

Common Name: **Barndoor Skate**



Scientific Name: *Raja laevis*

Area of Concern: Western Atlantic - Gulf of Saint Lawrence to North Carolina

Year First Listed as a "Species of Concern": 1999

Species Description:

Barndoor skate is the largest skate in the northwest Atlantic. Its distribution range is along the coast of the northeast United States from southwestern Grand Bank and southern Gulf of St. Lawrence south to northeast Florida and to the banks of Newfoundland. It is most commonly found in the Gulf of Maine and in Southern New England. Skates are known to migrate seasonally, responding to the temperature. In the summer and autumn, they swim offshore and in the winter and spring, they move closer to shore.

The disk is broad with sharply angled corners, front edges are concave and the snout is pointed; there are no mid-dorsal spines on the disk. The tail has three rows of spines: one mid-dorsal row and one row on each side. Dorsal fins are close together; space between fins decidedly shorter than base of first dorsal fin. The upper surface is brown with scattered small dark spots and the lower surface is white blotched irregularly grey. The barndoor skate is slow growing and long-lived. Maximum size is to 1.5 m and 18 kg. Sexual maturity is reached at approximately 11 years or when male clasper length is about 100cm. Females lay heavily armored eggs, which appear as oblong capsules with stiff pointed horns at the corners, in sandy or muddy flats. The barndoor skate prefers depths of waters 10-140m with a temperature ranging from just above freezing to 20° C. Bigelow and Schroeder (1953) found that skates will reach depths of up to 400 m. The barndoor skate forages on lobsters, crabs, shrimp, isopods, crustaceans, bivalves, gastropods, squids, worms, and fish.

Rationale for "Species of Concern" Listing:

Demographic and Diversity Concerns:

The barndoor skate was abundant in the 1950s and 1960s, but its numbers have since severely declined. Due to slow growth, late maturity, and few offspring, barndoor skate are susceptible to overfishing.

The 1996-1998 NEFSC autumn survey biomass index average was 0.08 kg/tow, increasing to 0.17 kg/tow for the 1997-1999 updated average illustrated in the SAFE Report by the New England Fishery Management Council (NEFMC). These averages are below the proposed SFA biomass target of 1.62 kg/tow and threshold of 0.81 kg/tow; however, an increasing trend has been seen in each of these survey years.

Factors for Decline:

The barndoor skate has very few predators because of its large size; large sharks are its only likely predator. Many parasites occur on the skate. Skates are often captured in commercial trawl nets such as otter and scallop trawls. The recent introduction of a directed fishery for dogfish and skate on Georges Bank has resulted in a decline of this species. Its flesh is used for products such as bait, fish meal, pet food, and the meat from its wings is sold as seafood. NMFS fishery-independent surveys show peak abundance in the early 1960s, declining to a low in the 1980s.

Last updated 4/13/2004

Status Review/Research Completed or Underway:

NMFS conducted a status review after it was petitioned to list this species under the ESA, concluding that listing was not warranted (67 FR 61055). However, NMFS retained the species on the candidate species list because of remaining concerns and uncertainties. Now this species is considered to be a species of concern (rather than a candidate species).

*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](mailto:Marta.Nammack@noaa.gov); or Kimberly Damon-Randall, NMFS, Northeast Region, Protected Resources Division, One Blackburn Drive, Gloucester, MA 01930-2295, (978) 281-9328, x6535, [Kimberly.Damon-Randall@noaa.gov](mailto:Kimberly.Damon-Randall@noaa.gov).*

References:

Bigelow, H.B., and W.C. Schroeder. 1953. Fishers of the western North Atlantic. Mem. Sears Found., Mar. Res. Vol. 2.

Robins, C.R., G.C. Ray and J. Douglass. 1986. A field guide to Atlantic coast fishes. Houghton Mifflin CO., New York.

Casey, J.M. and M.A. Ransom. 1998. Near extinction of a large, widely distributed fish. Science 281:690-692.