

ABSTRACT

A study was made of age, growth and mortality of 325 snook, Centropomus undecimalis (Bloch), collected from sportfishermen in Everglades National Park from May 1976 through December 1979.

Fish sampled ranged in length from 284-940 mm F.L. ($\bar{x} = 643 \pm 11$ mm) and in weight from 0.7-11.6 kg ($\bar{x} = 3.03 \pm .17$ kg). Females ranged in length from 464-940 mm ($\bar{x} = 680 \pm 25$ mm) and in weight from 1.0-11.6 kg ($\bar{x} = 3.64 \pm .49$ kg). Males ranged in length from 284-889 mm ($\bar{x} = 632 \pm 14$ mm) and in weight from 0.7-7.2 kg ($\bar{x} = 2.84 \pm .18$ kg). Mean lengths of fish were largest in spring and smallest in winter. There were no differences in mean length among areas of capture.

Snook were aged by scale annuli. Annulus formation occurred in spring (March-May). Ages of fish were mainly four- and five-year olds. Recruitment to the fishery began at age two and was completed by age six. The oldest fish sampled was eight-years old. The overall sex ratio favored males 3/1, but the ratio decreased steadily with age. The mean age of females was significantly greater than the mean age of males. There were no differences in mean age of fish among areas of capture.

Mean calculated growth of all snook was 375 mm F.L. in the first year and 57-90 mm F.L. thereafter. Females were significantly larger than males in calculated mean lengths at ages one through four. Calculated fish lengths at age differed among areas of capture. Fish taken from the Whitewater Bay-Coot Bay area were larger at ages one through four than fish of the same age taken from the north Florida Bay-Cape Sable area. Sexual differences in length-weight relationship were noted. Females weighed more at a given length than males.

Annual mortality rate of all fully recruited fish for the period 1976-1979 was 78%. Female mortality was lower than male mortality. Conditional fishing mortality was twice as high as conditional natural mortality for males but was the same for females. Conditional natural mortality and exploitation ratio was higher for males than for females.