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BUREAU OF MARINE FISHERIES

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NEW JERSEY'S RECREATIONAL AND COMMERCIAL OCEAN FISHING GROUNDS

BY DOUGLAS LONG AND WILLIAM FIGLEY
CHARTS BY BARRY PREIM
FEBRUARY, 1982

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF FISH, GAME AND WILDLIFE
MARINE FISHERIES ADMINISTRATION
BUREAU OF MARINE FISHERIES

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INTRODUCTION

Extensive information has been collected and published on the distribution and migration of nearly every important fish species occurring off the New Jersey coast, but very little information is available on the location of fishing grounds. Recreational and commercial fishermen are familiar with the fishing grounds of the species they seek along the section of the coast that they fish. We interviewed fishermen throughout the state and, by supplementing the information they gave us with NMFS statistical data, we delineated and described the ocean fishing grounds off New Jersey for each important species.

New Jersey's recreational and commercial marine fisheries are extremely important to the state's economy. In 1979, 662,000 residents and 310,000 nonresidents fished for recreation in New Jersey's saltwaters (U.S. Department of Commerce 1980a). Resident anglers in 1975 spent over $261 million for such items as fishing gear, bait, charter fees, food and lodging (U.S. Department of Interior 1976). In 1976, there were 3,400 commercial fishermen and an additional 4,600 seafood processing industry workers employed in New Jersey (U.S. Department of Commerce 1980b). The state's commercial landings of 193 million pounds of fish and shellfish in 1979 had a dockside value of $53 million (U.S. Department of Commerce 1980c) and a retail value of approximately $186 million.

[1]Primary fishing grounds are areas where the vast majority of fishing activity occurs.
[2]Secondary fishing grounds are areas where a moderate but significant amount of fishing activity occurs.

The ocean off New Jersey has other uses and potentials besides fishing. This area is being evaluated for activities that include oil and natural gas exploration, sand and mineral mining, shipping and deep water port development, sewage, sludge, dredge spoil and industrial waste disposal and pipeline and cable routing. These activities have the potential to adversely affect both fishery resources, by degrading habitat, and resource harvesting, by fouling fishing gear and obstructing fishing grounds. Accurate, up-to-date charts of the fishing grounds are extremely important in defending the interests of recreational and commercial fishermen. Such charts can be used to help insure that these interests are considered in management decisions concerning use of the ocean. Such consideration may help prevent or reduce adverse effects to fishermen and to the resource on which they depend.

It should be noted that the charts show the *fishing grounds* and not the *distribution* of each species. Fishing grounds represent only a portion of the geographic range of a species. Their extent is often limited by factors such as the density of fish, the suitability of an area for fishing, depth, regulations, pollution and distance from port. Furthermore, the charts depict only primary[1] and secondary[2] fishing grounds, areas where the majority of recreational and commercial fishing occurs; they do not include areas where rare or infrequent catches are made or where a species is taken as a bycatch of another species. In addition, fishing ground boundaries are not permanent. Fishing effort adapts to changes in fish distribution and the location of grounds can vary from year to year. The information contained on these charts must therefore be considered in the context of time. It must also be recognized that although the survey included a large and diverse sample of New Jersey's recreational and commercial fishermen, not all fishermen were interviewed. Therefore, some areas fished actively may have been omitted inadvertently from the charts.

METHODS

The charts depicting New Jersey's offshore fishing grounds were developed through direct interviews with recreational and commercial fishermen. A total of 343 fishermen were interviewed in person, by telephone or through a mail survey. An attempt was made to obtain a representative sample of all the various types of recreational and commercial fishing that occurs along the New Jersey coast. We interviewed the captains of commercial, party, and charter boats (see glossary), and a combination of recreational fishermen. All those contacted were active fishermen. The breakdown of interviews by type of fishing activity is shown in Table 1.

Fishermen were asked to outline both the general boundaries and the specific areas of their fishing activities for each species on National Oceanic Atmospheric Administration nautical charts (series 12200 and 12300). In order to avoid an atypical fishing year from influencing the overall description of the fishing grounds, fishermen were asked to delineate the grounds they fished over the past 5-year period. Fishermen often described their general fishing grounds in terms of distances offshore or various depth contours. Their specific grounds were defined in a variety of ways, including onshore landmarks, buoys, surface structures, wrecks, bottom topography (such as lumps, sloughs and canyons) and LORAN[3] and other navigational aids.

After an initial wave of interviews, draft charts delineating the fishing grounds were compiled for each fish and shellfish species. These drafts were then taken on subsequent interviews and continuously modified by the information contributed by additional fishermen. This procedure served to verify the accuracy of previous responses. Final comments on the draft charts were obtained at public meetings, attended by about 50 recreational and commercial fishermen, in Toms River and Cape May, New Jersey.

In addition to information obtained directly from fishermen, commercial landing data collected by National Marine Fisheries Service (NMFS) statistical agents were also used in the preparation of the charts. These data were listed by 10-minute squares and covered the period from 1964 to 1980. Outlines of the squares where landings occurred were depicted on the charts for 13 species. Other sources of recreational and commercial information are listed under references.

In order to prepare the final charts, a base chart was traced from NOAA nautical charts (12200, 12300, approximately 1: 400,000 scale) of the New York Bight, encompassing the area of 37° 50′ to 40° 50′ north latitude and 71° 50′ to 75° 30′ west longitude. The fishing grounds outlined on the draft charts were then transferred to full-size copies of the base chart.

TABLE 1. Estimated number of fishermen or boats (commercial, party and charter) involved in various fishing activities and the number of interviews that were completed during the survey.

Fishing Activity	Estimated Number of Fishermen or Boats Involved with this Activity during 1980	Number of Fishermen Interviewed	Percentage Interviewed
Recreational			
Party boats	100	18	18.0
Charter boats	250	35	14.0
Private anglers[1]	662,000	170	0.1
Commercial Vessels			
Sea Scallop	39	9	23.1
Surf clam & quahog	65	13	20.0
Longline	17	6	35.3
Otter trawl	102	32	31.4
Lobster/sea bass	50	15	30.0
Gill net	173	43	24.9
Menhaden[2]	7	1	14.3
Red crab	1	1	100.0

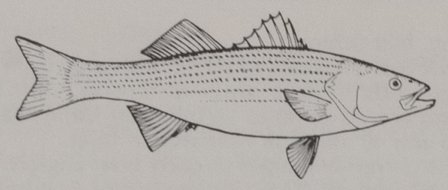
[1]U.S. Department of Commerce 1980a.
[2]All vessels belong to a single company.

[3]LORAN is an acronym for Long Range Aid to Navigation.

RECREATIONAL FISHERIES

STRIPED BASS

Morone saxatilis



Season: April-December
Fishing Methods: Chumming, trolling, casting, jigging, live-lining
General Grounds: The striped bass is a coastal species inhabiting mostly the shallow, inshore areas along the beach. The majority of sport fishing extends from the beach to one mile offshore. However, there are some areas up to three miles offshore, such as the Shrewsbury Rocks and the area Between the Channels at the mouth of Sandy Hook Bay, where considerable fishing activity also occurs. During the spring and fall, stripers are taken even further offshore on the lumps and ridges within the 10 fathom contour.

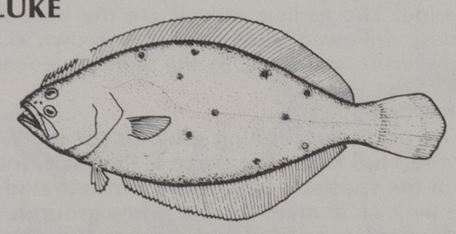
Bass frequent rocky areas, particularly inlet jetties. Because of the greater occurrence of natural rock bottom, stripers are more abundant along the northern portion of the coast, from Barnegat Inlet to Sandy Hook, than along the southern portion.

When abundant, the striped bass is extensively fished by party, charter and private boat anglers. However, in 1979, New Jersey fishermen caught less than 30,000 striped bass (U.S. Department of Commerce 1980a).

Specific Grounds: The Cedars, Between the Channels, Tin Can Ground, Shrewsbury Rocks, Harvey Cedar Lump, Brigantine Shoal, Stone Bed

SUMMER FLOUNDER or FLUKE

Paralichthys dentatus



Season: June-October
Fishing Methods: Drifting, trolling, chumming
General Grounds: Summer flounder fishing occurs mainly within one mile of the shore, with the greatest activity in and around inlets. There are two areas however, where activity occurs up to three miles from shore; these are in the north, from the Shrewsbury Rocks across the mouth of Sandy Hook Bay, and in the south, off the beaches of Wildwood and Cape May and across the mouth of Delaware Bay.

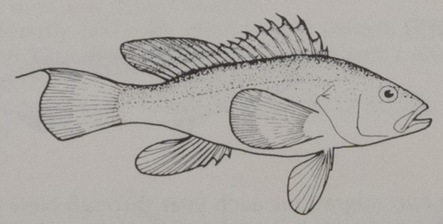
Fluke are also fished on the lumps and ridges inshore of the 10 fathom line in fall, where they tend to concentrate before making their offshore migration to deep water.

The summer flounder is one of the most sought after gamefishes in New Jersey; in 1979, New Jersey fishermen caught 5,142,000 (U.S. Department of Commerce 1980a).

Specific Grounds: Tin Can Grounds, Scotland Grounds, Between the Channels, Shrewsbury Rocks, England Bank, Klondike, 2BS Buoy, Sea Isle Ridge, Avalon Shoal, 5 Fathom Bank, 20-Minute Slough, Hotel Slough, McCries Shoal, Old Grounds, South Grounds

BLACK SEA BASS

Centropristis striata



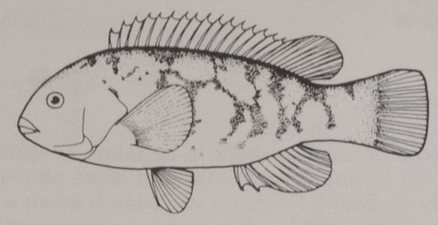
Season: Although the sea bass is taken by sportfishermen between April and November the best fishing occurs when coastal waters are of moderate temperatures about 50°F on the bottom, during May-June and September-October.
Fishing Methods: Bottom fishing
General Grounds: The black sea bass is a bottom dweller that inhabits wrecks and rocky or "broken" bottom. The primary fishing grounds extend from the beach to eight or 10 miles offshore all along the New Jersey coast. Considerable fishing activity also occurs on wrecks up to 18 miles or more offshore, excluding the Mud Hole. The rocky bottoms at the mouth of the Delaware Bay and the entire coast north of Belmar are heavily fished for sea bass.

The majority of the sea bass fishing is from party and charter boats. In 1979, New Jersey fishermen caught 391,000 sea bass (U.S. Department of Commerce 1980a).

Specific Grounds: Scallop Ridge, Tin Can Grounds, Sea Girt Reef, The Farms, England Bank, Klondike, Mohawk Wreck, Harvey Cedars Lump, 2BS Buoy, Atlantic City Ridge, Glory Wreck, Stone Bed, Avalon Shoal, McCries Shoal, Old Grounds, Mussel Beds

TAUTOG or BLACKFISH

Tautoga onitis



Season: The tautog is fished during April-June and September-December.
Fishing Methods: Bottom fishing, jetty fishing, spearfishing
General Grounds: The tautog is a bottom dweller that is found on mussel beds, wrecks or rocky bottom along the inshore third of the continental shelf. The primary fishing grounds extend from the beach out to about the 12 fathom contour. Fishing is usually restricted to wrecks and rocky bottom. The major rock outcroppings along the New Jersey coast occur off the mouth of Delaware Bay and the area north of Manasquan Inlet. The tautog actively feeds on these inshore grounds during the spring and fall and it is then that most are caught. During winter, the tautog moves offshore and becomes inactive and generally unavailable to anglers.

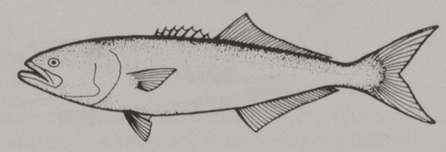
A secondary fishing ground extends approximately 18 miles offshore, excluding the Mud Hole.

With the exception of surf fishing along jetties and groins, most offshore tautog fishing is restricted to party and charter boats. In 1979, New Jersey fishermen caught 399,000 tautog (U.S. Department of Commerce 1980a).

Specific Grounds: Shrewsbury Rocks, 17 Fathom Bank, Glory Wreck, 28 Mile Wreck, Stone Beds, 5 Fathom Bank, McCries Shoal, Old Grounds

BLUEFISH

Pomatomus saltatrix



Season: May-early December
Fishing Methods: Trolling, chumming, jigging, casting, bait fishing
General Grounds: Bluefish extend from the surf zone to the edge of the continental shelf, but the majority of sportfishing occurs within 20 miles of the coast along the entire length of New Jersey. For economy of fuel and time, fishermen seek bluefish as close to shore as possible. A minor amount of fishing activity, primarily from charter boats, occurs between 20 and 30 miles offshore. Beyond this range, bluefish are taken incidentally while fishing for other species.

Large bluefish frequent inshore areas up to the beach when water temperatures range between 58° and 64°F, usually during May-June and late September-November. As waters warm in summer, the large bluefish move farther offshore where deeper bottom waters remain cool. Small bluefish, ranging from young-of-year or snappers to three-pound fish, tend to inhabit warmer waters and remain in areas close to the beach during the entire summer.

Bluefish are taken by party, charter and private boat anglers. In 1979, New Jersey fishermen caught 4,948,000 bluefish (U.S. Department of Commerce 1980a).

Specific Grounds: Tin Can Grounds, Lightning Ridge, Cholera Bank, 17 Fathom Bank, Acid Water, The Slough, Sea Girt Reef, The Farms, Mud Hole, The Flats, Klondike, Augie's Lump, Manasquan Ridge, Mohawk Wreck, South Lump, Tolton Lump, Barnegat Ridge, Harvey Cedars Lump, Lobster Hole, 2BS Buoy, Brigantine Shoal, Atlantic City Ridge, Sea Isle Lump, Stone Bed, Avalon Shoal, Northeast End, 5 Fathom Bank, 5 Fathom Light Ship, 20-Minute Slough, McCries Shoal, Old Grounds, Mussel Beds, East Lump, Sea Isle Ridge

WEAKFISH or SEA TROUT

Cynoscion regalis



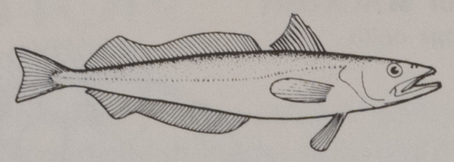
Season: May-November
Fishing Methods: Chumming, casting, jigging, trolling, bottom fishing
General Grounds: Weakfish is primarily a coastal species sought by sportfishermen within three miles of the beach along the entire coast of New Jersey. An exception is the 5 Fathom Bank off Cape May, where weakfishing occurs six miles or more offshore. At times, schools of weakfish may congregate further offshore, usually on lumps and ridges less than 10 fathoms in depth. A secondary zone of low fishing activity includes many of these lumps and ridges and extends over 20 miles offshore around Cape May.

Weakfish are caught by party, charter and private boat anglers. In 1979, New Jersey fishermen caught 1,372,000 weakfish (U.S. Department of Commerce 1980a).

Specific Grounds: Between the Channels, Harvey Cedars Lump, Brigantine Shoal, Sea Isle Lump, Stone Bed, Stork Reef, Avalon Shoal, 5 Fathom Bank, Mary Lou Slough, McCries Shoal, Somer Shoal, Old Grounds, Mussel Beds

WHITING OR SILVER HAKE

Merluccius bilinearis



Season: Whiting occur close enough to shore to be taken by sportfishermen between October-June, although the best fishing is April-May and November-January. Whiting usually move a short distance offshore during February and March when water temperatures drop below 38°F and also during warm months when water temperature rises above 64°F.

Fishing Methods: Bottom fishing, jigging

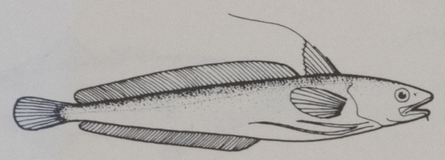
General Grounds: Whiting is most abundant from Long Island to just south of Manasquan Inlet, especially in the region of the Mud Hole. It is along this section of the coast, from the beach to about 25 miles offshore, that the majority of sportfishing occurs. Schools of whiting are encountered along the rest of the New Jersey coast, but only a moderate amount of activity is directed towards them. Around Cape May, whiting is usually fished only during unsuccessful mackerel trips. Secondary fishing grounds extend along the southern portion of the state to about 20 miles offshore and include the 24 Fathom Hole off Great Egg Inlet and the Old Grounds along the edge of the Delaware Bay shipping lanes.

Whiting is fished by party, charter and private boat anglers. In 1979, New Jersey fishermen caught 322,000 whiting and other hakes (U.S. Department of Commerce 1980a).

Specific Grounds: Scallop Ridge, Ambrose Light, Scotland Grounds, BA Buoy, Shrewsbury Rocks, Acid Water, The Farms, Mud Hole, Klondike, Augie's Lump, Mohawk Wreck, Barnegat Ridge, Harvey Cedars Lump, Lobster Hole, 24 Fathom Hole, Atlantic City Ridge, Stone Bed, 5 Fathom Bank, 20-Minute Slough, McCries Shoal, Old Grounds.

RED HAKE OR LING

Urophycis chuss



Season: Red hake is caught all year in depths over 20 fathoms, but the primary sportfishing season occurs during April-May and November-December when the fish move inshore.

Fishing Methods: Bottom fishing

General Grounds: Red hake is caught by anglers fishing primarily for whiting. Small numbers are present on offshore wrecks throughout the summer. The red hake also frequents muddy bottoms and is present in high numbers in the deep waters of the Mud Hole during the entire summer. In New Jersey waters, the prime fishing grounds for red hake extend from Long Island to just south of Manasquan Inlet. It is along this northern section of the coast, from the beach to about 25 miles offshore, that the majority of sportfishing occurs. The red hake is present along the rest of the New Jersey coast, but only a moderate amount of activity is directed towards it.

A secondary fishing ground extends along the southern portion of the state to about 20 miles offshore and includes the 24 Fathom Hole off Great Egg Inlet and the Old Grounds along the edge of the Delaware Bay shipping lanes.

The majority of red hake is taken by party boat anglers. In 1979, New Jersey fishermen caught 322,000 ling and other hakes (U.S. Department of Commerce 1980).

Specific Grounds: Scallop Ridge, The Cedars, Ambrose Light, Scotland Grounds, BA Buoy, 17 Fathom Bank, Mud Hole, Klondike, Augie's Lump, Manasquan Ridge, Mohawk Wreck, Lobster Hole, 28 Mile Wreck, Stone Bed, Old Grounds, Northern Lump, Middle Lump, East Lump, Lummis Slough

ATLANTIC COD

Gadus morhua



Season: Cod can be taken all year on offshore wrecks deeper than 25 fathoms. Cod moves inshore during November-April when water temperatures are below 55°F. The best fishing on the inshore grounds occurs during November-mid January and March-April.

Fishing Methods: Jigging, bait fishing

General Grounds: During the past five years, the cod stock off New Jersey has been at a very low level. As a result, there is now little recreational fishing activity. Cod has been particularly scarce in nearshore waters, and the majority of fishing takes place from party boats on deep, offshore wrecks. Two areas of wrecks are fished in northern New Jersey waters, one between 25 and 40 miles off Manasquan Inlet and the other, 60 to 70 miles offshore, including Chicken Canyon. A third area of wrecks, between 40 and 60 miles off Cape May is also fished for cod.

In years of abundance, cod is caught by party, charter and private boat anglers on wrecks, rocky outcroppings, coral and irregular bottoms and offshore shoals. At this time, however, cod fishing is limited to the few party boats that can carry enough customers to pay for long trips offshore. In 1979, recreational fishermen caught less than 30,000 cod in New Jersey (U.S. Department of Commerce 1980a).

Specific Grounds: Scallop Ridge, Cholera Bank, Acid Water, Mud Hole, Mohawk Wreck, Lobster Hole, 2BS Buoy, Glory Wreck, Stone Bed, 5 Fathom Bank, 5 Fathom Light Ship, McCries Shoal, Old Grounds, Mussel Beds, Northern Lump, Middle Lump, East Lump, Triple Wrecks

POLLOCK

Pollachius virens



Season: Pollock can be taken off New Jersey year-round in waters deeper than 20 fathoms. Pollock moves inshore and remains there from October-May. The best fishing is during December-April.

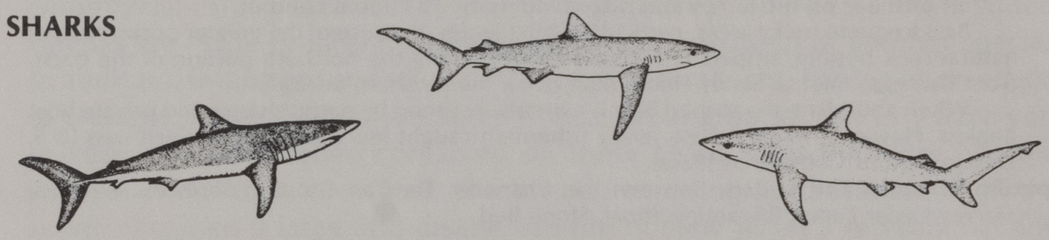
Fishing Methods: Jigging, bait fishing

General Grounds: Pollock is often taken with cod. Although fishing is limited at the present time, the two primary grounds include areas of wrecks, one between 60 and 70 miles off Manasquan Inlet and the other 40 to 60 miles off Cape May Inlet. A secondary ground is located between 25 and 40 miles off Manasquan Inlet.

Pollock fishing is currently limited to party boat anglers. In 1979, New Jersey fishermen caught less than 30,000 pollock (U.S. Department of Commerce 1980a).

Specific Grounds: Cholera Bank, Acid Water, Lobster Hole, Glory Wreck, Texas Tower

SHARKS



Season: Although the general fishing season for sharks extends from June-October, each species has particular water temperature preferences and occurs off the New Jersey coast during a specific time period. The earliest arrivals are the blue shark *(Prionace glauca)* and mako *(Isurus oxyrinchus),* followed closely by the brown *(Carcharhinus milberti)* and dusky *(Carcharhinus obscurus),* and lastly, by the tiger *(Galeocerdo cuvieri)* and several species of hammerhead (*Sphyrna* spp.).

Fishing Methods: Chumming

General Grounds: The prime sportfishing grounds for sharks are located between 20-35 miles offshore and in the Mud Hole. The mako is the shark sought by most sportfishermen, and fishing activity for the species is apparently concentrated along the 20 fathom contour.

The inshore limit of 20 miles for the prime grounds is due more to the preference of fishermen for areas not congested with boat traffic rather than it is to the distribution of sharks. The offshore limit of 35 miles is the farthest most anglers will travel for sharks. A moderate amount of shark angling occurs offshore to the 30 fathom contour and inshore to the 15 fathom contour.

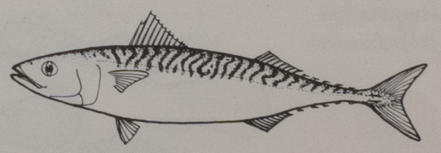
Fair numbers of sharks, particularly makos, blues and hammerheads, are caught incidentally by fishermen seeking swordfish in the depths of the canyons. Very few fishermen, however, fish strictly for sharks in the distant canyon areas.

Shark fishing is restricted to charter and private boat anglers. In 1979, New Jersey fishermen caught 252,000 sharks of all species (U.S. Department of Commerce 1980a).

Specific Grounds: BA Buoy, Cholera Bank, Shrewsbury Rocks, Monster Ledge, Mud Hole, Ole's Lump, Resor Wreck, The Fingers, The Hole, Lobster Hole, Atlantic City Ridge, 28 Mile Wreck, Stone Bed

ATLANTIC MACKEREL

Scomber scombrus



Season: Mackerel make two migrations each year through New Jersey waters. The spring run is the most pronounced and occurs from late March to early May. It is the most heavily fished. The second run occurs between late November and mid-January. It is usually of lesser intensity than the spring run and is accompanied by a smaller amount of fishing.

Fishing methods: Jigging, chumming

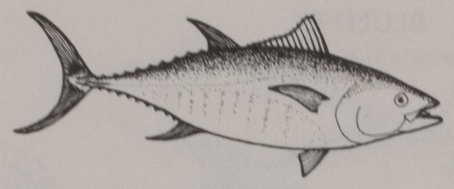
General Grounds: Although mackerel are extremely abundant to the edge of the continental shelf, sportfishermen are not willing to travel more than about 25 miles offshore to catch them. The majority of fishing occurs from the bell buoys (about a mile offshore) to a distance of 15 miles. Most private boats do not venture more than six or eight miles offshore. A secondary zone of limited fishing activity extends from 15 to 25 miles offshore, and consists primarily of those party boats that can carry enough customers to make a profitable trip.

Mackerel is taken by party, charter and private boat anglers. In 1979, New Jersey anglers caught 969,000 mackerel (U.S. Department of Commerce 1980a).

Specific Grounds: Ambrose Light, Cholera Bank, 17 Fathom Bank, The Farms, The Flats, Klondike, Southeast Lump, Manasquan Ridge, South Lump, Tolton Lump, Barnegat Ridge, 2BS Buoy, Atlantic City Ridge, Stone Bed, Avalon Shoal, Northeast End, 5 Fathom Bank, 20-Minute Slough, McCries Shoal, Old Grounds, South Grounds, Northern Lump, Middle Lump, East Lump

BLUEFIN TUNA

Thunnus thynnus



Season: School size bluefin tuna (to 100 pounds) may be present in New Jersey waters during mid June-November. Giant tuna (over 300 pounds) are usually encountered during September-November.

Fishing Methods: Trolling, chumming, jigging

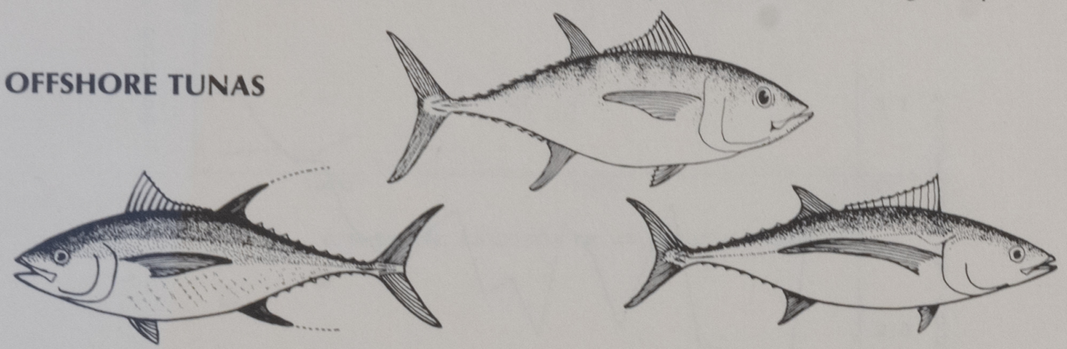
General Grounds: The bluefin tuna is a pelagic wanderer that is usually encountered in water more than 10 fathoms in depth. The primary sportfishing grounds extend from the 15 fathom contour to about 40 miles offshore. Exceptions include the areas between Manasquan and Sandy Hook and around 5 Fathom Bank off Cape May, where bluefin commonly come as close as the 10 fathom contour, and a section of the Mud Hole around the Chicken Canyon, where anglers seek bluefin more than 50 miles offshore. The bluefin is taken along the southern half of the coast during the early part of its stay (first half of July) in New Jersey waters. Through the remainder of its summer migration, however, it is primarily caught north of the 28 Mile Wreck. Late season fishing, from September to November, traditionally occurs in the Mud Hole. Giant tuna appear in fall and are restricted to the Mud Hole, usually within 20 to 40 miles of shore.

The bluefin is occasionally taken as far as the edge of the continental shelf while trolling for other species of tuna and marlin. Anglers seeking only bluefin, however, seldom venture more than 50 miles offshore.

Bluefin tuna is fished by party, charter and private boat anglers. The sport catch has been very low in recent years; less than 1,000 were caught in 1978 (Southeast Fisheries Center 1978).

Specific Grounds: BA Buoy, Cholera Bank, 17 Fathom Bank, Acid Water, The Farms, Monster Ledge, Mud Hole, The Flats, Augie's Lump, Manasquan Ridge, Mohawk Wreck, Ole's Lamp, Tolton Lump, Resor Wreck, Barnegat Ridge, Fingers, Lobster Hole, Atlantic City Ridge, 28 Mile Wreck, Poor Man's Canyon, Lummis Slough, Triple Wreck, Delaware Light Ship

OFFSHORE TUNAS



Yellowfin, *Thunnus albacares* Bigeye, *Thunnus obesus* Albacore, *Thunnus alalunga*

Season: Although the offshore tunas are present in the warm Gulf Stream waters year round, they are only fished by recreational anglers during June-September, when weather is most favorable for distant offshore trips.

Fishing Methods: Trolling, bait fishing

General Grounds: The yellowfin, bigeye and albacore tunas are deep water pelagic migrants. The yellowfin is encountered closest to shore and is occasionally caught along the 20 fathom contour, usually in the vicinity of the 28 Mile and Resor wrecks. The main fishing area for the species, however, extends from 30 fathoms offshore to a few miles beyond the 100 fathom contour.

Albacore is usually taken from 50 fathoms to just beyond the 100 fathom contour. The bigeye favors waters of 100 fathoms and deeper; it is primarily taken along the edge of the continental shelf. Most of the offshore tuna sportfishing is concentrated around the canyons and along the edge of the 100 fathom curve.

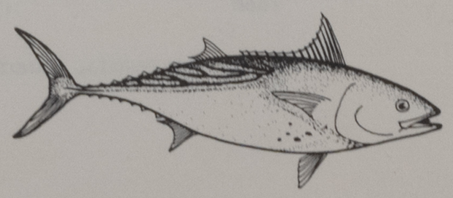
Sportfishing activity begins in June in the southernmost canyons and progresses northward as the water warms and the tuna move further north. Thus, earliest fishing occurs in the Baltimore and Wilmington canyons, and it is usually not until July that the northern canyons, the Hudson and Toms, get fished heavily.

Offshore tunas are primarily taken by charter and private boat anglers. During 1981, New Jersey anglers caught 18,200 yellowfin, 14,600 albacore and 1,400 bigeye tuna (Figley and Long 1982).

Specific Grounds: Yellowfin Tuna—Texas Tower, Dumping Grounds, Resor Wreck, 28 Mile Wreck, Poor Man's Canyon

FALSE ALBACORE OR LITTLE TUNA

Euthynnus alletteratus



Season: Late July-October

Fishing Methods: Trolling, chumming

General Grounds: The primary fishing grounds for false albacore extend from a mile or two offshore to 40 miles off the northern coast (above Absecon Inlet) and about 25 miles off the southern coast. Sportfishermen also occasionally catch the species in or near the surf.

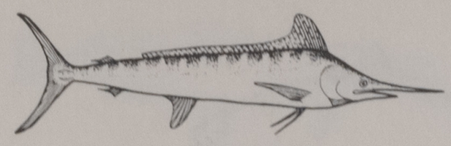
False albacore is taken incidentally by party, charter and private boat anglers while chumming for bluefish or trolling for other tunas, such as skipjack, bonito and bluefin tuna.

In 1979, New Jersey anglers caught less than 30,000 false albacore (U.S. Department of Commerce 1980a).

Specific Grounds: Shrewsbury Rocks, 17 Fathom Bank, The Farms, Mud Hole, Klondike, Augie's Lump, Ole's Lump, Barnegat Ridge, Fingers, Lobster Hole, Atlantic City Ridge, 28 Mile Wreck, Sea Isle Ridge, Ocean City Pots, Avalon Shoal, Northeast End, 5 Fathoms Light Ship, Northern Lump, Middle Lump, East Lump

WHITE MARLIN

Tetrapturus albidus



BLUE MARLIN

Makaira nigricans



Season: Late June-early October

Fishing Methods: Trolling

General Grounds: White and blue marlin are pelagic fishes that are encountered by anglers throughout New Jersey's ocean waters. Despite their wide distribution, most sportfishing activity is in the vicinity of the offshore canyons and along the 100 fathom contour, where marlin are most abundant. Several inshore areas which are fished to a lesser extent include the Delaware Lightship, the 28 Mile Wreck, the Resor Wreck, Barnegat Ridge and an area about 25 miles off Shinnecock Inlet. In addition, a broad area extending from 30 fathoms (180 feet) to the prime marlin grounds is often fished by anglers passing to and from the various offshore canyons.

Blue and white marlin are taken by charter and private boat anglers. In 1981, New Jersey anglers caught 2,600 white and 82 blue marlin (Figley and Long 1982).

Specific Grounds: Resor Wreck, 28 Mile Wreck, 5 Fathom Light Ship, Lummis Slough, Triple Wrecks, Delaware Light Ship

SKIPJACK TUNA

Katsuwonus pelamis



Season: July-early October

Fishing Methods: Trolling

General Grounds: The skipjack frequents offshore waters from 15 fathoms to the edge of the continental shelf and beyond. The primary sportfishing grounds occur from 15 fathoms to 40 miles off the northern coast (above Absecon Inlet) and about 25 miles off the southern coast. It is taken somewhat inshore of 15 fathoms around the Sea Isle Ridge area. The offshore limit of the fishing grounds is determined by the distance anglers are willing to travel, not by the distribution of the species.

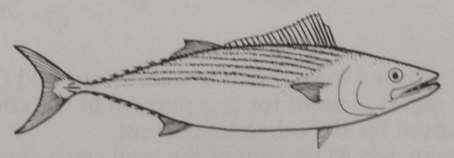
Skipjack is usually taken while trolling for species such as bonito, false albacore and bluefin tuna. It is also caught incidentally while fishing for tuna and marlin in the offshore canyons.

Most of the skipjack is taken by charter and private boat anglers.

Specific Grounds: Klondike, Ole's Lump, Resor Wreck, Lobster Hole, Atlantic City Ridge, 28 Mile Wreck, Sea Isle Ridge, Triple Wrecks, Delaware Light Ship

ATLANTIC BONITO

Sarda sarda



Season: July-September

Fishing Methods: Trolling, chumming, jigging

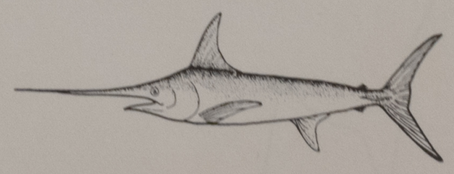
General Grounds: Although the bonito occasionally occurs close inshore, the primary sportfishing grounds extend from eight fathoms to 40 miles off the northern coast (above Absecon Inlet) and to about 25 miles off the southern coast. The offshore limits are not determined by the distribution of bonito, but rather by the distance anglers are willing to travel to catch them. During summer the bonito tends to frequent inshore water above shallow ridges and lumps. Many are caught either while chumming for bluefish or trolling for other tunas, including false albacore, skipjack and bluefin tuna.

Bonito is taken by party, charter and private boat anglers. In 1979, New Jersey fishermen caught 243,000 bonito (U.S. Department of Commerce 1980a).

Specific Grounds: Shrewsbury Rocks, 17 Fathom Bank, Acid Water, Mud Hole, Klondike, Augie's Lump, Manasquan Ridge, Tolton Lump, Barnegat Ridge, Harvey Cedars Lump, Lobster Hole, Atlantic City Ridge, Sea Isle Ridge, Ocean City Pots, Avalon Shoal, Northeast End, 5 Fathon Bank, Mary Lou Slough, Old Grounds, Northern Lump, Middle Lump, East Lump, Lummis Slough

SWORDFISH

Xiphias gladius



Season: July-late September

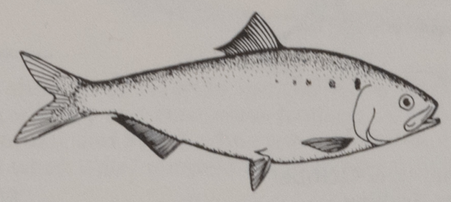
Fishing Methods: Night drifting, trolling

General Grounds: Night drifting for swordfish is a recent development. Most swordfishing is done by boats that stay overnight during marlin and tuna trips. The sportfishing grounds occur between 300 and 1200 fathoms and extend from the Hudson Canyon south to the Baltimore Canyon and occasionally as far south as the Washington Canyon. The majority of swordfish is concentrated in the deeps of all the canyons along the New Jersey coast.

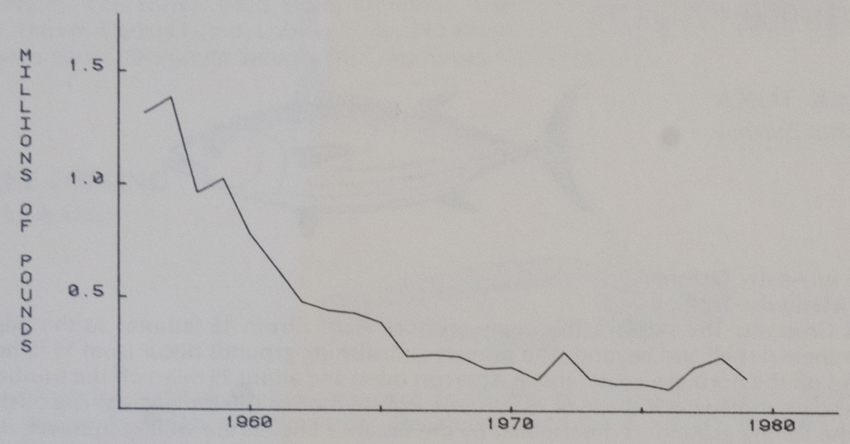
Swordfish is taken by charter and private boat anglers. In 1981, New Jersey anglers caught 86 swordfish (Figley and Long 1982).

COMMERCIAL FISHERIES

AMERICAN SHAD
Alosa sapidissima

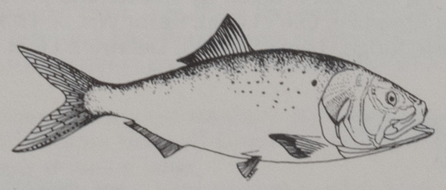


Season: February 1-May 15
Fishing Methods: Drifting, staked or anchored gillnets
Fishing Grounds: In the ocean, shad nets are fished from just outside the surf zone to about one mile offshore. The ocean fishery occurs along the entire coast from Sandy Hook to Cape May. The nets are usually set perpendicular to the beach to intercept the along shore migration. In addition to the ocean fishery, there is a very important bay fishery during the upriver spring spawning migration.
Bycatch: Weakfish, striped bass, menhaden
Commercial Landings: New Jersey's commercial shad landings show a major peak of 1.4 million pounds in 1957. In 1979, 149,000 pounds with a dockside value of $27,000 were landed (U.S. Department of Commerce 1980c).



COMMERCIAL LANDINGS OF AMERICAN SHAD

MENHADEN
Brevoortia tyrannus

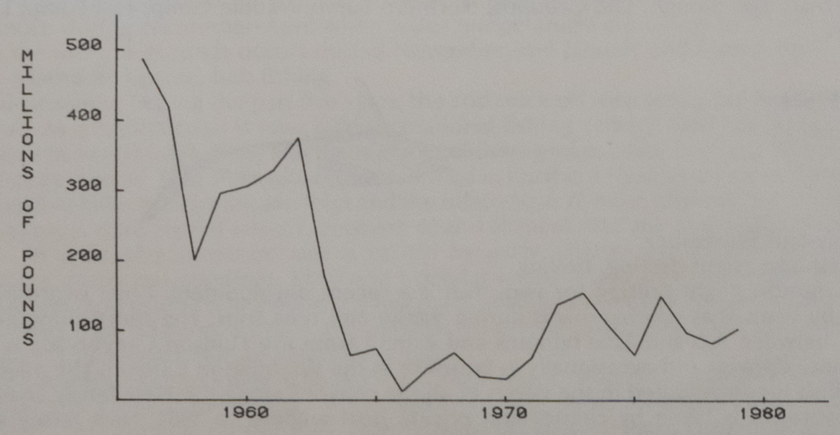


Season: The menhaden is fished from the end of May into mid October or early November.
Fishing Methods: Purse seines account for 98.3 percent of the commercial catch, while gill nets and pound nets account for the other 1.7 percent.
Fishing Grounds: Approximately 85 percent of the total catch along the New Jersey coast occurs in Raritan-Sandy Hook Bay, Delaware Bay and a three-mile wide band running along the ocean shore. The remaining 15 percent of the catch is taken from the edge of the band to seven miles offshore; very little, if any, menhaden is caught beyond seven miles.

The menhaden is a pelagic, wandering species and no specific fishing areas exist. Because of this, spotter aircraft are an integral part of the fishery. They are used to find menhaden schools and direct purse seine vessels to school locations.

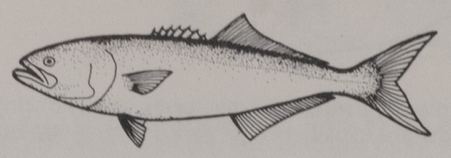
This fishery has the highest amount of capital expenditure in equipment of any in New Jersey, with vessels costing several million dollars each and nets several hundred thousand dollars apiece. It is also the most mechanized fishery in the state and accounts for the greatest volume of fish harvested.

Commercial Landings: New Jersey commercial landings of menhaden show a peak in 1956 (486 million pounds). After a sharp decline in 1958 (200 million pounds) catches rose again in the early 1960s. In 1979, 103 million pounds of menhaden with a dockside value of $3.3 million were landed (U.S. Department of Commerce 1980c).



COMMERCIAL LANDINGS OF ATLANTIC MENHADEN

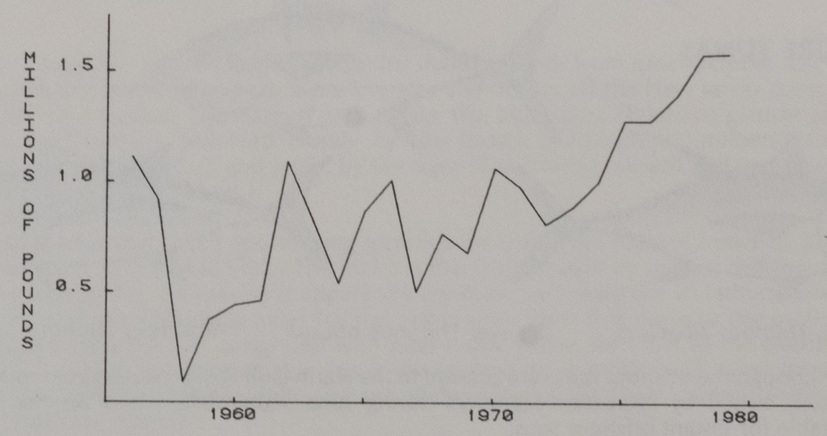
BLUEFISH
Pomatomus saltatrix



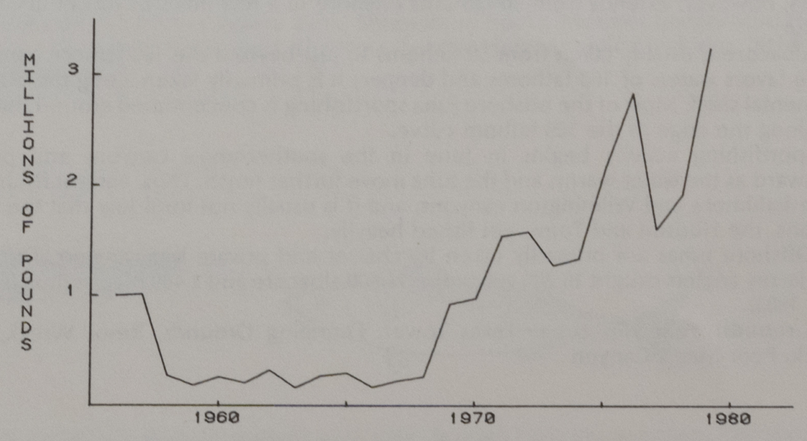
WEAKFISH
Cynoscion regalis



Season: May-October
Fishing Methods: Gillnets account for 56.9 percent of the bluefish catch, otter trawls 34.2 percent and other gear 8.9 percent. Gillnets account for 17.9 percent of the weakfish catch, pair and otter trawls 73.1 percent and other gear, 10 percent.
General Grounds: The majority of fishing effort for bluefish and weakfish occurs in Raritan-Sandy Hook Bay, Delaware Bay and out to 15 fathoms along the entire New Jersey coast. Bluefish and weakfish are also taken further offshore (to 60 fathoms) by otter trawl and purse seine. The principal gillnet areas occur within the 10 fathom contour and include lumps and ridges outside the contour that are 10 fathoms or less in depth. Trawling and purse seine fishing take place from the inshore two mile limit to 15 fathoms.
Specific Grounds: Shrewsbury Rocks, England Bank, Klondike, Seaside Lumps, Spring Lake Hills and Hole, Asbury Lumps, Ocean Grove Hole, Belmar 10th Avenue Hole, Barnegat Ridge, Loveladies Lumps, Harvey Cedars Lump, Brant Beach Fingers, Hills off the Orange Tower in Beach Haven, Brigantine Shoals, Stone Beds, Sea Isle Lumps, Avalon Shoals and Sea Isle Ridge.
Bycatch: Longfin squid, butterfish, croaker, tautog, black sea bass, kingfish
Commercial Landings: New Jersey commercial landings of bluefish ranged from a low of 91 thousand pounds in 1958 to a peak of 1.6 million pounds in 1979. The dockside value for bluefish in 1979 was $235,000 (U.S. Department of Commerce 1980c). The landings of weakfish were at their highest levels in recent years. In 1979, 6.5 million pounds of weakfish were landed with a dockside value of $902,000 (U.S. Department of Commerce 1980c).



COMMERCIAL LANDINGS OF BLUEFISH



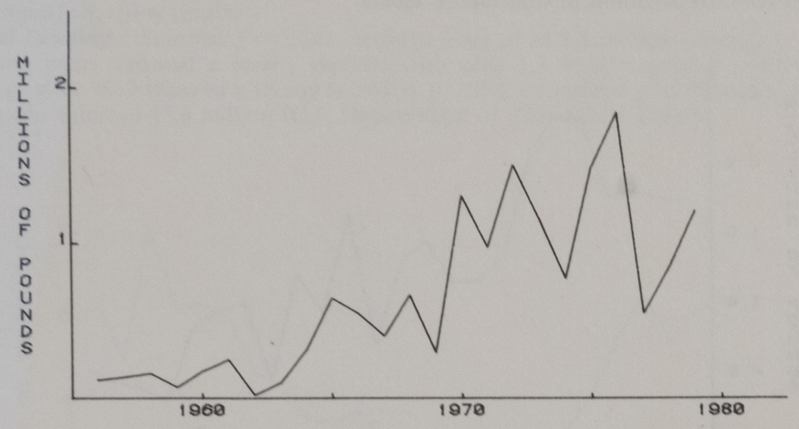
COMMERCIAL LANDINGS OF WEAKFISH

ATLANTIC MACKEREL

Scomber scrombrus



Season: Inshore, April-June; offshore, January-April
Fishing Methods: Otter trawl, pair trawl, gill net
Fishing Grounds: The mackerel is a pelagic species which prefers cool, well-oxygenated open ocean water. Commercial fishermen recognize two mackerel seasons, a spring inshore season and a winter offshore season. During the winter season (January-April), the mackerel is caught offshore from 30 to 110 fathoms along the entire edge of the shelf, from Block Canyon south to Baltimore Canyon. In the spring, the mackerel move inshore. Otter trawlers catch it off Cape Hatteras when it reaches about 15 fathoms and follow the schools northward as they move up the coast, fishing all the way from Cape Hatteras to the east side of the Mud Hole.
Bycatch: Longfin squid, sea herring, butterfish
Commercial Landings: In the past 10 years mackerel landings have fluctuated between 500,000 and 1.8 million pounds. In 1979, 1.2 million pounds of mackerel with a dockside value of $160,000 were landed (U.S. Department of Commerce 1980c).



COMMERCIAL LANDINGS OF ATLANTIC MACKEREL

ATLANTIC COD

Gadus morhua

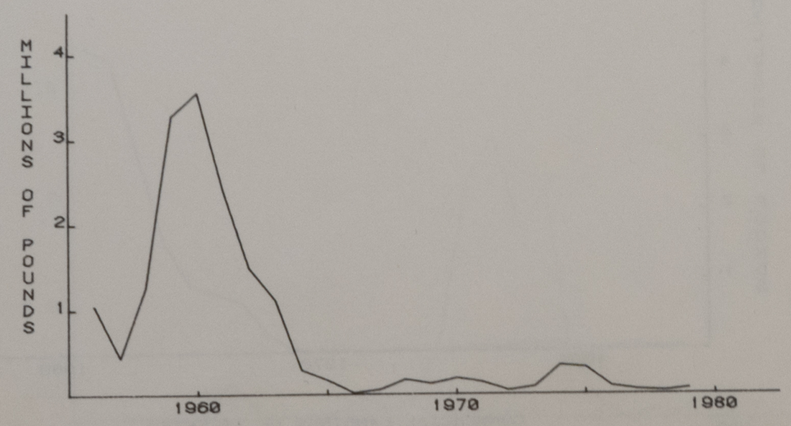


POLLOCK

Pollachius virens



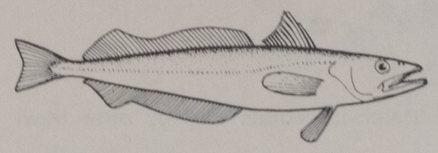
Season: November-February
Fishing Methods: Otter trawl, longlines
Fishing Grounds: New Jersey is near the southern limit of the Atlantic cod's range, and commercial catches have been relatively small and variable in recent years. Because of this, very little commercial cod fishing has taken place the last several years. At present, only one area south of Fire Island along the 15 fathom contour is actively fished for cod and pollock. Small quantities of both species are taken during the winter months as a bycatch in the whiting fishery.
Commercial Landings: Cod landings peaked in 1960 at 3.3 million pounds. In 1979 64,000 pounds valued at $29,000 were landed (U.S. Department of Commerce 1980c).



COMMERCIAL LANDINGS OF ATLANTIC COD

WHITING

Merluccius bilinearis

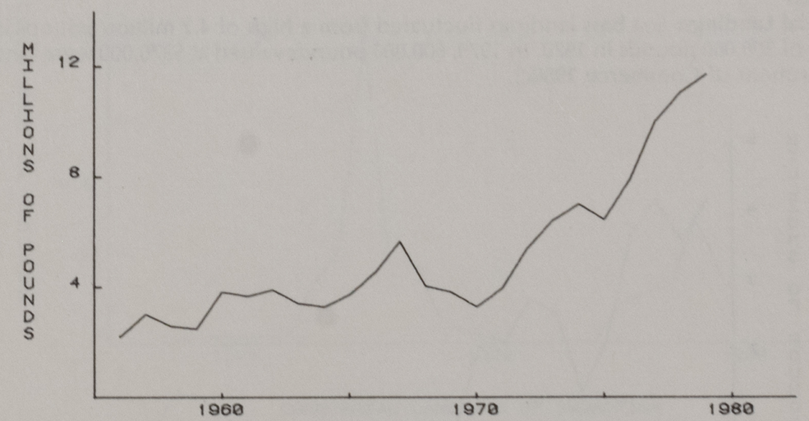


RED HAKE (Ling)

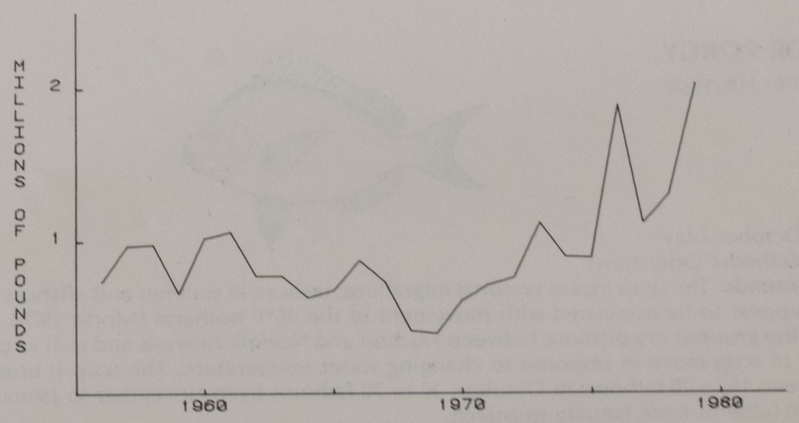
Urophycis chuss



Season: October-June
Fishing Methods: Otter trawl
Fishing Grounds: Whiting and ling are caught offshore as a bycatch of the scup and fluke fisheries. They are abundant in the Mud Hole area during October when water temperature begins to cool. They are present inshore until June. Sporadic catches are made off Delaware Bay from January-March. It is reported that the species are abundant between 70 and 110 fathoms during late winter.
Specific Grounds: Mud Hole, Ambrose Anchorage area, northeast of Ambrose Light, off the beach from Rockaway Point to Jones Inlet, from Shark River to Elberon
Bycatch: Longfin squid, butterfish, fluke, mackerel
Commercial Landings: In 1979, 11.7 million pounds of whiting with a dockside value of $1.7 million were landed; landings of red hake were 2 million pounds with a dockside value of $251,000 (U.S. Department of Commerce 1980c).



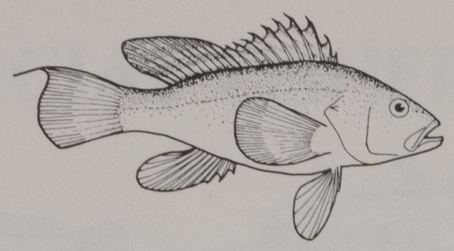
COMMERCIAL LANDINGS OF WHITING



COMMERCIAL LANDINGS OF RED HAKE

BLACK SEA BASS

Centropristis striata



Season: Sea bass is caught with traps or pots from March-December and by otter trawl throughout the year.

Fishing Methods: Otter trawl, traps

Fishing Grounds: During the winter, the major trawl fishery for sea bass occurs offshore between 30 and 70 fathoms. Otter trawls equipped with roller gear are used to fish the hard, rocky bottoms where the sea bass winters. Sea bass is also taken on open bottoms as a bycatch in the inshore otter trawl fishery.

The trap fishery occurs inshore during the summer months. Traps are set mostly between 10 and 19 fathoms on hard bottom, such as rocks, wrecks and other substrates. Sea bass is also taken in lobster traps set in inshore areas.

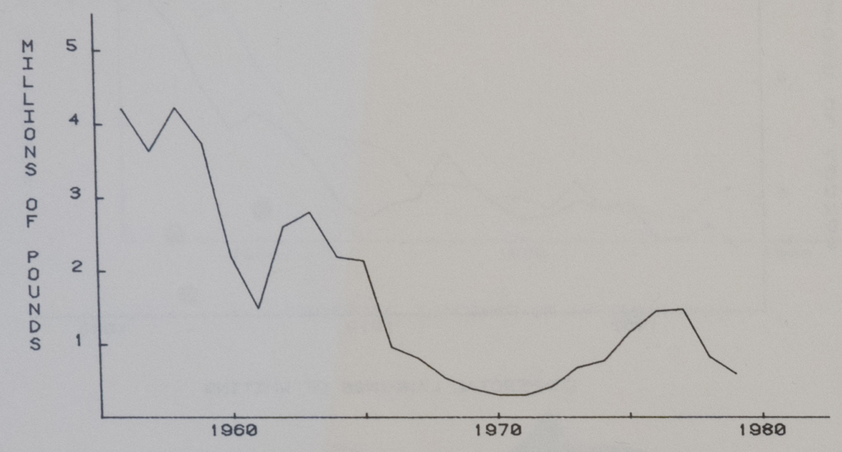
Long-term changes in bottom characteristics may influence the distribution of black sea bass. A decrease in the extent of oyster beds off southern New England may be related to a decrease in sea bass abundance there. Seasonal distribution seems influenced by temperature, with 10°C cited as a lower preferred limit (Kendall 1977).

Specific Grounds: Barnegat Ridge, Inshore Wrecks off Little Egg Inlet, Lobster Hole, 28 Mile Wreck, Atlantic City Ridge, Inshore Stone Beds, Northeast End area, 5 Fathom Bank Light Ship area, Mary Lou Slough, and The Old Grounds

Bycatch: Trap fishery—rock crab, jonah crab, lobster, ling

Trawl fishery—rock crab, jonah crab, lobster, ling, butterfish, whiting, scup, spiny dogfish

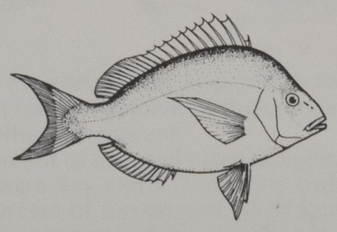
Commercial Landings: Sea bass landings fluctuated from a high of 4.2 million pounds in 1958 to a low of 308,000 pounds in 1970. In 1979, 600,000 pounds valued at $370,000 were landed (U.S. Department of Commerce 1980c).



COMMERCIAL LANDINGS OF BLACK SEA BASS

SCUP OR PORGY

Stenotomus chrysops



Season: October-May

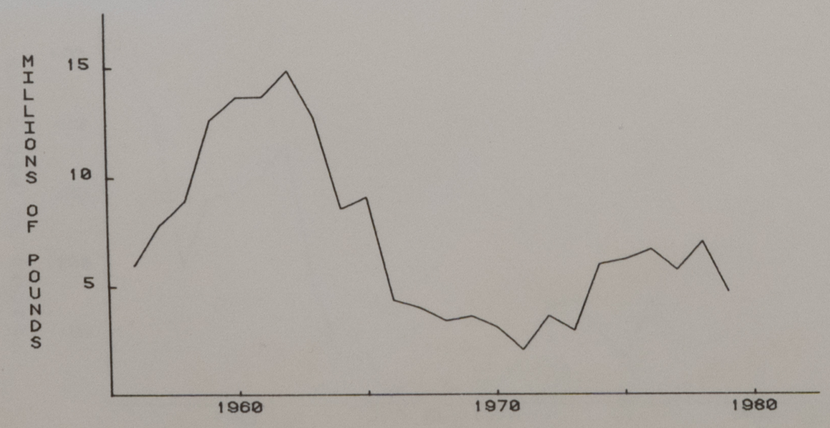
Fishing Methods: Otter trawl

Fishing Grounds: The scup makes seasonal migrations, inshore in summer and offshore in winter, that appear to be associated with movement of the 45°F isotherm (Morse 1978). The main trawling grounds are offshore between Hudson and Norfolk canyons and shift as concentrations of scup move in response to changing water temperature. The scup is usually found between 15 to 20 fathoms in October, 30 to 70 fathoms from November to January, and 50 to 110 fathoms from January to March.

Specific Grounds: The numerous lumps, ridges and depressions that occur between 20 and 110 fathoms

Bycatch: Sea bass, fluke, squid, butterfish

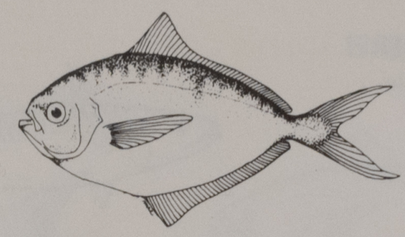
Commercial Landings: Scup landings peaked in 1962 at 15 million pounds. In 1979, 4.8 million pounds of scup valued at $1.5 million were landed (U.S. Department of Commerce 1980c).



COMMERCIAL LANDINGS OF SCUP

BUTTERFISH

Peprilus triacanthus



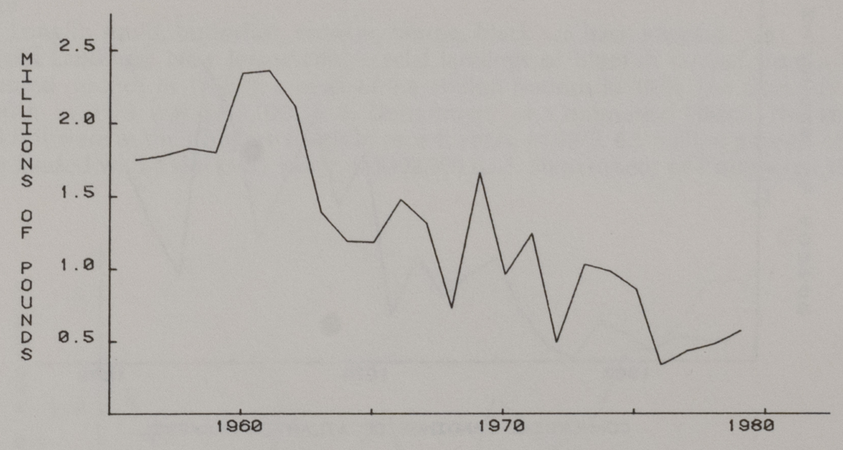
Season: Inshore, June-October; offshore, January-June

Fishing Methods: Otter trawl and gillnet

Fishing Grounds: The butterfish makes seasonal migrations similar to Atlantic mackerel, scup and long finned squid (Murawski, Frank and Chang 1978). During the winter months it is caught offshore from Wilmington to Block canyons, mostly between 45 and 100 fathoms. In March, commercial fishing is concentrated on the east side of the Hudson Canyon. Later in the spring, butterfish move further north and inshore (30 to 45 fathoms). Otter trawls are used during the offshore winter and spring fishery, and gillnets are used in the inshore fishery. Gillnets take small quantities of butterfish during the warm months when fishing for fluke, weakfish and bluefish.

Specific Grounds: There are no specific grounds. All sandy or clay bottoms that are clear of trawling obstructions are areas where the butterfish may concentrate. Thus, the prime ground is wherever the butterfish is most abundant, and it may change from day to day.

Commercial Landings: Landings of butterfish have fluctuated from 2.4 million pounds in 1961 to 492,000 pounds in 1972. In 1979, 574,000 pounds of butterfish valued at $196,000 dollars were landed (U.S. Department of Commerce 1980c).



COMMERCIAL LANDINGS OF BUTTERFISH

TILEFISH

Lopholatilus chamaeleonticeps



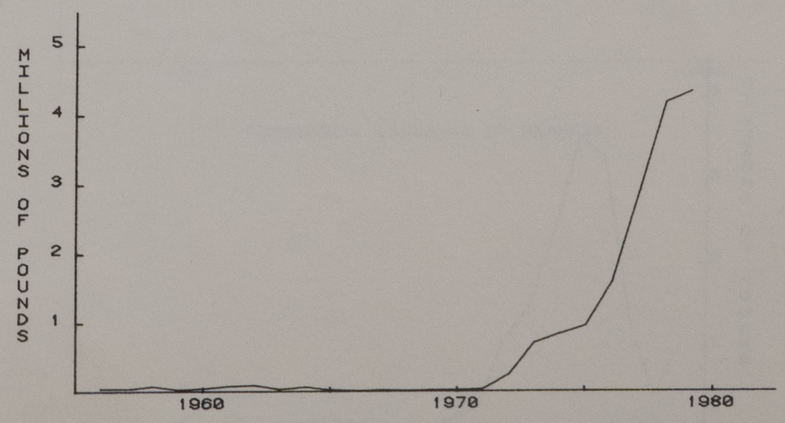
Season: Tilefish is caught year round, but most fishing occurs from October-April. During the summer months, many longline fishermen shift their effort from tilefish to swordfish.

Fishing Methods: Tilefish is taken by longline (96.9 percent) and otter trawl (3.1 percent). Tilefish taken by otter trawl catches are incidental to the winter fishery for summer flounder.

Fishing Grounds: The tilefish is a demersal species that occurs along the outer edge of the continental shelf between New England and Chesapeake Bay. The principal fishing grounds lie between 55 and 140 fathoms from Spencer to Veach canyons. Throughout this range tilefish is restricted to a relatively narrow band of warm bottom water that remains 48 to 57°F year round. Productive fishing areas seem to correspond to clay bottoms.

Bycatch: Sharks, anglerfish, conger eels.

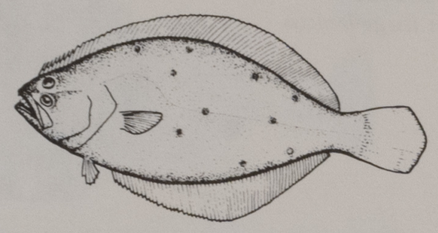
Commercial Landings: Tilefish landings show a steady rise with the advent of the longline fishery in the early 1970s. In 1979, 4.3 million pounds valued at $2.6 million were landed (U.S. Department of Commerce 1980c).



COMMERCIAL LANDINGS OF TILEFISH

SUMMER FLOUNDER or FLUKE

Paralichthys dentatus



Season: Year-round

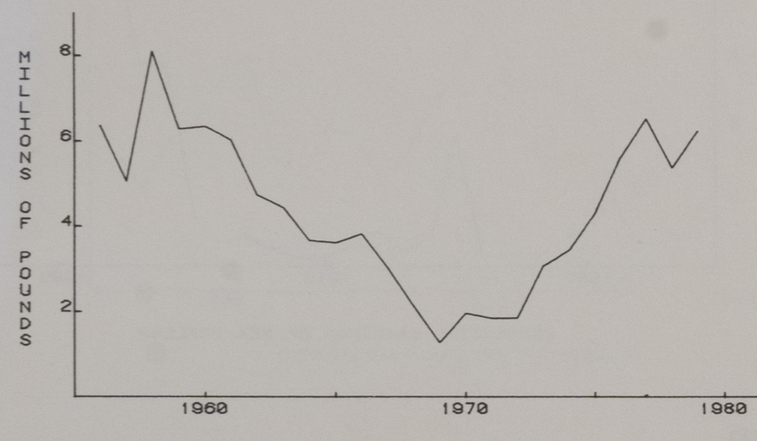
Fishing Methods: Otter trawl

Fishing Grounds: The summer flounder is caught from the inshore legal trawling limits (New York, one-half mile; New Jersey, two miles; Delaware, three miles; Maryland, one mile) to a maximum depth of 80 fathoms. The prime offshore fishing grounds are sand and mud bottoms which are distributed throughout the Mid-Atlantic Bight. The largest catches are taken between 30 and 60 fathoms from December-May. From May-August it is taken offshore to 10 fathoms (60 feet) and to 15 fathoms by October. Once the summer flounder reaches 20 fathoms, it seems to move rapidly to its overwintering grounds between 30 and 80 fathoms offshore.

Specific Grounds: Tin Can Grounds, England Bank, Klondike, Avalon Shoals, Sea Isle Ridge, 5 Fathom Bank, McCries Shoals, the Old Grounds, and the numerous lumps, ridges and depressions that occur from 15 to 80 fathoms.

Bycatch: Longfin squid, butterfish, lobster, scup, whiting, red hake, four spot flounder, black sea bass, anglerfish, spiny dogfish.

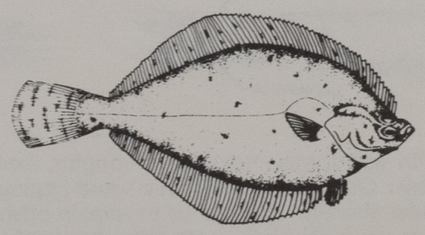
Commercial Landings: Summer flounder landings peaked at 8.1 million pounds in 1958. The following years showed a steady decline with only 1.3 million pounds landed in 1969. Landings after 1969 showed a steady increase. In 1979, 3.9 million pounds were landed with a dockside value of $3.6 million (U.S. Department of Commerce 1980c).



COMMERCIAL LANDINGS OF SUMMER FLOUNDER

YELLOWTAIL FLOUNDER

Limanda ferruginea

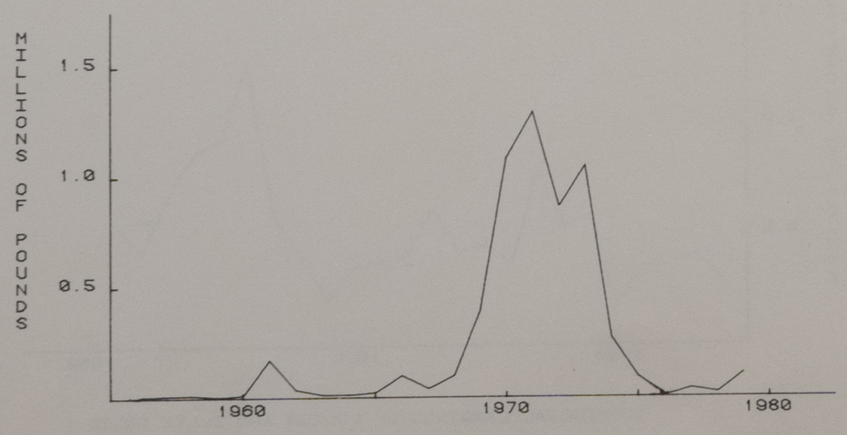


Season: November-February

Fishing Methods: Otter trawls, scallop dredges

Fishing Grounds: Landings of yellowtail flounder in New Jersey have dropped abruptly during the past few years. Now, only two areas are actively fished, one southeast of the BA Buoy and the other east of Ambrose Light. Scallop vessels also take yellowtail as a bycatch, usually from 18-40 fathoms.

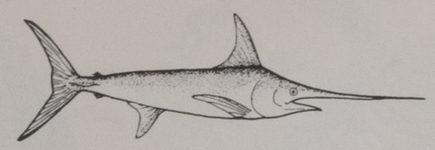
Commercial Landings: The commercial landings of yellowtail peaked in 1971 at 1.3 million pounds. In 1979, 108,000 pounds were landed with a dockside value of $26,000 (U.S. Department of Commerce 1980c).



COMMERCIAL LANDINGS OF YELLOWTAIL FLOUNDER

SWORDFISH

Xiphias gladius



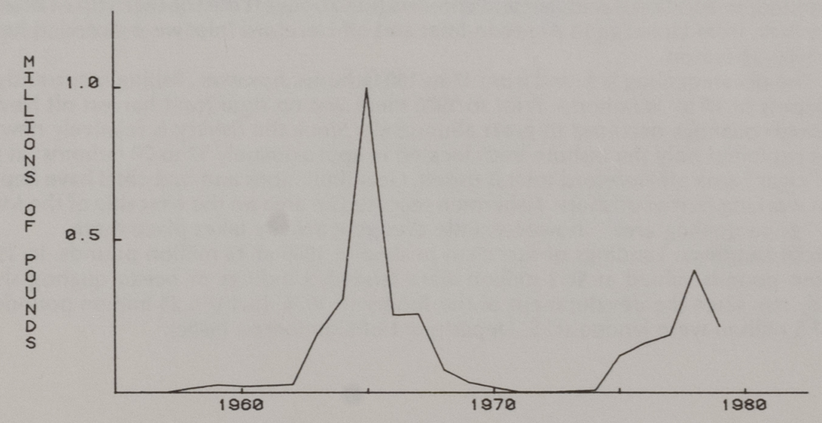
Season: June-December

Fishing Methods: Longlines account for 96.7 percent of the catch, otter trawl and harpoon the remaining 3.3 percent.

Fishing Grounds: Swordfish is caught from the Grand Banks to the Gulf of Mexico along the eastern coast of the United States and along the edge of the continental shelf off New Jersey. The best fishing area lies between 100 and 1000 fathoms centered between 300 and 600 fathoms, although fishing sometimes occurs between 100 and 200 fathoms.

Bycatch: Yellowfin tuna, bigeye tuna, albacore, bluefin tuna and sharks.

Commercial Landings: Swordfish landings were insignificant until the 1960s when a longline fishery developed. Landings peaked in 1965 at one million pounds, but declined rapidly due to concern about possible mercury contamination. In 1979, 217,000 pounds valued at $335,000 were landed (U.S. Department of Commerce 1980c).



COMMERCIAL LANDINGS OF SWORDFISH

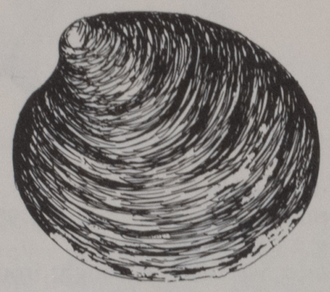
SURF CLAM

Spisula solidissima



OCEAN QUAHOG

Arctica islandica



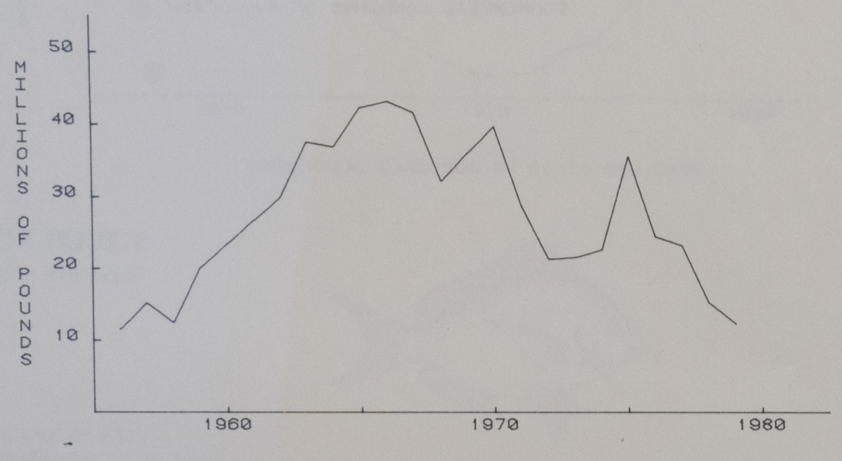
Season: Year round

Fishing Methods: Hydraulic dredge

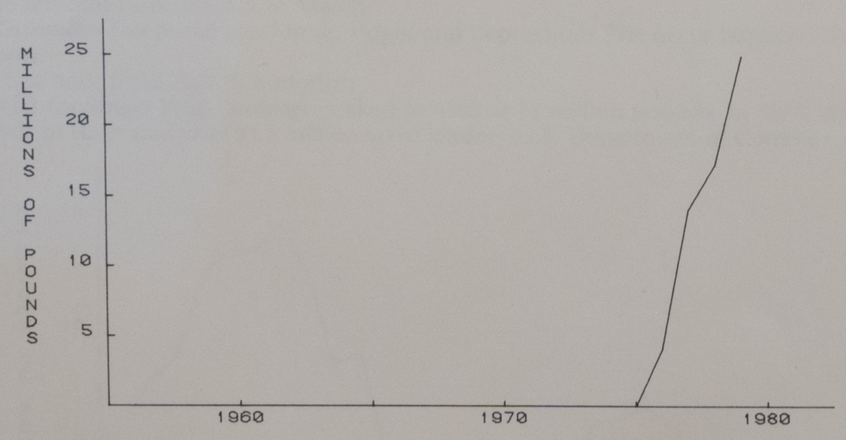
Fishing Grounds: The surf clam is dredged from the surf zone to about the 18 fathom contour. It does not seem to be in commercial concentrations beyond this depth. An inshore area of high concentration occurs from Point Pleasant to Cape May and offshore to about 10 fathoms. It should be noted that a condemned area extends as much as two miles offshore from Sandy Hook to Island Beach State Park. Other condemned areas are located off Long Beach Island, Absecon Inlet, Great Egg Inlet, Hereford Inlet, and south of Cape May Inlet. Although harvest for food is forbidden in these condemned waters, a bait clam fishery is permitted. In addition, sanctuary and conservation zones off the southern tip of Island Beach State Park, from Little Egg to Absecon Inlet and off Hereford Inlet were closed to harvest for the 1980-81 season.

The ocean quahog is found from 17 to 100 fathoms, however, fishing is currently limited to depths of 17 to 30 fathoms. Prior to 1976 there was no significant harvest off New Jersey, although quahogs occurred in great abundance. Since the fishery is relatively new, vessels have exploited only the inshore beds located in approximately 17 to 20 fathoms; at present, the "cigar" area off Hereford Inlet is fished. Gear limitations and fuel costs have kept vessels from working farther offshore. Fishermen reported an area on the west side of the Mud Hole as a "good quahog area"; however, little dredging activity takes place there.

Commercial Landings: Landings of surf clam peaked in 1966 at 43 million pounds. In 1979, 12.3 million pounds valued at $6.3 million were landed. Landings of ocean quahog showed a steady rise since the development of the fishery in 1976. In 1979, 25 million pounds valued at $7.5 million were landed (U.S. Department of Commerce 1980c).



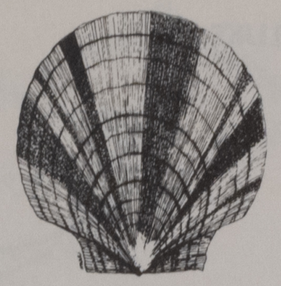
COMMERCIAL LANDINGS OF SURF CLAM



COMMERCIAL LANDINGS OF OCEAN QUAHOG

SEA SCALLOP

Placopecten magellanicus



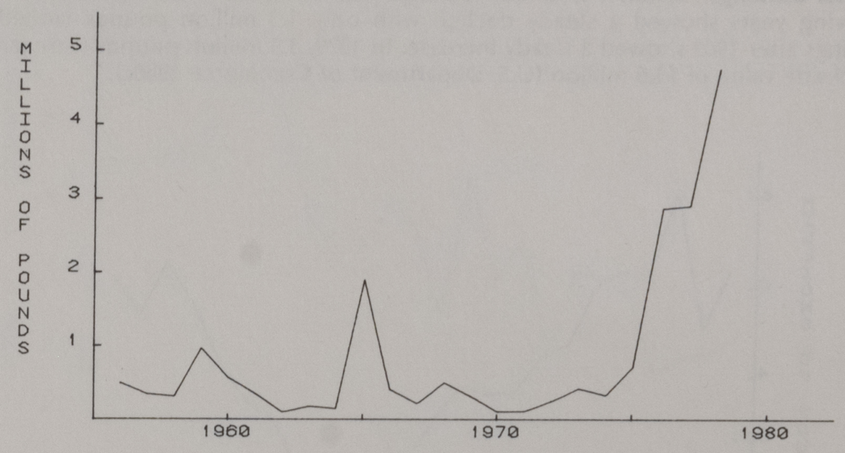
Season: Year round.

Fishing Methods: Scallop dredges account for 99.2 percent of the catch, otter trawls the other 0.8 percent.

Fishing Grounds: The sea scallop ranges from the north coast of the Gulf of St. Lawrence to southeast of Cape Hatteras (Mackenzie 1979). Sea scallop occurs in the Mid-Atlantic region between 15 and 100 fathoms on rock, sand and firm mud bottom. Commercial quantities, however, seem limited to areas between 20 and 40 fathoms. Because the sea scallop is capable of only limited movement and often concentrates in specific areas or beds, it is susceptible to heavy fishing pressure by fishermen. When abundance declines in an area, fishermen seek new beds. Because the location of actively fished beds varies from year to year, it is nearly impossible to show each specific scallop fishing area.

Bycatch: Flatfishes, anglerfish

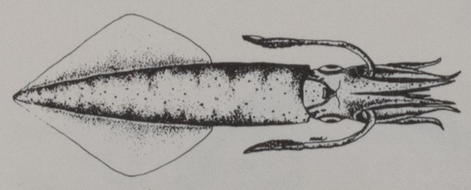
Commercial Landings: Scallop landings have increased sharply since 1976. In 1979, 5.2 million pounds valued at $16.9 million were landed (U.S. Department of Commerce 1980c).



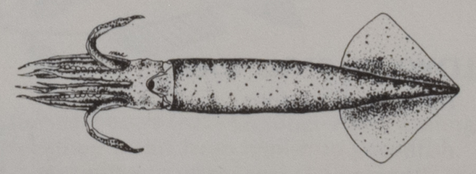
COMMERCIAL LANDINGS OF SEA SCALLOP

SQUID

Longfin, *Loligo pealei*



Shortfin, *Illex illecebrosus*



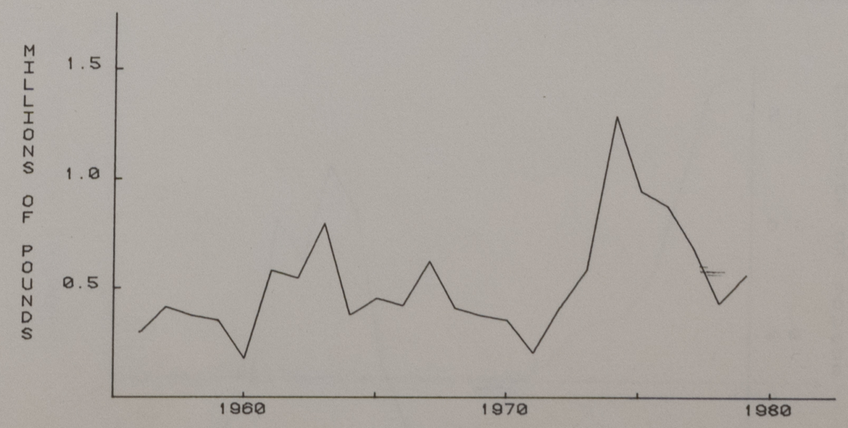
Season: Shortfin squid, May-November; Longfin, December-April

Fishing Methods: Otter trawl, automatic squid jigging machines

Fishing Grounds: Shortfin squid tends to remain offshore in the Mid-Atlantic region. In May, it moves from deep offshore water onto the continental shelf. During most of the summer it is caught between 65 and 200 fathoms. At present, fishing for the species is primarily a foreign venture.

Longfin squid is caught between 30 and 110 fathoms during the winter months, usually with finfishes, such as fluke, whiting, butterfish and scup. In April, it moves inshore and is taken as a bycatch of the inshore otter trawl fishery.

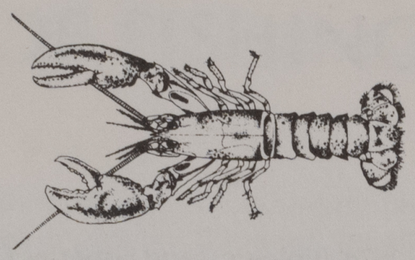
Commercial Landings: Squid landings peaked in 1974 at 1.2 million pounds. In 1979, 562,000 pounds valued at $218,000 were landed (U.S. Department of Commerce 1980c).



COMMERCIAL LANDINGS OF LOLIGO AND ILLEX SQUID

AMERICAN LOBSTER

Homarus americanus



Season: Lobster is caught year-round off New Jersey. The inshore and offshore trap fisheries usually begin in March and end in early December. However, a few lobstermen fish all year.

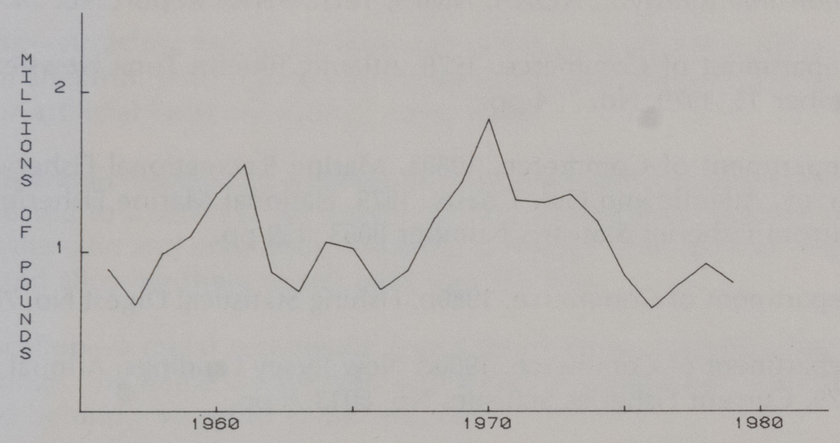
Fishing Methods: Traps account for over 65 percent of the landings with the remainder caught in otter trawls.

Fishing Grounds: The offshore lobster grounds are located from 40 to 165 fathoms. Vessels from New Jersey fish from Block Canyon south to Baltimore Canyon. The inshore lobster grounds extend from Jones Inlet south to Sea Girt in the New York Bight Apex.

Specific Grounds: 40-Fathom Hole, Cholera Bank, Mud Hole, Ambrose Light, Subway Rocks, Scallop Ridge, Highland Grounds, Shrewsbury Rocks, England Bank, Long Branch Grounds, Elberon Grounds, Klondike Bank, Barnegat Ridge, Atlantic City Lobster Hole, Block Canyon, Hudson Canyon, Toms Canyon, Wilmington Canyon, Baltimore Canyon

Bycatch: Sea bass, ling, cusk, rock crab, jonah crab

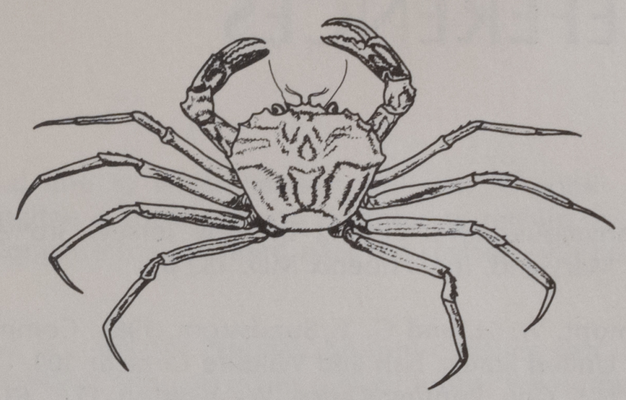
Commercial Landings: Commercial landings show two major peaks, one in 1961 (1.5 million pounds) and the second in 1970 (1.8 million pounds). In 1979, 800,000 pounds valued at $1.7 million were landed (U.S. Department of Commerce 1980c).



COMMERCIAL LANDINGS OF LOBSTER

RED CRAB

Geryon quinquedens



Season: March-December

Fishing Methods: Red crab is taken in specially modified cancer crab or lobster pots.

Fishing Grounds: Red crab is found in the Mid-Atlantic area at depths ranging from 150 to 800 fathoms. The prime fishing area is a narrow band along the 300 fathom contour which extends from Block Canyon to Baltimore Canyon. Pots are usually set between 200 and 350 fathoms, where large male crabs are usually found.

Commercial Landings: Although red crabs are harvested off New Jersey, only small quantities are landed here. In 1978, 5,700 pounds valued at $2,500 were landed (U.S. Department of Commerce 1980c).

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GLOSSARY OF FISHING TERMS

Automatic Squid jigging machine—a device that automatically lowers and retrieves small plastic lures tied in a series. The squid are attracted to the fishing vessel at night with bright lights. Squid attack the barbed lures as they are retrieved from the water.

Bait Fishing—using any form of natural bait to catch fish.

Bottom Fishing—placing a bait usually weighted with a sinker, on or near the bottom to catch fish.

Casting—throwing a bait, either natural or artificial, with a rod and reel.

Charter Boat—a recreational fishing boat, 25 to 85 feet long, that is hired for the exclusive use of from one to 80 anglers. The anglers determine the type of fishing with the advice of the captain.

Chumming—attracting fish to an area with either ground, chopped or whole fish or shellfish. Once fish are in the area, hooks baited with cut or whole fish or artificial lures are used to catch them.

Dredge, hydraulic—similar to a scallop dredge, but with a high-pressure hose connected to a series of jet nozzles on the knife blade. As the water jets wash the sand and mud away, the knife cuts into the bottom forcing clams free and allowing them to roll back into the bag.

Dredge, scallop—a metal rectangular frame to which is attached a bag net of iron rings. The frame is equipped with a rake or cutting bar. The dredge is towed behind a vessel to gather scallops.

Drifting—allowing a boat to move freely with the wind and tide while fishing.

Fathom—a nautical unit of length equal to 6 feet or 1.83 meters.

Gill Net—an upright fence, usually of monofilament netting, in which fish are caught in the meshes of the net. When swimming into the net, fish of a size for which the net is designed can pass only part way through a single mesh. The mesh slips behind the gill cover and prevents the fish from escaping.

Jigging—manipulating an artificial lure to imitate a live bait and thus attracting fish to the hook; the lure is repeatedly lowered vertically or cast some distance away, allowed to sink to a desired depth and jerked quickly upward a short distance.

Live lining—allowing a natural bait 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 reel.

Longline—a long horizontal line to which leaders with baited hooks are attached: A bottom longline is anchored and weighted to remain on the bottom and a surface longline is suspended near the surface with buoys and drifts freely.

Otter Trawl—the otter trawl is a net for catching bottom-dwelling fish. It is constructed of twine webbing and resembles a huge funnel when towed along the bottom. Floats and weights keep the mouth of the net open. Otter boards or trawl doors are fastened to each end of the net's mouth to spread the net and cover the largest possible area.

Pair Trawl—similar to the otter trawl, but towed by two vessels; trawl doors are not normally used.

Party Boat—a recreational fishing boat, 40 to 120 feet long, that carries 20 to 120 anglers. Space is sold to the general public until either the scheduled sailing time is reached or the boat is filled. The captain usually determines the type of fishing and the areas to be fished.

Pots (traps)—pots and traps are rigid devices of varius designs and dimensions used to entrap fish or shellfish. Their catching principal is based on one or more conical funnels that permit entrance but prevent escape. Pots are cylindrical, rectangular or cubical. They are fished either as single units with a buoy line or as a series attached to one long line.

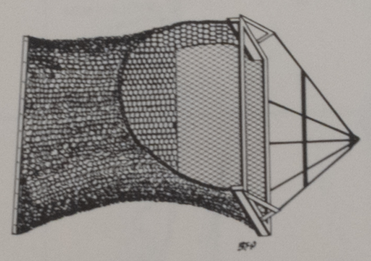
Private Boat—a recreational boat that is used exclusively by the owner and his guests and is not offered for hire. Private boats range in length to 60 feet.

Purse Seine—an encircling type of net designed to catch species that run in schools near the surface, such as menhaden and tuna. The top edge of the net is floated by a series of corks and the bottom edge is weighted with a number of leads or heavy chain. The essential feature of this net is the ability to purse or draw together the bottom, thus preventing the escape of fish trapped within.

Scottish Seine—similar to an otter trawl in shape, but instead of being towed behind the boat like an otter trawl, it is set out and hauled back to the boat with winches.

Spearfishing—the use of a spear-like fishing implement with two or more pointed barbed or barbless prongs or blades. The spear is either mechanically or manually propelled.

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 surface or troll at any depth below the surface to just above the bottom.



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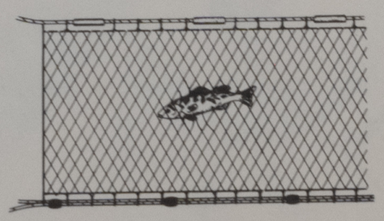

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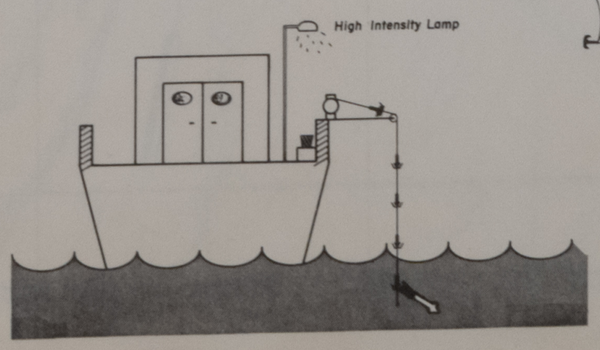
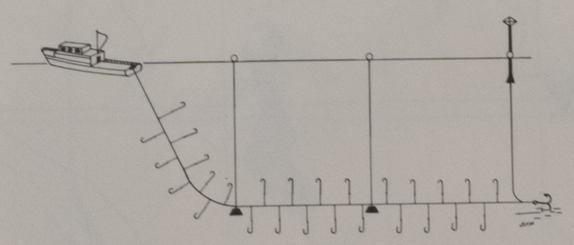
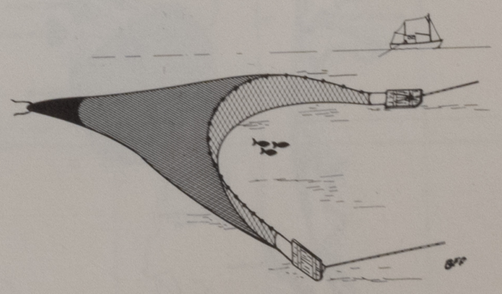


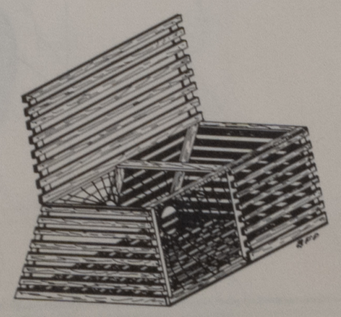
SQUID JIGGER



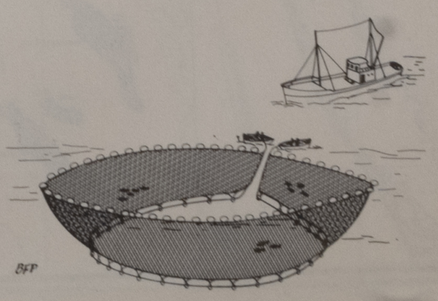
LONGLINE



OTTER TRAWL



POT OR TRAP



PURSE SEINE

N. J. DEPT. ENVIRONMENTAL PROTECTION
DIV. FISH, GAME AND WILDLIFE
1981

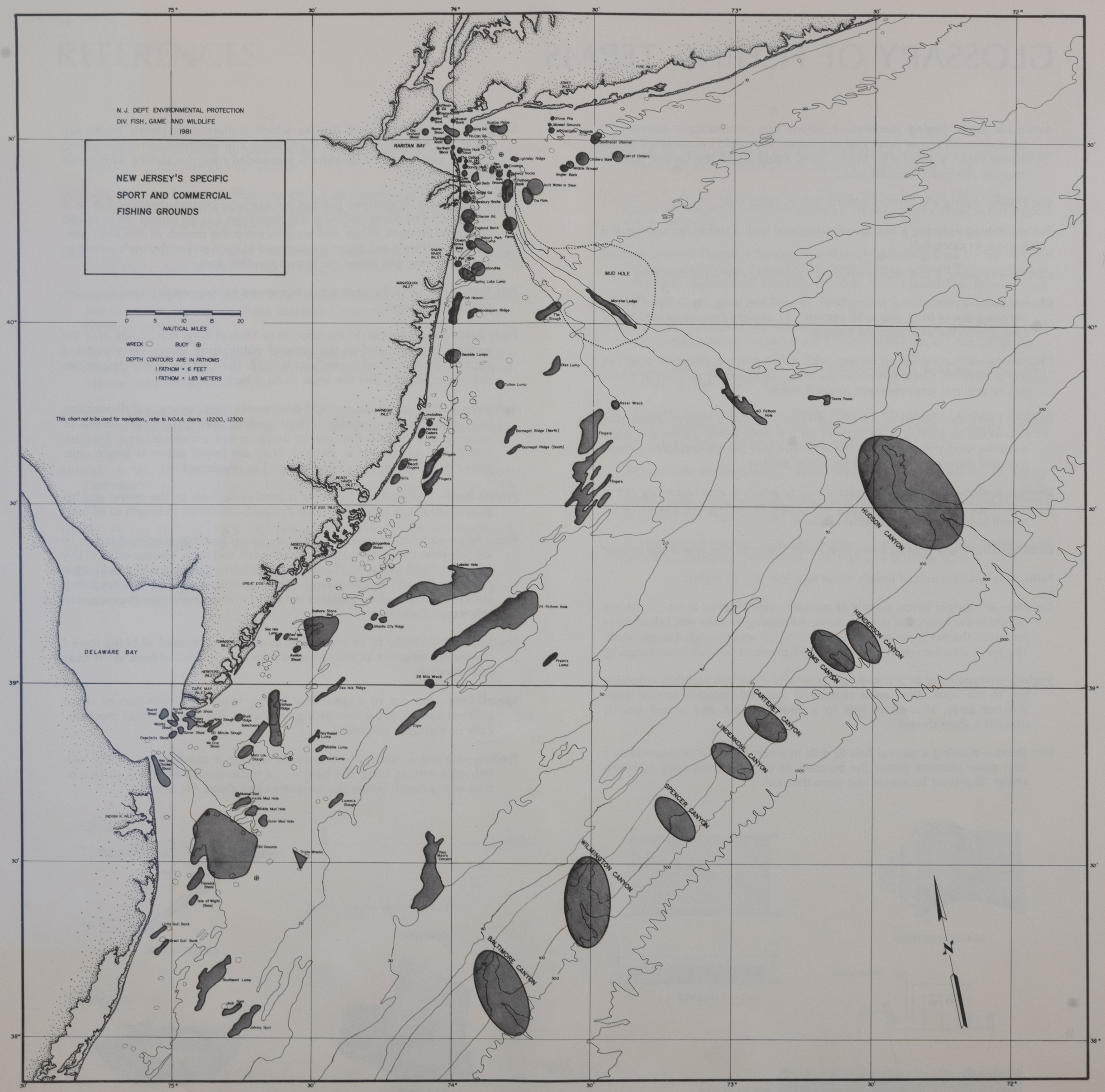
NEW JERSEY'S SPECIFIC SPORT AND COMMERCIAL FISHING GROUNDS

0 5 10 15 20
NAUTICAL MILES

WRECK ⊂⊃ BUOY ⊕

DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS

This chart not to be used for navigation, refer to NOAA charts 12200, 12300



N.J. DEPT. OF ENVIRONMENTAL PROTECTION
DIV. OF FISH, GAME AND WILDLIFE
1981

SPORT FISHERIES

STRIPED BASS
Primary
Secondary

SHARKS
Primary
Secondary

0 5 10 15 20
NAUTICAL MILES

WRECK ◌ BUOY ⊕

DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS

This chart not to be used for navigation, refer to NOAA charts 12200, 12300

RARITAN BAY
FIRE INLET
JONES INLET
SHARK RIVER INLET
MANASQUAN INLET
BARNEGAT INLET
BEACH HAVEN INLET
LITTLE EGG INLET
ABSECON INLET
GREAT EGG INLET
TOWNSEND INLET
HEREFORD INLET
CAPE MAY INLET
INDIAN R. INLET
DELAWARE BAY
STRIPED BASS
SHARKS
HUDSON CANYON
HENDRICKSON CANYON
TOMS CANYON
SPENCER CANYON
WILMINGTON CANYON
BALTIMORE CANYON
10
20
30
40
50
100
500
1000
75°
74°
73°
72°
30'
40°
39°
38°

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DIV. FISH, GAME AND WILDLIFE
1981

SPORT FISHERY

MACKEREL

Primary

Secondary

0 5 10 15 20
NAUTICAL MILES

WRECK ○ BUOY ⊕

DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS

This chart not to be used for navigation, refer to NOAA charts 12200, 12300

RARITAN BAY
SANDY HOOK
FIRE INLET
JONES INLET
SHARK RIVER INLET
MANASQUAN INLET
BARNEGAT INLET
BEACH HAVEN INLET
LITTLE EGG INLET
ABSECON INLET
GREAT EGG INLET
TOWNSEND INLET
HEREFORD INLET
CAPE MAY INLET
DELAWARE BAY
INDIAN R. INLET
HUDSON CANYON
HENDRICKSON CANYON
TOMS CANYON
SPENCER CANYON
WILMINGTON CANYON
BALTIMORE CANYON

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1981

SPORT FISHERIES

COD, POLLOCK

WHITING, RED HAKE

Primary
Secondary

0 5 10 15 20
NAUTICAL MILES

WRECK ⊂⊃ BUOY ⊕

DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS

This chart not to be used for navigation, refer to NOAA charts 12200, 12300

LING, WHITING

COD, POLLOCK

RARITAN BAY

SANDY HOOK

FIRE ISLAND INLET

JONES INLET

SHARK RIVER INLET

MANASQUAN INLET

BARNEGAT INLET

BEACH HAVEN INLET

LITTLE EGG INLET

ABSECON INLET

GREAT EGG INLET

TOWNSEND INLET

HEREFORD INLET

CAPE MAY

DELAWARE BAY

INDIAN R. INLET

HUDSON CANYON

TOMS CANYON

HENDRICKSON CANYON

SPENCER CANYON

WILMINGTON CANYON

BALTIMORE CANYON

75° 30' 74° 30' 73° 30' 72°

40° 30' 39° 30' 38°

N.J. DEPT. ENVIRONMETAL PROTECTION
DIV. FISH, GAME AND WILDLIFE
1981

SPORT FISHERIES

BLACK SEA BASS

0 5 10 15 20
NAUTICAL MILES

WRECK ◌ BUOY ⊕

DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS

This chart not to be used for navigation, refer to NOAA charts 12200, 12300

RARITAN BAY
SANDY HOOK BAY
SHARK RIVER INLET
MANASQUAN INLET
BARNEGAT INLET
LITTLE EGG INLET
BRIGANTINE INLET
GREAT EGG INLET
TUCKAHOE INLET
CORSON INLET
CAPE MAY INLET
DELAWARE BAY
INDIAN R. INLET
FIRE INLET
ONES INLET
HUDSON CANYON
TOTEN CANYON
HENDRICKSON CANYON
SPENCER CANYON
WILMINGTON CANYON
BALTIMORE CANYON
N

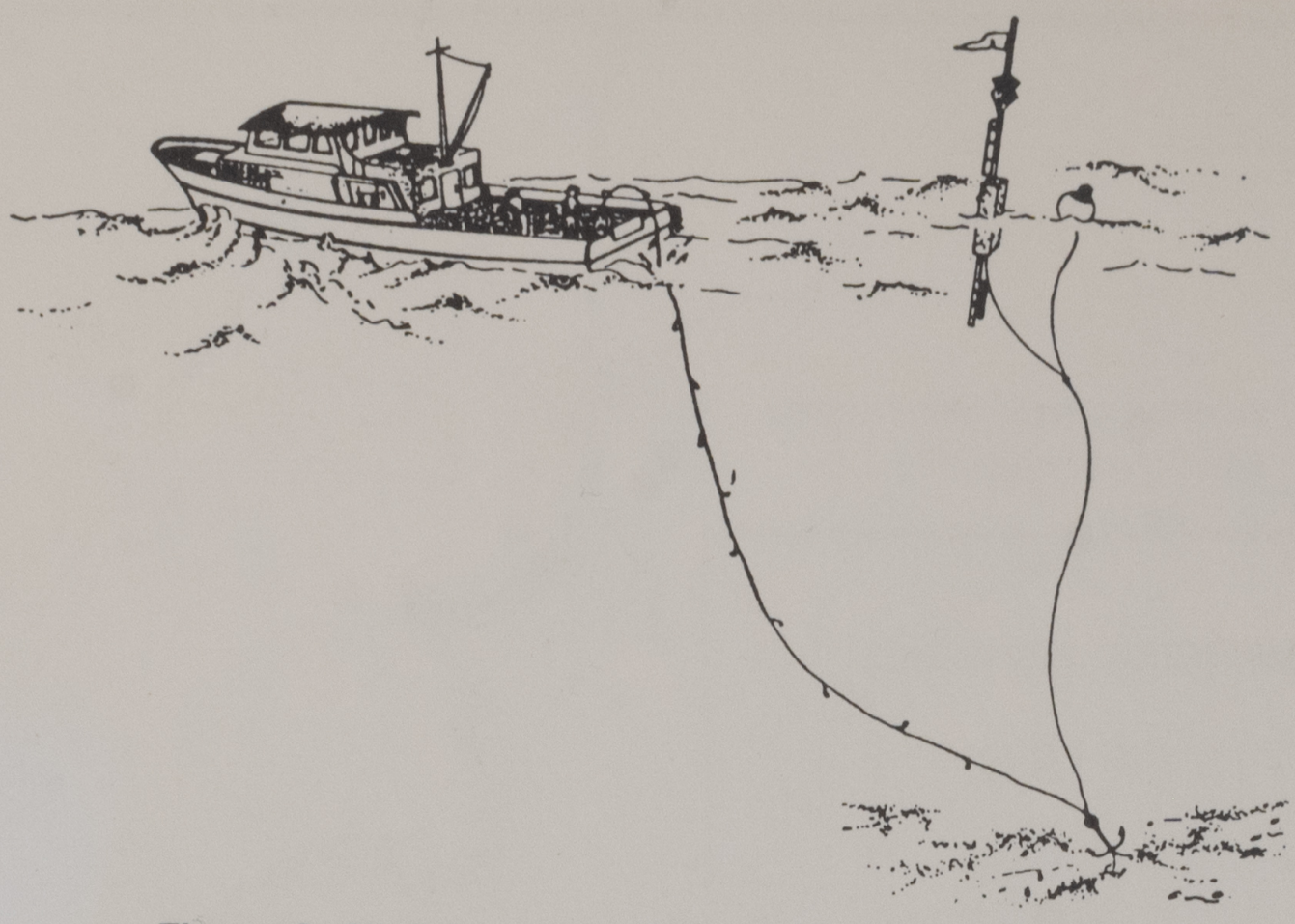

Figure 3. Tilefish vessel starting to lay out the longline.

Habitat

There are three types of tilefish habitats within the middle Atlantic Bight. The area north of Veach Canyon is characterized mostly by boulder fields. The area south of Veach Canyon is characterized by vertical burrows dug into flat clay bottoms. The third type, the pueblo villages, which consist of clay outcroppings on the sides of submarine canyons, are found scattered throughout the entire area.

Fishing Gear

Longline gear is set out from the stern of the vessel, usually starting at daylight (Figure 3). From 5 to 15 miles (8 to 24 km) are set at a time, the amount usually dependent upon the weather. The mainline is usually 3/16 to 1/4 inch (5 to 7 mm) braided or twisted nylon and is made up of several sections, locally called "tubs" or "halves". Each section is about 1/2 mile (.8 km) long and to it is tied or spliced some 225 branch lines with hooks.

As the longline is set out it sinks to the ocean floor. An anchor is usually attached to each end of the mainline and bricks or sash weights are attached at 1,000-foot intervals to insure that the line remains on the bottom (Figures 3 and 4). In addition to the anchors, each end of the longline is marked at the surface with a radar reflector buoy. The buoy consists of an 18-foot (6 m) aluminum staff counter weighted on the bottom with a 15-pound (7 kg) cement weight. The radar reflector is diamond shaped and attached to the upper end of the staff. Every two miles or so a styrofoam float or an inflated plastic float, commonly called a Norwegian ball, is attached to the mainline to help identify its position. If the weather is poor, additional radar reflector buoys are placed along the mainline in place of the Norwegian balls.

Once the entire longline is set out, the vessel runs to the beginning of the line to start retrieving. It usually takes 1 to 3 hours to set out a longline and between 10 and 14 hours to retrieve it. It is often dark before the last hook is retrieved. Because of this, the end reflector buoy usually has a blinking light attached to the staff to aid the captain in its location.

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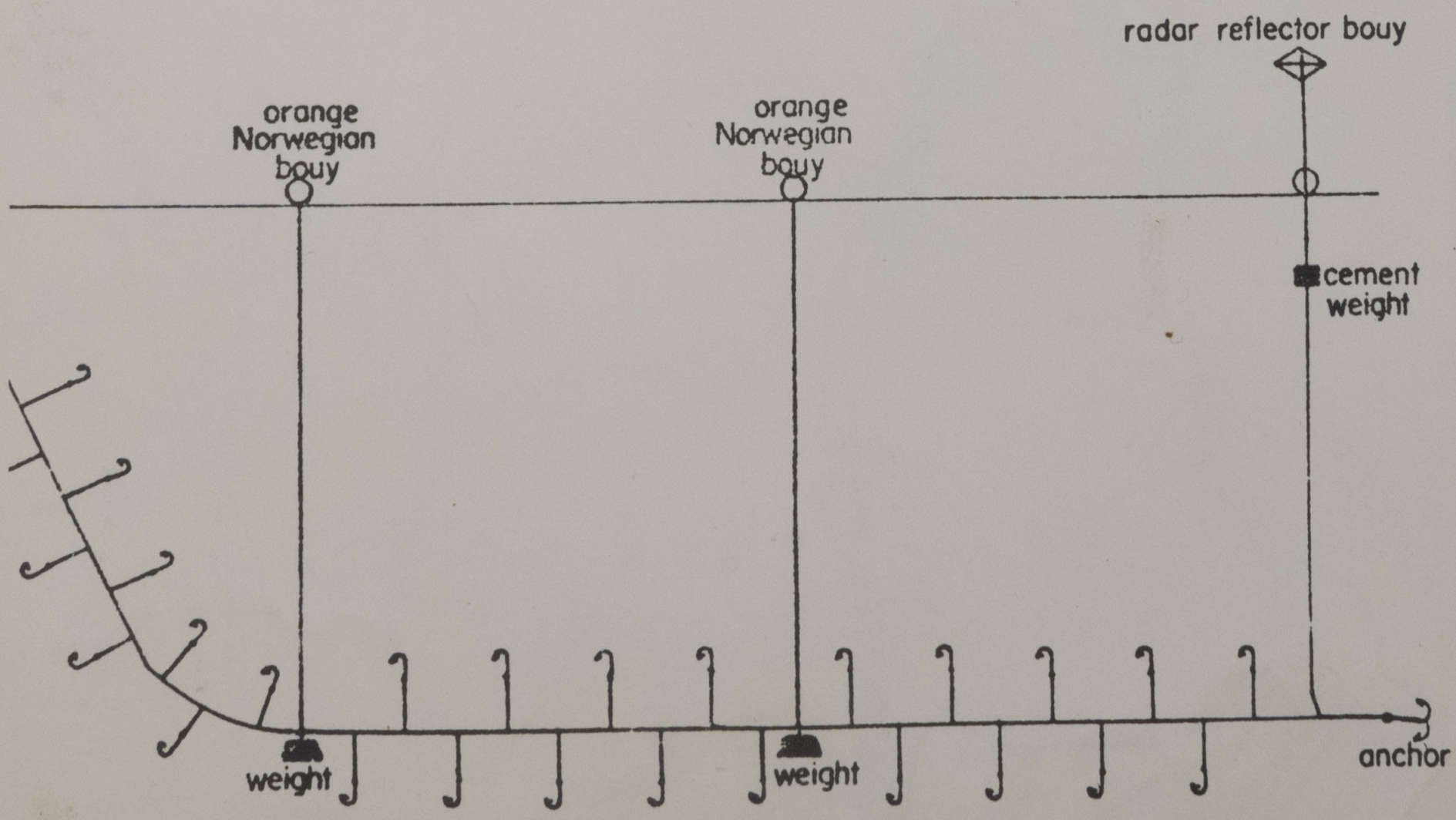

Figure 4. Diagrammatic drawing of tilefish longline partially set out.

N.J. DEPT. ENVIRONMENTAL PROTECTION
DIV. FISH, GAME AND WILDLIFE
1983

COMMERCIAL FISHERIES

TILEFISH

0 10 20 30 40 50
NAUTICAL MILES
DEPT. CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS

This chart not to be used for navigation, refer to NOAA chart 13003

Massachusetts
Cape Cod
Rhode Island
Connecticut
New York
Long Island
New Jersey
Pennsylvania
Delaware
Georges Bank
Corsair Canyon
George Canyon
Nygren Canyon
Munson Canyon
Powell Canyon
Lydonia Canyon
Oceanographer Canyon
Hydrographer Canyon
Veatch Canyon
Atlantis Canyon
Block Canyon
Hudson Canyon
Toms Canyon
Lindenkohl Canyon
Spencer Canyon
Wilmington Canyon

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ADDITIONAL INFORMATION ON THE COMMERCIAL TILEFISH GROUNDS

Introduction

This text and the following map of the tilefish grounds is an addendum to *New Jersey's Recreational and Commercial Ocean Fishing Grounds* (Long, Figley and Preim 1982; pages 8 and 33). The commercial tilefish fishery has shown a continual eastward expansion in recent years. New Jersey's commercial vessels first began fishing for this species on the west side of the Hudson Canyon in 1971. While they continue to tilefish there even today, other vessels are making trips as far as 220 miles (354km) east of Hudson Canyon. The purpose of this addendum is to describe and map these distant tilefish grounds.

History

In 1915, the Fish and Wildlife Service undertook a program to popularize tilefish in the market believing it numerous enough to support an important fishery and knowing it to be an excellent food fish (Bigelow and Schroeder, 1953). It was so plentiful that a total of 11.5 million pounds was taken from July 1, 1916 to July 1, 1917, but for some reason, perhaps because of the low price of cod and haddock at the time, the price of tilefish dropped and consequently fishing effort declined.

By 1927, the price of tilefish had risen again and remained high for the next 17 years. During this period the catch fluctuated between 1 million and 5 million pounds. In the late 1940s, a few enterprising fishermen from southern Massachusetts and Rhode Island began using medium-sized draggers of about 90 net tons to catch tilefish, and during the next few years otter trawls replaced longlines almost entirely. Again poor prices in the market and increased competition from foreign vessels led fishermen away from tilefishing. By the late 1960s, tilefish were taken only incidentally with other, more sought after species of fish.

In the winter of 1971, a New Jersey fisherman exploring grounds in the Hudson Canyon area succeeded in catching tilefish with longlines. His success prompted others to try this type of fishing. Many of the boats that entered the winter fishery were party and charter boats that normally would have been laid-up at that time of year.

Fishery Expansion

In 1974, there were five commercial vessels from New Jersey fishing longlines along the west side of the Hudson Canyon. Each succeeding year, as new vessels entered the fishery, more fishing occurred in the canyons east of the Hudson. During 1977, in response to this eastward expansion of the fishery and the rising cost of fuel, a number of vessels moved their base of operation from Barnegat Light, New Jersey to Montauk, New York. For example, while Block Canyon lies 170 miles (274 km) from Barnegat Light, it is only 90 miles (144 km) from Montauk. Recently, Barnegat Light vessels have made a few trips to Lydonia Canyon (Puskas, per. comm.), 190 miles (467 km) away. Currently, there are 26 commercial longline vessels ranging in length from 53 to 95 feet (16 to 29 m) in the New Jersey-New York fleet.

New Jersey Landings

In the period between 1971 and 1981, New Jersey vessels landed 25.5 million pounds of tilefish which accounted for 60 percent of the total landings from the middle Atlantic Bight, i.e., the area between Cape Cod, Massachusetts and Cape Hatteras, North Carolina (Figure 1). Landings for New Jersey in 1981 were valued at $3.8 million, making it the state's most valuable finfish resource.

Distribution

The tilefish occurs along the outer edge of the continental shelf and the upper edge of the continental slope from the northeast corner of the Scotian Shelf off Canada, along the entire east and Gulf coasts of the United States, through the Campeche Bank off Mexico, to the coasts of Venezuela, Guyana and Surinam (Figure 2). Within this vast range, tilefish is restricted to a relatively narrow band, usually less than 20 miles (37 km) wide, encompassing depths between 42 and 250 fathoms (76 to 457 m) (Freeman and Turner, 1977). Between Cape Cod and Cape Hatteras it is caught between 45 and 240 fathoms (82 and 439 m), with the greatest number taken between 55 and 140 fathoms (100 and 255m).

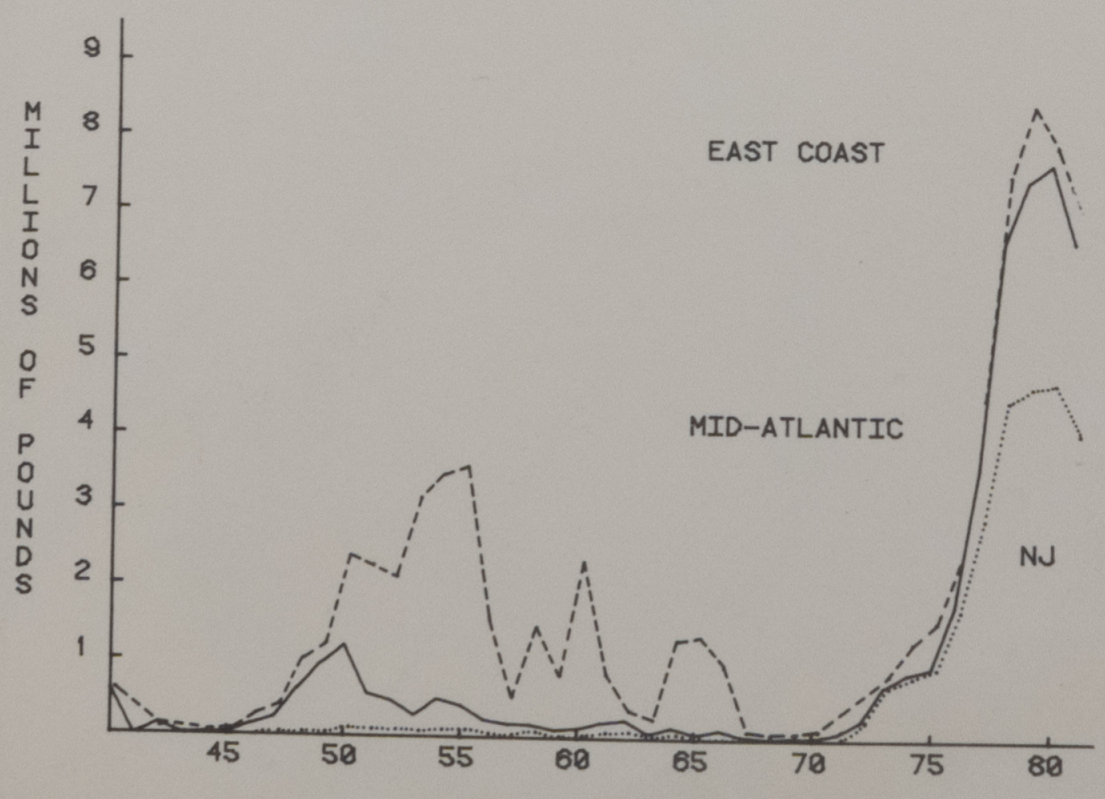


Figure 1. Commercial landings of tilefish by region during 1940-1981.

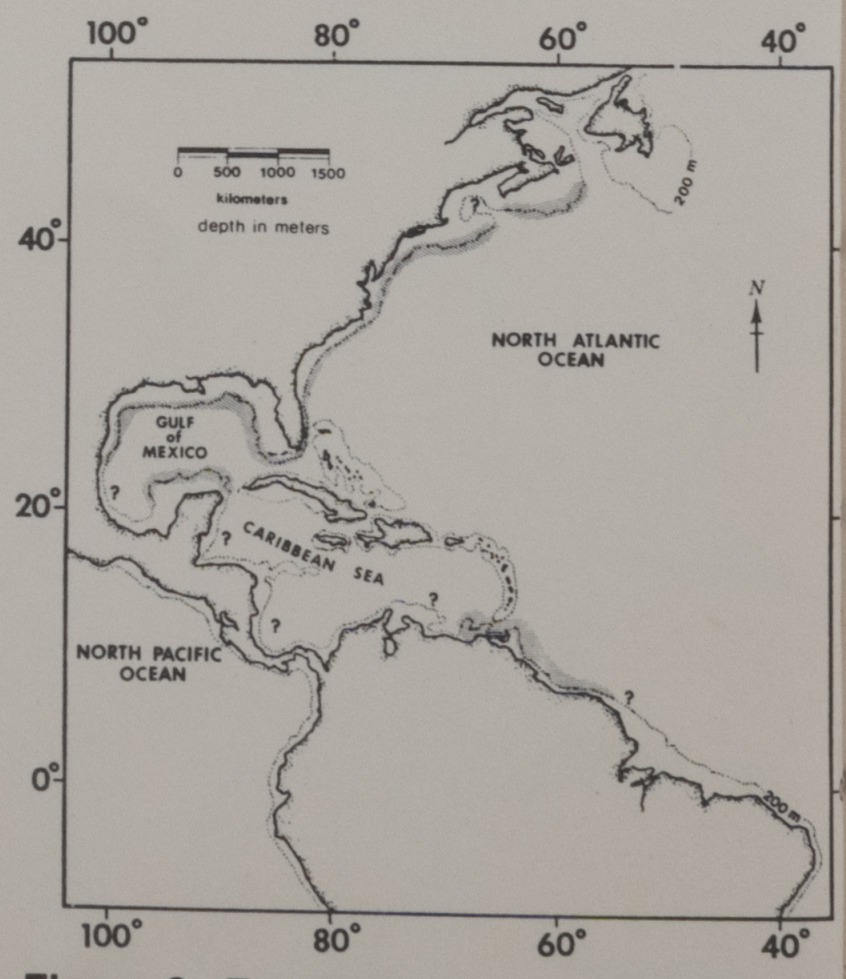


Figure 2. The distribution of tilefish *(Lopholatilus chamaeleonticeps)* as derived from captures.

N.J. DEPT. ENVIRONMENTAL PROTECTION
DIV. FISH, GAME AND WILDLIFE
1981

SPORT FISHERIES

INSHORE LIMITS
FALSE ALBACORE
BONITO
SKIPJACK
OFFSHORE LIMITS

0 5 10 15 20
NAUTICAL MILES

WRECK BUOY ⊕

DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS

This chart not to be used for navigation, refer to NOAA charts 12200, 12300

RARITAN BAY
SANDY HOOK
FIRE INLET
JONES INLET
SHARK RIVER INLET
MANASQUAN INLET
BARNEGAT INLET
BEACH HAVEN INLET
LITTLE EGG INLET
ABSECON INLET
GREAT EGG INLET
TOWNSEND INLET
HEREFORD INLET
CAPE MAY INLET
INDIAN R. INLET
DELAWARE BAY
BONITO
SKIPJACK
FALSE ALBACORE
HUDSON CANYON
HENDRICKSON CANYON
TOMS CANYON
SPENCER CANYON
WILMINGTON CANYON
BALTIMORE CANYON
N

75° 30' 74° 30' 73° 30' 72°
40° 39° 38°

N. J. DEPT. ENVIRONMENTAL PROTECTION
DIV. FISH, GAME AND WILDLIFE
1981

SPORT FISHERIES

BLUEFIN TUNA

WEAKFISH
Primary
Secondary

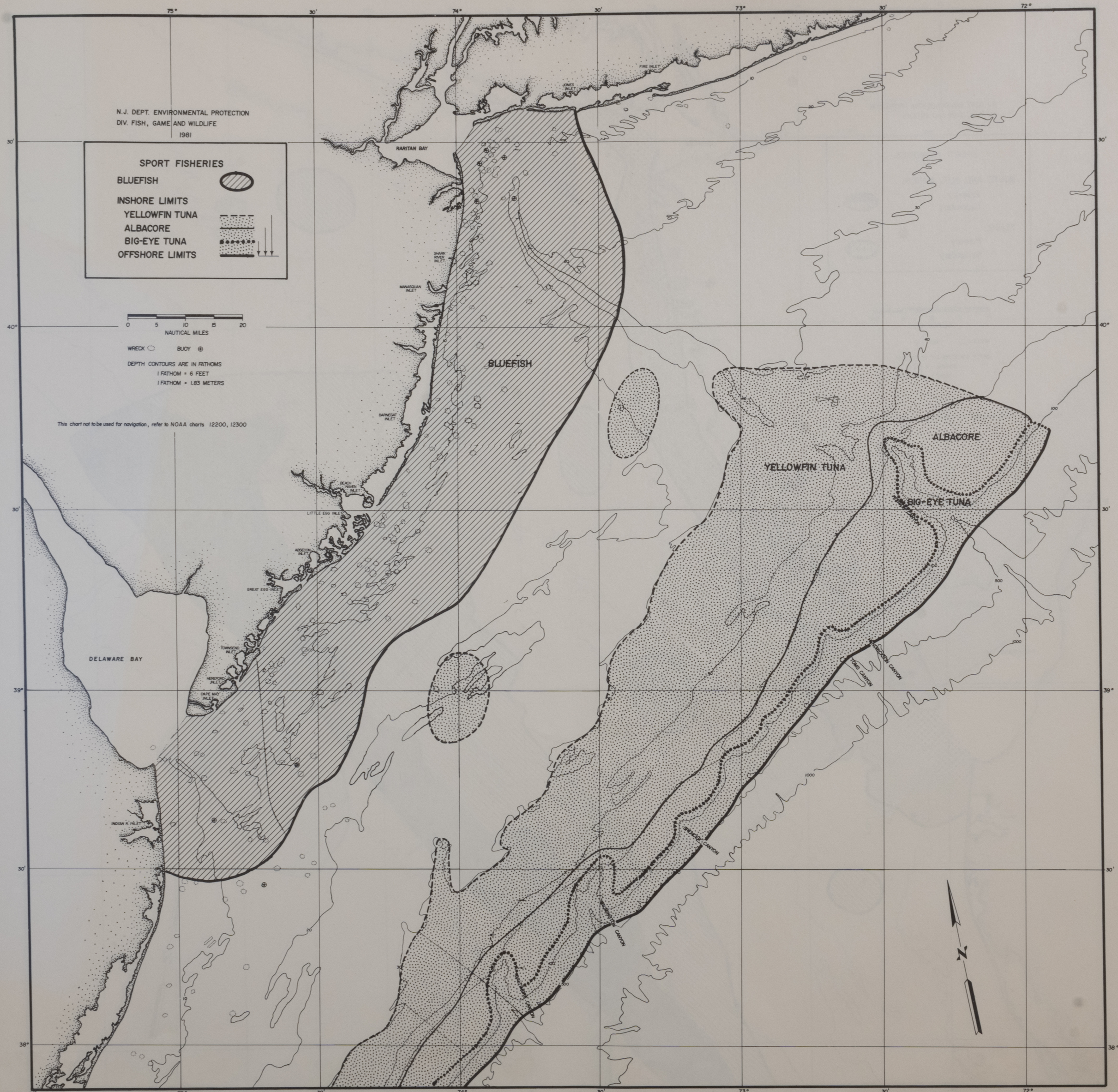
0 5 10 15 20
NAUTICAL MILES

WRECK BUOY

DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS

This chart not to be used for navigation, refer to NOAA charts 12200, 12300

RARITAN BAY
SANDY HOOK
FIRE INLET
JONES INLET
SHARK RIVER INLET
MANASQUAN INLET
BARNEGAT INLET
BEACH HAVEN INLET
LITTLE EGG INLET
ABSECON INLET
GREAT EGG INLET
TOWNSEND INLET
HEREFORD INLET
CAPE MAY INLET
INDIAN R. INLET
DELAWARE BAY
BLUEFIN TUNA
WEAKFISH
HUDSON CANYON
HENDRICKSON CANYON
TOMS CANYON
SPENCER CANYON
WILMINGTON CANYON
BALTIMORE CANYON
10
20
30
50
100
500
1000
75°
74°
73°
72°
30'
40°
39°
38°
N


N.J. DEPT. ENVIRONMENTAL PROTECTION
DIV. FISH, GAME AND WILDLIFE
1981
SPORT FISHERIES
BLUEFISH
INSHORE LIMITS
YELLOWFIN TUNA
ALBACORE
BIG-EYE TUNA
OFFSHORE LIMITS
0 5 10 15 20
NAUTICAL MILES
WRECK
BUOY
DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS
This chart not to be used for navigation, refer to NOAA charts 12200, 12300
RARITAN BAY
SANDY HOOK
FIRE INLET
JONES INLET
SHARK RIVER INLET
MANASQUAN INLET
BARNEGAT INLET
BEACH HAVEN INLET
LITTLE EGG INLET
ABSECON INLET
GREAT EGG INLET
TOWNSEND INLET
HEREFORD INLET
CAPE MAY INLET
INDIAN R. INLET
DELAWARE BAY
BLUEFISH
YELLOWFIN TUNA
ALBACORE
BIG-EYE TUNA
HUDSON CANYON
TOMS CANYON
NORFOLK CANYON
BALTIMORE CANYON
WILMINGTON CANYON
N
75°
74°
73°
72°
30'
40°
39°
38°

N.J. DEPT. ENVIRONMENTAL PROTECTION
DIV. FISH, GAME AND WILDLIFE

1981

SPORT FISHERIES

WHITE AND BLUE MARLIN
Primary
Secondary

FLUKE
Primary
Secondary

0 5 10 15 20
NAUTICAL MILES

WRECK ○ BUOY ⊕

DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS

This chart not to be used for navigation, refer to NOAA charts 12200, 12300

RARITAN BAY
DELAWARE BAY
FLUKE
WHITE, BLUE MARLIN
HUDSON CANYON
KENDRICK CANYON
TOMS CANYON
SPENCER CANYON
NORFOLK CANYON
BALTIMORE CANYON

N.J. DEPT. ENVIRONMENTAL PROTECTION
DIV. FISH, GAME AND WILDLIFE.
1981

SPORT FISHERIES

TAUTOG
Primary
Secondary

SWORDFISH

0 5 10 15 20
NAUTICAL MILES

WRECK BUOY

DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS

This chart not to be used for navigation, refer to NOAA charts 12200, 12300

RARITAN BAY
SHARK RIVER INLET
MANASQUAN INLET
BARNEGAT INLET
BEACH HAVEN INLET
LITTLE EGG INLET
ABSECON INLET
GREAT EGG INLET
TOWNSEND INLET
HEREFORD INLET
CAPE MAY INLET
DELAWARE BAY
INDIAN R. INLET
FIRE INLET
JONES INLET
TAUTOG
SWORDFISH
HUDSON CANYON
HENDRICKSON CANYON
KING CANYON
NORFOLK CANYON
WILMINGTON CANYON
BALTIMORE CANYON
N

75° 30' 74° 30' 73° 30' 72°
30' 40° 39° 38°

N.J. DEPT. ENVIRONMENTAL PROTECTION
DIV. FISH, GAME AND WILDLIFE
1981

COMMERCIAL FISHERIES

BLUEFISH AND WEAKFISH

NMFS LANDING DATA

0 5 10 15 20
NAUTICAL MILES

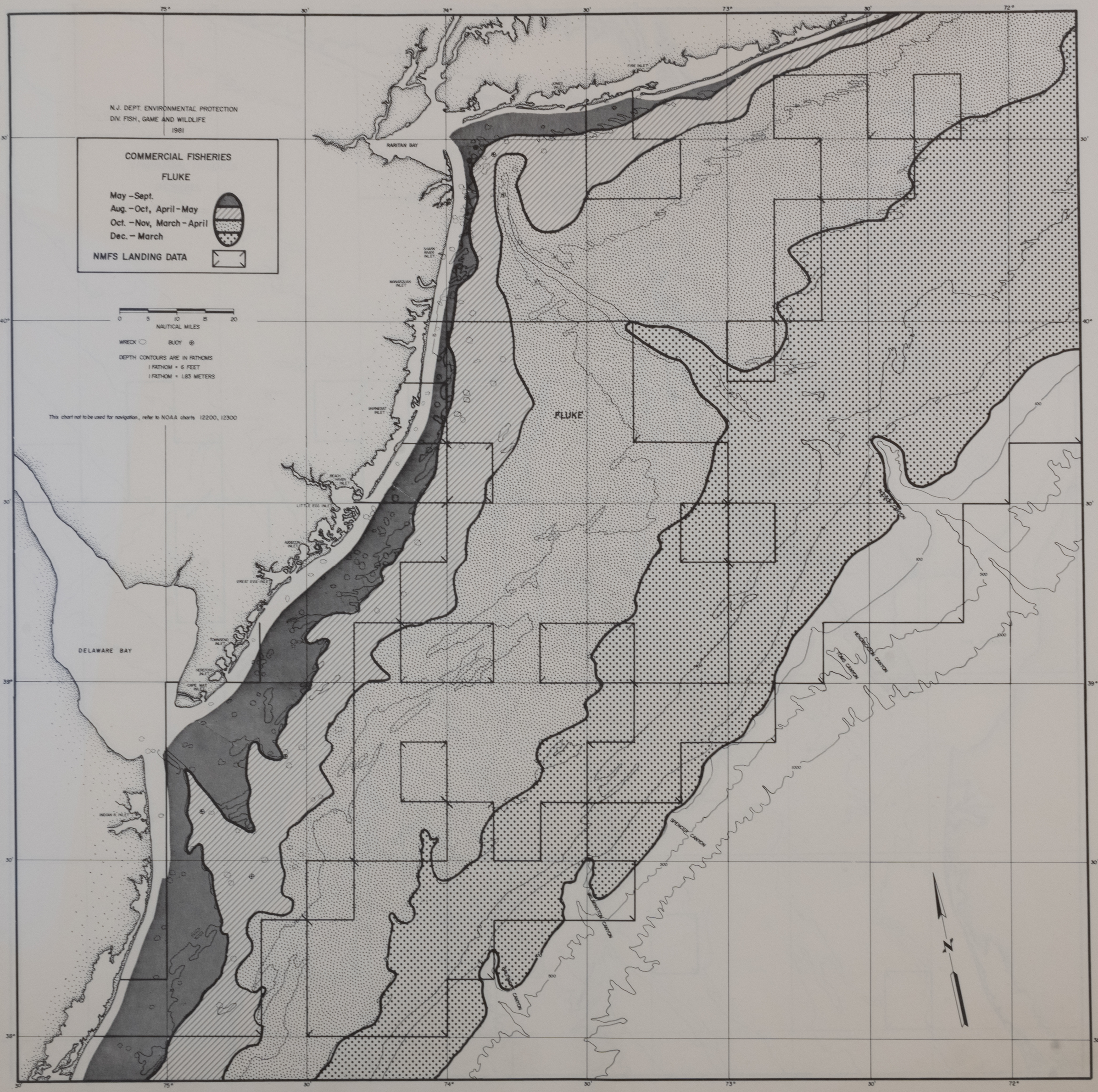
WRECK BUOY

DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS

This chart not to be used for navigation, refer to NOAA charts 12200, 12300

RARITAN BAY
SHARK RIVER INLET
MANASQUAN INLET
BARNEGAT INLET
BEACH HAVEN INLET
LITTLE EGG INLET
ABSECON INLET
GREAT EGG INLET
TOWNSEND INLET
HEREFORD INLET
CAPE MAY INLET
DELAWARE BAY
INDIAN R. INLET
JONES INLET
FIRE INLET
BLUEFISH
WEAKFISH
HUDSON CANYON
HENDRICKSON CANYON
TOMS CANYON
SPENCER CANYON
WILMINGTON CANYON
BALTIMORE CANYON
N

75° 30' 74° 30' 73° 30' 72°
40° 30' 39° 30' 38°


N.J. DEPT. ENVIRONMENTAL PROTECTION
DIV. FISH, GAME AND WILDLIFE
1981
COMMERCIAL FISHERIES
FLUKE
May – Sept.
Aug. – Oct, April – May
Oct. – Nov, March – April
Dec. – March
NMFS LANDING DATA
0 5 10 15 20
NAUTICAL MILES
WRECK
BUOY
DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS
This chart not to be used for navigation, refer to NOAA charts 12200, 12300
RARITAN BAY
FLUKE
DELAWARE BAY
SPENCER CANYON
HENDRICKSON CANYON
TOMS CANYON
N

N.J. DEPT. ENVIRONMENTAL PROTECTION
DIV. FISH, GAME AND WILDLIFE
1981

COMMERCIAL FISHERIES

YELLOWTAIL FLOUNDER

Primary

NMFS LANDING DATA

0 5 10 15 20
NAUTICAL MILES

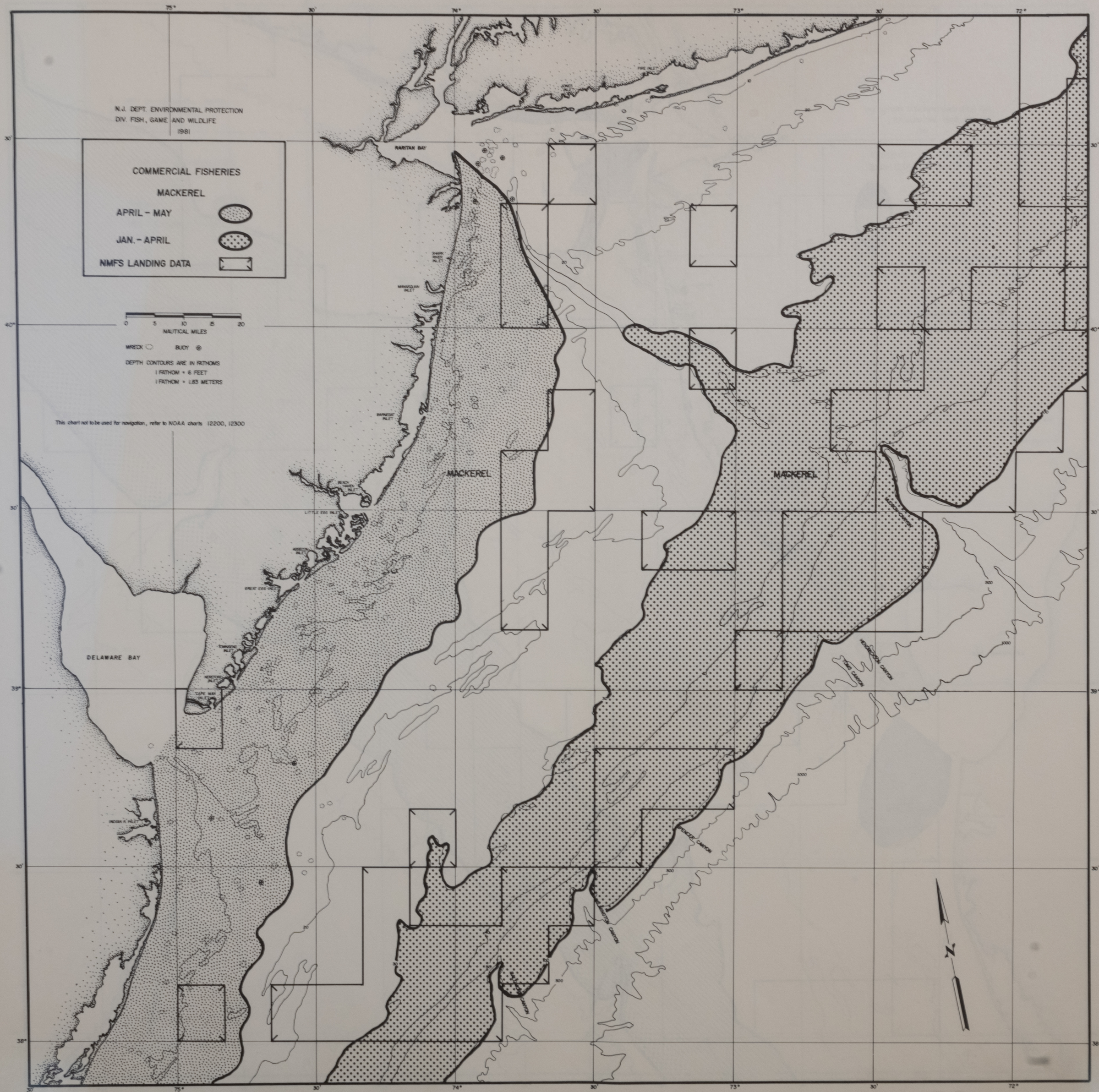
WRECK BUOY

DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS

This chart not to be used for navigation, refer to NOAA charts 12200, 12300

RARITAN BAY
SANDY HOOK
FIRE INLET
JONES INLET
SHARK RIVER INLET
MANASQUAN INLET
BARNEGAT INLET
BEACH HAVEN INLET
LITTLE EGG INLET
ABSECON INLET
GREAT EGG INLET
TOWNSEND INLET
HEREFORD INLET
CAPE MAY INLET
DELAWARE BAY
INDIAN R. INLET
HUDSON CANYON
HENDRICKSON CANYON
TOMS CANYON
SPENCER CANYON
WILMINGTON CANYON
BALTIMORE CANYON

75° 30' 74° 30' 73° 30' 72°
40° 30' 39° 30' 38°


N.J. DEPT. ENVIRONMENTAL PROTECTION
DIV. FISH, GAME AND WILDLIFE
1981
COMMERCIAL FISHERIES
MACKEREL
APRIL - MAY
JAN. - APRIL
NMFS LANDING DATA
0 5 10 15 20
NAUTICAL MILES
WRECK
BUOY
DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS
This chart not to be used for navigation, refer to NOAA charts 12200, 12300
RARITAN BAY
MACKEREL
MACKEREL
DELAWARE BAY
LITTLE EGG INLET
GREAT EGG INLET
CAPE MAY INLET
INDIAN R. INLET
HENDRICKSON CANYON
TOMS CANYON
SPENCER CANYON
N

N.J. DEPT. ENVIRONMENTAL PROTECTION
DIV. FISH, GAME AND WILDLIFE.
1981

COMMERCIAL FISHERIES
WHITING AND RED HAKE

Jan - May
April - June
Oct. - June
Dec. - March
Jan. - Feb.

NMFS LANDING DATA

0 5 10 15 20
NAUTICAL MILES

WRECK ⊂⊃ BUOY ⊕

DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS

This chart not to be used for navigation, refer to NOAA charts 12200, 12300

RARITAN BAY
SANDY HOOK
FIRE INLET
JONES INLET
SHARK RIVER INLET
MANASQUAN INLET
BARNEGAT INLET
BEACH HAVEN INLET
LITTLE EGG INLET
ABSECON INLET
GREAT EGG INLET
TOWNSEND INLET
HEREFORD INLET
CAPE MAY INLET
DELAWARE BAY
INDIAN R. INLET
HUDSON CANYON
HENDRICKSON CANYON
TOMS CANYON
SPENCER CANYON
WASHINGTON CANYON
BALTIMORE CANYON
N

N.J. DEPT. ENVIRONMENTAL PROTECTION
DIV. FISH, GAME AND WILDLIFE
1981

COMMERCIAL FISHERIES

COD

Primary

NMFS LANDING DATA

0 5 10 15 20
NAUTICAL MILES

WRECK ◌ BUOY ⊕

DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS

This chart not to be used for navigation, refer to NOAA charts 12200, 12300

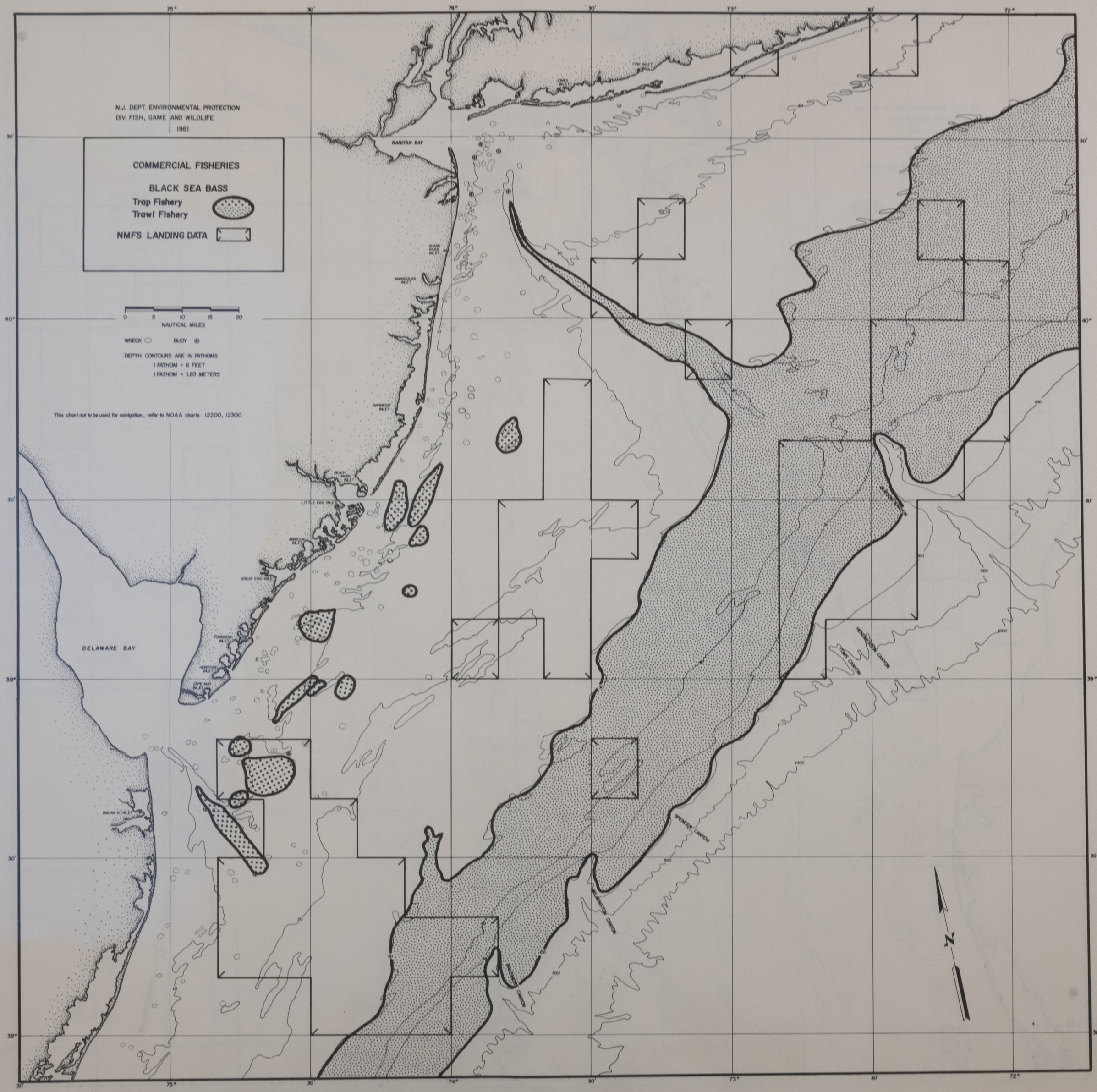
COD

RARITAN BAY

DELAWARE BAY

FIRE INLET
JONES INLET
SHARK RIVER INLET
MANASQUAN INLET
BARNEGAT INLET
BEACH HAVEN INLET
LITTLE EGG INLET
GREAT EGG INLET
HEREFORD INLET
CAPE MAY INLET
HUDSON CANYON
TOMS CANYON
WILMINGTON CANYON
SPENCER CANYON
BALTIMORE CANYON

75° 30' 74° 30' 73° 30' 72°
40° 30' 39° 30' 38° 30' 37°


N.J. DEPT. ENVIRONMENTAL PROTECTION
DIV. FISH, GAME AND WILDLIFE
1981
COMMERCIAL FISHERIES
BLACK SEA BASS
Trap Fishery
Trawl Fishery
NMFS LANDING DATA
0 5 10 15 20
NAUTICAL MILES
WRECK
BUOY
DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS
This chart not to be used for navigation, refer to NOAA charts 12200, 12300
RARITAN BAY
DELAWARE BAY
FIRE INLET
SHARK RIVER INLET
MANASQUAN INLET
BARNEGAT INLET
BEACH HAVEN INLET
LITTLE EGG INLET
ABSECON INLET
GREAT EGG INLET
TOWNSEND INLET
HEREFORD INLET
CAPE MAY INLET
INDIAN R. INLET
HENDRICKSON CANYON
TOMS CANYON
SPENCER CANYON
N

N.J. DEPT. ENVIRONMENTAL PROTECTION
DIV. FISH, GAME AND WILDLIFE
1981

COMMERCIAL FISHERIES

SCUP

Nov. - Dec., April - May
Nov. - March
Jan. - March

NMFS LANDING DATA

0 5 10 15 20
NAUTICAL MILES

WRECK ◌ BUOY ⊕

DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS

This chart not to be used for navigation, refer to NOAA charts 12200, 12300

RARITAN BAY
SHARK RIVER INLET
MANASQUAN INLET
BARNEGAT INLET
BEACH HAVEN INLET
LITTLE EGG INLET
ABSECON INLET
GREAT EGG INLET
TOWNSEND INLET
HEREFORD INLET
CAPE MAY INLET
DELAWARE BAY
INDIAN R. INLET
FIRE INLET
HENDRICKSON CANYON
TOMS CANYON
SPENCER CANYON
500
1000
N

N.J. DEPT. ENVIRONMENTAL PROTECTION
DIV. FISH, GAME AND WILDLIFE
1981

COMMERCIAL FISHERIES

BUTTERFISH
FEB. – MAY
MAY – JUNE

NMFS LANDING DATA

0 5 10 15 20
NAUTICAL MILES

WRECK ○ BUOY ⊕

DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS

This chart not to be used for navigation, refer to NOAA charts 12200, 12300

RARITAN BAY
SANDY HOOK
FIRE INLET
JONES INLET
SHARK RIVER INLET
MANASQUAN INLET
BARNEGAT INLET
BEACH HAVEN INLET
LITTLE EGG INLET
ABSECON INLET
GREAT EGG INLET
TOWNSEND INLET
HEREFORD INLET
CAPE MAY INLET
DELAWARE BAY
INDIAN R. INLET
HUDSON CANYON
HENDRICKSON CANYON
TOMS CANYON
SPENCER CANYON
BALTIMORE CANYON
WASHINGTON CANYON

N.J. DEPT. ENVIRONMENTAL PROTECTION
DIV. FISH, GAME AND WILDLIFE
1981

COMMERCIAL FISHERIES

MENHADEN
Primary
Secondary

TILEFISH

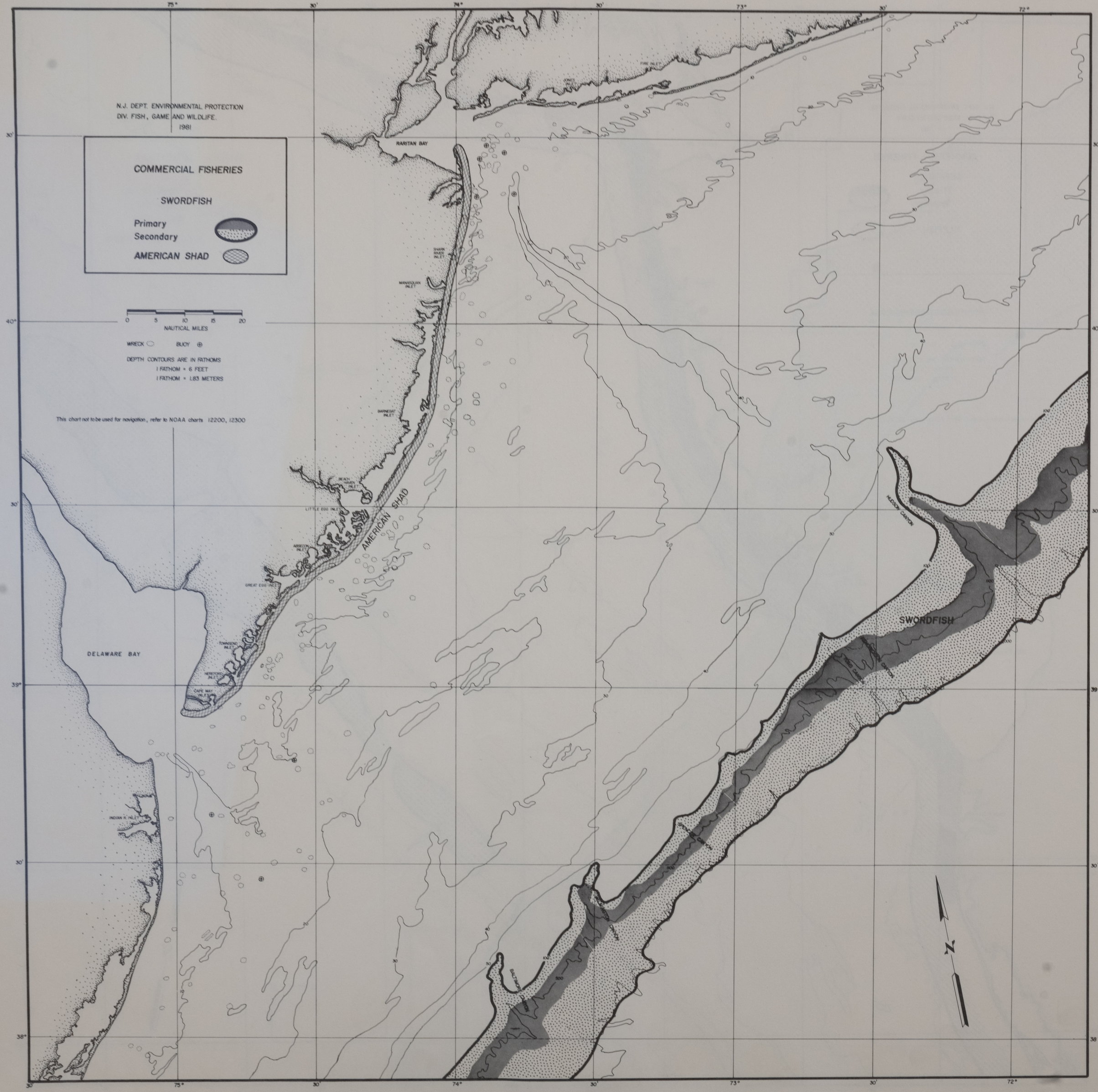
0 5 10 15 20
NAUTICAL MILES

WRECK ◌ BUOY ⊕

DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS

This chart not to be used for navigation, refer to NOAA charts 12200, 12300

RARITAN BAY
FIRE INLET
JONES INLET
SHARK RIVER INLET
MANASQUAN INLET
BARNEGAT INLET
BEACH HAVEN INLET
LITTLE EGG INLET
ABSECON INLET
GREAT EGG INLET
TOWNSEND INLET
HEREFORD INLET
CAPE MAY INLET
DELAWARE BAY
INDIAN R. INLET
MENHADEN
TILEFISH
HUDSON CANYON
HENDRICKSON CANYON
TOMS CANYON
SPENCER CANYON
WILMINGTON CANYON
BALTIMORE CANYON
75° 30' 74° 30' 73° 30' 72°
40° 30' 39° 30' 38°
10 20 30 40 50 100 500 1000


N.J. DEPT. ENVIRONMENTAL PROTECTION
DIV. FISH, GAME AND WILDLIFE.
1981
COMMERCIAL FISHERIES
SWORDFISH
Primary
Secondary
AMERICAN SHAD
0 5 10 15 20
NAUTICAL MILES
WRECK
BUOY
DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS
This chart not to be used for navigation, refer to NOAA charts 12200, 12300
RARITAN BAY
DELAWARE BAY
AMERICAN SHAD
SWORDFISH
HUDSON CANYON
75°
30'
74°
73°
72°
40°
39°
38°

N.J. DEPT. ENVIRONMENTAL PROTECTION
DIV. FISH, GAME AND WILDLIFE
1981

COMMERCIAL FISHERIES

SURF CLAM
Inshore
Offshore

QUAHOG
Primary
Areas Being Worked

NMFS LANDING DATA (BOTH)

0 5 10 15 20
NAUTICAL MILES

WRECK BUOY

DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS

This chart not to be used for navigation, refer to NOAA charts 12200, 12300

75° 30' 74° 30' 73° 30' 72°

30' 40° 30' 39° 30' 38°

RARITAN BAY
FIRE INLET
JONES INLET
SHARK RIVER INLET
MANASQUAN INLET
BARNEGAT INLET
BEACH HAVEN INLET
LITTLE EGG INLET
ABSECON INLET
GREAT EGG INLET
TOWNSEND INLET
HEREFORD INLET
CAPE MAY INLET
INDIAN R. INLET
DELAWARE BAY

HOG

SURFCLAM

HUDSON CANYON
HENDRICKSON CANYON
TOMS CANYON
SPENCER CANYON
WILMINGTON CANYON
BALTIMORE CANYON

40 50 100 500 1000

N

N.J. DEPT. ENVIRONMENTAL PROTECTION
DIV. FISH, GAME AND WILDLIFE
1981

COMMERCIAL FISHERIES

SCALLOPS

Prime Areas
Principal Grounds

0 5 10 15 20
NAUTICAL MILES

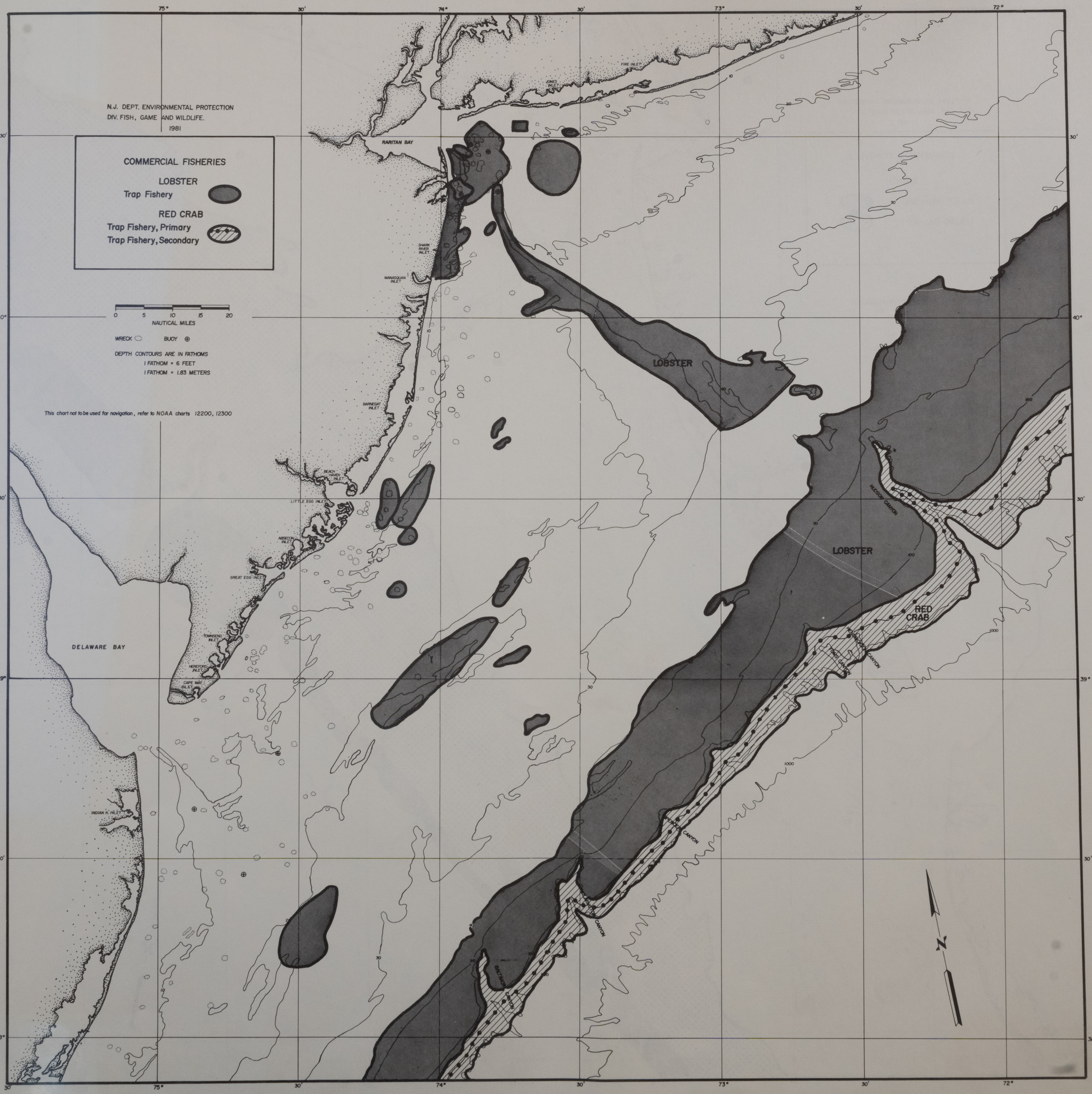
WRECK ○ BUOY ⊕

DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS

This chart not to be used for navigation, refer to NOAA charts 12200, 12300

75° 30' 74° 30' 73° 30' 72°
40° 30' 39° 30' 38°

RARITAN BAY
FIRE INLET
JONES INLET
SHARK RIVER INLET
MANASQUAN INLET
BARNEGAT INLET
BEACH HAVEN INLET
LITTLE EGG INLET
ABSECON INLET
GREAT EGG INLET
TOWNSEND INLET
HEREFORD INLET
CAPE MAY INLET
INDIAN R. INLET
DELAWARE BAY
SCALLOPS
HUDSON CANYON
HENDRICKSON CANYON
TOMS CANYON
SPENCER CANYON
WILMINGTON CANYON
BALTIMORE CANYON
10 20 50 100 500 1000
N


N.J. DEPT. ENVIRONMENTAL PROTECTION
DIV. FISH, GAME AND WILDLIFE.
1981
COMMERCIAL FISHERIES
LOBSTER
Trap Fishery
RED CRAB
Trap Fishery, Primary
Trap Fishery, Secondary
0 5 10 15 20
NAUTICAL MILES
WRECK
BUOY
DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS
This chart not to be used for navigation, refer to NOAA charts 12200, 12300
RARITAN BAY
FIRE INLET
JONES INLET
SHARK RIVER INLET
MANASQUAN INLET
BARNEGAT INLET
BEACH HAVEN INLET
LITTLE EGG INLET
ABSECON INLET
GREAT EGG INLET
TOWNSEND INLET
HEREFORD INLET
CAPE MAY INLET
INDIAN R. INLET
DELAWARE BAY
LOBSTER
LOBSTER
RED CRAB
HUDSON CANYON
N
75°
74°
73°
72°
40°
39°
38°

N.J. DEPT. ENVIRONMENTAL PROTECTION
DIV. FISH, GAME AND WILDLIFE.
1981

COMMERCIAL FISHERIES

SQUID

ILLEX May-Nov

LOLIGO Dec-April

0 5 10 15 20
NAUTICAL MILES

WRECK ◌ BUOY ⊕

DEPTH CONTOURS ARE IN FATHOMS
1 FATHOM = 6 FEET
1 FATHOM = 1.83 METERS

This chart not to be used for navigation, refer to NOAA charts 12200, 12300

RARITAN BAY
FIRE INLET
JONES INLET
SHARK RIVER INLET
MANASQUAN INLET
BARNEGAT INLET
BEACH HAVEN INLET
LITTLE EGG INLET
ABSECON INLET
GREAT EGG INLET
TOWNSEND INLET
HEREFORD INLET
CAPE MAY INLET
DELAWARE BAY
INDIAN R. INLET
ILLEX
LOLIGO
HENDRICKSON CANYON
TOMS CANYON
SPENCER CANYON
N

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