



RED SNAPPER AGE & GROWTH

By
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Red snapper are easily the most popular off-shore bottomfish in the northern Gulf of Mexico. Because of their popularity, they became overfished. Monitoring the restoration of red snapper populations demands good data. Some of the most important data is on age and growth of the fish. LSU scientists have recently conducted the largest ever age and growth study on the species.

Researchers from LSU and the Louisiana Department of Wildlife and Fisheries sampled 3,791 red snappers from commercial and recreational catches landed between the Mississippi River delta and Galveston, Texas, although most of the fish were from landings at Grand Isle and Port Fourchon, Louisiana. The fish were sampled over an eight-year period. Each fish was weighed and measured, sex was determined where possible, and both otoliths (earbones) were removed. Each otolith was weighed, embedded in an epoxy resin, and then cut in a thin cross-section with a special saw. Age was determined by reading the annuli (rings) in the otolith. Each otolith's annuli were counted separately by two readers. When they didn't agree, each counted the annuli again. With this method, agreement was reached on 99.3% of the otoliths.

Of the fish for which sex could be determined, 1,438 were male and 1,542 were female. Males ranged in size from 9.8 - 37.8 inches and 0.4 - 30.1 pounds. Females' sizes were 9.7 - 41.6 inches and 0.4 - 50.1 pounds. Not until age 5 and 16.8 - 17.6 inches in length were 100 percent of the fish mature.

The vast majority of the fish examined were 2 to 5 years old and only 1.2 percent were older than 15 years old. However, between the ages of 16 and 52, the only ages that were not represented in the study were 24, 28, 31, 34, 39, 40, 42-46, 49 and 50. Red snapper age 0 (under one year old) and age 1 were not available in any numbers for the study because the minimum size limit prevented their landing. The scientists speculated the large number of 2-5 year old fish in the sample might be partly due to the preference of commercial fishermen and wholesalers for smaller "plate-size" fish.

The biology of the fish may also have played a role. Age 1 and younger red snapper, besides being mostly undersized, tend to be found on open bottoms where few people fish, rather than on reefs. After age 1 they move to reef type habitats, including offshore platforms. After age 6, they move away from structures and again spend more time on less-fished open-bottom areas.

The study results showed that male and female red snapper grow rapidly and at about the same rate until about 8 years old and about 28 inches in length. Then two things happen. The growth rate for both genders begins to slow down, and the growth rate becomes slower for males than for females. The growth gap continues to widen until about age 25 and then it stabilizes. At that age, males average less than 36 inches and females average 38 inches in length. Very little growth occurs after age 25, even out to over 50 years of age.

These are average numbers. The researchers pointed out that some individual fish grow much faster than others do. For example, at age 8, one fish was 17 inches long and another was 35 inches in length. A 16-inch fish could be anywhere between 2 and 7 years old, a 24-inch fish could be 3 to 9 years old, and a 32-inch could be from 5 to over 35 years old.

The two oldest fish in the study were 52.6 and 51.7 years old, but were only 34 inches and 34.5 inches long and weighed a modest 17.3 and 20.2 pounds. The biologists also aged the IGFA world record red snapper, caught by Doc Kennedy off Grand Isle, Louisiana, in 1996. Given its huge size of 50 lb, 4 oz, a person would expect it to be an ancient fish. However, after it was aged, the fish proved to be slightly less than 20 years old.

This was easily the largest and most detailed study done on red snapper age and growth. However, the scientists still expressed concern that more data on older, larger fish is needed.