-1991.	Jan. 1984-Present.	Not used.	Jan 1986-Present.	Jan. 1986-Present.	Jan. 1986-Present.	Jan. 1986-1991.	Not used.	Jan. 1986-1991.
NON-REEF DREDGE	1986-1989.	1985-1989.	1986-1989.	1986-1989.	1986-1989.	1986-1989.	1986-1989.	1986-1988.	1986-1988.

Table A.3. Historical sampling procedures by gear.

GEAR	HISTORICAL SAMPLING PROCEDURES
GILL NET	Monofilament gill nets have been systematically used in 7 Texas bay systems since November 1975; East Matagorda Bay was added in February 1983 and Sabine Lake in April 1986 (Figure 1). Prior to September 1984, sites for setting gill nets during spring (15 April-15 June) and fall (15 September-15 November) were randomly selected from about 100 stations in each bay system (McEachron and Green 1985). Beginning September 1984 current site selection methods were adopted. Prior to fall 1981, no less than eight nor more than 16 overnight gill net sets occurred in each season in each bay system. Since fall 1981, 45 gill nets were set overnight during each season in each bay system except East Matagorda Bay. In East Matagorda Bay, eight sets were made in each season. From fall 1981 to fall 1991 not less than three nor more than seven gill nets were set each week during each season except in East Matagorda Bay. No more than nine stations were duplicated each season. From spring 1981 to spring 1984 two gill nets were set in East Matagorda Bay during the first and last two fullest weeks of each month. Beginning spring 1992 current methods were adopted.
GULF TRAWLS	Trawls have been systematically used in 5 gulf areas of Texas Territorial Seas since January 1986. Methods have not changed since the program began.
BAY TRAWLS	Trawls have been systematically used in Texas bays since January 1982; Sabine Lake was added January 1986 and East Matagorda Bay April 1987. Beginning in January 1982, 20 monthly samples were collected in the Galveston, San Antonio and Aransas systems. Beginning in May 1982 current methods were adopted.
ICWW TRAWLS	This program was initiated in 1992.

Table A.3. (Cont'd.)

BEACH SEINE	Beach seines have been systematically used on Texas gulf beaches since October 1987. Between October 1987 and November 1989, three beach seine samples were collected during the 1st-15th and during the 16th-31st of each month along gulf beach shoreline areas. Beginning January 1990 current methods were adopted.
BEACH BAG SEINE	Beach bag seine samples have been systematically used on Texas gulf beaches since October 1977. Between October 1987 and November 1989, three beach bag seine samples were collected during the 1st-15th and during the 16th-31st of each month along gulf beach shoreline areas. Beginning January 1990 current methods were adopted.
BAY BAG SEINE	Bay bag seine samples have been systematically collected in Texas bays since October 1977. Prior to September 1984, sites for sampling with bag seines (monthly) were randomly selected from about 100 stations in each bay system (McEachron and Green 1985) and the seine was pulled 15.2-30.5m parallel to shore for sample collection. Prior to October 1981, six bag seine samples were collected each month in each bay system. During October 1981 through August 1984 10 bag seine samples were collected each month in each bay system; half of the samples were collected during each of the first and last two fullest weeks of each month (McEachron and Green 1985). Beginning September 1984, five stations were sampled during the 1st-15th and during the 16th-31st of each month and the seine was pulled 15.2m parallel to shore for sample collection. During April 1988 through December 1989, 6 bag seine samples were collected during the 1st-15th and during the 16th-31st of each month in each bay system. Beginning January 1990, 8 bag seine samples were collected during the 1st-15th and during the 16th-31st of each month in each bay system. Beginning January 1992 current methods were adopted.

Table A.3. (Cont'd.)

OYSTER REEF DREDGE	Oyster dredges have been systematically used in Texas bays since January 1986. Monthly sample sizes in the Galveston system were: 20 in 1984; 80 in 1985; and 56 in 1986-1991. Monthly sample sizes in the Aransas system were: 56 in 1986-1989; and 26 in 1990-1991. From 1986 to 1991 10 samples per month were collected in Sabine Lake and the Lower Laguna Madre and 26 monthly samples were collected in the Matagorda, San Antonio, Corpus Christi and East Matagorda systems. Beginning January 1992 current methods were adopted.
NON-REEF DREDGE	Non-reef dredge samples were systematically collected in Texas bays from 1985-1989. In 1985 10 monthly samples were collected in the Galveston system. From 1986-1989 10 monthly samples were collected in all bay systems.

Table A.4. Number of samples collected during routine monitoring, by bay, seasons/gear and year.

		Bay system									
		Sabine Lake	Galveston	East Matagorda	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	Coastwide
Bay Bag Seine	1977	0	22	0	22	22	22	22	22	22	154
	1978	0	66	0	66	66	66	66	66	66	462
	1979	0	72	0	72	72	72	72	72	72	504
	1980	0	72	0	72	72	72	72	72	72	504
	1981	0	84	0	84	84	84	84	84	84	588
	1982	0	120	0	120	120	120	120	120	120	840
	1983	0	120	110	120	120	120	120	120	120	950
	1984	0	120	120	120	120	120	120	120	120	960
	1985	0	120	120	120	120	120	120	120	120	960
	1986	120	120	120	120	120	120	120	120	120	1080
	1987	120	120	120	120	120	120	120	120	120	1080
	1988	138	138	138	138	138	138	138	138	138	1242
	1989	144	144	144	144	144	144	144	144	144	1296
	1990	192	192	192	192	192	192	192	192	192	1728
	1991	192	192	192	192	192	192	192	192	192	1728
	1992	240	240	120	240	240	240	240	240	239	2037
Bay Trawl	1977	0	9	0	10	10	0	0	0	10	39
	1978	0	55	0	52	45	0	0	0	55	207
	1979	0	55	0	47	0	0	0	0	55	157
	1980	0	1	0	0	0	0	0	0	0	1
	1981	0	0	0	0	0	0	0	0	0	0
	1982	0	240	0	240	240	160	80	80	160	1200
	1983	0	240	0	240	240	240	120	120	240	1440
	1984	0	240	0	240	240	240	120	120	240	1441
	1985	0	240	0	240	240	240	120	120	240	1440
	1986	240	240	0	240	240	240	120	120	240	1440
	1987	240	240	90	240	240	240	120	120	240	1770
	1988	240	240	120	240	240	240	120	120	240	1800
	1989	240	240	120	240	240	120	120	120	240	1800
	1990	120	240	120	240	240	240	120	120	240	1680
	1991	120	240	119	240	240	240	120	120	240	1679
	1992	120	240	120	240	240	240	120	120	240	1680
Gill Net (Spring)	1975	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1976	0	2	0	1	1	1	2	1	1	9
	1977	0	8	4	4	4	4	6	6	4	40
	1978	0	6	6	8	6	6	6	6	6	50
	1979	0	10	10	11	10	10	8	10	10	79
	1980	0	8	9	9	10	10	10	9	10	75
	1981	0	7	6	7	8	8	7	7	7	57
	1982	0	45	6	45	45	45	45	45	45	321
	1983	0	45	8	45	45	45	45	45	45	323
	1984	0	45	7	45	45	45	45	45	45	322
	1985	0	45	20	45	45	45	45	45	45	335
	1986	45	45	20	45	45	45	45	45	45	380
	1987	45	45	20	45	45	45	45	45	45	380

Table A.4. (Cont'd.)

		Bay system									
		Sabine Lake	Galveston	East Matagorda	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	Coastwide
Gill Net (Spring) (Cont'd.)	1988	45	45	20	45	45	45	45	45	45	380
	1989	45	45	20	45	45	45	45	45	45	380
	1990	45	45	20	45	45	45	45	45	45	380
	1991	45	45	20	45	45	45	45	45	45	380
	1992	45	45	20	45	45	45	45	45	45	380
Gill Net (Fall)	1975	2	8	0	5	5	5	5	5	5	40
	1976	0	12	4	8	8	8	8	8	8	64
	1977	0	8	8	8	8	8	8	8	8	64
	1978	0	7	7	7	7	8	8	8	7	59
	1979	0	18	9	17	17	16	15	17	16	125
	1980	0	11	10	9	9	10	10	10	10	79
	1981	0	45	8	45	45	45	45	45	45	323
	1982	0	45	11	45	45	45	45	45	45	326
	1983	0	45	12	45	45	45	45	45	45	327
	1984	0	45	20	45	45	45	45	45	45	335
	1985	0	45	20	45	45	45	45	45	45	335
	1986	45	45	20	45	45	45	45	45	45	380
	1987	45	45	20	45	45	45	45	45	45	380
	1988	45	45	20	45	45	45	45	45	45	380
	1989	45	45	20	45	45	45	45	45	45	380
	1990	45	45	20	45	45	45	45	45	45	380
	1991	45	45	20	45	45	45	45	45	45	380
	1992	45	45	20	45	45	45	45	45	45	380
ICWW Trawl	1992	72	72	72	72	72	72	72	72	72	884
Non-Reef Dredge	1984	0	60	0	0	0	0	0	0	0	60
	1985	0	240	0	0	0	0	0	0	0	240
	1986	240	240	240	240	240	240	240	240	240	2160
	1987	240	240	240	240	240	240	240	240	240	2160
	1988	240	240	240	240	239	240	240	240	240	2158
	1989	240	240	240	240	240	240	240	0	0	1680
Oyster Reef Dredge	1984	0	240	0	0	0	0	0	0	0	240
	1985	0	959	0	0	0	0	0	0	0	959
	1986	120	672	312	312	312	672	312	0	120	2832
	1987	120	672	312	312	312	672	312	0	120	2832
	1988	120	672	312	312	312	672	312	0	120	2833
	1989	120	672	312	312	312	672	312	0	120	2832
	1990	120	672	312	312	312	672	312	0	120	2471
	1991	120	672	312	312	312	312	312	0	120	2471
	1992	0	360	0	240	240	240	0	0	0	1081

Table A.5. Number of samples collected during routine monitoring in 5 Texas surf zones, by Gulf zone, gear and year.

		Gulf-17	Gulf-18	Gulf-19	Gulf-20	Gulf-21	Coastwide
Beach Bag Seine	1987	9	15	25	21	12	82
	1988	28	56	101	67	42	294
	1989	29	55	91	74	42	291
	1990	30	54	98	70	42	294
	1991	26	58	97	71	42	294
	1992	27	56	84	42	42	251
Beach Seine	1987	9	15	26	22	12	84
	1988	28	56	100	68	42	294
	1989	29	55	91	74	42	291
	1990	30	54	98	70	42	294
	1991	26	58	97	71	42	294
	1992	27	57	83	42	41	250

Table A.6. Number of Gulf Trawl samples collected during routine monitoring in 5 Gulf Zones. By Gulf zone, gear and year.

		Sabine Lake	Galveston	Port O'Connor	Port Aransas	Port Isabel	Coastwide
Gulf Trawl	1985	0	80	80	176	80	416
	1986	112	192	192	192	192	880
	1987	192	192	192	192	192	960
	1988	192	192	192	192	184	952
	1989	192	192	192	184	189	949
	1990	192	192	192	192	192	961
	1991	192	192	192	184	192	961
	1992	192	192	192	184	192	952

Appendix B. Hydrological summary for gill net, bay and beach bag seine, oyster dredge, bay and gulf trawl and beach seine samples.

Table B.1. Mean surface salinity (o/oo) at sampled gill net sites by bay system during spring and fall, 1975-92. ND = no data.

	Bay system																			
	Sabine Lake		Galveston		East Matagorda		Matagorda		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		Coastwide	
Year	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall
1975	ND	ND	ND	13.9	ND	ND	ND	22.2	ND	17.6	ND	18.5	ND	20.0	ND	33.3	ND	25.7	ND	20.5
1976	ND	ND	ND	19.6	ND	20.1	0.0	18.8	ND	17.9	ND	10.9	ND	14.9	35.5	26.0	ND	23.2	12.5	18.9
1977	ND	ND	15.4	23.2	14.2	18.6	19.2	15.0	14.3	19.1	9.0	19.1	18.2	30.9	26.1	37.0	28.5	30.5	18.2	24.0
1978	ND	ND	18.5	21.3	20.8	18.4	19.2	15.6	26.0	13.9	19.0	12.5	26.5	26.2	38.2	39.3	31.8	18.2	24.5	20.4
1979	ND	ND	7.6	13.3	14.0	11.8	11.1	9.6	7.5	12.3	9.4	7.7	18.2	23.4	35.0	28.2	30.3	26.0	15.8	16.1
1980	ND	ND	11.3	22.6	17.0	24.1	14.3	23.4	20.8	18.2	17.4	19.7	30.0	27.0	37.3	24.6	30.3	30.8	21.2	23.5
1981	ND	ND	25.8	10.3	26.8	17.5	20.1	13.6	19.0	10.8	20.2	8.4	29.4	21.5	30.6	25.3	33.1	31.5	25.3	16.4
1982	ND	ND	12.1	20.5	18.3	24.1	12.4	23.0	17.3	26.9	12.1	25.1	23.6	32.8	24.0	39.8	27.0	36.0	17.4	27.8
1983	ND	ND	14.8	11.4	17.5	13.4	20.1	12.7	19.5	17.3	21.6	7.8	29.3	25.1	39.7	34.2	33.7	31.2	24.0	18.4
1984	ND	ND	21.4	19.0	23.1	15.8	23.8	19.0	27.4	29.6	22.1	26.8	30.2	33.6	38.9	44.2	35.1	23.3	27.5	26.1
1985	ND	ND	18.0	22.3	14.7	23.5	11.0	23.3	12.8	23.7	13.4	24.2	22.3	30.3	35.1	39.6	33.0	32.3	20.0	27.0
1986	11.7	13.1	15.0	20.9	25.3	14.1	23.9	22.3	21.9	22.9	21.4	24.4	30.9	36.6	41.7	46.9	34.0	38.2	25.0	27.8
1987	8.2	14.3	19.7	21.5	15.8	13.6	16.1	20.4	12.3	16.1	16.7	13.5	32.8	33.7	28.8	37.5	28.2	34.1	20.6	23.5
1988	7.8	12.1	18.3	21.8	24.9	27.3	25.4	32.4	23.8	23.0	21.3	24.8	33.6	36.8	42.3	47.9	32.8	30.9	26.1	29.1
1989	5.5	8.7	15.9	14.8	26.0	26.3	26.5	28.4	26.5	29.9	30.8	34.3	35.3	36.9	47.2	52.7	30.5	38.3	27.7	30.4
1990	2.0	10.4	12.4	19.3	19.2	27.8	19.6	25.3	23.7	24.3	27.0	22.2	31.5	27.0	41.6	51.9	31.2	39.0	23.9	27.9
1991	0.2	5.4	9.4	17.4	11.7	19.4	11.2	19.5	16.3	25.1	16.9	18.4	26.9	31.0	39.7	36.7	26.1	30.5	18.3	23.4
1992	2.0	12.1	10.4	22.4	12.1	23.4	5.7	23.1	2.7	20.9	4.0	17.6	16.7	26.7	18.9	29.5	24.2	33.5	11.0	23.9

Table B.2. Mean surface water temperature (C) at sampled gill net sites by bay system during spring and fall, 1975-92. ND = no data.

	Bay system																			
	Sabine Lake		Galveston		East Matagorda		Matagorda		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		Coastwide	
Year	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall
1975	ND	ND	ND	20.7	ND	ND	ND	21.2	ND	22.4	ND	17.4	ND	23.9	ND	23.0	ND	24.4	ND	21.6
1976	ND	ND	30.0	18.2	ND	14.5	ND	24.8	ND	24.6	ND	24.0	ND	24.2	27.0	19.6	ND	20.8	29.0	21.7
1977	ND	ND	24.9	20.6	25.0	21.3	25.2	23.1	25.8	23.2	25.6	22.7	25.5	23.3	26.4	21.3	26.6	24.1	25.6	22.4
1978	ND	ND	26.5	21.5	25.6	24.2	25.8	24.1	25.1	24.2	26.3	24.7	27.3	23.5	26.4	23.2	27.0	24.6	26.3	23.5
1979	ND	ND	26.5	22.8	27.4	23.4	27.3	23.6	27.3	24.2	26.8	24.0	27.1	24.5	28.1	25.0	27.4	25.6	27.1	24.1
1980	ND	ND	25.9	24.4	25.9	23.5	26.0	25.6	26.8	24.6	26.8	24.1	27.0	25.2	29.0	27.0	28.6	26.2	27.0	25.2
1981	ND	ND	27.1	25.3	27.3	23.1	26.0	24.6	27.4	25.0	27.4	24.7	27.3	25.2	26.9	25.9	26.9	26.3	27.0	25.2
1982	ND	ND	26.1	24.6	26.9	25.1	27.2	24.6	25.7	25.6	26.2	24.1	26.3	24.1	27.8	24.9	27.6	25.8	26.7	24.8
1983	ND	ND	25.7	25.3	25.8	25.9	25.0	25.5	25.6	25.3	26.2	25.2	26.6	25.3	27.4	27.0	26.4	26.8	26.0	25.7
1984	ND	ND	26.7	25.0	25.7	27.2	25.1	25.3	26.0	25.0	25.8	25.2	26.2	25.0	27.3	25.9	27.5	26.8	26.4	25.5
1985	ND	ND	27.9	25.5	28.6	25.6	27.4	25.0	26.3	27.3	27.5	25.8	26.3	26.0	27.6	26.3	28.2	27.4	27.5	26.1
1986	26.8	26.3	26.4	25.1	27.0	23.9	26.3	25.4	27.2	25.3	27.9	24.8	26.2	24.5	26.3	26.6	27.9	25.7	26.9	25.3
1987	25.7	24.0	26.4	24.0	27.1	24.5	26.4	25.1	26.7	26.3	26.4	24.8	25.9	24.8	27.6	26.2	25.2	25.2	26.4	25.0
1988	25.4	26.2	25.3	25.8	26.2	26.3	25.0	26.9	24.9	27.3	26.9	25.9	24.4	25.8	26.6	27.4	27.4	27.5	25.8	26.6
1989	25.0	24.8	25.7	24.0	28.7	25.6	26.4	24.3	26.6	24.1	26.6	24.1	26.8	25.5	26.5	26.4	27.4	27.0	26.5	24.9
1990	23.3	25.7	24.6	23.8	27.8	25.5	26.8	24.7	25.6	25.2	27.0	24.9	25.7	26.3	27.7	27.0	27.5	26.3	26.2	25.3
1991	27.0	24.9	24.3	23.8	27.8	24.1	26.5	23.6	26.7	25.4	27.0	23.2	28.1	25.0	28.3	25.7	28.6	25.8	26.8	24.5
1992	27.5	23.5	26.3	23.0	24.4	25.2	24.6	24.3	26.7	24.3	27.3	24.7	26.8	23.7	28.0	25.3	27.4	25.5	26.6	24.3

Table B.3. Annual mean surface turbidity at sampled gill net sites by bay system during spring and fall 1975-92. ND = no data.

	Sabine Lake		Galveston		East Matagorda		Matagorda		San Antonio		Aransas		Corpus Christi		Upper Laguna Madre		Lower Laguna Madre		Coastwide	
Year	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall
Jackson Turbidity Units																				
1975	ND	ND	ND	53	ND	ND	ND	30	ND	42	ND	24	ND	27	ND	42	ND	28	ND	37
1976	ND	ND	109	52	ND	157	ND	33	ND	25	ND	63	ND	60	24	51	ND	38	79	50
1977	ND	ND	80	75	118	46	46	67	48	13	41	52	169	47	34	39	40	31	64	50
1978	ND	ND	47	44	36	15	68	74	55	20	55	50	61	47	66	67	37	39	54	48
1979	ND	ND	153	72	38	28	74	66	80	22	70	42	67	51	39	32	34	83	80	55
1980	ND	ND	99	69	67	49	74	33	17	19	53	40	51	36	57	55	64	71	64	48
1981	ND	ND	68	68	62	64	82	64	81	21	43	58	67	39	185	45	87	66	84	55
1982	ND	ND	66	56	82	55	75	47	35	27	91	33	49	38	63	32	113	79	72	47
1983	ND	ND	57	63	61	27	50	40	41	32	49	38	41	42	50	40	59	72	51	48
1984	ND	ND	43	34	27	25	35	44	47	40	40	39	47	38	69	56	113	90	54	47
1985	ND	ND	26	28	59	37	52	51	57	49	46	39	57	41	72	41	98	56	55	42
1986	43	28	32	35	64	37	60	31	46	32	38	41	57	26	61	85	53	59	48	43
Nephelometric Units																				
1987	30	18	18	17	42	19	28	19	26	15	10	7	22	7	14	11	23	13	21	14
1988	21	11	16	11	29	19	16	19	22	21	13	15	24	10	18	14	26	29	19	17
1989	25	9	12	9	16	22	36	15	30	12	22	8	18	12	12	9	45	13	24	11
1990	16	8	9	13	23	13	26	15	38	15	21	13	16	11	24	11	29	14	22	13
1991	15	6	20	8	52	21	29	15	19	13	23	13	13	12	25	18	13	10	21	12
1992	20	10	21	10	22	13	46	17	52	14	41	14	23	11	25	12	22	16	32	13

Table B.4. Annual mean surface salinity (o/oo) at sampled bag seine sites by bay system during 1977-92. ND = no data.

	Bay system									
Year	Sabine Lake	Galveston	East Matagorda	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	Coastwide
1977	ND	21.9	ND	17.6	17.7	20.9	33.8	39.8	33.0	25.4
1978	ND	21.8	ND	19.7	20.6	19.9	29.5	39.6	29.2	25.0
1979	ND	12.2	ND	11.4	11.8	11.1	23.9	31.9	27.3	17.4
1980	ND	20.9	ND	19.9	21.0	19.8	28.1	29.6	28.8	23.4
1981	ND	18.2	ND	19.2	15.6	12.1	25.0	26.0	28.3	20.1
1982	ND	15.9	ND	18.2	17.0	17.6	27.6	29.8	29.7	21.3
1983	ND	12.2	15.4	16.5	17.3	16.8	27.5	36.4	31.7	21.2
1984	ND	19.5	17.8	21.6	23.2	22.6	31.8	39.5	29.9	25.5
1985	ND	17.0	16.9	19.7	17.5	19.7	28.1	36.7	32.1	23.2
1986	10.1	16.1	20.1	19.8	17.0	23.5	32.6	39.7	34.9	24.2
1987	7.6	18.1	15.3	15.4	10.8	13.7	28.7	31.4	31.5	19.9
1988	7.7	20.2	26.5	27.4	22.6	24.3	35.2	44.9	31.9	27.4
1989	6.6	15.1	26.9	26.9	27.4	31.4	35.6	48.6	34.2	28.5
1990	6.4	16.9	23.6	24.8	23.6	26.7	32.4	47.7	35.8	27.2
1991	2.6	12.4	17.3	16.7	19.3	17.7	30.8	40.0	28.8	21.1
1992	5.3	5.2	15.4	13.5	9.4	10.7	22.4	25.3	28.7	16.8

Table B.5. Annual mean surface temperature (C) at sampled bag seine sites by bay system during 1977-92. ND = no data.

	Bay system									
Year	Sabine Lake	Galveston	East Matagorda	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	Coastwide
1977	ND	20.3	ND	20.9	21.7	20.8	20.4	20.6	20.5	20.7
1978	ND	21.4	ND	20.2	21.6	22.3	21.3	22.3	22.4	21.6
1979	ND	22.8	ND	22.8	23.3	23.2	23.6	21.8	23.1	22.9
1980	ND	23.9	ND	21.9	23.2	23.6	23.4	24.6	24.3	23.5
1981	ND	22.5	ND	21.5	22.4	23.7	22.6	24.1	24.6	23.0
1982	ND	23.9	ND	23.3	23.1	24.2	23.4	24.1	23.9	23.7
1983	ND	24.0	23.6	21.9	21.7	24.3	24.3	25.4	24.9	23.8
1984	ND	23.9	22.3	22.5	21.9	24.0	23.3	24.0	24.2	23.4
1985	ND	24.4	24.1	23.5	24.0	23.9	23.5	23.5	24.4	24.0
1986	23.7	24.2	23.4	23.3	23.5	25.2	23.6	24.5	25.0	24.2
1987	22.0	22.8	23.8	23.4	22.2	23.1	24.1	24.2	23.8	23.2
1988	21.7	23.4	23.9	23.4	21.1	24.3	23.3	23.9	25.1	23.5
1989	21.4	23.1	22.9	22.3	23.0	22.8	24.3	25.0	25.0	23.4
1990	21.7	22.6	24.7	23.6	23.0	24.4	24.9	24.9	25.5	23.9
1991	22.9	22.3	24.5	22.2	23.2	23.1	24.8	25.0	25.4	23.5
1992	22.2	21.7	22.2	21.4	23.3	22.6	23.4	24.3	25.9	23.0

Table B.6. Annual mean surface turbidity at sampled bag seine sites by bay system during 1977-92. ND = no data.

	Bay system									
Year	Sabine Lake	Galveston	East Matagorda	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	Coastwide
Jackson Turbidity Units										
1977	ND	94	ND	60	27	50	40	50	30	55
1978	ND	78	ND	55	33	41	43	51	34	51
1979	ND	90	ND	70	31	53	44	47	59	60
1980	ND	90	ND	42	24	47	52	75	73	61
1981	ND	87	ND	54	25	65	44	107	95	71
1982	ND	105	ND	50	31	60	46	69	87	69
1983	ND	96	88	54	30	51	46	57	48	58
1984	ND	79	42	41	36	48	41	82	61	57
1985	ND	52	67	45	54	47	40	108	68	59
1986	46	84	59	46	51	46	44	60	80	61
Nephelometric Units										
1987	24	28	39	36	32	9	26	15	17	24
1988	26	26	28	29	29	28	20	22	24	26
1989	25	29	26	25	40	22	20	22	22	26
1990	21	29	26	30	31	23	21	20	23	26
1991	28	25	32	33	42	25	17	21	15	26
1992	24	23	34	41	43	31	21	17	25	29

Table B.7. Annual mean bottom salinity (o/oo) at sampled oyster dredge "reef" sites in Texas bay systems from 1984-92. ND = no data.

	Bay system				
Year	Galveston	Matagorda	San Antonio	Aransas	Combined average
1984	16.7	ND	ND	ND	16.7
1985	17.6	ND	ND	ND	17.6
1986	15.5	22.0	18.2	21.0	18.9
1987	16.3	16.6	10.9	14.2	14.5
1988	19.6	28.1	22.9	25.0	23.7
1989	16.0	29.2	27.9	29.7	25.1
1990	16.0	24.4	24.1	26.2	22.3
1991	12.3	17.4	19.5	18.6	16.7
1992	14.9	11.8	9.2	8.7	11.4

Table B.8. Annual mean bottom temperature (C) at sampled oyster dredge "reef" sites in Texas bay systems from 1984-92. ND = no data

	Bay system				
Year	Galveston	Matagorda	San Antonio	Aransas	Combined average
1984	21.0	ND	ND	ND	20.9
1985	22.0	ND	ND	ND	22.0
1986	22.8	22.4	22.3	22.1	22.4
1987	21.2	22.2	21.4	19.9	21.3
1988	21.6	21.8	21.6	22.0	21.7
1989	20.9	20.8	21.6	20.4	21.0
1990	21.7	22.6	22.6	23.0	22.4
1991	21.6	21.9	21.8	21.3	21.7
1992	21.8	20.8	22.6	21.4	21.7

Table B.9. Annual mean bottom turbidity at sampled oyster dredge "reef sites" in Texas bay systems from 1984-92. ND = no data.

	Bay system				
Year	Galveston	Matagorda	San Antonio	Aransas	Combined average
Jackson Turbidity Units					
1984	25	ND	ND	ND	25
1985	47	ND	ND	ND	47
1986	40	51	48	37	45
Nephelometric Units					
1987	14	22	30	8	20
1988	15	21	16	16	17
1989	19	20	27	16	21
1990	14	22	26	16	20
1991	16	23	23	20	21
1992	15	32	37	31	30

Table B.10. Annual mean bottom salinity (o/oo) at sampled bay trawl sites in Texas bay systems from 1977-92. ND = no data.

	Bay system									
Year	Sabine Lake	Galveston	East Matagorda	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	Coastwide
1977	ND	20.5	ND	17.9	13.9	19.5	ND	ND	ND	18.5
1978	ND	20.1	ND	19.3	14.7	20.6	ND	ND	ND	19.0
1979	ND	9.0	ND	10.3	5.7	ND	ND	ND	ND	8.8
1980	ND	22.8	ND	ND	ND	ND	ND	ND	ND	22.8
1981	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1982	ND	16.0	ND	22.4	16.3	19.2	30.3	34.1	35.8	21.3
1983	ND	10.7	ND	20.4	16.9	19.6	29.8	36.9	33.0	19.1
1984	ND	18.5	ND	25.2	22.9	25.2	32.5	40.0	31.0	24.6
1985	ND	17.0	ND	21.0	16.2	21.2	29.8	37.3	33.1	21.5
1986	7.8	14.8	ND	24.5	17.3	22.7	31.1	39.6	36.1	21.6
1987	7.3	15.1	16.7	20.6	9.9	18.1	27.5	31.9	33.3	18.6
1988	7.8	19.2	28.7	29.6	21.7	25.7	34.9	45.0	34.8	25.6
1989	6.2	16.4	27.6	30.2	26.8	30.4	35.4	49.3	35.9	26.1
1990	5.7	15.1	25.8	26.1	21.6	27.0	32.0	48.6	36.3	23.4
1991	2.2	11.9	18.7	20.4	17.7	20.0	29.9	41.4	31.5	19.2
1992	5.5	13.6	16.6	15.0	7.9	10.7	22.9	24.6	30.7	15.0

Table B.11. Annual mean bottom temperature (C) at sampled bay trawl sites in Texas bay systems from 1977-92. ND = no data.

	Bay system									
Year	Sabine Lake	Galveston	East Matagorda	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	Coastwide
1977	ND	18.7	ND	17.9	21.1	17.8	ND	ND	ND	18.8
1978	ND	21.6	ND	23.5	24.2	24.8	ND	ND	ND	22.9
1979	ND	22.5	ND	21.6	25.5	ND	ND	ND	ND	22.8
1980	ND	23.8	ND	ND	ND	ND	ND	ND	ND	23.8
1981	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1982	ND	21.8	ND	24.8	23.3	23.1	25.0	26.1	25.1	23.5
1983	ND	21.5	ND	21.7	21.7	22.3	22.2	21.8	22.7	21.8
1984	ND	22.2	ND	22.8	21.6	23.4	21.8	22.0	22.8	22.3
1985	ND	21.9	ND	22.5	22.5	21.7	21.9	23.0	22.8	22.2
1986	22.1	22.2	ND	23.3	23.1	22.1	21.8	23.3	22.5	22.6
1987	20.0	21.5	24.3	21.9	21.8	21.3	21.1	22.3	22.6	21.6
1988	21.8	21.8	21.1	20.2	22.1	21.3	22.2	22.1	24.5	21.6
1989	20.8	20.4	21.0	20.5	21.1	20.5	21.8	23.8	23.6	21.0
1990	21.2	21.4	22.7	22.6	21.9	22.6	23.4	23.8	24.2	22.3
1991	21.7	21.5	22.0	21.5	22.2	21.7	22.8	23.4	23.2	21.9
1992	20.7	21.6	26.0	21.1	22.6	21.4	21.4	22.9	23.5	21.7

Table B.12. Annual mean bottom turbidity at sampled bay trawl sites in Texas bay systems from 1983-92. ND = no data.

	Bay system									
Year	Sabine Lake	Galveston	East Matagorda	Matagorda	San Antonio	Aransas	Corpus Christi	Upper Laguna Madre	Lower Laguna Madre	Coastwide
Jackson Turbidity Units										
1983	ND	101	ND	25	26	105	77	76	38	67
1984	ND	75	ND	30	30	71	62	70	38	55
1985	ND	41	ND	33	55	42	32	52	59	41
1986	35	37	ND	45	53	41	42	49	67	43
Nephelometric Units										
1987	15	17	19	22	29	7	13	15	12	18
1988	17	14	20	23	17	13	15	14	15	16
1989	16	18	27	19	22	19	15	12	14	18
1990	13	18	20	15	28	17	11	15	13	17
1991	18	16	22	19	22	19	10	10	8	17
1992	19	18	17	24	37	30	12	9	18	21

Table B.13. Annual mean bottom salinity (o/oo) at sampled gulf trawl sites in the Texas Territorial Sea 1985-92. ND = no data.

Year	Sabine Lake	Galveston	Port O'Connor	Port Aransas	Port Isabel	Coastwide
1985	ND	30.6	32.3	30.9	31.7	31.4
1986	29.1	29.7	32.4	30.5	32.7	30.9
1987	27.4	28.8	33.5	34.4	34.4	31.7
1988	27.3	28.3	30.7	32.4	35.0	30.7
1989	25.4	29.9	32.9	30.9	33.7	30.6
1990	25.3	29.5	30.5	32.4	33.9	30.3
1991	23.7	28.5	31.0	31.9	31.2	29.3
1992	26.5	29.4	31.5	32.4	30.7	30.1

Table B.14. Annual mean bottom temperature (C) at sampled gulf trawl sites in the Texas Territorial Sea 1985-92. ND = no data.

Year	Sabine Lake	Galveston	Port O'Connor	Port Aransas	Port Isabel	Coastwide
1985	ND	23.4	23.6	22.5	25.4	23.7
1986	25.6	22.0	22.8	22.3	22.7	23.1
1987	21.1	21.7	22.1	22.4	21.9	21.8
1988	21.1	21.6	21.2	22.2	21.8	21.6
1989	19.8	21.5	21.3	21.7	21.8	21.2
1990	21.3	21.9	21.8	22.2	21.8	21.8
1991	22.0	22.3	22.1	21.8	21.5	21.9
1992	19.9	21.5	20.9	22.5	20.9	21.1

Table B.15. Annual mean bottom turbidity at sampled gulf trawl sites in the Texas Territorial Sea 1985-92. ND = no data.

Year	Sabine Lake	Galveston	Port O'Connor	Port Aransas	Port Isabel	Coastwide
Jackson Turbidity Units						
1985	ND	31	37	25	24	30
1986	30	24	29	24	24	26
Nephelometric Units						
1987	10	10	11	4	6	8
1988	6	9	10	4	4	7
1989	7	9	9	7	4	7
1990	9	11	7	8	3	8
1991	11	12	7	8	3	8
1992	13	10	10	10	4	9

Table B.16. Annual mean shoreline salinity (o/oo) at sampled 60.9-m beach seine sites in 5 Texas gulf areas 1987-92.

Year	Gulf-17	Gulf-18	Gulf-19	Gulf-20	Gulf-21	Coastwide
1987	28.0	29.8	30.7	32.9	33.5	30.7
1988	28.6	30.8	31.9	35.8	36.8	32.2
1989	22.6	25.3	31.3	32.9	32.9	28.9
1990	24.2	26.5	31.3	31.5	35.6	29.5
1991	24.1	26.1	28.2	30.9	31.5	27.8
1992	27.0	30.3	30.9	32.1	31.7	30.2

Table B.17. Annual mean shoreline temperature (C) at sampled 60.9-m beach seine sites in 5 Texas gulf areas 1987-92.

Year	Gulf-17	Gulf-18	Gulf-19	Gulf-20	Gulf-21	Coastwide
1987	21.0	21.0	22.2	23.4	22.6	22.0
1988	26.7	26.5	26.9	27.5	26.5	26.8
1989	24.2	26.0	26.3	26.6	26.7	25.9
1990	26.1	26.4	26.3	26.9	27.1	26.5
1991	25.8	26.9	26.6	26.8	27.5	26.6
1992	26.5	26.0	25.1	25.9	26.6	25.9

Table B.18. Annual mean shoreline turbidity (NTU) at sampled 60.9-m beach seine sites in 5 Texas gulf areas 1987-92.

Year	Gulf-17	Gulf-18	Gulf-19	Gulf-20	Gulf-21	Coastwide
1987	51	36	41	16	12	35
1988	43	23	30	9	10	26
1989	131	26	39	13	7	50
1990	48	31	28	14	10	28
1991	73	31	31	12	18	36
1992	71	22	35	18	22	37

Table B.19. Annual mean shoreline salinity (o/oo) at sampled 18.3-m bag seine sites in 5 Texas gulf areas 1987-92.

Year	Gulf-17	Gulf-18	Gulf-19	Gulf-20	Gulf-21	Coastwide
1987	27.7	30.0	30.3	33.1	33.6	30.5
1988	28.6	30.8	31.9	35.8	36.8	32.3
1989	22.5	25.3	31.3	32.9	32.9	28.9
1990	25.2	26.6	31.1	32.2	35.5	29.8
1991	23.9	26.1	28.0	31.2	31.5	27.8
1992	27.2	30.0	30.9	32.0	31.7	30.2

Table B.20. Annual mean shoreline temperature (C) at sampled 18.3-m bag seine sites in 5 Texas gulf areas 1987-92.

Year	Gulf-17	Gulf-18	Gulf-19	Gulf-20	Gulf-21	Coastwide
1987	21.9	21.2	22.3	23.8	22.6	22.4
1988	26.8	26.8	26.9	27.5	26.4	26.9
1989	24.3	26.2	26.4	26.6	26.7	26.0
1990	26.2	26.7	26.3	27.1	27.1	26.6
1991	25.8	27.3	26.7	26.9	27.5	26.7
1992	26.6	26.3	25.2	26.0	26.6	26.0

Table B.21. Annual mean shoreline turbidity (NTU) at sampled 18.3-m bag seine sites in 5 Texas gulf areas 1987-92.

Year	Gulf-17	Gulf-18	Gulf-19	Gulf-20	Gulf-21	Coastwide
1987	56	41	45	16	12	38
1988	38	24	28	9	10	24
1989	134	29	37	13	7	51
1990	44	32	28	14	10	28
1991	73	31	31	12	18	36
1992	69	24	37	14	23	37

Appendix C. Summary of SEAMAP samples by year and depth zone for brown shrimp, white shrimp, pink shrimp and blue crab off Texas during 1982-92.

Table C.1. Mean catch rates (No./h) and mean size (mm) of select shellfishes caught during SEAMAP[a] sampling off Texas during June-July 1982-92. Blanks indicate no measurement taken.

Year	Depth (m)	Samples (No.)	Brown Shrimp		White Shrimp		Pink Shrimp		Blue Crab	
			No./h	Length	No./h	Length	No./h	Length	No./h	Length
1982	0-18	22	1,222	108	15	173	161	136	8	
	19-37	50	1,427	115	0		20	138	1	
	38-55	29	138	145	0		<1	126	0	
	56-73	5	117	179	0		0		0	
	74-91	3	79	182	0		0		0	
1983	0-18	28	254	99	20	153	195	127	8	
	19-37	47	1,445	119	1	167	87	121	4	
	38-55	24	304	132	0		1	118	1	
	56-73	8	66	156	0		0		0	
	74-91	2	71	168	0		0		0	
1984	0-18	16	733	116	30	174	4	151	6	
	19-37	40	1,594	116	1	168	3	150	0	
	38-55	16	544	131	0		0		0	
	56-73	12	194	138	0		0		0	
	74-91	5	86	151	0		0		0	
1985	0-18	30	450	98	41	168	15	135	20	
	19-37	40	1,362	112	2	167	10	131	4	
	38-55	14	150	127	0		<1	127	0	
	56-73	5	154	144	0		0		0	
	74-91	1	36	179	0		0		0	
1986	0-18	35	250	98	33	165	18	116	11	
	19-37	43	809	108	0		42	130	10	
	38-55	10	311	124	0		0		0	
	56-73	5	176	136	0		0		0	
	74-91	3	49	147	0		0		0	
1987	0-18	74	189	103	15	159	24	115	3	
	19-37	56	606	107	3	162	19	108	7	
	38-55	17	26	142	0		<1	180	2	
	56-73	8	16	177	0		0		1	
	74-91	7	11	177	0		0		0	
1988	0-18	75	227	106	4	166	22	110	5	
	19-37	50	309	113	0		2	127	2	
	38-55	17	18	126	0		0		0	
	56-73	7	4	180	0		0		0	
	74-91	7	3	198	0		0		0	
1989	0-18	85	556	101	16	167	51	116	6	111
	19-37	54	928	118	4	126	24	116	1	144
	38-55	12	212	129	0		<1	135	0	
	56-73	8	40	140	0		0		0	
	74-91	7	11	159	0		0		0	

Table C.1. (Cont'd.)

Year	Depth (m)	Samples (No.)	Brown Shrimp		White Shrimp		Pink Shrimp		Blue Crab	
			No./h	Length	No./h	Length	No./h	Length	No./h	Length
1990	0-18	74	279	113	17	171	18	126	5	127
	19-37	48	850	123	1	156	62	122	2	81
	38-55	16	202	136	0		<1	135	1	79
	56-73	10	76	140	0		0		0	
	74-91	8	16	154	0		0		<1	164
1991	0-18	92	202	106	31	167	27	125	14	90
	19-37	51	1,153	125	7	173	64	136	4	143
	38-55	20	186	143	0		<1	157	1	135
	56-73	10	76	171	0		0		1	96
	74-91	9	41	176	0		0		0	
1992	0-18	85	234	100	36	166	15	112	4	114
	19-37	58	217	127	<1	185	6	121	1	148
	38-55	17	22	158	0		0		<1	248
	56-73	10	15	180	0		0		0	
	74-91	8	10	186	0		0		0	

[a]Data presented here were collected by R/V OREGON II (NMFS) in conjunction with TPWD research vessels. The data were made available by the Southeast Area Monitoring and Assessment Program (SEAMAP). Samples collected with 12.2-m trawl, except 6.1-m trawl by TPWD vessels since 1987. Data normalized to 12.2-m trawl by NMFS.

Table C.2. Mean catch rates (No./h) and mean size (mm) of select shellfishes caught during SEAMAP[a] sampling off Texas during November 1986-92. Blanks indicate no measurement taken.

Year	Depth (m)	Samples (No.)	Brown shrimp		White shrimp		Pink shrimp		Blue crab	
			No./h	Length	No./h	Length	No./h	Length	No./h	Length
1986	0-18	12	71		77		26		0	
	19-37	34	93		15		2		1	
	38-55	26	68		0		0		0	
	56-73	12	41		0		0		0	
	74-91	4	22		0		0		0	
1987	0-18	65	20		89		18		0	
	19-37	40	50		7		2		<1	
	38-55	12	21		0		0		0	
	56-73	2	6		0		0		0	
	74-91	1	0		0		0		0	
1988	0-18	77	21		98		9		0	
	19-37	49	48		15		12		0	
	38-55	16	44		0		1		0	
	56-73	10	15		0		0		0	
	74-91	7	8		0		0		0	
1989	0-18	78	21	100	137	102	16	124	2	45
	19-37	60	68	140	23	117	10	123	<1	83
	38-55	20	71	169	<1		1	124	<1	94
	56-73	7	43	173	0		0		<1	74
	74-91	9	5	185	0		0		0	
1990	0-18	64	18	105	56	129	11	137	<1	70
	19-37	59	69	140	5	159	7	126	<1	87
	38-55	22	60	168	<1	185	1	129	1	75
	56-73	9	34	173	0		0		1	74
	74-91	6	7	190	0		0		0	
1991	0-18	88	28	107	31	124	14	108	<1	52
	19-37	57	120	134	4	166	4	107	<1	133
	38-55	20	65	161	0		0		1	135
	56-73	12	31	172	0		0		0	
	74-91	11	12	181	0		0		0	
1992	0-18	89	11	115	135	115	3	131	<1	34
	19-37	55	80	135	8	157	1	122	<1	141
	38-55	18	42	164	0		0		<1	141
	56-73	8	49	172	0		0		0	
	74-91	4	33	176	0		0		0	

[a]Data presented here were collected with 12.2-m trawl by R/V OREGON II (NMFS) and with 6.1-m trawl by TPWD research vessels. The data were made available by the Southeast Area Monitoring and Assessment Program (SEAMAP). Data normalized to 12.2-m trawl by NMFS.

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