



Photo credit: NOAA

Current Status:

Demographic and Genetic Diversity Concerns:

West of the Scotian Shelf, highest abundance of wolffish appears to be in the southwestern portion of the Gulf of Maine from Jeffreys Ledge to Great South Channel at depths of 260 to 390 feet (80 to 120 m). NMFS Northeast Fisheries Science Center spring bottom trawl survey biomass index fluctuated between 1.0 kg/tow and 2.0 kg/tow between 1968 and 1988, but has shown a consistent downward trend since the late 1980s. 1997-99 biomass indices were less than 0.2 kg/tow, which is the lowest in the survey time series at about 8% of the 1968-1988 average. This **stock** remains overexploited and severely depleted.

Existing Protections and Conservation Actions:

In Canada, this species is protected under the Species at Risk Act (SARA) as a special concern species. According to SARA, a management plan must be prepared within five years for a special concern species. In the U.S., Atlantic wolffish have been proposed for addition to the list of managed species under Amendment 16 to the Northeast Multispecies Fishery Management Plan. However, currently, there are no management measures in place for this species.

KEY INFORMATION

Areas of Concern

Georges Bank and western Gulf of Maine

Year Identified as “Species of Concern”
2004

Factors for Decline

- Commercial fishing
- Bycatch
- Habitat degradation from trawls and dredges

Conservation Designations

IUCN: Not Evaluated



Species of Concern

NOAA National Marine Fisheries Service

Brief Species Description:

Wolffish may reach lengths of 59 inches (150 cm) and weights of 40 pounds (18 kg). They are generally a solitary fish although some coloniality has been documented (Collette and Klein-MacPhee 2002). They are characterized by canine-like teeth in the front jaw, dark transverse bars along their body, and firm musculature. Atlantic wolffish have a cluster of five or six smaller canines behind the primary canine teeth as well as three series of crushing teeth on the roof of their mouth. Their dorsal fin spines are flexible at their tips, and they have no pelvic fins. Their color varies from a slate-blue to a purplish brown or dull olive green (O'Dea and Haedrich 2000).

Atlantic wolffish can be found at depths as deep as 1640 feet (500 m), but prefer depths of 260 to 390 feet (80 to 120 m). They occur at a temperature range of 30 to 50°F (-1.3 to 10.2°C) in the Gulf of Maine; wolffish are able to survive in these temperatures due to high concentrations of antifreeze compounds in their blood (Collette and Klein-MacPhee 2002).

Wolffish appear to prefer shelter areas with complex bottom substrates such as rocky outcroppings or seaweed beds (Collette and Klein-MacPhee 2002). Atlantic wolffish feed primarily on **benthic** fauna away from these shelter sites. While their diet shows strong regional variation, it consists mainly of mollusks, crustaceans, echinoderms and less frequently, fishes. Their teeth are quickly worn down by the grinding of hard-shelled prey and are replaced annually after the spawning season; they fast during this replacement (Collette and Klein-MacPhee 2002). As predators, Atlantic wolffish may also be key factors in controlling density and distribution of certain benthic invertebrates, such as sea urchins (O'Dea and Haedrich 2000). This is a large, slow growing, and late maturing species (COSEWIC 2000). Maturity varies by region due to temperature influences, but most mature by age 6 and about 16 inches (40 cm) total length. Males and females form bonded pairs during the spring and summer. The spawning period remains unclear but most likely varies with latitude. Prior to spawning, ripe female wolffish exhibit a pronounced pot-belly. Females produce between 5,000 and 12,000 eggs. Incubation is believed to last four to nine months, depending on water temperature. Eggs are laid in large clusters and are guarded by the parental male. The male stops feeding during this period and becomes more aggressive (Collette and Klein-MacPhee 2002). Larvae and early juveniles are pelagic at 0.8 to 1.6 inches (20 to 40mm) TL before transitioning to their benthic habitat (Collette and Klein-MacPhee 2002). Fifty percent of wolffish mature between 20.5 and 24 inches (52 and 60 cm), which is 2.25 to 3.5 lbs (1.02 to 1.57 kg), and are between 8 to 10 years old, and they may live up to 20 years (O'Dea and Haedrich 2000).

Contact Information

For Atlantic wolffish, contact:

Kimberly Damon-Randall
NOAA Fisheries, Northeast Region
Protected Resources Division
One Blackburn Drive
Gloucester, MA 01930-2295
(978) 281-9328 x6535

Kimberly.Damon-Randall@noaa.gov

<http://www.nmfs.noaa.gov/pr/species/concern>

For Species of Concern, contact

NOAA Fisheries
Office of Protected Resources
1315 East West Highway
Silver Spring, MD 20910
(301) 713-1401

soc.list@noaa.gov

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