

## INTRODUCTION

Fishery harvest in Everglades National Park has been monitored nearly continuously since 1958 (Higman, 1966; Davis, 1980). The monitoring program has revealed that harvest of all fish and shellfish in the park declined from 1972-1978 (Davis, 1980). Public concern over the decline in harvest prompted the park's research center to initiate an investigation of the age and growth, mortality, food habits, and spawning activity of the four gamefish species most preferred by sportfishermen in the park: spotted seatrout (Cynoscion nebulosus), red drum (Sciaenops ocellatus), gray snapper (Lutjanus griseus), and snook (Centropomus undecimalis). This paper, one of a series of papers reporting the results of these studies, describes the age, growth, and mortality of snook in Everglades National Park from 1976-1979.

The common snook, Centropomus undecimalis, is a subtropical estuarine fish that ranges from North Carolina to Brazil (Marshall, 1958; Martin and Shipp, 1971). It is the most common of four species of snook occurring in Florida waters (Rivas, 1962). It is prized by recreational fishermen for its fighting ability and food value. The Florida snook fishery is generally limited to the southern half of the state. Harvest of snook within south Florida is higher on the west coast than on the east coast. Snook harvest is seasonal and coincides with the spawning season from June to November (Marshall, 1958).

The biology of the snook has not been extensively studied. The distribution, food habits, and spawning activity of snook in southwest Florida were studied by Marshall (1958), and Fore and Schmidt (1973), while Volpe (1959) studied their age, growth, migration, and fecundity. Snook may grow up to 23 kg (50 lbs) and live to at least 7 years. Adult snook generally inhabit brackish water mangrove areas where salinities range from 0-36‰, although they have also been recorded in man-made ditches and canals as well as around coral reefs. Juveniles up to 200 mm have been taken in the upper reaches of estuaries in shallow streams and marshlands as well as in dredged canals (Marshall, 1958; Harrington and Harrington, 1961; Linton and Rickards, 1965; Fore and Schmidt, 1973). Snook appear relatively nonmigratory, moving only short distances along the coast inshore and offshore (Marshall, 1958; Volpe, 1959). They are carnivorous, primarily eating fish and crustaceans (Marshall, 1958; Fore and Schmidt, 1973). Nearly 50% of the fish examined by Marshall (1958) reached maturity at 400 mm (F.L.) and nearly all were mature by 500 mm. Fecundity of a ripe 584-mm (23 in) snook was estimated at 1,440,000 eggs (Volpe, 1959).

### Description of Study Area

The mainland shoreline of Everglades National Park extends from the Florida Keys to Everglades City on Florida's west coast (Fig. 1). It contains numerous bays, inlets, and rivers which lie at the terminus of the historically immense Everglades and Big Cypress swamp drainages. Tabb, Dubrow, and Manning (1962) have described the animal and plant communities of park waters and identified distinct ecological zones. Their work provided the basis for delineating the six fishing areas used in Everglades National Park fishery investigations since 1960 (Higman, 1966) (Fig. 1). These areas vary in their topographical, hydrological, and biological characteristics (Tabb, Dubrow, and Manning, 1962).