



Life History and Habitat Needs

Geographic Range: Spiny dogfish are widely distributed in both the Atlantic and Pacific Oceans. In the western Atlantic, spiny dogfish range from Labrador, Nova Scotia to Florida, but are most abundant from Nova Scotia to Cape Hatteras, North Carolina.

Movement/Migration: Spiny dogfish prefer water temperatures from 45-55°F (7-12°C) and, in general, are found inshore in summer and in deeper offshore waters in winter. Seasonal migrations are associated with water temperature. Spiny dogfish migrate north in spring and summer when water temperatures are relatively high, and south in fall and winter when temperatures are relatively low. In summer, spiny dogfish are found throughout the Canadian Maritime Provinces (New Brunswick, Nova Scotia and Prince Edward Island). From fall to winter, the range of spiny dogfish is concentrated in U.S. waters between Long Island, New York and Cape Hatteras, North Carolina.

Reproduction: Spiny dogfish mate during winter in the North Atlantic. Females are fertilized internally and have a 22-month gestation period. Females give birth to live young on offshore wintering grounds. Litter sizes average around six pups but range from two to fifteen pups.

Habitat Use: Juveniles are widespread across the continental shelf from North Carolina to the eastern edge of Georges Bank. Although juvenile spiny dogfish prefer bottom water temperatures from 46-55°F (8-13°C) and depths between 50-150 m, some are found in waters with slightly lower temperatures that range from 44-50°F (7-10°C) and at shallower depths of 10-44 m.

In general, the distribution and abundance of adults are similar to juveniles. Adults are found in high numbers along the outer continental shelf from North Carolina to the northeast tip of Georges Bank. In spring, adults are abundant on the south shores of Nantucket Island, northeast of Cape Cod, and in Cape Cod Bay. In fall, adults are abundant off Nantucket Shoals, the eastern edge of Cape Cod, Cape Cod and Massachusetts Bays, and southwest of Nova Scotia. In winter, adults are widespread across the shelf from Cape Hatteras, North Carolina to the eastern edge of Georges Bank. Adults prefer bottom temperatures ranging from 45-55°F (7-12°C) and depths of 10-49 m. In fall, spiny dogfish are found in deeper waters (50-149 m) with bottom temperatures between 48-59°F (9-15°C). Spiny dogfish are tolerant of a wide range of salinities and occasionally move from estuaries into freshwater, although they can only survive temporarily under such conditions.

Threats to Habitat

- Coastal development
- Water withdrawal
- Nonpoint source pollution
- Dredging and dredge spoil placement
- Wetlands loss and degradation
- Sewage disposal
- Mobile gear that contacts the ocean bottom

ASMFC Habitat Areas of Particular Concern

Ocean bottom habitat is important for all life stages of spiny dogfish. Spiny dogfish may also rely heavily on estuarine areas for refuge, foraging, or both.

Recommendations to Improve Habitat Quality

- Prohibit dredging and filling of wetlands and shallow coastal waters.
- Regulate water withdrawals to provide adequate water volume and flow into important spiny dogfish habitat.
- Coordinate development and implementation of nonpoint source pollution control plans.
- Develop contaminated sediment remediation plans.

Habitat Research Needs

- Investigate how diet selection of young-of-the-year and recruits influences habitat choice.
- Compile information on use of estuaries by spiny dogfish.
- Determine whether or not there is an identifiable area used for pupping.
- Investigate the distribution of spiny dogfish beyond the depth range of current trawl surveys.
- Identify spiny dogfish habitats associated with different life stages and areas of higher density and use by spiny dogfish for protection and/or restoration.

Additional Information

Spiny dogfish are managed by the ASMFC under the Interstate Fishery Management Plan for Spiny Dogfish. The FMP can be obtained on the ASMFC website www.asmfc.org or by contacting the ASMFC Habitat Specialist at (202) 289-6400.

www.asmfc.org

