

Southeast Shoal of Grand Banks IMMA

Summary, continued.

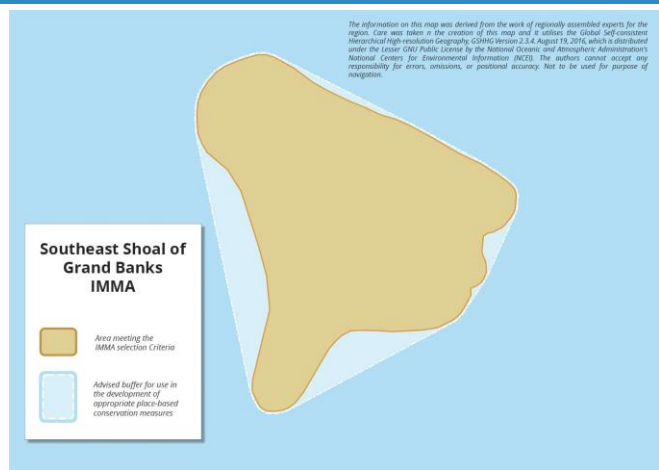
and Adjacent Areas on the Tail of the Grand Bank" EBSA due to its importance as a feeding area for cetaceans and seabirds.

Description:

The Southeast Shoal lies in the southeastern part of the Grand Banks of Newfoundland, near the "Tail of the Bank". It lies between about 370 km from the southeastern coast of Newfoundland, and is about 170 km north to south and 80 km east to west. It is sandy with a generally smooth floor about 40-55 m below the water surface. It is the primary area for offshore capelin spawning in the western North Atlantic (Carscadden, 1978). The area has been proposed as an MPA (e.g. Coughlan, 2002) but listing has not progressed. This area includes part of the "Southeast Shoal and Adjacent Areas on the Tail of the Grand Bank" EBSA (CBD 2014) which was identified partially upon its importance as a feeding area for cetaceans including humpback and fin whales. It also includes part of the Mission Blue "Southeast Shoal of the Grand Banks" Hope Spot, identified as an area where a confluence of currents along the shallow plateau results in an abundance of nutrients that once supported large populations of Atlantic cod.

Criterion B: Distribution and Abundance Sub-criterion B2: Aggregations

Substantial aggregations of humpback whales (*Megaptera novaeangliae*) and white-beaked dolphins (*Lagenorhynchus albirostris*) have been documented



Area Size

11,593 km²

Qualifying Species and Criteria

Humpback Whale – *Megaptera novaeangliae*

Criterion B (2); C (2)

White-beaked dolphin –

Lagenorhynchus albirostris

Criterion B (2); C (2)

Other Marine Mammal Species Documented

Balaenoptera acutorostrata, *Balaenoptera physalus*, *Delphinus delphis*, *Globicephala melas*,
Leucopleurus acutus, *Orcinus orca*

Summary

The Southeast Shoal IMMA is located about 370 km from the island of Newfoundland, in the southeastern part of the Grand Banks. It is defined by a sandy rise on the floor of the Grand Banks about 40-55 m below the water surface, and is the only major offshore area of spawning for the fish capelin (*Mallotus villosus*) in the western North Atlantic. While the capelin are spawning it is a major feeding area for humpback whales (*Megaptera novaeangliae*), and also seems to be a significant foraging area for white-beaked dolphins (*Lagenorhynchus albirostris*). The area encompasses part of the "Southeast Shoal



Figure 1: A white-beaked dolphin (*Lagenorhynchus albirostris*) surfacing. This species is known to forage in the Southeast Shoal of Grand Banks IMMA. Photo credit: David Gaspard.



Figure 2: A spy-hopping humpback whale (*Megaptera novaeangliae*). The Southeast Shoal of Grand Banks IMMA is a major feeding area for this species. Photo credit: Hilary Moors-Murphy.



Figure 3: A jumping white-beaked dolphin (*Lagenorhynchus albirostris*). This species commonly occurs within the Southeast Shoal of Grand Banks IMMA. Photo credit: David Gaspard.

on the Southeast Shoal of the Grand Banks during the capelin spawning period in June-July (Whitehead & Glass, 1985a). Photo-identification surveys in 1982 and 1983 estimated that about 900 humpback whales used the shoal, about 15-30% of the humpback whale population in the Northwest Atlantic at that time (Whitehead & Glass, 1985a). Some of the humpback whale groups observed were exceptionally large (over 40 animals; Whitehead & Glass, 1985a). Cetacean sightings records collected from a variety of sources and collated by Fisheries and Oceans Canada over the past 80+ years show that a variety of cetacean species occur in this general area, and this area is predicted to be potentially important habitat for both humpback whale and white-beaked dolphins in a recent Species Distribution Modelling study (Gomez et al., 2020).

Criterion C: Key Life Cycle Activities

Sub-criterion C2: Feeding Areas

Many marine predators off Newfoundland depend on the small fish capelin (*Mallotus villosus*) as primary sustenance (e.g. Whitehead & Carscadden, 1985 for baleen whales). Capelin are particularly aggregated and slow moving when they spawn. Most capelin spawn along the shoreline but, unusually, there is a large spawning aggregation on the Southeast Shoal (Carscadden, 1976). This seems to be an important source of nutrition for humpback whales (and probably white-beaked dolphins), whose distributions were highly correlated with the presence of sonar traces of capelin schools (Whitehead & Glass, 1985a). Although this area has not been the focus of more recent cetacean surveys, it is assumed that these feeding aggregations persist.

Supporting Information

Carscadden, J.E. 1978. 'The capelin, *Mallotus villosus*, population spawning on the Southeast Shoal of the Grand Bank, 1976'. International Committee of Northwest Atlantic Fisheries, Selected Paper, 3:61-71.

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Coughlan, G.P. 2002. 'The Southeast Shoal area of the Grand Banks of Newfoundland. Potential as a marine protected area: A biophysical and socio-economic area examination'. Master's thesis, University of Calgary, iii + 1-254 [online]. Available at: file:///C:/Users/moorsh/Downloads/2002_Coughlan.pdf.

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humpback whales and other cetacean species'. Canadian Journal of Zoology, 63:2617-2625.

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Acknowledgements

We would like to thank the participants of the 2024 IMMA Regional Expert Workshop for the identification of IMMAs in the North West Atlantic Ocean and wider Caribbean region. Funding for the identification of this IMMA was provided by the Water Revolution Foundation, with additional funding and collaboration from the Sargasso Sea Commission, OceanCare and Animal Welfare Institute. Essential administrative support was given by Tethys Research Institute and Whale and Dolphin Conservation.



MARINE MAMMAL PROTECTED AREAS TASK FORCE

IMMA

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Suggested Citation: IUCN-MMPATF (2025) Southeast Shoal of Grand Banks IMMA Factsheet. IUCN Joint SSC/WCPA Marine Mammal Protected Areas Task Force, 2025.

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