NEW JERSEY'S COMMERCIAL FISHING INDUSTRY

During the course of the year about one hundred and fifty kinds of finfish inhabit New Jersey's coastal waters. At least thirty of these species are economically important to New Jersey's commercial fishing fleet. Commercial catches vary throughout the year as a result of the seasonal changes of these finfish species. The primary species sought by the commercial fishing fleet are those which migrate northward along the shore during the spring and summer months when ocean temperatures are rising. In the fall other migratory species school up and move to warmer southern waters. Although the prime fishing season occurs between April and November, after November certain cold water fish, such as cod, silver hake, red hake, and pollack, are available.

Both finfish and shellfish are important to New Jersey's commercial fishermen. In 1980, total landings reached 81.4 million pounds with a monetary value to the fishermen of $41.6 million. Included in these figures were catches of menhaden, silver hake (whiting), scup (porgy), weakfish, fluke, black sea bass, tilefish, mackerel, bluefin tuna, bluefish, and red hake (ling); shellfish species included the surf clam, hard clam, lobster, sea scallop, oyster, soft clam, and mussels.

Only twelve species make up ninety-five percent of all recreational finfish caught off the New Jersey coast namely bluefish, mackerel, striped bass, weakfish, white perch, winter flounder, summer flounder (fluke), black sea bass, porgy, codfish, red hake, and silver hake. Clamming and crabbing are also popular with sport fishermen.

The great increase in the number of sport fishermen in recent years has had two effects on the commercial fishing industry. First, it has contributed to some stock depletion of those species which are sought by both commercial and sport fishermen; and second, it has helped to oversupply the retail market with fresh fish considering that many sport fishermen sell their excess catch at below fish market prices from the docks.

In order to prevent exploitation of our fishery resources, restoration and management programs are necessary. The Fishery Management

and Conservation Act of 1976 was enacted by Congress and became law March 1, 1977. This Act established a 200-mile fisheries zone off the coasts of the United States and restricted commercial fishing by foreign and domestic fleets to an optimum yield program regulated by regional management councils. This Act curtails over-fishing of certain species, thereby reducing the depletion of fish populations near our coast.

A FISHERMAN'S CALENDAR

In JANUARY you may head offshore on any party boat to catch red hake (ling) and silver hake (whiting). These species can also be found close to the beaches if water temperatures are between 45° and 55° F. If the temperature is lower, these species move to deeper water. Winter flounder can be found in Sandy Hook Bay at this time of year as long as the bay is not blanketed by ice. On bright, sunny days, flounder buffs line the bulkheads and bay beach areas.

FEBRUARY offers some excellent offshore fishing for ling, whiting, codfish, and an occasional pollack. Winter flounder are active and available in Sandy Hook and the nearby rivers as long as the weather is not too severe.

MARCH brings the first relatively warm days and usually the first good catches of winter flounder at Sandy Hook and the Navesink and Shrewsbury Rivers. Red and silver hake also continue to please those who wish to venture off-shore on party boats for these species. The striped bass season officially begins March 1, but generally there is not any striper action until the middle of April.

During APRIL, ocean water temperatures rise slowly, and many species begin migrating into the area. Tautog (blackfish) can be found around coastal rockpiles and offshore wrecks. Winter flounder are now at their spring peak, and the first decent striped bass catches start to come out of the Raritan Bay area. Red hake and silver hake are found at night by surf fishermen on Sandy Hook's beaches. Mackerel begin to appear in northern New Jersey waters around April 20th, but the run only lasts between two to four weeks since the mackerel continue to migrate north.

MAY brings most of the migrating species from the south and offshore regions into the Sandy Hook area. Jetty and surf fishermen find striped bass, bluefish, weakfish, tautog, winter flounder, northern fluke, black sea bass, and porgy.

In the summer months of JUNE, JULY, and AUGUST, tautog (blackfish), black sea bass, northern fluke, ling, bluefish, weakfish, striped bass, windowpane flounder, sea robin, blowfish and porgy can be caught from the beaches and bay, but most of the action is found trolling

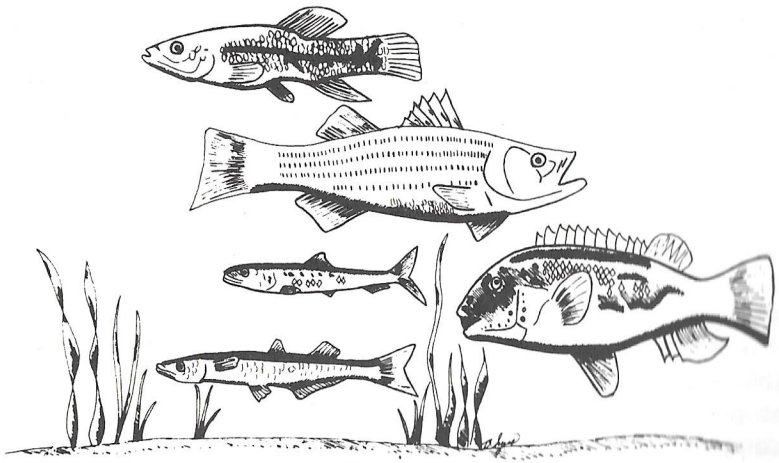
or bottom fishing from boats. Party boat fleets sail daily from Highlands, Atlantic Highlands, Belmar, Point Pleasant, Barnegat Bay and Cape May.

SEPTEMBER offers an excellent chance to catch all the migratory species available from June to October. This month is thought by many fishermen to be the best time to surf fish for large bluefish and trophy-sized striped bass. The best time to fish for stripers is during the late night and early morning hours if you don't mind losing a little sleep to try for these highly sought after fish. Blue crab fishing usually increases in the Shrewsbury and Navesink Rivers during autumn, and catches of a bushel or more are not uncommon in these estuaries.

OCTOBER brings a rapid change to the coastal zone. Finfish school up and begin their migratory journey to more moderate climates and in their place come the first of the winter species such as ling and whiting. This is about the last chance to catch fluke and weakfish before the cold weather sets in, although the bluefish are still active and stripers continue to visit the swash zones along the beach. Black sea bass, porgy, and tautog can still be found near rocky structures., and blue crabs continue to be plentiful in the estuaries.

NOVEMBER continues to offer considerable action for large stripers and bluefish in New Jersey, and an occasional weakfish, black sea bass, porgy, blackfish, or fluke may still be caught. Silver and red hake are the mainstay of party boat fleet catches this month and into winter season. Winter flounder migrate inshore to the bay and estuarine waters to begin their dormant period, occasionally coming out of the mud on sunny days to feed.

DECEMBER is always a cold and uninviting month for fishing. Silver and red hake may be hooked from a party boat, and on calm, sunny days some of the bigger flounder can be caught in the bay and rivers in water depths of ten to twelve feet. Blue crab fishing ends now because the crabs burrow into the mud to hibernate. Striped bass and bluefish migrate south, returning to Sandy Hook in the spring.



TUNICATES AND FISH

Phylum: CHORDATA

There are over 44,000 species of fish, amphibians, reptiles, birds and mammals in the phylum chordata. All have bilateral symmetry, some segmentation and an internal skeleton. Chordates have three unique features:

1. All possess a notochord, a flexible, rod-like structure, at some stage of their development. It is located on the dorsal side of the digestive tract and gives the body internal support. In most chordates it is replaced by a backbone before maturity.
2. All possess pairs of gill pouches inside the throat region, matched by paired grooves on the outside. In aquatic chordates, the gill pouches and exterior grooves form the gill slits. Water enters through the mouth, passes over the gills, which extract dissolved oxygen from the water so that the chordate can breathe, and exits through the gill slits. In land chordates, the gill pouches are greatly modified during the later stages of development.
3. All have a hollow nerve cord that develops on the dorsal side of the body above the notochord. At the head region, this cord enlarges to form the brain.