

SEASONAL FEEDING HABITS OF SNOOK AND REDFISH

Good anglers know that to catch fish you must think like a fish; know where they're hanging and what they're eating. Although redfish, snook, and many other predator fish are opportunistic in their feeding habits, they do key into specific prey items based on what's available in their desired size range, and this varies geographically and seasonally.

One of the best studied fish in Charlotte Harbor is the common snook. Since 1989 the Florida Fish and Wildlife Conservation Commission's Fish and Wildlife Research Institute (FWRI) has conducted research and monitoring of our local fisheries out of a lab in Murdock. In one study that they conducted over a two year period, stomach contents of almost 700 snook 12-35 inches were



Common Snook—Photo Capt. Billy Barton

evaluated to determine feeding habits based on size, season, and location. They found prey in over half of the stomachs; 37 different prey species were recorded and of them 71% were fish. Pinfish (20%), anchovy (16%), and pink shrimp (13%) made up almost 50% of the common snook diet.

Interestingly, snook eat greater than 10 times more pinfish in the summer months than in the winter even though pinfish are more abundant in the winter months. The reason for this has everything to do with size. Young of the year pinfish recruit to the estuary in the winter and are abundant but very small. They grow fast and by summer are much larger but are less abundant. FWRI's research showed that even though pinfish are less abundant in the summer, they are the preferred size. Even more interesting is that both pinfish and anchovy found in the stomachs of small snook over the course of the study were significantly larger than the average size of those same species collected in the estuary using a seine net. What this tells us is that snook are cuing into a specific size pinfish even though that size is not what's most abundant. This study found a significant predator size/prey size relationship between common snook and fish prey. Snook seem to cue into prey that averages 14% of their own body length. In contrast, FWRI found no significant difference in pink shrimp size noted between that found in snook stomachs and that found in the estuary. Snook feed on pink shrimp consistently each season with the highest rate of consumption in the winter. Pink shrimp size only varies slightly among the different seasons in the estuary but abundance is variable.

Another interesting snook study from our area looked at snook feeding behavior in the Peace River seasonally over a three year period. Sampling occurred in the upper, middle, and lower stretches of the river in the summer, fall, and winter months. In this study forty-one different species of prey were found in snook stomachs. Distinguishing species included crayfishes (57%), sunfishes, (15%), brown hoplo (13%), and grass shrimp (8%). Researchers found that in the winter snook stomachs contained only a quarter of what they did in the summer. This is likely because the cold water temperatures cause a slower metabolic rate which affects feeding. In the winter snook must move downstream to

(Continued on page 2)

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avoid becoming stranded in the colder and dryer upper river reaches. Major changes in diet between summer and fall were not noted, most likely because during these seasons snook feed off the main river channel where floodplain species are abundant. In the late fall however when the river levels drop and floodplain species are depleted, snook seem to focus their attention on traditional channel species like our native catfish.

Returning to the estuary and turning our attention to another popular species, redfish seem to change their diet with each of the four seasons. Diet data collected by FWRI's St. Petersburg group on redfish in Tampa Bay shows that during the spring, redfish (up to 35 inches) feed mainly on bivalves, worm like invertebrates, swimming crabs (mostly blue crabs), and gobies. During the summer months, they mainly feed on shrimp (generally pink), mud crabs, and bivalves. During the fall, they chiefly feed on pinfish and shrimp (again mostly pink). And during the winter, they feed mostly on mud crabs, worm like invertebrates, and snapping (or pistol) shrimps. Before moving offshore as an adult, large redfish diets are dominated by Pinfish and swimming crabs.

So take home message: predator size, prey size, location, season, water levels, temperature and a whole host of other things all matter when it comes to fish feeding and of course fish catching.



Redfish—Photo Capt. Jay Withers

Sources:

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