

Atlantic Saury (*Scomberesox saurus*)

Common Names: Needlenose, needlefish, billfish, saury

Description, Distribution and Biology

Atlantic saury is a small schooling oceanic fish from the family Scomberesocidae. It has a small elongated, moderately compressed body with a prolonged, slender head, moderate eyes and small pointed teeth. The caudal fin is deeply forked, its scales easily detached, and the lateral line is incomplete.

Atlantic saury is typically olive-green dorsally with a silver band along the side and has a green dorsal fin (Fig.1). Young are generally dark blue on the dorsal side, shading to silver sides and abdomen. This species is fast growing, reaching a maximum length of 45 to 50 cm and typically live 3 to 4 years.

Atlantic saury is widely distributed in the temperate waters of the Atlantic Ocean. On the eastern coastline they can be found from Norway to the Mediterranean. In the northwest Atlantic this species ranges from Newfoundland southward to Cape Hatteras, North Carolina. In Canadian waters, the Atlantic saury has been reported from the Scotian Shelf, Georges Bank, southern part of the Gulf of St. Lawrence, and in coastal areas around New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland. Juvenile and adult fish have also been observed on the Flemish Cap and over the slopes of the Grand Bank, Green Bank and St. Pierre Bank. Although the Atlantic saury has been reported in these areas, the main habitat for this species is west of the Gulf Stream core. Saury undergoes annual migration in response to changes in water temperature. In the winter the Atlantic saury is concentrated in the southern part of their distribution. During the summer, saury will move northward, simultaneous with the warming of surface water temperatures. In June, they converge on the Scotian shelf and over the southern Grand Banks and Flemish Cap and will migrate southward at the beginning of autumn. Atlantic saury also migrates diurnally; moving into deeper water during the day and rising to the surface at night to feed. This species prefers water temperatures between 8.2 and 24.8°C.

Spawning occurs during winter and spring in their southern range. Males and females mature between 2 and 3 years of age and at a length of 25 cm. After fertilization, the eggs, which are spherical, transparent and between 2.5 and 3.2 mm in diameter, will remain near the surface in water temperatures between 6.8 and 23.7°C. The larvae undergo metamorphosis when they reach approximately 2.5 cm in length.



Figure 1. Atlantic saury. Source: Don Flescher and NOAA-NMFS Northeast Fisheries Science Center in Woods Hole MA

Atlantic saury feed primarily on zooplankton, such as copepods, euphausiids, amphipods, and fish eggs and larvae. The size and quantity of food items vary with season and size of the saury. Feeding is generally heavier during the spring and summer and decreases with the onset of winter. Atlantic saury is preyed upon by a number of marine organisms including squid, tuna, marlin bluefish, shark, hake, cod, pollock, dolphin, whale and seabirds. Saury is often observed leaping out of the water to avoid predation by large fish species.

Constraints and Future Development

There is no commercial fishery for Atlantic saury in Canadian waters. Prior to the 1950s, trial fisheries were carried out in St. Margaret's Bay during summer when Atlantic saury became concentrated within the region. Between 1969 and 1974, an experimental fishery was conducted by the USSR. Atlantic saury was harvested chiefly with drift gill nets, lift nets, and nets suspended from booms along the side of the vessel. In addition, artificial light was used to attract the fish to the surface. As a result of this species' sporadic abundance within Canadian waters, many fishers have been discouraged from further development of the industry. However, Atlantic saury is considered a delicious food item when canned and many fisheries use by-catch of saury for bait in commercial fisheries. Future development of an Atlantic saury fishery will require more comprehensive research into abundance, migratory patterns, biology, and an understanding of the effects of harvesting on marine ecosystems. Improvements of fishing practices and equipment to protect ocean resources as well as the identification and protection of critical marine habitat of the Atlantic saury will also need further investigation as will processing and market availability.

ADDITIONAL READINGS:

Dudnik, Y. I., V. K. Zilanov, V.D. Kudrin, V.A. Nesvetov and A.S. Nesterov. (1981) Distribution and Biology of Atlantic saury, *Scomberesox saurus* (Walbaum), in the Northwest Atlantic. *NAFO SCI. Counc. Stud.*, No. 1: 23-29.

Korkosh, V. V. (1992). Behaviour of the Atlantic saury and characteristics of its reaction to light. *J. Ichthyol.*, Vol. 32, no. 9: 95-101.

Korkosh, V. V., and O. I. Timokhina. (1983). Some reproductive features of *Scomberesox saurus* (Scomberesocidae) in the southern Indian Ocean. *J. Ichthyol.*, Vol. 23, No. 5: 36-41.

Nesterov, A. (1981). The feeding of *Scomberesox saurus* (Scomberesocidae) and its trophic relationship in the epipelagic zone of the ocean. *J. Ichthyol.*, Vol. 21, No. 2: 55-69.

Scott, W.B, and M.G Scott. (1988). Atlantic Fishes of Canada. *Can. Bull. Fish. Aquat. Sci.*, 219: 731 p.

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