Common Name: **Night Shark**

Scientific Name: *Carcharhinus signatus*
Area of Concern: Western Atlantic - Gulf of Mexico, south Atlantic and Caribbean
Year First Listed as a "Species of Concern": 1997

Species Description:

The night shark is a deep water (> 160 m) species that migrates up in the water column at night. They are characterized by a rather stout fusiform body with large eyes and an elongated snout. Their dorsal fins are both low, with the origin of the anterior fin over or slightly behind the free rear tips of the pectoral fins; second dorsal is very low and much smaller than first with an origin opposite the anal fin. Maximum size is 280 cm TL and maximum weight is 76.7 kg. Sexual maturity of a female is at 200-205 cm TL; males are mature at about 185-190 cm TL. Little is known about the reproductive biology of this species: breeding is believed to occur in the summer, and they are viviparous (live birth). Litter size ranges from 12-18 pups of 10-60 cmTL. Night shark forage primarily on fishes and shrimp.

Rationale for "Species of Concern" Listing:

Demographic and Diversity Concerns:

Historically, night sharks comprised a significant proportion of the artisanal Cuban shark fishery making up to 60-75% of the catch from 1937-1941 (Martinez, 1947). However, beginning in the 1970's with the development of the swordfish fishery, anecdotal evidence has demonstrated a substantial decline in the abundance of this species. In addition, sport fishermen in the 1970s would catch night sharks when more desirable species, such as marlins, were not biting. Consequently, this species is rarely captured today along southeastern coast of the U.S. NOAA surveys have found only 2 night sharks out of a total 439 in 1991, and only a single individual out of 362 in 1993. 1994 data from the commercial swordfish and tuna longline fisheries indicated that 10 night sharks (295 total sharks) in the commercial swordfish and tuna longline catches were night sharks (Dennis Lee, SEFSC, pers. comm.). Guitart-Manday (1975) documented a decline in the mean weight per unit of effort for night sharks from 53.4 kg in 1971 to 21.1 kg in 1973. Night sharks comprised 26.1% of the shark catch in the pelagic longline fishery from 1981-1983 (Berkeley and Campos, 1988) but this declined to 0.3% and 3.3% of the shark catch in 1993 and 1994 based on observer data (L. Beerkircher, unpublished data). Further, photographic evidence from marlin tournaments in south Florida in the 1970's show that large night sharks were caught daily but today are rarely captured (J.I. Castro, personal observation).

Further, quantitative biological information (e.g. age, growth, longevity, age-at-maturity) for stocks off the US east coast and Gulf of Mexico are lacking which prevents development of any type of demographic models which could be used to predict the productivity of the stock and ensure that they are harvested at sustainable levels.

Factors for Decline:

The night shark is caught mainly on longlines in about 100 fathoms, usually at night as bycatch from

pelagic longline fisheries targeting tunas. While they used to be a common species caught as bycatch, they are presently landed less often. Direct targeting of the shark for its fins and meat value have occurred recently off the northeast coast of Brazil. The night shark has a low rate of population increase which makes it highly susceptible to overfishing. Although information from various fisheries has reported a significant decline in night sharks, it is unclear whether this decline is due to changes in fishing tactics, market, or species identification.

Status Review/Research Completed or Underway:

In 1993, a Fishery Management Plan For Sharks (NMFS, 1993) was developed for the management of shark populations in waters of the U.S. Atlantic and Gulf of Mexico. Because species-specific catch and life history information was limited, sharks were grouped and managed under three categories: large coastal, small coastal, and pelagic, based on known life history, habitat, market, and fishery characteristics (NMFS, 1993). Under the revised Fishery Management Plan of the Atlantic tunas, swordfish and sharks (NMFS, 1999), NMFS further prohibited the retention of 19 species of sharks (Prohibited Species category) based on a precautionary approach for species with little or no biological information and thought to be highly susceptible to overexploitation. Because of the current lack of biological data and its rarity in surveys, the night shark, *Carcharhinus signatus*, is listed as a Prohibited Species but was originally added to the Candidate Species List under the Endangered Species Act in 1997. The December 24, 2003, Amendment 1 to the FMP for Atlantic tunas, swordfish and sharks also prohibits retention of night sharks.

In 2003 NMFS funded, via the Recover Protected Species program, the NOAA Southeast Fisheries Science Center to conduct a study entitled "An update on the population status of the night shark, *Carcharhinus signatus*, using demographic analysis."

For further information on this Species of Concern, or on the Species of Concern Program in general, please contact Ms. Marta Nammack, NMFS, Office of Protected Resources, 1315 East West Highway, Silver Spring, MD 20910, (301)713-1401, Marta.Nammack@noaa.gov *; or Dr. Stephania Bolden, NMFS, Southeast Region, Protected Resources Division, 9721 Executive Center Drive N., St. Petersburg, FL 33702, (727)570-5312,* Stephania.Bolden@noaa.gov.

References:

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