



Florida Fish and Wildlife Conservation Commission

Fish and Wildlife Research Institute

Equally at home in both fresh and salt water, the common snook is one of Florida's premier gamefish. Many saltwater anglers consider these powerful aquatic gladiators to be the ultimate challenge. The opportunity to meet this challenge was almost eliminated in the 1950s when snook stocks plummeted. Shoreline development, fishing pressure, and loss of coastal habitats all contributed to the decline. As a result, common snook were eventually designated as a gamefish—restricted to recreational harvest only. Further fishing restrictions have limited the size and number of snook that can be caught, and stocks of this versatile and vigorous fish are now rebounding.

# SNOOK

## Tackle Busters

The smallest of the five Florida species, the sword-spined snook (*Centropomus ensiferus*) is named for the length of the second anal fin spine. Reaching only about 12 inches in length, this species is also the rarest and has been reported only in the freshwater canals and rivers of southeast Florida. Usually, neither the sword-spined nor the tarpon snook grows large enough to be caught legally by anglers.

The tarpon snook (*Centropomus pectinatus*) gets its name from its upturned tarpon-like snout. It has a more compressed body than the other four species and an orange-yellow pelvic fin with a blackish tip. It may grow to a length of 20 inches and is most commonly found in shaded, brackish-water pools.

The small-scale fat snook (*Centropomus parallelus*), a rotund species with a deep body, may reach 20 inches in length. This second-largest member of Florida's snook family is found from the Lake Okeechobee watershed south to the Florida Keys.

Nearly identical in appearance to the small-scale fat snook, the large-scale fat snook (*Centropomus mexicanus*), was confirmed in 2006. Currently this species is found only on the east coast of Florida from Sebastian to Jupiter. Even expert anglers may

### Description

Worldwide, 13 species of the genus *Centropomus* occur in the tropics and sub-tropics of North and South America; at least five of these species occur in Florida. Along with the common snook, the other four species are sword-spined snook, tarpon snook, small-scale fat snook, and large-scale fat snook. These latter four species tend to occupy riverine areas.

AT A g l a n c e	Scientific name	<i>Centropomus undecimalis</i> is the scientific name for the common snook
	Size	To about 4 feet, 50 pounds
	Range	South Carolina to southern Brazil; in the U.S., mainly only in Florida and Texas
	Habitat	Throughout the estuary and nearshore waters, common along mangrove shorelines, in brackish streams, and in freshwater rivers and canals
	Status	Only recreational harvest is permitted, with size limits, bag limits, and open and closed seasons

Snook art after Diane Rome Peebles painting.





have trouble telling the two species apart—distinguishing characteristics in the large-scale fat snook include larger scales than the small-scale, and fewer gill rakers.

The largest of the five species, the common snook (*Centropomus undecimalis*) is also the most abundant, wide-ranging, and sought-after. Not surprisingly, then, it is the best-studied of the five, and it is from these studies that most of the following information is derived.

Snook (in south Florida, it rhymes with “snoop”) is a streamlined, extremely powerful fish. It is silvery green, with a distinctive black lateral line that runs from the edge of the gill cover to the tip of its tail. This stripe accounts for its common names of “linesider” and “sergeant fish.” The fins are sometimes a bright canary yellow.

Snook have a long, concave snout and a lower jaw that extends beyond the upper jaw. The large mouth is filled with brush-like teeth. Although snook feed primarily on other fish, their carnivorous diet also includes shrimp, crabs, and a variety of other organisms. Snook lie in wait while currents funnel the food to their vicinity, and then they ambush their prey with lightning quickness.

Snook may live more than 20 years and reach a length of 50 inches and a weight of more than 40 pounds. However, in the last five years, most snook caught by anglers on the east coast average 9.4 pounds, and gulf coast catches average 7.2 pounds. The largest snook recorded from Florida weighed 44 pounds, 3 ounces, and was landed in Fort Myers in 1984 using conventional tackle. The largest snook caught in Florida using fly fishing tackle was taken in Chokoloskee in 1993 and weighed 30 pounds, 4 ounces. The world record, as certified by the International Game Fish Association (IGFA), is a common snook landed in Costa Rica in 1978 that weighed 53 pounds, 10 ounces.

Snook are protandric hermaphrodites, meaning they reverse their sex from male to female, a fairly common adaptation in fish. Much about this process in snook is uncertain, but scientists do know that the largest and oldest fish are females and that this sex reversal is brought about by a change in the size of

individuals within a group of snook. In other words, a group that loses its largest fish has lost females, so some males might undergo sex reversal—a process that occurs in as few as 60 to 90 days.

## Distribution and Habitat

Snook are cold-sensitive fish generally restricted to tropical and sub-tropical waters. They prefer fast-moving tides and are dependent upon structures like rock outcroppings or mangroves for shelter, which accounts for their tendency to “hug the shores” of inlets and estuaries.

In Florida, snook are abundant from Sebastian Inlet south on the east coast and from Tarpon Springs south on the gulf coast. They are also found in the Gulf of Mexico off Texas and Central America and in the Caribbean throughout the West Indies. In the Atlantic, their range extends as far south as Rio de Janeiro, Brazil, and occasionally as far north as Delaware.

Tolerant of a wide range of salinities, snook have been found from 40 miles up the Peace River at Fort Meade to eight miles offshore in the Gulf of Mexico. In fact, they easily adapt to just about every natural condition of inshore waters except cold weather.

### *F a s t* FACT

*Like manatees, snook often seek refuge from the cold in the thermal discharges of power plants and in springs.*

Snook are highly sensitive to temperature changes. If the temperature falls to 60° Fahrenheit, snook become sluggish and “cold-shocked”; if the temperature falls below that or if it decreases rapidly, snook may die. This limits the northern range of snook to areas with mild winters. In these northern areas, snook keep warm during winter by moving to rivers or protected, deep basins in inshore waters. Nevertheless, a severe cold snap in the winter of 1989–1990 may have killed as many as 60,000 snook in Tampa Bay. Even in south Florida, sudden freezes may cause high mortality.



## Life History

Snook are not generally long-distance travelers; they mostly move between their wintering grounds in rivers or protected basins and their spawning grounds near inlets or the mouths of estuaries. Most snook tagged off Naples were recaptured within 10 miles of their release site, and tagged fish released inside Tampa Bay remain in the bay. However, east coast snook appear to venture farther from home, and snook tagged in Jupiter and Lake Worth inlets have been recaptured as far north as Cape Canaveral and as far south as Florida Bay. Recent studies suggest that some snook in Florida waters even travel coast to coast via the Lake Okeechobee navigational system.

Like salmon, snook return to the same spawning sites each summer; one Tampa Bay snook was recaptured at the same site for three consecutive summers. Prior to spawning, sexually mature snook congregate in large numbers in natural “staging areas.”

Spawning activity may begin as early as April and extend into October. It is more intense during new or full-moon phases and may occur daily. Major spawning activity is centered around months with long daylight hours, generally June and July, and tapers off in August and September. Mature females may produce more than 1.5 million eggs with each spawn and may spawn every other day in the early part of the season.

As is common with many marine organisms, only a fraction of the eggs survive. Scientists speculate that snook reproduction in Florida also suffers from additional cold-induced stresses because state waters are at the northern threshold of the species’ range.

Snook eggs hatch and develop into larvae around 28 hours after fertilization. These larvae drift with currents for 15–20 days. As the larvae develop into juveniles, they move into the upper reaches of estuaries, seeking quiet, secluded areas with overhanging shade. Their range of movement increases as they grow, but they usually remain in protected areas until they reach sexual maturity, which takes 2–3 years for males and 3–4 years for females. Males may live 20 years; females may live 17–18 years. Females are almost always larger than males of the same age.

## Fishing Notes

The snook is to inshore saltwater anglers what a large-mouth bass is to avid freshwater anglers. Once hooked, the snook’s speed and strength strain the vocabulary as well as the fishing line. “Tacklebuster,” “linestretcher,” and “acrobat” are just a few of the terms used by snook anglers to describe these silver bullets. Indeed, although snook is one of the tastiest of all fish, with white, flaky meat that is high in protein and low in calories, it is valued more today for its fighting spirit than its flavor.

Anglers seeking snook are advised to fish for them from one hour before high tide through the first three hours of the outgoing tide. Live bait such as pinfish, croakers, fingerling tilapia, and sardine are preferred; 90% of all snook caught are taken this way. About 70% of the fish caught by recreational anglers are taken during summer months, and anglers who find the large staging areas are likely to have the best luck. Among those gathering spots are Rattlesnake Key in Tampa Bay and, on the east coast, Jupiter, Lake Worth, and Sebastian inlets.

## Management and Protection

Snook were harvested commercially until 1957, when declining populations prompted the state to establish restrictions that effectively barred commercial harvests. Nevertheless, snook stocks continued to decline in many areas of the state. In one study, researchers noted a 70% decrease in the number of snook in the Naples–Marco Island area from 1979 to 1981. In 1982, snook received further protection when it was deemed a Species of Special Concern, a designation that was removed in 2001. Currently, the snook is listed as a protected species.

Habitat losses associated with the dredging and filling of mangrove areas are one likely cause of the decline, as well as increased fishing pressure from recreational anglers. Additionally, spraying pesticides to control mosquitoes causes high mortality among larval snook. Given the continued stresses on snook populations, further restrictions on recreational harvest have been implemented. These regulations, along with the funds generated by the sale of a snook



stamp, appear to be aiding the recovery of snook populations throughout Florida.

## Research



Fishing license revenue and the federal Sport Fish Restoration Program are important sources of funding for sport fish research. The Sport Fish Restoration Program is a “user pays/user benefits” system funded by a tax on sales of recreational fishing equipment and boat fuel. The program supplies three dollars for every one dollar provided by the state for projects that improve fishing and boating opportunities.

The long-term monitoring of snook behavior and movements is one of the research projects financed in part by the snook stamp and the SFR program and conducted by the Florida Fish and Wildlife Conservation Commission’s (FWC) Fish and Wildlife Research Institute. Scientists have tagged more than 39,000 snook in Tampa Bay as well as in other parts of the state. Recovery of these tags helps biologists establish movement patterns, estimate population abundance, and examine the range of ages within the population. Anglers who catch a tagged snook are asked to report their find to the state by calling a toll-free telephone number provided on the tag. During the open season, FWC also encourages anglers to practice catch-and-release fishing for snook, rather than keeping their daily limit.

### *f a s t* FACT

***About 2% of all snook caught and released by anglers die as a result of stress or wounds associated with the capture.***

These tag studies are being augmented by the use

of sophisticated computer software known as the Geographic Information System, or GIS. By gathering data about the sizes and capture sites of tagged fish and then overlaying that information on computer-generated digital images of Florida waterways, scientists are beginning to identify those habitats that are necessary for snook development and survival. FWC can then work to protect these critical habitats.

State researchers are testing techniques to spawn snook in hatcheries, but so far they have had little luck. Although methods to induce spawning artificially have been successful with redfish, such methods have not been fully effective with the more sensitive and easily stressed snook. In fact, the reproductive systems of many snook shut down within days of capture.

Fingerling snook, on the other hand, are being successfully raised in hatcheries. Eggs are removed from adults in the field and immediately fertilized with sperm collected in a similar manner. The eggs hatch within 20–28 hours. In another method, researchers transport reproductive females and ripe males to the hatchery and inject the females with hormones that help them overcome the effects of stress and induce ovulation. The eggs are then collected and fertilized in the same manner as they are in the field. In the summer of 1985, approximately 100,000 inch-long fingerlings were produced in 1-acre ponds in Texas from eggs obtained from Tampa Bay snook. The first releases of hatchery-reared snook into marine waters occurred in the summer of 1996, when 101 fish raised in captivity for six years were released near Ft. Myers, and 519 fingerlings were released in Tampa Bay.

Knowing more about the life cycle and habitat requirements of snook and fostering a sense of stewardship among the anglers who treasure these famed silver warriors will help ensure that these magnificent fish continue to thrive in Florida’s bays and estuaries for generations to come.



June 2007



Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute  
100 8th Avenue SE, St. Petersburg, FL 33701 • (727) 896-8626 • <http://research.MyFWC.com>