# Opportunities for Conservation of **Skates and Sharks** under the Northwest Atlantic Fisheries Organization (NAFO)

Shark League for the Atlantic and Mediterranean

## Overview

**Sharks, skates, and rays (elasmobranchs) deserve special conservation focus because low reproductive capacity leaves most species exceptionally vulnerable to overexploitation. Several Northwest Atlantic elasmobranch populations under NAFO purview are in a precarious state and in need of domestic and international safeguards.**

Two key events set the stage for NAFO to make groundbreaking advances in international elasmobranch management by the September 2018 annual meeting:

- The amended NAFO convention coming into force (May 2017), and
- The development of new scientific advice for key populations of skates and deepsea sharks (June 2018).

The Shark League for the Atlantic and Mediterranean seeks the following for elasmobranchs under NAFO:

- Science-based catch limits based on the precautionary approach;
- Measures to improve bycatch reporting and minimize discard mortality; and
- Protections for especially vulnerable species.

Such actions are in line with the amended NAFO Convention, particularly Article III principles aimed at:

- Preventing overfishing;
- Ensuring long-term sustainability;
- Heeding the best scientific advice available;
- Applying the precautionary approach;
- Minimizing incidental catch and harmful impacts on marine ecosystems;
- Preserving biological diversity; and
- Collecting and sharing sound fishing data in a timely manner.

## Spotlight on Thorny Skates (*Amblyraja radiata*)

**Thorny skates are widely distributed across a variety of substrates down to to 1400m on both sides of the Atlantic. Females mature at around age 11 and produce only about 15 viable hatchlings each year after incubation that can last three years. Thorny skates have been severely depleted in the southern part of their distribution, declining by as much as 95 percent since the 1970s in some US waters.**

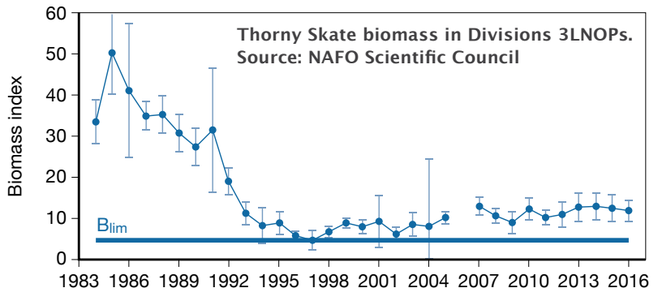
The NAFO Scientific Council (SC) has demonstrated that:

- Thorny skates have low resilience to fishing pressure due to low population growth rates;
- The Division 3LNO thorny skate population is low; and
- NAFO management has resulted in very little stock rebuilding.

Adherence to scientific advice is a key element of the amended NAFO Convention and to the national policies of many NAFO Parties. Yet, the NAFO Total Allowable Catch (TAC) for skates has been significantly higher than the level advised by the NAFO SC since the limit was established in 2005. The current TAC exceeds scientific advice by more than 2000t. The population has not significantly improved even though recent reported catches have aligned with scientific advice, underscoring the need for greater attention and caution. The SC will update the thorny skate assessment and management advice in 2018.

**Our organizations urge NAFO Parties to take the steps necessary to ensure by 2018:**

- **Improved data on skate catches and discards;**
- **A skate rebuilding plan including precautionary reference points and management objectives;**
- **Intersessional work by major skate fishing Parties (including the EU, Canada, and Russia) to develop equitable quota cuts and thereby avoid another stalemate at the annual meeting; and**
- **Reduction in the NAFO skate TAC to a level associated with a high probability of rebuilding.**




## Spotlight on Greenland Sharks (*Somniosus microcephalus*)

**Growing to more than six meters (21 feet), the Greenland shark is the world's second largest carnivorous shark. The species is associated with the high latitudes of the North Atlantic and Arctic waters at depths up to 3000m, although the full range is unknown.**

Last year, scientists estimated that Greenland sharks are incredibly long-lived, maturing at ~150 years of age and living 400 years or more. This finding and inferences about the species' vulnerability led to widespread calls for conservation action. The NAFO Fisheries Commission requested that the SC review information on Greenland shark life history, population status, records, and fishing mortality in NAFO fisheries, and develop precautionary management advice for consideration by 2018.

Greenland sharks were heavily fished in the first half of the 20th century for their liver oil. Today, they are taken primarily as incidental catch in a variety of fisheries, and also targeted by vessels from Greenland and Iceland to supply demand for dried and fermented meat.

Scientists at the 2017 SC meeting recognized that Greenland sharks "may warrant precautionary consideration due to the extreme longevity and low fecundity exhibited," and noted that several other Regional Fishery Management Organizations (RFMOs) have adopted prohibitions on other shark species based largely on inherent biological vulnerability. The SC examination of Greenland shark catches, status, and conservation needs will continue in 2018.

**Our organizations urge NAFO to:**

- **impose a prohibition on retaining, transshipping, and landing Greenland sharks, in line with similar measures taken for thresher, oceanic whitetip, and silky sharks at other RFMOs;**
- **adopt any other Greenland shark bycatch mitigation measures recommended by the SC in 2018; and**
- **improve catch information and safeguards for all incidentally caught deepsea sharks.**

**Elasmobranch populations under NAFO purview are in a precarious state and in need of domestic and international safeguards**


### AMAZING FACTS
### Thorny Skates:

- have a row of 11-19 large thorns running down their back and tail;
- are known in the UK as "starry rays" because their thorns have star-shaped bases;
- vary in growth rate, maximum size, egg volume, thorniness, etc. according to latitude;
- are believed to live much longer than other North Atlantic skates (~30 years or more); and
- lay embryos in egg cases ("mermaids' purses") that are eaten by halibut, monkfish, Greenland sharks, and predatory gastropods.


### AMAZING FACTS
### Greenland Sharks:

- are now considered the world's longest living vertebrates;
- have been found with remains of seals, polar bears, moose, and reindeer in their stomachs;
- have parasites in their eyeballs that render them at least partially blind;
- have hearts that beat only once every 12 seconds; and
- have flesh that can be toxic to humans, if not carefully prepared.

**Sustained engagement by experienced conservationists is vital for driving ambitious policies that ensure long-term sustainability of shared resources. The organizations that make up the Shark League have exceptional collective experience in science-based shark conservation and a history of successful collaboration.**

## References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## Partners

**Shark Advocates International** (Washington, DC, USA) is a project of The Ocean Foundation based on 25 years of expertise in securing science-based shark and ray fishing limits, threatened species protections, and finning bans at local, national, and international levels.

**Shark Trust** (Devon, UK) is the United Kingdom's leading conservation organization dedicated to sharks and rays, with a 20-year record of effective independent and collaborative advocacy toward key UK and EU policy gains.

**Project AWARE** (California, USA) brings to the shark and ray policy debate the special, influential voice of its global constituency of 1.2 million scuba divers, along with an extensive network for communications and citizen action.

**Ecology Action Centre** (Nova Scotia, Canada) is a recognized leader in Canadian conservation policy, and the only Canadian conservation group consistently engaging on shark policy issues at national and international levels.

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