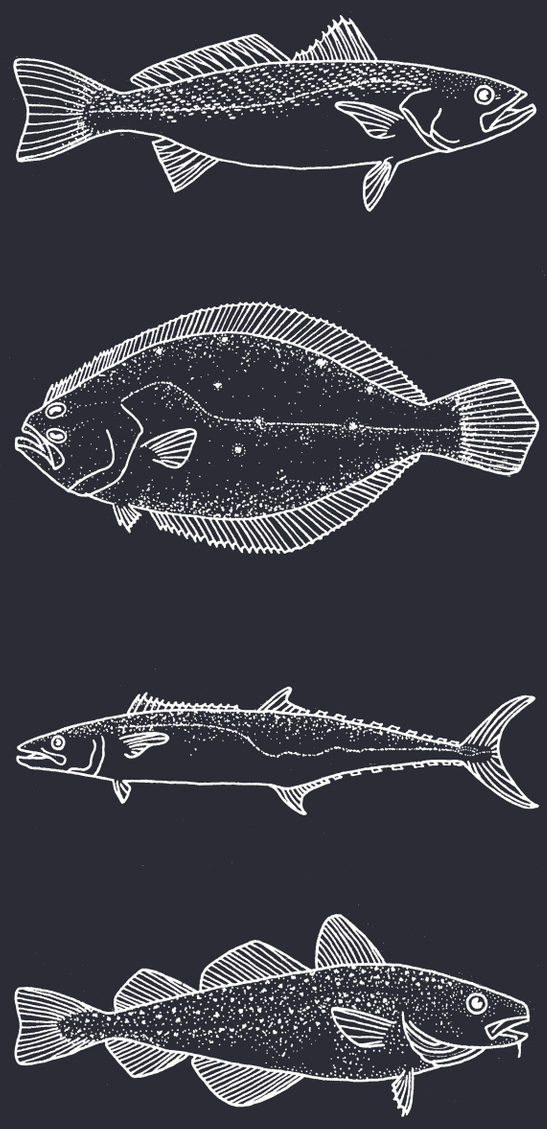
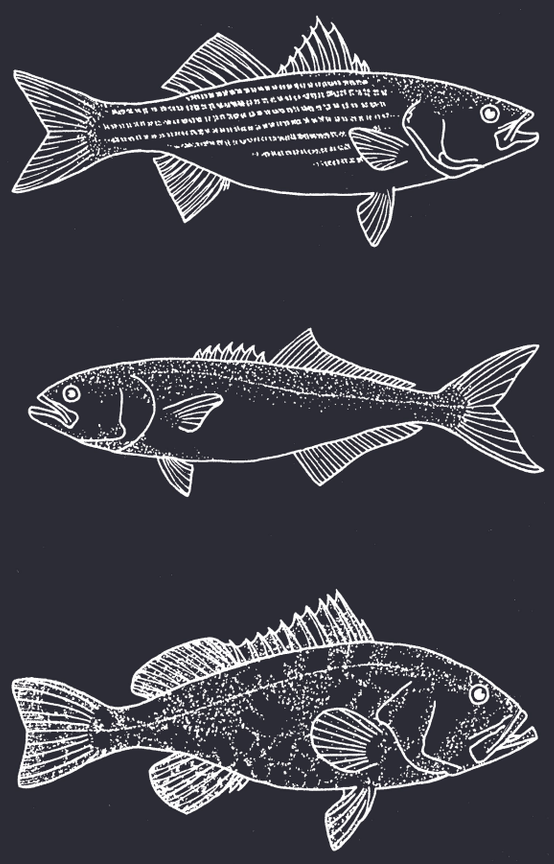
UNITED STATES DEPARTMENT OF COMMERCE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NATIONAL MARINE FISHERIES SERVICE

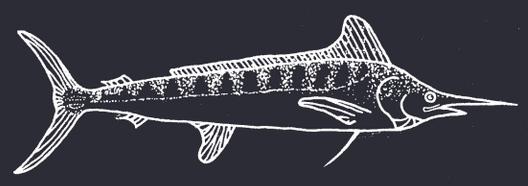


Anglers' Guide TO THE *United States Atlantic Coast*



SECTION VI

False Cape, Virginia to Altamaha Sound, Georgia



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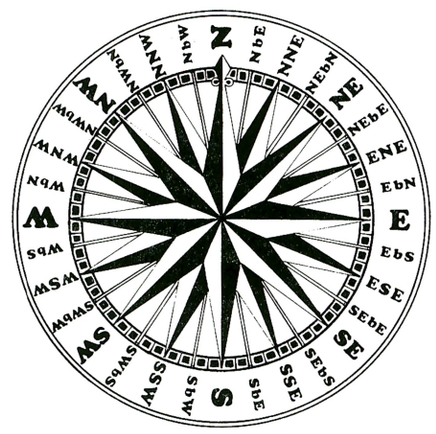
Anglers' Guide

TO THE

United States Atlantic Coast

FISH, FISHING GROUNDS & FISHING FACILITIES



BRUCE L. FREEMAN AND *LIONEL A. WALFORD*

SECTION VI

False Cape, Virginia to Altamaha Sound, Georgia

JULY 1976

SEATTLE, WASH.

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This publication is a geographical study of marine recreational fishing. It is one of eight sections which together cover the east coast of the United States from Maine to Florida and from the innermost reaches of the estuarine zone seaward to the edge of the continental shelf. Begun several years ago, this study was planned towards two types of publications. The first type, of which this is an example, is an atlas dealing with the location of the fishing grounds, the various fishing and boating facilities, local conditions, and characteristics of fishing, as well as the diagnostic features, life habits, and environmental requirements of fishes that are of particular interest to anglers. The second type of publication in the original plan, for which much of the data have been gathered, is to be an assessment of our knowledge about marine fishes which anglers catch, including their life conditions, and the status of those fishes in the 1970's. The aim of the whole study is to compare conditions now with those a century ago when a similar effort was carried through as the first major work of the United States Commission of Fish and Fisheries, the forerunner of the National Marine Fisheries Service.

In gathering information along the coast we have questioned hundreds of fishermen — operators of charter boats, party boats, draggers, gill net boats, longline boats, pound nets and weirs, lobster and sea bass pots, beach seines, and bait seines; also, anglers, outdoor writers, and operators of boat liveries, bait and tackle stores, fishing piers, and marinas. We pave questioned scores of biologists of the various state and federal laboratories, especially the staff at Sandy Hook. State agencies for parks, forests, and recreational lands, as well as the National Park Service and the United States Bureau of Sport Fisheries and Wildlife, generously supplied us with information. Throughout our task we had the prompt cooperation of university, state, and federal librarians. Several graphic artists and printers gave us technical advice about the production of this publication. Joseph Giacalone and Barry Martin designed the publication and did the cartography. Susan Smith at the Sandy Hook Laboratory made the fish drawings. People who have given information or have been otherwise helpful in preparing this particular section are listed alphabetically below. Without their help this work would not have been possible.

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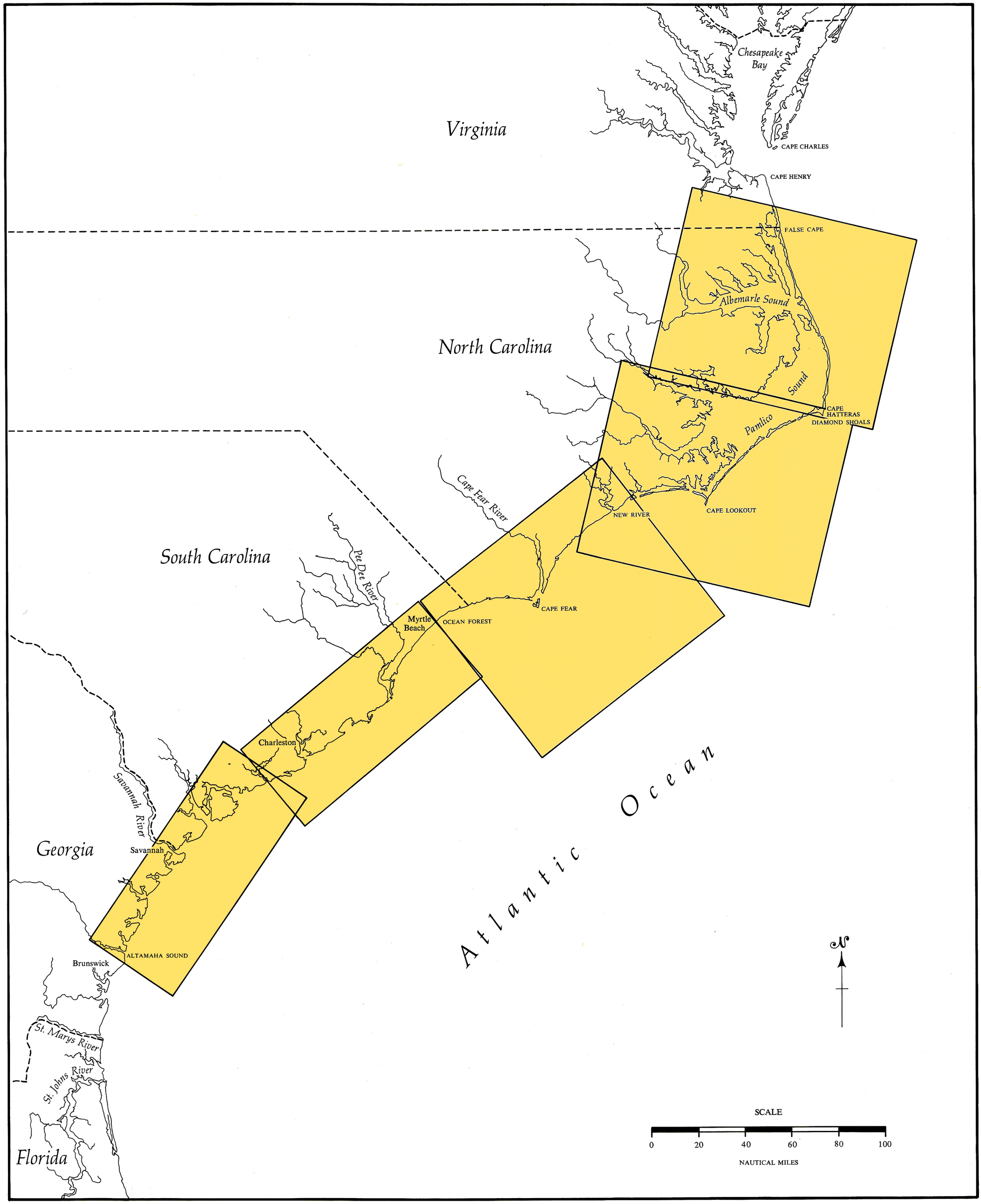

Chesapeake Bay
Virginia
CAPE CHARLES
CAPE HENRY
FALSE CAPE
Albemarle Sound
North Carolina
Pamlico Sound
CAPE HATTERAS
DIAMOND SHOALS
CAPE LOOKOUT
NEW RIVER
Cape Fear River
Pee Dee River
South Carolina
CAPE FEAR
Myrtle Beach
OCEAN FOREST
Charleston
Savannah River
Georgia
Savannah
ALTAMAHA SOUND
Brunswick
St. Marys River
St. Johns River
Florida
Atlantic Ocean
N
SCALE
0
20
40
60
80
100
NAUTICAL MILES

The section of coast lying between False Cape, Virginia, and Altamaha Sound, Georgia, is characterized by sandy barrier islands, tidal waterways, and saltmarshes, all of which vary as we proceed southward. From just north of False Cape to about Cape Lookout, North Carolina, a series of long, narrow, low barriers, called the Outer Banks, parallels the coastline and separates the sea from a 2,500-square-mile system of large interconnecting sounds. Only five inlets provide passage from the sea into this vast enclosure. These sounds of North Carolina appear to be the most important nursery grounds for coastal migratory fishes along the entire Atlantic seaboard. From Cape Lookout to about Winyah Bay, South Carolina, the narrow, low, sandy barriers continue to skirt most of the coast, though there they are shorter than the Outer Banks and the sounds behind are at most only a mile or two wide. They are connected with the sea by 2 dozen or so inlets. From Winyah Bay to Altamaha Sound, Georgia, the barriers become a series of rather large, irregularly shaped islands, called sea islands. Between these and the mainland lies one of the largest coastal saltmarsh areas in the world, through which cuts a system of anastomosing waterways.

The line of the outer coast along a large stretch of this section is carved into three long, crescent-shaped embayments, demarcated by four prominent points of land — Cape Hatteras, Cape Lookout, and Cape Fear in North Carolina and Cape Romain in South Carolina. How these embayments with their capes were formed is not precisely understood, though it appears that prevailing ocean currents were, and still are, of primary importance in creating them. Along here the principal current, the Gulf Stream, flows northward along the edge of the continental shelf, at speeds of 1 to 4 knots. As great volumes of water break away from the nearshore margin of the stream, they become mixed with continental-shelf water and evidently form a series of three counterclockwise eddies, each of which cuts into one of the embayments.

The nearly flat, sandy expanse of land, called the coastal plain, begins at the fall line some 150 miles inland and continues out from shore to about the 600-foot contour. The submerged part of the coastal plain forms the gently sloping plateau of the continental shelf. The width of the shelf, which is about 55 miles off False Cape, Virginia, diminishes to less than 20 miles off Cape Hatteras, North Carolina. South of there the shelf broadens continuously until it reaches 75 miles off Georgia.

The sea floor over the continental shelf varies from smooth, almost featureless expanses of sand, to shoals and dome-shaped sand ridges, to outcroppings and ledges of rock and stone and coral heads. Scattered throughout are the wrecks of over 500 vessels with their cargoes. Between Cape Hatteras and Cape Lookout some 50 or so of these wrecks, especially the largest ones, were sunk during World War II by German U-boats which struck at coastal shipping as well as the convoys gathering for the crossing to Europe and Africa. It is no wonder that this stretch of water became known for awhile as Torpedo Junction after a popular song of the war years, *Tuxedo Junction!* Of all the vessels that have been recorded as sunk along this section by one cause or another, most have been either buried by the shifting sand or eaten away by boring organisms and rust.

Along the open sea coast of this section, as elsewhere along the east coast, high and low tides occur twice daily. Here, however, there is more geographic variation in the tidal range than anywhere else south of Cape Cod, Massachusetts. Between False Cape and Cape Hatteras where the shoreline is nearly straight, the tidal range is between 3 and 3½ feet. Between Cape Hatteras and Cape Canaveral, Florida, the shoreline is deeply concave. In the middle of this concavity, about off Savannah, Georgia, the sea floor slopes much more gradually than at either end. The combination of the shoreline's shape and the bathymetric configuration produce a funnel effect, causing tides to be highest in the center and lowest at the ends. Thus, at Tybee Light off Savannah and at Sapelo Island, Georgia, the tidal range is 7 feet. Northward from about Savannah it progressively decreases to 5½ feet at Charleston, South Carolina, to 4 feet at Cape Fear, North Carolina. From Savannah southward, the range progressively decreases to 6 feet at Fernandina Beach, Florida, to 5 feet at St. Augustine, Florida, to 3½ feet at Cape Canaveral.

Tidal ranges within the bays and sounds vary according to location. In Back Bay and Currituck Sound in northern North Carolina there are no detectable tides, and in the large Albemarle-Pamlico Sound complex the tidal range is often less than one-half foot. Here, winds are the principal force controlling the level of the water. From about Bogue Sound in central North Carolina, where the tides range only about 2½ feet, they gradually increase to 5 feet in the estuaries near Charleston and to 8 feet in those near Savannah. Some coastal rivers have complicated tidal patterns, especially those south of Charleston. At the mouths of these rivers the tidal range is that of the open sea, but as one proceeds upstream it increases as much as 3 feet more. This can happen within a mile or as far as a dozen miles upstream; beyond that, it decreases.

Along this stretch of coast summers are warm and long, and winters mild and short. From about mid-April in the northernmost area and mid-March in the southernmost, to early November, the weather is warm, the humidity high, and the winds usually gentle. The prevailing southerly or southwesterly winds bring warm, moist air from the Gulf of Mexico, and the weather usually remains uniform for weeks at a time. The calmest winds and highest temperatures, occasionally reaching over 100°F, occur during July and August. Even though skies are clear much of the time during summer, there are periods of frequent showers or thunderstorms. Gale force winds sometimes accompany thunderstorms, and when they do they can cause serious trouble to small boatmen in unprotected waters.

Anytime between May and November severe tropical cyclonic storms, called hurricanes, occasionally strike this section of coast. It is from August to October, however, that they are most common and intense. The very high tides and exceptionally large waves raised by these storms batter the coast, eroding great sections of the beach and often causing considerable damage to shore installations as well as to boats and their dockage. As a hurricane approaches, the strong easterly winds push huge volumes of water along ocean beaches, through the inlets, into the sounds, and against the mainland shore. After the eye, i.e., the calm section in the hurricane's center, passes, the winds shift around to a westerly direction. Now the seawater plus the runoff from the torrential rains are pushed back to the barrier islands. The resulting high water washing over low places along these islands often forms new inlets, most of which remain open only a short time before being filled with sand.

Fall is a short transitional period in which the temperature diminishes, and the warm, gentle southerlies gradually become more variable, then shift to northerly and become progressively stronger. Winter is marked by brief stormy periods followed by crisp, clear days. The combination of a few warm days followed by a sudden drop in temperature at night sometimes causes fog. This, however, usually burns off by the afternoon. Only occasionally do severe winter storms with sleet, snow, and freezing temperatures affect this area. When they do, the accompanying winds often reach gale force. Usually these blow out of the south and west, then swing around to the north and east. Confronted with this situation, ship captains have sought refuge on the north and lee sides of the capes only to have the winds shift suddenly, thus exposing them to face the full fury of a northeaster. In olden days sailing ships, beating upwind into the teeth of such a gale in close water, often foundered, broached, and then sank or were driven ashore before-the-wind. This accounts for over two-thirds of the more than 350 vessels wrecked along the beaches of the Carolinas being located on the north and east sides of the capes.

Spring, like fall, is a short transitional period. The frequency of storms decreases, winds prevail from the southwest, temperatures rise, and the weather becomes more uniform as it gradually merges into the summer regime.

It is generally accepted that of all environmental properties combining to influence the movements of sea fishes, the dominating one is temperature. In this section the water temperature over most of the continental shelf is governed chiefly by the weather while along the edge of the shelf it is governed by the Gulf Stream flowing from warmer latitudes.

Of all the species of fishes occurring along shore and in the estuaries during the year, about a third tolerate the seasonal range in water temperature between 35° and 90°F and so remain permanent residents. These species, of which the most abundant are silversides and anchovies, may move short distances into deeper water to avoid extreme winter cold or summer heat; but none of them seem to go very far.

Of the fishes living farther out in moderate depths, nearly all, including sea basses, porgies, snappers, groupers, and grunts, are permanent residents living at the bottom in a band of water which varies only between 60° and 68°F. This band extends the year-round from south of the Florida Keys at least to Cape Hatteras. Its northern end in winter marks the limit beyond which the hardier of the warm-water reef-dwelling fishes are not permanent residents. And although in summer this band extends as far as Ocean City, Maryland, the great majority of these fishes do not move with it, for they are closely associated with coral reefs, and these end at about Cape Hatteras. True, we do find a few reef fishes in northern waters every summer, but usually these are either the very young ones which have been carried there by the Gulf Stream or very large and old ones which tend to roam.

Nearly a quarter of the species occurring in this section remain within the sounds and bays only through their first year or two of life. Then as they become older almost all move off into deeper ocean water for the coldest months and return to the protected waters in the spring. This becomes the migratory pattern for the rest of their lives. Among these are the sea trouts, the drums, the kingfishes, spot, croaker, and the flukes. Beginning in late fall some of them, notably spot, croaker, and the flukes, move offshore, where they spawn during winter. Almost immediately after hatching the young move inshore, through the inlets, and into the upper reaches of the sounds and bays. Meanwhile the adults remain offshore, not to return until spring.

Most of the species occurring in this section are seasonal migrants generally arriving in spring and remaining until fall. Their arrivals, sojourns, and departures coincide with the occurrence of a band of surface water ranging from 72° to 84°F that extends seasonally from south of the Florida Keys to North Carolina. These warm-water migrants travel either alongshore (pompano, tarpon, Spanish mackerel) or in deeper water farther offshore (king mackerel, sailfish, barracuda, blackfin tuna, Atlantic bonito, skipjack tuna, white and blue marlins). As the water gradually cools in the fall, both groups of these fishes make their return migrations.

A few individuals of other species which are most abundant in this section only during the warm months include little tuna, wahoo, great amberjack, and dolphin. These remain offshore through the winter in a band of surface water which ranges from about 60°F on the landward side to 72°F on the seaward side and extends during that season from Florida to Cape Hatteras. At the same time we find several temperate-water fishes along a part of the coast where this band washes the shore, i.e., between Cape Hatteras and Cape Lookout. Notable among these are bluefish, most of which have spent the summer from Cape Hatteras to Cape Cod. On their southward migration in the fall a few bluefish may overwinter off North Carolina but most of them continue south, some going as far as Florida. They return in the spring, staying in this section a few weeks or so before moving towards their northern summering grounds.

A few boreal fishes migrating from northern areas arrive off Cape Hatteras in early winter when the water over this part of the continental shelf becomes cold enough; and they stay there until it warms in the spring. This cape marks the southernmost limit of bottom-dwelling, cold-water fishes, because a band of water 50° to 55°F which extends along the bottom southward from the Gulf of Maine reaches this far. These temperatures are within the tolerance range of several common North Atlantic groundfishes, including cod, pollock, haddock, and squirrel hake. The course of this cold-water band as well as its extent varies seasonally, approaching the Virginia and northern North Carolina shore in winter and moving toward the edge of the shelf in late spring, there to remain until the following winter.

In olden times, various coastal Indian tribes depended largely upon fish and shellfish which abounded in the waterways and along the shores. They shot fish with arrows, speared them with sharpened stalks of cane, and, at times when fish gathered in shallow water, captured them in nets made of fibers of wild hemp and wild flax. As for anadromous fishes which run upstream to spawn, such as river herrings, shad, and striped bass, the Indians sometimes poisoned them with solutions extracted from the bark and roots of certain trees, but more often trapped them in long stone weirs at the ends of which were baskets woven of cane or grapevine. They also took oysters and clams from brackish water, using their meats for food and their shells for making into implements and jewelry. Some tribes even ground oyster shells into a powder and used it for whitewashing their mud-and-grass plastered houses.

The first Europeans to come here, Spaniards, took little notice of how the Indians lived, for they came seeking instant wealth. Originally they sought a shorter passage to Asia and its treasures. But their discovery of silver and gold, among the Caribbean Islands where they had settled, captured their attention. Later as Europeans of other countries came to this section, they established settlements north of what is now Florida and took to raising crops for which the land was well suited, chiefly tobacco in Virginia and the northern part of North Carolina and rice and indigo in southern North Carolina, South Carolina, and Georgia. Except in settlements along the water where fresh fish and shellfish were lavishly abundant and could be taken almost at will, the fisheries during early times were initially neglected. In those days, New England had a monopoly on the trade in salt cod and mackerel which they bartered in the southern colonies for tobacco, rice, and other agricultural commodities. The only important fishery in this section was around Charleston, South Carolina, which by the middle of the 1700's ranked among the five largest cities in the colonies. Fishermen would sail small boats, called smacks, as far as 30 miles up and down the coast from Charleston and 10 to 20 miles offshore. Black sea bass, porgies, grunts, sheepshead, snappers, and other fishes were handlined, placed in large live-wells built into the smack, and brought into the harbor to be sold alive. Several medical doctors in the Charleston area, who like others in their profession were often good naturalists, made a hobby of collecting fishes. They often sent specimens of these to the famous scientist Carolus Linnaeus in Sweden to be technically described and named, then to be included in his great work, *Systema Naturae,* a catalog of all plants, animals, and minerals known to exist. The system established in this work has become the basis of modern zoological and botanical classification. Many of the scientific names of South Atlantic fishes which Linnaeus gave are in use today.

The worldwide importance of whaling during the time this section was settled influenced people living near the coast to be on the lookout for whales. Anyone lucky enough to find one washed ashore would try out the blubber for its oil and extract from the roof of the whale's mouth the horny plates, called whalebone. The refined oil was used for making candles, as fuel for lamps, and as a lubricant; the whalebone, when suitably prepared, was used for making whips, umbrellas, and as stays for dresses and corsets. Not until the early 1700's, however, was there a full-time fishery for whales when a few New England whalers made Cape Lookout their base. Their initial success stimulated the local people to engage in whaling from shore in small boats, which continued for over 150 years, although with varied success.

Meanwhile, farmers and plantation owners living along the lower parts of rivers would let their chores go for a few weeks in the spring while they caught and salted enough fish to last the year. These were chiefly species that migrated upstream in mass to spawn in the freshwater reaches. Even though it was easy enough to catch more than the farmers and plantation owners could use, it was not until the mid-1700's that a large enough market existed to make peddling of these fish profitable. Expansion of this market encouraged people to take up fishing as a full-time occupation. In turn, this stimulated improvement of fishing gear. The shore haul seine, which in early days proved to be the most efficient piece of equipment for capturing fish, was continually lengthened, sometimes reaching over a mile and a half long, and requiring teams of oxen to pull them ashore. A single sweep by one of these seines took fish from a 1,200-acre area. During the late 1700's and the early 1800's fishing for anadromous species became important in the Chowan, Roanoke, Tar, Neuse, and Cape Fear Rivers in North Carolina; the Waccamaw, Pee Dee, Santee, and Edisto Rivers in South Carolina; and the Savannah, Ogeechee, Altamaha, and Satilla Rivers in Georgia.

It was not until the 1870's, however, that the importance of fishing along the southeast coast began to be fully realized. The connection of most towns by either steamships or railways at last furnished a reliable means of shipping fish to the distant markets of Baltimore, Philadelphia, and New York City. The introduction of the pound net into this area in the early 1870's stimulated the development of extensive fisheries in many of the sounds and bays. At the same time the introduction and rapid growth of the iced-fish trade here made it possible to keep fish

fresh, and thus to offer a more desirable, higher priced seafood than salted fish. The salt-fish trade which had concentrated on mullet, spot, sea trouts, bluefish, and Spanish mackerel rapidly gave way to a fresh-fish trade with expanded distant markets. Improved transportation and larger markets stimulated tonging and dredging of oysters. Even the shrimps and blue crabs, which fouled fishermen's nets and had always seemed a nuisance to be destroyed, began to be appreciated. Even so, who could have foreseen in the 1880's that these two shellfishes were destined to rank among the highest priced of our seafoods?

Judging from brief references in early accounts, the gentlemen landowners along this section of the coast took to angling very early in the 1700's, partly for sport, partly for subsistence, and partly for providing food to their servile laborers. Red drum seems to have been the favorite then and remained so for a long time. But it was the sheepshead that aroused the first serious concern about diminishing abundance, for the cause of the depletion seemed to be quite evident. The most convenient good fishing spots for sheepshead had been around the trunks of trees fallen into the water from where they had grown near the edge of the shore. It was about these submerged trunks that sheepshead had gathered to feed. During the early 1800's, however, planters had deforested the land to increase their acreage for cotton. Consequently, there were no longer any trees along the shores to provide suitable habitat for these fish. This is one of the earliest symptoms in the United States of man's growing dilemma between conflicting needs. The people solved their problem of creating suitable habitat by sinking weighted log pens in areas where there had formally been good fishing. These log pens, probably the first artificial reefs in America, provided a substrate for a great variety of encrusting animals and seaweeds, about which small, free-living invertebrate animals dwell. This community attracted the sheepshead, as well as other fishes, and the "reefs" are said to have been quite successful. For some unexplained reason, however, the practice was discontinued sometime during the late 1800's.

By 1880 shore communities were becoming resorts attracting even more people from the interior who visited the coast not only for business but for recreation, and that included fishing. The Outer Banks, Beaufort and Southport, North Carolina; Charleston and Beaufort, South Carolina; and Savannah, Georgia, as well as other towns, attracted anglers seeking red drum, sheepshead, black drum, sea trouts, and bluefish. The popularity of the coastal resorts continued to attract anglers through the 1800's and into the 1900's. Then about the middle of the 1900's, there occurred an unprecedented movement of people from the interior to the coast and a great many of them became permanent residents. The accompanying growth of seashore resorts stimulated the reclamation of saltmarshes for housing and industrial requirements. Other human activities, including channeling of the shallow waterways for the increasing number of boats, have been generally deleterious to marine life. For example, ditching to control misquitoes damaged about half of the over 1 million acres of saltmarshes along this section of coast. In the last 15 years alone, dredging and filling for real estate projects have totally destroyed some 20,000 acres of saltmarshes.

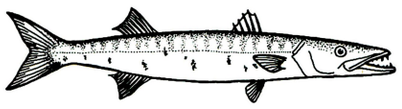
The estuaries too, i.e., the sounds, bays, and river mouths, have been seriously affected. Since estuaries are essential to the survival and well-being of many of our fishes, the progressive deterioration and loss of estuarine areas contribute significantly to a decline in their abundance. Our most ubiquitous inshore species, silversides, anchovies, and killifishes, spend their lives entirely within estuaries. Other important species, including spotted and gray sea trouts, red and black drums, and silver perch, depend on estuaries even though they spend a small part of their lives at sea. Spot, croaker, northern and southern flukes, sheepshead, pinfish, tarpon, and ladyfish seasonally return from the sea to the estuaries year after year throughout their lives. Striped bass, which along here live mostly in the brackish reaches of estuaries, move up rivers to spawn. After remaining there for several weeks to several months, they return to the estuaries. Menhadens, important as bait species as well as for commercial use, spend much of their time in estuaries during the first year or so of their lives. Adults of alewives and blueback herring, shad, and Atlantic sturgeon must pass through estuaries on their way upstream to spawn, and the juveniles as well as the adults that survive spawning must pass through estuaries on their way to the sea. Some young of bluefish, black sea bass, spadefish, and porgies find estuaries beneficial to some degree for their survival. Estuaries are the habitat not only of oysters, hard clams, and bay scallops but of other kinds of shellfishes including shrimps and blue crabs.

Ironically, the tragic damage to estuarine areas from man's various activities could have been avoided with proper land use planning. It is not too late to save what remains, but any hope of doing so depends upon effective action now!

An angler in Virginia, North Carolina, South Carolina, and Georgia does not need a license to fish in salt or brackish water. There are, however, some saltwater regulations. Some states have minimum size limits as well as daily catch limits for large striped bass and red drum. Also, there may be minimum size limits for a few other species. Most of the states have regulations governing the type of gear, method of capture, and catch limits of oysters, clams, and shrimps taken by recreational fishermen for home consumption. Some may set seasons and require a permit to oyster or shrimp. All of the states have minimum size limits for both the hard and soft stages of blue crabs, and prohibit keeping egg-bearing females. To obtain copies of the fishing and shellfishing regulations, contact the following: *Virginia*—Marine Resources Commission, P.O. Box 756, 2401 West Avenue, Newport News, 23607; *North Carolina*—Department of Natural and Economic Resources, Division of Commercial and Sport Fisheries, P.O. Box 27687, Raleigh, 27611; *South Carolina*—Wildlife and Marine Resources Department, Marine Resources Division, P.O. Box 12559, 217 Fort Johnson Road, Charleston, 29412; *Georgia* — Department of Natural Resources, Game and Fish Commission, 270 Washington Street, S.W., Atlanta, 30334.

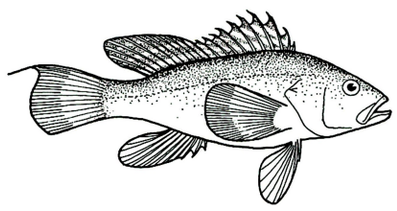
Most Commonly Caught Fish

BARRACUDAS

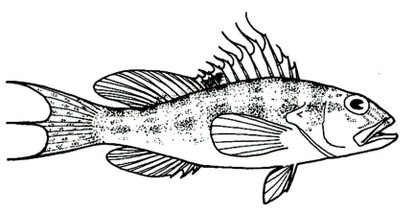


GREAT BARRACUDA, *Sphyraena barracuda*. Barracuda, cuda. SIZE: Largest recorded 106 lbs; tackle record 83 lbs; avg. 10-15 lbs; over 40 lbs unusual. HABITS: Pelagic and migratory. Occur offshore, sometimes inshore, over any type of bottom. Barracuda often concentrate around wrecks or rock and coral bottom with high relief. SEASON: May—October; best fishing in July and August. Most are taken near the surface in water from 50-120 ft deep and temperatures warmer than 70°F. FISHING METHODS: Trolling, casting and live lining from boats. Usually taken as an incidental fish while trolling for other species. BAITS: Spoons, stripbait, feathers, plugs and live fish.

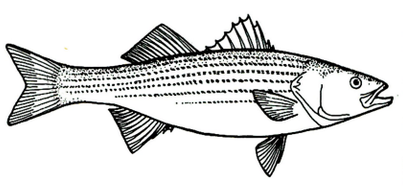
BASSES, SEA AND GROUPERS



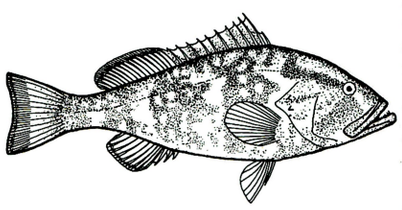
BLACK SEA BASS, *Centropristis striata*. Sea bass, blackfish, common bass, humpback bass. Small ones taken in estuaries are called black Willies. See rock sea bass. SIZE: Largest recorded 8 lbs; tackle record 8 lbs; avg. ½-¾ lb; over 4 lbs unusual. HABITS: Gregarious, year-round residents occurring on rock, coral or shell bottom and around wrecks, pilings, wharfs, rock jetties or breakwaters. They are commonest from a few feet below the tide-line to about 180 ft; some to 450 ft or more. They attain their largest size and and greatest abundance on offshore grounds. SEASON: All year; best fishing in June and July. FISHING METHODS: Most are caught in depths from 60 to 120 ft by bottom fishing from drifting or anchored boats. Small ones are taken from shore by bottom fishing. BAITS: Squid, clams, crabs, worms, shrimp and cut fish.



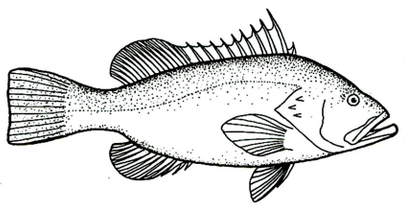
ROCK SEA BASS, *Centropristis philadelphica*. Sea bass, blackfish, sand bass. Distinguished from black sea bass by having 6 or 7 broad vertical bars or stripes on back and sides, and a distinct black spot at base of last three dorsal spines. Black sea bass have no vertical bars or stripes and no large distinct spot. SIZE: To 1 lb; avg. ⅓—½ lb; over ¾ lb unusual. Most anglers make no distinction between rock sea bass and black sea bass. HABITS, SEASON, FISHING METHODS and BAITS are the same as for black sea bass.



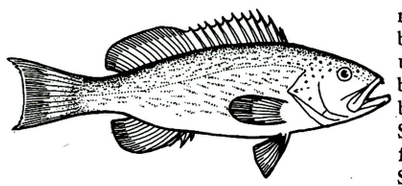
STRIPED BASS, *Morone saxatilis*. Rock, rockfish. SIZE: Largest recorded 125 lbs; tackle record 73 lbs; avg. 1-2 lbs; over 25 lbs unusual. HABITS: Anadromous. North of Core Banks, N.C., adults are migratory and occur in fresh, brackish and salt water. South of Core Banks, striped bass are resident and occur in fresh and brackish water, seldom in salt water. They occur throughout the water column over any type of bottom. SEASON: All year; best fishing October—January. A small run also occurs from mid February—April. FISHING METHODS: Casting, jigging and live lining from shore; these methods plus trolling from boats. BAITS: Weighted bucktails, jigs, plugs and spoons; also worms, shrimp, cut fish, pork rind and live fish.



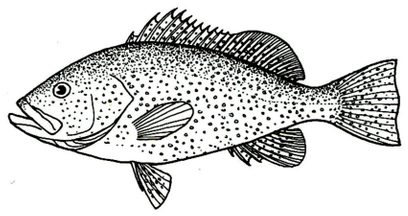
RED GROUPER, *Epinephelus morio*. Grouper. Distinguished from most other groupers by the edge of membranes between the dorsal spines being slightly curved or nearly straight. In most other groupers they are deeply notched. SIZE: To 50 lbs; avg. 4-6 lbs; over 25 lbs unusual. HABITS: Occur to depths of at least 900 ft sometimes on smooth sand or mud, but most frequently on high relief bottom consisting of rock and coral or wrecks encrusted with living organisms. SEASON: All year in depths of 120 ft or more; during warm months in shallower water. FISHING METHODS: Bottom fishing from anchored and drifting boats. Some caught by jigging or trolling near bottom. BAITS: Squid, shrimp, crabs, cut fish and live fish; also weighted bucktails, jigs and feathers.



WARSAW GROUPER, *Epinephelus nigritus*. Grouper, black jewfish. Miscalled jewfish and black grouper. Distinguished from most other groupers by 10 dorsal spines (instead of 11) and the end of the tail having a nearly straight edge. SIZE: To 500 lbs; avg. 20-30 lbs; over 300 lbs unusual. HABITS: Occur to depths of 400 ft or more, especially on high relief bottom consisting of rock, coral or wrecks encrusted with living organisms. Although usually near bottom, they may occur halfway to the surface. SEASON: All year in depths of 120 ft or more; during summer in depths of 60 ft or more. FISHING METHODS: Bottom fishing, jigging or deep trolling from boats. BAITS: Squid, cut fish, shrimp, clams, crabs and live fish; also spoons, feathers and plugs.

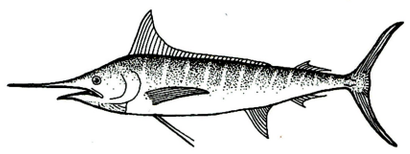


GAG GROUPER, *Mycteroperca microlepis*. Grouper. Distinguished from most other groupers by the gray color with no distinctive markings and by the slightly forked tail. SIZE: To 50 lbs; avg. 2-5 lbs; over 15 lbs unusual. HABITS: Occur to depths of 400 ft on any type of bottom but concentrate around rock or coral outcrops and wrecks. Small fish occur both inshore and offshore, large fish usually in water deeper than 60 ft. SEASON: All year. FISHING METHODS: Most are caught by bottom fishing in depths of 120 to 240 ft, some by jigging from boats. BAITS: Shrimp, squid, clams, cut fish and live fish; also weighted bucktails and jigs.

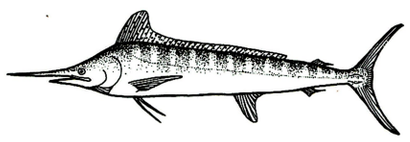


SPECKLED HIND, *Epinephelus drummondhayi*. Grouper, Kitty Mitchell. SIZE: To 50 lbs; avg. 8-10 lbs; over 30 lbs unusual. HABITS: These bottom dwellers occur on rock or coral bottom and around wrecks in depths of 150 ft or more. SEASON: All year in depths over 120 ft; during warm months in shallower water. FISHING METHODS: Bottom fishing from anchored or drifting boats. Most are caught in depths of 175-250 ft. BAITS: Cut or whole fish, squid and shrimp.

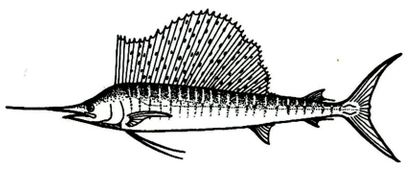
BILLFISHES



BLUE MARLIN, *Makaira nigricans*. See white marlin. SIZE: To over 1,700 lbs in the Atlantic Ocean;Atlantic tackle record 1,142 lbs (Pacific tackle record is 1,153 lbs but fish over 2,000 lbs are reported); avg. 250-300 lbs; over 600 lbs unusual. HABITS: Pelagic and migratory. Occur in oceanic and continental-shelf water from the surface to depths of at least 300 ft. Travel in small groups or singly. SEASON: Late April or May—November; best fishing mid May—mid September. Most are taken near the surface between the 300 and 600 ft bottom contours. FISHING METHODS: Trolling and live lining from boats. BAITS: Whole rigged squid, Spanish mackerel, mullet, striped bass, eel and ballyhoo; also stripbait, feather-stripbait combination, and live fish. Some are caught on artificial lures.

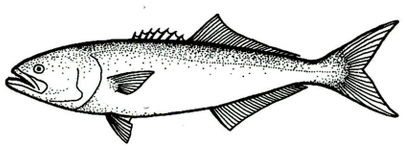


WHITE MARLIN, *Tetrapturus albidus*. Distinguished from blue marlin by having the tips of the dorsal and anal fins rounded, and a conspicuous lateral line. In the blue marlin the tips of the dorsal and anal fins are pointed, and except in very small fish, the lateral line is inconspicuous. SIZE: To over 161 lbs; tackle record 161 lbs; avg. 40-60 lbs; over 90 lbs unusual. HABITS: Pelagic and migratory. Occur in oceanic and continental-shelf water but during warm months some come close to shore into depths as shallow as 60 ft. Travel in small groups or singly. SEASON: Late April or May—October or November; best fishing mid May—mid September. Most are taken near the surface in water warmer than 70°F between the 100-600 ft bottom contours. FISHING METHODS: Trolling and live lining from boats. BAITS: Stripbait, feather-stripbait or skirt-stripbait combination, and whole rigged eel, squid, ballyhoo, mullet or Spanish mackerel; also live bait. Some caught on feathers, skirts and plugs.



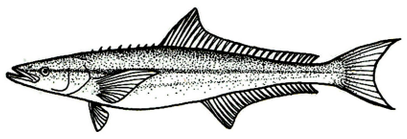
ATLANTIC SAILFISH, *Istiophorous platyperus*. Sailfish. SIZE: To over 141 lbs in the Atlantic Ocean; Atlantic tackle record 128 lbs (Pacific tackle record 221 lbs); avg. 25-35 lbs; over 70 lbs unusual. HABITS: Pelagic and migratory. Occur in continental-shelf water usually in depths over 40 ft, but they occasionally venture close enough to shore to be taken from ocean piers. Travel in small groups or singly. Sailfish usually feed more in midwater and near bottom than at the surface. SEASON: May—October; best fishing July—September. FISHING METHODS: Trolling and live lining from boats. A few are caught from shore. BAITS: Stripbait, feather-stripbait or skirt-stripbait combination, whole rigged ballyhoo or mullet, and live bait. Some caught on feathers, spoons, skirts and plugs.

BLUEFISH



BLUEFISH, *Pomatomus saltatrix*. Blues, Hatteras blues. Small fish called snapper blues or sour blues. SIZE: Largest recorded 35 lbs; tackle record 31 lbs 12 oz; avg. ½-1 lb; north of New River Inlet, N.C., over 15 lbs unusual, south of this inlet over 4 lbs unusual. HABITS: Pelagic, schooling and migratory. Bluefish occur throughout the water column in temperatures warmer than 50°F. They often concentrate around shoals, wrecks and artificial reefs. Abundance fluctuates from year to year. SEASON: Late March or April—mid December; best fishing May—June and October—early December. FISHING METHODS: Casting, bottom fishing, live lining and jigging from shore; these methods plus trolling from boats. Most bluefish are caught in water of 65° — 76°F within 20 feet of the surface. BAITS: Spoons, feathers, weighted bucktails, jigs and plugs; also cut fish, shrimp and small bait fish.

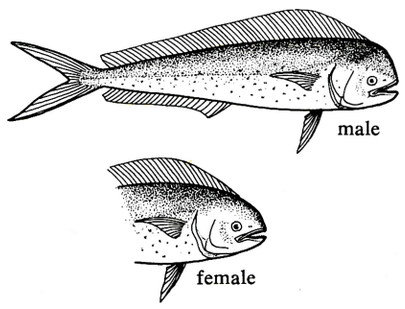
COBIA



COBIA, *Rachycentron canadum*. Crab-eater, sergeant fish. SIZE: To 120 lbs; tackle record 110½ lbs; avg. 15-25 lbs; over 65 lbs unusual. HABITS: Pelagic and migratory. Cobia occur both offshore and inshore, often in inlets and estuaries. They usually occur singly or in small groups and are often around buoys, wrecks, floating debris, and with schools of other fish, sea turtles and large rays. SEASON: May—mid October; best fishing mid June—August. FISHING METHODS: Bottom fishing, live lining, casting and chumming from shore; these methods plus trolling from boats. BAITS: Whole spot, eel and shedder crab or cut fish; also spoons, plugs and large weighted bucktails.

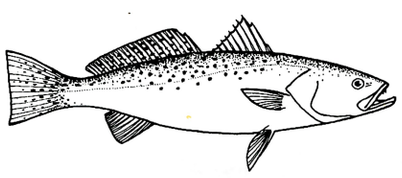
False Cape, Virginia to Altamaha Sound, Georgia

DOLPHINS

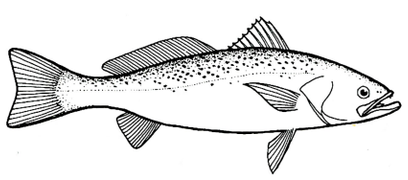


DOLPHIN, *Coryphaena hippurus*. Small ones called school dolphin; large males called bulls. SIZE: To 85 lbs; tackle record 85 lbs; avg. 2-5 lbs; over 45 lbs unusual. HABITS: Pelagic, schooling and migratory. These rapid swimmers occur near the surface in water warmer than 70°F. Although dolphin occasionally venture close enough to shore to be caught from ocean piers, they usually occur offshore of the 60 ft bottom contour. They often gather under floating debris and seaweed or around buoys and light towers. SEASON: Late April or May—November; best fishing for large fish is during June, for small fish July—September. FISHING METHODS: Trolling or casting from boats. Most are caught 8 or more miles offshore. BAITS: Feathers, spoons, jigs, plugs, weighted bucktails, stripbait, feather-stripbait or skirt-stripbait combination, and whole rigged mullet, ballyhoo, squid or Spanish mackerel.

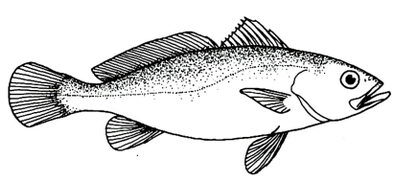
DRUMS



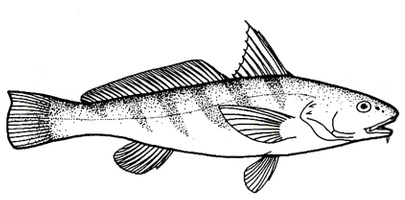
SPOTTED SEA TROUT, *Cynoscion nebulosus*. Speckled trout, winter trout, trout. Fish less than ¾ lb called school or pan trout. See gray sea trout and silver sea trout. SIZE: Largest recorded 16½ lbs; tackle record 15 lbs 3 oz; avg. ¾-1¾ lbs; over 6 lbs unusual. HABITS: Occur in salt and brackish water, particularly the shallow water of estuaries and along ocean beaches. Although favoring sandy areas, especially around sea grass beds, they occur over any type of bottom in water warmer than 50°-54°F. SEASON: Most are caught from May or June—December or early January, but a few all year. Best fishing October—December. In South Carolina a small run usually occurs during June. FISHING METHODS: Casting, bottom fishing, jigging, chumming and live lining from shore; these methods plus trolling from boats. In North Carolina, most are caught along the ocean beaches and in inlets. In South Carolina, they are caught both along the ocean beaches and in estuaries. BAITS: Plugs, weighted bucktails, jigs and spoons; also shrimp, silversides, mullet, killifish and soft or shedder crab.



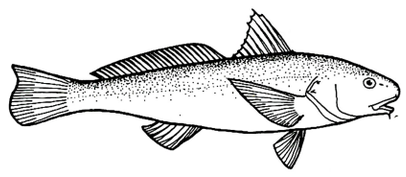
GRAY SEA TROUT, *Cynoscion regalis*. Gray trout, summer trout, trout, sea trout, yellow-fin trout, yellow-mouth trout, weakfish. Fish less than ¾ lb called pan trout. See silver sea trout. Distinguished from spotted sea trout by having the dark blotches on its back often arranged in rows, but no round, dark spots on 2nd dorsal fin and tail. In contrast, spotted sea trout have round, dark spots on upper half of body, 2nd dorsal fin and tail. SIZE: Largest recorded 30 lbs; tackle record 19½ lbs; avg. ½-1 lb; over 2 lbs unusual. HABITS: Occur throughout the water column in salt and brackish water to depths of at least 90 ft. Although found over any type of bottom, they favor sandy areas. SEASON: Most are caught from May—December; best fishing September—November. FISHING METHODS: Bottom fishing, live lining, casting, chumming and jigging from shore; these methods plus trolling from boats. Most are caught a few feet off the bottom in depths of 4 to 45 ft. In North Carolina most are caught in sounds, bays and inlets. Although anglers usually do not take them during winter, gray sea trout are along the beaches and in the open ocean. In South Carolina they are caught in both estuaries and along the ocean beaches to depths of 60 ft. BAITS: Spinners, spoons, plugs, jigs and weighted bucktails. Also shrimp, squid, silversides, mullet, soft or shedder crab, worms, clams, cut fish and killifish.



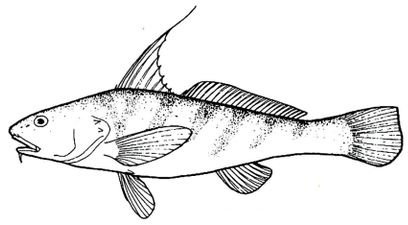
SILVER SEA TROUT, *Cynoscion nothus*. Trout, silver trout, sand trout. Distinguished from gray sea trout by having a rounded tail and 9, sometimes 8 or 10, anal fin rays. Gray sea trout have slightly forked tails, and 11 or 12 anal fin rays. Distinguished from spotted sea trout by having no round, dark spots on the upper half of its body, 2nd dorsal fin and tail. SIZE: To 2 lbs; avg. ⅓—⅔ lb; over 1½ lbs unusual. HABITS: Occur in salt and brackish water over any type of bottom to depths of 60 ft. Other habits of silver sea trout are similar to gray sea trout. SEASON: Most are caught from May—December; best fishing July—September. FISHING METHODS: Bottom fishing, jigging, live lining and chumming from boats and shore. BAITS: Shrimp, squid, clams and cut fish; also small weighted bucktails and jigs.



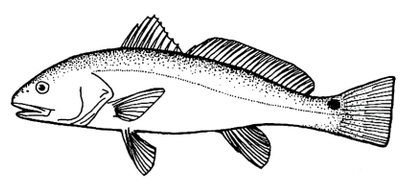
SOUTHERN KINGFISH, *Menticirrhus americanus*. Whiting, king whiting, bullhead whiting, roundhead, kingfish, Carolina whiting. Miscalled sea mullet, Virginia mullet, mullet. See Gulf kingfish and northern kingfish. SIZE: To 3 lbs; avg. ¼ to ¾ lb; over 1½ lbs unusual. HABITS: These bottom feeders aggregate on any type of bottom but adults favor sand or sand-shell along the beaches and around the mouths of sounds. Most occur in salt and brackish water warmer than 50°F from the tide-line to depths of 40 ft, some to 180 ft in the ocean. SEASON: Most are caught from late March or April—mid December; best fishing April—May and October—November. FISHING METHODS: Bottom fishing, chumming and jigging from shore and anchored or drifting boats. BAITS: Shrimp, worms, cut fish, squid, clams, mussels, silversides and small crabs; also small jigs and weighted bucktails.



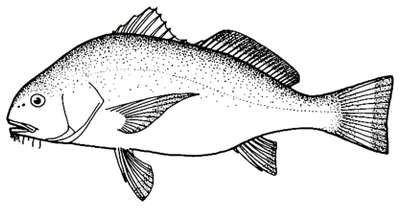
GULF KINGFISH, *Menticirrhus littoralis*. Whiting, surf whiting, silver whiting, king whiting, bullhead whiting, kingfish. Miscalled sea mullet, gray mullet and mullet. Distinguished from southern kingfish by the absence of any dark markings on its silvery body, and by its pale gill cavity. In contrast, southern kingfish have dusky bars on back and sides, and a dark gill cavity. SIZE: To 3½ lbs; avg. ¼-¾ lb; over 1½ lbs unusual. HABITS: Gulf kingfish prefer saltier water than southern kingfish. Although a few occur within sounds or bays, most remain along sandy beaches of the open ocean and near the outside mouths of sounds. SEASON, FISHING METHODS and BAITS are the same as for southern kingfish.



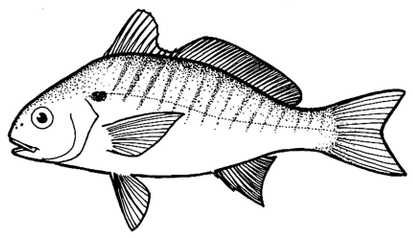
NORTHERN KINGFISH, *Menticirrhus saxatilis*. Whiting, king whiting, bullhead whiting, roundhead, kingfish, Carolina whiting. Miscalled sea mullet, Virginia mullet and mullet. This fish is the least abundant of the three species of kingfish along the southeast coast. Distinguished from the southern kingfish by having 8, sometimes 9, soft anal rays, the largest spine of the 1st dorsal fin in adult fish reaching far beyond origin of 2nd dorsal fin, and the dark, oblique bars along the side forming a V just behind the head. In contrast, southern kingfish have 7, rarely 8, soft anal rays, the longest spine of the 1st dorsal fin in an adult reaches just beyond origin of 2nd dorsal fin, and the obscure, oblique bars along the side do not form a V just behind the head. Coloration of the northern kingfish and the dark inner lining of the gill cover are characters to separate this fish from the Gulf kingfish. See Gulf kingfish. SIZE: To 3⅓ lbs; avg. ¼-½ lb; over 1 lb unusual. HABITS, SEASON, FISHING METHODS and BAITS are the same as for southern kingfish.



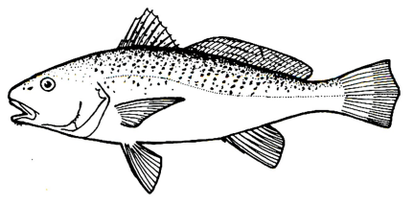
RED DRUM, *Sciaenops ocellata*. Channel bass, drum, red bass, spot bass, sea bass. Names often vary with size. Fish to 5 lbs called puppy drum or spottail bass, those to 15 or 20 lbs called yearling drum or school bass, and those larger than 15 or 20 lbs called bull drum or channel bass. SIZE: Largest recorded 90 lbs; tackle record 90 lbs; small fish average 2-4 lbs and large fish 15-20 lbs; over 50 lbs unusual. HABITS: Although red drum occur offshore during the winter, many remain within 6 miles of the beach and in sounds or bays on sand and sand-shell bottom. During spring migrations, schools occur near the surface along the shore, but usually beyond the breakers; during summer and fall, schools and large solitary fish occur near bottom within the breakers. SEASON: Most are caught from mid March or April—early December. Best fishing for large fish late March—early June, for small fish late September——November. FISHING METHODS: During spring most are caught by trolling and casting from boats, during summer and fall by bottom fishing and casting from shore and boats. Check state regulations on size and catch limits. BAITS: Jigs, feathers, and weighted bucktails; also soft or shedder crab, shrimp, squid, clams and cut mullet, spot, herring or menhaden.



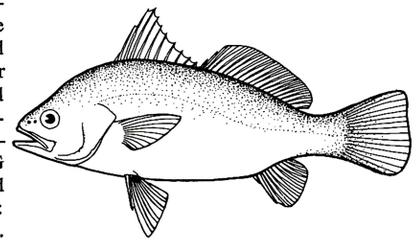
BLACK DRUM, *Pogonias cromis*. Drum. The young have 4 to 6 broad, black bars on their sides, which disappear with age. SIZE: Largest recorded 146 lbs; tackle record 111 lbs; barred fish average 1-3 lbs and large fish 10-20 lbs; over 45 lbs unusual. HABITS: Occur in large aggregations during spring migration, but usually solitary during fall. Feed on any type of bottom but prefer mussel, clam or oyster beds. Also live around breakwaters, jetties, pilings, bridge abutments and piers. SEASON: Most are caught from April—November, but a few all year. Best fishing for large fish in May and June, for small fish late September—November. FISHING METHODS: Bottom fishing and chumming from shore or boats for large fish; these methods plus casting artificial lures for small fish. BAITS: Shrimp, clams, soft or shedder crab, squid, and cut fish; also spoons, jigs and weighted bucktails.



SPOT, *Leiostomus xanthurus*. Small fish taken in the spring called white-eyes; large fish taken in the fall called yellowfins. See silver perch. SIZE: To 2¼ lbs; avg. ¼—⅓ lb; over ¾ lb unusual. HABITS: These gregarious bottom feeders occur on mud, sand or sand-shell bottom in salt and brackish water; a few in fresh water. Spawned offshore in depths to 500 ft, the young move inshore and spend their first year of life in shallow estuaries. As they get older, they migrate offshore during fall and inshore during spring. SEASON: Most are caught from late April or May—mid December; best fishing for large spot September—November or early December. FISHING METHODS: Bottom fishing from shore; this method plus chumming from boats. BAITS: Shrimp, worms, clams, soft crab and cut fish.



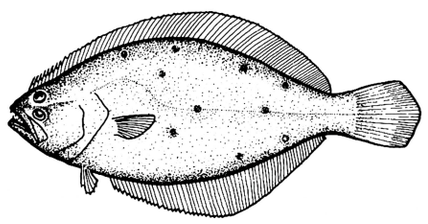
ATLANTIC CROAKER, *Micropogon undulatus*. Croaker, hardhead. SIZE: To 5 lbs; avg. ¼—⅓ lb; over 1½ lbs unusual. HABITS: These bottom feeders occur on mud, sand, shell or coral bottom and around rock jetties or wrecks in salt and brackish water, a few in nearly fresh water. Spawned offshore in depths to 300 ft, the young move inshore and spend their first year of life in shallow estuaries. As growth proceeds they gradually move seaward. Adults migrate inshore during the spring to water warmer than 61°F. SEASON: Mid April or May—late November; best fishing in August and September. FISHING METHODS: Most are caught from a few feet below the tide-line to depths of 30 ft by bottom fishing, chumming, live lining and jigging from shore or boats. BAITS: Shrimp, soft or shedder crab, clams, worms and cut fish. A few are caught on small jigs and weighted bucktails.



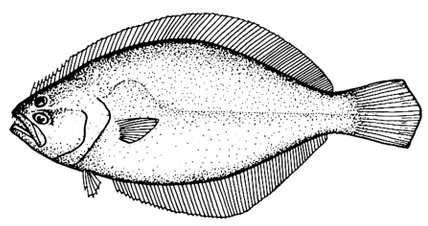
SILVER PERCH, *Bairdiella chrysura*. Perch, yellowtail, sand perch. Distinguished from spot by having no dark shoulder spot and a nearly square tail. In contrast, spot have a dark shoulder spot and a slightly forked tail. SIZE: To ¾ lb; avg. ¼—⅓ lb; over ½ lb unusual. HABITS: Occur in salt and brackish water on mud, sand, shell and especially on sandy-mud bottom with sea grass. Adults may migrate a short distance offshore during winter but young fish remain inshore year-round. SEASON: April—November; best fishing in September and early October. FISHING METHODS: Bottom fishing from shore; this method plus live lining and chumming from boats. Usually taken incidentally with other fishes. BAITS: Worms, shrimp, clams, soft crab and cut fish; also small weighted bucktails.

Most Commonly Caught Fish

FLOUNDERS, LEFT-EYED

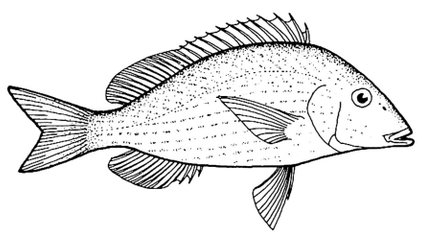


NORTHERN FLUKE, *Paralichthys dentatus*. Flounder, summer flounder. See southern fluke. SIZE: Largest recorded 30 lbs; tackle record 20½ lbs; avg. 1-3 lbs; over 12 lbs unusual. HABITS: Live on mud, sand, sand-shell or gravel bottom and around wrecks. Although most occur in salt and brackish water, some ascend fresh water streams. During warm months they usually occur within bays and sounds in depths of 40 ft or less; during cold months they retreat to deeper ocean water, some to depths of 150 ft or more. They usually feed near bottom but will pursue prey to the surface. SEASON: Most are caught from April or May—December, but a few all year. Best fishing May—June and late September—November. FISHING METHODS: Bottom fishing from shore; this method plus chumming, live lining and trolling near bottom from boats. Night spearing called gigging or floundering is a common practice, done either while wading or from boats. BAITS: Killifish, squid, silversides, clams, worms, and cut fish; also spinners, jigs and weighted bucktails.

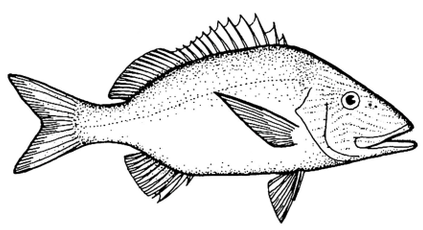


SOUTHERN FLUKE, *Paralichthys lethostigma*. Flounder, southern flounder. Distinguished from northern fluke by having 8 to 11, usually 9 or 10, gill rakers on the lower limb of the 1st gill arch. In contrast, northern fluke have 13 to 18, usually 15 or more, gill rakers on the lower limb of the first gill arch. SIZE: To over 13 lbs; avg. 1-2 lbs; over 6 lbs unusual. HABITS: These bottom feeders live on mud, sand and sand-shell bottom. They occur in salt and brackish water and often ascend fresh water streams or rivers for a considerable distance. During warm months many occur near the shore in shallow estuaries; during cold months they move into deeper water. SEASON, FISHING METHODS and BAITS are the same as for northern fluke.

GRUNTS

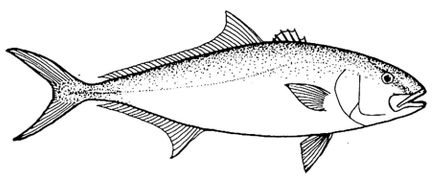


PIGFISH, *Orthopristis chrysoptera*. Grunt. Often miscalled hogfish and sailors choice. See white grunt. SIZE: To 2 lbs; avg. ¼-½ lb; over 1½ lbs unusual. HABITS: Occur in salt and brackish water on sand or mud bottom and around wrecks, piers, jetties or bridge abutments. Although common in estuaries, inlets and along ocean beaches, they also occur offshore to depths of 100 ft or more. Pigfish usually feed within a few feet of bottom. SEASON: Most are caught March or April—November, but some the year round. FISHING METHODS: Bottom fishing and jigging from shore or boats. Although pigfish are plentiful, they are not highly sought. Most are caught incidentally with other bottom fishes. BAITS: Shrimp, crabs, squid, worms, clams, mussels and cut fish; also small weighted bucktails and jigs. Pigfish are often used as live or cut bait for other fishes.

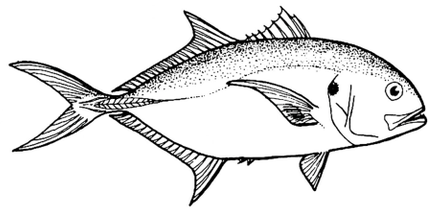


WHITE GRUNT, *Haemulon plumieri*. Grunt, common grunt, red-mouthed grunt. Distinguished from pigfish by its large mouth having an orange-red lining and by its body scales above the lateral line being larger than those below this line. In contrast, pigfish have a small mouth with no bright color inside, and its body scales above the lateral line are about the same size as those below. SIZE: To 4 lbs; avg. ⅓ — ⅔ lb; over 2 lbs unusual. HABITS: Occur in salt and brackish water on mud, sand, rock or coral bottom and around wrecks, piers, jetties or bridge abutments. Although common in estuaries, inlets and along the beach, they occur offshore in depths to 100 ft or more. They usually feed within a few feet of bottom. SEASON: Most are caught from April—November, but some the year round. FISHING METHODS: Bottom fishing and jigging from shore or boats. BAITS: Shrimp, crabs, worms, clams and cut fish; also small weighted bucktails and jigs.

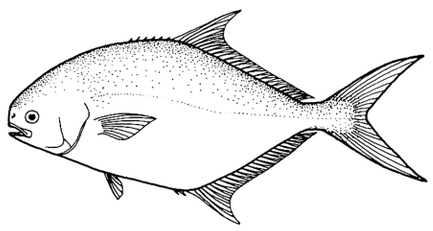
JACKS, SCADS AND POMPANOS



GREAT AMBERJACK, *Seriola dumerili*. Amberjack, jack hammer. SIZE: To over 180 lbs; tackle record 149 lbs; avg. 20-30 lbs; over 100 lbs unusual. HABITS: Schooling and migratory. These swift swimmers occur in oceanic and continental-shelf water from the surface to depths of at least 600 ft. Although great amberjack may occur anywhere in the water column, they often concentrate over high relief rock or coral bottom and around wrecks or buoys. SEASON: Most are caught from March—November, but a few all year in offshore water. FISHING METHODS: Trolling, bottom fishing, jigging, chumming and live lining from boats. Anglers catch many large amberjack while fishing for snappers and groupers in depths of 150-300 ft. BAITS: Live and dead fish; also stripbait, plugs, spoons, feathers and jigs.

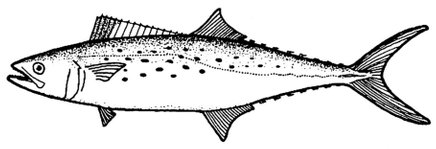


CREVALLE JACK, *Caranx hippos*. Jack, common jack, jack crevalle, crevalle. SIZE: To over 70 lbs; avg. 2-4 lbs; over 10 lbs unusual. HABITS: Pelagic, schooling and migratory. These rapid swimmers occur in salt and brackish water; sometimes in coastal rivers to nearly fresh water. Small fish are common in shallow estuaries. As they grow larger they tend to move offshore into deeper water. SEASON: May—October or early November; best fishing in July and August. FISHING METHODS: Casting, live lining, chumming and bottom fishing from shore; these methods plus trolling from boats. BAITS: Feathers, spoons, plugs, jigs, weighted bucktails and bucktail flies; also live or cut fish and shrimp.

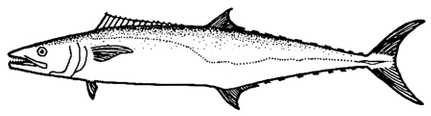


POMPANO, *Trachinotus carolinus*. SIZE: To 8 lbs; avg. ⅓ — ⅔ lb; over 3 lbs unusual. HABITS: Schooling and migratory. Pompano are caught within a few miles of the ocean beaches and in bays as well as the connecting inlets. Adults move offshore, some as far as 60 miles, to spawn. They feed on or a few feet off sand and mud bottom in water warmer than 65°F. Many die when trapped in water colder than 60°F. SEASON: April or May—November or early December; best fishing September—November. FISHING METHODS: Bottom fishing, casting, live lining, chumming and jigging from shore; these methods plus trolling from boats. BAITS: Shrimp, sand bugs, cut fish and clams; also small weighted bucktails, jigs and feathers.

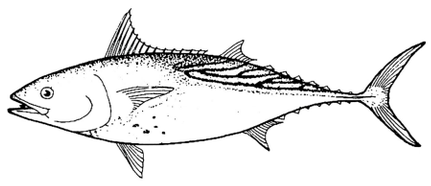
MACKERELS, TUNAS AND BONITOS



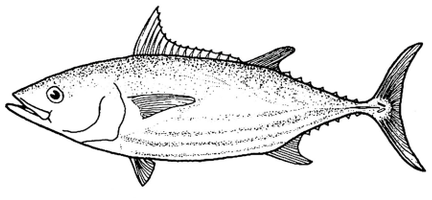
SPANISH MACKEREL, *Scomberomorus maculatus*. Mackerel. See king mackerel for distinguishing features. SIZE: To 12 lbs; avg. ½-1½ lbs; over 5 lbs unusual. HABITS: Pelagic, schooling and migratory. Occur throughout the water column to depths of 80 ft in water warmer than 67°F. Spanish mackerel will pursue bait fish through inlets into estuaries. SEASON: Late April or May—November; best fishing in August and September. FISHING METHODS: Casting, live lining, bottom fishing and jigging from shore; these methods plus trolling from boats. Most fish are caught within 4 miles of the beach and in or around inlets. BAITS: Spoons, feathers, stripbait, weighted bucktails, plugs and jigs; also shrimp, squid and whole or cut fish.



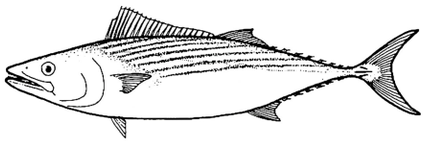
KING MACKEREL, *Scomberomorus cavalla*. Kingfish, kings. King mackerel have scaled pectoral fins and the lateral line dips downward abruptly under the 2nd dorsal fin. In contrast, Spanish mackerel have scaleless pectoral fins and the lateral line slopes downward gradually under the 2nd dorsal fin. SIZE: Largest recorded 103 lbs; tackle record 78¾ lbs spring—run fish average 6-8 lbs, fall-run fish 15-20 lbs; over 40 lbs unusual. HABITS: Pelagic, schooling and migratory. King mackerel occur over any type of bottom in salt water warmer than 67°-69° F. They often congregate over wrecks, high relief rock or coral bottom and around buoys. Although some occasionally venture close enough to shore to be caught from ocean piers, most occur offshore of the 50 ft bottom contour. SEASON: Late March or April—November or mid December; best fishing late April—early June and September—November. FISHING METHODS: Most are caught by trolling from boats 5 to 15 miles offshore, some by casting or live lining from shore or boats. Fishing is especially good around the various Capes. BAITS: Spoons, feathers, stripbait, feather-stripbait or skirt-stripbait combination, and plugs; also whole rigged mullet or ballyhoo, and live fish.



LITTLE TUNA, *Euthynnus alletteratus*. Bonito, false albacore, rum jugs. Miscalled albacore. SIZE: To 26 lbs; avg. 6-10 lbs; over 20 lbs unusual. HABITS: Pelagic, schooling and migratory. These rapid swimmers occur in salt water warmer than 65°F. They travel in groups varying from three or four individuals to schools of many thousands. Although they occasionally venture close enough to shore to be caught from ocean piers, little tuna usually occur offshore of the 30 ft bottom contour. SEASON: Most are caught from mid May—November, but a few all year. Best fishing September—November. FISHING METHODS: Most are caught by trolling and casting from boats; some by casting from shore. BAITS: Feathers, stripbait, feather-stripbait or skirt-stripbait combination, spoons, jigs and plugs.

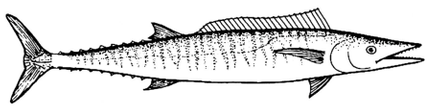


SKIPJACK TUNA, *Katsuwonus pelamis*. Oceanic bonito, bonito, striped egg. SIZE: To 45 lbs; tackle record 39 lbs 15 oz; avg. 5-9 lbs; over 20 lbs unusual. HABITS: Pelagic, schooling and migratory. These rapid swimmers usually occur near the surface in continental-shelf and oceanic water warmer than 63°F but offshore of the 90 ft bottom contour. SEASON: Late April or May—November; best fishing in September. FISHING METHODS: Most are caught by trolling near the surface 5 to 20 miles from shore. Also caught by casting from boats. BAITS: Feathers, stripbait, feather-stripbait or skirt-stripbait combination, spoons, jigs and plugs.



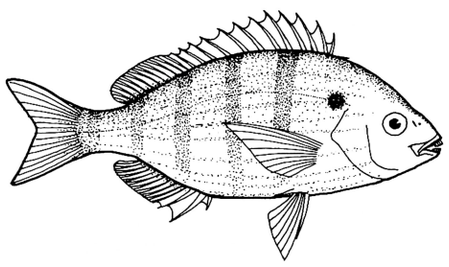
ATLANTIC BONITO, *Sarda sarda*. Bonito. SIZE: To 15 lbs; avg. 2-4 lbs; over 7 lbs unusual. HABITS: Pelagic, schooling and migratory. These rapid swimmers occur in continental-shelf water. They feed mainly at or near the surface and often jump clear of the water when in pursuit of prey. SEASON: April or May—October; best fishing in June and early July. FISHING METHODS: Caught at or near the surface by trolling in water warmer than 65°F; some by casting, jigging and chumming from boats. Most are caught incidentally while fishing for other pelagic fishes. BAITS: Feathers, spoons, plugs, jigs, stripbait, feather-stripbait or skirt-stripbait combination, and cut fish.

False Cape, Virginia to Altamaha Sound, Georgia

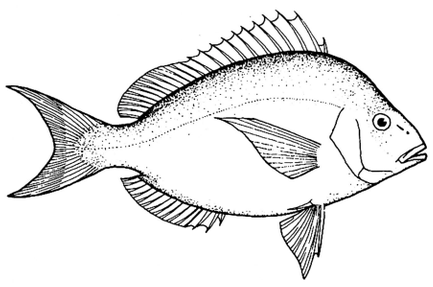


WAHOO, *Acanthocybium solanderi*. The movable upper jaw, large number of dorsal fin spines (21-27) and the slightly forked tail separate the wahoo from other mackerels. SIZE: To over 150 lbs; tackle record 149 lbs; avg. 20-30 lbs; over 75 lbs unusual. HABITS: Pelagic and migratory. These rapid swimmers occur in oceanic and continental-shelf water beyond the 100 ft bottom contour. They usually swim in small groups or singly. Often concentrate over high relief rock or coral bottom and wrecks. SEASON: Most are caught from May—October, but a few year round offshore in the Gulf Stream. FISHING METHODS: Trolling and live lining from boats. Never abundant, wahoo are taken incidentally with other pelagic fishes. BAITS: Whole rigged Spanish mackerel, squid, mullet and ballyhoo, or live fish; also spoons, feathers and stripbait.

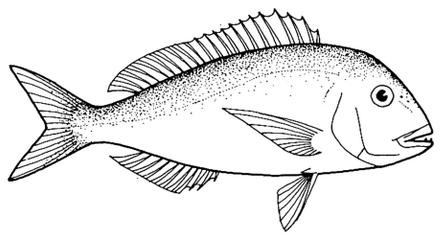
PORGIES



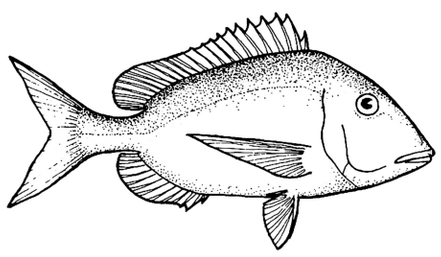
PINFISH, *Lagodon rhomboides*. Bream, salt water bream. Miscalled sailors choice. SIZE: To 1 lb; avg. ¼—⅓ lb; over ¾ lb unusual. HABITS: Occur in salt, brackish and a few in nearly fresh water. Small fish remain all year in shallow estuaries, especially those abounding with sea grasses. Large fish spend the warm months in shallow estuaries but move offshore during cold months to spawn. Feed on or near bottom. SEASON: Taken all year; best fishing May—October. FISHING METHODS: Bottom fishing from shore or boat. Most are caught incidentally with other bottom fishes. BAITS: Small pieces of cut fish, worm, clam and shrimp. Pinfish are often used as live or dead bait for other fishes.



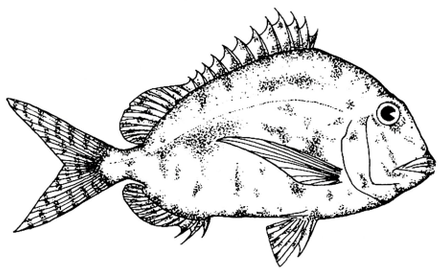
SCUP, *Stenotomus chrysops*. Porgy, sea porgy, southern porgy (formerly considered a separate species, *S. aculeatus*). SIZE: largest recorded 5 lbs; avg. ¼ — ⅓ lb; over ¾ lb unusual. HABITS: These gregarious fish occur on mud, sand, gravel, coral or rock bottom and around pilings, wrecks or rubble in depths of at least 200 ft. Usually near bottom during daylight but move towards mid-depths at night. SEASON: Most are caught April—October. FISHING METHODS: Bottom fishing, live lining and chumming from shore and boats. BAITS: Shrimp, clams, squid, worms, cut fish and small crabs.



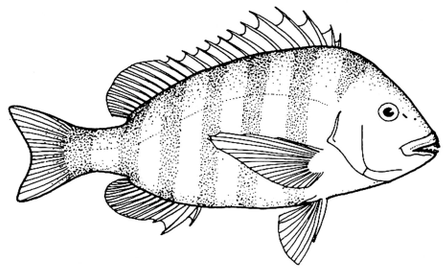
RED PORGY, *Pagrus sedecim*. Pink porgy. Miscalled silver snapper and Charleston snapper. SIZE: To over 13 lbs; avg. 2-5 lbs; over 8 lbs unusual. HABITS: These bottom feeders occur on high relief rock or coral bottom in depths of 30 to 400 ft. SEASON: All year, but most are caught from March—November in depths of 60-180 ft. FISHING METHODS: Bottom fishing from anchored or drifting boats. BAITS: Cut fish, squid, clams and worms.



JOLTHEAD PORGY, *Calamus bajonado*. Porgy. Small fish do not possess the characteristic blunt head. Except for the sheepshead, this is the largest fish in the porgy family occurring along the southeastern coast. SIZE: To over 17 lbs; avg. 1-2 lbs; over 10 lbs unusual. HABITS: These bottom feeders occur in depths to at least 150 ft on mud and sand bottom but prefer the high relief provided by coral or rock outcrops. Often around wrecks or rubble. SEASON: Most are caught from April—October, but a few all year. FISHING METHODS: Bottom fishing from anchored or drifting boats. BAITS: Shrimp, clams, squid, cut fish and crabs.

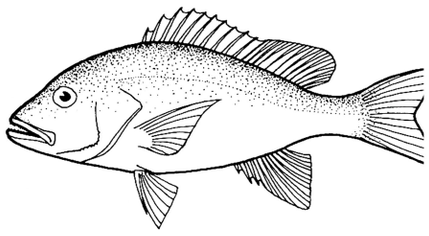


WHITEBONE PORGY, *Calamus leucosteus*. Porgy. Miscalled silver snapper. SIZE: To over 5 lbs; avg. ½-1 lb; over 3½ lbs unusual. HABITS: These bottom feeders occur on sand and rock bottom, especially with high relief, and around wrecks in depths of 30 to 300 ft. Small ones sometimes found inshore of the 30 foot contour. SEASON: Most are caught from April—October, but a few all year. FISHING METHODS: Bottom fishing from anchored or drifting boats. BAITS: Shrimp, cut fish, squid and clams.

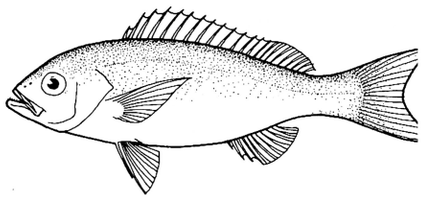


SHEEPSHEAD, *Archosargus probatocephalus*. Sheephead. SIZE: To 30 lbs; avg. 2-4 lbs; over 10 lbs unusual. HABITS: Aggregate in salt and brackish water on sand, shell, gravel or rock bottom and around bridge abutments, jetties, breakwaters, rock piles and wrecks. Feed on or near bottom from a few feet below the tide-line to depths of at least 100 ft. SEASON: Most are caught from March—October, but a few all year. FISHING METHODS: Many are caught by bottom fishing and chumming from boats or shore, some by jigging from boats or shore. BAITS: Crabs, clams, shrimp and sand bugs; also small jigs and weighted bucktails.

SNAPPERS

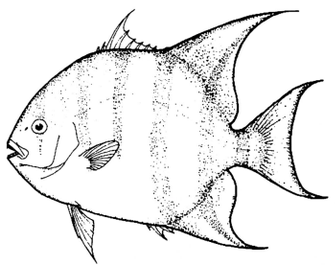


RED SNAPPER, *Lutjanus aya*. Snapper, American snapper, American red snapper. SIZE: To 40 lbs; avg. 5-8 lbs; over 25 lbs unusual. HABITS: These bottom feeders aggregate on or a few feet above mud, sand, gravel, coral or rock bottom to depths of 800 ft or more. They often congregate on high relief rock or coral outcrops encrusted with living organisms. Most occur beyond the 60 ft bottom contour. SEASON: All year in depths of 150 ft or more; during summer in shallower water. Best fishing for small ones in April and May, for large ones in July and August. FISHING METHODS: Bottom fishing from anchored or drifting boats. BAITS: Squid, cut fish, shrimp and crabs.



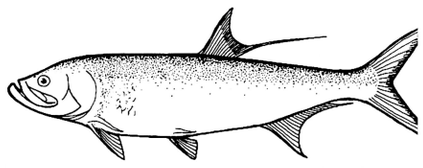
VERMILION SNAPPER, *Rhomboplite aurorubens*. Snapper, beeline snapper, California red snapper. SIZE: To over 9 lbs; avg. ¾-1½ lbs; over 5 lbs unusual. HABITS: These bottom feeders aggregate on mud, sand, gravel, coral or rock bottom in depths of 90 to 350 ft. They often concentrate on high relief rock or coral outcrops and wrecks, especially if encrusted with living organisms. SEASON: All year. Fishing success seems to be influenced by weather and not the availability of fish. FISHING METHODS: Bottom fishing from anchored or drifting boats. BAITS: Squid, cut fish, shrimp and clams.

SPADEFISHES



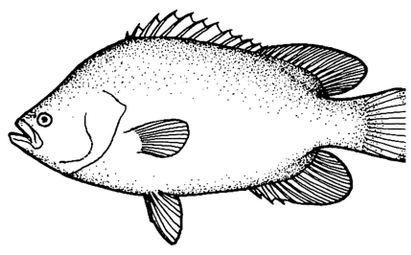
ATLANTIC SPADEFISH, *Chaetodipterus faber*. Spadefish, angelfish, porgy, moonfish. SIZE: To 16 lbs; avg. 1-3 lbs; over 10 lbs unusual. HABITS: They aggregate in salt water on sand, shell, coral or rock bottom and around buoys, wrecks, rock piles, bridge abutments, pilings, jetties and breakwaters. During warm months most occur inshore of the 90 ft bottom contour; during cold months some retreat further offshore. SEASON: April—November. FISHING METHODS: Bottom fishing from boats or shore. BAITS: Clams, worms, shrimp, crabs and cut fish.

TARPON AND LADYFISH



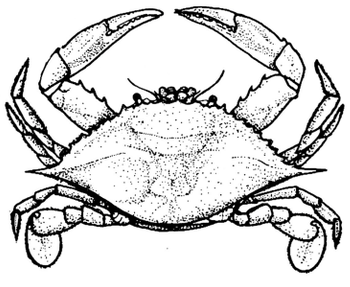
TARPON, *Megalops atlanticus*. Silver king, sprat. SIZE: To over 350 lbs; tackle record 283 lbs; avg. 20-50 lbs; over 150 lbs unusual. HABITS: Pelagic and migratory. Occur over any type of bottom in salt and brackish water, sometimes in fresh water. Although during migrations some are 10 miles or more offshore, they usually occur in estuaries, inlets and within 3 miles of ocean beaches. Tarpon feed mainly at night in water warmer than 66°F. SEASON: April—October or early November; best fishing July—September. FISHING METHODS: Live lining, chumming and casting from shore; these methods plus trolling from boats. BAITS: Live mullet, spot, pinfish, croaker, kingfish, shrimp and crabs or squid and cut fish; also spoons, plugs, weighted bucktails and bucktail flies.

TRIPLETAIL



TRIPLETAIL, *Lobotes surinamensis*. SIZE: To over 30 lbs; avg. 4-8 lbs; over 20 lbs unusual. HABITS: Occur from the surface to the bottom in depths of a few to 200 ft or more. These fish usually occur singly or in small groups. Small ones enter inlets and estuaries; large ones tend to remain in the ocean. Tripletail frequent buoys, floating debris, wrecks and underwater obstructions. SEASON: April—October or November. FISHING METHODS: Bottom fishing, jigging, casting and live lining from boats; a few are taken by these methods from shore. BAITS: Shrimp, cut fish, clams, crabs, squid and live fish; also weighted bucktails, jigs and plugs.

CRABS



BLUE CRAB, *Callinectes sapidus*. Crab, blue claw crab. Males are called Jimmies, females sooks, those bearing eggs, sponge crabs. Crabs about to shed their shells are called shedders or peelers. Immediately after shedding their shells, they are called soft crabs. Size is usually expressed as the width of the shell across the back measured from spine tip to spine tip. SIZE: To 10 inches; avg. 5½-6½ inches; over 9 inches unusual. HABITS: Occur on mud, sand, sand-shell and gravel bottom, in salt, brackish and sometimes fresh water. Especially abundant in estuaries and the mouths of streams or rivers around sea grass. During warm months crabs frequent shallow water; during cold months they seek deep water and may embed in mud. Active in water warmer than 50°F. Large males tend to concentrate in the upper reaches of creeks and rivers, adult females in sounds and bays. SEASON: Most are caught from March—November, but a few all year. Check state laws governing size limit and the taking of egg-bearing females. FISHING METHODS: Hand lines or crab traps from shore or boats. BAITS: Whole and cut fish or scrap meat.

False Cape to Diamond Shoals

LAND CONFIGURATION AND WATER DEPTH

The dominant feature of this section and the one following is the chain of long, narrow barrier sandbars that skirts the coast for about 150 miles between False Cape and Cape Lookout. These are the Outer Banks. They average less than half a mile wide, and except in a few places where steep, wind-blown hills or ridges of sand rise 50 to 150 feet, they are usually less than 10 to 15 feet high. Smooth, sandy beaches averaging about 100 yards wide and devoid of vegetation extend along the ocean side of the Outer Banks. Rising from the beaches are grassy dunes and behind the dunes is low, gently downward sloping ground covered by grasses and shrubs extending to the intertidal zone of the sounds.

On the landward side of the Outer Banks, a large, complex system of interconnecting bays and tidal lagoons, locally called sounds, extends nearly the entire length of North Carolina.

FISH AND FISHING

The Roanoke River seems to be the southernmost Atlantic river producing appreciable numbers of coastal migratory striped bass. During the first 5 or 6 years of life, the progeny produced within Albemarle Sound and its tributaries stay there, rarely if ever venturing into the sea. After this period, however, most of them probably leave the sound for the sea.

Starting in February or March, adult striped bass migrate to the western end of Albemarle Sound and over 100 miles up the Roanoke River to spawn in the vicinity of Weldon, North Carolina. Usually the first males arrive on the spawning grounds in early April and the first females a week or so afterward. Some spawning begins shortly after the first females reach the grounds, continues intermittently as more fish arrive, reaches a peak from late April through May, and ends in June. During the act of spawning an individual female becomes surrounded and pursued by smaller males, which vary in number from a few to several dozen depending on her size. This milling, swirling mass of fish often rises to the surface, thrashing vigorously, while discharging eggs and sperm. Because striped bass are locally called rock or rockfish and this flurried disturbance looks like a struggle, fishermen call the spawning act a *rock fight*. The eggs hatch in a few days as the current carries them downstream toward the sound. By late June most of the hatchlings are in Albemarle Sound where they remain until they are old enough to make their annual spawning runs upstream, i.e., males when 2 years old, most of the females when 4. Apparently, fish surviving through the fifth or sixth year, weighing about 6 pounds, enter the sea where they become asociated with other large striped bass that have originated in various rivers to the north and have adopted a seasonal coastwise migratory habit.

During late fall and winter, the members of this migratory group gather along the ocean side of the Outer Banks, some having traveled from as far north as New England. They segregate by size, the larger ones generally going farther south in this section than the smaller ones. From Virginia Beach, Virginia, to about Kitty Hawk, North Carolina, most of these coastal migrants range between 6 and 25 pounds. Occasionally, however, a few stripers as small as 1½ or 2 pounds occur along there. These small fish could have come from Albemarle Sound or perhaps some northern area, but it is unlikely that they have yet joined the coastal migratory group. Most of the migrants occurring from Kitty Hawk to Ocracoke, and even to Cape Lookout during some years, range between 20 and 50 pounds. Unlike the stripers living in the bays and sounds which are composed about equally of females and males, almost all of the coastal migrants are females. Some of these are exceptionally large, as attested by a half dozen specimens taken within recent years which weighed from 81 to 92 pounds. The fate of the males remains a mystery. Few have been observed larger than about 40 pounds.

During late winter and early spring some of the migrants begin to travel. A few go directly into Albemarle Sound, presumably on their way up the Roanoke River, their home stream, to spawn. Others proceed north and into Chesapeake Bay, also presumably on their way to their respective home streams. It is not known whether all the large stripers spawn every year or whether those that do spawn return consistently to their home streams. There is evidence that some of the large females do not return to the Outer Banks in the fall but overwinter as far north as New England rivers. Striped bass, however, do not spawn in New England rivers. This is a mystery, for Canadian populations live and spawn in the St. Lawrence River and various other coastal rivers in New Brunswick and Nova Scotia. These Canadian stripers do not go to sea but seem to be permanent residents of their respective river systems.

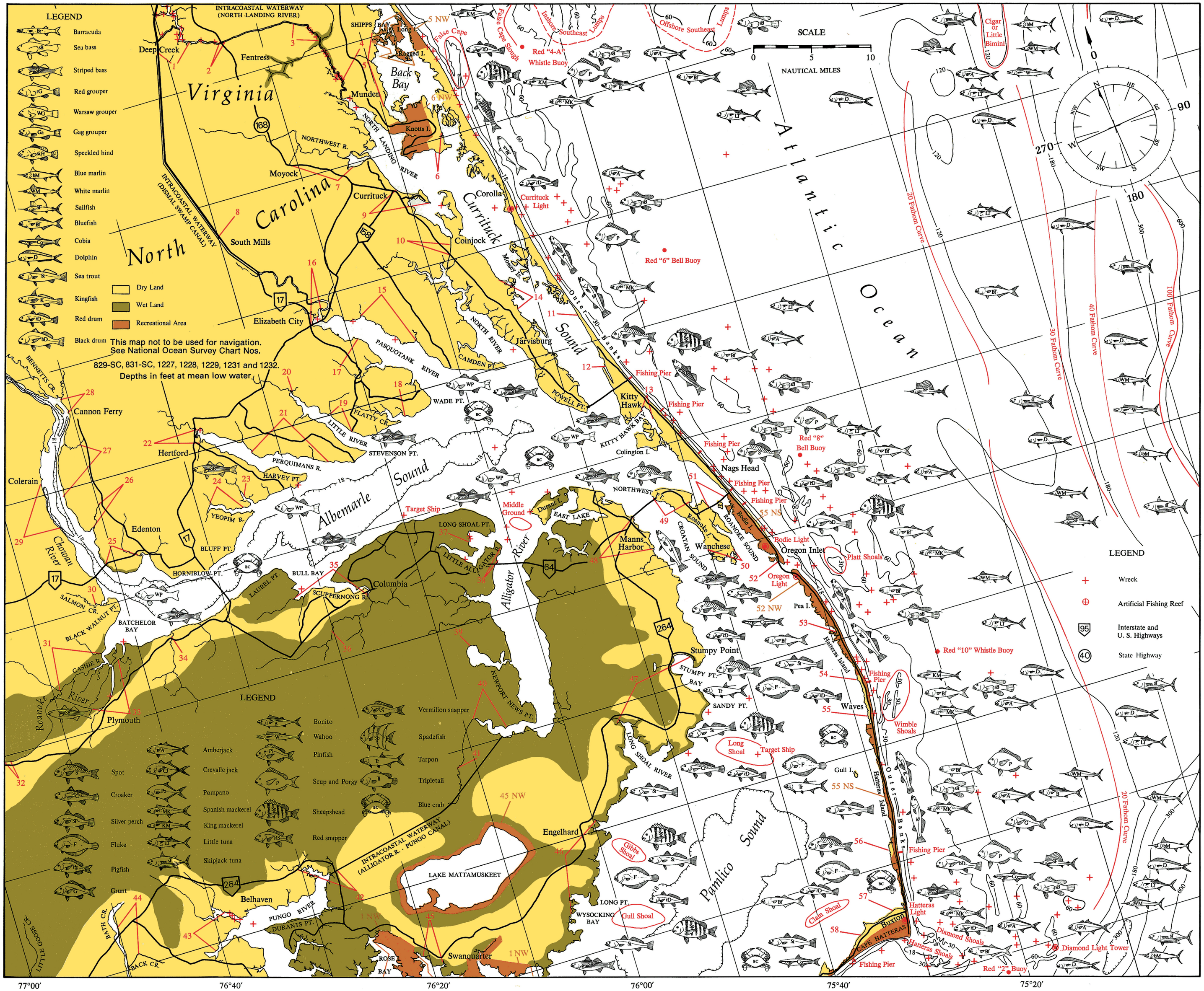
Since the early 1870's, North Carolina commercial fishermen have taken large quantities of striped bass more or less regularly in beach haul-seines along the Outer Banks. On the other hand, anglers fishing with hook and line along these same beaches caught very few of them, and those mostly by foul-hooking. Early in the 1960's however, someone discovered that large striped bass would occasionally take a live menhaden on an angler's hook. This gave a strong impetus to striped bass fishing, with the results that more and more of these large fish, locally called jumbo rock, have been landed each year. One taken from the surf near Cape Hatteras in December 1965 weighed 53 pounds, one near the same area in December 1970, 57½ pounds, and still another in February 1972, 60 pounds. Judging from the gradually increasing catch, the full potential of this area for striped bass fishing has not yet been realized and catches should increase even more as angling techniques continue to improve.

Among the most valued trophy fishes in the world is the blue marlin. At least three-quarters of all the east-coast catches of this splendid fish are taken within the section covered by this map. The catch of the first blue marlin here in 1938 brought about a fishery for them which remained small until the early 1950's. Then, a number of factors—improved access to the banks, increased numbers of sport fishing boats, and increased familiarity with the habits of marlin in this area—caused the annual catch to rise sharply within 2 years from a few dozen to over a hundred. Since the early 1960's, it has averaged nearly 150!

Starting in late April or May, blue marlin arrive along the inner edge of the Gulf Stream just south of Diamond Shoals. Most of them seem to remain there for a month or two feeding mostly on frigate mackerel, but also on dolphin, blackfin tuna, skipjack tuna, little tuna, filefish, porcupine fish, squid, octopus, and shrimp. The variety and habits of these prey fish indicate that blue marlin feed from surface to bottom. By the end of June or beginning of July, they shift their location northward slightly and then become centered in an area from Diamond Shoals to about the Cigar. There they remain through the rest of the summer. Soon thereafter, however, they begin moving southward as the water temperature drops, and by October most of them are south of Diamond Shoals. By the end of November, blue marlin have disappeared from Cape Hatteras area altogether.

No.	Location	Boating Facilities Per Location	Boat Rentals: Rowboat – Outboard	Boat Rentals: Charter Boat	Boat Rentals: Party Boat	Launch'g: Runabout – Skiff	Launch'g: Ramp: Surfaced – Natural	Depth: Hoist: Fixed – Portable	Depth: Marine Railway	Depth: Tidal Range – Ft.	Supplies: Approach – Ft.	Supplies: Alongside – Ft.	Supplies: Bait – Tackle	Supplies: Fuel: Gasoline – Diesel	Services: Water – Ice – Grocery	Services: Moorings – Berths – Elec.	Services: Repair: Motor – Hull	Services: Food – Lodging	Services: Toilet – Shower
1	Sykes Creek	2	RO					S		R	2.9	5	4	BT	GD	WIG	BE	MH	F	TS
2	Great Bridge	2						S	FP	R	0	10	7		GD	WIG	BE	MH	FL	TS
3	North Landing	2	RO					S						BT	G	WIG			F	T
4	Pungo Ferry	2	RO	C				S			0	4	4	BT	GD	WIG	BE	MH	FL	TS
5	Back Bay	6	RO					S	F	R	0.5	2	3	T	G	W	BE			TS
6	Knotts Island	3	RO	C				SN			0.5	2	3	BT	G	WI	BE		FL	TS
7	Tull Bay-Moyock	2	R					S						BT	G		B		F	
8	South Mills	1									0	10	10		G	W	B			T
9	Currituck	2						SN						B					F	
10	Coinjock	3	R					S	F	R	0	12	8	BT	GD	WIG	BE	MH	FL	TS
11	Duck	1	R											B			B		L	
12	Kitty Hawk	1	RO					S						BT	G	WI	B		L	
13	Kitty Hawk Bay	2	RO					S			0.5	5	5	BT	G	WI	BE		FL	TS
14	Poplar Branch-Grandy	2	R					S			0.5	3	8	BT	G	WI	E		FL	TS
15	Old Trap-Arneuse Cr.	2	RO					N												
16	Elizabeth City	6	RO					SN	F	R	0	10	8	BT	GD	WIG	BE	MH	FL	TS
17	Brickhouse	1						N												
18	Flatty Creek	1						S			0.5	2	3	BT	G	WI	BE			TS
19	Symons Creek	2						S											F	
20	Hall Creek	1	R					S			0.5	8	8	BT	G	WIG			L	T
21	Perquimans River	3						S												
22	Hertford	5	R					S			0.5	3	5	BT	GD	WI	BE		F	T
23	Yeopim Creek	1	R					S						B			B		L	
24	Bethel Cr-Yeopim R	4	R					SN						BT	G	WI	BE	MH	FL	T
25	Edenton	3	R					S	P		0.5	7	5	BT	GD	WI	BE	M	F	TS
26	Rockyhock Creek	2	RO					S			0.5	4	4	BT	G	WIG	B	MH	FL	T
27	White Ldg.-Indian Cr.	2						SN											L	
28	Cannon Ferry	2	RO					S			0.5	5	3	T		WI			L	T
29	Clrn. Bch.-Mt. Gould	2						SN											F	
30	Salmon Creek	1						N												
31	Cashie River	3	R					SN						BT	G	WI	B		FL	
32	Jamesville	3	R					SN						BT	G	WI			FL	
33	Plymouth	2						SN												
34	Mackeys	1	R					S						BT	G	WI			F	
35	Deep Cr-Columbia	4					S	S	F		0.5	5	3	BT	GD	WIG	BE	MH	FL	TS
36	Cross Landing	2						SN												
37	Fort Landing	1						N												
38	Sandy Point	2	R					S			0	4	7	BT	GD	WIG	BE	M	F	T
39	Frying Pan	1	R					N												
40	Gum Nk-Cherry Rdg Ldg	2						N												
41	Kilkenny	1						N												
42	Leechville	2						S				9	7	BT	GD	WIG	BE	M	FL	T
43	Belhaven	5	RO	C				SN	F	R	0	8	6	BT	GD	WIG	BE	MH	FL	TS
44	Bath Cr-Back Cr	3						S						BT	G	WIG	B		FL	T
45	Swanquarter	4	R					S						BT	G	WI	B		FL	
46	Wysocking Bay	2						S						B	G		B		FL	
47	Drain Pt-Long Shoal R	3						N			0.5	10	12	B	GD	WIG				
48	Manns Harbor	5	R	C				SN		R	0.5	3	3	BT	GD	WIG	BE	MH	FL	TS
49	Manteo	3						S				11.6								
50	Wanchese	10	RO	C	P			SN	FP	R	0.5	6	7	BT	GD	WIG	BE	MH	FL	TS
51	Roanoke Sound	3	RO					S			0.5	2	5	BT	GD	WIG	BE		F	T
52	Oregon Inlet	2		C				S			2.0			BT	GD	WI	BE		F	T
53	Pea Island	1						N												
54	Rodanthe	1						S												
55	Salvo	1	RO					S						BT	G	WI	B		FL	
56	Avon	1						S												
57	Buxton	1	RO					S							G					
58	Frisco	1	RO					S						BT	G	WI	B		F	T

No.	Location	Recreational Areas: County – City – Town: Park	State: Park-Wildl. Area – Forest	Nat'l.: Park-Wildl. Area – Forest	National Seashore	Use: Day-Wknd-Vacation	Activities: Fishing	Boating	Picnicking	Camping
1NW	Swanquarter			NW		DW	F			
5NW	Back Bay			NW		DW	F	B	P	
6NW	Mackay Island			NW		DW	F			
45NW	Mattamuskett			NW		DWV	F			
52NW	Pea Island			NW		DW	F			
55NS	Cape Hatteras				NS	DWV	F	B	P	C


LEGEND
Barracuda
Sea bass
Striped bass
Red grouper
Warsaw grouper
Gag grouper
Speckled hind
Blue marlin
White marlin
Sailfish
Bluefish
Cobia
Dolphin
Sea trout
Kingfish
Red drum
Black drum
Dry Land
Wet Land
Recreational Area
This map not to be used for navigation.
See National Ocean Survey Chart Nos.
829-SC, 831-SC, 1227, 1228, 1229, 1231 and 1232.
Depths in feet at mean low water
SCALE
0 5 10
NAUTICAL MILES
Virginia
North Carolina
Atlantic Ocean
Currituck Sound
Albemarle Sound
Pamlico Sound
Back Bay
Knotts I.
Ragged I.
Long I.
Deep Creek
Fentress
Munden
Moyock
Currituck
Corolla
Coinjock
South Mills
Elizabeth City
Jarvisburg
Kitty Hawk
Colington I.
Nags Head
Cannon Ferry
Hertford
Colerain
Edenton
Columbia
Manns Harbor
Wanchese
Oregon Inlet
Pea I.
Stumpy Point
Waves
Gull I.
Plymouth
Engelhard
Belhaven
Swanquarter
LAKE MATTAMUSKEET
Outer Banks
Hatteras Island
Roanoke Sound
Croatan Sound
Roanoke I.
Bodie I.
Alligator River
Chowan River
Roanoke River
Pungo River
Cape Hatteras
Buxton
False Cape
False Cape Slough
Inshore Southeast Lumps
Offshore Southeast Lumps
Red "4-A" Whistle Buoy
Red "6" Bell Buoy
Currituck Light
Fishing Pier
Red "8" Bell Buoy
Bodie Light
Oregon Light
Platt Shoals
Red "10" Whistle Buoy
Wimble Shoals
Long Shoal
Target Ship
Middle Ground
Gull Shoal
Clam Shoal
Gibbs Shoal
Hatteras Light
Diamond Shoals
Hatteras Shoals
Diamond Light Tower
Red "2" Buoy
Cigar or Little Bimini
20 Fathom Curve
30 Fathom Curve
40 Fathom Curve
100 Fathom Curve
INTRACOASTAL WATERWAY (NORTH LANDING RIVER)
INTRACOASTAL WATERWAY (DISMAL SWAMP CANAL)
INTRACOASTAL WATERWAY (ALLIGATOR R. - PUNGO CANAL)
LEGEND
Bonito
Wahoo
Pinfish
Scup and Porgy
Sheepshead
Red snapper
Vermilion snapper
Spadefish
Tarpon
Tripletail
Blue crab
Amberjack
Crevalle jack
Pompano
Spanish mackerel
King mackerel
Little tuna
Skipjack tuna
Spot
Croaker
Silver perch
Fluke
Pigfish
Grunt
LEGEND
Wreck
Artificial Fishing Reef
Interstate and U. S. Highways
State Highway
76°20′
76°00′
75°40′
75°20′
75°00′
74°40′
36°20′
36°40′
36°00′
35°40′
35°20′
77°00′
76°40′
76°20′
76°00′
75°40′
75°20′

Diamond Shoals to New River

LAND CONFIGURATION AND WATER DEPTH

The long, narrow barrier sandbars that make up the Outer Banks continue along this stretch of coast. Instead of running nearly due south as they have for 90 miles, however, they abruptly turn southwesterly at Cape Hatteras and from there to Cape Lookout form a sweeping, 60-mile-long arc in the coastline. This arc, consisting of the southern end of Hatteras Island, and all of Ocracoke Island, Portsmouth Island (now connected to neighboring islands), and Core Banks, forms the inside edge of the coastal concavity known as Raleigh Bay. Barden Inlet, the shallow opening between Core Banks and Shackleford Banks, marks about the end of the Outer Banks.

The complex system of sounds described in the previous map section continues here. Pamlico Sound extends southward from Roanoke Island some 60 miles before dividing into three main arms: Pamlico River, Neuse River, and Core Sound. Pamlico River is not a river but a 35-mile-long extension of the Pamlico Sound averaging about 18 feet deep. The principal tributary, Tar River, enters the arm of the sound at the town of Washington. Similarly, Neuse River up to the town of New Bern is also a 35-mile-long extension of the sound. The principal tributaries, Neuse and Trent Rivers, enter near the town of New Bern. Core Sound is a narrow, saltwater bay 25 miles long. It is shallow, rarely exceeding 10 feet, and averaging only about 4 feet. Bogue Sound is merely a westerly extension of Core Sound some 30 miles long by 3 miles wide. South of Bogue Banks the coast continues, for the most part, to be skirted by a series of short barrier islands which separate the sea from narrow, interconnecting shallow sounds.

The sea floor off this section of coast is mostly of sand, and slopes downward at widely varying rates. Off Cape Hatteras, a series of submerged, shifting sandy shoals, called Diamond Shoals, extends nearly 10 miles seaward. Owing to the shallowness of these shoals, many of which are less than 15 feet under the surface, waves break far out to sea beyond sight of land. This area is very dangerous to navigators, what with the shallowness of the shoals, the often strong, erratic currents which sweep over them, and the difficulty in making proper allowance for the nearby Gulf Stream. Beyond Diamond Shoals the sea floor slopes downward at a rate of 60 feet a mile for 10 miles to a depth of 600 feet, the edge of the continental shelf. At Cape Lookout another series of sandy shoals, similar to the ones at Cape Hatteras, extends nearly 10 miles seaward. The distance from the end of Cape Lookout Shoals to the edge of the shelf is about 25 miles, and here the slope is only about 25 feet a mile. The sea floor around Cape Lookout, while mostly of sand, has numerous rock outcrops, especially between Cape Lookout Shoals and the shelf edge, and even tropical reef-building corals occur along the edge of the shelf.

The Gulf Stream passes about 15 miles from Cape Hatteras. This is closer than anywhere else along the coast after it leaves Florida at West Palm Beach.

FISH AND FISHING

Dolphin are fish which are associated more with warm ocean currents than with land masses. Distributed around the world in fertile parts of all oceans where surface temperatures are at least 70°F, they occur regularly and abundantly nearshore only along those stretches of coast touched by warm oceanic currents. Thus, even though dolphin are taken at various distances seaward from all the Atlantic states, even as far north as Nova Scotia during the warmest months, the most consistently good fishing for them nearshore is in those sections where the Gulf Stream runs close along the coast, i.e., southern Florida and North Carolina.

Dolphin have been taken off North Carolina the year round, though their proximity to shore as well as their concentration varies seasonally. They come in closest during the spring and summer and move out in the fall. In winter, during those occasional periods when seas are calm enough for small boats, anglers can usually find 70°F water and, if they are lucky, dolphin 15 to 30 miles due east and southeast of Cape Hatteras, and 30 to 50 miles due east and southeast of Cape Lookout.

The migratory habits of dolphin can only be surmised from the seasons and locations of capture, for there have been no adequate tagging studies. The first fish to appear in the spring nearshore at North Carolina usually are large ones. By early July these have moved away to the north and are replaced by somewhat smaller fish. The movement northward and replacement by ever smaller fish which apparently come from the south, continues through the summer and early fall. The progressively smaller recruits are also progressively more numerous than those that preceded them.

Dolphin along the Atlantic coast spawn at one time or another during every month of the year. Off southern Florida ripe females are found from fall through early summer, off North Carolina throughout the summer. Like many other marine fishes, female dolphin produce ripe eggs in batches, of which there are at least two or three in a single season. The young grow incredibly fast. Some spawned early in the season reach maturity and spawn within their first year. Among specimens reared in tanks, one grew from about a pound to over 35 pounds in less than 8 months, and another to over 60 pounds in a little less than a year. This is under controlled artificial conditions. In their much more rigorous natural environment, where they must hunt their own food, they grow more slowly. From the time dolphin are hatched they must compete with their own kind as well as other species, first for copepods, tiny shrimplike organisms, then as they grow older, for juvenile pelagic fishes, and then as they reach maturity, for adult pelagic fishes. Throughout their lives, dolphin prey mostly upon the fishes and invertebrates associated with drifting sargassum weed, including jacks, triggerfishes, filefishes, small mackerels and tunas, squids, and pelagic crabs and shrimps.

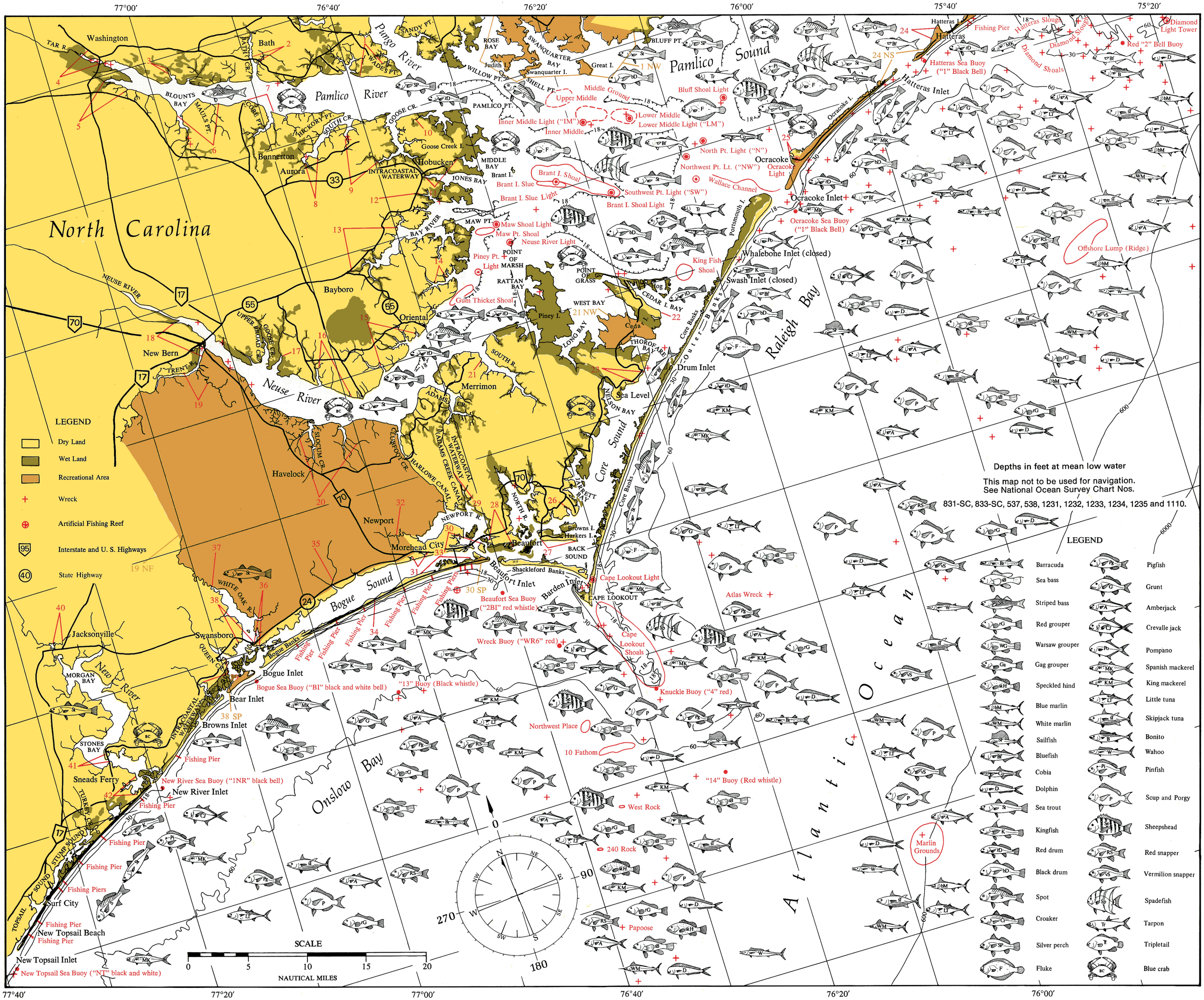
Beginning early in life, males weigh more than females, length for length, and this difference becomes more pronounced as they get older. For example, during the first year of life when about 2 feet long, females average 6 pounds, males 8 pounds. During the second year when about 3 feet, the females weigh about 25 pounds, the males 35 pounds. According to studies of scales, few dolphins of the western Atlantic live beyond 3 years, and the ones that do are mostly males. One of the largest dolphin recorded, a 60-inch male weighing over 75 pounds, was estimated to be in its fourth year of life. Although the age of the world's tackle record is not known, its 69-inch length and 85-pound weight is about the theoretical maximum size for this species.

Dolphin are much more active in the day than at night. Like a number of other pelagic fishes, they have the habit of gathering under floating objects, such as patches of sargassum weeds, planks, boxes, boards, and other flotsam. Fishermen of Japan, Indonesia, and Malta take advantage of this behaviorism by setting out rafts to take what has gathered there with purse seine or hook-and-line. A typical Japanese dolphin raft measures about 25 by 10 feet, and a single catch from under one of these has been over 1,000 dolphin. A few enterprising anglers along the east coast of the United States spread pages of newspaper or beach mats on the surface of the water during calm days. They go off trolling for an hour or so, then return to fish for the dolphin gathered under their improvised rafts.

Pompano dolphin or little dolphin, *Coryphaena equiselis,* a close relative of the dolphin and easily confused with that species, occurs off North Carolina. It is smaller than the common dolphin, growing to only about 2½ feet in length, and can be distinguished by the following features: its greatest body depth is at the center of the body, there are fewer than 55 dorsal rays, and the length of its pectoral fin is only about half the length of the head. In the common dolphin the greatest body depth is in front of the center, there are between 55 and 65 dorsal rays, and the length of the pectoral fin is more than half the length of the head.

No.	Location	Boat Rentals: Boating Facilities Per Location	Rowboat – Outboard	Charter Boat	Party Boat	Launch'g: Runabout – Skiff	Ramp: Surfaced – Natural	Hoist: Fixed – Portable	Depth: Marine Railway	Tidal Range – Ft.	Approach – Ft.	Alongside – Ft.	Supplies: Bait – Tackle	Fuel: Gasoline – Diesel	Water – Ice – Grocery	Services: Moorings – Berths – Elec.	Repair: Motor – Hull	Food – Lodging	Toilet – Shower
1	Wright Cr-Pamlico Bch	3	R					S		R	0	3	2	BT	GD	WIG	BE		F	TS
2	Bath Creek	3						S						BT	G	WIG	B		L	T
3	Broad Creek	2							P	R					GD	WI	B	MH	F	TS
4	Washington	5	R					S	P	R				BT	G	WIG	BE	MH	FL	T
5	Chocowinity Bay	3	R					SN						BT	G	WI		MH	F	TS
6	Blount Cr.-Nevil Cr.	4	RO					S						BT	G	WIG	B		F	
7	Core Pt.-Durham Cr.	2	R					SN						B	G				FL	
8	Aurora	3	R					SN						BT	G	WI		MH	FL	
9	Bond Cr-Campbell Cr	3						SN												
10	Oyster Creek	1						S						B	G				F	
11	Middle B.-Hobucken	4	R					SN		R	0	5	4	BT	GD	WIG	BE	MH	FL	TS
12	Mesic	1	RO					S						BT	G	WI			F	
13	Vandemere-Bayboro	2						S												
14	Whortonsville-Pamlico	2						SN								WI				
15	Oriental	5	RO					S		R		10	8	BT	GD	WIG	BE	MH	FL	TS
16	Arapahoe	2	RO					SN						BT	G	WI	B	MH	FL	
17	Goose Creek	1						N							G				F	
18	Bridgeton-New Bern	12	R					SN	F	R				BT	GD	WIG	BE	MH	FL	TS
19	Trent River	2						S												
20	Havelock	3						N												
21	South River	1						S												
22	Cedar Island	1		C				N												
23	Atlantic	2		C				SN		R				BT	GD	WIG			FL	
24	Hatteras	5	RO	C	P			S			2.0	10	7	BT	GD	WIG	BE	MH	FL	TS
25	Ocracoke	10	RO	C				S		R	1.0	10		BT	GD	WIG	B	MH	FL	T
26	Marshallberg	1		C						R							BE	MH		
27	Harkers Island	8	RO	C				S		R	1.3			BT	GD	WIG	BE	MH	FL	TS
28	Beaufort	6		C				S	F		2.5	12	8	BT	GD	WIG	BE	M	FL	TS
29	Core Creek	1	RO					SN			2.1	12	8	BT	G	WIG	B		FL	T
30	Morehead City	12	RO	C	P			SN	F	R	2.8	7	5	BT	GD	WIG	BE	MH	FL	TS
31	Peltier Cr-Spooner Cr	6	RO	C				S	P	R	1.5	5	5	BT	GD	WIG	BE	MH	FL	TS
32	Newport	1						S						BT	G	WI			FL	
33	Atlantic Beach	7	RO	C	P			S			2.5	5	5	BT	GD	WIG	BE	M	FL	TS
34	Salter Path	1						N						BT	G	WI			FL	
35	Broad Creek	3						SN						BT	G	WI			FL	
36	Cedar Point	4	RO	C	P			SN		R	2.0	6	6	BT	GD	WIG	BE	MH	FL	TS
37	Stella	1						N						B	G					
38	Swansboro	3	RO	C				SN	P	R	2.2	4	3	BT	GD	WIG	BE	MH	FL	TS
39	Queen Cr.-Bear Cr.	2						SN			2.2	3	2	B	G	WI	BE			
40	Jacksonville	2						S							GD	WIG	BE	MH	L	TS
41	New River	2	RO					SN	F		3.0			BT	G	WI	BE		F	T
42	Sneads Ferry-Swan Pt.	3	R	C	P			SN			3.0	4	4	BT	GD	WIG	BE	MH	F	TS

No.	Location	County – City – Town: Park	State: Park-Wildl. Area-Forest	Natl.: Park-Wildl. Area-Forest	National Seashore	Use: Day-Wknd-Vacation	Activities: Fishing	Boating	Picnicking	Camping
1NW	Swanquarter			NW		DW	F			
19NF	Croatan			NF		DW				
21NW	Cedar Island			NW						
24NS	Cape Hatteras				NS	DWV	F	B	P	C
30SP	Fort Macon		SP			DW	F		P	
38SP	Hammocks Beach		SP			DWV	F	B	P	C


North Carolina
Pamlico Sound
Pamlico River
Pungo River
Neuse River
Bogue Sound
Core Sound
Raleigh Bay
Onslow Bay
Atlantic Ocean
Washington
Bath
Bonnerton
Aurora
Hobucken
Bayboro
Oriental
New Bern
Havelock
Newport
Morehead City
Beaufort
Merrimon
Sea Level
Drum Inlet
Ocracoke
Ocracoke Inlet
Hatteras
Hatteras Inlet
Whalebone Inlet (closed)
Swash Inlet (closed)
Jacksonville
Swansboro
Bogue Inlet
Bear Inlet
Browns Inlet
Sneads Ferry
New River Inlet
Surf City
New Topsail Beach
New Topsail Inlet
Cape Lookout
Barden Inlet
Beaufort Inlet
Shackleford Banks
Core Banks
Outer Banks
Portsmouth I.
Ocracoke I.
Bluff Shoal Light
Middle Ground
Upper Middle
Lower Middle
Inner Middle Light ("IM")
Inner Middle
Lower Middle Light ("LM")
North Pt. Light ("N")
Northwest Pt. Lt. ("NW")
Southwest Pt. Light ("SW")
Brant I. Shoal Light
Brant I. Shoal
Brant I. Slue
Brant I. Slue Light
Wallace Channel
Maw Shoal Light
Maw Pt. Shoal
Neuse River Light
Piney Pt. Light
King Fish Shoal
Gum Thicket Shoal
Ocracoke Sea Buoy ("1" Black Bell)
Hatteras Sea Buoy ("1" Black Bell)
Fishing Pier
Diamond Light Tower
Red "2" Bell Buoy
Offshore Lump (Ridge)
Cape Lookout Light
Atlas Wreck
Beaufort Sea Buoy ("2BI" red whistle)
Wreck Buoy ("WR6" red)
Cape Lookout Shoals
Knuckle Buoy ("4" red)
Bogue Sea Buoy ("BI" black and white bell)
"13" Buoy (Black whistle)
Northwest Place
10 Fathom
"14" Buoy (Red whistle)
West Rock
240 Rock
Papoose
Marlin Grounds
New River Sea Buoy ("1NR" black bell)
New Topsail Sea Buoy ("NT" black and white)
Depths in feet at mean low water
This map not to be used for navigation.
See National Ocean Survey Chart Nos.
831-SC, 833-SC, 537, 538, 1231, 1232, 1233, 1234, 1235 and 1110.
LEGEND
Dry Land
Wet Land
Recreational Area
Wreck
Artificial Fishing Reef
Interstate and U. S. Highways
State Highway
LEGEND
Barracuda
Sea bass
Striped bass
Red grouper
Warsaw grouper
Gag grouper
Speckled hind
Blue marlin
White marlin
Sailfish
Bluefish
Cobia
Dolphin
Sea trout
Kingfish
Red drum
Black drum
Spot
Croaker
Silver perch
Fluke
Pigfish
Grunt
Amberjack
Crevalle jack
Pompano
Spanish mackerel
King mackerel
Little tuna
Skipjack tuna
Bonito
Wahoo
Pinfish
Scup and Porgy
Sheepshead
Red snapper
Vermilion snapper
Spadefish
Tarpon
Tripletail
Blue crab
SCALE
0 5 10 15 20
NAUTICAL MILES
77°00′
76°40′
76°20′
76°00′
75°40′
75°20′
35°20′
35°00′
34°40′
34°20′
34°00′

New River to Ocean Forest

LAND CONFIGURATION AND WATER DEPTH

Most of the outer coast from New River, North Carolina, to Ocean Forest, South Carolina, consists of a series of low, sandy barrier islands separated from each other by narrow inlets. The waterway between the barrier islands and the mainland varies in width from a few hundred feet to a mile or so and is bordered by saltmarshes. Along most of its length, the waterway is divided by saltmarsh islands into a network of branching channels. This estuarine passage with its narrow waterways and its numerous islands is in sharp contrast to the broad expanses of the Albermarle-Pamlico Sound complex just north of here.

The most prominent feature of this section is the sandy headland of Cape Fear. This has been formed over many thousands of years, much of it by sediments being washed continuously from the interior down the Cape Fear River and deposited at the river's mouth. The silt in the sediments is particularly noticeable during windy periods for being lighter in weight than the sand, it is easily agitated by the waves and being darker, it imparts a milky brown color to the water. The vast sedimentary deposits are partly visible at the surface as Cape Fear, which protrudes 15 miles seaward of the general trend of the coastline. But beyond Cape Fear, another 30 miles of deposits lie hidden under the surface of the sea. This submerged area is Frying Pan Shoals, the treacherousness of which prompted early explorers and mariners to call its landfall the "Cape of Feare." Cape Fear and Frying Pan Shoals separate two large coastal concavities, Onslow Bay to the north and Long Bay to the south.

Beyond Frying Pan Shoals, the sea increases in depth from 60 feet to 600 feet in 20 miles, a declivity of about 30 feet a mile. Off both Onslow and Long Bays, however, the bottom slopes much more gradually, though with some variation. Within a mile of the beach the sea bottom drops about 30 feet; 10 to 15 miles beyond that, 2½ feet a mile; and 40 to 50 miles beyond that, 14 feet a mile.

Actually, the slope of the bottom here is very gentle, and most of the shelf in this section would look like a vast plant of sand if one could gaze over its surface. It does, however, have patches of shell fragments mixed with the sand, and areas where limestone and sandstone outcrops project above the bottom. Many of these outcroppings are covered with encrusting corals as well as seaweeds, sponges, and sea fans. Because of the abundance of these sessile invertebrates and the fishes that gather there, fishermen call these areas "live bottom." Inshore of about the 100-foot contour the live-bottom areas are frequented by black sea bass, scup, spot, and gray sea trout; offshore of this contour, by snappers, groupers, and the various porgies other than scup. Along the 250-foot contour is a series of living tropical coral reefs bathed by the Gulf Stream during most of the year. This is the most northerly occurrence of such reefs along the east coast of the United States.

HISTORY

Much of the fishing by the early settlers was for fishes found close-at-hand to coastal villages, principally, anadromous species such as shad, river herring, sturgeon, and striped bass. In the spring and early summer, as large numbers of these fishes collected in the brackish and fresh waterways on their way upstream to spawn, they were trapped in fishermen's nets. With no refrigeration, the great bulk of the catch had to be salted to preserve it for later use or be plowed into the fields as fertilizer. Only a small part of the catch could be used immediately.

Later, the supply of river-caught fishes could not meet the year-round demands of increasing numbers of people living in coastal settlements. Consequently, fishermen turned to the seashore to supply their needs. There, striped mullet became the object of an important ocean fishery in this section, as it still is. They are particularly available here during fall and early winter owing to their habit of collecting in large schools close to shore where they are easily caught in seines fished from beaches.

As the number of people living near the coast continued to increase, so did the demand for fresh fish. The expanded market led fishermen to seek other species during the slack time between the spring and fall runs. One which they found ideally suited to their needs was black sea bass, locally called blackfish. These were plentiful the year round just a short distance from the shore. They shipped well; their sweet, flaky flesh stayed firm; and most important, they sold well in the market. Beginning in the mid-1800's as the fishery developed, sea bass were sought during the summer when the seines were laid up. Each morning, if the weather was suitable, fishermen would sail out to the rocky grounds 1 to 15 miles offshore, fish all day with handlines, and return to port about dusk. It was not until the early 1900's that sea bass along this stretch of coast were fished during winter as well as summer. In the winter fishery, three or four men would ship together on a small naphtha-powered boat and handline off Bear Inlet, Wrightsville Beach, and Southport, North Carolina, on grounds which they called "blackfish rocks."

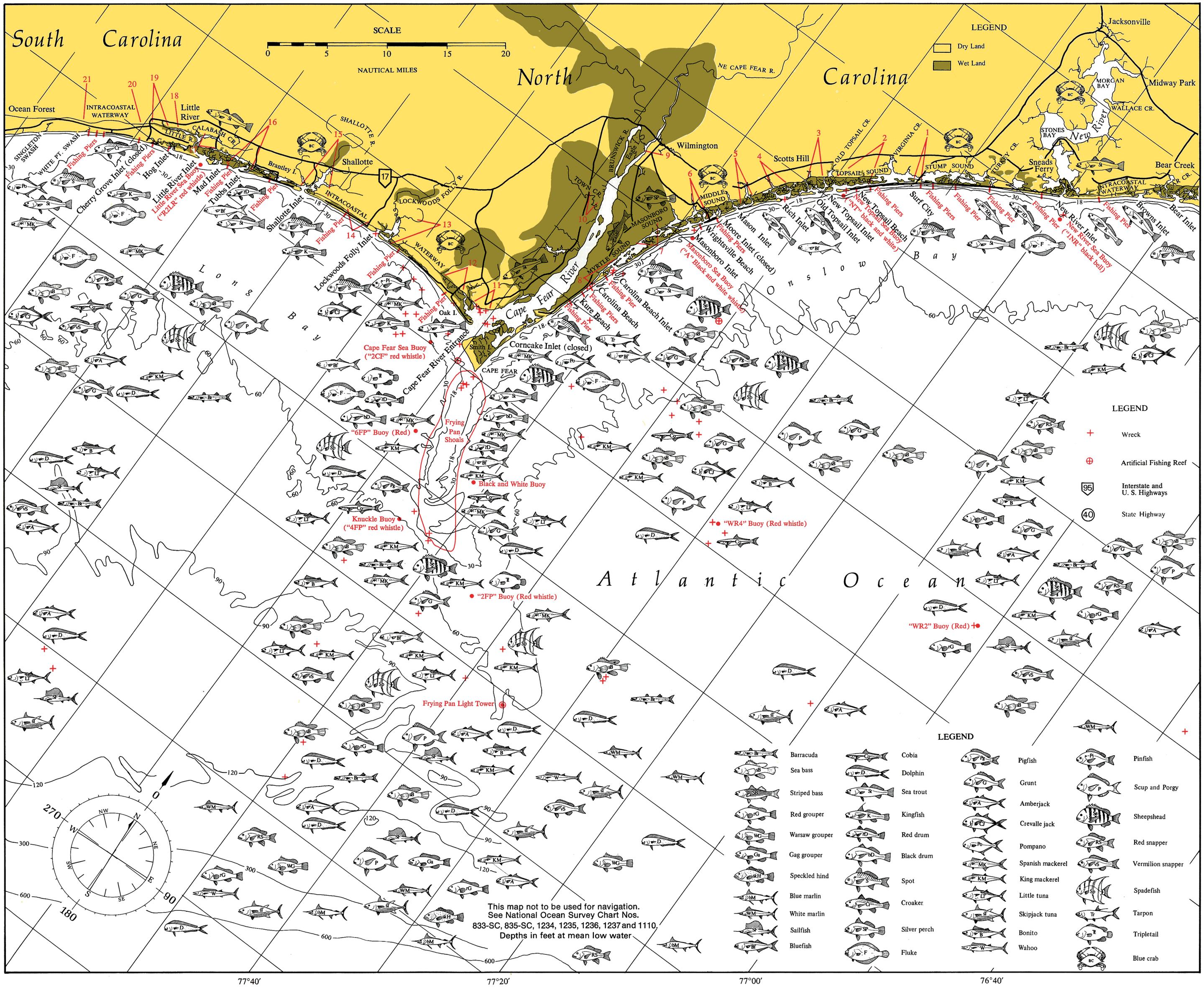
FISH AND FISHING

Black sea bass, like groupers, grunts, porgies, snappers, and various other bottom-dwelling fishes, tend to gather around rough or uneven bottom. Fishermen know from long experience that if they locate a patch of rocks while sailing inshore of the 180-foot contour and lower their lines, they almost always catch sea bass. So striking is this association that during the 1800's and into the early 1900's fishermen called any hard, irregularly shaped bottom, indicative of a rocky area, "blackfish rocks." Perhaps this association of sea bass with rocks was first noticed in early days when rock ballast used in the sailing ships was periodically emptied, usually in the shoal water of a harbor. Soon after the rocks were dumped, fishermen could observe sea bass gathering around. Besides outcroppings, ridges, and ledges of rock or stone rising above the otherwise smooth, sandy bottom, there are many coral heads and a few coral reefs as well as underwater wreckage and artificial reefs. All these irregularities of the bottom provide prime habitat for sea bass. Not only do sponges, sea fans, bryozoans, barnacles, and tube worms abound there, but also organisms which sea bass eat, including crabs, shrimps, mollusks, and small fishes.

While black sea bass occur along most of the United States east coast, there seem to be at least two distinct groups—one living north, the other south of Cape Hatteras. Members of the northern group spend winter and early spring on the outerpart of the continental shelf in depths of 180 to 420 feet. During late spring or early summer they migrate inshore and northward, some as far as Cape Cod, Massachusetts. They spend summer and early fall close to land, usually in depths less than 120 feet. Although the northern group seems to prefer temperatures of 50° to 65°F, they occur in water from as cold as 45°F to as warm as 70°F. Unlike the northerners, the southern group of black sea bass do not travel far. Along the southeastern coast where water temperatures at the bottom fluctuate between 55° and 78°F they remain the year round. But along other parts of the southeast coast where the temperatures exceed these limits, they move between shallow and deep water in response to temperature changes. Usually the temperature structure is within their range of tolerance between the 30- and 180-foot contours. However, their temperature requirements differ with age; for example, although the water in the sounds is usually too warm for adult sea bass during summer, the young find it suitable. During summer, both hatchlings and yearlings are found close to shore, inside the mouths of inlets, on shelly bottoms, around pilings and wharfs, and along rock jetties.

Black sea bass, like several other members of their family, e.g., groupers, sand perches, and hinds, are bisexual. They begin life possessing both male and female gonadal tissue. As they mature, however, they function in only one sexual capacity. Females greatly outnumber males for the first 5 years of life. At age 6 when about 11 inches long, the two sexes are of about equal numbers; thereafter, males predominate. It is possible that not all females change sex, but the evidence is to the contrary. The oldest female on record is 10 years old; the oldest male is 20. Fish measuring over 18 inches and weighing over 3 pounds, usually caught in depths of 120 to 180 feet, are invariably males.

		BOAT RENTALS					LAUNCH'G			DEPTH			SUPPLIES			SERVICES						
No.	Location	Boating Facilities Per Location	Rowboat – Outboard	Charter Boat	Party Boat	Runabout – Skiff	Ramp: Surfaced – Natural	Hoist: Fixed – Portable	Marine Railway	Tidal Range – Ft.	Approach – Ft.	Alongside – Ft.	Bait – Tackle	Fuel: Gasoline – Diesel	Water – Ice – Grocery	Moorings – Berths – Elec.	Repair: Motor – Hull	Food – Lodging	Toilet – Shower
1	Sears Ldg.-Surf City	4	R				SN			2.5	6	6	BT	GD	WIG	BE	M	FL	TS
2	New Topsail Bch.	3	RO	C	P		S	F	R	2.5	5	4	BT	GD	WIG	BE	MH	FL	TS
3	Hampstead	2	R				N									B		L	
4	Scotts Hill	3	RO				N				6	6	BT	G	WIG	BE			T
5	Page Cr.-Howe Pt.	3	R				S	FP	R		5	4	BT	GD	WIG	BE	MH		TS
6	Wrightsville	9	RO	C			SN	FP	R	3.6	8	5	BT	GD	WIG	BE	MH	FL	TS
7	Masonboro	3		C			S		R					GD	WIG	BE	MH	F	TS
8	Carolina Beach	4	R	C			S				8	8	BT	GD	WIG	BE	MH	FL	TS
9	Wilmington	1					S			3.6						BE		FL	
10	Town Creek	2	R				S												
11	Southport	4		C	P		S	FP	R	4.1	6	6	BT	GD	WIG	BE	MH	FL	TS
12	Long Beach	4	RO				SN			3.5	6	4	BT	GD	WIG	BE	MH	FL	TS
13	Lockwoods Folly	4	RO				SN			4.2			BT	GD	WIG	BE		FL	T
14	Holden Beach	3	R	C		S	S				12	6	BT	G	WIG	BE			T
15	Shallotte River	8	RO	C			SN		R	4.6	4	4	BT	GD	WIG	BE	MH	FL	TS
16	Ocean Isle-Sunset Bch.	2					N			4.5									
17	Calabash	3	RO	C			SN			5.0	3	6	BT	G	WIG	BE		FL	T
18	Little River	2		C						5.2	12	10	BT	GD	WIG	BE		FL	TS
19	Nixon Crossroads	4		C			SN	P	R	5.0	6	6	BT	GD	WIG	BE	MH	F	TS
20	Cherry Grove Beach	1		C							12	8		GD	W	BE	M	FL	TS
21	Windy Hill	1					S		R		12	8	BT	GD	WIG	BE	MH	FL	TS


South Carolina
North Carolina
Atlantic Ocean
Long Bay
Onslow Bay
SCALE
0 5 10 15 20
NAUTICAL MILES
LEGEND
Dry Land
Wet Land
Ocean Forest
INTRACOASTAL WATERWAY
Little River
CALABASH CR.
SINGLETON SWASH
WHITE PT. SWASH
Cherry Grove Inlet (closed)
Hog Inlet
Little River Inlet
Little River Sea Buoy ("R2LR" red whistle)
Mad Inlet
Tubbs Inlet
Brantley I.
Shallotte
SHALLOTTE R.
Shallotte Inlet
LOCKWOODS FOLLY R.
Lockwoods Folly Inlet
Oak I.
Cape Fear Sea Buoy ("2CF" red whistle)
Cape Fear River Entrance
Smith I.
CAPE FEAR
Cape Fear River
Corncake Inlet (closed)
Frying Pan Shoals
"6FP" Buoy (Red)
Knuckle Buoy ("4FP" red whistle)
Black and White Buoy
"2FP" Buoy (Red whistle)
Frying Pan Light Tower
Kure Beach
Carolina Beach
Carolina Beach Inlet
MYRTLE SOUND
MASONBORO SOUND
TOWN CR.
BRUNSWICK R.
Eagle I.
Wilmington
NE CAPE FEAR R.
MIDDLE SOUND
Masonboro Sea Buoy ("A" Black and white whistle)
Wrightsville Beach
Masonboro Inlet
Moore Inlet (closed)
Mason Inlet
Scotts Hill
Rich Inlet
Old Topsail Inlet
New Topsail Inlet
New Topsail Sea Buoy ("NT" black and white)
New Topsail Beach
OLD TOPSAIL CR.
TOPSAIL SOUND
VIRGINIA CR.
STUMP SOUND
TURKEY CR.
Surf City
Sneads Ferry
New River Inlet
New River Sea Buoy ("1NR" black bell)
New River
Jacksonville
MORGAN BAY
Midway Park
WALLACE CR.
STONES BAY
Bear Creek
Browns Inlet
Bear Inlet
"WR4" Buoy (Red whistle)
"WR2" Buoy (Red)
Fishing Piers
Fishing Pier
33°40′
33°20′
33°00′
34°40′
34°20′
34°00′
78°40′
78°20′
78°00′
77°40′
77°20′
77°00′
76°40′
0 90 180 270
N NE E SE S SW W NW
This map not to be used for navigation.
See National Ocean Survey Chart Nos.
833-SC, 835-SC, 1234, 1235, 1236, 1237 and 1110.
Depths in feet at mean low water
LEGEND
Wreck
Artificial Fishing Reef
Interstate and U. S. Highways
State Highway
LEGEND
Barracuda
Sea bass
Striped bass
Red grouper
Warsaw grouper
Gag grouper
Speckled hind
Blue marlin
White marlin
Sailfish
Bluefish
Cobia
Dolphin
Sea trout
Kingfish
Red drum
Black drum
Spot
Croaker
Silver perch
Fluke
Pigfish
Grunt
Amberjack
Crevalle jack
Pompano
Spanish mackerel
King mackerel
Little tuna
Skipjack tuna
Bonito
Wahoo
Pinfish
Scup and Porgy
Sheepshead
Red snapper
Vermilion snapper
Spadefish
Tarpon
Tripletail
Blue crab

Ocean Forest to Altamaha Sound

LAND CONFIGURATION AND WATER DEPTH

From the northern boundary of this map section southward to Murrells Inlet the coast consists of a nearly straight sandy beach of the mainland. There are no long, narrow barrier islands sheltering shallow bays and sounds, or saltmarshes such as are characteristic of most of the Middle Atlantic and southeastern coastal states. From Murrells Inlet to the Winyah Bay Entrance, however, the coast becomes a succession of sandy spits and barrier islands. These are rather ill defined, for only a thin belt of saltmarshes with meandering tidal creeks extends between them and the mainland. From about the Winyah Bay Entrance southward to Florida, the coast becomes more incised, and the barrier islands, locally called sea islands, become broader. These islands are large, ranging up to nearly 15 miles long by as much as 5 miles wide. Between them and the mainland is a great expanse of saltmarsh stretching farther than one can see. Passages between the sea islands range from a tenth of a mile to several miles wide. The depths of these passages, 15 to 70 feet or more, are astonishing, not only in comparison with their width but also with the depth of the sea bordering the coast. While the average depth of the passages is 35 feet, you need to sail more than 5 miles out from shore along this section before again getting into water that deep.

Just outside the mouths of the passages the sea floor is composed chiefly of bars and tidal deltas. Most of these shoal areas are 2 miles or so long, but some of them extend out as far as 6 miles. About 15 to 20 miles beyond the shoals the sea floor slopes down to 60 feet, the offshore limit of this section. Although there are scattered stony outcroppings, ridges, and ledges, as well as coral heads, ship wrecks, and artificial reefs throughout this inner edge of the continental shelf, the bottom is mainly sand or sandy-silt.

ESTUARINE AREAS

One of the most remarkable features along the United States Atlantic coast is the extensive and highly dynamic estuarine system. The part extending from Winyah Bay, South Carolina, to about Jacksonville, Florida, covers over 2,000 square miles. Stretching inland from the barrier islands, in places as much as 25 miles, it consists of broad saltmarshes cut by a myriad of tidal waterways meandering in arborescent patterns. These, variously called ditches, creeks, and channelways, depending on their depth, vary in width from less than a foot to over a mile. Separating the saltmarshes at intervals of about 20 miles are sounds and bays which receive the discharge of coastal rivers.

The estuarine system in this area is exceedingly fertile and productive, as elsewhere along the Atlantic coast. Nutrients released by microbial decomposition of plant and animal material within the system, as well as nutrients carried there by freshwater streams, become caught in the cycle of the teeming estuarine life, from plants to minute animals and shellfish to fishes to bacteria to bottom sediments. The action of tides in the estuary is biologically crucial, for it moves nutrients back and forth, thereby slowing their escape from the system and giving the microscopic plants and other minute organisms time enough to incorporate them into living matter. Thus, the vastness of the estuarine system, the volume of the nutrients, and the slow back and forth movement of the water combine to make this area exceedingly rich.

Until recent years, the saltmarshes bordering the tidal waterways were believed to be useful only for dumping grounds for wastes or to fill for real estate. Now they are known to be among the most fertile parts of the world, producing more plant material than the richest farmland. Even more significant than their high productivity is the fact that only about half of what grows in the saltmarshes is used by organisms living there. The rest is eventually washed into the brackish water. This dead plant material becomes decomposed by bacteria and transformed into organic detritus. The detritus, together with the large phytoplankton populations, feed shellfish and the myriad of tiny grazing animals, which in turn feed larger organisms, including fishes.

FISH AND FISHING

Of over 350 species of fishes occurring along this section of coast, more than half live in the estuary at one time or another during their lives. Some of the fishes commonly used for bait, such as silversides, killifishes, and anchovies, spend their entire lives in the estuary.

Others, including spotted and gray sea trouts, red and black drum, and silver perch, spend most of their lives there. They are spawned either within the estuary or close along ocean beaches. If they are spawned in the ocean, the hatchlings somehow find their way into the estuary, either by swimming or drifting. Regardless of where they were spawned, the young remain in the estuary through the summer, fall, and into the winter, some even through the winter, especially if it is a mild one. The adults of these species live in the estuary during the warm weather and move to the ocean during winter cold spells.

Anadromous species, for example, shad, river herrings, and sturgeon, move in from the sea during winter or early spring, pass through the estuary, and ascend freshwater streams to spawn. Striped bass living in the slightly brackish water of the various coastal rivers move farther upstream into fresh water to spawn. The individuals of these species that survive spawning either return to the estuary, as striped bass do, or continue through the estuary on their way to sea as river herrings do. The hatchlings drift downstream into the estuary where they remain to feed and grow through the summer and into fall. Then as the water chills, all but the striped bass and sturgeon move out to sea.

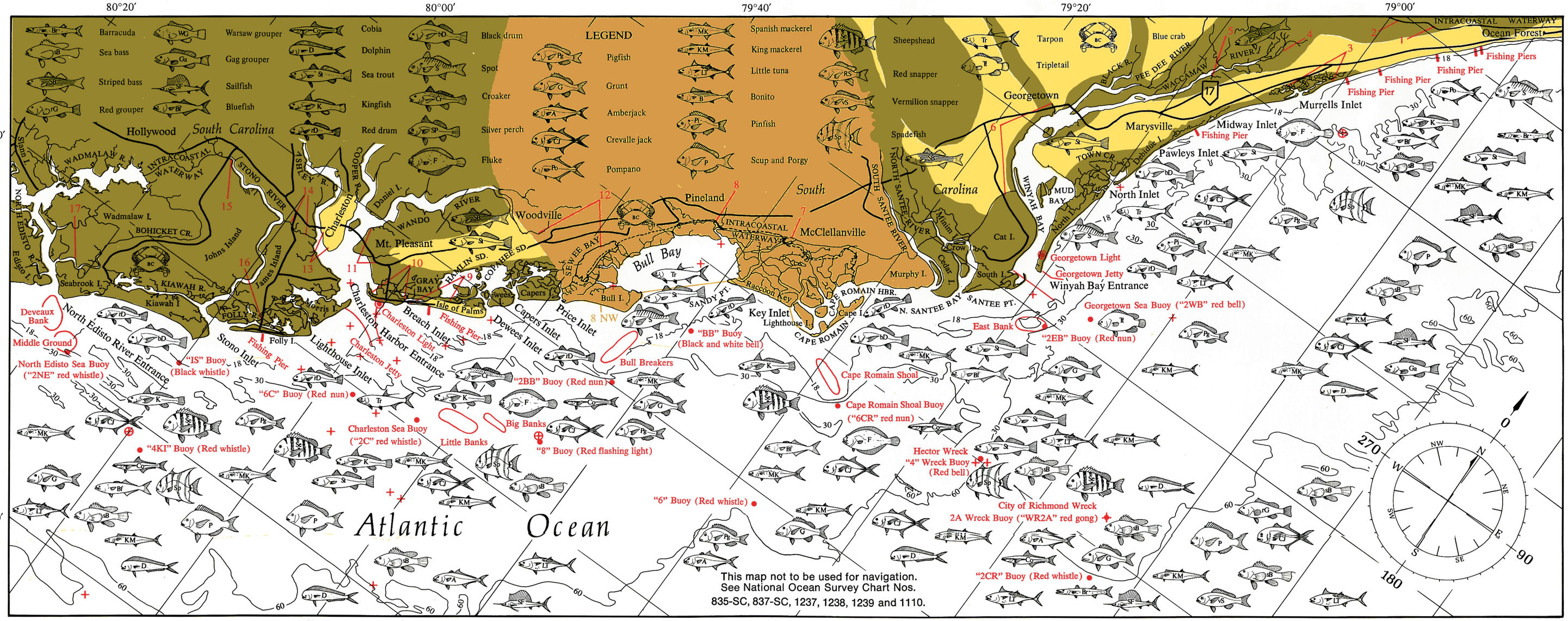
The largest group of species found in the estuary are those spawned offshore. While still very small, the young of these species move into the estuary and remain there for at least several months. For them the estuary is principally a nursery area. Spot, croaker, menhaden, pinfish, southern fluke, northern fluke, and others spawn offshore from fall through winter. The hatchlings and juveniles arrive inshore entering brackish water usually during winter and spring. The spot, croaker, and menhaden continue moving up the estuary until they nearly reach the upper limits of brackish water. As growth proceeds during summer and fall, they gradually move seaward. With few exceptions they leave the estuary and move out to sea as the water becomes chilled during winter. Most of the fluke, however, remain in the estuary until the end of their second summer, when they move offshore. Sheepshead, tarpon, and ladyfish spawn offshore during spring or summer. Adult sheepshead apparently abandon their usual habit of frequenting rocks and underwater obstructions and move onto open sandy bottom for spawning. The hatchlings move into the estuary and there live in the shelter of dense growths of eelgrass and seaweed until they are about 2 inches long. Then they leave for deeper water and habitats of the adult. Tarpon and ladyfish are particularly interesting in that their eggs hatch into a transparent, ribbonlike larval stage, called leptocephalus. These may remain in the sea for a remarkably long time—some authorities believe as long as a year or more—and evidently do not transform into small adult-looking fish until they come into contact with diluted seawater such as found in an estuary.

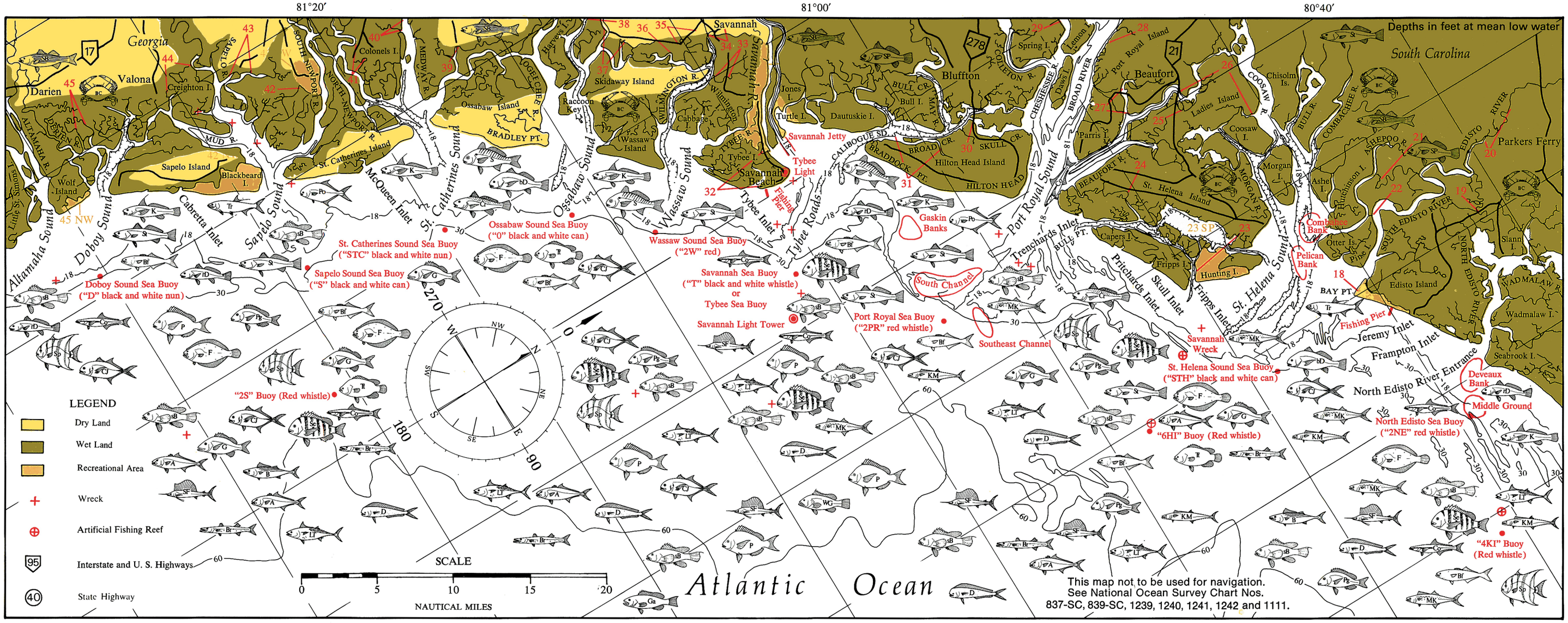
Species of another group seem to be equally at home in the estuary or the sea during their youth. Among these are bluefish, kingfishes (whitings), black sea bass, spadefish, and some of the porgies. These all spawn in the sea, some of them far offshore. The young move towards shore, and although many of them enter the estuary, this is apparently not an obligate habit, for many others remain in the sea more or less continuously throughout their lives. Thus, while life in an estuary is certainly beneficial to this group of species, it is not absolutely essential.

		BOAT RENTALS					LAUNCH'G			DEPTH			SUPPLIES			SERVICES				
No.	Location	Boating Facilities Per Location	Rowboat – Outboard	Charter Boat	Party Boat	Runabout – Skiff	Ramp: Surfaced – Natural	Hoist: Fixed – Portable	Marine Railway	Tidal Range – Ft.	Approach – Ft.	Alongside – Ft.	Bait – Tackle	Fuel: Gasoline – Diesel	Water – Ice – Grocery	Moorings – Berths – Elec.	Repair: Motor – Hull	Food – Lodging	Toilet – Shower
1	Myrtle Beach	1		C			S	P		5.1	12	12		GD	WIG	BE	MH		TS
2	Socastee	1					S			1.8	12	7		G	WIG	E	M		T
3	Murrells Inlet	6	RO	C	P		SN		R	4.5			BT	GD	WIG	BE	H	FL	TS
4	Wachesaw Ldg.	2	RO	C			S		R	2.5	25	20	BT	GD	WIG	BE	MH	FL	TS
5	Waverly Mills	1	R				S			3.0	6	12	BT	GD	WI	BE			
6	Georgetown	6		C			S	F	R	3.3	6	6	BT	GD	WIG	BE	MH	FL	TS
7	McClellanville	1					S			5.1			BT	G	W				
8	Buck Hill	1					S			4.9									
9	Isle of Palms	2	RO				S			5.2	3	5	BT	GD	WIG	BE		FL	TS
10	Sullivans Island	3	RO	C			S			5.2	5	5	BT	GD	WI	BE	M	FL	T
11	Haddrell Pt-Hobcaw Pt	2		C	P		S	FP	R	5.1	8	8		GD	W	BE	MH		TS
12	Woodville-Moores Ldg	2					S			6.5									
13	Charleston	3		C	P		S			5.1	15	10	BT	GD	WIG	BE	M		TS
14	Elliott Cut	2					S			5.2									
15	Johns Island	1					S												
16	Folly River	1					S												
17	Rockville	1					S			5.8									
18	Bay Point	1					S			5.9				G	W	BE		F	TS
19	Little Edisto Island	1					S												
20	Willtown Blf-Penny Cr	2					S												
21	Mosquito Creek	1					S			6.3	8	6		D	WI				T
22	Fenwick Island	1					S												
23	Hunting Island	1					S												
24	Station Creek	1					S			6.9									
25	Factory Creek	2					S		R	7.4	7	12	T	GD	WIG	BE	MH	FL	TS
26	Beaufort	5		C			S			7.4		6	BT	GD	WIG	BE	MH	FL	TS
27	Port Royal	3					S			7.2									
28	Broad River	1					S												
29	Chechessee Cr.	2	RO				S						BT	G	WIG				
30	Hilton Head Harbor	1	RO	C			R	F		7.6	13	13	BT	GD	WIG	BE	M	FL	TS
31	Broad Creek	2	RO	C			R	P		7.4	13	12	BT	GD	WIG	BE	MH	FL	TS
32	Savannah Beach	4	RO	C			R	H					BT	G	WI			FL	T
33	Turners Creek	5	RO	C			S	F	R	7.8	10	10	BT	GD	WIG	BE	MH	FL	TS
34	Thunderbolt	4	RO	C			S	FP	R	7.9	13	6	BT	GD	WIG	BE	MH	FL	TS
35	Herb River	4	RO				S	FP		7.8	4	6	BT	G	WIG				T
36	Isle of Hope	1					R	F	R	7.8	10	10	B	GD	WIG	BE	MH		TS
37	Vernon R.-Back R.	5	R				R						BT	G	W	E			TS
38	Forest River	1					R												
39	Kilkenny	1	R				R						BT	G	W	B			T
40	Medway River	2	R		P		R						BT	G	W				
41	Colonels Island	2	R				R						BT	G	W			F	T
42	Harris Neck	2	RO				R						BT	G	W				
43	Shellman Bluff	4	RO				R						BT	G	WIG			FL	T
44	Crescent	3	RO				R						BT		W			FL	T
45	North R-Darien R	2	R				R						B	G					

		RECREATIONAL AREAS					ACTIVITIES			
No.	Location	County – City – Town: Park	State: Park-Wildl. Area–Forest	Natl.: Park-Wildl. Area–Forest	National Seashore	Use: Day-Wknd-Vacation	Fishing	Boating	Picnicking	Camping
8NW	Cape Romain			NW		DW	F	B		
9NF	Francis Marion			NF		DWV	F	B	P	C
18SP	Edisto Beach		SP			DWV	F	B	P	C
23SP	Hunting Island		SP			DWV	F	B	P	C
32NW	Tybee			NW*						
42NW	Blackbeard Island			NW		DWV	F			
43NW	Harris Neck			NW		DWV	F		P	
45NW	Wolf Island			NW*						

*Biological use only


LEGEND
Barracuda
Sea bass
Striped bass
Red grouper
Warsaw grouper
Gag grouper
Sailfish
Bluefish
Cobia
Dolphin
Sea trout
Kingfish
Red drum
Black drum
Spot
Croaker
Silver perch
Fluke
Pigfish
Grunt
Amberjack
Crevalle jack
Pompano
Spanish mackerel
King mackerel
Little tuna
Bonito
Pinfish
Scup and Porgy
Sheepshead
Red snapper
Vermilion snapper
Spadefish
Tarpon
Tripletail
Blue crab
Hollywood
South Carolina
Georgetown
Marysville
Midway Inlet
Murrells Inlet
Pawleys Inlet
North Inlet
Winyah Bay Entrance
Mt. Pleasant
Charleston
Woodville
Pineland
McClellanville
Bull Bay
Key Inlet
Atlantic Ocean
Ocean Forest
Fishing Piers
Fishing Pier
Georgetown Light
Georgetown Jetty
Georgetown Sea Buoy ("2WB" red bell)
East Bank
"2EB" Buoy (Red nun)
Deveaux Bank
Middle Ground
North Edisto River Entrance
North Edisto Sea Buoy ("2NE" red whistle)
"IS" Buoy (Black whistle)
"6C" Buoy (Red nun)
"4KI" Buoy (Red whistle)
Charleston Sea Buoy ("2C" red whistle)
Charleston Light
Charleston Jetty
Breach Inlet
Charleston Harbor Entrance
Sullivans Island
Isle of Palms
Dewees Inlet
Capers Inlet
Price Inlet
Bull Breakers
"2BB" Buoy (Red nun)
Big Banks
Little Banks
"8" Buoy (Red flashing light)
"BB" Buoy (Black and white bell)
Cape Romain Shoal
Cape Romain Shoal Buoy ("6CR" red nun)
Hector Wreck
"4" Wreck Buoy (Red bell)
City of Richmond Wreck
2A Wreck Buoy ("WR2A" red gong)
"2CR" Buoy (Red whistle)
"6" Buoy (Red whistle)
This map not to be used for navigation.
See National Ocean Survey Chart Nos.
835-SC, 837-SC, 1237, 1238, 1239 and 1110.
80°20′
80°00′
79°40′
79°20′
79°00′
78°40′
32°40′
32°20′
33°40′
33°20′


Depths in feet at mean low water
Georgia
South Carolina
Darien
Valona
Savannah
Bluffton
Beaufort
Parkers Ferry
Sapelo Island
St. Catherines Island
Ossabaw Island
Skidaway Island
Tybee Island
Savannah Beach
Hilton Head Island
St. Helena Island
Edisto Island
Savannah Jetty
Tybee Light
Gaskin Banks
Comfortable Bank
Pelican Bank
Ossabaw Sound Sea Buoy ("0" black and white can)
St. Catherines Sound Sea Buoy ("STC" black and white nun)
Sapelo Sound Sea Buoy ("S" black and white can)
Doboy Sound Sea Buoy ("D" black and white nun)
Wassaw Sound Sea Buoy ("2W" red)
Savannah Sea Buoy ("T" black and white whistle) or Tybee Sea Buoy
Savannah Light Tower
Port Royal Sea Buoy ("2PR" red whistle)
Southeast Channel
South Channel
Savannah Wreck
St. Helena Sound Sea Buoy ("STH" black and white can)
"6HI" Buoy (Red whistle)
"2S" Buoy (Red whistle)
"4KI" Buoy (Red whistle)
North Edisto Sea Buoy ("2NE" red whistle)
Deveaux Bank
Middle Ground
LEGEND
Dry Land
Wet Land
Recreational Area
Wreck
Artificial Fishing Reef
Interstate and U. S. Highways
State Highway
SCALE
0 5 10 15 20
NAUTICAL MILES
Atlantic Ocean
This map not to be used for navigation.
See National Ocean Survey Chart Nos.
837-SC, 839-SC, 1239, 1240, 1241, 1242 and 1111.
81°20′
81°00′
80°40′
80°20′
80°00′
31°20′
31°10′
32°40′
32°30′

Glossary

ANADROMOUS. Spoken of fish which spend most of their lives in salt or brackish water but ascend rivers to spawn in slightly brackish or fresh water.

BACK COUNTRY. As used in Florida, Florida Bay and adjacent smaller bays and sounds lying between the Keys and the mainland.

BERTH. A place at a dock or wharf where a boat is tied.

BOBBING. A method of fishing for eels. A number of earthworms are threaded on cotton twine and then made into a ball. The ball is usually attached to a short length of line on the end of a cane pole. When an eel takes this bait it tangles its teeth on the twine and is caught.

BOTTOM CONTOUR. An imaginary line on the floor of a body of water connecting points of equal depth.

BOTTOM FISHING. Placing a bait on or near the bottom so as to catch fish. The bait, usually weighted with a sinker, may be cast and allowed to sink or it may be lowered vertically into the water. Sometimes the bait is buoyed by a float so that it remains suspended just off the bottom. The bait is left in place until a fish bites or until the angler slowly retrieves it.

BRACKISH WATER. Applied in this book to water having from 0.2 to 17 parts per thousand, by weight, of dissolved salts.

BREACHWAY. A term used in Rhode Island for an inlet.

BROKEN BOTTOM. A rough, stony or rocky area of the sea floor.

BUOY. A float moored to the bottom to mark a channel or to warn of an obstruction or other danger. Special-purpose buoys are often used to mark the location of artificial fishing reefs.

CASTING. Throwing forth a bait. The bait, either a natural one or artificial lure made to imitate a natural one, is attached to one end of a line, the other end is attached to the angler's reel. When the bait or lure strikes the water, the angler can rapidly retrieve it, let it drift with the current, or let it sink to the bottom. *See* Squidding, Live Lining and Bottom Fishing.

CATADROMOUS. Spoken of fish which spend most of their lives in fresh or brackish water but spawn in salt water.

CHARTER BOAT. A fishing boat with crew hired for the exclusive use of one to six anglers. With the advice of the captain, the anglers determine what type of fishing they will do. Charter boats range in size from a small outboard with guide ($20 or more per day) to a twin-engine, ocean-going vessel in excess of 50 feet with a captain and two mates ($150 or more per day). Tackle and bait are usually furnished with the boat. *See* Party Boats.

CHUMMING. Attracting fish to an area with fish or shellfish, either ground, chopped, or whole, or sometimes with scrap meat and dried blood. Once fish are in the area, hooks baited with cut and whole fish or artificial lures are used to catch them. *See* Live Lining and Bottom Fishing. Oily fish such as menhaden, herring, shad and mackerel are usually used for chum. Chumming for bottom fish is done by lowering a porous container filled with chum. This may be a punctured can of pet food, a wire basket or pot (chum pot), or a cloth bag (chum bag).

COASTAL. Spoken of marine fishes which spend most of their lives within a few miles of shore.

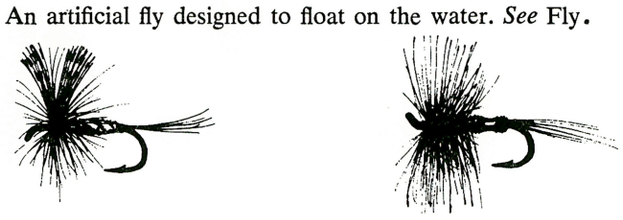
CONTINENTAL SHELF. A submarine plain extending out from shore to a depth of about 600 feet, beyond which the ocean bottom begins a relatively steep descent to the deep ocean floor.

CUT. A term used in southern Florida for an inlet.

DIAMOND JIG. An elongated, narrow, diamond-shaped jig. Weights usually range from ½ ounce to 2½ pounds.

DIP NET. Also called hand dip net. A conical, small-mesh net attached to a rigid frame on a long handle. It is used to catch fish or crabs. Along the southeast coast the term dip net usually applies to a rectangular, small-mesh net supported by a metal frame and attached to a rope or pole. Here it is used to catch baitfish and shrimp.

DRY FLY. An artificial fly designed to float on the water. *See* Fly.



ESTUARY. A partially enclosed body of water having a free connection with the open ocean, within which salt and fresh water mix.

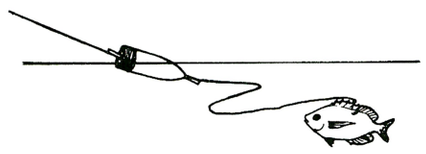
FEATHER. Also called a trolling feather. An artificial bait or lure made to simulate a baitfish and used for trolling. The feather is made of a round or bullet-shaped metal head to which is attached a feather, hair, nylon or other synthetic material body.

FIRE LIGHTING. Also called night lighting, gigging and floundering. Locating or attracting fish in shallow water at night with lights either held above or below the surface. Once a fish is located, it is usually speared.

FLAT. A low-relief plane at the border between a body of water and land. The flat is alternately exposed and submerged, according to the tide. It is designated according to its surface characteristics, as mud flat, sand flat, grass flat, etc.

FLATLINE. A trolling line fished directly astern of a boat.

FLOAT-RIG. Also called popping-jig in southern Florida. A floating plug to which is attached a hook baited with a live fish or shrimp. The plug splashes and makes a popping noise as the rig is drawn through the water, and this disturbance attracts fish to the bait. Float-rigs are often used to catch spotted sea trout.



FLOUNDERING. Fire lighting specifically for flatfishes. *See* Fire Lighting.

FLY. A lightweight artificial bait or lure made to simulate a live insect or other small natural bait. The fly consists of a hook dressed with feathers, hair, yarn and tinsel and tied with thread. *See* Dry Fly, Wet Fly and Streamer Fly.

FRESH WATER. Applied in this book to water having less than 0.2 parts per thousand, by weight, of dissolved salts.

GIGGING. Fishing with a spear, especially while fire lighting.

GULF STREAM. Also called the Stream. A general term used to describe the narrow, relatively fast-flowing ocean current along the Atlantic coast of North America. Properly called the Gulf Stream System, it is made up principally of the Florida Current and the Antilles Current. The name Gulf Stream is based on the misconception that the current's source is the Gulf of Mexico.

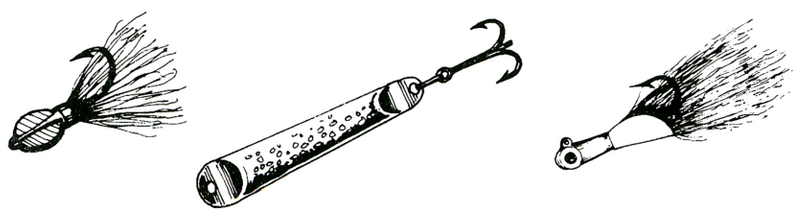
HEADLAND. A high point of land or rock projecting into the sea.

INLET. A narrow passage of water connecting the open sea with protected coastal and inland water. Along various sections of our coast, inlets are called breachways, cuts and passes.

INSHORE. Referring to the part of the sea adjacent to the shore. In this book it is bound by the 60-foot bottom contour.

INTRACOASTAL WATERWAY. Also called Inland Waterway or Waterway. A comparatively shallow passage extending continuously on the Atlantic Seaboard from Manasquan, New Jersey, to Key West, Florida. Sheltered from the open sea, it consists of a series of artificial channels connecting bays, sounds, lagoons and other protected waters. It is used primarily by small craft.

JIG. An artificial lure made to simulate a live bait. Although many variations exist, all jigs are made wholly or partly of metal, hence, are heavy for their size. In weight they range from less than 1 ounce to over 2 pounds.



JIGGING. Manipulating an artificial lure to imitate a live bait and thus attract fish to the hook. The lure is lowered vertically or cast some distance away, allowed to sink to a desired depth, and then jerked quickly upward a short distance. Immediately after this upward jerk the lure is allowed to sink back. This jerking or jigging procedure is repeated again and again.

KEY. A low island or reef off the southern coast of Florida. This word is derived from the Spanish "cayo" meaning little island. In the West Indies, it is spelled Cay (pronounced ké or kã).

KITE FISHING. A method of fishing done by suspending a baitfish from a kite. When flown from a boat, the kite carries the bait well away from the boat's wake. Live fish are slowly trolled just under the surface. Dead fish may be fished this way, or skipped along the surface at a faster trolling speed. When flown from a beach, the kite carries the bait out a distance from shore. During periods of light breeze, helium-filled balloons are sometimes used in place of kites.

Glossary

LIVE BAITING. Live lining with live bait.

LIVE BOTTOM. An area of the sea floor abounding in living attached organisms such as mussels, sponges, sea fans, live corals, sea weeds, etc.

LIVE LINING. Allowing a natural bait, either alive or dead, to drift in a current or be suspended by a float some distance above the bottom. As the bait drifts away from the angler, line must be played out from the unlocked spool or open bail of the reel. Live lining is often done while chumming. *See* Live Baiting.

MOORING. A float, usually a small buoy, anchored away from land to which a boat is tied.

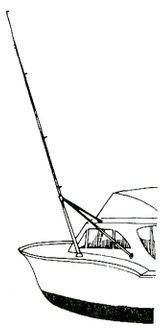
MOP. An artificial bait or lure made to simulate a natural bait and trolled in the water. It consists of a small-linked brass chain 6 to 14 inches long with tufts of thread tied or glued into each link. Attached to the front of the chain is either a swivel or a weight, and to the rear end a hook. This lure is usually trolled.

NIGHT LIGHTING. *See* Fire Lighting.

OFFSHORE. Applied in this book to the part of the sea away from shore beyond about the 60 foot bottom contour.

OUTBOARD. A rowboat propelled by an outboard motor.

OUTRIGGERS. Movable rods or poles which project outward from each side of a boat and used during trolling to keep the baits spread apart.



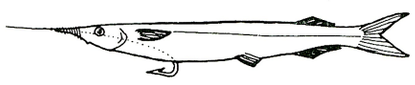
PARTY BOAT. Also called head boat, open boat, ground-fishing boat, deep sea-fishing boat, drift-fishing boat, and packet or party packet. A fishing boat, usually carrying 10 to 60 anglers. Space is sold to the general public until either the boat is filled to capacity or the scheduled sailing time is reached. The captain usually determines the type of fishing and the areas to be fished. The fee ranges from $3 to $20, depending on duration of the trip or distance from port, and usually includes bait but not tackle. Trip lengths are usually eight hours for a full day, four hours for a half day. *See* Charter Boat.

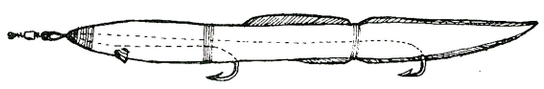
PASS. A term used in the Florida Keys and along the coast of the Gulf of Mexico for an inlet. As used in the Florida Keys, it is the passageway from the sea to Florida Bay and ranges in width from a fraction of a mile to 7 miles.

PELAGIC. Spoken of fishes and other sea animals that are more or less independent of the bottom. They are characteristically active swimmers spending much of their time in mid-water or near the surface.

RELIEF. Used in this book to describe a sharp rise above or depression below the plane of the sea floor caused by an outcropping of rock or coral, submerged ridge, sunken ship, etc.

RIGGED BAIT. A natural bait consisting of all or part of a dead fish or squid which is tied, sewn or wired onto a hook and used for trolling.





ROWBOAT. An open boat, usually 12 to 16 feet long, propelled by oars. The bottom may be flat, round, or V-shaped.

RUNABOUT. An open boat, usually 14 to 17 feet long, having a planing hull and powered by an outboard motor of 10 or more horsepower.

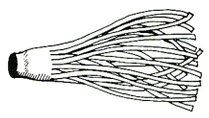
SALT WATER. Applied in this book to water having more than 17 parts per thousand, by weight, of dissolved salts. Average sea water for all oceans has about 35 parts per thousand of dissolved salts.

SCHOOL. A large number of fish, usually of the same kind and size, swimming and feeding together. The members are closely oriented to each other in such a way that the school behaves as a well integrated unit.

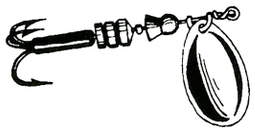
SHAD DART. A small jig, usually a weighted bucktail, weighing about ¼ ounce or less. Darts are used primarily to catch shad and similar fishes.

SKIFF. A boat, usually 18 to 26 feet long, propelled by an inboard or inboard-outboard motor.

SKIRT. An artificial bait or lure consisting of a brightly colored shredded plastic tube 4 to 8 inches long and fitted over a feather, stripbait, rigged bait or other trolling lure.



SPINNER. An artificial bait or lure composed of one or more spoon-like blades that spin on a shaft or swivel when drawn through the water. Presumably the glitter caused by the spinning blades' reflecting light simulates the metallic sheen of a baitfish; this acts together with vibrations emitted by the spinner in stimulating fish to bite.



SPOON. An artificial lure made to simulate a live bait. It usually consists of a thin, slightly curved piece of metal or combination of metal and plastic. When drawn through the water it has a wobbling and wiggling motion.

SQUIDDING. A term sometimes used to describe the casting into the surf of metal lures called squids.

STREAMER FLY. A wet fly, made on a long shank hook, designed to simulate a small baitfish. *See* Fly.

STRIPBAIT. A long narrow strip of skin and flesh cut from the sides or belly of a fish or squid in a shape simulating the outline of a whole fish. This strip is attached to a hook and used for trolling.

THERMOCLINE. A narrow zone in the water column where a sharp change in temperature occurs between relatively warm water above and cool water below.

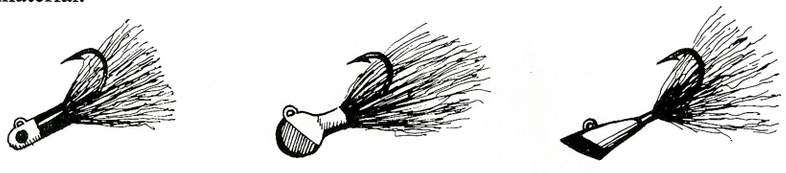
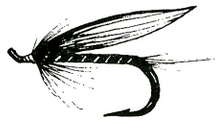
TIDE-LINE. The water level at the shore, which changes with the tide.

TROLLING. Trailing a natural bait, artificial lure, or a combination of the two behind a moving boat. The bait can be made to skip along the water surface or troll at any depth below the surface to just above the bottom. A bait or lure trailed by an angler running along a fishing pier, bridge or breakwater is also trolling. Trolling speeds vary according to the fish species sought.

TUBE LURE. Also called surgical-tube lure, teaser, and Norwegian teaser. An artificial lure made to simulate a live bait. The lure consists of a hook covered by a piece of surgical or plastic tubing 3 to 12 inches long. Large tube lures are usually trolled; small ones are attached to a fishing line ahead of a diamond jig.

WATER COLUMN. Spoken of the water from surface to bottom about a given point.

WEIGHTED BUCKTAIL. A type of jig consisting of a lead or metal head cast on a single hook. The tail can be made of hair, nylon, feathers or other fibrous material.



WET FLY. An artificial fly designed to sink in the water. *See* Fly.