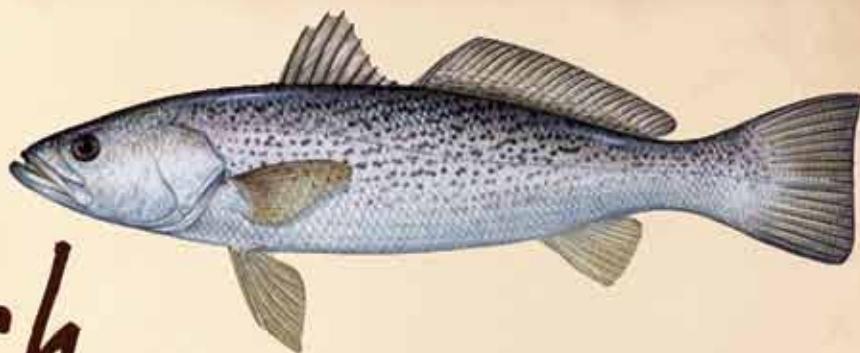


Species Profile

Weakfish

by Russell L. Allen, Principal Fisheries Biologist, Illustration by Diane Peebles



The species profile on these pages traditionally includes useful fishing tactics to help our fellow anglers enjoy catching and eating the featured species. But the uncertain status of weakfish suggests a different slant. Marine biologists recommend a more conservative approach and suggest that anglers refrain from targeting weakfish during this time of low population. Instead of focusing on fishing tips, read on for the life history, interesting facts and statistics on this fish with the misnomer of a name. For an excellent perspective on weakfish stock assessment and management issues, be sure to read the article on page 6, *What Happened to Weakfish?*

Scientific name

Cynoscion regalis

Common names

Weakfish, squeteague, trout, seatrout, tiderunner, gray trout, squit, chickwick, drummer, and yellow-finned trout

Biological characteristics

The weakfish body color radiates from a greenish grey on top to silvery below. The back and sides are burnished with purple, green, blue and gold spots with small spots forming undulating dotted lines. Weakfish pelvic and anal fins are yellowish. A pair of large, canine-like teeth are set at the tip of its upper jaw.

Range

Weakfish occur along the Atlantic coast of North America from Nova Scotia to southeastern Florida, but are most common from New York to North Carolina. Weakfish from Delaware into New England tend to grow larger than those in the southern regions.

Migration

With increasing water temperatures in the spring, adult weakfish begin to migrate inshore and north from their wintering grounds along the continental shelf between Chesapeake Bay and Cape Fear, North Carolina to nearshore estuaries and bays to spawn. With decreasing water temperatures in late fall, adults leave the estuaries and begin a southerly, offshore migration back to their wintering grounds.

Habitat

Larval nursery habitats include nearshore ocean waters as well as bays and estuaries. Juvenile weakfish inhabit the deeper waters of estuaries including their tributary rivers. They also use the nearshore ocean waters as a nursery area. Juveniles are associated with moderate depths of moderate salinity and sand or sand/eelgrass bottom. Adult weakfish reside in both estuarine and nearshore ocean habitats. Weakfish are important carnivores, feeding along the edges of eelgrass habitats as well as other edge habitats such as along channel edges, rock, and oyster reefs.

Spawning

Spawning occurs in nearshore ocean and estuarine areas from March through September, with a peak during April to June. Weakfish are indeterminate batch spawners where females release their eggs over a period of time rather than all at once. In other words, they continuously produce eggs during spawning season and may release a batch of eggs as often as every 2-3 days—or as infrequently as every two weeks or so—depending on the environment. Male weakfish rapidly flex specially adapted abdominal muscles attached to the wall of their swim bladder (a gas filled organ used primarily for buoyancy control and important for hearing in some fishes) to produce distinctive “drumming” sounds associated with courtship and spawning behavior.

Growth/Feeding

The young remain in nursery areas until fall of their first year, after which the juveniles migrate to the coast. Juvenile weakfish feed on crustaceans (such as shrimp) and small fish, especially bay anchovies. Growth is rapid during their first year and they reach an average length of about 10 inches by the end of the growing season, although growth is highly variable (see *What Do Fish Tell Us?* page 28). Adult diets are dominated by Atlantic menhaden and bay anchovy, while spot, squid and a variety of other fish (including small weakfish) appear in stomach samples. Size and weight alone do not indicate the age of these fish. For instance, in New Jersey, a 25-inch weakfish can be anywhere from three to eight years of age (Figure 1). Variability of size within year classes is due to the extended spawning period along the coast. Weakfish may grow as large as 38 inches and reach over 19 pounds. Some have been aged to 17 years old. The New Jersey record weakfish is 18 pounds, 8 ounces from Delaware Bay in 1986 (see *New Jersey Record Fish*, page 25).

Management

The current stock status for weakfish is depleted; overfishing is not occurring. Over the past decade, the weakfish stock has declined to an all-time low. New Jersey's 2009 recreational and commercial harvest were also the lowest of their respective time series (Figure 2). Between 1982 and 1990, weakfish declined drastically coastwide, with high fishing mortality rates driving the decline. The stock was overfished at that time. Implementation of management measures in the early to mid-1990s reduced fishing mortality and resulted in an increase in the population. After a slight decline through 2000, the stock began another drastic decline to current levels. The recent decline in the weakfish stock is not attributed to fishing mortality, which has remained relatively low and stable. Rather, natural mortality has increased to be two to four times the level of fishing mortality in recent years. For additional management information see *What Happened to Weakfish?* on page 6.

Figure 1. Weakfish Mean Length at Age for New Jersey

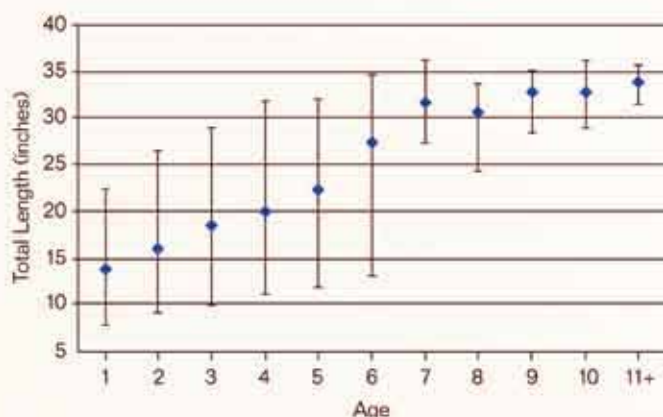
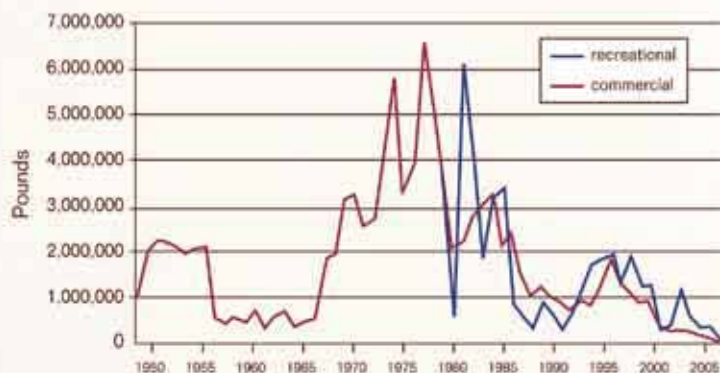


Figure 2. NJ Weakfish Landings: 1950–2009



References:

- www.dnr.state.md.us/fisheries/fishfacts/weakfish.asp
- www.odu.edu/sci/cqfe/Research/Chesapeake%20Bay/Weakfish/Weakfish.htm
- www.fishbase.org
- www.asmfc.org



Dave Alu (right) of Flanders stands with guide Capt. Rich "Swiss" Swisstack holding the certified International Game Fish Association's world record weakfish that weighed in at 19 pound, 12 oz. taken on the New York side of Raritan Bay in May 2008.

Photo by "Crazy" Alberto Knie, Long Island, NY

Fabulous Weakfish Facts

- There are two theories as to how weakfish got their name. Early Dutch settlers on Manhattan Island in New York gave it the name "weekvis," from old Dutch meaning "soft fish." The second is that the name weakfish refers to the tender, easily torn membrane of the fish's mouth. It sure does not refer to its fighting ability while on the line!
- Fortescue is known as the "Weakfish Capital of the World." It is estimated that in its peak, more than 250,000 people a year visited Fortescue primarily to target weakfish in the Delaware Bay.
- Weakfish can live 17 years (the oldest aged so far) or longer, but most fish become sexually mature at one year of age. All are sexually mature by two years.
- To age weakfish, scientists use otoliths or the "ear bones," counting each distinct ring to get an accurate age.
- The official IGFA all-tackle world record weakfish of 19 lbs., 12 ounces was caught by David Alu of Jackson, NJ (photo with Rich Swisstack of Shore Catch Guide Service) on May 6, 2008 from the New York shoreline in Raritan Bay on a bunker chunk.
- The East Carolina University (ECU) Sciaenid Acoustics Research Team has identified at least two types of weakfish sounds. Males make a purring sound by drumming their swim bladders; an aggregation of spawning weakfish can sound like static. These sounds can be heard at the ECU Sciaenid Acoustics Research Team website: <http://personal.ecu.edu/spraguem/drumming.html>
- There are distinct spawning stocks of weakfish along the coast that return to the same estuaries to spawn each year. 