

Blue lines indicate the area meeting the ISRA Criteria; dashed lines indicate the suggested buffer for use in the development of appropriate place-based conservation measures

## AKULIAQATTAQ ISRA

### Polar Waters Region

#### SUMMARY

Akuliaqattaq is located in Admiralty Inlet, on the northern coast of Baffin Island, Nunavut, Canada. The area is situated within a fjord, which functions as a semi-closed marine ecosystem, and the substrate is dominated by soft muds. The area overlaps with the Tallurutiup Imanga National Marine Conservation Area. Within the area there are: **threatened species** and **undefined aggregations** (Greenland Shark *Somniosus microcephalus*).

#### CRITERIA

**Criterion A - Vulnerability; Sub-criterion C5 - Undefined Aggregations**

CANADA

0-850 metres

2,186.6 km<sup>2</sup>





## DESCRIPTION OF HABITAT

Akuliaqattaq is located in Admiralty Inlet, on the northern coast of Baffin Island in Nunavut, Canada. The area extends south from Lancaster Sound along the western shore of Baffin Island's Borden Peninsula. Admiralty Inlet itself is ~300 km long and runs north-south with several smaller inlets and bays present within the fjord, including Adams Sound and Strathcona Sound where the traditional hamlet of Ikpiarjuk (Arctic Bay) is situated. The area is located within two fjords, which function as a semi-closed marine ecosystem and the substrate is dominated by soft mud (Devine et al. 2019).

High productivity from glacial runoff elevates key nutrient concentrations in surface waters within fjords. This is particularly important during the critical period after the spring bloom when surface plankton are nutrient limited, but insolation is still abundant (Bhatia et al. 2021). Fast ice is present during the boreal winter season (December to February), but it is a well-known Narwhal *Monodon monoceros* summering area as the ice clears (Breed et al. 2017). Dissolved oxygen and temperature (-1.8 and 0.6°C) start to drop when the ice-covered period starts, and salinity decreases (31.4-32.9) (O'Neil 2016).

The area overlaps with the Tallurutiup Imanga National Marine Conservation Area (UNEP-WCMC & IUCN 2024).

This Important Shark and Ray Area is benthopelagic and is delineated from inshore and surface waters (0 m) to a depth of 850 m based on the depth range of Qualifying Species in the area.

## ISRA CRITERIA

### CRITERION A - VULNERABILITY

One Qualifying Species considered threatened with extinction according to the IUCN Red List of Threatened Species regularly occurs in the area. This is the Vulnerable Greenland Shark (Kulka et al. 2020).

### SUB-CRITERION C5 - UNDEFINED AGGREGATIONS

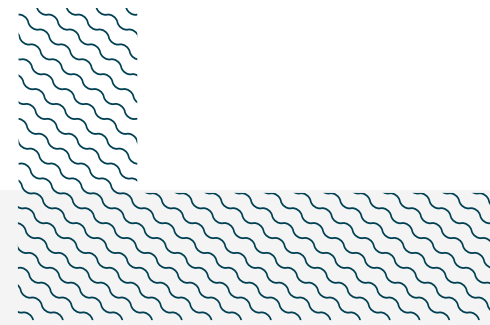
Akuliaqattaq is an important area for undefined aggregations of one shark species.

Between 2015-2016, a total of 31 baited remote underwater video stations (BRUVS) deployments were conducted from a fishing vessel in Nunavut (Devine et al. 2018). Individuals were identified from the video footage using unique scar and colouration patterns and other physical characteristics. The number of individuals recorded in each deployment ranged from 0 to 18. Within this area, video recordings ranged from 385 to 710 minutes in five deployments. Greenland Sharks were present in all five deployments, and the total number of sharks per set ranged from one to 18 individuals with three sets detecting greater than 14 individuals, representing the highest numbers throughout the survey and significantly greater abundance compared to other regions. Greenland Sharks measured from video footage ranged from 195-325 cm total length (TL). This area also had the fastest first detection times (used as a proxy for high abundance) in comparison to other areas.

Concurrent longline fishing also encountered higher catch rates in this region compared to other inshore areas fished, capturing a total of 42 Greenland Sharks (n = 5 longline sets, fishing depth 351-819 m) (Wheeland & Devine 2015).

In September 2023, an additional five BRUVS deployments were conducted in the area at shallower depths (122-392 m). Greenland Sharks were present in four out of five sets (absent in the shallowest

set of 122 m), with 1-7 individuals observed per deployment. A total of 14 Greenland Sharks were observed, confirming Greenland Shark aggregations and use of this area across years (Donovan & Forbes 2023). More information is required to determine the nature and function of this aggregation.



---

### **Acknowledgments**

Brynn Devine (Oceans North), Rachel Forbes (Memorial University of Newfoundland), Meghan Donovan (Memorial University of Newfoundland), Jonathan Fisher (Memorial University of Newfoundland), Nigel Hussey (University of Windsor), Asia O Armstrong (IUCN SSC Shark Specialist Group - ISRA Project), and Vanessa Bettcher Brito (IUCN SSC Shark Specialist Group - ISRA Project) contributed and consolidated information included in this factsheet. We thank all participants of the 2024 ISRA Region 1 - Polar Waters workshop for their contributions to this process.

This factsheet has undergone review by the ISRA Independent Review Panel prior to its publication.

This project was funded by the Shark Conservation Fund, a philanthropic collaborative pooling expertise and resources to meet the threats facing the world's sharks and rays. The Shark Conservation Fund is a project of Rockefeller Philanthropy Advisors.

### **Suggested citation**

**IUCN SSC Shark Specialist Group. 2024.** Akuliaqattaq ISRA Factsheet. Dubai: IUCN SSC Shark Specialist Group.

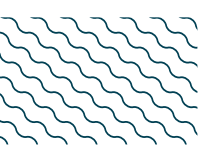
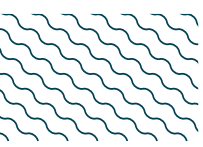
## QUALIFYING SPECIES

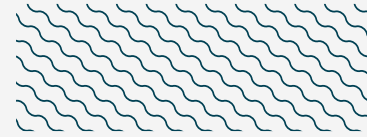
Scientific Name	Common Name	IUCN Red List Category	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met									
				A	B	C1	C2	C3	C4	C5	D1	D2	
<b>SHARKS</b>													
<i>Somniosus microcephalus</i>	Greenland Shark	VU	0-2,992	X							X		

## SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
RAYS		
<i>Amblyraja hyperborea</i>	Arctic Skate	LC

*IUCN Red List of Threatened Species Categories are available by searching species names at [www.iucnredlist.org](http://www.iucnredlist.org) Abbreviations refer to: CR, Critically Endangered; EN, Endangered; VU, Vulnerable; NT, Near Threatened; LC, Least Concern; DD, Data Deficient.*





## REFERENCES

- Bhatia MP, Waterman S, Burgess DO, Williams PL, Bundy RM, Mellett T, Roberts M, Bertrand EM. 2021.** Glaciers and nutrients in the Canadian Arctic Archipelago Marine system. *Global Biogeochemical Cycles* 35: e2021GB006976. <https://doi.org/10.1029/2021gb006976>
- Breed GA, Matthews CJ, Marcoux M, Higdon JW, LeBlanc B, Petersen SD, Orr J, Reinhart NR, Ferguson SH. 2017.** Sustained disruption of narwhal habitat use and behavior in the presence of Arctic killer whales. *Proceedings of the National Academy of Sciences* 114(10): 2628–2633. <https://doi.org/10.1073/pnas.1611707114>
- Devine BM, Wheeland LJ, Fisher JA. 2018.** First estimates of Greenland shark (*Somniosus microcephalus*) local abundances in Arctic waters. *Scientific Reports* 8(1): 974. <https://doi.org/10.1038/s41598-017-19115-x>
- Devine BM, Wheeland LJ, de Moura Neves B, Fisher JA. 2019.** Baited remote underwater video estimates of benthic fish and invertebrate diversity within the eastern Canadian Arctic. *Polar Biology* 42: 1323–1341. <https://doi.org/10.1007/s00300-019-02520-5>
- Donovan M, Forbes R. 2023.** AFA-MI Exploratory Survey 2023 project report. St. John's: Centre for Fisheries Ecosystems Research, Fisheries and Marine Institute, Memorial University.
- Kulka DW, Cotton CF, Anderson B, Derrick D, Herman K, Dulvy NK. 2020.** *Somniosus microcephalus*. *The IUCN Red List of Threatened Species* 2020: e.T60213A124452872. <https://dx.doi.org/10.2305/IUCN.UK.2020-3.RLTS.T60213A124452872.en>
- O'Neil C. 2016.** Oceanography and underwater acoustics in Resolute Bay, Nunavut: 2012-2015. Unpublished Masters Thesis, University of Victoria, Victoria.
- UNEP-WCMC & IUCN. 2024.** Protected Planet: The World Database on Protected Areas (WDPA) and World Database on Other Effective Area-based Conservation Measures (WD-OECM) [Online], February 2024. Cambridge, UK: UNEP-WCMC and IUCN. Available at: [www.protectedplanet.net](http://www.protectedplanet.net) Accessed February 2024.
- Wheeland L, Devine B. 2015.** AFA-MI Exploratory Survey 2015 project report. St. John's: Centre for Fisheries Ecosystems Research, Fisheries and Marine Institute, Memorial University.