



COSEWIC Executive Summary

Thorny Skate *Amblyraja radiata*

Wildlife Species Description

Amblyraja radiata, commonly known as Thorny Skate in English and Raie épineuse in French, is a relatively large skate, reaching up to 110 cm long on the Grand Banks. It varies among regions in size, body proportions, growth, and age at maturity. It is distinguished from other skates in the northwest Atlantic by a row of 11-19 large thorns running down the middle of its back and along the tail. It is usually brown although younger individuals may have darker spots.

Distribution

Thorny Skate are found on both sides of the Atlantic, from Iceland south to the English Channel in the eastern Atlantic, and from Greenland to South Carolina in the western Atlantic. In Canada, it is distributed continuously from Baffin Bay, Davis Strait, Labrador Shelf, Grand Banks, Gulf of St. Lawrence, Scotian Shelf and Bay of Fundy to Georges Bank, over a wide range of depths. For this assessment, this distribution is considered as a single designatable unit extending from Baffin Bay south to Georges Bank and including the Gulf of St. Lawrence.

Habitat

Thorny Skate live on the bottom over a wide range of depths (primarily 18-1200 m) and typically in water temperatures of 0° to 10°C. They can be found on a variety of bottom types including sand, gravel, mud and broken shells.

Biology

The average age at maturity is 11 years and the fish live for 16-20 years. They lay 6-40 eggs per year. Little is known about their predators but it is likely that their egg capsules are eaten by gastropods, whereas juveniles and adults may be eaten by marine mammals and fishes.

Population Sizes and Trends

The most recent minimum estimate of population size in all Canadian waters is approximately 188.5 million individuals, approximately 63 million of which are mature. In southerly regions, mature individuals have declined by 63% to 97% since the 1970s, whereas numbers have increased recently in the middle and northern parts of their range. Declines have also occurred in the abundance of immature individuals over parts of their range.

Threats and Limiting Factors

Catches of Thorny Skate in some commercial fisheries are likely an important limiting factor but this has not been directly linked to the declines, the most severe of which have occurred in spite of reduced fisheries. Recovery in the southern part of their range may be due to increased mortality by predators. Catches in Canadian waters have declined since the mid-1990s with the closure of the skate fishery on the Scotian Shelf, reduction of catches in the Grand Banks fisheries and general reduction in fisheries where the fish are taken as bycatch.

Protection, Status and Ranks

Thorny Skate has been designated as a “Species of Concern” by the National Marine Fisheries Service in the United States. They are designated as “vulnerable” globally on the IUCN Red List. There is a directed fishery for this species on the Grand Banks that straddles Canada’s 200-mile limit, managed under quota by the Northwest Atlantic Fisheries Organization (NAFO). The portion of the total allowable catch allocated to Canada is managed as a licensed fishery under the *Fisheries Act*. A mixed fishery for Thorny Skate and Winter Skate (*Leucoraja ocellata*) on the eastern Scotian Shelf is presently under moratorium.