Expanding sea cucumber fisheries into Nunavut (Canadian Arctic): A community-based project

Rachel Morrison (1)
Jean-François Hamel (2)
Jiamin Sun (1)
Annie Mercier (1)

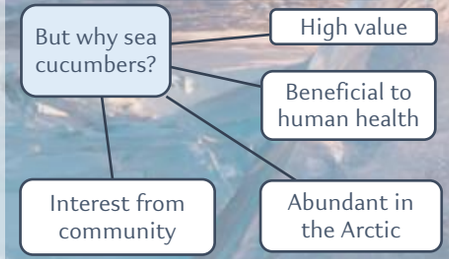
Affiliations:
1. Department of Ocean Sciences, Memorial University
2. Soc. Exploration & Val. Environment - SEVE

MEMORIAL UNIVERSITY

The community of Sanikiluaq (Nunavut), is one of few in Canada that traditionally harvests sea cucumbers for their own consumption.

Cucumaria frondosa is one species that is also currently harvested in the NW Atlantic but are sold to the luxury seafood market.

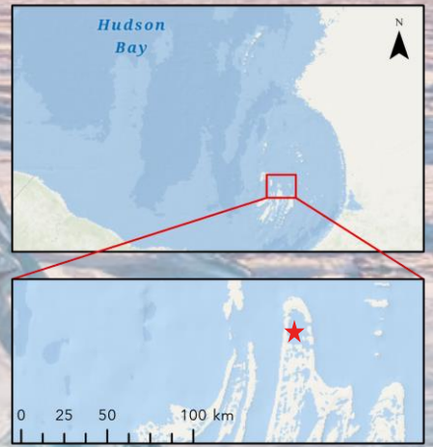
Now, the local Hunters and Trappers Association (HTA) are interested in expanding harvesting efforts into the Arctic to target the commercial market.



Our Collaboration:

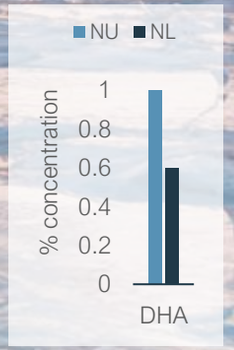
- Learn about the traditional use of sea cucumbers
- Assistance from community to collect samples
- Establish nutritional quality through biochemistry
- Co-produce & share results with HTA
- Build capacity for future commercial development

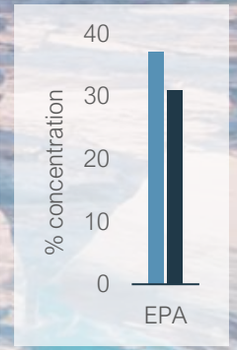
Research project:
We collected and compared individuals of *C. frondosa* from the Arctic (NU-red star) and from the NW Atlantic (NL) to assess how the Arctic environment was uniquely influencing the nutritional characteristics.



Through this comparison we found that Arctic (NU) sea cucumbers had:

- 4 times the amount of vitamin A
- More essential fatty acids such as DHA and EPA
- Lipid compositions dominated by phospholipids
- 75% more astaxanthin in female sea cucumbers specifically





What does this mean:
Arctic sea cucumbers are nutritionally distinctive from conspecifics from the NW Atlantic.
With this knowledge:
Niche markets can be targeted and harvesting practices should aim to collect lower yields of high quality sea cucumbers to ensure sustainability is achieved.

Acknowledgements:
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