NIRB Marine Monitoring and Mitigation Workshop – Mary River Project

ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔩᒃᑯᑦ ᑲᑎᒪᔩᖏᑦᑕ ᑕᕆᐅᒥ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᒃᑐᐃᓗᐊᖅᑕᐅᓕᒪᓂᕐᒧᑦ ᐃᓕᓐᓂᐊᖅᓯᓐᓈᖅᓱᑎᒃ ᑲᑎᒪᓂᖅ – ᓄᓘᔮᖕᓂ ᐱᓕᕆᐊᖅ

Baffinland

May 24th and 25th, 2023

ᒪᐃ 24 ᐊᒻᒪᓗ 25, 2023


#1

MISSION
ᑐᕌᖅᑕᖅ

Our mission is to become the lowest cost producer of high-grade iron ore in the world.

ᑐᕌᖅᑕᕗᑦ ᐊᑭᑭᓛᓂᒃ ᐅᔭᕋᖕᓂᐊᖅᑎᙳᕐᓗᑕ ᓴᕕᖃᔭᒃᓴᑦᑎᐊᕚᓗᖕᓂᒃ ᓄᓇᕐᔪᐊᕐᒥ.

VISION
ᓯᕗᒧᑦ ᑕᐅᑐᒐᖅ

Our vision is to safely and efficiently identify and develop resources within Baffin Island, unlocking their wealth-generating potential for the benefit of all stakeholders.

ᓯᕗᓂᒃᓴᑦᑎᓐᓂ ᑕᐅᑐᒃᑕᕗᑦ ᐊᑦᑕᕐᓇᖏᑦᑎᐊᖅᑐᒥ, ᓇᓗᓇᐃᔭᑦᑎᐊᖅᓯᓗᒋᑦ ᓴᓇᓗᒋᓪᓗ ᑭᓱᖁᑎᕗᑦ ᐹᕙᓐᓛᓐᑯᓐᓂ, ᐊᔪᖅᓴᕈᓐᓃᖅᑎᓪᓗᒋᑦ ᐃᓚᐅᖃᑕᐅᔪᓕᒫᑦ ᐃᑲᔫᑎᐅᓂᐊᖅᑐᓄᑦ.

VALUES
ᐅᒃᐱᕆᔭᕗᑦ

Health & Safety Safety is a value.	**ᖃᓄᐃᖏᓐᓂᕐᓄᑦ ᐊᑦᑕᕐᓇᖏᑦᑐᒦᓐᓂᕐᓄᓪᓗ** ᐊᑦᑕᕐᓇᖏᑦᑐᒦᓐᓂᖅ ᐅᒃᐱᕆᔭᕆᓗᒍ
Integrity Do what is right, not what is easy.	**ᓱᓕᖃᑦᑕᕐᓂᖅ** ᐱᓗᒍ ᑕᒻᒪᖏᑦᑐᖅ, ᐊᔪᕐᓇᖏᑦᑑᖏᑦᑐᖅ
Engage and Develop our People	**ᐃᓄᖃᑎᕗᑦ ᐃᓚᐅᑎᑦᑎᐊᕐᓗᒋᑦ ᐱᕚᓪᓕᖃᑎᒋᓗᒋᓪᓗ**
Respect for all	**ᐃᒃᐱᒍᓱᓪᓗᓂ ᑭᒃᑯᓕᒫᓂᒃ**
Environmental Stewardship	**ᐊᕙᑎᓂᒃ ᐸᖅᑭᔨᐅᓗᓂ**
Pursue Performance Excellence	**ᐊᔪᙱᓛᖑᓇᓱᓪᓗᓂ ᐱᓕᕆᓂᒃᑯᑦ**

Inuit Societal Values/ᐃᓄᐃᑦ ᐱᖅᑯᓯᖏᓐᓂᒃ

ᐃᓅᖃᑎᒌᑦᓯᐊᕐᓂᖅ/Inuuqatigiitsiarniq:

ᐃᒃᐱᒍᓱᑦᓯᐊᕐᓂᖅ ᐃᓚᒌᑦᓯᐊᕐᓂᕐᓗ, ᐱᑦᓯᐊᕐᓂᕐᓗ ᐃᓅᖃᑎᑦᑎᓐᓂᒃ. Respecting others, relationships and caring for people.

ᑐᙵᓇᕐᓂᖅ/Tunnganarniq:

ᒪᑐᐃᖓᓂᖅ, ᐃᓚᐅᑎᑦᓯᓂᖅ, ᐃᓕᕋᓇᙱᓐᓂᖅ. Fostering good spirit by being open, welcoming and inclusive.

ᐱᔨᑦᓯᕐᓂᖅ/Pijitsirniq:

ᓄᓇᖅᑲᑎᑦᑎᓐᓂᓪᓗ ᐱᔨᑦᓯᕈᑎᖃᕐᓗᓂ. Serving and providing for family and/or community.

ᐋᔩᖃᑎᒌᓐᓂᖅ/Aajiiqatigiinniq:

ᐃᓱᒪᓕᐅᖃᑎᒌᓪᓗᓂ, ᐅᖃᖃᑎᒌᓐᓂᒃᑯᑦ ᐊᒻᒪᓗ ᐊᖏᖃᑎᒌᓐᓂᒃᑯᑦ. Decision making through discussion and consensus.

ᐱᓕᒻᒪᒃᓴᕐᓂᖅ/ᐱᔭᕆᐅᖅᓴᕐᓂᖅ /Pilimmaksarniq/Pijariuqsarniq:

ᐊᔪᕈᓐᓃᖅᓴᓂᖅ ᓱᓇᓕᕆᓗᓂ ᑕᑯᓐᓇᓂᒃᑯᑦ, ᑲᔪᖏᖅᓴᐃᓂᒃᑯᑦ, ᐱᓇᓱᓐᓂᒃᑯᑦ, ᐆᑦᑐᕋᕐᓂᒃᑯᑦ. Development of skills through observation, mentoring, practice, and effort.

ᐱᓕᕆᖃᑎᒌᓐᓂᖅ/ᐃᑲᔪᖅᑎᒌᓐᓂᖅ/Piliriqatigiinniq/Ikajuqtigiinniq:

ᐃᓄᑑᔾᔨᖏᓪᓗᓂ ᐱᓕᕆᔭᕆᐊᓕᓐᓂᒃ ᐃᖅᑲᓇᐃᔭᖃᑎᖃᕐᓗᓂ. Working together for a common cause.

ᖃᓄᖅᑑᕐᓂᖅ/Qanuqtuurniq:

ᐃᓱᒪᑦᓴᖅᓯᐅᕐᓂᖅ ᓴᓇᑐᓗᓂ ᐋᖅᑭᒋᐊᓕᒻᒥᒃ ᐋᖅᑭᑦᓯᓇᓱᓪᓗᓂ. Being innovative and resourceful.

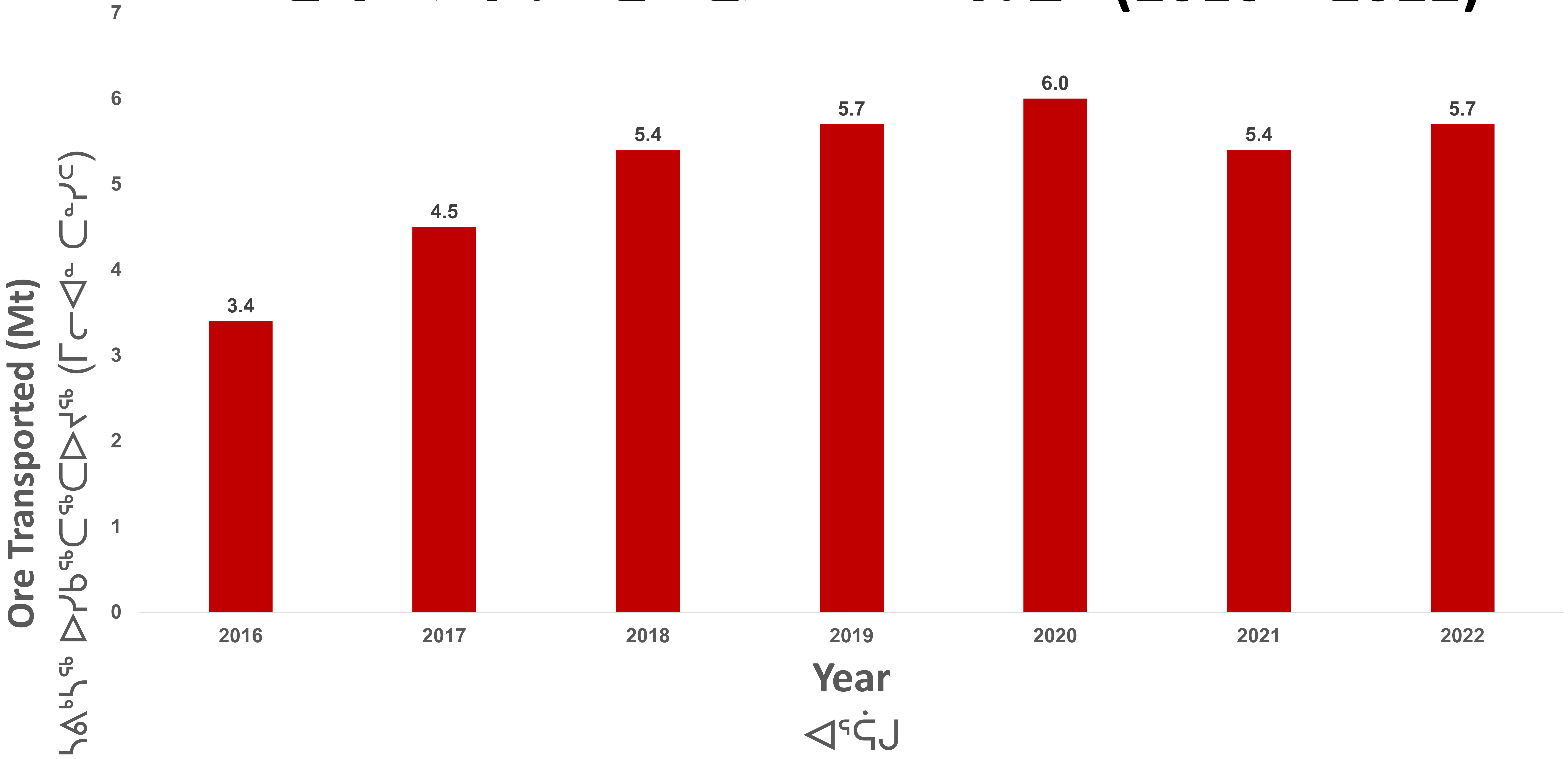
ᐊᕙᑎᑦᑎᓐᓂᒃ ᑲᒪᑦᓯᐊᕐᓂᖅ/Avatittinnik Kamatsiarniq:

ᐃᑉᐱᒍᓱᑦᓯᐊᕐᓂᖅ ᑲᒪᑦᓯᐊᕐᓂᕐᓗ ᓄᓇᒥᒃ, ᓂᕐᔪᑎᓂᒃ, ᐊᕙᑎᑦᑎᓐᓂᓪᓗ. Respect and care for the land, animals and the environment.

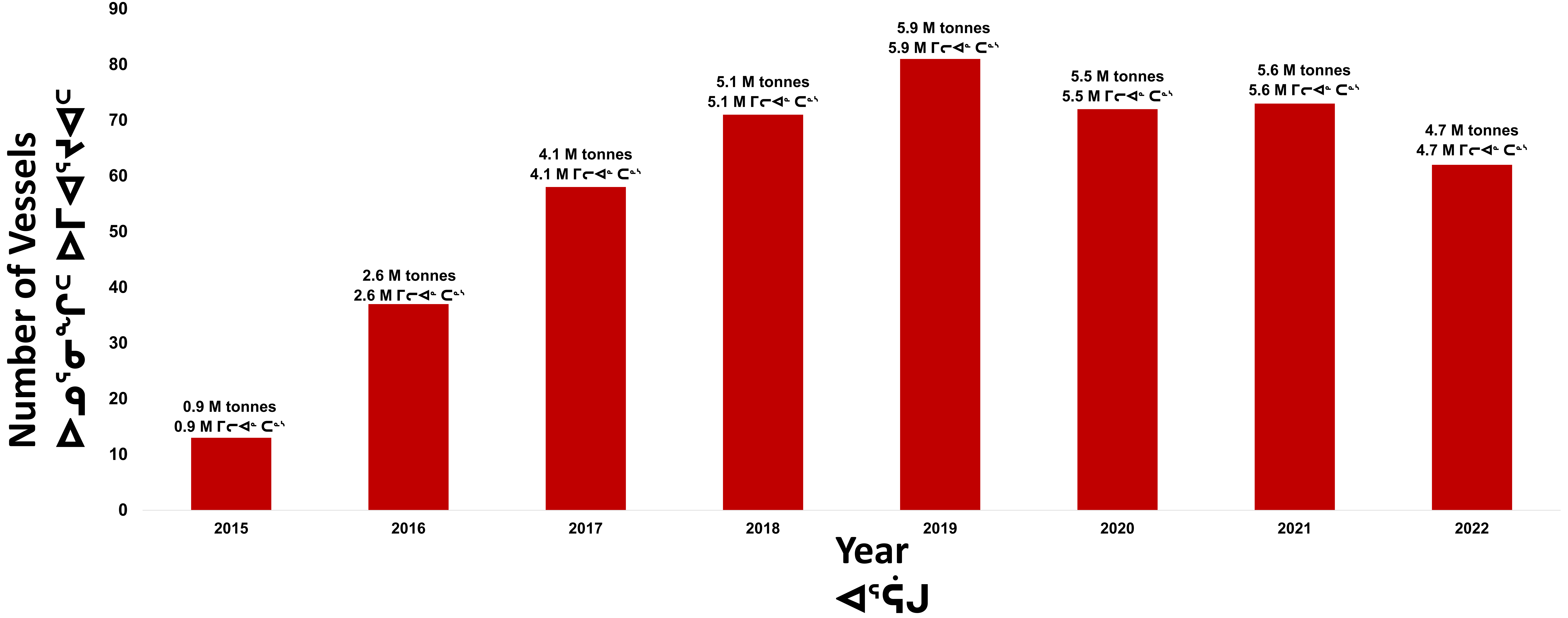
OPERATIONS UPDATE
ᐊᐅᓚᓂᒃᓴᓄᑦ ᑐᓴᒐᒃᓴᑦ

Tonnage Hauled by Year: 2015-2022

ᑕᓐᓯᑦ ᐅᓯᑲᖅᑕᖅᑕᐅᔪᑦ ᐊᕐᕌᒍᒧᑦ (2016 – 2022)



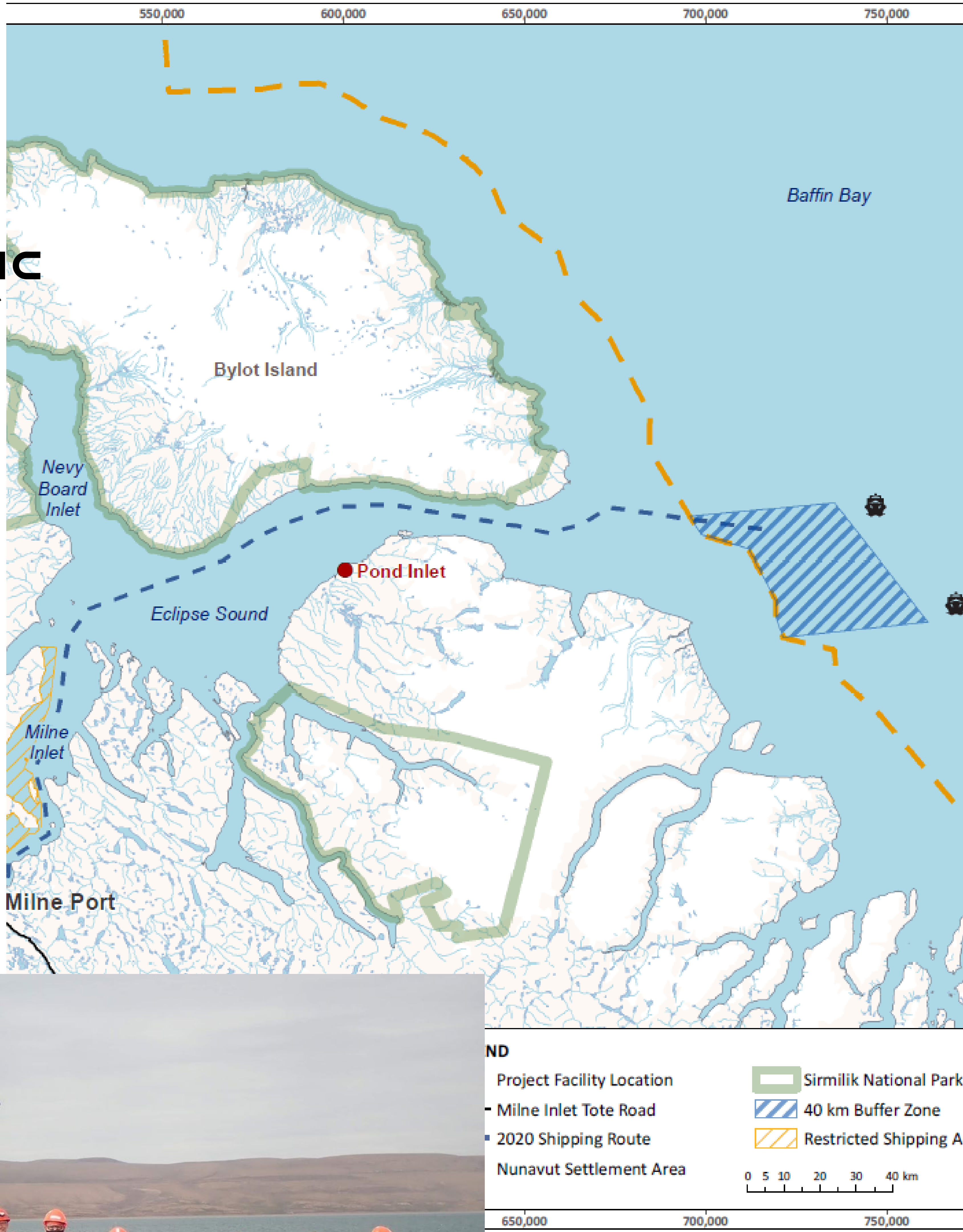
Number of Ore Carriers and Tonnage by Year: 2015-2022
ᖃᔅᓯᐅᖕᒪᖔᑕ ᓴᕕᒃᓴᓂ ᐅᓯᑲᖅᑕᕐᓂᐊᖅᑐᑦ ᐊᒻᒪᓗ ᖃᓄᑎᒋ ᐅᕐᑯᒪᐃᓐᓂᖃᒪᖔᑕ ᐊᕐᕌᒍᒧᑦ: 2015-2022



Baffinland

2022 Shipping Season Highlights
2022 ᐅᒥᐊᕐᔪᐊᒃᑯᑦ ᐅᓯᑲᖅᑕᕐᓇᐅᓚᐅᖅᑐᖅ ᐱᔾᔪᑕᐅᓗᐊᖅᓯᒪᔪᑦ

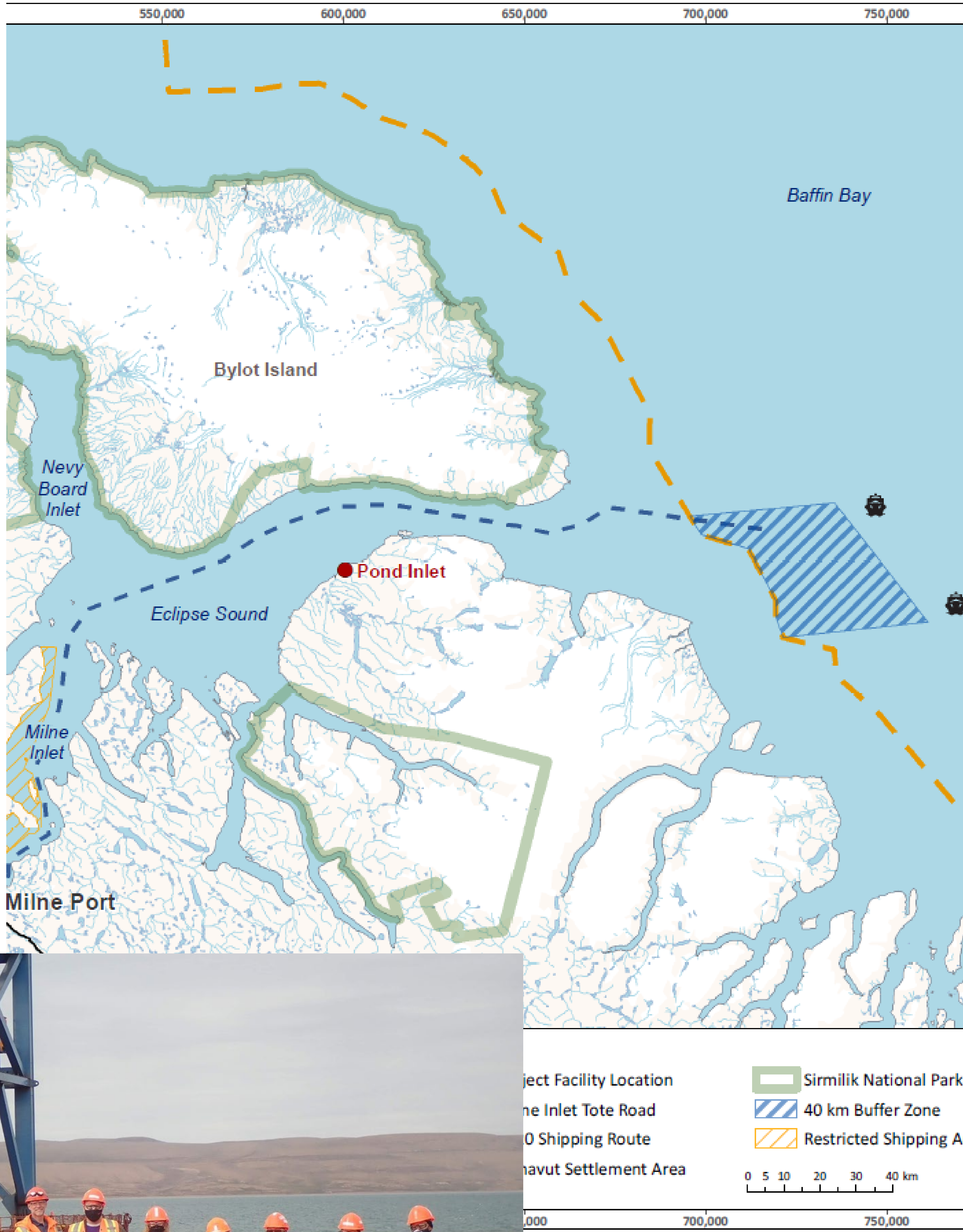
- Day 1 (July 30, 2022): convoy of 2 tugs and 3 ore carriers
- ᑐᓯᕚᓪᓕᖅᐹᖅ ᐅᓪᓗᖅ (ᔪᓚᐃ 30, 2022): ᐅᒥᐊᕐᔪᐊᑦ ᑭᖑᓕᕇᑦᑎᐊᖑᓪᓗᑎᒃ ᐊᑕᐅᑦᑎᒃᑯᖅᑐᑦ ᒪᕐᕉᒃ ᓯᑲᐅᑦ ᐱᖓᓱᓪᓗ ᐅᒥᐊᕐᔪᐊᑦ ᓵᕕᒃᓴᓂᒃ ᐅᓯᔫᒃᓴᑦ
- No icebreaking at start of shipping
- ᓯᑯᓂᒃ ᐊᔭᐅᖅᑐᖃᔾᔮᖏᑦᑐᖅ ᐅᒥᐊᕐᔪᐊᖃᕐᓇᓕᕋᖅᑎᓪᓗᒍ
- Last day (October 13, 2022): convoy of 1 icebreaker, 2 tugs and 3 ore carriers
- ᑭᖑᓪᓕᖅᐹᖅ (ᐅᑐᐱᕆ 13, 2022): ᐅᒥᐊᕐᔪᐊᑦ ᑭᖑᓕᕇᑦᑎᐊᖑᓪᓗᑎᒃ ᐊᑕᐅᑦᑎᒃᑯᖅᑐᑦ ᐊᑕᐅᓯᖅ ᓯᑯᓯᐅᑦ, ᒪᕐᕉᒃ ᐅᒥᐊᑦ ᐱᖓᓱᓪᓗ ᐅᒥᐊᕐᔪᐊᑦ ᓵᕕᒃᓴᓂᒃ ᐅᓯᑲᖅᑕᖅᑏᑦ



Baffinland

2022 Shipping Season Highlights
2022 ᐅᒥᐊᕐᔪᐊᒃᑯᑦ ᐅᓯᑲᖅᑕᕐᓇᐅᓚᐅᖅᑐᖅ ᐱᔾᔪᑕᐅᓗᐊᖅᓯᒪᔪᑦ

- Iron Ore Carrier Vessels = 62
- ᐅᒥᐊᕐᔪᐊᑦ ᓴᕕᒃᓴᓂᒃ ᐅᓯᑲᖅᑕᖅᑏᑦ = 62
- MSV Botnica = ~10 transits
- MSV ᐋᑦᓂᑲ = ᖁᓕᐅᐸᓗᒃᑐᑦ ᐅᑎᖅᑕᖅᑐᑦ
- Resupply and Fuel Vessels = 8
  - 4 cargo vessels & 4 fuel tankers
- ᑎᑭᓴᖅᑕᐅᓯᒪᔪᓂᒃ ᐅᓯᔪᑦ ᐊᒻᒪᓗ ᐅᖅᓱᐊᓗᖃᐅᑏᑦ = 8
  - ᑎᓴᒪᑦ ᐅᓯᔫᒃᓴᑦ ᐅᒥᐊᕐᔪᐊᑦ ᐱᖁᑎᓂᒃ ᐊᒻᒪᓗ ᑎᓴᒪᑦ ᐅᖅᓱᐊᓗᒃᑕᐅᑏᑦ
- Site visit for Pond Inlet shipping monitors
- ᐅᔭᕋᖕᓂᐊᕐᕕᖕᒧᑦ ᑕᑯᔭᖅᑐᕐᓂᖅ ᒥᑦᑎᒪᑕᓕᖕᒥ ᐅᒥᐊᕐᔪᐊᒥ ᓇᐅᑦᑎᖅᓱᖅᑏᑦ



SUMMARY OF 2022 MARINE MITIGATION MEASURES

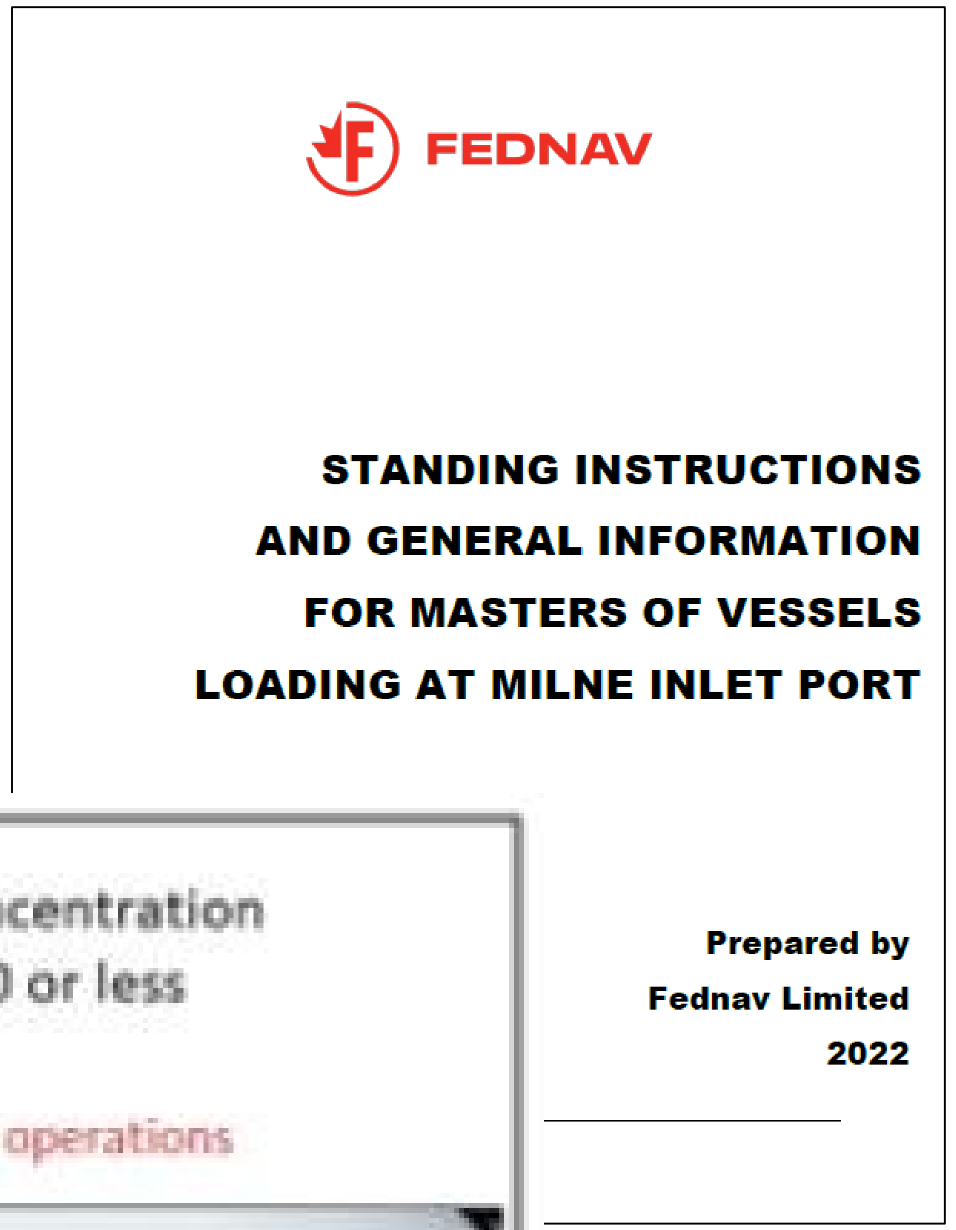
ᓇᐃᓈᖅᓯᒪᔪᑦ 2022 ᐊᒃᑐᐃᓗᐊᖅᑕᐃᓕᒪᔾᔪᑏᑦ

2022 Vessel Management Protocols/Mitigation Measures
2022 ᐅᒥᐊᕐᔪᐊᓂᒃ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᔪᑦ/ᐊᖏᕈᐊᖏᑎᐊᖅᑎᑦᑎᓂᕐᒨᖓᔪᑦ

1. Established start of shipping season procedures including:

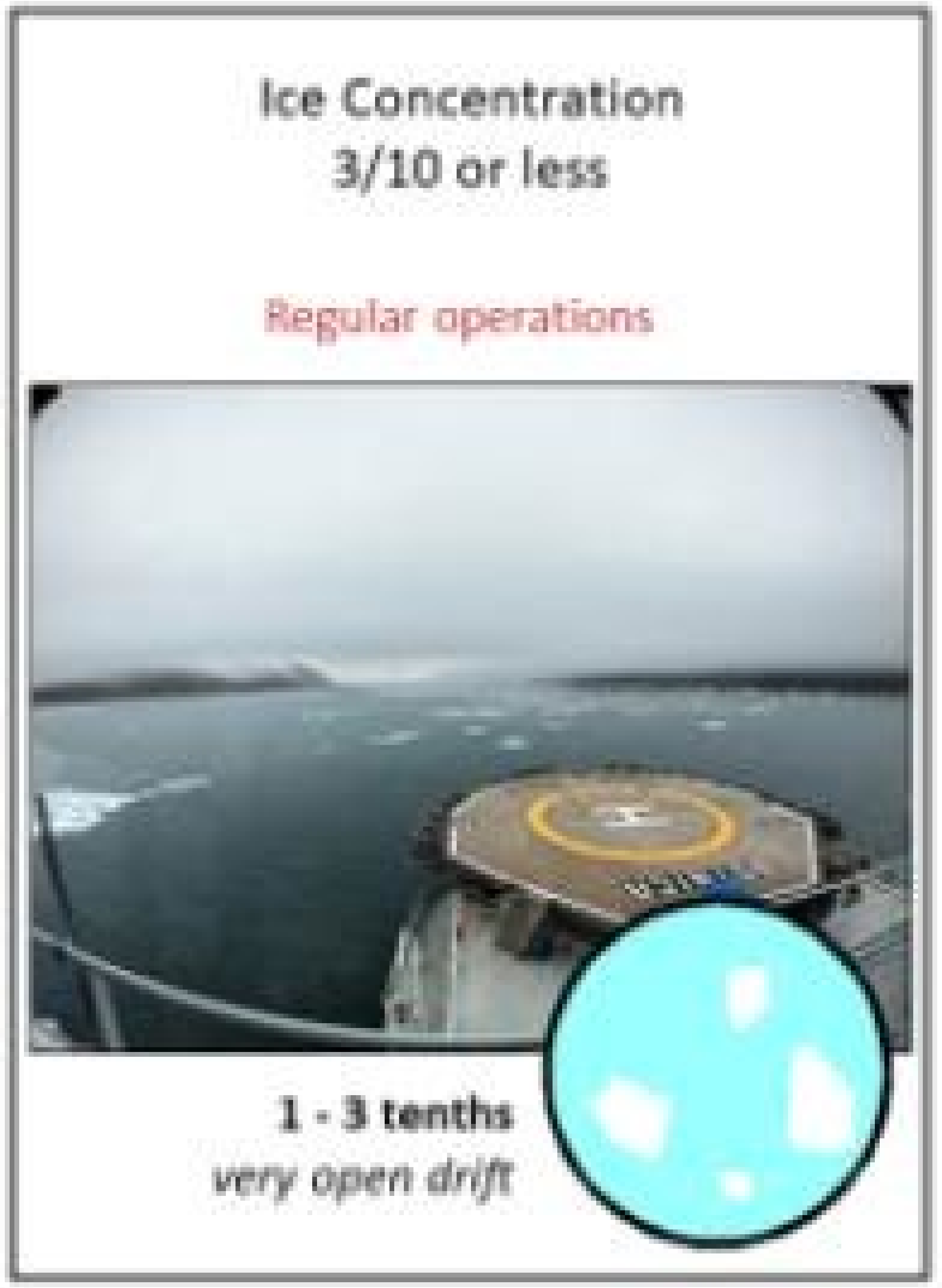
   ᐋᖅᑭᒃᓯᔪᓂᑦ ᐅᒥᐊᕐᔪᐊᓂᒃ ᑎᑭᑎᑦᑎᖃᑦᑕᕐᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᔫᓐᓂᑦ ᐃᓚᐅᔪᑦ:

- Confirm with Mittimatalik Hunters and Trappers Organization (MHTO) or Hamlet that floe edge has been closed*
- ᓇᓗᓇᐃᕐᓗᒍ ᒥᑦᑎᒪᑕᓕᖕᒥ) ᐊᖑᓇᓱᒃᑐᓕᕆᔨᒃᑯᑦ ᒥᑭᒋᐊᕐᓂᐊᖅᑏᓪᓗ ᑲᑐᔾᔨᖃᑎᒌᖏᓐᓂᑦ Hᐊᒪᓚᒃᑯᓐᓂᓪᓘᓐᓃᑦ ᓯᓈᖓ ᒪᑐᔭᐅᓯᒪᓕᖅᑐᖅ*
- No breaking of landfast ice
- ᓯᑯᓂᒃ ᐊᐅᓚᔪᓂᒃ ᓯᕐᑯᑎᕐᓂᖃᙱᓪᒪᑦ
- Transit restrictions in heavier ice concentrations: limiting the number of vessels traveling to and from Milne Port based on ice conditions;
- ᑭᒡᓕᖃᖅᑎᑦᑎᓗᓂ ᖃᔅᓯᐅᓂᖏᑦ ᐅᒥᐊᕐᔪᐊᑦ ᐃᒃᓵᕐᕕᖕᒨᙵᐅᔪᑦ ᐊᒻᒪᓗ ᐃᒃᓵᕐᕕᖕᒥᙶᖅᑐᑦ ᐊᑐᖅᓱᒋᑦ ᓯᑯᐃᑦ ᖃᓄᐃᓐᓂᖏᑦ;
- **Specific to 2022: No icebreaking and delay entry of ore carriers until there is a continuous path between the entrance of Eclipse Sound and Milne Port of less than 3/10ths ice concentrations**
- **ᑖᔅᓱᒧᙵᓛᓇᒃ 2021/2022-ᒧᑦ: ᓯᑯᓂᒃ ᐊᔭᐅᖅᑐᐃᓂᖅᑕᖃᓚᐅᙱᑦᑐᖅ ᐊᒻᒪᓗ ᑭᖑᕙᕆᐊᖅᓯᒪᓪᓗᑎᒃ ᐃᓯᖅᐸᓪᓕᐊᔪᑦ ᓴᕕᒃᓴᓂᒃ ᐅᓯᔫᒃᓴᑦ ᑭᓯᐊᓂ ᐃᖏᕐᕋᐃᓇᕈᓇᖅᓯᒍᑎᑦ ᐊᖅᑯᑖᓂᑦ ᑕᓯᐅᔾᔪᐊᑉ ᐊᒻᒪᓗ ᕿᙶᒍᐊᓂᑦ ᑐᓚᒃᑕᕝᕕᖕᒥᑦ ᑐᖓᓂᐅᓪᓗᑎᒃ 3/10 ᓯᑯᖃᕐᓂᖓ**


FEDNAV

STANDING INSTRUCTIONS
AND GENERAL INFORMATION
FOR MASTERS OF VESSELS
LOADING AT MILNE INLET PORT

Prepared by
Fednav Limited
2022



2022 Vessel Management Protocols/Mitigation Measures
2022 ᐅᒥᐊᕐᔪᐊᓂᒃ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᔪᑦ/ᐊᖏᓗᐊᖏᑦᑎᐊᖅᑎᑦᑎᓂᕐᒨᖔᔪᑦ

2. Established communications protocol and designated contact information to respond to community concerns, including hiring of Pond Inlet-based shipping monitors

   ᐋᖅᑭᒃᓯᒪᔪᑦ ᑐᓴᐅᒪᖃᑦᑕᐅᑎᓕᕆᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᔫᓴᐃᑦ ᐊᒻᒪᓗ ᖃᐅᔨᒋᐊᕐᕕᐅᓂᕐᒧᑦ ᑐᑭᓯᐅᒪᔾᔪᑏᑦ ᑭᐅᓂᐊᕐᓗᒋᑦ ᓄᓇᓕᖕᒥᐅᑕᐃᑦ ᐃᓱᒫᓘᑎᖏᑦ, ᐃᓚᐅᑉᓗᑎᒃ ᐃᖅᑲᓇᐃᔭᖅᑎᑖᕐᓂᖅ ᒥᑦᑎᒪᑕᓕᖕᒥᑦ ᐅᒥᐊᕐᔪᐊᓂᒃ ᖃᐅᔨᓴᐃᔨᓂᒃ

3. Automatic Identification System monitoring station at Baffinland Shipping Monitor office

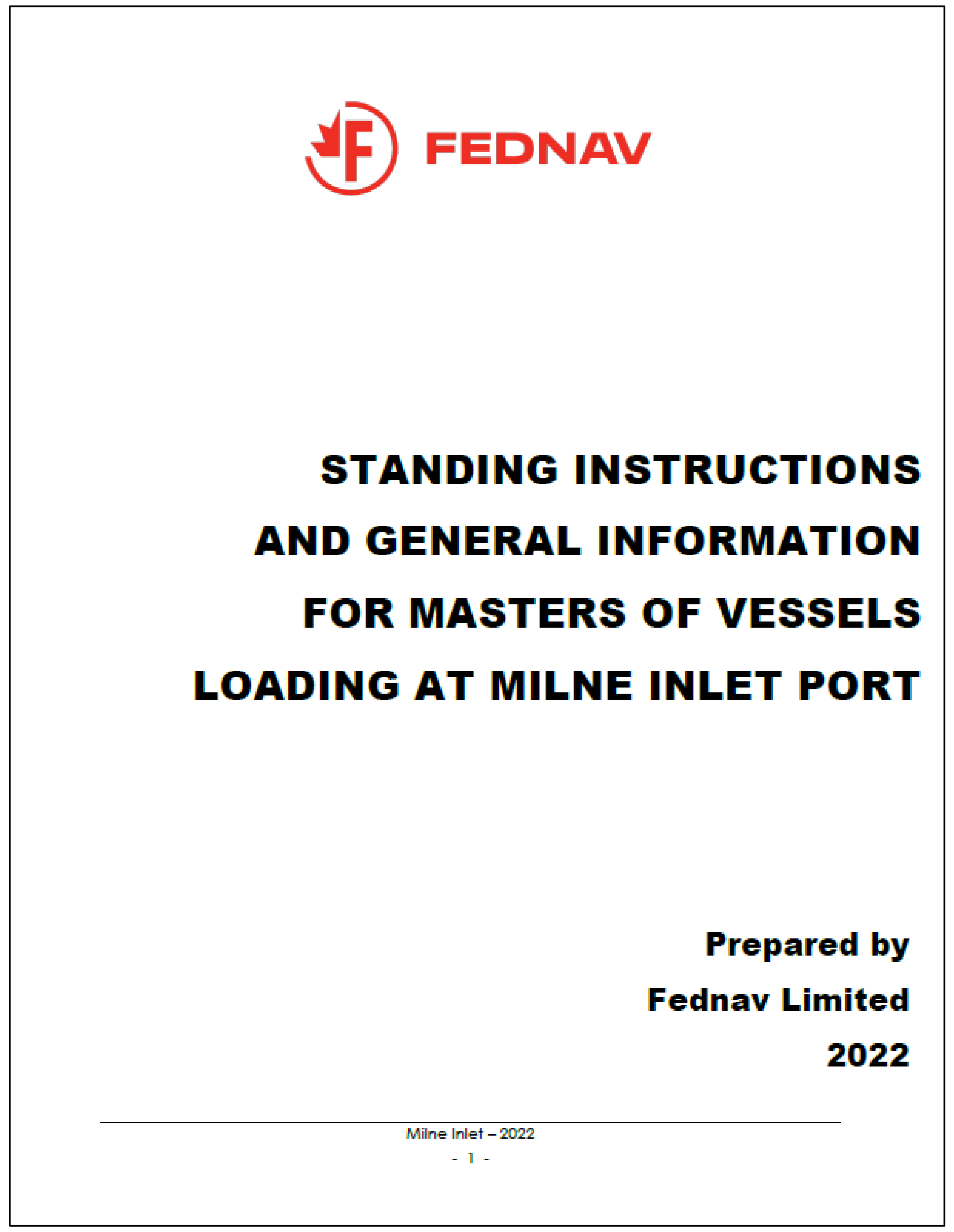
   ᑦ ᐃᓕᑕᖅᓯᑲᐅᑎᒋᓂᕐᒧᑦ ᐋᖅᑭᐅᒪᔪᒥᒃ ᖃᐅᔨᓴᐃᕝᕕᖕᒥᑦ ᐹᕝᕆᓛᓐᑯᑦ ᐅᒥᐊᕐᔪᐊᓂᒃ ᖃᐅᔨᓴᐃᓂᕐᒧᑦ ᑎᑎᕋᕐᕕᖓᓂᑦ

4. Ore carriers to wait in Baffin Bay at least 40 km east of Nunavut Settlement Area

   ᐅᔭᕋᒃᑕᖅᑕᐅᔪᓂᒃ ᐅᓯᒃᑳᖅᑐᑦ ᐅᑕᖅᑭᔭᕆᐊᖃᕐᓗᑎᒃ ᕿᑭᖅᑖᓗᐸ ᐃᒪᖓᓂᑦ 40 ᑮᓗᒥᑕᓪᓗᐊᓂᒃ ᐅᖓᓯᒃᑎᒋᔪᒥᑦ ᓄᓇᕗᑦ ᑭᒡᓕᖓᓂᑦ

5. Reduced ship speeds (9 knots) along the Shipping Corridor

   ᒥᒃᓴᒋᐊᖅᓯᒪᔪᑦ ᐅᒥᐊᕐᔪᐊᑦ ᓇᑭᖅᓴᕐᓂᖏᑦ (9 knots ᑭᒡᓕᐅᔪᖅ) ᐅᒥᐊᕐᔪᐊᓄᑦ ᐊᐸᕐᑯᑕᐅᔪᒥᑦ


FEDNAV

STANDING INSTRUCTIONS
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2022

Milne Inlet – 2022
- 1 -

2022 Vessel Management Protocols/Mitigation Measures
2022 ᐅᒥᐊᕐᔪᐊᓂᒃ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᔪᑦ/ᐊᖏᓗᐊᖕᒋᒋᐊᖅᑎᑦᑎᓂᕐᒨᖓᔪᑦ

6. Ensure vessels follow the shipping route: established no-go zones including Koluktoo Bay and the western shoreline near Bruce Head to minimize effects on marine mammals and interference with hunting activities

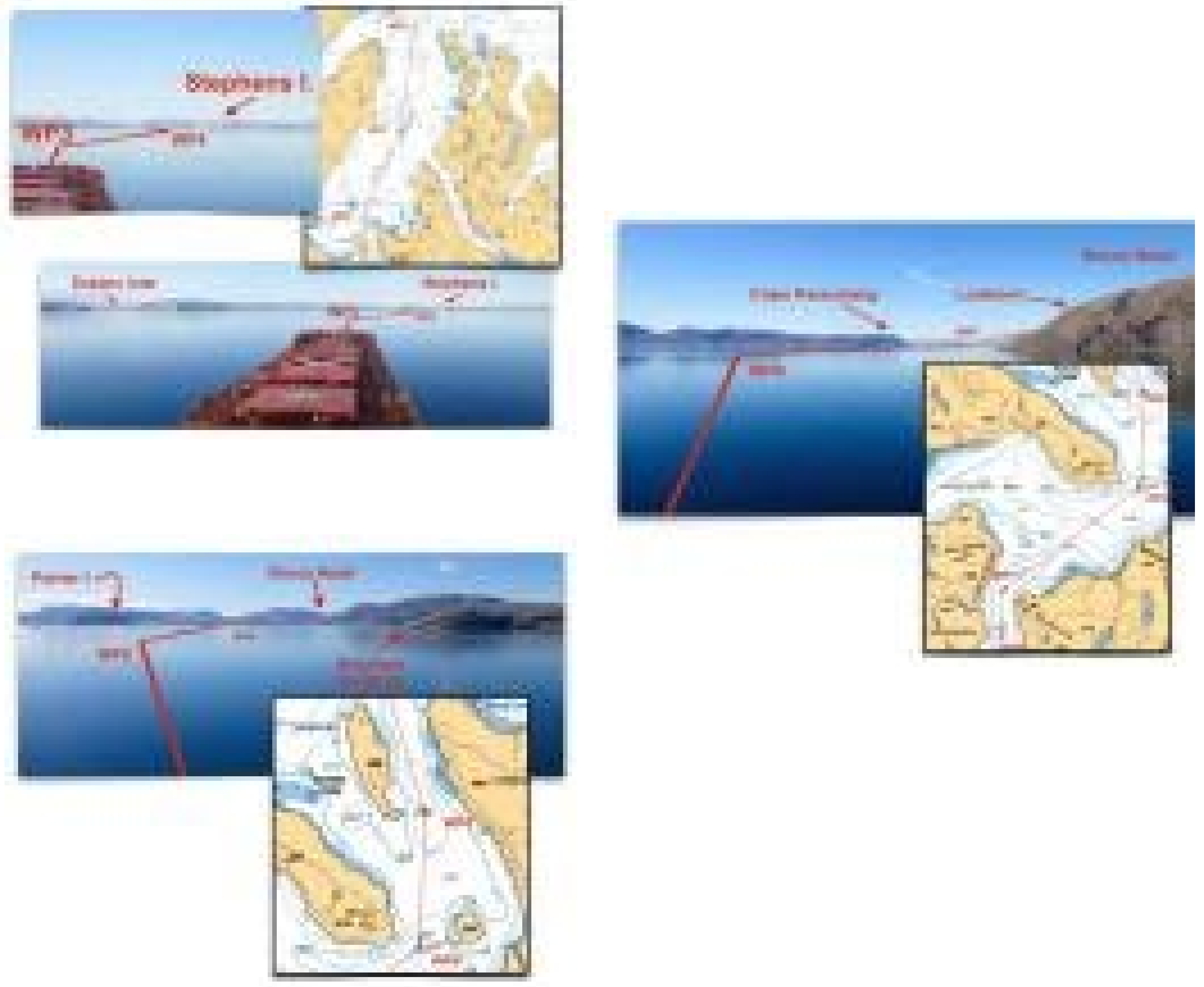
   ᐅᒥᐊᕐᔪᐊᑦ ᒪᓕᕐᑯᔭᐅᔪᑦ ᐅᒥᐊᕐᔪᐊᓄᑦ ᐊᐸᕐᑯᑕᐅᔪᒥᒃ: ᐋᖅᑭᒃᓯᔪᑦ ᐅᕐᓂᒃᑕᐅᑦᑕᐃᓕᔪᓂᒃ ᑭᒡᓕᐅᔪᓂᒃ ᐃᓚᐅᑉᓗᓂ ᖃ ᐊᒻᒪᓗ ᐱᖕᖓᖕᓇᖅᐸᓯᖕᖓᓂᑦ ᓯᒡᔭᖕᖓ ᖃᓂᑕᖕᖓᓂᑦ ᐃᓗᕕᓕᐅᑉ ᒥᑭᓛᒃᑰᖅᑎᓐᓂᐊᕐᓗᒋᑦ ᖃᓄᐃᖕᖓᓕᖅᑎᑦᑎᓂᐅᔪᑦ ᐃᒪᕐᒥᐅᑕᓄᑦ ᓂᕐᔪᑎᓄᑦ ᐊᒻᒪᓗ ᐃᓱᐃᓵᓇᓂᖅ ᒪᖃᐃᑏᑦ ᖃᓄᐃᓕᐅᖅᑎᓪᓗᒋᑦ

7. Enforce maximum 3 vessels anchoring at Ragged Island and no drifting in Eclipse Sound (unless safety considerations are warranted)

   ᑐᓇᐊᖃᖅᑎᑦᑎᑉᓗᑎᒃ ᐊᖏᓛᒃᑯᑦ ᐱᖓᓱᓂᒃ ᐅᒥᐊᕐᔪᐊᑦ ᑭᓴᖅᓯᒪᔪᖕᓇᕐᓂᖏᓐᓄᑦ ᐃᒥᓕᖕᒥᑦ ᐊᒻᒪᓗ ᐳᒃᑖᑐᐃᓐᓇᖅᑐᖃᖅᑕᐃᓕᓗᓂ ᑕᓯᐅᔭᕐᒥᑦ (ᑭᓯᐊᓂ ᐊᑦᑕᕐᓇᖅᑐᖃᖅᑕᐃᓕᓂᕐᒥᒃ ᐱᔾᔪᑎᖃᖅᐸᑕ)

8. Established drifting zone (though only to be used for safety-related needs) near Ragged Island to avoid vessel drifting near Pond Inlet and other parts of the corridor

   ᐋᖅᑭᒃᓯᔪᑦ ᐳᒃᑖᕐᕕᐅᔪᖕᓇᖅᑐᑦ ᑭᒡᓕᐅᔪᒥᑦ (ᐊᑐᖅᑕᐅᔪᖕᓇᖅᓱᓂ ᑭᓯᐊᓂ ᐊᑦᑕᕐᓇᖅᑐᖃᖅᑕᐃᓕᓂᕐᒨᖓᔪᓂᒃ ᐱᔭᕆᐊᖃᖅᑐᓄᑦ) ᖃᓂᑕᖕᖓᓂᑦ ᐃᒥᓕᐅᑉ ᐳᒃᑖᖅᑐᖃᖅᑕᐃᓕᑎᑦᑎᓂᕐᒧᑦ ᖃᓂᑕᖕᖓᓂᑦ ᒥᑦᑎᒪᑕᓕᐅᑉ ᐊᓯᖏᓐᓂᓗ ᐃᓚᒋᔭᐅᔪᑦ ᐊᐸᕐᑯᑎᒋᔭᐅᔫᑉ



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2022 ᐅᒥᐊᕐᔪᐊᓂᒃ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᔪᑦ/ᐊᖏᓗᐊᖏᑦᑎᐊᖅᑎᑦᑎᓂᕐᒨᖓᔪᑦ

9. Ballast water sampling protocol that exceeds Transport Canada regulations

   ᐃᑕᖅᑯᑎᓂᒃ ᐃᒥᕐᓂᒃ ᖃᐅᔨᓴᕈᓰᑦ ᐅᖓᑖᓅᖅᑐᑦ ᐃᖏᕐᕋᔪᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ ᐱᕐᑯᓯᖏᓐᓂᑦ

10. Established no discharge of grey water by ore carriers or MSV Botnica anywhere in Regional Study Area

   ᓴᓇᓪᓗᑎᒃ ᑯᕕᓯᕝᕕᐅᔭᕆᐊᖃᖏᑦᑐᓂᒃ ᐊᑐᖅᓯᒪᔪᓂᒃ ᐃᒥᓂᒃ ᓴᕙᕋᔭᒃᓴᓄᑦ ᐅᓯᑲᖅᑕᖅᑎᓄᑦ MSV ᐹᑦᓂᑲᒥᓪᓘᓐᓃᑦ ᓇᓂᑐᐃᓐᓇᖅ ᐊᕕᒃᓯᒪᔪᕐᒥ ᖃᐅᔨᓴᕐᕕᖏᒥ

11. Completed aerial surveys throughout the shipping season

   ᐱᐊᓂᒃᑕᐅᓯᒪᔪᑦ ᖃᖓᑕᓲᒃᑯᑦ ᖃᐅᔨᓴᕐᓃᑦ ᐅᒥᐊᕐᔪᐊᖃᕐᓇᓗᒃᑖᕐᓂᖓᓂᒃ

12. Enhanced dust mitigation efforts – expanded satellite imagery analysis, snow sampling program, continued dust suppression

13. Use of Convoys

   ᐊᑐᖅᑕᐅᓂᖏᑦ ᐅᒥᐊᕐᔪᐊᑦ ᑲᑎᙱᓪᓗᑎᒃ ᐃᖏᕐᕋᖃᑦᑕᕐᓂᖏᑦ ᐅᓄᕈᓐᓃᕆᐊᕐᑯᓪᓗᒋᑦ ᓴᕕᒃᓴᓂᒃ ᐅᓯᔪᑦ

NIRB RECOMMENDATIONS FROM MOST RECENT 2020 MARINE MITIGATION WORKSHOP

ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᑕ ᐊᑐᓕᖅᑯᔭᖏᑦ ᓄᑖᙳᓖᓂ 2020 ᑕᕆᐅᒥ ᐊᒃᑐᐃᓗᐊᖅᑕᐃᓕᒪᓂᖅᒧᑦ ᐃᓕᓐᓂᐊᖅᓯᓐᓈᖅᑐᑎᒃ ᑲᑎᒪᑎᑦᑐᒋ

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Recommendation - Ballast Water Exchange and Invasive Species
The Board requests that the Proponent provide an update regarding how many vessels contracted by Baffinland in 2020 monitored for high salinity levels and identify all ballast water exchange locations. Further, the Board directs Baffinland to report the status of any new species detected or identified through the Aquatic Invasive Species Monitoring program to the community of Pond Inlet as well as Marine Environmental Working Group members.

ᐊᑐᓕᕐᑯᔭᐅᔪᑦ – ᐃᑦᑕᖅᑯᑕᐅᕙᒃᑐᖅ ᐃᒥᖅ ᐊᓯᔾᔨᖅᑕᐅᓂᖓ ᐊᒻᒪᓗ ᑎᑭᐸᒃᑐ ᐅᒪᔪᕋᓛᕐᓄ
ᑲᑎᒪᔨᑦ ᑐᒃᓯᕋᖅᓯᒪᔪᑦ ᐱᓇᔪᒃᓯᒪᔪᑦ ᑐᓂᓯᓗᑎ ᓄᓚᖓᕆᐊᖅᓯᒪᔪᓂ ᐱᔾᔪᑎᓕ ᖃᓯᓂ ᐅᒥᐊᖅᔪᐊᓂ ᑐᓴᕐᕕᐅᓇᓯᒃᑐᓂ ᐹᓐᓛᓐᑯᓂ 2020ᐅᑎᓪᓗᒍᑦ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪ ᑕᕆᐅᕝᕙᓗᐊᕐᓂᖓ ᐊᒻᒪᓗ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᓪᓗᓂ ᐃᑦᑕᖅᑯᑕᐅᕙᒃᑐᖅ ᐃᒪᖅ ᐊᓯᔾᔨᖅᑕᐅᓂᐊᓂᖓ ᓇᒥᓐᓂᖓ. ᓯᓚᒃᑲᓂᖅ, ᑲᑎᒪᔨᑦ ᑐᑭᒧᐊᖅᑎᑦᑎᔪᑦ ᐹᓐᓛᓐᑯ ᐅᓂᒃᑳᓕᐅᕐᓗᑎ ᓄᑖᒥ ᐆᒪᔪᕋᓛᓯᐊᑐᐊᕈᑎ ᐅᕝᕙᓗᓐᓂ ᓇᓗᓇᐃᖅᓯᒍᑎ ᑎᑭᐸᒃᑐ ᐆᒪᔪᕋᓛᑦ ᖃᐅᔨᓴᖅᑕᐅᑎᓪᓗᒋᑦ ᐱᓕᕆᐊᖅ ᓄᓇᓕᑦ ᒥᑦᑎᒪᑕᓕᖕᒥᐅᑕᕐᓄ ᐊᒻᒪᓗᑦᑕᐅᖅ ᑕᕆᐅ ᐊᕙᑎᖏᓐᓄ ᑲᑎᒪᔨᐊᓛᑦ ᐃᓚᖏᓐᓄᑦ.

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Outcome

Ballast Water

- *Ballast water salinity was measured in all ore carriers that came to port in 2022 (n=62). All ships compliant with federal regulations.*
- *Salinity measurements are documented in the Annual Report to NIRB, PC No. 89*
- *Ballast water exchange locations are reported in ballast water exchange reports submitted to Transport Canada by Fednav*
- *Ballast Water Management Plan developed in 2019 and revised in 2023 (Appendix G.8.1 in 2022 Annual Report to NIRB).*
- *Marine monitoring results shared with MEWG annually and commenting period for MEWG members/observers on marine reports*

- **ᓴᖅᑭᑕᐅᓂᖓ:**

ᐃᒥᖅ ᐃᑦᑕᖅᑯᑕᐅᕗᒃᑐᖅ

- *ᐃᒥᖅ ᐃᑦᑕᖅᑯᑕᐅᕗᒃᑑᑉ ᑕᕆᐅᖑᓂᖓ ᖃᐅᔨᓴᖅᑕᐅᓚᐅᖅᑐᑦ ᑕᒪᐃᓐᓄᑦ ᓴᕕᒃᓴᓂᒃ ᐅᓯᔪᒃᓴᓂ ᑐᓚᒃᑐᑦ 2022-ᒥ (n=62). ᐅᒥᐊᕐᔪᐊᓗᒃᑖᑦ ᒪᓕᓚᐅᖅᑐᑦ ᒐᕙᒪᑐᖃᒃᑯᑦ ᒪᓕᖓᖕᖏᓐᓂᒃ*
- *ᖃᓄᑎᒋ ᑕᕆᐅᖑᓂᖓᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᓐᓄ ᐊᕐᕌᒍᑕᒫ ᐅᓂᒃᑳᖏᓐᓂ, PC ᓈᓴᐅᑖ 89*
- *ᐃᒥᖅ ᐃᑦᑕᖅᑯᑕᐅᕗᒃᑐᖅ ᑯᕕᔭᐅᕝᕕᖓ ᐅᖃᐅᓯᐅᓯᒪᔪᑦ ᐃᒥᖅ ᐃᑦᑕᖅᑯᑕᐅᕗᖅᑐᖅ ᑯᕕᔭᐅᑎᓪᓗᒍ ᐅᓂᒃᑳᖏᓐᓂ ᑐᓂᔭᐅᖃᑦᑕᖅᑐᑦ ᐃᖏᕐᕋᔪᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ ᕗᑦᓈ ᕝᑯᓐᓂ*
- *ᐃᑦᑕᖅᑯᑕᐅᕗᓐᑐᖅ ᐃᒪᖅ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐸᕐᓇᐅᑎ ᐊᖅᑭᒃᑕᐅᓚᐅᖅᑐ 2019 ᖑᑎᓪᓗᒍ ᐊᒻᒪᓗ ᓄᑖᙳᕆᐊᖅᑕᐅᓪᓗᓂ 2023 ᖑᑎᓪᓗᒍᑦ (ᐅᐃᖑᖅ ᓂ.8.1 ᑕᐃᑲᓂ 2022 ᐅᓂᒃᑳᖅ ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ)*
- *ᑕᕆᐅ ᐅᒪᔪᖏᑦ ᖃᐅᔨᓴᕐᓂ ᐱᔭᐅᓯᒪᔪᑦ ᐊᒥᖅᑲᖅᑕᐅᔪᑦ ᑕᕆᐅ ᐊᕙᑎᖏᓐᓄᑦ ᑲᑎᒪᔨᐊᓖᑦ ᐃᓚᒋᔭᐅᔪᑦ/ᖃᐅᔨᓴᖅᑎᑦ ᑕᕆᐅ ᐅᒪᔪᖏᓐᓄ ᐅᓂᒃᑳᑦ*

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Invasive Species

- *Baffinland undertakes extensive field sampling each summer in Milne Inlet to identify the potential presence of non-native or invasive species in the marine environment. To date, no invasive or non-native species have been introduced to the Project area via shipping.*
- *Monitoring results shared with MEWG annually along with commenting period provided for MEWG members/observers*

ᑎᑭᑉᐸᒃᑐᑦ ᐆᒪᔪᖃᓛᑦ

- *ᐹᕝᕚᓐᓂᑦ ᐱᓕᕆᐊᖃᑎᖃᖅᓯᒪᔪᑦ ᓄᓇᓕᕆᓂᕐᔪᐊᒥᒃ ᖃᐅᔨᓴᒐᒃᓴᓕᐅᕐᓂᕐᓂᒃ ᐊᐅᔭᑕᒫᑦ ᕿᓐᖑᐊᓂ ᓇᓗᓇᐃᔭᖅᑕᐅᕐᑯᓪᓗᒋᑦ*
- *ᐱᑕᖃᑐᐃᓐᓇᕆᐊᖃᕐᓂᖏᑦ ᑕᒫᓂᕐᒥᐅᑕᐅᖏᑦᑐᑦ ᐅᕝᕙᓘᓐᓃᑦ ᑎᑭᑉᐸᒃᑐᑦ ᐆᒪᔪᖃᓛᑦ ᓴᖅᑭᓯᒪᔪᑦ ᐱᓕᕆᕝᕕᐅᔪᒥ ᐊᑐᖅᑕᐅᓪᓗᑎᒃ ᐅᒥᐊᕐᔪᐊᖃᖃᑦᑕᕐᓃᑦ*

Recommendation - Population and Health Status of Fish and Marine Mammals

The Board requests that Baffinland prepare a memo within 60 days summarizing the data currently available on marine mammal health through the marine mammal monitoring program.

ᐊᑐᓕᕐᑯᔭᐅᔪᑦ – ᐅᓄᕐᓂᖏ ᐊᒻᒪᓗ ᖃᓄᐃᖏᑦᑎᐊᕐᓂᖏ ᐃᖃᓗᐃᑦ ᐊᒻᒪᓗ ᑕᕆᐅ ᐅᒪᔪᖏᑦ

ᑲᑎᒪᔨᑦ ᑐᒃᓯᕋᖅᑐ ᐹᕝᕙᓛᓐᑯᑦ ᐱᕙᓖᕆᐊᖃᖅᑐ ᑐᓴᖅᑎᑦᑎᓗᑎᑦ 60 ᐅᓪᓗᖅ ᐃᓗᐊᓂ ᓇᐃᓈᖅᓯᒪᔪᓂ ᑎᑎᕋᖅᓯᒪᔪᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᑯᐃᑦ ᐊᑐᐃᓐᓇᐅᓗᑎ ᑕᕆᐅ ᐅᒪᔪᖏᑦ ᖃᓄᐃᖏᑦᑎᐊᕐᓂᖏ ᑕᕆᐅᒥ ᐳᐃᔩᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐸᕐᓇᐅᑏᑦ.

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Outcome

- Golder (now WSP) prepared a report (Reference No. 1663724-255-TM-Rev0-38000) that summarized all data available on fish and marine mammal health as part of the existing marine monitoring programs. Released January 22, 2021.

- The report summarized results available to date on marine sediment quality (i.e., arsenic, cadmium, iron, lead and mercury), benthic invertebrate communities, fish health and fish tissue chemistry, and marine mammal population health (narwhal population abundance, calving rate).

ᓴᖅᑭᑕᐅᓂᖓ

- Golder (ᒪᓐᓇ WSP ᖃᐅᔨᓴᖅᐸᓪᓕᐊᙱᓐᓇᕐᓂᕐᒥ ᖃᐅᔨᔭᐅᔪᑦ) ᓴᖅᑭᑎᓚᐅᖅᑐ ᐱᕙᓪᓕᐊᓯᒪᔪᑦ ᐱᓕᕆᔾᔪᑎᓄᑦ ᑎᑎᖅᑲᖅ (ᓇᓗᓇᐃᒃᑯᑕᐅᑉ ᓈᓴᐅᑖ 1663724-255-TM-Revo0-38000) ᓇᐃᓈᖅᓯᒪᔪᑦ ᑎᑎᕋᖅᓯᒪᔪᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᑯᐃᑦ ᐊᑐᐃᓐᓇᐅᔪ ᑕᕆᐅ ᐅᒪᔪᑦ ᖃᓄᐃᙱᑦᑎᐊᕐᓂᖏ ᐹᕙᓐᓛᓐᑯᑦ ᖃᐅᔨᓴᕐᓂᕆᕙᒃᑕᖏ ᐱᓕᕆᐊᖅ. ᓴᖅᑭᑕᐅᓚᐅᖅᑐ ᔭᓄᐊᕆ 22, 2021.

- ᑐᓴᖅᑎᑦᑎᔾᔪᑎ ᓇᐃᓈᖅᓯᒪᔪᑦ ᑕᕆᐅ ᐃᓱᖅᓯᕙᓕᐊᓂᖓ (ᐱᑕᖃᓗᐊᖅᐸ ᐊᒻᒪᓗ ᓇᒍᖔᐅᕙᓪᓕᐊᓂᖏ, ᓴᕕᕋᔭᒃᓴᖅ, ᒨᑯᕆ), ᐃᖅᑲᒥᐅᑕ ᕿᒥᕐᓗᖃᙱᑦᑐᑦ ᓄᓇᖏᓐᓂ, ᐃᖃᓗᐃᑦ ᖃᓄᐃᙱᑦᑐ ᐊᒻᒪᓗ ᐃᓚᐅᓪᓗᑎ ᐃᖃᓗᙳ ᖃᓗᐊᖅᑐ), ᐊᒻᒪᓗ ᑕᕆᐅ ᐅᒪᔪᑦ ᐅᓄᕐᓂᖏ ᖃᓄᐃᙱᑦᑐ (ᑑᒐᓕᑦ ᖃᓄᖅ ᐅᓄᖅᑎᒋᓂᖏᑦ, ᓄᕐᐱᐅᖅᑐᑦ).

2020 Marine Mitigation Workshop – Recommendations and Outcomes
2020 ᑕᕆᐅ ᐅᒪᔪᖏᓂ ᐊᒃᑐᐃᓗᐊᖅᑕᐃᓕᒪᓂᖅ ᐃᓕᓐᓂᐊᕐᓗᑎ ᑲᑎᒪᓂᖅ –
ᐊᑐᓕᕐᑯᔾᐅᔪᑦ ᐊᒻᒪᓗ ᖃᓄᐃᓕᖓᓕᕐᓂᖏᑦ

Dust

The Board requests that within 30 days Baffinland submit information about the technology to be used to suppress dust on the ore stockpile and include information about the technology to be used to suppress dust on the ore stock pile and include specific notes on the operating conditions for best performance and if seasonality will impact application and performance. Details should also include how data will be collected to determine success of the program (ie. dust study) and if visual comparisons will be tracked along with weather-related events.

Further, Baffinland is required to report the results of this ore stockpile dust trail/experiment as part of its annual reporting requirements.

ᐳᔪᖅ

ᑲᑎᒪᔨᑦ ᑐᒃᓯᕋᖅᑐ ᐅᓪᓗᐃ 30 ᐃᓗᐊᓂ ᐹᕝᕙᓪᓕᓐᑯ ᑐᓂᓯᓗᑎ ᑐᓴᐅᒪᔪᑎᒃᓴᑦ ᐱᓕᕆᔾᔪᑎᑦ ᒥᒃᓵᓄᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᓂ ᐳᔫᓗᐊᕐᔭᐃᒃᑯᑎᑦ ᓴᙱᔭᒃᓴ ᑲᑎᖅᓱᖅᑕᐅᔪ ᐊᒻᒪᓗ ᐃᓚᐅᓗᓂ ᑐᓴᐅᒪᔪᑎᒃᓴᑦ ᐱᓕᕆᔾᔪᑎᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᓂ ᐳᔫᓗᐊᕐᔭᐃᒃᑯᑎᑦ ᑲᑎᖅᓱᖅᑕᐅᓯᒪᔪᒥ ᐊᒻᒪᓗ ᐃᓚᐅᓗᓂ ᑎᑎᕋᖅᓯᒪᔪᓂ ᐊᐅᓚᓂᕆᔭᙱᓂ ᖃᓄᐃᓐᓂᕆᔭᖏ ᐊᒻᒪᓗ ᓯᓚᐅᑉ ᖃᓄᐃᓐᓂᕆᔭᖏᓐᓄ ᐊᒃᑐᐃᓂᕆᓂᐊᖅᑕᖏ ᑐᒃᓯᕋᐅᑎ ᐊᒻᒪᓗ ᐱᓕᕆᓂᕆᔭᖏᑦ. ᐃᓗᓕᖏᑦ ᐅᑯᓂᖓ ᐃᓚᐅᑎᑦᑎᓪᓗᐊᖅᑐ ᖃᓄ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᖃᐅᔨᔭᐅᓂᑯᐃᑦ ᑲᑎᑕᐅᓂᐊᖅᑐ ᐱᓕᕆ ᑦᑎᐊᕈᒪᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ (ᓱᕐᓗ ᐳᔪᕐᒧᑦ ᖃᐅᔨᓴᕐᓂ) ᐊᒻᒪᓗ ᑕᑯᒃᓴᐅᔪᒃᑯ ᒥᒃᓴᐅᓴᕐᓂᐊᖅᓗᑎ ᐃᖏᕋᓂᕆᔭᖓ ᓯᓚ ᒪᓕᒃᓗᒍ.

ᓱᓕᒃᑲᓐᓂ, ᐹᕝᕙᓪᓕᓐᑯᑦ ᐅᓂᒃᑳᓕᐅᕆᐊᖃᖅᑐ ᖃᐅᔨᔭᖏᓐᓂ ᑲᑎᖅᓯᑕᐅᓯᒪᔪᖅ ᐳᔪᕋᐅᑉ ᐃᓪᓕᓂᖏ/ᐅᒃᑐᕋᐅᑎ ᐃᓚᐅᓗᓂ ᐊᕐᕌᒍᑕᒪ ᐅᓂᒃᑳᖏ ᐊᑐᖅᑕᐅᔭᕆᐊᓖᑦ.

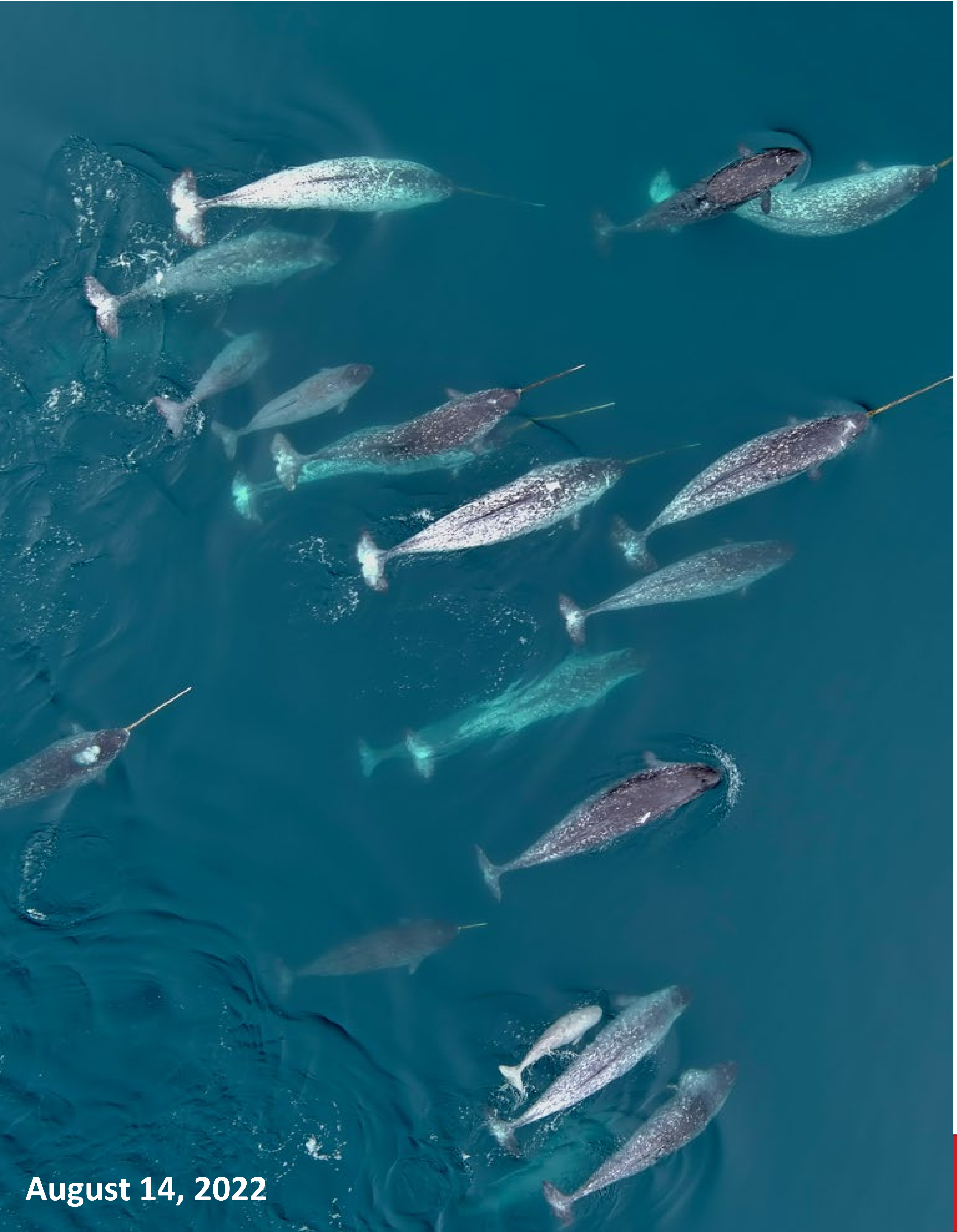
2020 Marine Mitigation Workshop – Recommendations and Outcomes
2020 ᑕᕆᐅ ᐅᒪᔪᙱᓂ ᐊᑦᑐᐃᓗᐊᖅᑕᐃᓕᒪᓂᖅ ᐃᓕᓐᓂᐊᕐᓗᑎ ᑲᑎᒪᓂᖅ – ᐊᑐᓕᖁᔭᐅᔪᑦ ᐊᒻᒪᓗ ᖃᓄᐃᓕᖓᓕᕐᓂᖏᑦ

Outcome

- *Dust mitigation measures are captured in Baffiinland's Annual Report to the NIRB (PC No. 7-12) and in Section 8.2 of the 2022 Terrestrial Environment Annual Monitoring Report (Dustfull Suppression and Mitigation)*
- *Ongoing collaborative efforts with QIA to develop thresholds for high dust dispersion days*
- *Numerous commitments in Appendix B of PC 005 Amendment No. 4*
- *Expanded satellite imagery dustfall analysis*

- **ᓴᖅᑭᑕᐅᓂᖓ**
- *ᐳᔪᕋᕐᒥ ᐊᑦᑐᐃᓗᐊᖅᑕᐃᓕᒪᔾᔪᑏᑦ ᐱᓇᔪᒃᑕᐅᕙᒃᑐ ᐱᔭᐅᕙᒃᐳᑦ ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔩᒃᑯᑦ ᑲᑎᒪᔨᖏᓄ ᐊᕿᒍᑕᒪᑦ ᐅᓂᒃᑳᓂ (PC ᓈᓴᐅᑖ 7-12) ᐊᒻᒪᓗ ᐊᕕᒃᑐᓯᒪᓂᖓ 8.2 2022 ᖑᑎᓪᓗᒍ ᓄᓇ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᐊᕙᑎᓕᕆᓂᖅ ᐊᕚᒍᑕᒪᖅ ᖃᐅᔨᓴᕐᓂᒧ ᐅᓂᒃᑳ (ᐳᔪᕋᓕᐅᖅᑕᐃᓕᒪᔾᔪᑏᑦ ᐊᒻᒪᓗ ᐊᑦᑐᐃᓗᐊᖅᑕᐃᓕᒪᔾᔪᑏᑦ)*
- *ᐅᖃᖃᑎᒌᖕᖏᓐᓇᕐᓗᑎ ᐊᑦᑐᐃᓂᐅᔪᓂᑦ ᕿᑭᖅᑕᓂ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᖏᓐᓂ ᐊᖅᑭᒃᓯᓗᑎ ᑭᓪᓕᓕᐅᕐᓗᑎ ᐳᔫᓗᐊᖅᑕᐃᓕᑎᑦᑎᓂᖅ ᐅᓪᓗᖏᓐᓂ.*
- *ᐊᒥᓲᑦ ᐅᖃᐅᓯᐅᓯᒪᔪᑦ ᐅᐃᒍᖓ B PCᒥ 005 ᐊᖅᑭᒋᐊᖅᑕᐅᔪᖅ ᓈᓴᐅᑖ 4*
- *ᐊᖏᒃᓕᒋᐊᖅᓗᒍ ᖃᖓᑦᑕᖅᑎᑕᐅᓯᒪᔪᑎᒍᑦ ᐊᔾᔨᙳᐊᓂ ᕿᒥᕐᕈᓂᖅ ᐳᔪᕋᖅ ᓯᐊᒻᒪᒃᐸᓪᓕᐊᓂᖓ ᕿᒥᕐᕈᓂᖅ*

2021/2022 NIRB BOARD RECOMMENDATION REPORT
2021/2022 ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᑦᑕ ᐊᑐᓕᖅᑯᔭᖏᓐᓄᑦ ᐅᓂᒃᑳᖅ



August 14, 2022

Narwhal Population Exchange Between Admiralty Inlet and Milne Inlet

ᕿᓚᓗᒐᑦ ᐅᓄᕐᓂᖏᑦ ᓄᖃᑦᑕᖅᑐᑦ ᐊᑯᓐᓂᖓᓐᓂ ᐃᒃᐱᐊᕐᔫᑉ ᐃᒪᖓᓂ ᕿᓐᖑᐊᓂᓪᓗ

2021/2022 NIRB Board Recommendation Report

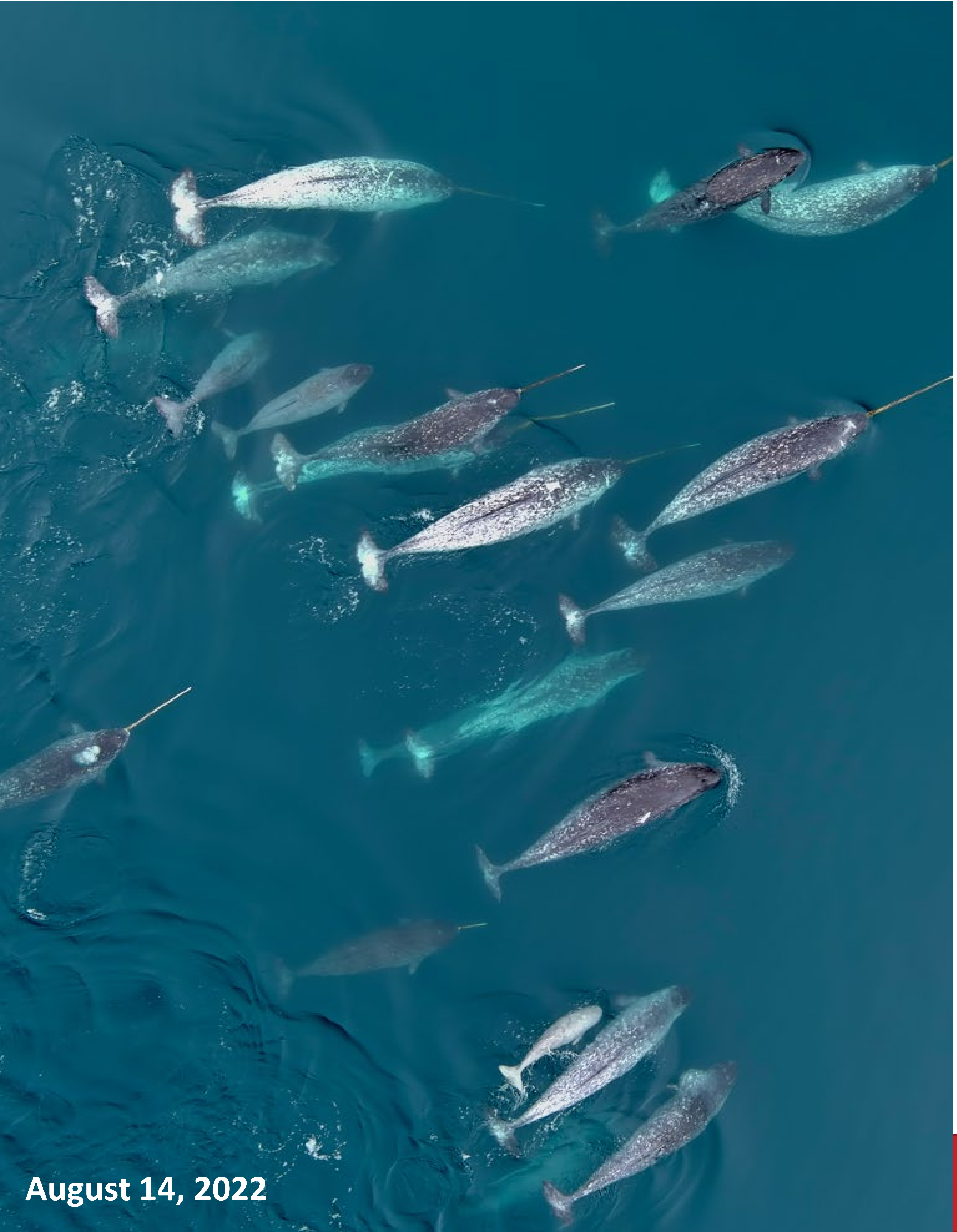
2021/2022 ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᑦᑕ ᐊᑐᓕᕐᑯᔭᖏᓐᓄᑦ ᐅᓂᒃᑳᖅ

Page 47 of 2021/2022 NIRB Board Recommendation Report

The Board requests that Fisheries and Oceans Canada and Baffinland Iron Ore Mines coordinate on collection and analysis of monitoring data as it relates to narwhal population(s) of Admiralty and Milne Inlet. The Board looks forward to an update on the progress of coordination in the 2022 Annual Report.

ᒪᒃᐱᒐᖅ 47 2021/2022−ᒥ ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᑦᑕ

ᐊᑐᓕᕐᑯᔭᖏᓐᓄᑦ ᐅᓂᒃᑳᒥ ᑲᑎᒪᔨᑦ ᑐᒃᓯᕋᖅᑐᑦ ᐃᖃᓗᓕᕆᔨᒃᑯᓐᓂ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᓐᓂᓪᓗ ᑲᓇᑕᒥ ᐊᒻᒪᓗ ᐹᕙᓐᓚᓐᑯᑦ ᓴᓇᔅᓴᓂᒃ ᐅᔭᕋᖕᓂᐊᕐᑏᑦ ᐱᓕᕆ ᖃᑎᒋᕐᑯᓪᓗᒋᑦ ᓄᐊᑕᐅᓂᖏᑦ ᕿᒥᕐᕈᔭᐅᓂᖏᓪᓗ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓇ ᕐᓂᕐᒍᑦ ᖃᐅᔨᓴᕈᑎᕕᓃᑦ ᐊᒃᑐᐊᓂᖏᓐᓄᑦ ᑑᓖᓃᑦ ᐅᓄᕐᓂᖏᓐᓄ(ᑦ) ᐃᒃᐱᐊᕐᔫᑉ ᐃᒪᖓᓐᓄᑦ ᕿᓐᖑᐊᓂᓪᓗ. ᑲᑎᒪᔩᑦ ᑐᓴᖅᑎᑕᐅᔪᒪᕗᑦ ᖃᓄᐃᓕᖓᓕᕐᓂᖏᓐᓂᒃ ᐱᓕᕆ ᖃᑎᒌᖕᓂᖅ 2022−ᒥ ᐊᕐᕌᒍᑕᒫᑦ ᐅᓂᒃᑳᒃᑯᑦ.



Narwhal Population Exchange Between Admiralty Inlet and Milne Inlet
ᕿᓚᓗᒐᑦ ᐅᓄᕐᓂᖕᒋᑦ ᓄᖃᑦᑕᖅᑐᑦ ᐊᑯᓐᓂᖕᒋᓐᓂ ᐃᒃᐱᐊᕐᔫᑉ ᐃᒪᖕᒐᓂ ᕿᙳᐊᓂᓪᓗ

2021/2022 NIRB Board Recommendation Report

2021/2022 ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᑦᑕ ᐊᑐᓕᖁᔭᖏᓐᓄᑦ ᐅᓂᒃᑳᖅ

Outcome

- *DFO conducting narwhal aerial surveys in all summer stock areas in 2023*
- *Baffinland conducting narwhal aerial surveys in Eclipse Sound and Admiralty Inlet in 2023*
- *DFO and Baffinland looking at options for collaborating on these programs*

ᖃᐅᔨᔭᐅᔪᑦ

- *ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᐱᓕᕆᐊᖃᖅᓯᒪᔪᑦ ᑐᒫᓕᖕᓂᒃ ᖃᖓᑕᓲᒃᑯᑦ ᖃᐅᔨᓴᕐᓂᕐᓂᒃ ᐊᐅᔭᒥ ᐅᐸᒃᑕᐅᕙᒃᑐᓕᒫᓂ 2023-ᒥ*
- *ᐹᕙᓐᓚᓐᑯᑦ ᐱᓕᕆᐊᖃᖅᓯᒪᔪᑦ ᖃᖓᑕᓲᒃᑯᑦ ᖃᐅᔨᓴᕐᓂᕐᓂᒃ ᑕᓯᐅᔭᒥ ᐊᒻᒪᓗ ᐃᒃᐱᐊᕐᔫᑉ ᐃᒪᖕᒐᓂ 2023-ᒥ*
- *ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᐊᒻᒪᓗ ᐹᕙᓐᓚᓐᑯᑦ ᕿᒥᕐᕈᔪᑦ ᐊᑐᖅᑕᐅᖕᒋᕈᓐᓇᖅᑐᓂᒃ ᐱᓕᕆᖃᑎᒌᖕᓂᕐᒧᑦ ᑕᒪᒃᑯᓄᖓ ᐱᓕᕆᐊᓄᑦ*

2023 SHIPPING SEASON OVERVIEW

2023 ᐅᒥᐊᖅᓱᐊᖃᕐᓂᐅᑎᓪᓗᒍ ᓇᓗᓇᐃᖅᓯᒪᔪᑦ

2023 Shipping Season Overview
2023 ᐅᒥᐊᖅᔪᐊᖃᕐᓇᐅᑎᓪᓗᒍ ᓇᓗᓇᐃᖅᓯᒪᔪᑦ

- Targeting
  - 6.0 Mtpa pending approval of Sustaining Operations Proposal (+ additional stranded ore)
  - 4.2 Mtpa without approval
- Anticipated start of shipping season – End of July 31 (dependent on ice conditions, New PC No. 185 – ice conditions <3/10th)

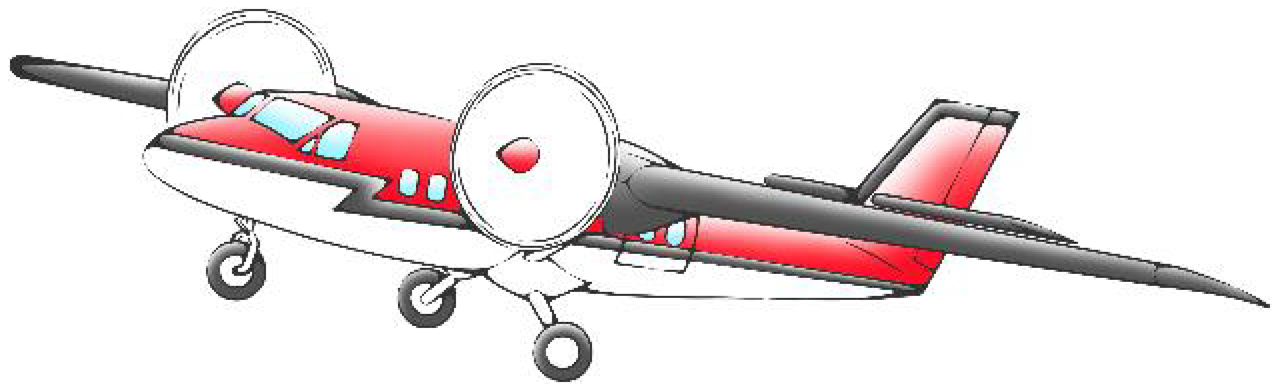
- ᑐᕌᒪᓂᔭᐅᔪᑦ
  - 6.0 ᒥᓕᔭᓐ ᑕᔅ ᐅᑕᖅᑭᔪᑦ ᐊᖏᖅᑕᐅᓂᒃᒥ ᑲᔪᓯᓐᓇᕈᓐᓇᖅᑐᒃᑯ ᐊᐅᓚᓂᖃᕐᓂᕐᒧᑦ ᑐᕐᓯᕋᐅ (+ ᐃᓚᒃᑲᓐᓂᖏᑦ ᓄᖃᖓᑎᑕᐅᔪᑦ ᓴᕕᕆᔭᒃᓴᖅ, ᑕᔅᖏᓐᓂᑦᑐ)
  - 4.2 ᒥᓕᔭᓐ ᑕᔅ ᐊᖏᖅᑕᐅᓯᒪᖏᓪᓗᑎ
- ᓂᕆᐅᒋᔭᐅᔪᑦ ᐱᒋᐊᕐᕕᖓ ᐅᒥᐊᕐᔪᐊᖃᕐᓇᐅᓂᖓ – ᔪᓚᐃ 31 ᓄᖑᐊᓂ(ᓯᑯᑉ ᖃᓄᐃᓐᓂᖓ ᒪᓕᒃᓗᒍ, ᓄᑕᖅ PC ᓇᓴᐅᑖ. 185 - ᓯᑯ ᖃᓄᐃᓕᖓᓂᖓ <3/10th)

2023 Shipping Season Overview
2023 ᐅᒥᐊᖅᐊᐊᖃᕐᓇᐅᑎᓪᓗᒍ ᓇᓗᓇᐃᖅᓯᒪᔪᑦ

- Anticipated end of shipping season – October 31 (dependent on ice conditions, New PC No. 185 – October 31st cessation)
- Hiring of shipping monitors
- Planning of pre-shipping and end of shipping season meeting
- Continued use of 2022 communications protocol and mitigation measures

- ᓂᕆᐅᒋᔭᐅᔪᖅ ᐅᒥᐊᖅᐊᐊᖃᕐᓇᖅ ᐃᓯᓕᓕᕈᓂ – ᐅᑐᐱᕆ 31 (ᓱᑯ ᖃᓄᐃᓐᓂᖓ ᒪᓕᒃᓗᒍ, ᓄᑖᖅ PC ᓇᓴᐅᑖ. 185 - ᐅᑐᐱᕆ 31 ᓄᖅᑲᕐᓂ)
- ᖃᐅᔨᓴᖅᑎᓂ ᐅᒥᐊᕐᐊᐊᒥ ᐃᖅᑲᓇᐃᔭᖅᑎᑖᕐᓗᑎ
- ᐸᕐᓇᐃᓗᑎ ᐅᒥᐊᕐᐊᐊᖃᓂᐅᓂᐊᖅᑐᒥ ᐊᒻᒪᓗ ᐅᒥᐊᖅᐊᐊᖃᕐᓇᕈᓐᓂᖅᐸᓪᓕᐊᓂᖓ ᑲᑎᒪᓂᖅ
- ᐊᑐᐃᓐᓇᕐᓗᒋᑦ 2022 ᐅᖃᖃᑎᒌᒍᑎᒋᔭᐅᓚᐅᖅᑐ ᒪᓕᒋᐊᓖᑦ ᐊᒻᒪᓗ ᐊᒃᑐᐃᓗᐊᖅᑕᐃᓕᒫᔪᑎᑦ

2023 Marine Monitoring Programs Overview
2023 ᑕᕆᐅᒥ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ ᐊᑕᖏᖅᓯᒪᔪᑦ

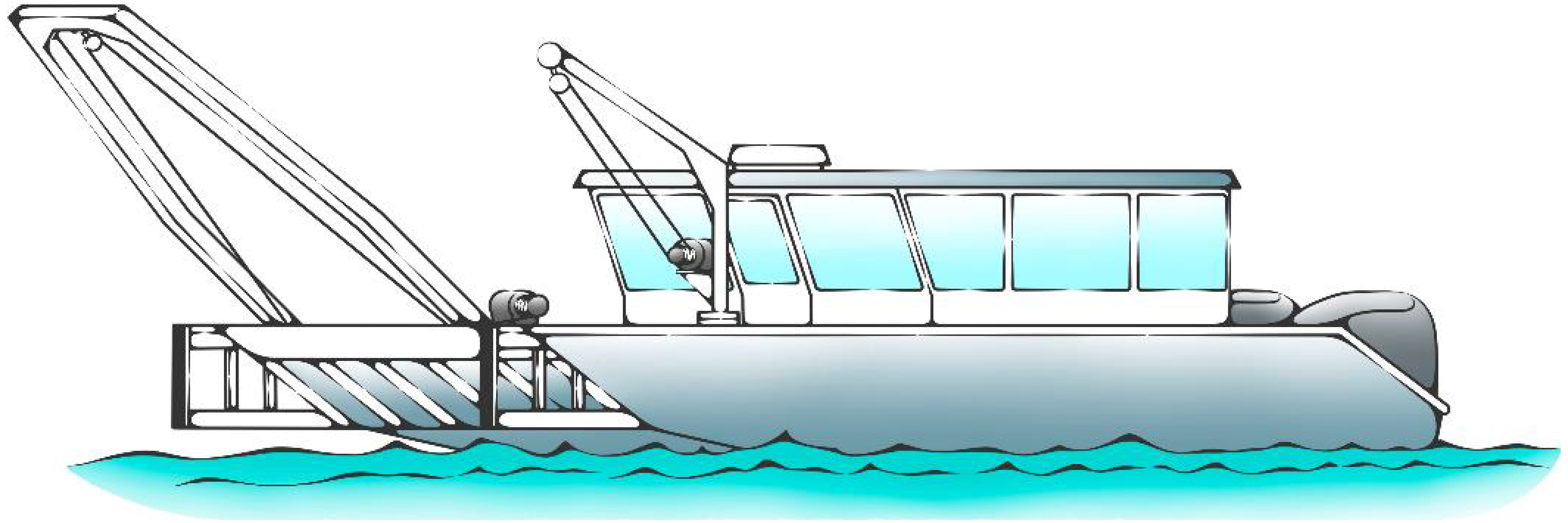


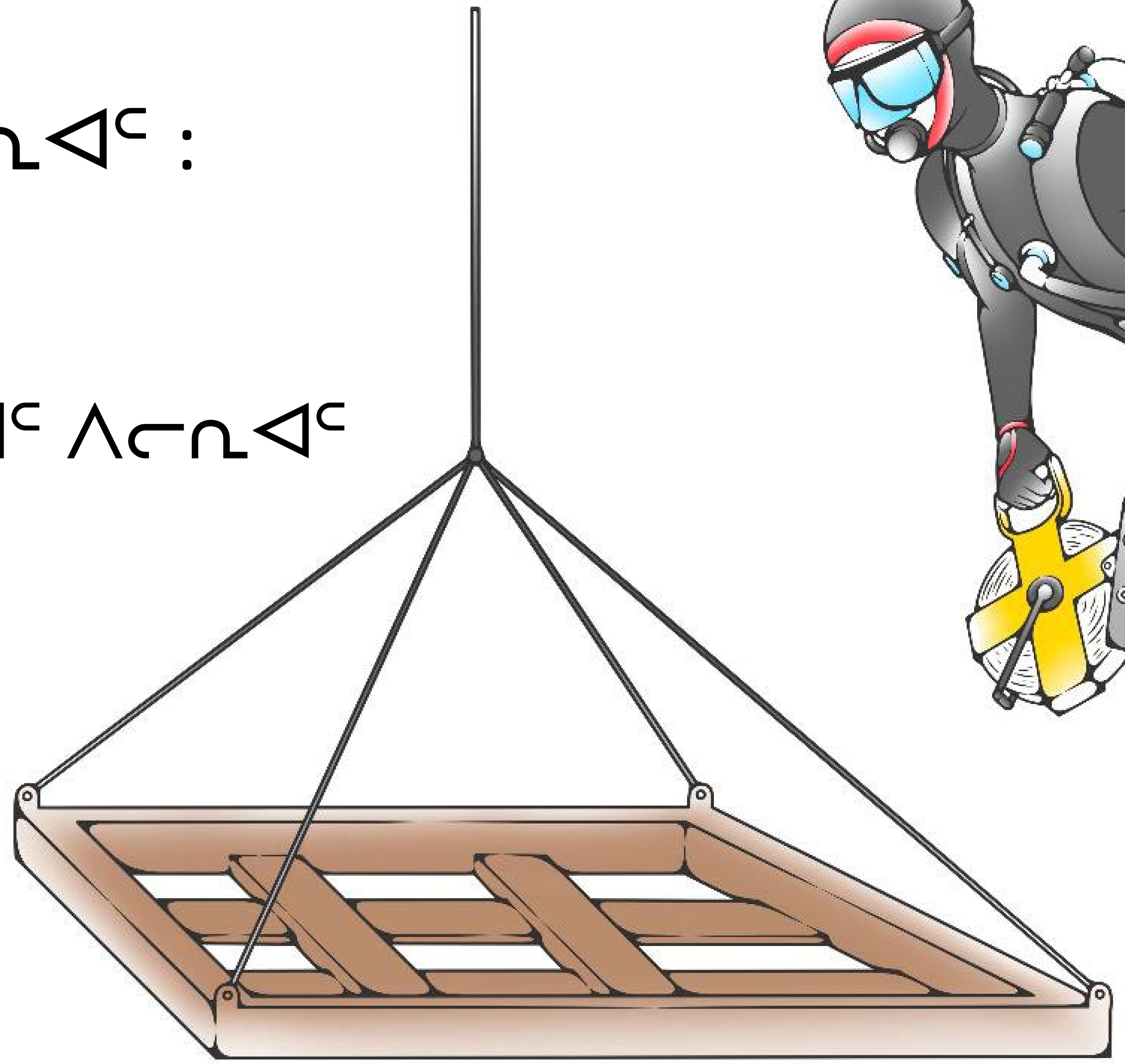
Planned marine monitoring programs:

- Marine Mammal Aerial Survey Program (Eclipse Sound and Admiralty Inlet)
- Bruce Head Shore-based Monitoring Program
- Marine Environmental Effects Monitoring Program (MEEMP) – Milne Port

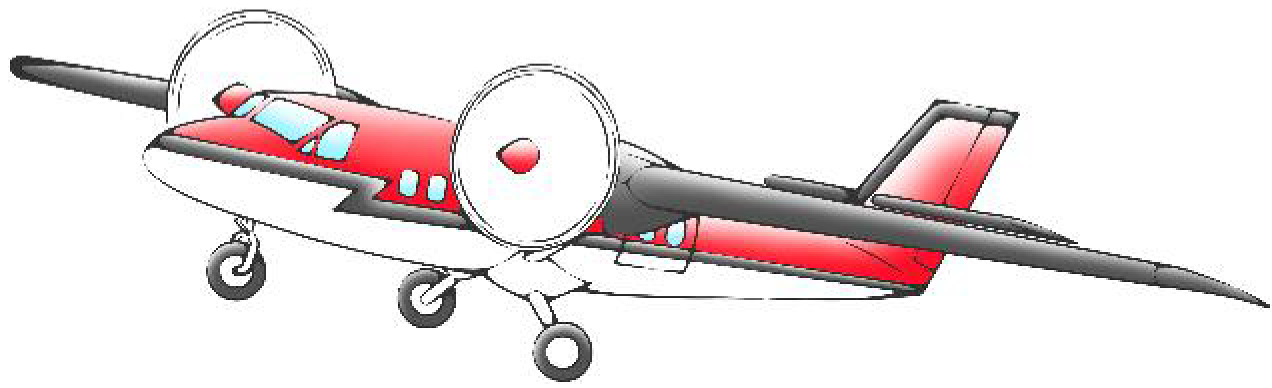
ᐸᕐᓇᒃᑕᐅᓯᒪᔪᑦ ᑕᕆᐅᒥ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓂᕆᐊᑦ :

- ᑕᕆᐅᒥ ᐳᐃᔨᓂᒃ ᖃᖓᑕᔫᒃᑯᑦ ᖃᐅᔨᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ
- ᐃᓗᕕᓕᖕᒥ ᓯᒡᔭᖓᓂ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ
- ᑕᕆᐅᑉ ᐊᕙᑎᖓᓂᒃ ᐊᒃᑐᐃᓂᕐᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ



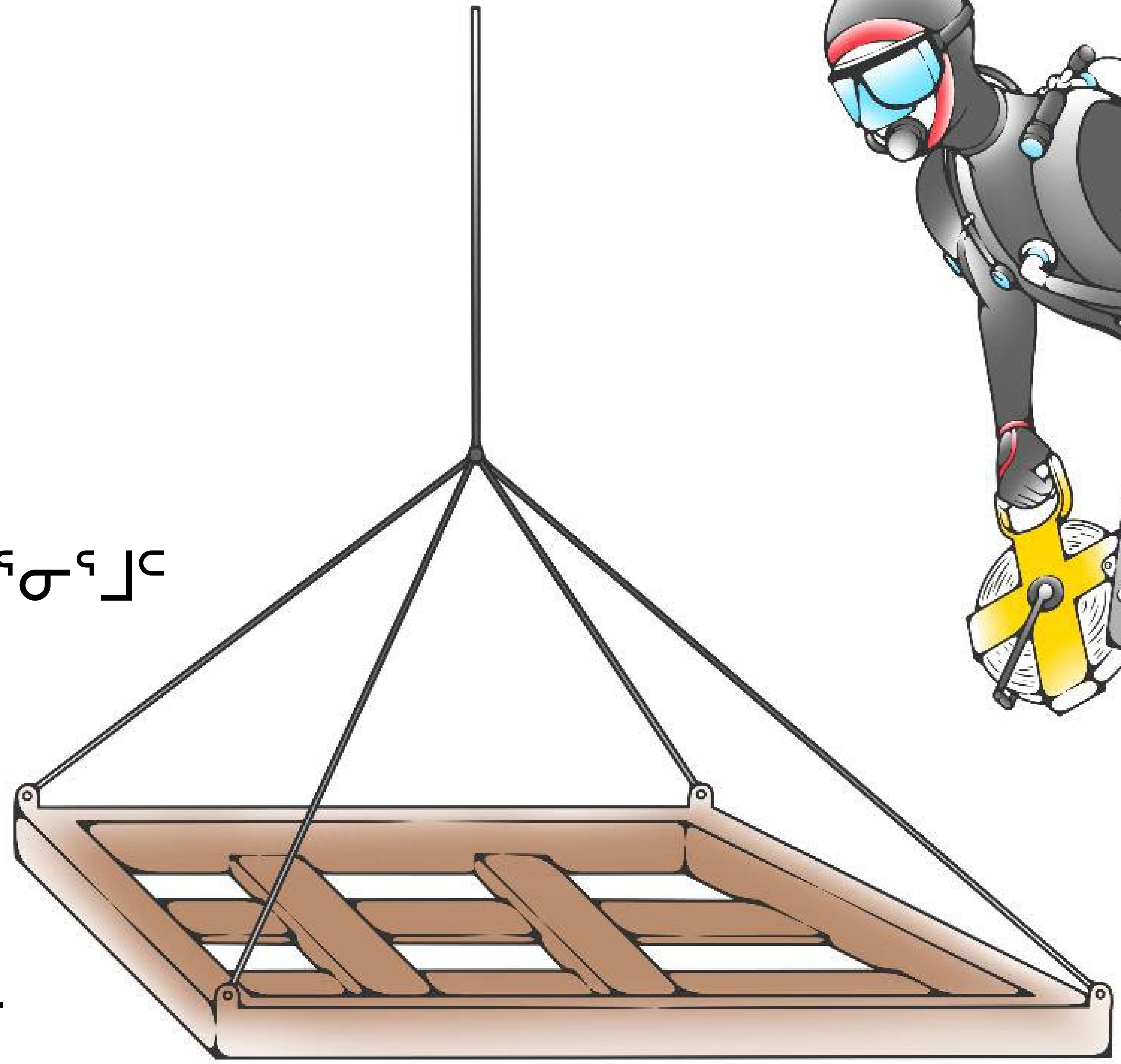


2023 Marine Monitoring Programs Overview
2023 ᑕᕆᐅᒥ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᕐᒋᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ ᐊᑕᕐᒋᖅᓯᒪᔪᑦ



Planned marine monitoring programs:

- Aquatic Invasive Species / Non-Indigenous Species (AIS/NIS) Monitoring Program – Milne Port
- Shipboard Observer (SBO) Program
- Underwater Acoustic Monitoring Program
- Shipping Monitor Program (Mittimatalik)
- Ballast Water Monitoring Program at Milne Port (DFO Collaboration)



- ᐸᕐᓇᒃᑕᐅᓯᒪᔪᑦ ᑕᕆᐅᒥ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᕐᒋᓐᓇᕐᓂᕐᒧᑦ ᐱᓂᕆᐊᑦ :
- ᑎᑭᑉᐸᒃᑐᑦ ᐆᒪᔪᕋᖠᑦ / ᑕᓖᓂᕐᒥᐅᑕᐅᙱᑦᑐᑦ ᐆᒪᔪᓂᒃ ᖃᐅᔨᓴᖅᐸᔾᓕᐊᕐᒋᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ - ᕿᙳᐊᓂ ᑐᓚᒃᑕᕐᕕᒃ
- ᐅᒥᐊᕐᔪᐊᒦᓪᓗᑎᒃ ᓇᐅᑦᑎᖅᑯᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ
- ᓂᐱᖃᐃᓐᓇᖅᑐᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᕐᒋᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ,
- ᐅᒥᐊᕐᔪᐊᕐᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᕐᒋᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ (ᒥᑦᑎᒪᑕᓕᒃ)
- ᐃᒥᕐᒥᒃ ᐃᒃᑕᖅᑯᑕᐅᕝᒃᑐᒥᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᕐᒋᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ ᕿᙳᐊᓂ (ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᓐᓂᒃ ᐱᓕᕆᖃᑎᖃᕐᓗᑎᒃ)


#2


Updates and Statuses of Baffinland's Marine Monitoring Programs
ᑐᓴᕋᒃᓴᑦ ᐊᒻᒪᓗ ᖃᓄᐃᓕᖓᓃᑦ ᐹᕗᓐᓛᓐᑯᑦ
ᑕᕆᐅᒥ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ
ᐱᓕᕆᐊᑦ

Project Effects Monitoring and Adaptive Management Process

ᐊᒃᑐᐃᓂᕐᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᓕᖏᓐᓇᕐᓃᑦ ᐊᒻᒪᓗ ᐋᖅᑭᒡᕕᖃᐃᓐᓇᖅᑐᒥᒃ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᑲᔪᓯᓃᑦ

Predicted Project Effect
ᐊᒃᑐᐃᓂᐅᑐᐃᓐᓇᕆᐊᓖᑦ

Development and Implementation of Mitigation Measures
ᐊᒃᑐᐃᔪᐊᖅᑕᐃᓕᔾᔨᑎᓂᒃ ᐱᕙᓪᓕᐊᑎᑦᑎᓂᖅ ᐊᒻᒪᓗ ᐊᑐᓕᖅᑎᑦᑎᓂᖅ

Effects Monitoring
ᖃᐅᔨᓴᖅᐸᓪᓕᐊᓕᖏᓐᓇᕐᓂᖅ

Comparison of Monitoring Results Against Expected Outcome/FEIS Predictions
ᖃᓄᐃᓐᓂᖅᓴᐅᖕᒪᖕᓛᑕ ᕿᒥᕐᕈᓂᖅ
ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒥ ᖃᐅᔨᔭᐅᔪᓂᑦ
ᑖᒃᑯᓇᙵᑦ ᓂᕆᐅᒋᔭᐅᔪᓂᑦ ᑕᐃᒪᐃᓐᓂᐊᕋᓱᒋᔭᐅᔪᓂᒃ
/ ᑭᖑᓪᓕᖅᐹᖅᓯᐅᑏᑦ ᐊᕙᑎᓕᕆᓂᕐᒧᑦ ᐊᒃᑐᐃᓂᕐᓄᑦ
ᐅᓂᒃᑳᑦ ᓇᓚᐅᑦᑖᖅᑕᐅᓯᔪᑦ

Assess the Need for Adaptive Management (e.g., Additional Mitigation)
ᖃᐅᔨᓴᖅᑕᐅᔭᕆᐊᓖᑦ ᐱᑕᖃᕆᐊᖃᕐᓂᖏᓐᓄᑦ
ᐋᖅᑭᒡᕕᖃᐃᓐᓇᖅᑐᒥᒃ ᐊᐅᓚᑦᑎᓂᖅ

Ongoing Stakeholder and Rightsholder Engagement
ᐱᖃᖃᑕᐅᔪᑦ ᐊᒻᒪᓗ ᐱᔪᓐᓇᐅᑎᒥᒃ
ᑎᒍᒥᐊᖅᐆᑦ ᐃᓚᐅᑎᑕᐅᖏᓐᓇᕐᓂᖏᑦ

Inuit Qaujimajatuqangit
ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᑐᖃᖏᑦ

Communication
ᑐᓴᐅᒪᖃᑎᒌᖕᓂᖅ

Review
ᕿᒥᕐᕈᓂᖅ

Marine Mitigation and Management Measures - Communication of Shipping Operations to Communities

ᑕᕆᐅᒥᐊᒃᑐᐃᓗᐊᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦᑎᔾᔪᑏᑦ - ᑐᓵᐅᒪᖃᑎᒌᖕᓃᑦ ᐅᒥᐊᕐᔪᐊᑦ ᐊᐅᓚᓂᖏᑕ ᒥᒃᓵᓄᑦ ᓄᓇᓕᖕᓄᑦ

Potential Effect = Jeopardized safety of community members travelling on the land and water prior to/during shipping season

Mitigation = Shipping and Marine Wildlife Management Plan, Meetings with MHTO and Communities Prior to Shipping

Adaptive Management = Enhanced Mitigation + Improved Communication Procedures = Confirmed floe edge closure, 72-h notice prior to shipping, No breaking of landfast ice, Established protocol and designated contact for community concerns, Baffinland Facebook site, Start and end of shipping season meetings, active ship tracking system and Ship Monitor Program in Mittimatalik, VHF radio updates on schedule

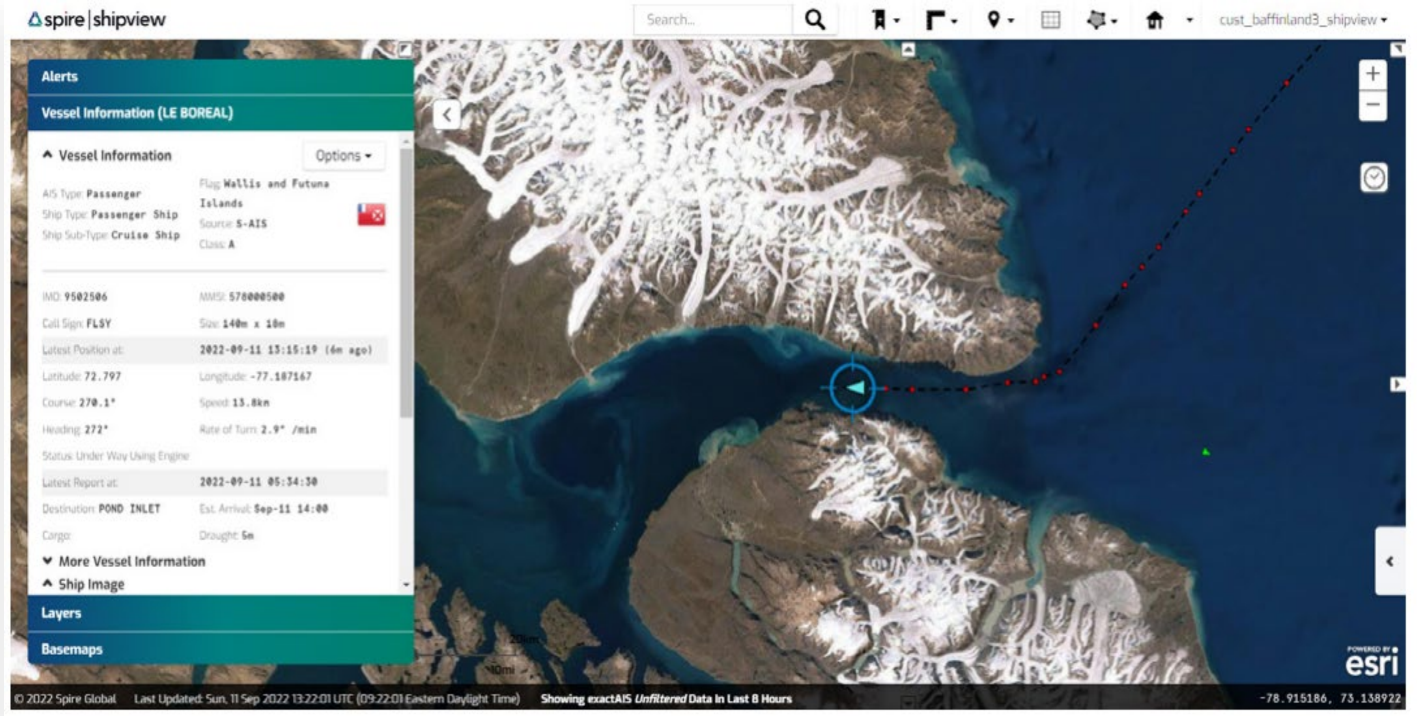
ᐊᒃᑐᐃᓂᐅᑐᐃᓐᓇᕆᐊᓖᑦ = ᐅᓗᕆᐊᓇᖅᑐᒦᓕᖅᓯᒪᔪᖅ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᖅ ᓄᓇᓕᖕᓂ ᐃᓚᒋᔭᐅᔪᑦ ᐃᖏᕐᕋᑎᓪᓗᒋᑦ ᓄᓇᒥ ᐊᒻᒪᓗ ᑕᕆᐅᒥ ᐱᒋᐊᖅᑳᖅᑎᓐᓇᒋᑦ/ᐱᓕᕆᓕᖅᑎᓪᓗᒋᓐᓪᓗ ᐅᒥᐊᕐᓇᐊᖅᑲᕐᓇᓕᖅᑎᓪᓗᒍ

ᐊᒃᑐᐃᓗᐊᖅᑕᐃᓕᔾᔪᑏᑦ = ᐋᖅᑭᒡᓱᖃᐃᓐᓇᖅᑐᒥᒃ ᐊᐅᓚᑦᑎᓂᖅ - ᐱᐅᓯᕆᐊᖅᓯᒪᔪᑦ ᑐᓵᐅᒪᖃᑎᒌᖕᓂᕐᒧᑦ ᒪᓕᒃᑕᐅᔭᕆᐊᓖᑦ

ᐋᖅᑭᒡᓱᖃᐃᓐᓇᖅᑐᒥᒃ ᐊᐅᓚᑦᑎᓂᖅ = ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᖅ ᓯᓈᖓ ᒪᑐᔭᐅᓂᖓ, 72 ᐃᑲᕐᕋᑦ ᖃᐅᔮᒃᑲᐃᔾᔪᑎ ᐅᒥᐊᕐᔪᐊᖃᑲᓯᑎᐊᖅᑳᖅᑎᓐᓇᒍ, ᓯᑯᓂᒃ ᐊᔭᐅᖅᑐᐃᓂᖅᑕᖃᙱᓪᓗᓂ ᑐᕙᖓᓂ, ᐋᖅᑭᒃᓯᒪᓗᑎᒃ ᑐᓵᐅᒪᖃᑎᒌᖕᓂᕐᒧᑦ ᒪᓕᒃᑕᐅᔪᒃᓴᓂᒃ ᐊᒻᒪᓗ ᑎᒃᑯᐊᖅᑕᐅᓯᒪᔪᑦ ᐅᖃᕐᕕᐅᔪᓐᓇᖅᑐᑦ ᓄᓇᓕᖕᓂ ᐃᓯᒫᕐᑎᓄᑦ, ᐹᕙᓐᓛᓐᑯᑦ ᕙᐃᔅᐳᒃᑯᑦ ᑎᑎᕋᖅᓯᕝᕕᖓ, ᐱᒋᐊᕐᕕᖓ ᐊᒻᒪᓗ ᐃᓱᓕᑦᑕᕐᕕᖓ ᐅᒥᐊᕐᔪᐊᖃᕐᓇᖅᑎᓪᓗᒍ ᑲᑎᒪᓂᕐᓂ, ᑎᑭᑉᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᑦ ᐊᒻᒪᓗ ᐅᒥᐊᕐᔪᐊᖃᕐᓇᒥ ᓇᐅᑦᑎᖅᓱᖅᑏᑦ, ᐅᕝᕋᓛᑦ, ᐊᑭᖅᑐᑦ ᐅᒥᐊᕐᔪᐊᑦ ᐅᓪᓗᒃᓴᖏᑦ

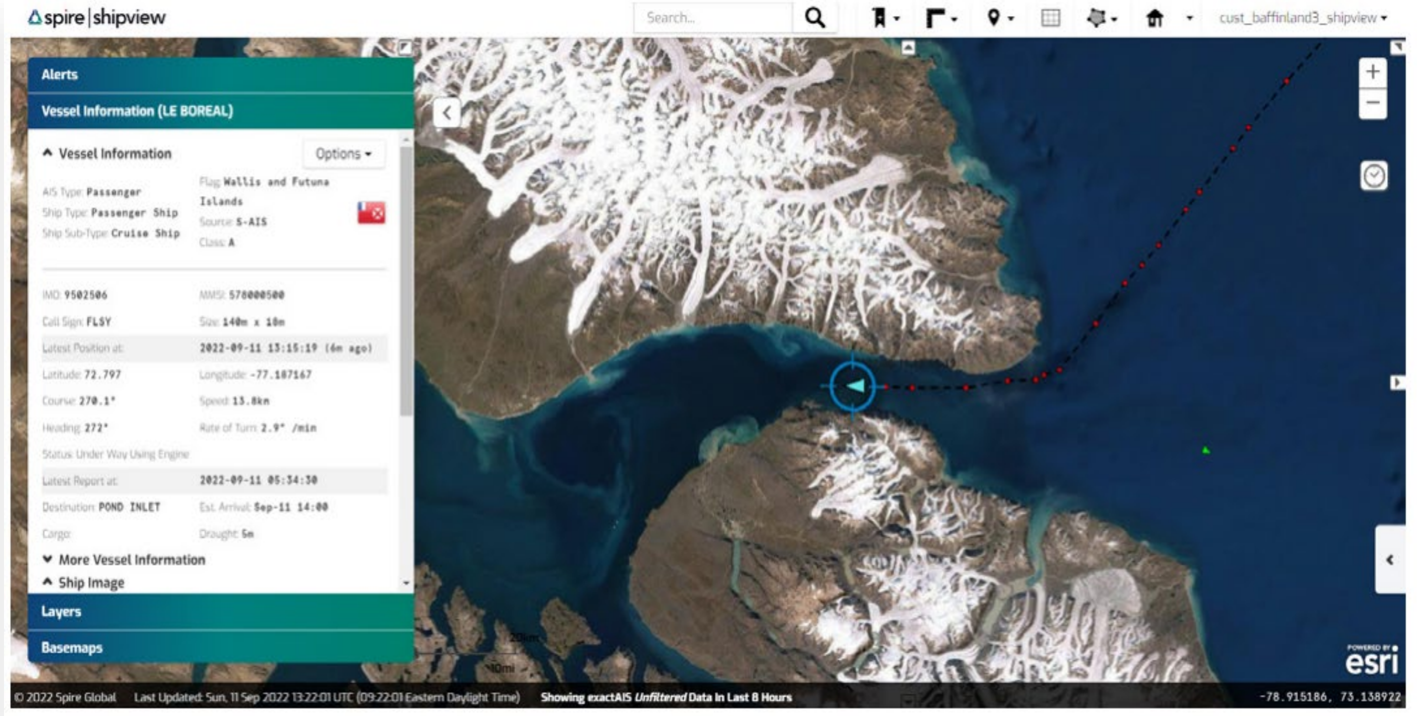
Mittimatalik Shipping Monitor Program
ᒥᑦᑎᒪᑕᓕᒃ ᐅᒥᐊᖅᔪᐊᕐᒧ ᖃᐅᔨᓴᒃᓂᖅ ᐱᓕᕆᐊᖅ

- **10 Inuit Shipping Monitors** based in Pond Inlet
- Available 24 hours a day during the shipping season to address community questions, comments and concerns
- Track all vessels in the region, reporting on those travelling at **greater than 9 knots**, deviating from the nominal shipping route, or **entering 'no-go' zones**, identified by Inuit as **ecologically sensitive**
- 10 ᐃᓄᐃᑦ ᐅᒥᐊᕐᔪᐊᒥ ᖃᐅᔨᓴᖅᑎᐅᓂᐊᖅᑐᑦ ᒥᑦᑎᒪᑕᓕᖕᒥᐅᑕᐅᓗᑎ
- ᐊᑐᐃᓐᓇᐅᓂᐊᖅᑐ 24 ᐃᑲᕐᕋᖅ ᐅᓪᓗᖅ ᐊᑕᐅᓯᖅ ᐅᒥᐊᕐᔪᐊᖃᕐᓇᐅᓕᖅᐸᑦ ᑐᕌᕆᔭᖃᖅᓗᑎ ᓄᓇᓕᑦ ᐊᐱᖅᑯᑎᖏᑦ, ᐅᖃᐅᓯᖏᑦ ᐊᒻᒪᓗ ᐃᓱᒫᓗᑎᖏᑦ.
- ᑕᒪᕐᒥ ᐅᒥᐊᖅᔪᐊ ᓄᓇᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ, ᐅᓂᒃᑳᖅᐸᓪᓕᐊᓗᑎ ᐊᐅᓪᓚᕐᓂᐊᖅᑐᓂ **ᓱᒃᑲᓂᖅᓴᐅᒃᐸ 9 ᓈᑦᓯ**, ᐅᕝᕙᓗᓐᓂ **ᐃᓯᓕᕈᑎ ᐅᐸᒃᑕᐅᔭᓇᐊᖃᖕᒋᑦᑐᓂ**, ᓴᖑᓂᖅ ᐊᖅᑯᑕᐅᒐᔫᒃᑐᒥᒃ ᐅᒥᐊᕐᔪᐊᓄᑦ, ᐃᓄᖕᓂ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ **ᐊᕙᑎᐅᕐ ᐊᒃᑐᖅᑕᐅᓴᕋᐃᓐᓂᖕᒐ**



Mittimatalik Shipping Monitor Program
ᒥᑦᑎᒪᑕᓕᒃ ᐅᒥᐊᖅᔪᐊᕐᒧ ᖃᐅᔨᓴᒃᓂᖅ ᐱᓕᕆᐊᖅ

- **Direct communication with the community**
- Facebook page and a direct shipping email has been set-up and is monitored as another way of direct communication with the community
- 12 questions, 9 concerns, 14 comments (35 total) received throughout 2022 shipping season (in-person/phone/Facebook/email) – all responses provided same day
- 51 VHF radio announcements
- 115 Facebook posts



- **ᐅᖃᖃᑎᒋᑦᑎᐊᖕᒋᓐᓇᕐᓱᒋᑦ ᓄᓇᓖᑦ**
- ᕕᔅᐳᒃᑯᑦ ᐊᒻᒪᓗ ᐊᐅᓪᓚᖅᑎᑕᐅᔾᔪᑎᖓ ᐃᖖᒌᓐᓇᖅ ᐊᖅᑭᒃᓯᓗᓂ ᐊᒻᒪᓗ ᖃᐅᔨᓴᖅᑕᐅᓂᖓ ᐊᓯᐊᒍᑦ ᐅᖃᖃᑎᒌᓐᓇᖅᓱᒋᑦ ᓄᓇᓖᑦ.
- 12 ᐊᐲᖅᑯᑎᑦ, 9 ᐃᓱᒫᓗᑏᑦ, 14 ᐅᖃᐅᓰᑦ (ᑲᑎᓗᒃᑖᖅᓱᒋᑦ 35) ᐱᔭᐅᓚᐅᖅᑐ 2022ᖑᑎᓪᓗᒍ ᐅᒥᐊᖅᔪᐊᖃᕐᓂᐅᑎᓪᓗᒍ (ᐅᐸᒃᓯᒪᓗᒋᑦ/ᐅᖄᓚᐅᑎᒃᑯ/ᕕᔅᐳᒃ/ᐃᖖᒌᓐᓇ ᖃᕆᓴᐅᔭᒃᑯ) - ᑕᒪᕐᒥ ᑭᐅᔭᐅᑲᐅᑎᒋᕙᒃᓱᑎ ᐅᓪᓗᐃᓐᓇᖅ.
- 51 ᐆᕙᕋᓛᑦ ᑐᓴᖅᓴᐅᔾᔪᑏᑦ ᑐᓴᖅᑕᐅᔾᔪᑏᑦ
- 115 ᕕᔅᐳᒃ ᑎᑎᕋᖅᑕᐅᔪᑦ

Shipping Monitor Program

ᐅᒥᐊᖅᔪᐊᕐᒧ ᖃᐅᔨᓴᒃᓂᖅ ᐱᓕᕆᐊᖅ

- Opportunistic marine mammal sightings – 23 sightings (narwhal, orca, beluga, bowhead, harp seal)
- Actively monitor ship movements in region using Automatic Identification System (AIS) ship tracking system
  - Email alerts and deviation reports are sent when ships deviate from established shipping protocols

- ᐱᕕᖃᕐᓂᖅ ᑕᕆᐅᕐ ᐳᐃᔨᑦ ᑕᑯᔭᐅᔪᑦ - 23 ᑕᑯᔭᐅᔪᑦ (ᑐᐡᓚᒃ, ᐊᕐᓗ, ᕿᓚᓗᒐᖅ, ᓇᑦᑎᖅ)
- ᓇᐅᑦᑎᖅᓱᐃᓐᓇᕐᓂᖅ ᐅᒥᐊᕐᔪᐊᑦ ᐃᖏᕐᕋᓂᖏᓐᓄᑦ ᓄᓇᓂ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ ᐊᑐᕐᓗᑎᒃ ᐃᕐᖏᓐᓇᖅ ᓇᓗᓇᐃᖅᑕᐅᑲᐅᑎᒋᔾᔪᑎᓂᒃ ᐅᒥᐊᕐᔪᐊᓂᒃ ᖃᐅᔨᒪᓇᓱᙵᓂᕐᒧᑦ ᐱᓕᕆᔾᔪᑏᑦ
  - ᖃᕆᓴᐅᔭᒃᑯᑦ ᐃᕐᖏᓈᖅᑕᐅᑎᒃᑯᑦ ᖃᐅᔨᒃᑲᐃᔾᔪᑏᑦ ᐊᒻᒪᓗ ᓴᙳᖃᑦᑕᕐᓂᕐᒧᑦ ᐅᓂᒃᑳᑦ ᓇᒃᓯᐅᔾᔭᐅᖃᑦᑕᖅᑐᑦ ᐅᒥᐊᕐᔪᐊᑦ ᓴᙳᖃᑦᑕᖅᑎᓪᓗᒋᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᓂ ᐅᒥᐊᕐᔪᐊᓕᕆᓂᕐᒧᑦ ᒪᓕᒃᑕᐅᔭᕆᐊᓕᖕᓄᑦ

Marine Mitigation and Management Measures - Potential Ship Strikes on Marine Mammals

ᑕᕆᐅᒥ ᐊᒃᑐᐃᒍᐊᖅᑕᐃᓂᒪᔾᔪᑏᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦᑎᔾᔪᑏᑦ - ᐅᒥᐊᕐᔪᐊᑦ ᐊᐳᖅᓯᔪᑦ

Potential Effect = Ship Strike	Mitigation = 9 Knot Speed Restriction, Defined Shipping Lane	Adaptive Management = Continued speed restrictions and monitoring. Not currently necessary as existing mitigation is effective.
ᐊᒃᑐᐃᓂᐅᑐᐃᓐᓇᕆᐊ ᓈᑦ = ᐅᒥᐊᕐᔪᐊᑦ ᐊᐳᖅᓯᔪᑦ	ᐊᒃᑐᐃᒍᐊᖅᑕᐃᓚᔾᔪᑏᑦ = 9 ᓇᑦ ᓱᒃᑲᓕᓂᕐᒧᑦ ᑭᒡᓕᐅᔪᖅ, ᓇᓗᓇᐃᖓᖅᓯᒪᔪᑦ ᐅᒥᐊᕐᔪᐊᑦ ᐊᖁᑎᖏᑦ	ᐋᖅᑭᒡᕕᖃᐃᓐᓇᖅᑐᒥᒃ ᐊᐅᓚᑦᑎᓂᖅ = ᓱᒃᑲᐃᒡᓕᒋᐊᕐᓗᖏᑦᑦ ᐅᒥᐊᕐᔪᐊᑦ ᓱᒃᑲᓕᓂᖏᑦ ᐊᒻᒪᓗ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓗᑎᒃ ᐅᒥᐊᕐᔪᐊᑦ ᐊᐳᖅᓯᑐᐃᓐᓇᐊᖃᕐᓂᖏᓐᓄᑦ

- Monitoring Programs:
  - Ship-based Observer (SBO) Program
  - Marine Mammal Observation Network (MMON)
  - Shipping Monitor Program - Mittimatalik

- ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ:
  - ᐅᒥᐊᕐᔪᐊᒦᓪᓗᑎᒃ ᓇᐅᑦᑎᖅᓱᖅᑏᑦ ᐱᓕᕆᐊᖅ
  - ᑕᕆᐅᒥ ᐳᐃᔨᓂᒃ ᓇᐅᖅᑎᖅᓱᕈᓰᑦ
- ᐅᒥᐊᕐᔪᐊᒥ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ – ᒥᑦᑎᒪᑕᓕᒃ

Project Vessels: Proportion of Travel Time in RSA Relative to Speed Restriction – 2022 Shipping Season
ᐱᓕᕆᐊᑉ ᐅᒥᐊᕐᔪᐊᖏᑦ: ᐃᓚᖓᓂ ᖃᓄᑎᒋ ᐃᖏᕐᕋᓂᖃᕐᒪᖔᑕ ᓄᓇᓂ ᐊᕙᒃᑐᖅᓯᒪᔪᓂ ᖃᐅᔨᓴᕐᕕᐅᓖᒥ ᐊᒃᑐᐊᔪᑦ ᓱᒃᑲᓕᓂᕐᒧᑦ ᑭᒡᓕᐅᔪᓄᑦ – 2022–ᒥ ᐅᒥᐊᕐᔪᐊᖃᕐᓇᐅᑎᖓᓄᒍ

Project Vessel Type ᐱᓕᕆᐊᒥ ᐅᒥᐊᕐᔪᐊᖏᑕ ᖃᓄᐃᑦᑑᓂᖏᑦ	Number of Vessels ᖃᔅᓯ ᐅᒥᐊᕐᔪᐊᑦ	Number of Trips ᖃᔅᓯᐊᖅᑎ ᐃᖏᕐᕋᖕᒪᖔᑕ	% of travel in the RSA <9 knots % ᐃᖏᕐᕋᔪᑦ ᓄᓇᓂ ᐊᕙᒃᑐᖅᓯᒪᔪᓂ ᖃᐅᔨᓴᕐᕕᐅᕙᒃᑐᒥ < 9 ᓈᓯᓂᒃ	% of travel in the RSA <10 knots % ᐃᖏᕐᕋᔪᑦ ᓄᓇᓂ ᐊᕙᒃᑐᖅᓯᒪᔪᓂ ᖃᐅᔨᓴᕐᕕᐅᕙᒃᑐᒥ < 10 ᓈᓯᓂᒃ	Max Speed Range (knots) ᓱᒃᑲᓂᖅᐹᕆᔪᓐᓇᖅᑕᖏᑦ (ᓈᓯ)
Ore Carrier ᐅᒥᐊᕐᔪᐊᑦ ᓴᕕᒃᓴᓂᒃ ᐅᓯᑲᖅᑕᖅᑏᑦ	35	62	99.0	100.0	8.8 – 10.8
Fuel Tanker ᐅᖅᓱᐊᓗᒃᑕᐅᑏᑦ	2	4	99.4	100.0	9.2 – 9.2
General Cargo ᐱᕐᑯᑎᓂᒃ/ᐱᔾᔪᔾᔪᑎᓂᒃ ᐅᓯᔪᑦ ᐅᒥᐊᕐᔪᐊᑦ	4	4	99.8	100.0	8.8 – 9.1
Icebreaker ᓯᑯᓂᒃ ᐊᔾᔪᖅᑐᐃᔩᑦ	1	4	100.0	100.0	9.1
Tugs ᓯᑲᐅᑦ	2	2	99.9	100.0	9.6 – 10.1
Total **ᑲᑎᖦᖢᒋᑦ**	**44**	**76**	**99.9**	**100.0**	-

RSA = Regional Study Area

RSA = ᓄᓇᓂ ᐊᕙᒃᑐᖅᓯᒪᔪᓂ ᖃᐅᔨᓴᕐᕕᐅᔪᑦ

Proportion of Travel Time in RSA Relative to 9-knot Speed Restriction – 2018 to 2022 Shipping Seasons

ᐃᓚᖓᓂ ᖃᓄᑎᒌ ᐃᖏᕐᕋᖕᒪᖔᑕ ᓄᓇᓂ ᐊᑯᑦᑐᖅᓯᒪᔪᓂ ᖃᐅᔨᓴᕝᕕᐅᔪᒥ ᐊᒃᑐᐊᔪᑦ 9 ᓈᑦᓯ ᓱᒃᑲᓕᓂᕐᒧᑦ ᑮᓕᒋᑎᑕᐅᔪᒧᑦ– 2018–ᒥ 2022–ᒧᑦ ᐅᒥᐊᕐᔪᐊᖃᕐᓇᐅᓂᖓᓂ

Project Vessel Type ᐱᓕᕆᐊᒥ ᐅᒥᐊᕐᔪᐊᖏᑕ ᖃᓄᐃᑦᑑᓂᖏᑦ	2018	2019	2020	2021	2022
Ore carriers ᐅᒥᐊᕐᔪᐊᑦ ᓴᕝᕒᓴᓂᒃ ᐅᓯᒃᖃᑕᖅᑏᑦ	93.7	99.3	98.5	99.7	99.9
Cargo / freight vessels ᐱᕐᑯᑎᓂᒃ/ᐱᔭᐅᔭᕆᐊᓕᖕᓂ ᐅᓯᔪᑦ ᐅᒥᐊᕐᔪᐊᑦ	79.0	93.6	99.9	99.8	99.8
Fuel tankers ᐅᖅᓯᐊᓗᒃᑕᐅᑏᑦ	79.0	98.2	100	99.0	99.4
Tugs ᓯᑲᐅᑦ	85.7	94.5	97.4	95.7	99.9
Icebreaker ᓯᑯᓂᒃ ᐊᔭᐅᖅᑐᐃᔩᑦ	92.5	99.7	99.8	99.99	100.0
TOTAL ᑲᑎᖦᖢᒋᑦ	**92.2**	**97.8**	**99.0**	**99.0**	**99.9**

RSA = Regional Study Area
RSA = ᓄᓇᓂ ᐊᕝᑐᖅᓯᒪᔪᓂ ᖃᐅᔨᓴᕝᕕᐅᔪᑦ

Non-Project Vessels: Proportion of Travel Time in RSA Relative to Speed Restriction – 2022 Shipping Season
ᐱᓕᕆᐊᒌᖖᒋᑦᑐᑦ ᐅᒥᐊᕐᔪᐊᑦ: ᐃᓚᖓᓂ ᐃᖏᕐᕋᓂᖏᑦ ᓄᓇᓂ ᐊᕕᒃᑐᖅᓯᒪᔪᒥ ᖃᐅᔨᓴᕐᕕᐅᔪᒥ ᐊᒃᑐᐊᔪᑦ ᓱᒃᑲᓕᓂᕐᒧᑦ ᑭᒡᓕᐅᑎᑕᐅᔪᓄᑦ – 2022–ᒥ

Project Vessel Type ᐱᓕᕆᐊᒥ ᐅᒥᐊᕐᔪᐊᖏᑕ ᖃᓄᐃᑦᑑᓂᖏᑦ	Number of Vessels ᖃᔅᓯ ᐅᒥᐊᕐᔪᐊᑦ	Number of Trips ᖃᔅᓯᐊᖅᑎ ᐃᖏᕐᕋᖕᒪᖕᖒᑕ	% of travel in the RSA <9 knots % ᐃᖏᕐᕋᔪᑦ ᓄᓇᓂ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ ᖃᐅᔨᓴᕐᕕᐅᕚᒃᑐᒥ < 9 ᓈᑦᓯᓂᒃ	% of travel in the RSA <10 knots % ᐃᖏᕐᕋᔪᑦ ᓄᓇᓂ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ ᖃᐅᔨᓴᕐᕕᐅᕚᒃᑐᒥ < 10 ᓈᑦᓯᓂᒃ	Max Speed Range (knots) ᓱᒃᑲᓂᖅᐹᕆᔪᓐᓇᖅᑕᖏᑦ (ᓈᑦᓯ)
Navy ᐅᓇᑕᖅᑐᒃᓴᑦ ᑕᕆᐅᒃᑯᓲᑦ	2	5	63.8	76.4	13.8 - 15.1
Cruise Ship ᐳᓚᕋᑏᑦ	15	26	45.8	56.4	12.1 - 17.0
Fishing ᐃᖃᓗᒐᓱᒃᑏᑦ	3	3	84.8	95.7	10.2 - 15.1
Fuel Tanker ᐅᖅᓱᐊᓗᒃᑕᐅᑏᑦ	4	7	78.1	80.0	9.0 - 14.8
General Cargo ᐅᓯᓲᑦ ᐱᕐᑯᑎᓂᒃ	7	9	57.2	61.1	8.8 - 16.0
Ice Breaker ᑊᓯᑯᓂᒃ ᐊᔭᐅᖅᑐᐃᔩᑦ	2	2	91.9	94.6	14.0 - 16.0
Service Ships ᐱᔩᑦᑎᕋᐅᑏᑦ ᐅᒥᐊᕐᔪᐊᑦ	4	4	82.8	84.1	17.4 - 24.9
Small and Medium Passenger Vessels ᒥᑭᔪᑦ ᐊᖏᓂᖅᓵᕐᔪᐃᓪᓗ ᐃᑭᒪᔨᐊᖃᕈᓐᓇᖅᑐᑦ ᐅᒥᐊᕐᔪᐊᑦ	19	36	67.5	74.9	6.8 - 37.3
Tugs ᓯᑲᐅᑦ	8	16	99.7	99.9	4.5 - 17.0
Total **ᑲᑎᖦᓱᒋᑦ**	**64**	**108**	**68.2**	**75.6**	-

RSA = Regional Study Area
RSA = ᓄᓇᓂ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ ᖃᐅᔨᓴᕐᕕᐅᔪᑦ

Marine Mitigation and Management Measures – Vessels Drifting

ᑕᕆᐅᒥᐊᒃᑐᐃᓗᐊᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦᑎᔾᔪᑏᑦ - ᐅᒥᐊᕐᒧᔪᐊᑦ ᐅᑕᖅᑭᔪ

Potential Effect = Additional vessel movement within the Regional Study Area (RSA), resulting in increased interaction

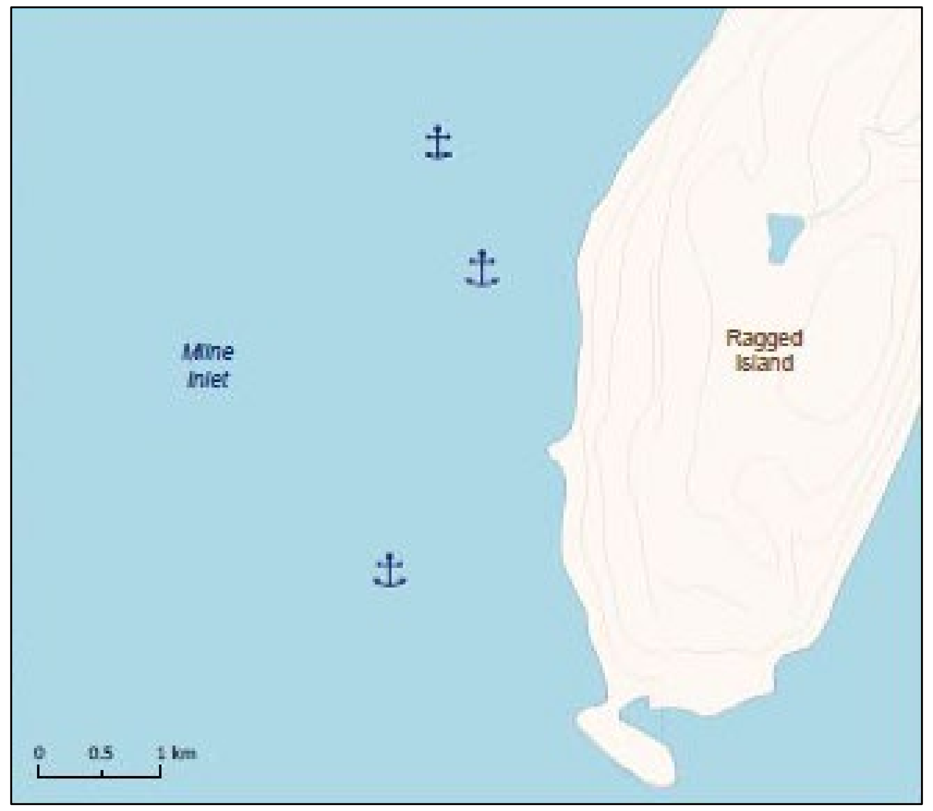
Mitigation = Established drifting zone near Ragged Island (only used for safety purposes), Fixed number of anchorage locations, Vessels wait in Baffin Bay >40 km east of Nunavut Settlement Area, Standing Instructions to Vessel Masters

Adaptive Management: Continued implementation of mitigations – currently effective.

ᐊᒃᑐᐃᓂᐅᑐᐃᓐᓇᕆᐊᓛᑦ = ᐅᒥᐊᕐᔪᐊᒃᑳᓃᑦ ᐃᖏᕐᕋᔪᑦ ᐃᓗᐊᓂ ᓄᓇᓂ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᖃᐅᔨᓴᕐᑕᐅᔪᒥ, ᓴᖅᑮᓯᒪᔪᑦ ᑕᑯᖃᑦᑕᐅᑎᓂᖅᓴᐅᓕᖅᑎᓪᓗᒋᑦ ᐅᒥᐊᕐᔪᐊᑦ ᐃᖅᑲᓇᐃᔭᖅᑎᖏᓪᓗ / ᐅᒥᐊᕐᔪᐊᑦ ᐊᒻᒪᓗ ᑕᕆᐅᒥ ᐳᐃᔩᑦ

ᐊᒃᑐᐃᓗᐊᖅᑕᐃᓕᔾᔪᑏᑦ = ᐋᖅᑭᒃᓯᒪᔪᑦ ᐅᑕᖅᑮᕖᑦ ᐃᓂᐅᔪᑦ ᖃᓂᒋᓵᓂ ᐃᒥᕈᓕᑦ (ᐊᑐᖅᑕᐅᕌᑦ ᑭᓯᐊᓂᓕ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑐᐊᖅ), ᐋᖅᑭᒃᓯᒪᔪᑦ ᖃᔅᓯᐅᔪᓐᓇᕐᓂᖏᑦ ᑭᓴᖅᓯᒪᕙᐅᔪᓐᓇᖅᑐᑦ, ᐅᒥᐊᕐᔪᐊᑦ ᐅᑕᖅᑭᓗᑎᒃ ᕿᑭᖅᑖᓘᑉ ᐃᑭᐊᓂ >40 ᑭᓛᒥᑕᔅ ᑲᓇᖕᓇᖕᒫᖕᒪᓂ ᓄᓇᕗᒻᒥ ᓄᓇᑖᖑᓯᒪᔪᒥ, ᒪᓕᒋᐊᖃᖅᑐᑦ ᐅᒥᐊᕐᔪᐊᒥ ᐱᓪᓗᐊᑕᕐᓄᑦ

ᐋᖅᑭᒡᕕᖃᐃᓐᓇᖅᑐᒥᒃ ᐊᐅᓚᑦᑎᓂᖅ - ᐅᒥᐊᕐᔪᐊᑦ ᐃᖏᕋᔭᓗᐊᙱᓪᓗᑎᒃ ᐃᓗᐊᓂ ᓄᓇᓂ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ



- Monitoring Programs:
  - Shipping Monitor Program – Mittimatalik

- ᖃᐅᔨᓴᖅᐸᓪᓕᐊᙳᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ:
  - ᒥᑦᑎᒪᑕᓕᒃ ᐅᒥᐊᖅᔪᐊᕐᒧ ᖃᐅᔨᓴᒃᓂᖅ ᐱᓕᕆᐊᖅ

Marine Mitigation and Management – Aquatic/Non-Indigenous Invasive Species
ᑕᕆᐅᒥ ᐊᒃᑐᐃᔾᔭᐊᖅᑕᐃᓕᕐᔪᑏᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦᑎᕐᔪᑏᑦ - ᑎᑭᑉᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᑦ / ᑕᓖᓂᕐᒥᐅᑕᐅᙱᑦᑐᑦ ᐆᒪᔪᑦ

Potential Effect = Ship Introduction of Aquatic Invasive Species (AIS) or Non-Indigenous Species (NIS)

Mitigation = Ballast water exchange in Baffin Bay prior to entry in RSA, Compliance with federal ballast water and biofouling regulations, No discharge of grey water

Adaptive Management = Ballast water exchange + treatment, Enhanced Monitoring Efforts for AIS/NIS

ᐊᒃᑐᐃᓂᐅᑐᐃᓐᓇᕆᐊᓖᑦ = ᑎᑭᑉᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᑦ / ᑕᓖᓂᕐᒥᐅᑕᐅᙱᑦᑐᑦ ᐆᒪᔪᑦ

ᐊᒃᑐᐃᔾᔭᐊᖅᑕᐃᓕᒪᕐᔪᑏᑦ = ᐃᒃᑕᖅᑯᑕᐅᑉᑐᑦ ᐃᒥᖅ ᐊᓯᔾᔨᖅᑕᐅᓂᖓ ᐊᒻᒪᓗ ᓴᓗᒻᒪᖅᓴᖅᑕᐅᓂᖓ, ᐃᒃᑕᖅᑯᑕᐅᑉᑐᑦ ᐃᒪᕐᒧᑦ ᒪᓕᒋᐊᓕᑦ ᖃᐅᔨᓴᕈᑏᑦ ᑯᕕᔭᐅᓯᒋᐊᖅᑳᖅᑎᓇᒍ, ᒪᓕᒋᐊᓕᑦ ᐊᑕᖏᕐᔪᒋᑦ ᐊᑐᖅᑐᑦ ᓄᓇᕐᔪᐊᒥ ᑕᕆᐅᒥ ᑎᒥᐅᔪᑦ ᐊᒻᒪᓗ ᐃᖏᕐᕋᔪᓕᕆᔾᔪᑦ ᑲᓇᑕᒥ ᒪᓕᒐᖏᑦ ᑕᒪᒃᑯᓄᖓ ᐅᒥᐊᕐᔪᐊᒧᑦ ᐊᑕᐅᑦᑐᓄᑦ, ᑯᕕᓯᔭᕆᐊᖃᙱᓐᓂᕐᒧᑦ ᓴᓗᒻᒪᖅᓯᒪᙱᑦᑐᓂᒃ ᐃᒪᕐᒥᒃ

ᐋᖅᑭᒃᓱᖃᐃᓐᓇᖅᑐᒥᒃ ᐊᐅᓚᑦᑎᓂᖅ = ᒥᒃᓵᒋᐊᖅᓯᒪᓗᒋᑦ ᐊᖅᑯᑕᐅᔪᓐᓇᖅᑐᑦ ᓴᖅᑭᓐᓂᕐᒧᑦ ᑎᑭᑉᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᑦ, ᐱᐅᓯᒋᐊᕐᒍᒋᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕋᔾᔨᑏᑦ ᑎᑭᑉᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᓄᑦ / ᑕᓖᓂᕐᒥᐅᑕᐅᙱᑦᑐᑦ ᐆᒪᔪᓄᑦ

- **Monitoring Programs:**
  - AIS/NIS Monitoring Program (Annual Monitoring at Milne Port and Ragged Island
  - Ballast Water Salinity Testing Program (On Each Ship to Confirm Successful Ballast Exchange)
  - Ballast Water Monitoring Program – New Collaborative Program with DFO in 2023

- **ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ:**
  - ᑎᑭᑉᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᑦ / ᑕᓖᓂᕐᒥᐅᑕᐅᙱᑦᑐᑦ ᐆᒪᔪᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ (ᐊᕐᕌᒍᑕᒫᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᕿᙳᐊᓂ ᐊᒻᒪᓗ ᐃᒥᓕᖕᒥ)
  - ᐃᒥᖅ ᐃᒃᑕᖅᑯᑕᐅᑉᑐᖅ ᑕᕆᐅᙰᓂᖓ ᖃᐅᔨᓴᖅᑕᐅᓂᖓᓄᑦ ᐱᓕᕆᐊᖅ (ᐊᑐᓂ ᐅᒥᐊᕐᔪᐊᑦ ᓇᓗᓇᐃᖅᑕᐅᕐᑯᒍᑎᑦ ᐃᒥᖅ ᐃᒃᑕᖅᑯᑕᐅᑉᑐᖅ ᐊᓯᔾᔨᖅᑕᐅᑦᑎᐊᖃᑦᑕᕐᓂᖓᓄᑦ)
  - ᐃᒥᖅ ᐃᒃᑕᖅᑯᑕᐅᑉᑐᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ - ᓄᑖᑦ ᐱᓕᕆᖃᑎᒌᖕᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᓐᓂ 2023-ᒥ

Baffinland

Prevention of Non-Indigenous (NIS) and Aquatic Invasive Species (AIS) – Ballast Water Management

ᐱᑕᖃᓕᖅᑎᑦᑎᑦᑕᐃᓕᒪᓂᖅ ᑕᒫᓂᕐᒥᐅᑕᐅᙱᑦᑐᓂᒃ ᐆᒪᔪᓂᒃ (NIS) ᐊᒻᒪᓗ ᐃᒪᕐᒥᐅᑕᑦ ᑎᑭᐸᒃᑦᑐᑦ ᐆᒪᔪᓂᒃ (AIS) – ᐃᒥᕐᒥᒃ ᐃᒃᑕᖅᑯᑎᒥᒃ ᑲᒪᓂᖅ

Baffinland exceeds Canadian regulations by:

- Performing a salinity test on a random ballast tank for each ore carrier calling to Milne Port. If the salinity test shows <30 ppt or >40 ppt, the ship is required to perform another exchange in Baffin Bay and is subsequently re-tested.
- Ore carriers with an onboard treatment system are required to both exchange and treat water.

ᐹᓐᓚᓐᑯᑦ ᐅᖓᑕᐅᔾᔨᓯᒪᔪᑦ ᒪᓕᒐᕐᓂᒃ ᐃᒪᐃᓕᐅᖅᓱᑎᒃ:

- ᐱᓕᕆᐊᖃᕐᓗᑎᒃ ᑕᕆᐅᕐᔪᓂᖓᓄᑦ ᖃᐅᔨᓴᕈᑎᒥᒃ ᓇᓕᐊᙶᓄᐃᓐᓇᖅ ᐃᒥᖅ ᐃᒃᑕᖅᑯᑕᐅᕝᑰᑉ ᖃᑦᑕᖓᓂᖕᖏᖅᑐᓂᒃ ᐊᑐᓂ ᓴᕕᒃᓴᓂᒃ ᐅᓯᔫᒃᓴᓂᑦ ᑐᓇᖕᓂᐊᖅᑐᓄᑦ ᕿᙳᐊᓂ ᑐᓇᒃᑕᕝᕕᖕᒍᑦ. ᑕᕆᐅᖑᓂᖕᖓᓂᒃ ᖃᐅᔨᓴᕈᑏᑦ ᓴᖅᑮᖅᑎᑦᑎᒃᐸ <30 ᐃᓚᖓ ᑕᐅᓴᑎᓂ (ppt) ᐅᕝᕙᓘᓐᓃᑦ >40 ᐃᓚᖓ ᑕᐅᓴᑎᓂ (ppt), ᐅᒥᐊᕐᔪᐊᖅ ᐱᓕᕆᔭᕆᐊᖃᕐᓂᐊᖅᑐᑦ ᑯᕕᑎᑦᑎᒃᑲᓂᕐᓗᓂ ᑕᐅᕙᓂ ᑕᓪᓗᕈᑎᐅᑉ ᐃᒪᖓᓂ ᐊᒻᒪᓗ ᑭᖑᓂᐊᒍᑦ ᖃᐅᔨᓴᖅᑕᐅᒃᑲᓂᕐᓗᓂ.
- ᓴᕕᒃᓴᒥᒃ ᐅᓯᔫᒃᓴᑦ ᐅᒥᐊᕐᔪᐊᒥ ᓴᓗᒻᒪᖅᓴᐃᕝᕕᖃᖅᑐᑦ ᑕᒪᕐᒦᖕᓂᒃ ᐱᓕᕆᔭᕆᐊᓖᑦ ᑯᕕᑎᑦᑎᓗᑎᒃ ᐊᒻᒪᓗ ᓴᓗᖅᒪᖅᓴᕐᓗᒍ ᐃᒥᖓ.

Prevention of Non-Indigenous (NIS) and Aquatic Invasive Species (AIS) – Ballast Water Management

ᐱᑕᖃᓕᖅᑎᑦᑎᑦᑕᐃᓕᒪᓂᖅ ᑖᓂᕐᒥᐅᑕᐅᙱᑦᑐᓂᒃ ᐆᒪᔪᓂᒃ (NIS) ᐊᒻᒪᓗ ᐃᒪᕐᒥᐅᑕᑦ ᑎᑭᑉᐸᒃᑦᑐᑦ ᐆᒪᔪᓂᒃ (AIS) – ᐃᒥᕐᒥᒃ ᐃᒃᑕᖅᑯᑎᒥᒃ ᑲᒪᓂᖅ

Transport Canada requires that all foreign vessels on a Transoceanic voyage, intending to enter Canadian waters, must treat water prior to release or do the following:

- Conduct a ballast water exchange (release ballast from all tanks; intake water into ballast tanks) at least 200 nm from Canada at a depth of 2000 m
- A Ballast Water Exchange Report must be submitted to Transport Canada after the exchange has been completed.

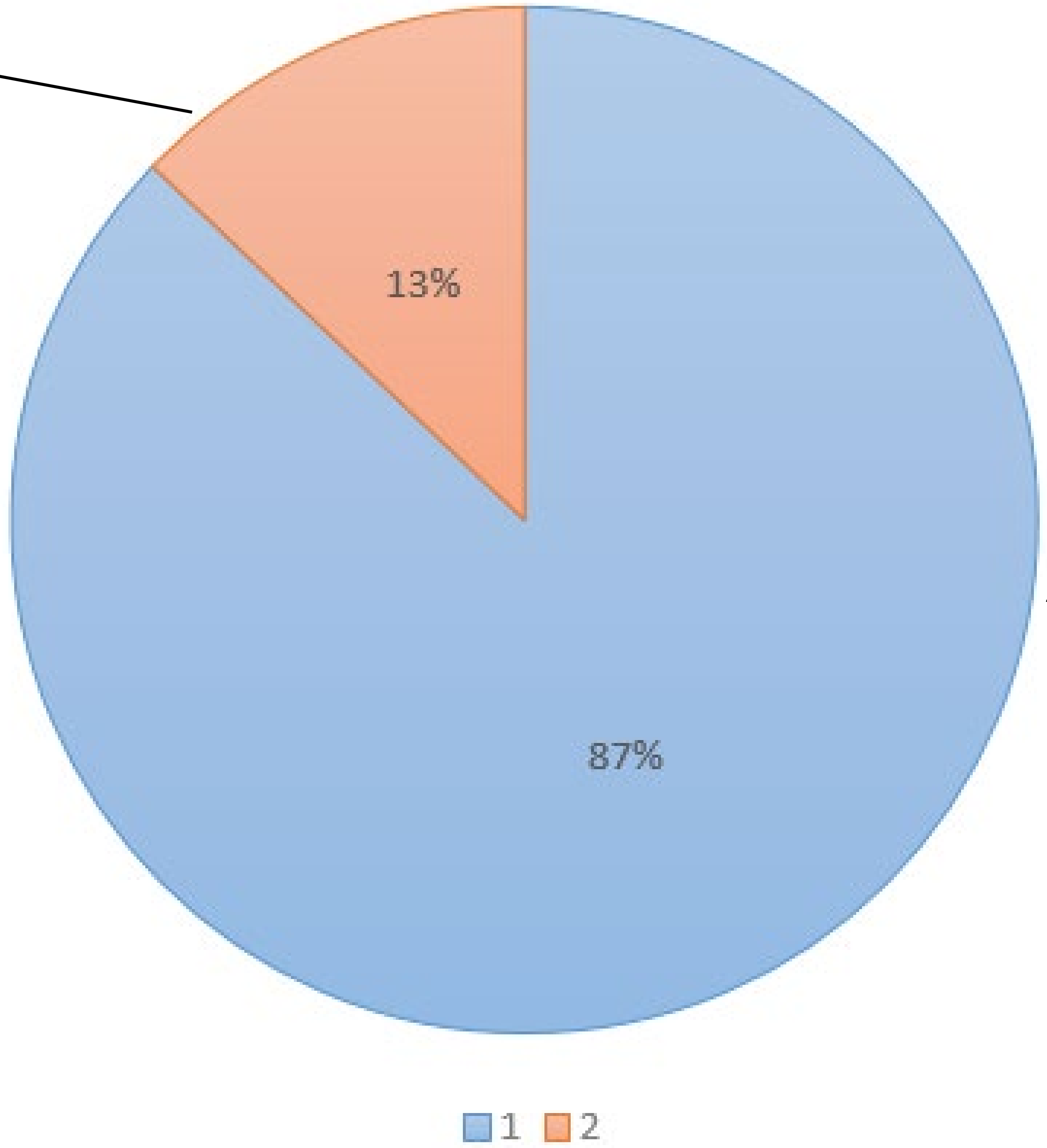
ᐃᖏᕐᕋᔪᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ ᑕᒪᐃᓐᓂ ᐅᒥᐊᕐᔪᐊᓂᒃ ᑲᓇᑕᒧᐊᖅᐸᓪᓕᐊᔪᓂᒃ ᐃᒪᐃᑦᑕᕆᐊᖃᓪᓚᑦᑖᖅᑎᑦᑎᕚᑦ ᐃᒦᑦ ᑯᕕᔾᔭᐅᓚᐅᖅᑎᓐᓇᒋᑦ ᓴᓗᒻᒪᖅᓴᕐᓗᒋᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐃᒪᐃᓕᐅᕐᓗᑎᒃ:

- ᐊᓯᔾᔩᕐᓗᒍ ᐃᒥᖅ ᐃᒃᑕᖅᑯᑦ (ᑯᕕᔾᔭᐃᓐᓇᕆᓗᒍ ᐃᑦᑕᖅᑯᑕᐅᓯᕝᕕᖕᒥᑦ; ᐃᒻᒥᕐᓗᒍ ᐃᒃᑕᖅᑯᑕᐅᓯᔾᕕᒃ) ᖃᓂᓛᖑᔪᓐᓇᖅᖢᓂ 200 ᒪᐃᓖᑦ ᑲᓇᑕᒥᑦ ᐃᑎᓂᖃᕐᓗᓂ 2,000 ᒦᑕᓂᒃ.
- ᐃᒃᑕᖅᑯᑕᐅᕝᒃᑐᖅ ᐃᒥᖅ ᑯᕕᔾᔭᐅᖃᑦᑕᕐᓂᖓᓄᑦ ᐅᓂᒃᑳᖅ ᑐᓂᔾᔭᐅᔭᕆᐊᓕᒃ ᐃᖏᕐᕋᔪᓕᕆᔨᒃᑯᓐᓄᑦ ᑲᓇᑕᒥ ᑯᕕᓯᐊᓂᒃᑳᖓᒐ.

2022 Ballast Water Management

2022 ᐃᒃᑕᖅᑯᑎᐅᑉ ᐃᒥᐅᑉ ᐊᐅᓚᑕᐅᓂᖓ

Exchange Only
ᐊᓯᔾᔨᖅᑕᐅᑐᐃᓐᓇᖅᑐᖅ
8/62 = **13%**



Exchange + Treatment
ᑐᖁᓴᖅᑕᐅᔪᑦ ᐊᓯᔾᔨᖅᑕᐅᔪᓪᓗ
54/62 = **87%**

2020 = 58% (42/72)
2021 = 74% (55/73)

% all ore carriers calling to Milne Port with onboard treatment system
%-ᖓ ᐊᑕᖏᖅᑯᒋᑦ ᓴᕕᒃᓴᓂᒃ ᐅᓯᔪᒃᓴᑦ ᐅᒥᐊᖓᑦ ᑐᓚᒃᑐᑦ ᕿᑭᖑᐊᓄᑦ ᐅᒥᐊᖓᒥᑦ ᓴᓗᒻᒪᖅᓴᐃᔪᑎᖃᖅᑐᑦ

Marine Mitigation and Management – Acoustic Disturbance of Marine Mammals From Shipping and Icebreaking

ᑕᕆᐅᒥ ᐊᒃᑐᐃᓘᐊᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ - ᓂᐱᖃᓗᐊᖅᑕᐃᓕᒪᓂᖅ ᐊᒻᒪᓗ ᐸᒡᕕᐃᓴᓃᑦ ᐅᒥᐊᕐᔪᐊᑦ ᐅᑎᖅᑕᕐᓂᖏᓐᓄᑦ

Potential Effect = Disturbance of marine mammals from ship traffic or icebreaking

ᐊᒃᑐᐃᓂᐅᑐᐃᓐᓇᕆᐊᓖᑦ = ᓂᐱᖃᖅᑎᑦᑎᔪᑦ ᐊᒻᒪᓗ ᐸᒡᕕᓴᐃᔪᑦ ᐅᒥᐊᕐᔪᐊᑦ ᐅᑎᖅᑕᕐᓂᖏᓐᓄᑦ.

Mitigation = 9 knot speed restriction, defined shipping lane, defined anchorage areas

ᐊᒃᑐᐃᓘᐊᖅᑕᐃᓕᒫᔾᔪᑏᑦ = ᑭᒡᓕᓕᖅᑕᐅᓯᒪᓗᑎᒃ ᐅᑎᖅᑕᕐᓃᑦ ᓱᑯᖃᕐᓂᖅᓴᐅᑎᓪᓗᒍ, ᐊᑯᓂᐅᓗᐊᕐᑯᓇᒋᑦ ᓂᐱᖃᑎᑦᑎᔪᑦ ᓂᐱᖅᑯᖅᑐᓕᕼᓂᒃ ᐸᒡᕕᓴᐃᓇᔭᖅᑐᓂᒃ ᐊᒻᒪᓗ ᐅᐸᒍᑦᑎᑦᑕᐃᓕᒪᓕᕐᓂᕐᒧᑦ ᐃᓕᖅᑯᓯᖅ

Adaptive Management = Enhanced mitigation (No breaking of landfast ice, No icebreaking during early shoulder season, No shipping until open-water is present, Use of vessel convoys, 40-km setback in Baffin Bay)

ᐋᖅᑭᒡᕕᖃᐃᓐᓇᖅᑐᒥᒃ ᐊᐅᓚᑦᑎᓂᖅ = ᓱᑯᓂᒃ ᐊᔭᐅᖅᑐᐃᓂᖅᑕᖃᙱᓪᓗᓂ ᑐᕓᕐᒥᒃ, ᐅᒥᐊᕐᔪᐊᖃᖃᑦᑕᙱᓪᓗᑎᒃ ᐊᖅᑯᑖ 3/10-ᒥᒃ ᓱᑯᖃᕈᓂ, ᓱᑯᓂᒃ ᐊᔭᐅᖅᑕᐃᖃᑦᑕᙱᓪᓗᑎᒃ ᐅᒥᐊᕐᔪᐊᖃᕐᓇᓖᓴᖅᑎᓪᓗᒍ ᐊᒻᒪᓗ ᐃᓱᓕᕽᐸᓪᓕᐊᓕᖅᑎᓪᓗᙱᑦ, 9 ᓈᑦᓂᒃ ᓱᒃᑲᓘᓇᔪᓐᓇᕐᓗᒍ ᑭᒡᓕᐅᓗᓂ, ᐊᑐᓕᖅᑎᑕᐅᓂᖏᑦ ᐅᒥᐊᕐᔪᐊᑦ ᑭᖑᓕᕇᑦᑎᐊᖑᓪᓗᑎᒃ ᐊᑕᐅᑦᑎᒃᑰᖅᑐᑦ

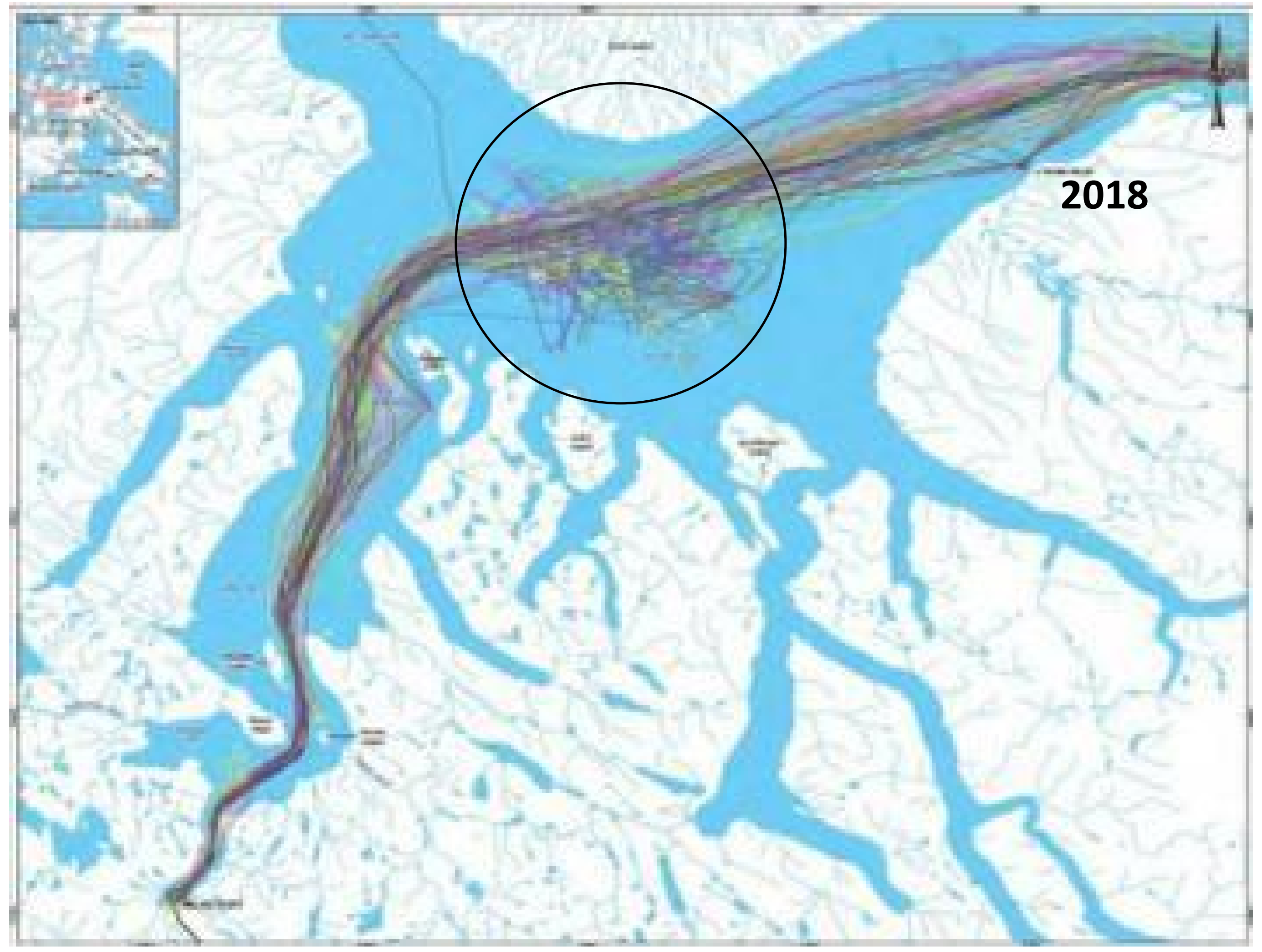
- **Monitoring Programs:**
  - Bruce Head Shore-based Monitoring Program
  - Underwater Acoustic Monitoring Program
  - Marine Mammal Aerial Survey Program
  - Ringed Seal Aerial Survey Program
  - Ship-based Observer Program
  - Narwhal Tagging Program
  - Shipping Monitor Program – Mittimatalik

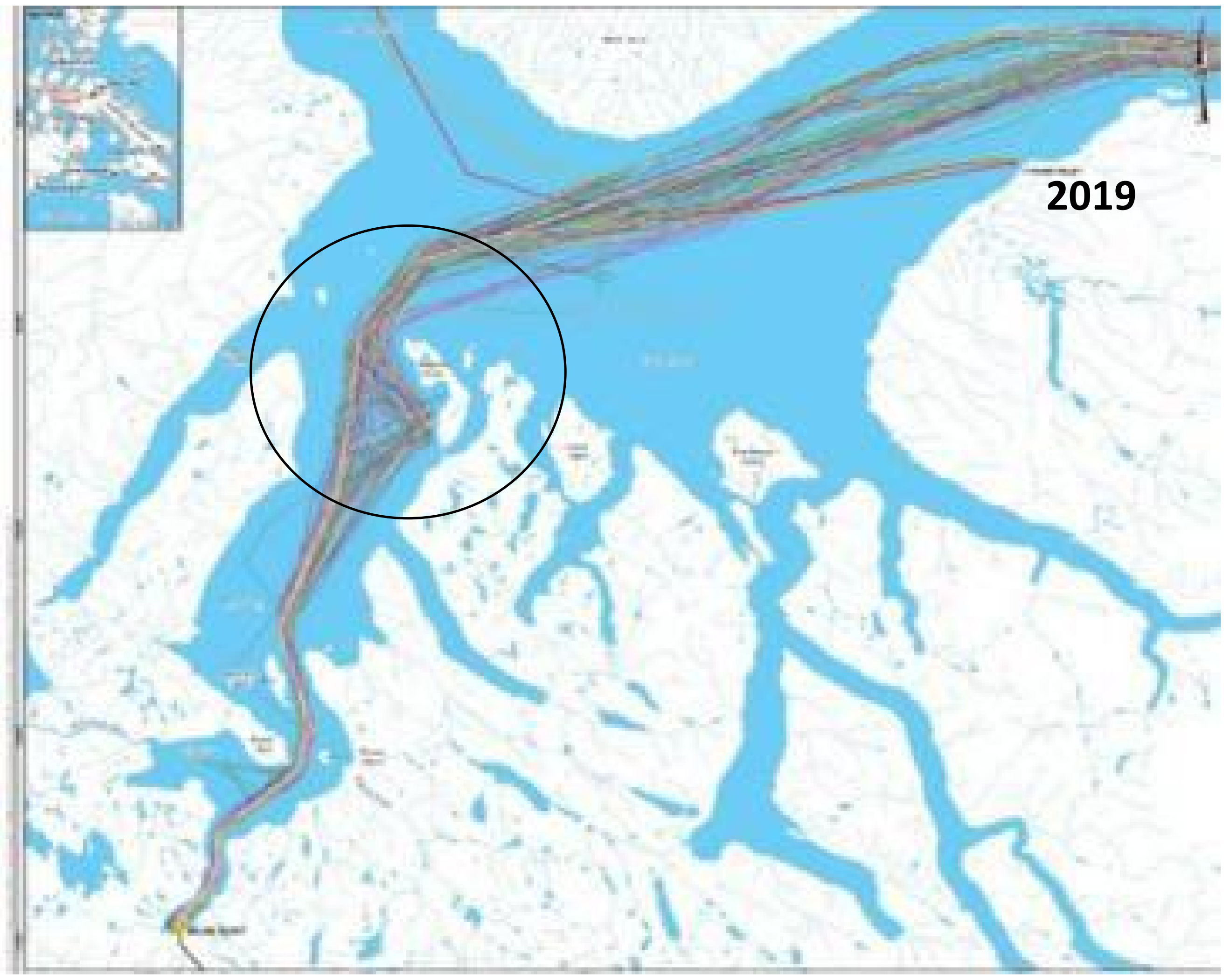
- **ᑑᒐᓕᙱᓂᒃ ᓂᕕᖓᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ:**
  - ᐃᓗᕕᓕᖕᒥ ᓯᒡᔭᒦᕈᑎᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓃᑦ ᐱᓕᕆᐊᑦ
  - ᐃᒫᓂ ᓂᐱᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ
  - ᑕᕆᐅᒥ ᐳᐃᔨᓂᒃ ᖃᙵᑕᔫᒃᑯᑦ ᖃᐅᔨᓴᕐᓃᑦ ᐱᓕᕆᐊᑦ
  - ᓇᑦᑎᕐᓂᒃ ᖃᙵᑕᔫᒃᑯᑦ ᖃᐅᔨᓴᕐᓃᑦ ᐱᓕᕆᐊᑦ
  - ᑖᓕᖅᓱᐃᓃᑦ ᐱᓕᕆᐊᑦ

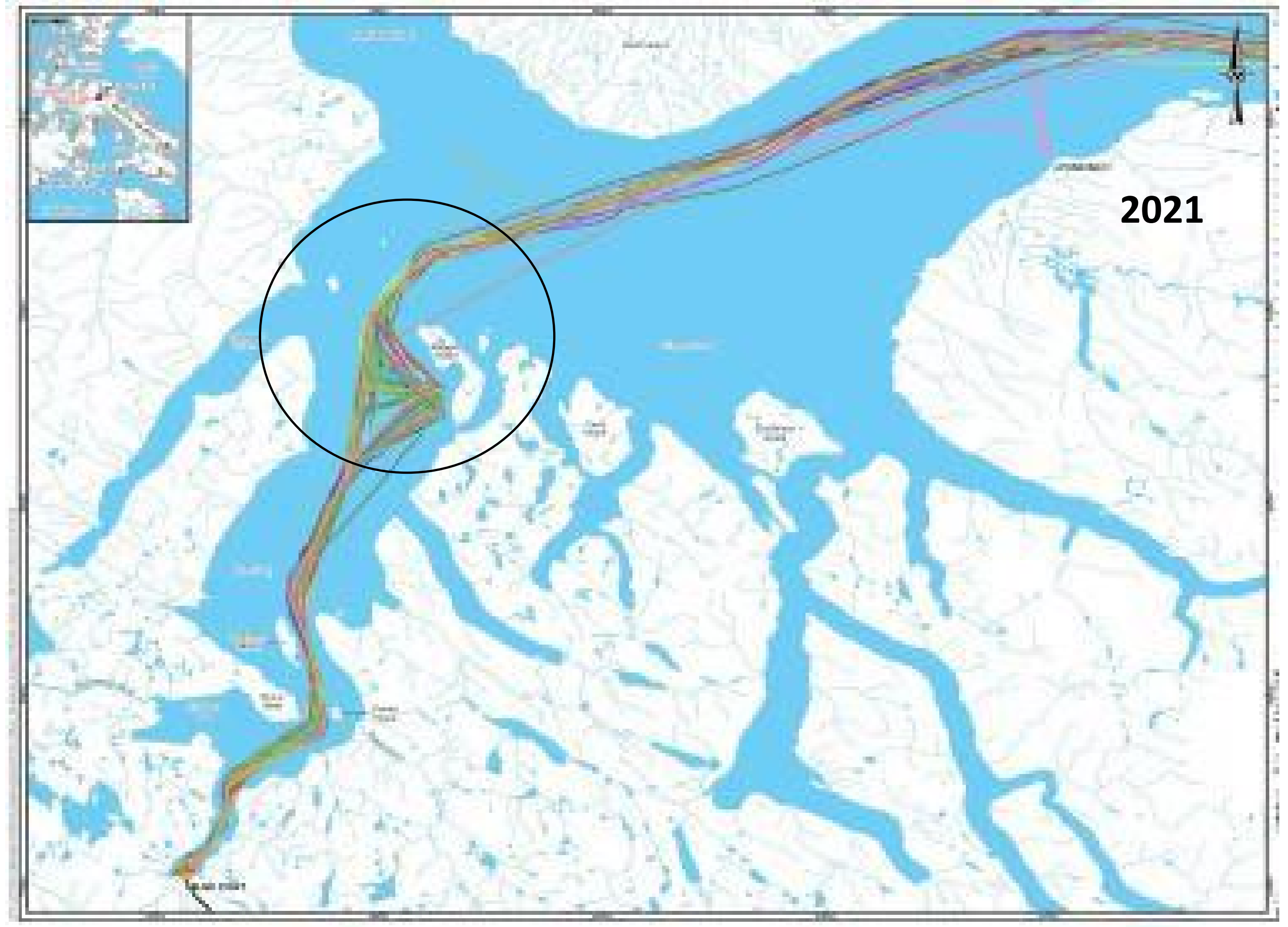
Baffinland

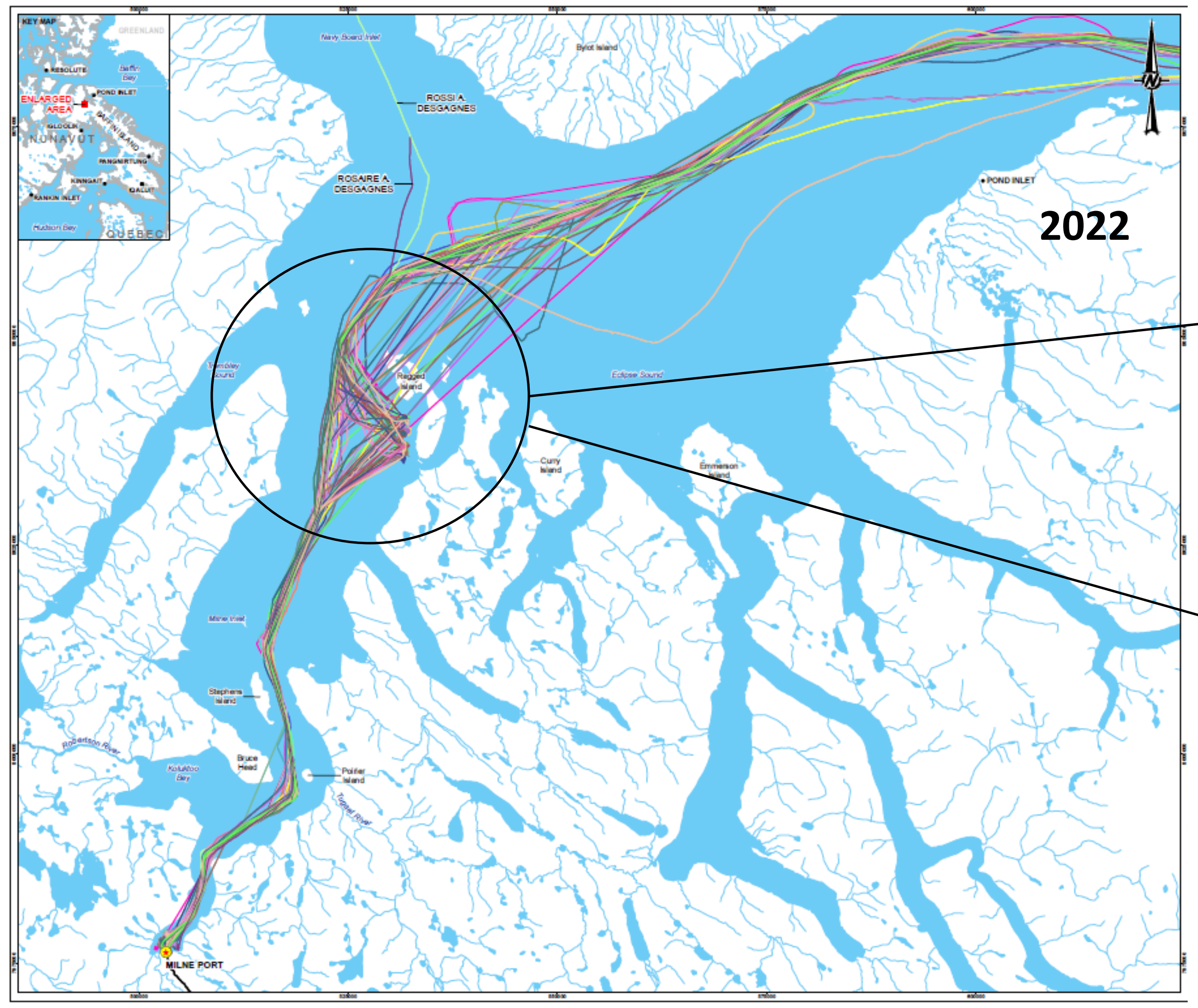
Tightening of Ship Tracks Since 2018

ᖃᓂᒌᓕᖅᑎᑦᑎᓂᖅ ᐅᒥᐊᕐᔪᐊᑦ ᐊᖁᑎᖏᓐᓂᑦ ᑕᐃᑲᙵᓂᑦ 2018-ᒥᓂᑦ





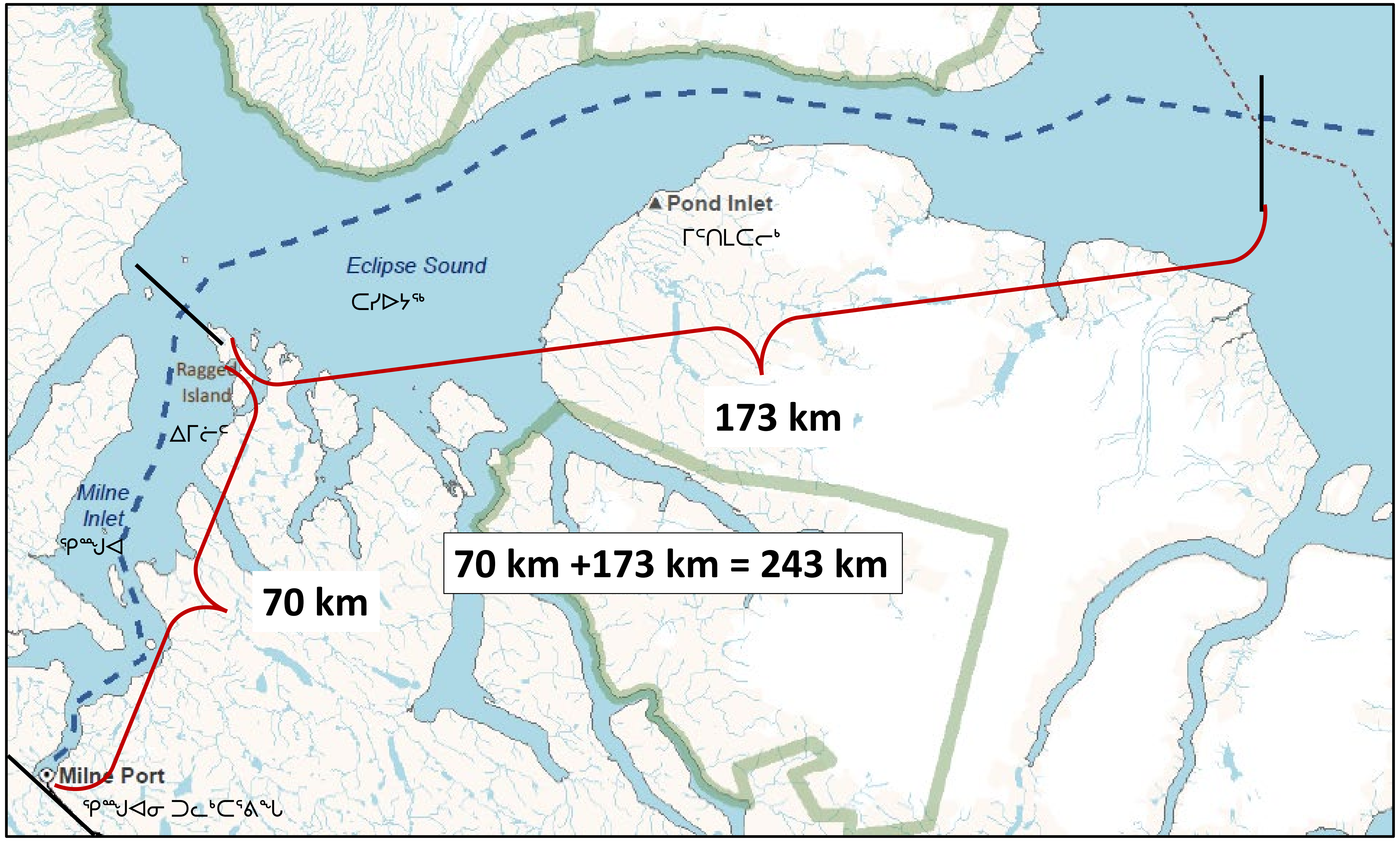




End of season deviations due to ice conditions

ᐱᔭᕇᖅᑎᓪᓗᒋᑦ ᐅᐃᕙᕐᓃᑦ ᐱᔾᔪᑕᐅᓪᓗᑎᒃ ᓯᑯᑦ ᖃᓄᐃᓕᖓᓂᖏᑦ

2022 Convoy Implementation
2022–ᒥ ᐅᒥᐊᕐᔪᐊᑦ ᑭᖑᓕᕇᑦᑎᐊᖑᓪᓗᑎᒃ ᐊᑕᐅᑦᑎᒃᑰᖅᑐᑦ ᐊᑐᓕᖅᑎᑕᐅᓂᖏᑦ

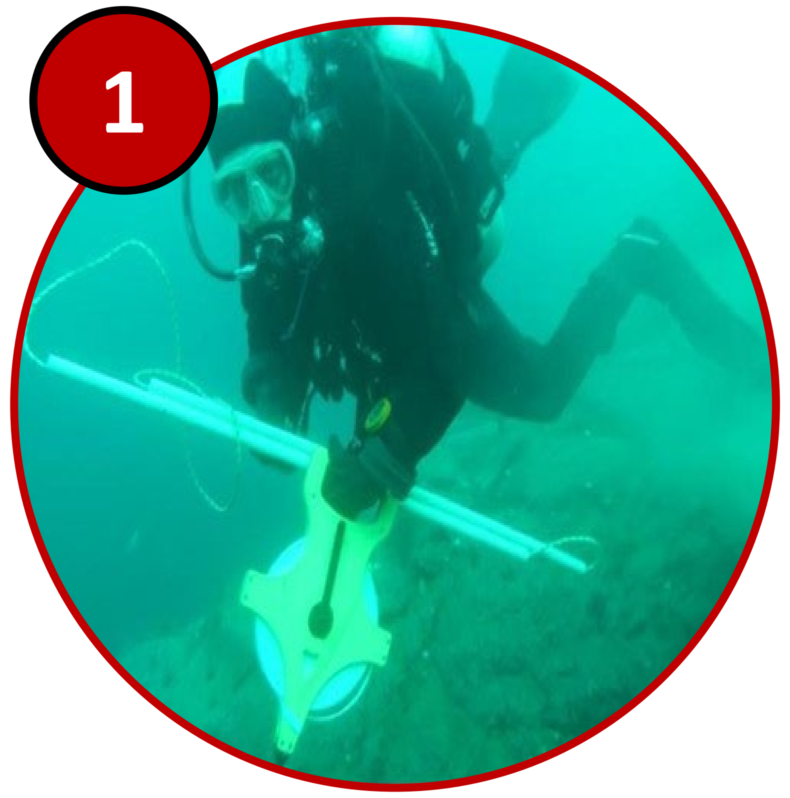


Total convoys completed in 2022: 31
ᑲᑎᕝᓱᒋᑦ ᐅᒥᐊᕐᔪᐊᑦ ᑭᖑᓕᕇᑦᑎᐊᖑᓪᓗᑎᒃ ᐊᑕᐅᑦᑎᒃᑰᖅᑐᑦ 2022–ᒥ: 31

20% reduction in transits through convoying
20%–ᖑᓪᓗᑎᒃ ᐅᑎᖅᑕᖏᓐᓂᖅᓴᐅᓯᒪᕗᑦ ᐅᒥᐊᕐᔪᐊᑦ ᑭᖑᓕᕇᑦᑎᐊᖑᓪᓗᑎᒃ ᐊᑕᐅᑦᑎᒃᑰᖅᑐᑦ

SUMMARY OF 2022
MARINE MONITORING RESULTS
(WSP)
ᓇᐃᓈᖅᓯᒪᔪᑦ 2022 ᑕᕆᐅᒥ
ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒥᑦ ᖃᐅᔨᔭᐅᔪᑦ

2022 Marine Monitoring Programs
2022–ᒥᑦ ᑕᕆᐅᒥ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖕᒋᓐᓇᕐᓂᖅ



Marine Environmental Effects Monitoring Program (MEEMP) and Non-Indigenous Species / Aquatic Invasive Species (NIS/AIS) Monitoring Program

ᑕᕆᐅᑉ ᐊᕙᑎᖓᓂ ᐊᒃᑐᐃᓂᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖕᒋᓐᓇᕐᓃᑦ

Bruce Head Shore Based Monitoring Program

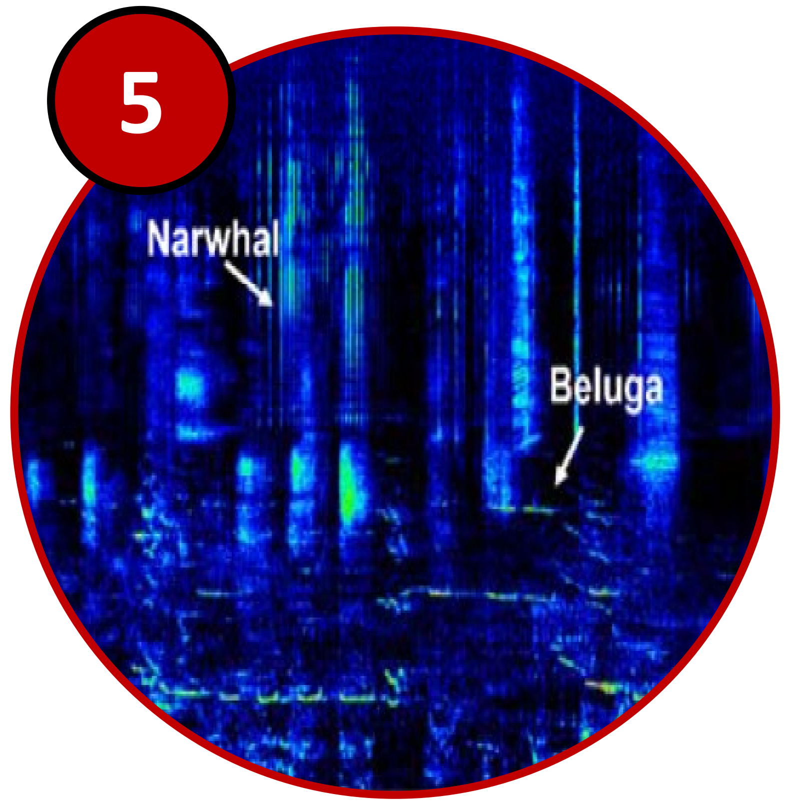
ᐃᓗᕕᓕᖕᒥ ᓯᒡᔭᒥ ᖃᐅᔨᓴᖅᐸᓪᓕᐊ ᖕᒋᓐᓇᕐᓃᑦ

Marine Mammal Aerial Survey Program

ᑕᕆᐅᕐᒥ ᐳᐃᔩᑦ ᖃᖓᑕᓲᒃᑯᑦ ᖃᐅᔨᓴᖅᑕᐅᓂ ᖕᒋᑦ

Ship-based Observer Program

ᐅᒥᐊᕐᔪᐊᕐᒦᓱᑎᒃ ᓇᐅᑦᑎᖅᓱᕐᓃᑦ



Acoustic Monitoring Program

ᐃᓛᓂ ᓂᐱᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖕᒋ ᓐᓇᕐᓃᑦ

Baffinland

Program Frequency for Marine Monitoring Programs

ᐱᓕᕆᐊᑦ ᐊᑯᓚᐃᓐᓂᖏᑦ ᑕᕆᐅᒥᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᓄᑦ

Valued Ecosystem Component ᐱᒻᒪᕆᐅᒋᔭᐅᔪᑦ ᐆᒪᓂᖃᕐᕕᐅᔪᑦ ᐃᓗᓕᖏᑦ	Program ᐱᓕᕆᐊᖅ		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Marine Water & Sediment Quality ᑕᕆᐅᑉ ᐃᒪᖓᓂ ᐊᒻᒪᓗ ᐃᓱᕐᓂᐅᕐ ᖃᓄᐃᑦᑑᓂᖓ	MEEMP ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᒃᑐᐃᓂᖏᓄᑦ ᖃᐅᔨᓴᐃᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ	Marine Water Quality ᑕᕆᐅᑉ ᐃᒪᖓ ᖃᓄᐃᑦᑑᓂᖓ		Green	Green		Green					Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Orange
		Marine Sediment Quality ᑕᕆᐅᒥ ᐃᓱᕐᓂᖓᑕ ᖃᓄᑦᑑᓂᖓ			Green		Green			Green	Green	Blue	Blue	Blue	Blue	Blue	Blue	R	R	Orange
Marine Habitat and Biota ᑕᕆᐅᒥ ᓇᔪᖓᑦ ᐊᒻᒪᓗ ᐆᒪᓂᖃᖅᑐᑦ		Benthic Infauna ᐃᖅᑲᖓᓂ ᐱᕈᖅᑐᑦ			Green		Green			Green	Green	Blue	Blue	Blue	Blue	Blue	Blue	R	R	Orange
		Macroflora & Epifauna ᐱᕈᖅᑐᕋᓛᑦ ᐱᕈᖅᑐᓪᓗ			Green		Green			Green	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Orange
		Fish Community ᐃᖃᓗᖕᖑᑦ		Green			Green			Green	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Orange
		Fish Health ᐃᖃᓗᐃᑦ ᖃᓄᐃᙱᑦᑎᐊᕐᓂᖏᑦ		Green			Green			Green	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Orange
		NIS/AIS ᑕᒫᓂᕐᒥᐅᑕᐅᙱᑦᑐᑦ ᐆᒪᔪᑦ/ᑎᑭᑉᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᑦ		Green	Green		Green			Green	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Orange

NOTE: GREEN = BASELINE MONITORING. BLUE = EFFECTS MONITORING. ORANGE = FUTURE MONITORING

R= reduced sampling year. *=program did not occur due to ice conditions or COVID restrictions. ** = Golder analysed aerial survey data collected by DFO in 2016.

ᓇᓗᓇᐃᖅᓯᒪᔪᖅ: ᐅᔭᐅᔭᖅ ᐱᒋᐊᕈᑎᐅᓪᓗᑎᒃ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᖅ. ᑐᖖᔪᖅᑐᖅ= ᐊᒃᑐᐃᓂᕐᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᖅ. ᐅᕙᓂᐅᔭᖅ= ᓯᕗᓂᒃᓴᒥ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᓂᐅᓂᐊᖅᑐᑦ.
R= ᒥᒃᓯᒋᐊᖅᓯᒪᓪᓗᓂ ᖃᐅᔨᓴᒃᑲᓪᓚᐅᕐᓂᕐᓄᑦ ᐊᕐᕌᒍ. *= ᐱᓕᕆᐊᖑᓚᐅᙱᑦᑐᑦ ᐱᔾᔪᑕᐅᓪᓗᑎᒃ ᓯᑯᐃᑦ ᖃᓄᐃᓕᖓᓂᖏᑦ ᐅᕙᓗᓐᓃᑦ ᓄᕙᒡᔪᐊᕐᓇᒧᑦ ᐊᔪᖅᑎᑕᐅᓪᓗᑎᒃ.
∗∗= ᒎᑐᒃᑯᑦ ᕿᒥᕐᕈᓚᐅᖅᑐᑦ ᖃᐅᔨᓴᖅᑕᐅᔭᕙᓂᕐᓂᑦ ᑲᑎᑕᐅᔭᕙᓃᑦ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᓂᑦ 2016-ᒥ.

Baffinland

Program Frequency for Marine Monitoring Programs

ᐱᓕᕆᐊᑦ ᐊᑯᓚᐃᓐᓂᖏᑦ ᑕᕆᐅᒥᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᓄᑦ

Valued Ecosystem Component ᐱᒻᒪᕆᐅᑎᔭᐅᔪᑦ ᐆᒪᓂᖃᕐᕕᐅᔪᑦ ᐃᓗᓕᖏᑦ	Program ᐱᓕᕆᐊᖅ	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Marine Mammals ᑕᕆᐅᒥ ᐳᐃᔩᑦ	Shore-based Monitoring Program ᓯᓴᒦᑐᑎᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ																		
	Marine Mammal Aerial Surveys ᑕᕆᐅᒥ ᐳᐃᔨᓂᒃ ᖃᖓᑕᓲᒃᑯᑦ ᖃᐅᔨᓴᕐᓂᖅ											**							
	Ringed Seal Aerial Surveys ᓇᑦᑎᕐᓂᒃ ᖃᖓᑕᓲᒃᑯᑦ ᖃᐅᔨᓴᕐᓂᖅ																		
	Narwhal Tagging Program ᑑᒑᓕᓐᓂᒃ ᓂᕚᖓᑖᓕᖅᓯᐃᓂᖅ																		
	Ship-based Observer Program ᐅᒥᐊᕐᔪᐊᒦᑐᑎᒃ ᓇᐅᑦᑎᖅᓱᖅᑏᑦ ᐱᓕᕆᐊᖅ															*	*	*	
	Acoustic Monitoring Program ᓂᐱᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᕿᖅ																		

NOTE: GREEN = BASELINE MONITORING. BLUE = EFFECTS MONITORING. ORANGE = FUTURE MONITORING

R= reduced sampling year. *=program did not occur due to ice conditions or COVID restrictions. ** = Golder analysed aerial survey data collected by DFO in 2016.

ᓇᓗᓇᐃᖅᓯᒪᔪᖅ: ᐋᔭᐅᔭᖅ ᐱᒋᐊᕈᑎᐅᓪᓗᑎᒃ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓃᑦ. ᑐᖑᔪᖅᑐᖅ= ᐊᒃᑐᐃᓂᕐᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᖅ. ᐅᕙᓂᐅᔭᖅ= ᓯᕗᓂᒃᓴᒥ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᓂᐅᓂᐊᖅᑐᑦ.
R= ᒥᒃᓯᕆᐊᖅᓯᒪᓪᓗᓂ ᖃᐅᔨᓴᒃᓴᓕᐅᕐᓂᕐᓄᑦ ᐊᕐᕌᒍ. *= ᐱᓕᕆᐊᖑᓚᐅᙱᑦᑐᑦ ᐱᔾᔪᑎᒋᓪᓗᑎᒃ ᓯᑯᐃᑦ ᖃᓄᐃᓕᖓᓂᖏᑦ ᐅᕝᕙᓘᓐᓃᑦ ᓄᕙᒡᔪᐊᕐᓇᒧᑦ ᐊᔪᖅᑎᑕᐅᓪᓗᑎᒃ.
**= ᒎᑐᒃᑯᑦ ᕿᒥᕐᕈᓚᐅᖅᑐᑦ ᖃᐅᔨᓴᖅᑕᐅᔾᔭᓂᕐᓂᑦ ᑲᑎᑕᐅᔾᔭᓃᑦ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᓐᓂᑦ 2016-ᒥ.

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Baffinland

Marine Mammal Monitoring Programs
ᑕᕆᐅᒥ ᐳᐃᔨᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖑᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ

- Objective: Monitor for potential adverse effects from shipping operations and ship noise on marine mammals in the Regional Study Area (RSA).
- ᑎᑭᑕᐅᓇᓱᐊᖅᑐᖅ: ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖑᓇᕐᓂᖅ ᐊᒃᑐᐃᓂᕐᔪᓐᓂᕐᓂᒃ ᐅᒥᐊᕐᔪᐊᑦ ᐊᐅᓚᓂᖃᕐᓂᖓᓄᓂ ᐊᒻᒪᓗ ᐅᒥᐊᕐᔪᐊᑦ ᓂᐱᖃᕐᓂᖓᓄᑦ ᑕᕆᐅᒥ ᐳᐃᔨᓄᑦ ᓄᓇᓂ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ ᖃᐅᔨᓴᕐᕕᐅᔪᒥ.

Valued Ecosystem Component (VEC) ᐱᒻᒪᕆᐅᒋᔭᐅᔪᑦ ᐆᒪᔪᖃᖅᑐᑦ ᓇᔪᒐᕐᒥᓂᒃ ᐊᒃᑐᐊᖃᑎᒌᙱᓐᓂᖓᑦ	Sub-VECs or Key Indicators (KIs) ᐊᓪᓚᐅᓂᖅᓴᑦ ᐱᒻᒪᕆᐅᒋᔭᐅᔪᑦ ᐆᒪᔪᖃᖅᑐᑦ ᓇᔪᒐᕐᒥᓂᒃ ᐊᒃᑐᐊᖃᑎᒌᙱᓐᓂᖓᑦ ᐅᕝᕙᓘᓐᓃᑦ ᓇᓗᓇᐃᒃᑯᑕᓪᓗᐊᑕᑦ	Performance Indicators ᖃᓄᐃᓕᕐᓂᕐᓂᕆᓃᑦ ᓇᓗᓇᐃᒃᑯᑕᑦ
Marine Mammals **ᑕᕆᐅᒥ ᐳᐃᔨᑦ**	All marine mammal species ᐊᑕᖏᖅᑯᒋᑦ ᑕᕆᐅᒥ ᐳᐃᔩᑦ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙶᒋᑦᑐᑦ	• Noise levels relevant to existing thresholds for injury or disturbance • Proportional loss of listening space (metric for acoustic masking) • Ship strike occurrence • ᓂᐱᖁᖅᑐᓂᖏᑦ ᐊᒃᑐᐊᔪᑦ ᒫᓐᓇ ᖃᓄᐃᓪᓕᔪᖃᖅᑳᖅᑎᓇᒍ ᑭᒡᓕᐅᔪᓄᑦ ᐋᓂᕐᓂᕐᒧᑦ ᐸᒡᕕᓭᒃᑕᐅᓂᕐᒧᑦ • ᐃᓚᐃᓐᓇᖓᓂ ᐊᓯᐅᔨᔪᑦ ᓈᓚᖕᕕᖏᓐᓂᒃ (ᐆᒃᑐᕋᐅᑎᒃᑯᑦ ᓂᐱᓂᒃ ᓂᐱᖃᓗᐊᖅᑎᑦᑎᑦᑕᐃᓕᓂᒃᑯᑦ) • ᐅᒥᐊᕐᔪᐊᑦ ᐊᐳᖅᓯᖃᑦᑕᕐᓂᖏᑦ
	Narwhal ᑰᓪᓗᓐᓈᑦ	• Change in stock abundance • Change in relative abundance and distribution • Change in group composition • Change in surface behaviour • Change in dive behaviour • ᐊᓯᔾᔨᖅᑐᑦ ᑲᑎᙵᔪᑦ ᐱᑕᖃᕐᕕᖏᓐᓂᒃ • ᐊᓯᔾᔨᖅᑐᑦ ᐊᒃᑐᐊᔪᑦ ᐱᑕᖃᕐᓂᖏᓐᓄᑦ ᐊᒻᒪᓗ ᓇᓃᓐᓂᖏᓐᓄᑦ • ᐊᓯᔾᔨᖅᑐᑦ ᑲᑎᙵᔪᑦ ᖃᓄᐃᓕᖓᓂᖏᑦ • ᐊᓯᔾᔨᖅᑐᑦ ᐃᒫᓂ ᐃᓕᖅᑯᓯᖏᑦ • ᐊᓯᔾᔨᖅᑐᑦ ᐊᖅᑲᐅᒪᓪᓗᑎᒃ ᐃᓕᖅᑯᓯᖏᑦ
	Ringed Seal ᓇᑦᑏᑦ	• Change in regional density and/or distribution • ᐊᓯᔾᔨᖅᑐᑦ ᓄᓇᐃᑦ ᐊᑯᒃᑐᖅᓯᒪᔪᑦ ᐱᑕᖃᕐᕕᐅᓂᖏᑦ ᐊᒻᒪᓗ/ᐅᕝᕙᓘᓐᓃᑦ ᓇᓃᓐᓂᖏᑦ

2022 Bruce Head Shore-based Monitoring Program
2022–ᒥᑦ ᐃᓗᕕᓕᖕᒥ ᓱᒡᔭᖕᒐᓂ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖕᒋᓐᓇᕐᓃᑦ

- 4-week study (late July to late August)
- Visual Observations:
  - Relative Abundance and Distribution (RAD)
  - Human Activity
    - Vessel Traffic
    - Hunting
  - Weather and Ocean Conditions

- ᖃᓄᑎᒋ (ᑎᓴᒪᓂᒃ ᐱᓇᓱᐊᕈᓯᕐᓂᒃ)
- ᑕᑯᔭᐅᔪᑦ :
  - ᖃᓄᑎᒋᐅᖕᒪᖔᑕ ᓇᓃᒻᒪᖔᑕᓗ
  - ᐃᓄᐃᑦ ᖃᓄᐃᓕᐅᕐᓂᖏᑦ
    - ᐅᒥᐊᕐᔪᐊᑦ ᐃᖏᕐᕋᓂᖏᑦ
    - ᐊᖑᓇᓱᒃᑐᑦ
  - ᓱᓕ ᖃᓄᐃᓐᓂᐅᕙᓚᐅᖅᓯᒪᔪᓪᓗ ᐅᔾᔨᕆᔭᐅᔪᑦ

2022 Bruce Head Shore-based Monitoring Program
2022–ᒥᑦ ᐃᓗᕕᓕᖕᒥ ᓯᒡᔭᖕᒐᓂ ᖃᐅᔩᓴᖅᐸᓪᓕᐊᖕᖏᓐᓇᕐᓃᑦ

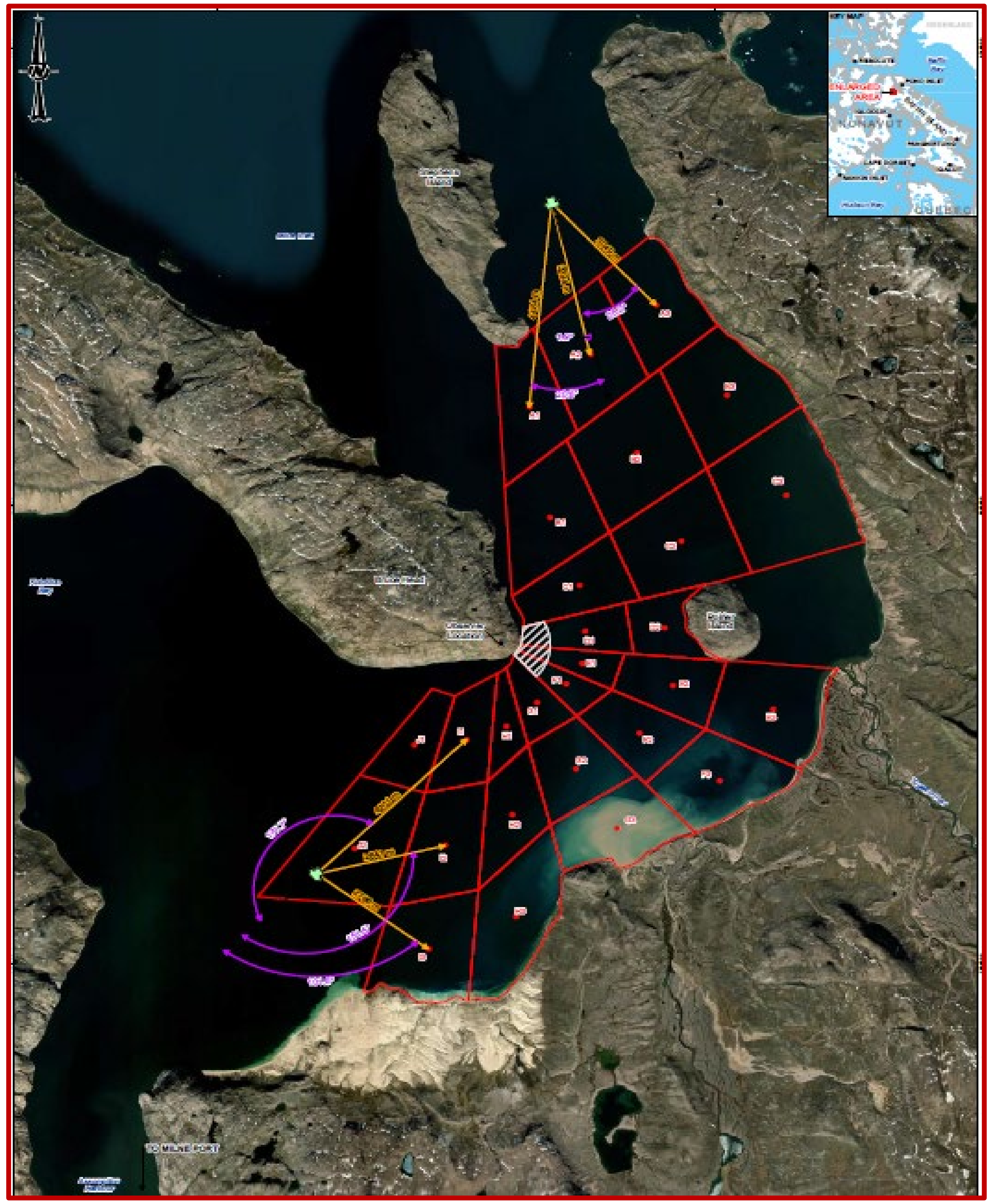
- Drone-based Surveys (397 surveys since 2020):
  - Group composition and behaviour
- Movements of large vessels are tracked using satellite and shore-based receiver stations

- ᖃᖓᑕᓰᕿᓖᓂᒃ ᐊᐅᓚᑕᐅᔪᓐᓇᖅᑐᓂᒃ ᐊᑐᖅᓱᑎᒃ ᖃᐅᔩᓴᕐᓃᑦ:
  - ᑲᑎᙵᔪᑦ ᖃᓄᐃᓕᖓᓂᖏᑦ ᐃᓕᖅᑯᓯᖏᓪᓗ
- ᐅᒥᐊᕐᔪᐊᓕᒫᑦ ᓇᐅᑦᑎᖅᓱᖅᑕᐅᓂᖏᑦ (ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ) ᐊᑐᖅᓱᑎᒃ ᓇᓗᓇᐃᔭᖅᑕᐅᑲᐅᑎᒋᔾᔪᑎᓂᒃ (ᖃᖓᑦᑕᖅᑎᑕᐅᓯᒪᔪᒃᑯᑦ ᐊᒻᒪᓗ ᓯᒡᔭᒥ ᑐᓵᔾᔪᑕᐅᕙᒃᑐᓂᒃ)

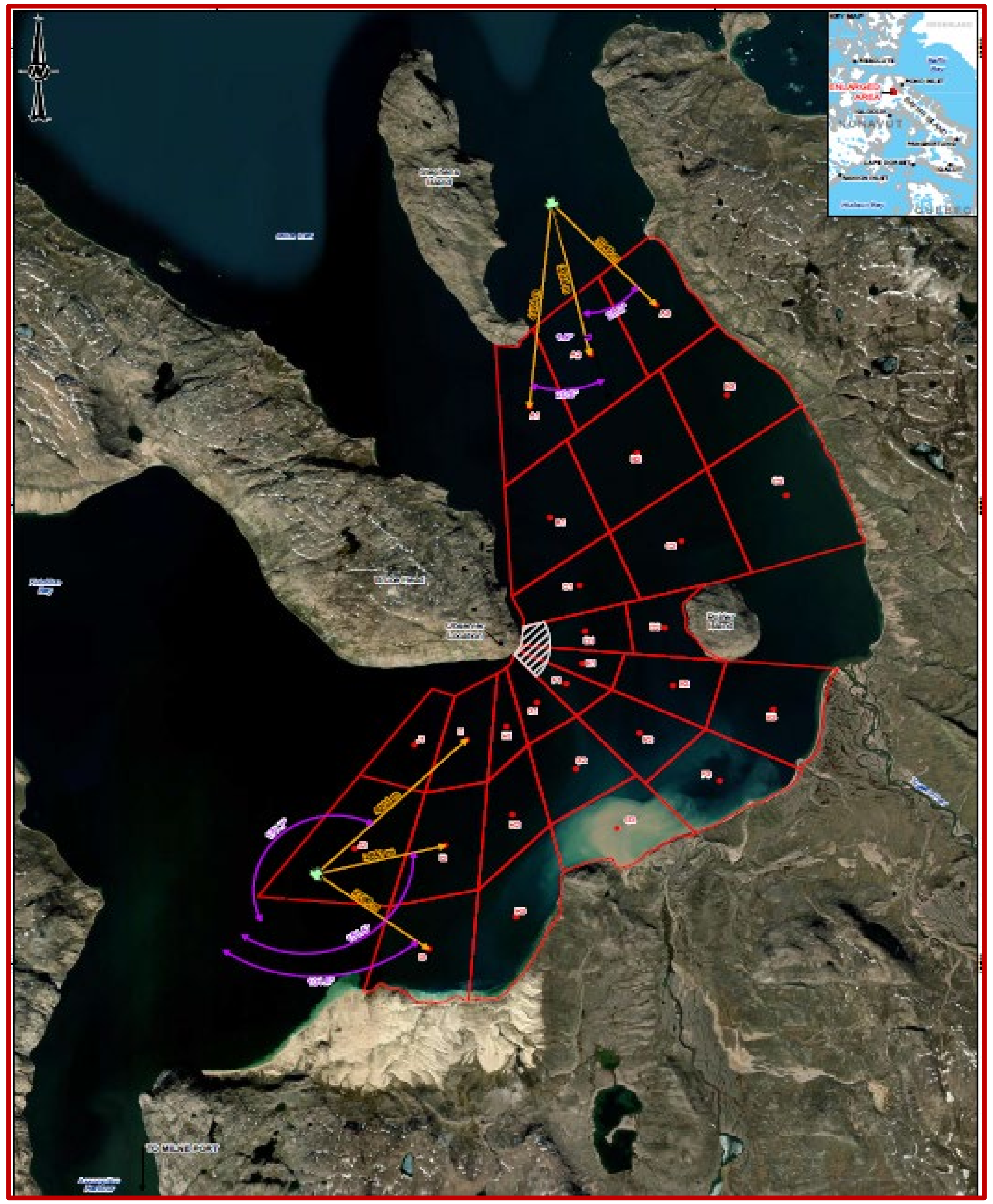
Baffinland

2022 Bruce Head Program
2022 ᐃᓗᕕᓕᖕᒥ ᐱᓕᕆᐊᖅ - ᖃᐅᔨᓯᐅᕐᖓᖅᑐᑦ

Survey Metrics ᖃᐅᔨᓴᕈᑏᑦ ᓈᓴᐅᑎᖏᑦ	Survey year ᖃᐅᔨᓴᕐᓂᐅᑉ ᐊᕐᕌᒍᖓ							
	2014	2015	2016	2017	2019	2020	2021	**2022**
No. of survey days ᐅᓪᓗᑦ ᖃᐅᕐᓂᑦ	23	29	27	26	26	26	24	**24**
Total survey effort (h) ᑲᑎᓪᓗᒃᑖᖅᓱᒋᑦ ᖃᐅᔨᓴᖁᓱᐊᕐᓂᑦ	79.6	148.7	159.3	97.3	151.5	193.0	163.0	**184.4**
Average daily survey effort (h) ᐅᓪᓘᒪᐟᒃᑐᑦ ᖃᐅᔨᓴᖁᓱᐊᕐᓂᕐᒧᑦ	7.8	10.8	11.9	6.1	11.1	13.6	13.2	**14.2**
No. of narwhal ᖃᕐᓯᐅᓂᖏᑦ ᑑᒑᓖᑦ	10,463	14,599	28,309	11,831	19,200	9,047	4,762	**15,548**
No. of narwhal / hour (relative abundance average) ᖃᕐᓯᐅᓂᖏᑦ ᑑᒑᓖᑦ ᐊᑐᖅᑕᐅᒐᔪᓕᖅᑐᑦ ᐱᓕᕆᓇᓱᐊᕐᓂᕐᒧᑦ (ᑲᑎᓪᓗᒃᑖᖅᓱᒋᑦ ᑑᒑᓖᑦ / ᑲᑎᖅᓱᒋᑦ ᐃᑲᕐᕋᑦ) – ᐊᒃᑐᐊᒍᑦ ᐱᑕᖃᕐᓂᖏᓐᓂᑦ ᖃᐅᔨᓴᕈᑎ	131.4	98.2	178.0	121.8	127.2	47.5	29.4	**84.9**



2022 Bruce Head Program
2022 ᐃᓗᕕᓕᖕᒥ ᐱᓕᕆᐊᖅ - ᖃᐅᔨᓴᐅᕐᖓᖅᑐᑦ



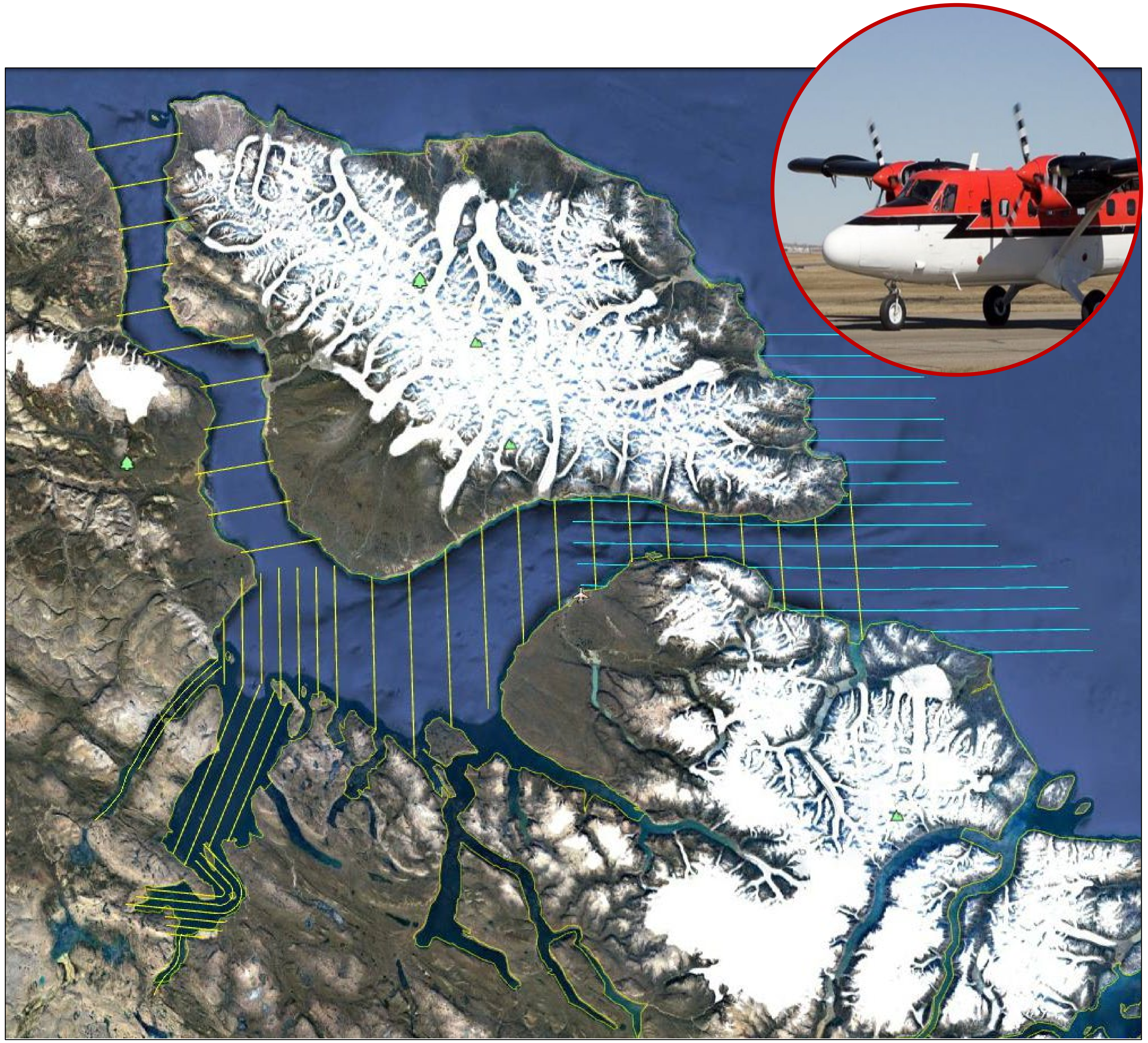
- Relative abundance (year over year) was higher in 2022 than the two preceding years (300% higher than 2021), and similar to levels in 2015.
- Behavioural responses of narwhal to shipping were limited to temporary, localized reactions at close distances to the ship with animals returning to normal behaviour shortly after the ship passed

- ᐊᒃᑐᐊᒧᑦ ᐅᓄᕐᓂᖏᓐᓄᑦ (ᐊᕐᕿᒍᑕᒫᑦ) ᖁᕝᕙᓯᖕᓂᖅᓴᐅᓚᐅᖅᑐᑦ 2022-ᒥ ᑖᒃᑯᓇᓂ ᒪᕐᕉᖕᓂᒃ ᑭᖑᓕᕐᓃᓂ ᐊᕐᕿᒍᓂ (300% ᐅᓄᕐᓂᖅᓴᖅ 2021-ᒥᓂᑦ), ᐊᔾᔨᐸᓗᐊ ᐅᓄᕐᓂᑎᓚᐅᖅᑕᖏᓐᓄᑦ 2015-ᒥ.
- ᖃᐅᔨᓴᕈᑎᓂᒃ ᕿᒥᕐᕈᓂᖅ ᑲᔪᓯᕙᓪᓕᐊᔪᖅ ᓱᓕ ᑕᒪᒃᑯᓄᖓ ‘ᑑᓚᓕᖃᕐᓂᐅᔪᓂ’ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ ᖃᐅᔨᓴᕐᕕᐅᔪᓂ ᐃᓂᓂ

2022 Marine Mammal Aerial Surveys – Leg 1 (Early Shoulder Season)
2022 ᑕᕆᐅᒥ ᐳᐃᔩᑦ ᖃᖓᑕᓲᒃᑯᑦ ᖃᐅᔨᓴᕐᓂᖅ - ᖃᖓᑕᓂ 1 (ᓯᑯᐃᓕᓵᖅᑎᓪᓗᒍ)

- Single aircraft in Eclipse Sound, Milne Inlet and entrance to Baffin Bay
- 8 surveys (21 July to 1 August)
  - 7 surveys before shipping
  - 1 survey after start of shipping (Aug 01)

- ᖃᖓᑕᓲᑐᐊᖅ ᑕᓯᐅᔭᕐᒥ, ᕿᙳᐊᓂ, ᐊᒻᒪᓗ ᐃᓯᕆᐊᖓᓂ ᕿᑭᖅᑖᓘᑉ ᐃᑭᖓᓂ
- 8 ᖃᐅᔨᕐᓃᑦ (21 ᔪᓚᐃᒥᑦ 1 ᐋᒡᒋᓯᒧᑦ)
  - 7 ᖃᐅᔨᓴᕐᓃᑦ ᐅᒥᐊᕐᔪᐊᖅᑳᖅᑎᓐᓇᒍ
  - 1 ᖃᐅᔨᓴᕐᓂᖅ ᐱᒋᐊᓵᖅᑎᓪᓗᒋᑦ ᐅᒥᐊᕐᔪᐊᖃᖃᑦᑕᕐᓂᖅ (ᐋᒡᒋᓯ 01)

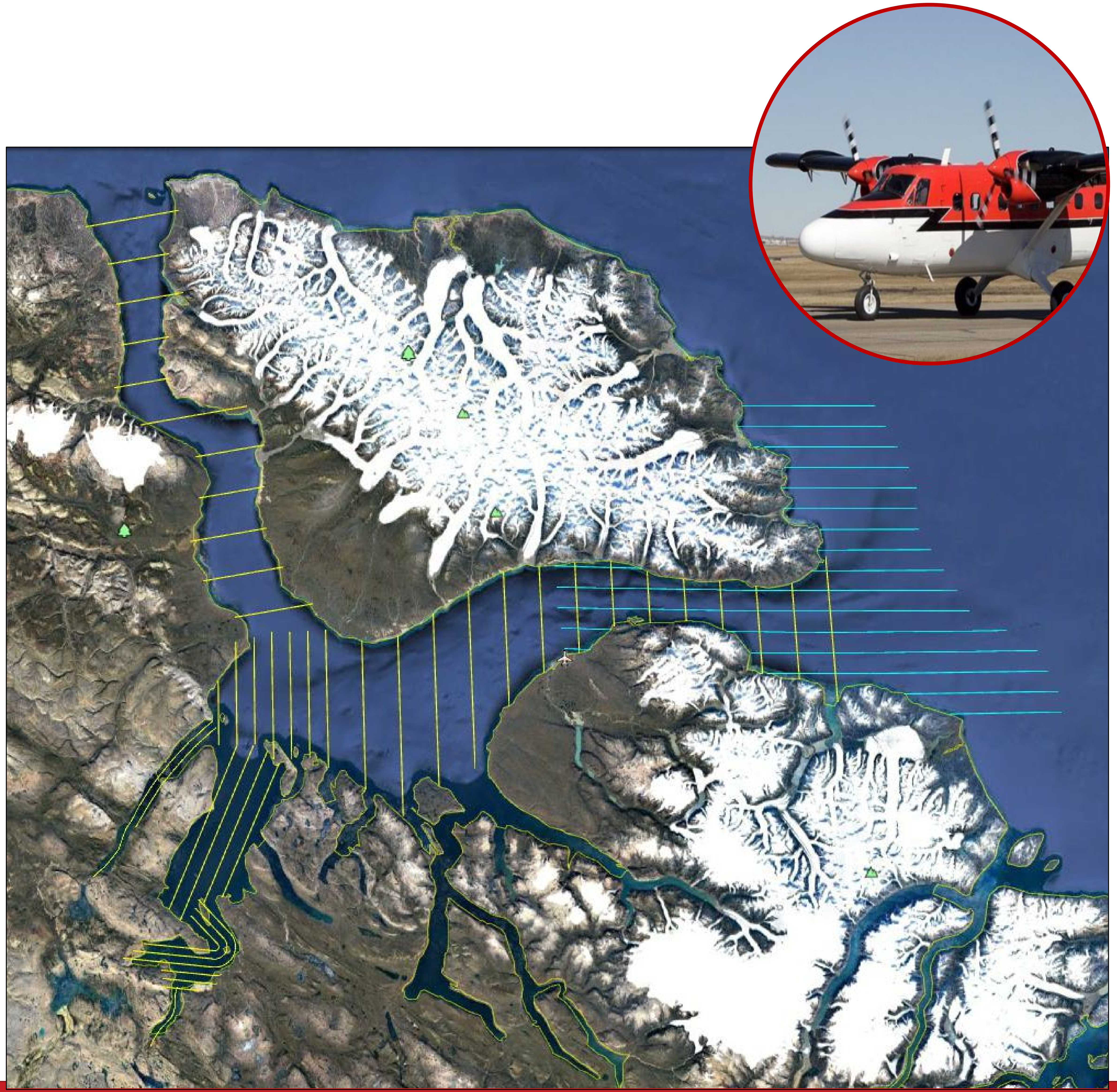


2022 Marine Mammal Aerial Surveys – Leg 1 (Early Shoulder Season)
2022 ᑕᕆᐅᒥ ᐳᐃᔩᑦ ᖃᖓᑕᓲᒃᑯᑦ ᖃᐅᔨᓴᕐᓂᖅ - ᖃᖓᑕᓂ 1 (ᓯᑯᐃᓕᓵᖅᑎᓪᓗᒍ)

- Survey methods:
  - systematic transects (pre-established grid)
  - dedicated transects along ship route or in open-water areas
  - reconnaissance flights
- Participation by 2 Inuit researchers from Arctic Bay

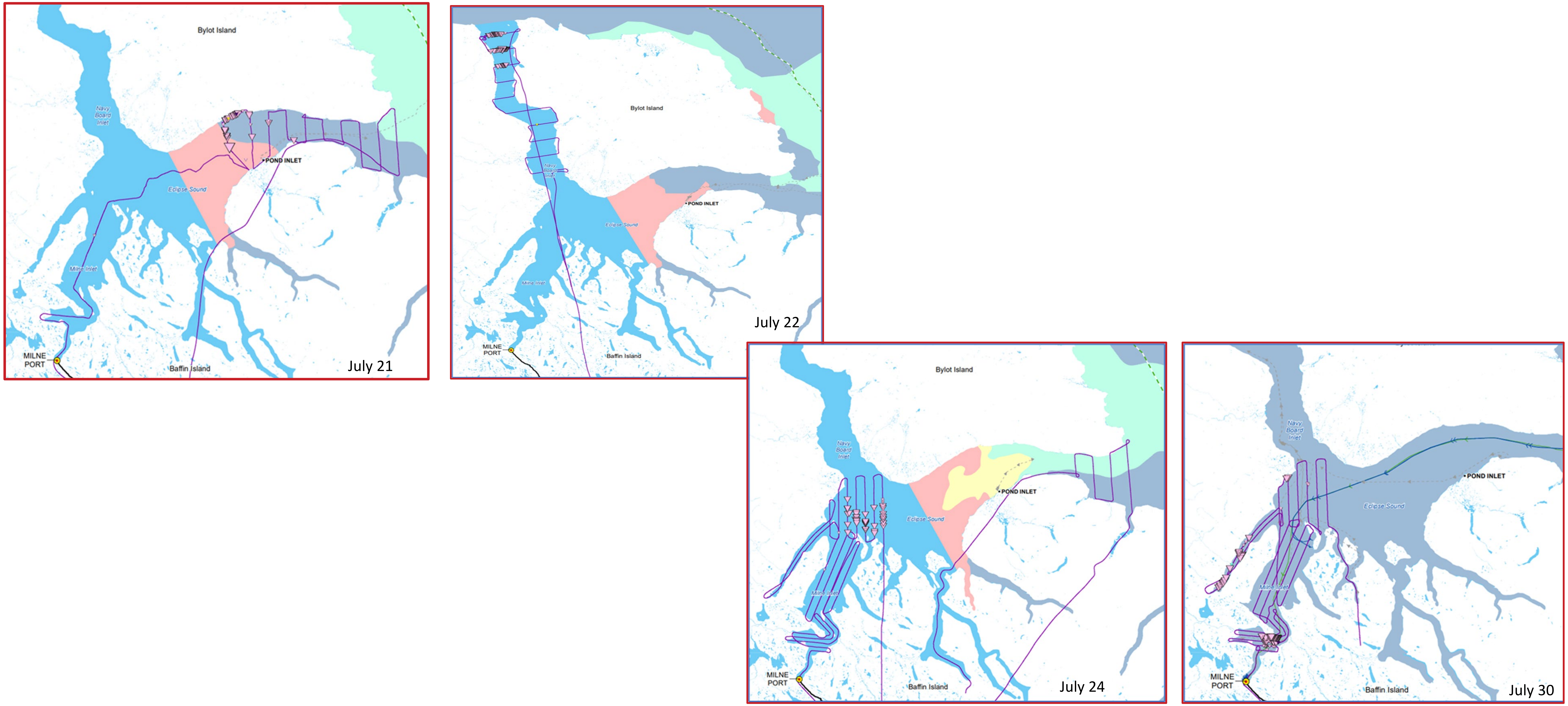
- ᖃᐅᔨᓴᕈᑎᓄᑦ ᐱᓕᕆᔾᔪᓯᖅ:
  - ᐋᖅᑭᒃᓯᒪᔪᑦ ᑐᑭᓕᓈᑦ (ᐋᖅᑭᒃᓯᒪᕙᒌᖅᑐᑦ ᑐᑭᓕᓈᑦ)
  - ᑖᒃᑯᓄᖓᓪᓚᑦᑖᖅ ᑐᑭᓕᖅᐹᑦ ᐅᒥᐊᖅᔪᐊᑦ ᐊᖅᑯᑖᒍᑦ ᐅᕝᕙᓘᓐᓃᑦ ᓯᑯᖃᙱᑦᑐᒃᑯᑦ
  - ᑐᓴᐅᒪᔾᔪᑎᑖᕈᒪᓪᓗᑎᒃ ᖃᖓᑕᓃᑦ

- ᐃᓚᐅᔪᖃᓚᐅᖅᑐᑦ ᒪᕐᕉᖕᓂᒃ ᐃᓅᖕᓂᒃ ᖃᐅᔨᓴᕐᑏᖕᓂᒃ ᐃᒃᐱᐊᕐᔪᖕᒥᖕᒑᖅᑑᖕᓂᒃ



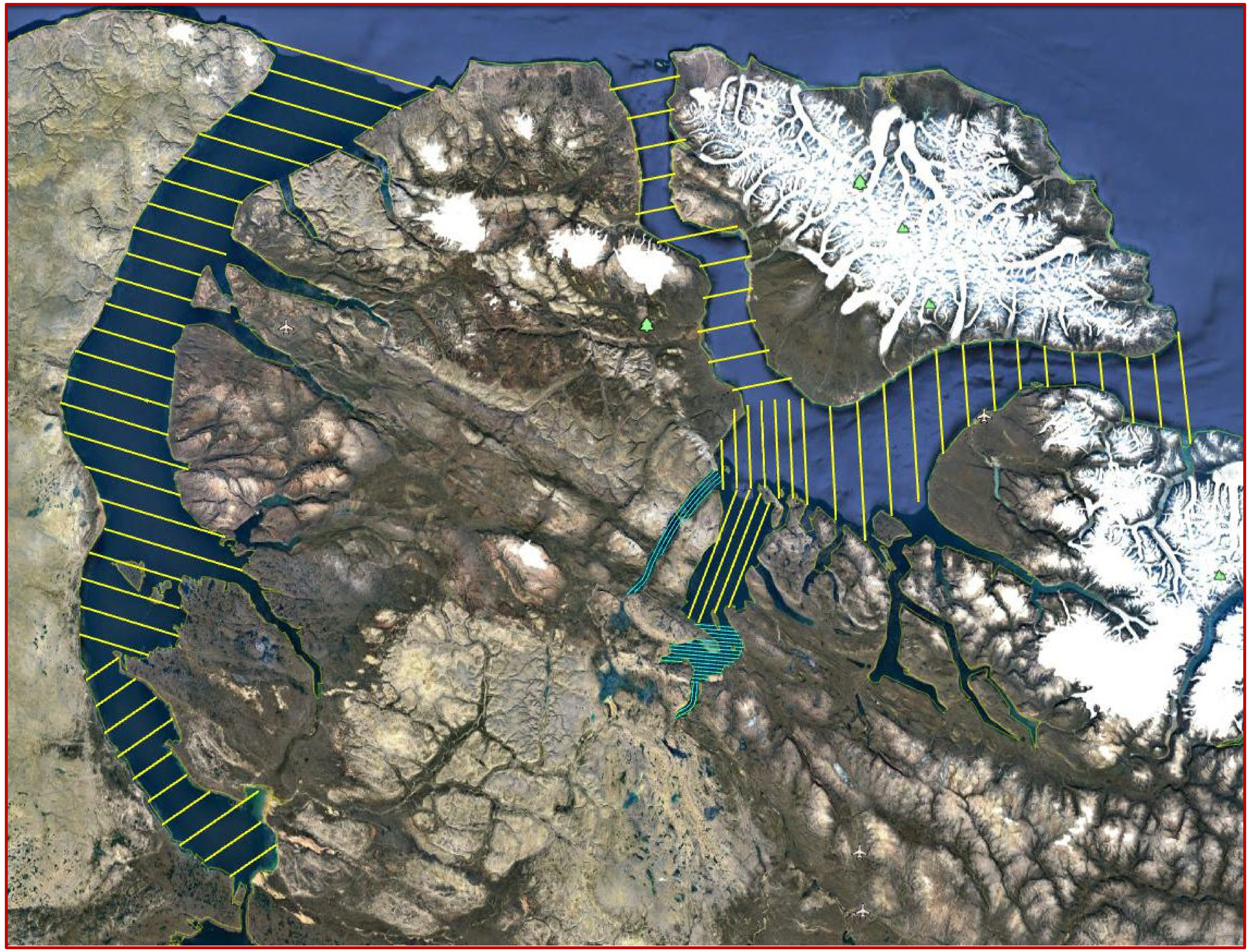
2022 Marine Mammal Aerial Survey – Leg 1 Results

2022 ᑕᕆᐅᒥ ᐳᐃᔨᓂᒃ ᖃᖓᑕᓲᒃᑯᑦ ᖃᐅᔨᓴᕐᓂᖅ - ᖃᖓᑕᓂᖅ 1 ᖃᐅᔨᔭᐅᕐᖓᖅᑐᑦ

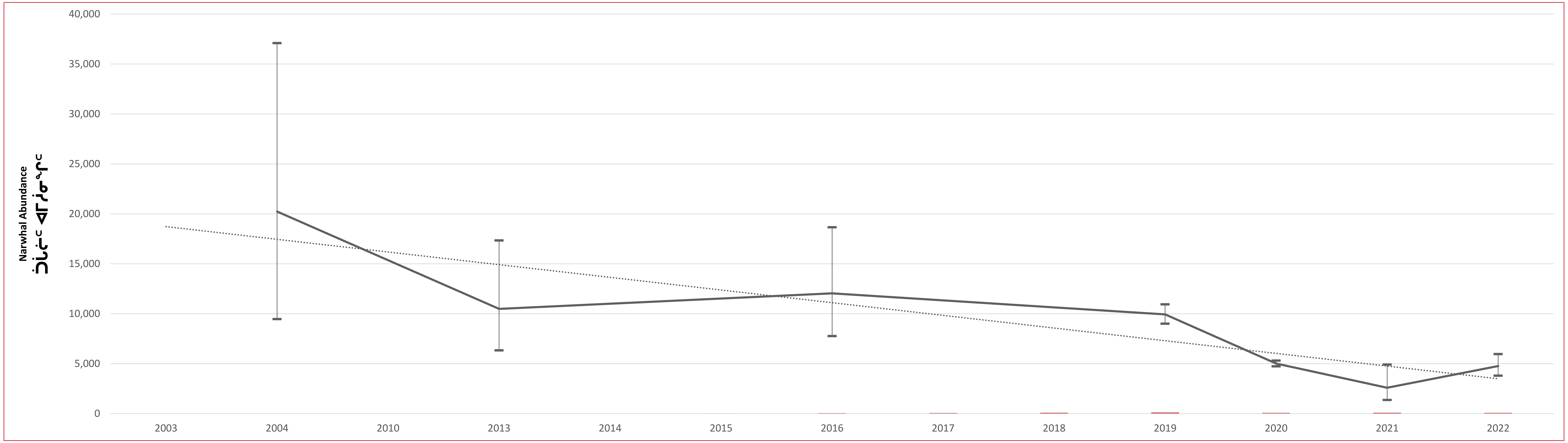


Leg 2 – Narwhal Abundance Surveys
ᖃᖓᑕᓂᖅ 2 - ᑑᓚᓖᑦ ᐊᒥᖀᓂᖏᓐᓄᑦ ᓈᓴᐃᓂᖅ

- Eclipse Sound and Admiralty Inlet
- Photographic and visual (observer) survey flown with two aircrafts
- Survey dates: 13 to 23 August
- 4 Inuit researchers participated in program
  - 2 from Pond Inlet and 2 from Arctic Bay
  - MHTO also invited to participate
- ᑕᓯᐅᔭᕐᒥ ᐊᒻᒪᓗ ᐃᒃᐱᐊᕐᔫᑉ ᐃᒪᖓᓂ
- ᐊᔾᔨᙳᐊᑎᒍᑦ ᐊᒻᒪᓗ ᑕᑯᔭᐅᔪᑎᒍᑦ (ᓇᐅᑦᑎᖅᓱᖅᑏᑦ) ᓈᓴᐅᔪᑦ ᖃᖓᑕᓪᓗᑎᒃ ᒪᕐᑰᓐᓄᑦ ᖃᖓᑕᓲᓄᑦ
- ᓈᓴᐃᓃᑦ ᐅᓪᓗᖏᑦ: 13-ᒥᑦ 23-ᒧᑦ ᐋᒡᒋᓯ
- 4 ᐃᓄᐃᑦ ᖃᐅᔨᓴᖅᑏᑦ ᐃᓚᐅᓚᐅᖅᑐᑦ ᐱᓕᕆᐊᒥ
  - 2 ᒥᑦᑎᒪᑕᓕᖕᒥ ᐊᒻᒪᓗ 2 ᐃᒃᐱᐊᕐᔪᖕᒥ
  - ᐃᓚᐅᕐᑯᔭᐅᓚᐅᕐᒥᔪᑦᒥᑦᑎᒪᑕᓕᖕᒥ ᐊᖑᓇᓱᒃᑐᓕᕆᔨᒃᑯᑦ



Results - Eclipse Sound Narwhal Abundance
ᑕᓯᐅᔭᒥ ᑑᒑᓖᑦ ᐅᓄᕐᓂᖕᒋᑦ



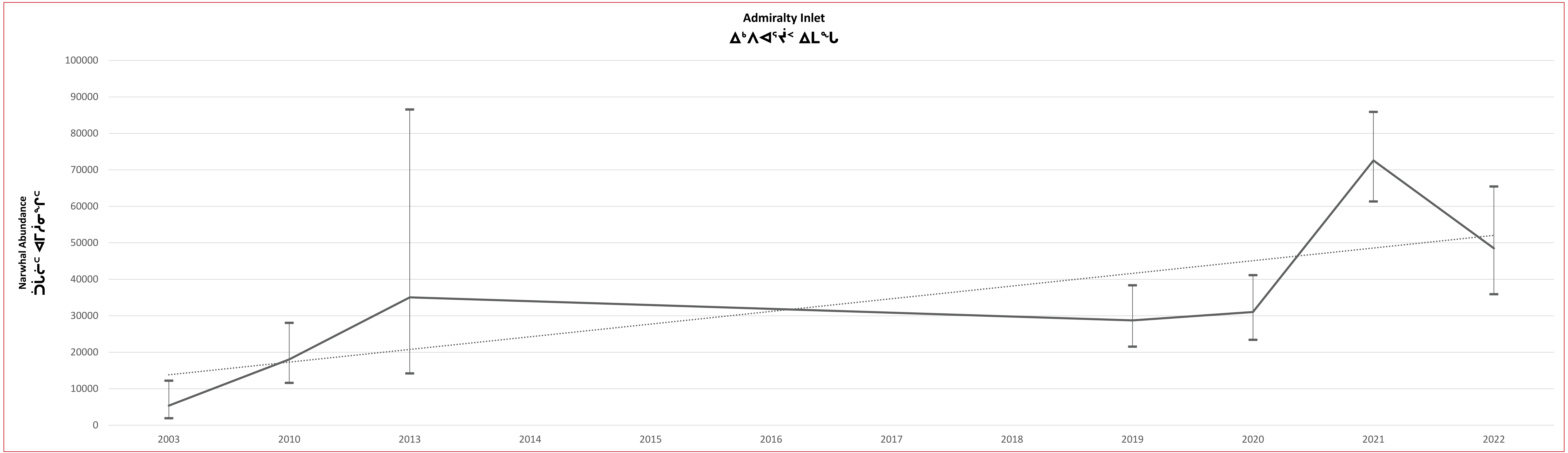
The 2022 narwhal abundance estimate for Eclipse Sound was **4,592 narwhal** (CV=0.10, 95% CI of 3,754-5,617 animals)

- statistically higher than the 2021 estimate (2,595 animals)
- statistically lower than the 2016 estimate (12,039 animals) and the 2019 estimate (9,931 animals)
- not statistically different than the 2013 abundance estimate (10,489 animals) – pre-shipping

2022 ᒥᒃᓴᐅᓴᒃᑕᐅᔪᑦ **4,592 ᓂᕐᔪᑏᑦ** (CV = 0.10, 95% CI , 3,754-5,617 ᓂᕐᔪᑎᑦ)

- ᓈᓴᐅᑎᑎᒍᑦ ᐅᓄᕐᓂᖅᓴᐅᔪᑦ **2021-ᒥᓂᑦ (2,595 ᓂᕐᔪᑎᑦ)**
- -ᒥ ᒥᒃᓴᐅᓴᒃᑕᐅᔪᑦ ᓈᓴᐅᑎᑎᒍᑦ ᐊᒃᐸᓯᙵᓂᖅᓴᐅᒍᑦ **2016-ᒥ** ᒥᒃᓴᐅᓴᒃᑕᐅᔪᓂᑦ **(12,039 ᓂᕐᔪᑎᑦ)** ᐊᒻᒪᓗ **2019-ᒥ** ᒥᒃᓴᐅᓴᒃᑕᐅᔪᑦ **(9,931 ᓂᕐᔪᑎᑦ)**
- -ᒥ ᒥᒃᓴᐅᓴᒃᑕᐅᓯᒪᒍᑦ ᓈᓴᐅᑎᑎᒍᑦ ᐊᔾᔨᒋᙱᒋᓗᐊᙱᑎᑕᖕᒋᑦ **2013-ᒥ** ᐅᓄᕐᓂᖕᒋᓐᓄᑦ ᒥᒃᓴᐅᓴᒃᑕᐅᓚᐅᖅᑐᑦ **(10,489 ᓂᕐᔪᑎᑦ)** ᐅᒥᐊᕐᔪᐊᖃᖃᑦᑕᖅᑳᖅᑎᓐᓇᒍ.

Results - Admiralty Inlet Narwhal Abundance
ᐃᒃᐱᐊᖅᑮᑉ ᐃᒪᖓᓂ ᑐᓚᓖᑦ ᐊᒥᓲᓂᖏᑦ



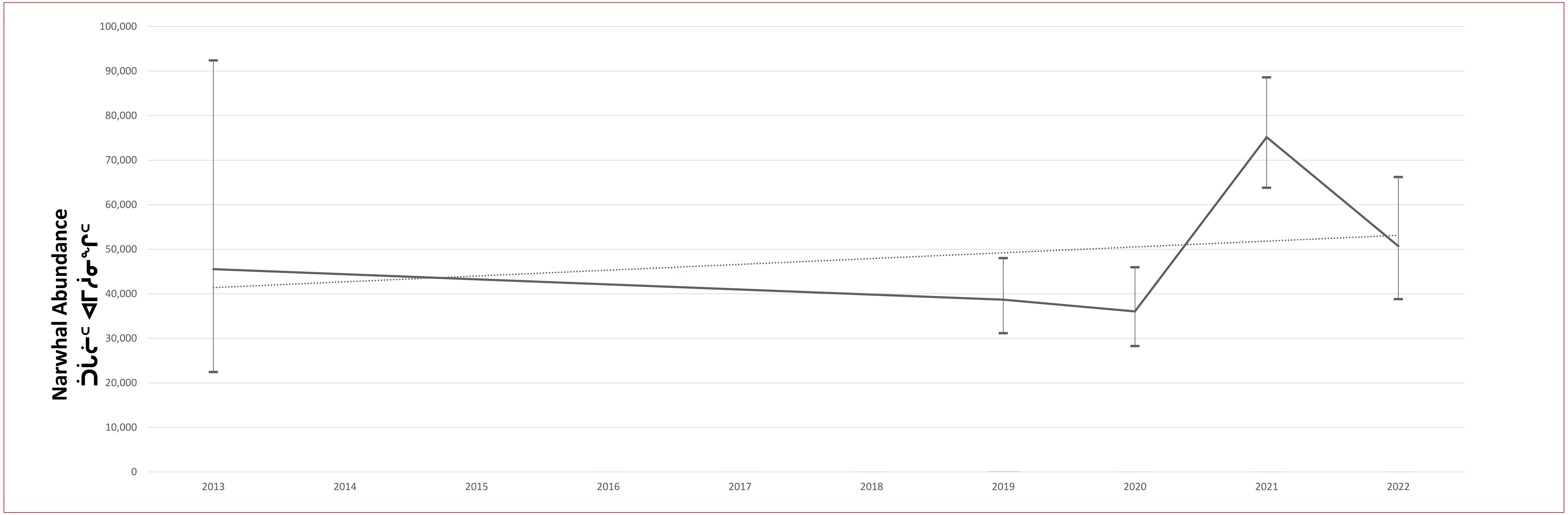
The 2022 narwhal abundance estimate for Admiralty Inlet was **43,042 narwhal** (CV=0.15, 95% CI = 32,218 - 57,502 narwhal)

- statistically lower than the 2021 estimate (72,582 animals)
- Statistically higher than the 2019 estimate (28,746 animals)
- not statistically different than the 2013 abundance estimate (35,043 animals) – pre-shipping; or the 2020 estimate (31,026 animals)

2022 ᒥᒃᓴᐅᓴᒃᑕᐅᔪᑦ 43, 042 ᓂᕐᔪᑏᑦ (CV = 0.15, 95% CI = 32, 128 – 57, 502 ᓂᕐᔪᑏᑦ)

- -ᒥ ᒥᒃᓴᐅᓴᒃᑕᐅᔪᑦ ᓈᓴᐅᑎᑎᒍᑦ ᐊᒃᐸᓯᖕᓂᖅᓴᐅᒍᑦ 2021-ᒥ ᒥᒃᓴᐅᓴᒃᑕᐅᔪᓂᑦ (75, 582 ᓂᕐᔪᑏᑦ)
- ᓈᓴᐅᑎᑎᒍᑦ ᐅᖁᕐᓂᖅᓴᐅᔪᑦ **2019-ᒥᓂᑦ (28, 746** ᓂᕐᔪᑏᑦ)
- -ᒥ ᒥᒃᓴᐅᓴᒃᑕᐅᓯᒪᔪᑦᓈᓴᐅᑎᑎᒍᑦ ᐊᔾᔨᒋᖏᒃᑐᐊᙱᑦᑕᖏᑦ **2013-ᒥᑦ** ᒥᒃᓴᐅᓴᒃᑕᐅᓯᒪᔪᑦ (35, 043 ᓂᕐᔪᑏᑦ) - ᐅᕝᕙᓘᓐᓃᑦ **2020** -ᒥ ᒥᒃᓴᐅᓴᒃᑕᐅᓯᒪᔪᑦ (31, 026 ᓂᕐᔪᑏᑦ)

Results - Combined Eclipse and Admiralty Inlet stock areas
ᖃᐅᔨᓴᐅᖕᒐᖅᑐᑦ - ᑲᑎᓪᓗᒋᑦ ᑕᓯᐅᔭᒥ ᐊᒻᒪᓗ ᐃᒃᐱᐊᕐᔫᑉ ᐃᒪᖕᒐᓂ



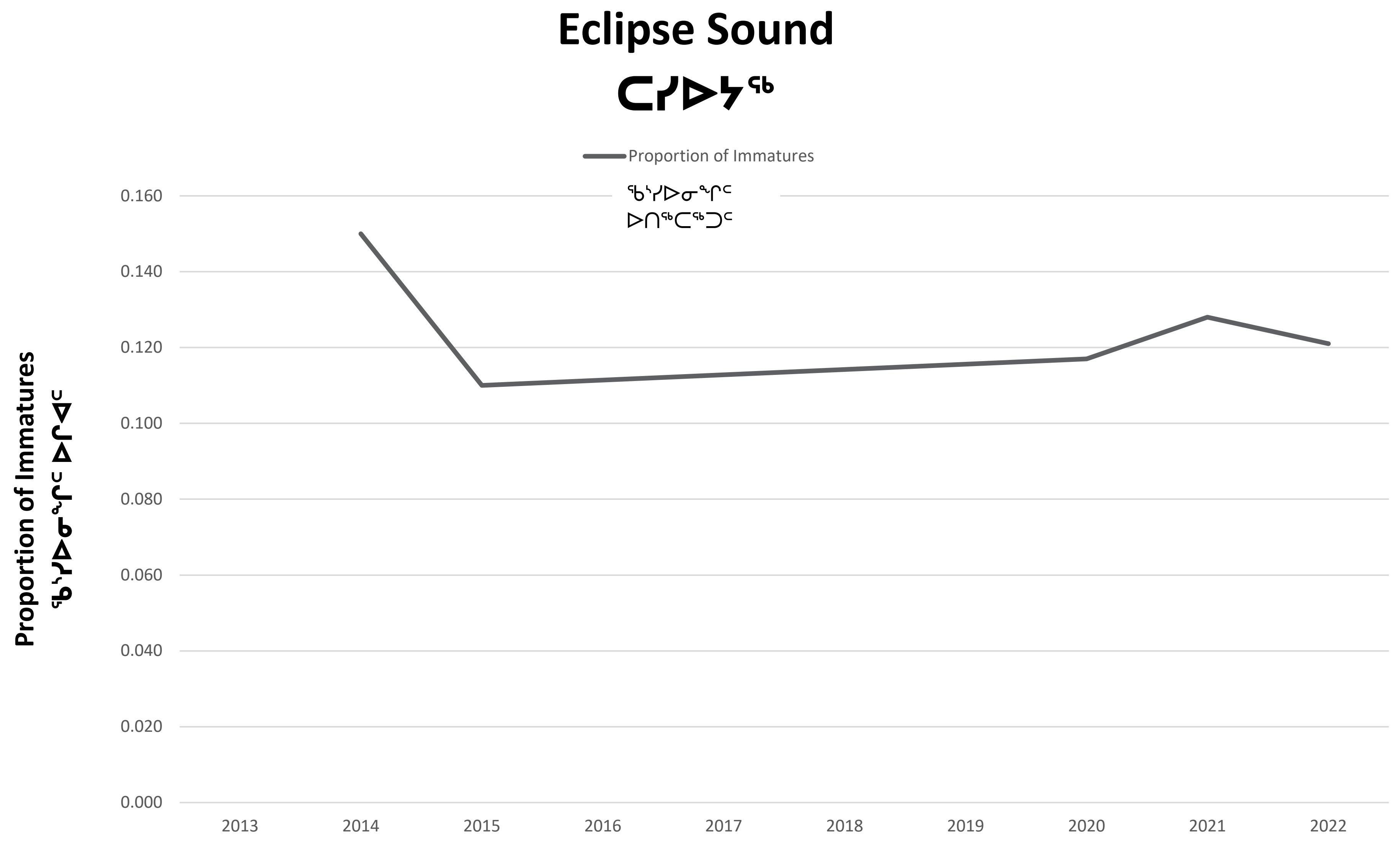
The 2022 abundance estimate for the combined stocks was **46,408 narwhal** (CV=0.13, 95% CI = 36,129 – 59,611 narwhal)

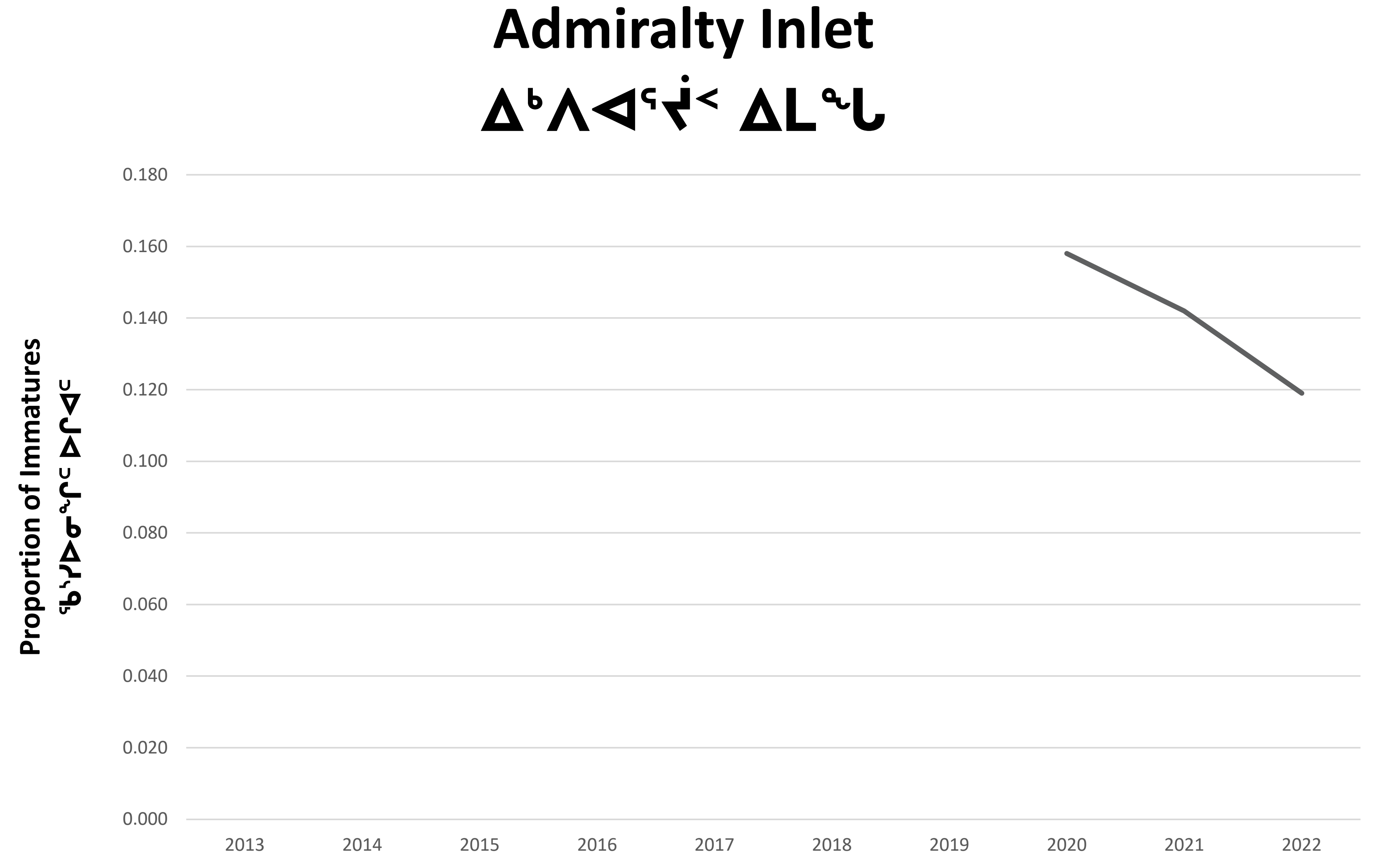
- statistically lower than the 2021 estimate (75,177 animals)
- not statistically different than the 2013 abundance estimate (45,532 animals) – pre-shipping; the 2019 estimate (38,677 animals) or the 2020 estimate (36,044 animals)

2022 ᒥᑦᓴᐅᓴᒃᑕᐅᔪᑦ **46, 408 ᓇᕐᕕᑏᑦ** (CV = 0.13, 95% CI = 36, 129 – 59, 611 ᓇᕐᕕᑏᑦ)

- -ᒥ ᒥᑦᓴᐅᓴᒃᑕᐅᔪᑦ ᓈᓴᐅᑎᑎᒍᑦ ᐊᒃᐸᓯᖕᓂᖅᓴᐅᒧᑦ 2021-ᒥ ᒥᑦᓴᐅᓴᒃᑕᐅᔪᓂᑦ (75, 177 ᓇᕐᕕᑏᑦ)
- -ᒥ ᒥᑦᓴᐅᓴᒃᑕᐅᓯᒪᔪᑦᓈᓴᐅᑎᑎᒍᑦ ᐊᔾᔨᒋᖕᒋᓗᐊᙱᑕᕐᒋᑦ **2013**-ᒥᑦ ᒥᑦᓴᐅᓴᒃᑕᐅᓯᒪᔪᑦ (45,532 ᓇᕐᕕᑏᑦ) - ᐅᖓᓯᓐᓃᑦ **2019**-ᒥ ᒥᑦᓴᐅᓴᒃᑕᐅᓯᒪᔪᑦ (38,677 ᓇᕐᕕᑏᑦ) , **2020** -ᒥ ᒥᑦᓴᐅᓴᒃᑕᐅᓯᒪᔪᑦ (36,044 ᓇᕐᕕᑏᑦ)

Results for Early Warning Indicator (Proportion of Immature Narwhal)
ᖃᖓᑕᓲᒃᑯᑦ ᖃᐅᔨᓴᕐᓂᖅ – ᖃᐅᔨᓵᓂᓯᒪᔭᖃᕆᐊᓕᑦ ᓇᓗᓇᐃᖅᓯᔾᔪᑎᑦ ᑐᓴᖅᑕᐅᕋᑖᖅᓯᒪᔪᑦ ᖃᓄᐃᓕᖓᓂᖏᑦ (% ᐅᒥᐊᓂᒃ)





Year	Eclipse Sound	Admiralty
2014	0.150	—
2015	0.110	—
2020	0.117	0.158
2021	0.128	0.142
2022	0.121	0.119

ᐊᕐᕌᒍ	ᑕᓯᐅᔭᕐᒥ ᑑᒑᓕᖅᖃᖅᑐᑦ	ᐃᒃᐱᐊᕐᔫᑉ ᐃᒪᖓᓂ ᑑᒑᓕᖅᖃᖅᑐᑦ
2014	0.150	—
2015	0.110	—
2020	0.117	0.158
2021	0.128	0.142
2022	0.121	0.119

Baffinland

2022 Ship-board Observer (SBO) Program
2022-ᒥ ᐅᒥᐊᕐᔪᐊᒦᒍᑎᒃ ᓇᐅᑦᑎᖅᓱᖅᑏᑦ ᐱᓕᕆᐊᖅ

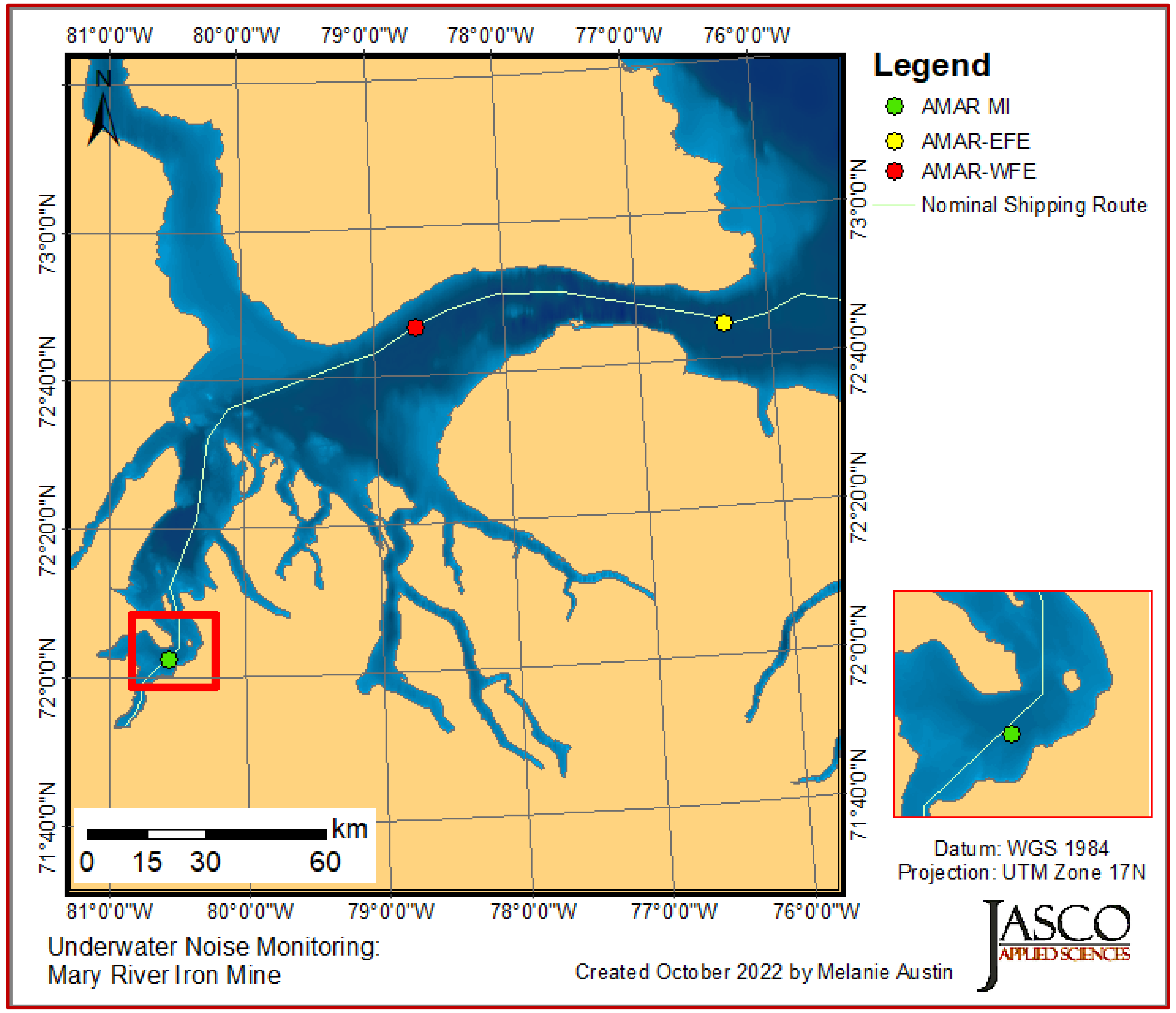
- 1st objective: Monitor for potential ship strikes on marine mammals in the Regional Study Area (RSA)
- 2nd objective: monitor relative abundance, distribution and behaviour of marine mammals in RSA relevant to icebreaker movements.
- ᓯᕗᓪᓕᖅᐹᖅ ᑎᑭᑕᐅᓇᓱᐊᖅᑐᖅ: ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓗᑎᒃ ᐅᒥᐊᕐᒧᐊᑦ ᐊᐳᖅᓯᑐᐃᓐᓇᕆᐊᖃᕐᓂᖏᓐᓂᒃ ᑕᕆᐅᒥ ᐳᐃᔨᓂᒃ ᓄᓇᓂ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ ᖃᐅᔨᓴᕐᕕᐅᔪᓂ
- ᑭᖑᓪᓕᖅ ᑎᑭᑕᐅᓇᓱᐊᖅᑐᖅ: ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓗᑎᒃ ᐊᒃᑐᐊᔪᑦ ᐊᒥᓲᓂᖏᓐᓄᑦ ᐊᒻᒪᓗ ᓇᓃᓐᓂᖏᓐᓄᑦ ᐃᓕᖅᑯᓯᖏᓐᓂᓪᓗ ᑕᕆᐅᒥ ᐳᐃᔩᑦ ᓄᓇᓂ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ ᖃᐅᔨᓴᕐᕕᐅᔪᓂ ᐊᒃᑐᐊᓂᓛᑦ ᓯᑯᓂᒃ ᐊᔭᐅᖅᑐᐃᔩᑦ ᐃᖏᕐᕋᑲᑦᑕᕐᓂᖏᓐᓄᑦ

2022 Ship-board Observer (SBO) Program
2022-ᒥ ᐅᒥᐊᕐᔪᐊᒦᓗᑎᒃ ᓇᐅᑦᑎᖅᓱᖅᑏᑦ ᐱᓕᕆᐊᖅ

- 3rd objective: monitor relative abundance and distribution of seabirds in RSA
- The SBO program did not occur in 2022
- ᐅᔨᓴᖅᐸᓪᓕᐊᖕᒋᓐᓇᕐᓗᑎᒃ ᐊᒃᑐᐊᔪᑦ ᐊᒥᓲᓂᖕᒋᓐᓄᑦ ᐊᒻᒪᓗ ᓇᓃᓐᓂᖕᒋᓐᓄᑦ ᑕᕆᐅᒥ ᑎᖕᒥᐊᑦ ᑕᐅᕗᓂ ᓄᓇᓂ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ ᖃᐅᔨᓴᕐᕕᐅᔪᓂ
- ᐅᒥᐊᕐᔪᐊᒦᓗᑎᒃ ᓇᐅᑦᑎᖅᓱᑦᑏᑦ ᖃᐅᔨᓴᕐᓂᖅ ᐱᓕᕆᐊᖑᓚᐅᙱᑦᑐᖅ 2022-ᒥ

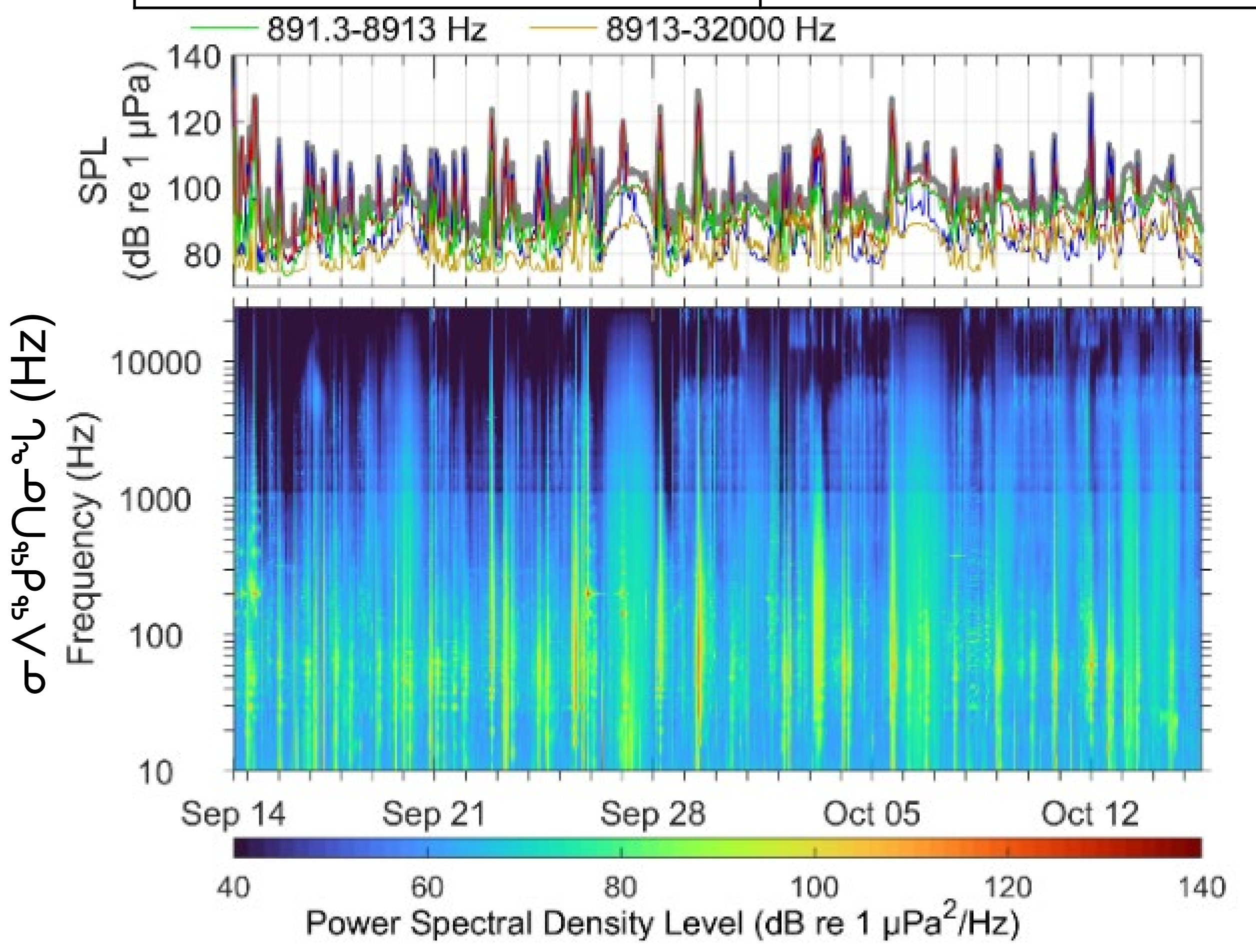
2022 Acoustic Monitoring Program
2022–ᒥ ᓂᐱᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᖅ

- Floe Edge recordings
  - Recording periods:
    - Sept 15 – Oct 15, 2021
    - July 7 – Aug 6, 2022
- ᑦᓯᓈᖓᓂ ᓂᐱᓕᐅᖅᑕᐅᕙᒃᑐᑦ
  - ᓂᐱᓕᐅᖅᑕᐅᓃᑦ ᖃᖓᐅᖃᑦᑕᕐᒪᖔᑕ
    - ᓯᑎᐱᕆ 15 – ᐅᑐᐱᕆ 15, 2021
    - ᔪᓚᐃ 7 – ᐋᒡᒌᓯ 6, 2022
- Milne Inlet recordings
  - Recording period: Aug 13 – Oct 1, 2022
- ᕿᙳᐊᓂ ᓂᐱᓕᐅᖅᑕᐅᓯᒪᔪᑦ
  - ᓂᐱᓕᐅᖅᑕᐅᓃᑦ ᖃᖓᐅᖃᑦᑕᕐᒪᖔᑕ: ᐋᒡᒌᓯ 13 – ᐅᑐᐱᕆ1, 2022

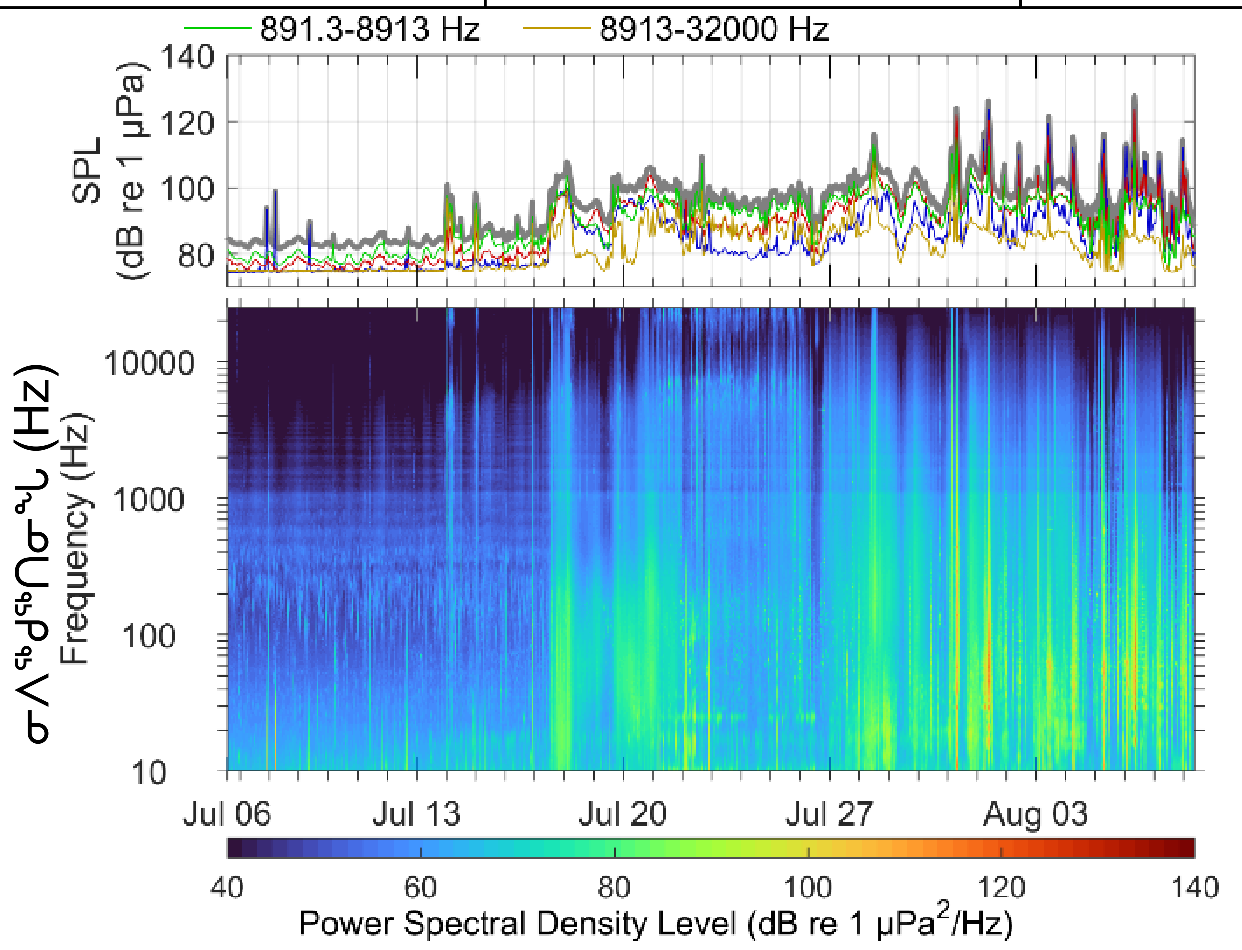


2022 Acoustic Monitoring Program
2022–Γ ᓂᐱᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖕᒋᓐᓇᕐᓂᖅ

	Number of Minutes per Day with SPL > 120 dB re 1 μPa ᖃᔅᓯᐅᓂᖕᒋᑦ ᒥᓂᑦ ᐊᑐᓂ ᐅᓪᓗᕐᒧᑦ ᓂᐱᐅᑉ ᓯᖕᒎᔭᕐᓂᖕᒐ > 100 ᑎᓯᐳᒃ (dB) re 1 μPa			
	Sep / Oct 2021 ᓯᑎᐱᕆ, ᐅᑐᐱᕆ 2021		Jul / Aug 2022 ᔪᓚᐃ, ᐋᒡᒌᓯ 2022	
	Average ᐃᒪᐃᓚᔪᒃᑐᑦ	Maximum ᐅᓄᓛᑦ	Average ᐃᒪᐃᓚᔪᒃᑐᑦ	Maximum ᐅᓄᓛᑦ
AMAR-EFE	26	87	14	43
AMAR-WFE	25	128	22	51



ᓯᖖᒋᓂᖕᒋᓐᓄᑦ ᖃᓄᐃᓕᖓᓃᑦ ᓯᖖᒋᓕᓈᑦ

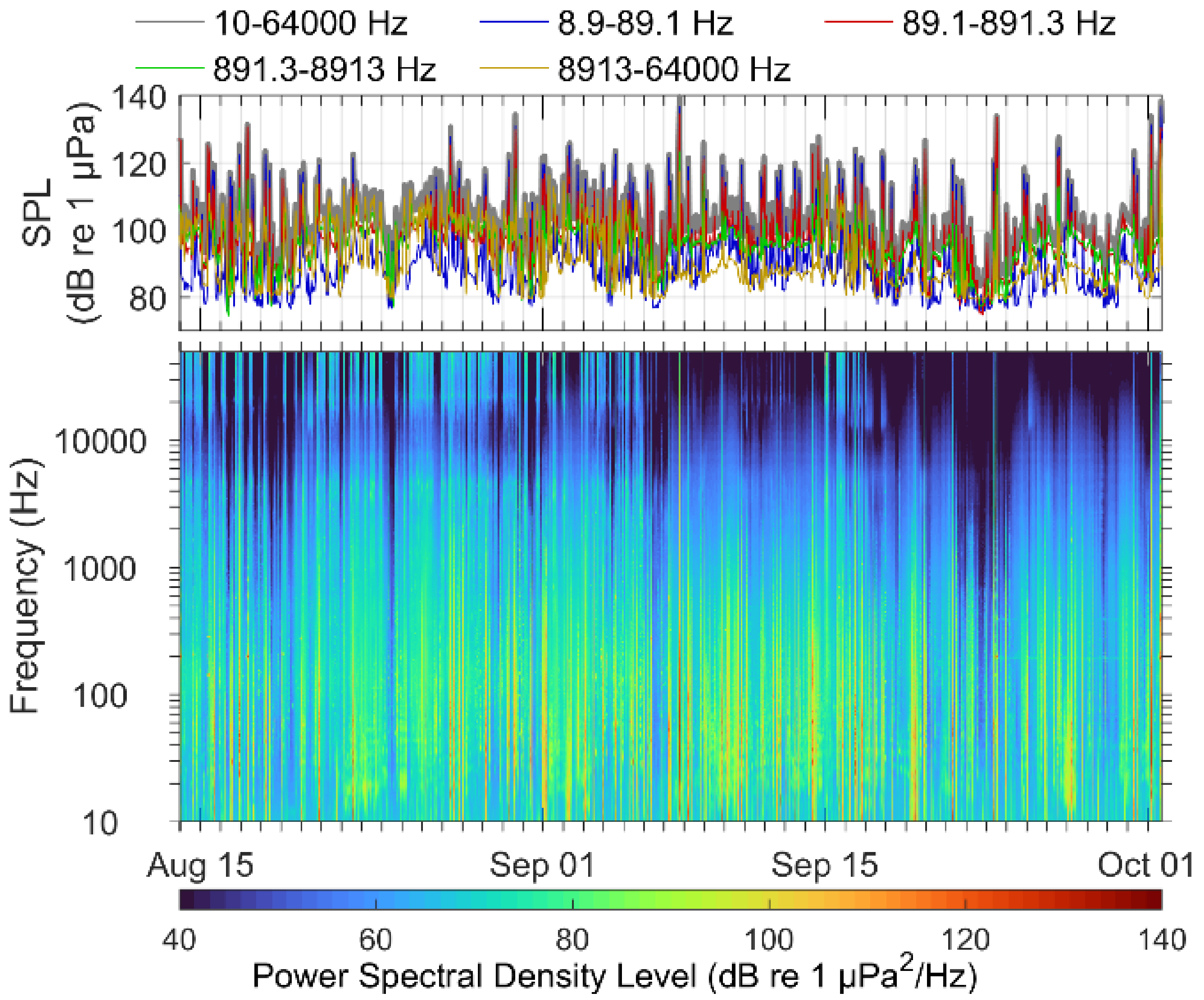


ᓯᖖᒋᓂᖕᒋᓐᓄᑦ ᖃᓄᐃᓕᖓᓃᑦ ᓯᖖᒋᓕᓈᑦ

2022 Acoustic Monitoring Program
2022–ᒥ ᓂᐱᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᖅ

- Milne Inlet recordings
- ᕿᓐᖑᐊᓂ ᓂᐱᓕᐅᖅᑕᐅᓯᒪᔪᑦ

	Number of Minutes per Day with SPL > 120 dB re 1 µPa ᖃᔅᓯᐅᓂᖏᑦ ᒥᓂᑦ ᐊᑐᓂ ᐅᓪᓗᕐᒧᑦ ᓂᐱᐅᑉ ᓯᖖᒎᔭᕐᓂᖓ > 100 ᑎᓯᐳᔅ (dB) re 1 µPa	
	Average ᒪᐃᒐᔪᒃᑐᑦ	Maximum ᐅᓄᓛᑦ
AMAR-MI	35	102



2022 Acoustic Monitoring Program – Convoy Measurements
2022 ᓂᐱᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ - ᐅᒥᐊᕐᔪᐊᑦ ᑮᓐᒍᓕᕇᑦᑎᐊᓐᒍᓪᓗᑎᒃ ᐊᑕᐅᑦᑎᒃᑰᖅᑐᑦ ᐆᒃᑐᕋᖅᑕᐅᓂᖏᑦ

- For 7 of the 9 considered convoys, the 120 dB exceedance duration for the convoy was less than the sum of the average 120 dB exceedance durations for the individual vessels in the convoy.

- These initial results support the hypothesis that vessel convoys can be an effective means to reduce the overall sound exposure throughout the shipping season.

- 7-ᓄᑦ 9-ᓂᑦ ᐃᓱᒪᒋᔭᐅᔪᑦ ᐅᒥᐊᕐᔪᐊᑦ ᑮᓐᒍᓕᕇᑦᑎᐊᓐᒍᓪᓗᑎᒃ ᐊᑕᐅᑦᑎᒃᑰᖅᑐᑦ, 120 dB ᐅᖓᑕᐅᔾᔨᔪᖅ ᐊᑯᓂᐅᓂᖓᓄᑦ ᐅᒥᐊᕐᔪᐊᑦ ᑮᓐᒍᓕᕇᑦᑎᐊᓐᒍᓪᓗᑎᒃ ᐊᑕᐅᑦᑎᒃᑰᖅᑐᑦ ᑐᖔᓃᓚᐅᖅᑐᑦ ᑲᑎᓗᒃᑖᖅᓗᖏᑦ ᑐᓴᖅᑕᐅᓂᐅᓚᔪᒃᑐᖅ 120 Db ᐅᖓᑕᐅᔾᔨᓂᕐᒧᑦ ᐊᑯᓂᐅᓂᖏᑦ ᐃᓄᑐᐊᓄᑦ ᐅᒥᐊᕐᔪᐊᓄᑦ ᐅᒥᐊᕐᔪᐊᑦ ᑮᓐᒍᓕᕇᑦᑎᐊᓐᒍᓪᓗᑎᒃ ᐊᑕᐅᑦᑎᒃᑰᖅᑐᓂ.

- ᖃᐅᔨᔭᐅᕐᖓᖅᑐᑦ ᐃᑲᔪᖅᑐᖅᑐᑦ ᓇᓚᐅᑦᑖᖅᑕᐅᔪᒥᒃ ᑕᒪᒃᑯᐊ ᐅᒥᐊᕐᔪᐊᑦ ᑮᓐᒍᓕᕇᑦᑎᐊᓐᒍᓪᓗᑎᒃ ᐊᑕᐅᑦᑎᒃᑰᖅᑐᑦ ᐊᑑᑎᖃᕈᓐᓇᕐᓂᖏᓐᓄᑦ ᓂᐱᖃᖅᑐᓗᒃᑖᑦ ᓂᐱᑮᓂᖅᓴᐅᓕᕐᑯᓪᓗᒋᑦ ᐅᒥᐊᕐᓇᐊᖃᕐᓇᕐᓂᓕᒫᖓᓂ.

2022 Acoustic Monitoring Program – Convoy Measurements
2022 ᓂᐱᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ - ᐅᒥᐊᕐᔪᐊᑦ ᑭᖑᓕᕇᑦᑎᐊᖑᓪᓗᑎᒃ ᐊᑕᐅᑦᑎᒃᑰᖅᑐᑦ ᐆᒃᑐᕋᖅᑕᐅᓂᖏᑦ

- This analysis highlighted that there is substantial variability of the 120 dB exposure durations across different measurements of both individual vessels, and convoys (example next slide).

- This variability makes it difficult to compare convoy transits with those of individual vessels.

- ᕿᒥᕐᕈᓯᐅᔪᑦ ᓇᓗᓇᐃᖅᑕᐅᓚᐅᖅᑐᑦ ᐊᖏᔪᒥᒃ ᐊᔾᔨᒌᙱᕐᔪᐊᕐᓂᖏᓐᓂᒃ 120 dB ᓂᐱᖃᑦᑕᓲᓂᖓᓄᑦ ᐊᔾᔨᒌᙱᑦᑐᓂ ᐆᒃᑐᕋᐅᑎᓂᒃ ᑕᒪᕐᒥᖕᓄᑦ ᐃᓛᒃᑯᑦ ᐅᒥᐊᕐᔪᐊᑦ ᐊᒻᒪᓗ ᐅᒥᐊᕐᔪᐊᑦ ᑭᖑᓕᕇᑦᑎᐊᖑᓪᓗᑎᒃ ᐊᑕᐅᑦᑎᒃᑰᖅᑐᓂ (ᐅᓂᒃᑳᖅᑕᐅᓂᖓ ᓴᖀᓐᓂᐊᖅᑐᒥ ᓴᖀᑎᑕᒐᕐᒦᑦᑐᖅ).

- ᑕᒪᓐᓇ ᐊᔾᔨᒌᙱᖃᑦᑕᕐᓂᖓ ᐊᔪᕐᓇᖅᑎᑦᑎᔪᖅ ᖃᓄᐃᓐᓂᖅᓴᐅᙱᓐᖔᑕ ᐅᒥᐊᕐᔪᐊᑦ ᑭᖑᓕᕇᑦᑎᐊᖑᓪᓗᑎᒃ ᐊᑕᐅᑦᑎᒃᑰᖅᑐᑦ ᐃᖏᕐᕋᓂᖏᑦ ᑖᒃᑯᓄᖓ ᐃᓛᒃᑰᖅᑐᓄᑦ ᐅᒥᐊᕐᔪᐊᓄᑦ.

Baffinland

2022 Marine Environmental Effects Monitoring Program (MEEMP)
ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᑐᐃᓂᕐᓄᑦ ᖃᐅᔨᓴᐃᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ ᐊᒻᒪᓗ
ᑕᒫᓂᕐᕿᐅᑕᐅᙱᑦᑐᑦ ᐆᒪᔪᑦ/ᑎᑭᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ

- Objective: Monitor for adverse effects from shipping and port operations on marine Valued Ecosystem Components (VEC).
- ᑎᑭᑕᐅᓇᓱᐊᖅᑐᑦ: ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓗᒋᑦ ᐊᑐᐃᓂᕐᓗᖕᓃᑦ ᐅᒥᐊᕐᔪᐊᖃᖃᑦᑕᕐᓂᕐᒥ ᐊᒻᒪᓗ ᑐᓚᒃᑕᕐᕕᖕᒥ ᐊᐅᓚᓃᑦ ᑕᒪᒃᑯᓄᖓ ᐱᒻᒪᕆᐅᑉᔪᐅᔪᑦ ᐆᒪᔪᖃᖅᑐᑦ ᓇᔪᒐᕐᒥᓂᒃ ᐊᒃᑐᐊᖃᑎᓯᖕᓂᖏᓐᓄᑦ.

Valued Ecosystem Component (VEC) ᐱᒻᒪᕆᐅᑉᔪᐅᔪᑦ ᐆᒪᔪᖃᖅᑐᑦ ᓇᔪᒐᕐᒥᓂᒃ ᐊᒃᑐᐊᖃᑎᓯᖕᓂᖓᑦ	Sub-VECs or Key Indicators (KIs) ᐊᓪᓕᐅᓂᖅᓴᑦ ᐱᒻᒪᕆᐅᑉᔪᐅᔪᑦ ᐆᒪᔪᖃᖅᑐᑦ ᓇᔪᒐᕐᒥᓂᒃ ᐊᒃᑐᐊᖃᑎᓯᖕᓂᖓᑦ ᐅᕝᕙᓘᓐᓃᑦ ᓇᓗᓇᐃᒃᑯᑕᓪᓗᐊᑕᑦ	Performance Indicators ᖃᓄᐃᓕᕐᓂᖏᓐᓄᑦ ᓇᓗᓇᐃᒃᑯᑕᑦ
Marine Water and Sediment **ᑕᕆᐅᑉ ᐃᒪᖓ ᐊᒻᒪᓗ ᐃᓱᕐᓃᑦ**	Marine Water Quality ᑕᕆᐅᑉ ᐃᒪᖓᑕ ᖃᓄᐃᓕᖓᓂᖓ	• Metals, total suspended solids (TSS), hydrocarbons, nutrients • ᓴᕕᕋᔭᑦ, ᑲᑎᓪᓗᒃᑖᖅᓱᒋᑦ ᖃᖓᑦᑕᖅᑐᑦ ᑕᖏᓖᑦ, ᐅᖅᓱᐊᓗᒃᓴᖅ, ᓂᕿᑦᑎᐊᕙᑦ
	Marine Sediment Quality ᑕᕆᐅᑉ ᐃᓱᕐᓂᖓᑕ ᖃᓄᐃᓕᖓᓂᖓ	• Particle size, nutrients, metals, hydrocarbons • ᒥᑭᔪᕋᓛᑦ ᐊᖏᓂᖏ, ᓂᕿᑦᑎᐊᕙᑦ, ᓴᕕᕋᔭᑦ, ᐅᖅᓱᐊᓗᒃᓴᑦ
Marine Habitat and Biota **ᑕᕆᐅᒥ ᓇᔪᒐᑦ ᐊᒻᒪᓗ ᐆᒪᓂᖃᕐᕕᐅᔪᑦ**	Benthic Infauna ᐃᖅᑲᖓᓂ ᐱᕈᖅᑐᑦ	• Density, taxa richness, Simpson's diversity/evenness index • ᑎᓯᓂᖓ, ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᓂᖏᓐᓂᑦ ᐱᑕᖃᑦᑎᐊᖅᑐᑦ, ᓯᒻᓴᓐ ᐊᔾᔨᒋᙱᑦᑎᐊᕐᒍᔭᖅᑐᑦ/ᓇᓕᒧᒌᓄᑦ ᓇᓗᓇᐃᖅᓯᔾᔪᑎ
	Macroflora and Epifauna ᐱᕈᖅᑐᕋᓛᑦ ᐱᕈᖅᑐᓪᓗ	• % cover / density, taxa richness, Simpson's diversity index • % ᐱᓕᕆᐊᖑᔪᖅ / ᑎᓯᓂᖓ, ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᓂᖏᓐᓂᑦ ᐱᑕᖃᑦᑎᐊᖅᑐᑦ, ᓯᒻᓴᓐ ᐊᔾᔨᒋᙱᑦᑎᐊᕐᒍᔭᖅᑐᑦ/ᓇᓕᒧᒌᓄᑦ ᓇᓗᓇᐃᖅᓯᔾᔪᑎ
	Fish Community ᐃᖃᓗᖃᖅᑐᑦ	• Total catch, relative abundance, catch-per-unit-effort • ᑲᑎᓪᓗᒃᑖᖅᓱᒋᑦ ᐊᖑᓂᒃᑕᐅᔪᑦ, ᐊᒃᑐᐊᔪᑦ ᐱᑕᖃᕐᓂᖏᓐᓄᑦ, ᐊᖑᓂᒃᑕᐅᔪᑦ-ᐊᑐᓂ-ᐱᓕᕆᓇᓱᖕᓂᕐᒥ
	Fish Health ᐃᖃᓗᐃᑦ ᖃᓄᐃᙱᑦᑎᐊᕐᓂᖏᑦ	• Tissue chemistry (metals, polycyclic aromatic hydrocarbons) and body condition • ᓂᕿᖓᑕ ᖃᓄᐃᓕᖓᓂᖓ (ᓴᕕᕋᔭᑦ, ᐅᖅᓱᐊᓗᒃᓴᓖᑦ) ᐊᒻᒪᓗ ᑎᒥᖓᑕ ᖃᓄᐃᓕᖓᓂᖓ
	NIS/AIS ᑕᒫᓂᕐᕿᐅᑕᐅᙱᑦᑐᑦ ᐆᒪᔪᑦ/ᑎᑭᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᑦ	• Detection of NIS/AIS across multiple trophic groups • ᖃᐅᔨᔭᐅᔪᑦ ᑕᒫᓂᕐᕿᐅᑕᐅᙱᑦᑐᑦ ᐆᒪᔪᑦ/ᑎᑭᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᓂᒃ ᑖᒃᑯᓇᓂ ᐊᔾᔨᒌᙱᑦᑐᓂ ᐱᑕᖃᕐᕕᐅᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᓂᖏᓐᓂ

2022 Marine Environmental Effects Monitoring Program (MEEMP) – Results
2022−ᒥ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᒃᑐᐃᓂᕐᓄᑦ ᖃᐅᔨᓴᐃᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ – ᑕᕆᐅᑉ ᐃᒪᖓᑕ ᖃᓄᐃᓕᖓᓕᕐᓂᖓ

- **Marine water quality:** measurements below thresholds of harm for marine fauna
- **Marine sediment quality:** limited sampling program in 2022. Sampling in 2022 focused in area of previously observed disturbance. Results were consistent with FEIS predictions, which forecasted the potential for minor and localized sediment disturbance associated with propeller wash, with stabilization expected over time.
- **Benthic infauna (marine animals in sediment):** same as above (within prediction limits)

- **ᑕᕆᐅᑉ ᐃᒪᖓᑕ ᖃᓄᐃᑦᑑᓂᖓ:** ᖃᐅᔨᓴᕐᓃᑦ ᑐᖕᒋᓃᑦᑐᑦ ᖃᓄᐃᓪᓕᔪᖃᖅᑳᖅᑎᓐᓇᒍ ᑭᒡᓕᐅᔪᓂᒃ ᓱᕋᐃᓂᕐᒧᑦ ᑕᕆᐅᒥ ᐱᕈᖅᑐᓂᒃ
- **ᑕᕆᐅᒥ ᐃᓱᕐᓂᖓᑕ ᖃᓄᐃᑦᑑᓂᖓ:** ᑭᒡᓕᓕᖅᓯᒪᔪᑦ ᖃᐅᔨᓴᒐᒃᓴᓕᐅᕐᓃᑦ ᐱᓕᕆᐊᑦ 2022-ᒥ. ᖃᐅᔨᓴᒐᒃᓴᓕᐅᕐᓂᖅ 2022-ᒥ ᑐᕌᒐᖃᖅᑐᑦ ᓄᓇᓂ ᐅᔾᔨᕆᔭᐅᓯᒪᔪᓂ ᐸᒃᕕᓴᐃᓂᕐᓂᒃ. ᖃᐅᔨᓴᑕᐅᔪᑦ ᒪᓕᒃᑐᑦ ᑭᖑᓪᓕᖅᐸᒥ ᐊᕙᑎᒧᑦ ᐊᒃᑐᐃᓂᕐᓄᑦ ᐅᓂᒃᑳᓂ ᓇᓚᐅᑦᑖᖅᑕᐅᓯᒪᔪᑦ, ᓇᓚᐅᖅᑖᖅᓯᒪᓚᐅᖅᑐᑦ ᒥᑭᑦᑐᒥᒃ ᐊᒻᒪᓗ ᓄᓇᖓᓂᑐᐊᖅ ᐃᓱᕐᓂᕐᒧᑦ ᐸᒃᕕᓴᐃᓃᑦ ᐊᒃᑐᐊᔪᑦ ᐊᖑᑎᖏᑦ ᐊᐅᓚᖃᑦᑕᕐᓂᖏᓐᓄᑦ, ᓱᕋᔾᔭᓐᓃᕐᓗᑎᒃ ᐊᓂᒍᖅᐸᓪᓕᐊᔪᓂ.
- **ᐃᖅᑲᖓᓂ ᐱᕈᖅᑐᑦ** (ᑕᕆᐅᒥ ᓂᕐᔪᑏᑦ ᐊᒻᒪᓗ ᕿᖅᑯᐊᑦ ᑕᕆᐅᑉ ᐃᖅᑲᖓᓂ): ᖃᐅᔨᕗᐅᔪᑦ ᓇᓗᓇᐃᖅᓯᔪᑦ ᐱᓕᕆᐊᒥ ᐱᓕᕆᓃᑦ ᓴᖅᑮᓯᒪᙱᑦᑐᑦ ᐊᒃᑐᐃᓂᕐᓗᓐᓂᕐᓂᒃ ᑕᒪᒃᑯᓄᖓ ᐱᑕᖃᕐᕕᐅᔪᓄᑦ ᕿᙵᐊᓂ ᑐᓚᒃᑕᕐᑯᖕᒥ

Baffinland

2022 Marine Environmental Effects Monitoring Program (MEEMP) – Results
2022−ᒥ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᒃᑐᐃᓂᕐᓄᑦ ᖃᐅᔨᓴᐃᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ – ᑕᕆᐅᑉ ᐃᒪᖓᑕ ᖃᓄᐃᓕᖓᓕᕐᓂᖓ

- **Epifauna and macroflora** (marine animals and seaweeds on the seabed): results indicate Project activities have not resulted in negative effects on these communities in Milne Port.
- **Marine fish communities:** No significant difference was observed in fish relative abundance (catch-per-unit-effort) when comparing exposure area and reference area, suggesting Project activities have not resulted in negative effects on local fish communities in marine environment.

- **ᐃᖅᑲᖓᓂ ᐱᕈᖅᑐᑦ** (ᑕᕆᐅᒥ ᓂᕐᔪᑏᑦ ᐊᒻᒪᓗ ᕿᖅᑯᐊᑦ ᑕᕆᐅᑉ ᐃᖅᑲᖓᓂ): ᖃᐅᔾᔮᐅᔪᑦ ᓇᓗᓇᐃᖅᓯᔪᑦ ᐱᓕᕆᐊᒥ ᐱᓕᕆᓃᑦ ᓴᖅᑮᓯᒪᙱᑦᑐᑦ ᐊᒃᑐᐃᓂᕐᓗᙱᓐᓂᒃ ᑕᒪᒃᑯᓄᖓ ᐱᑕᖃᕐᕕᐅᔪᓄᑦ ᕿᙲᐊᓂ ᑐᓚᒃᑕᕐᑯᖕᒥ
- **ᑕᕆᐅᒥ ᐃᖃᓗᖃᖅᑐᑦ:** ᐊᓯᔾᔨᐅᑎᕐᔪᐊᓂᒃ ᐅᔾᔨᕆᔭᐅᔪᖃᓚᐅᙱᑦᑐᖅ ᐃᖃᓗᙳᓂ ᐊᒃᑐᐊᔪᑦ ᐱᑕᖃᕐᓂᖓᓄᑦ (ᐊᑐᓂ−ᐊᖑᓂᒃᑕᐅᔪᑦ−ᐱᓕᕆᓇᓱᐊᕐᓂᕐᓂ) ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖕᒋᑦ ᕿᒥᕐᕈᔭᐅᑎᓪᓗᒋᑦ ᐃᖃᓗᖃᕐᕕᐅᔪᑦ ᐊᒻᒪᓗ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᐃᓃᑦ, ᐃᒪᐃᓐᓇᕐᑯᔩᓪᓗᑎᒃ ᐱᓕᕆᐊᒥ ᐱᓕᕆᓃᑦ ᓴᖅᑮᓯᒪᙱᑦᑐᑦ ᐊᒃᑐᐃᓂᕐᓗᙱᓐᓂᕐᓂ ᓄᓇᖓᓂ ᐃᖃᓗᖃᖅᑐᑦ ᐃᒪᐅᑉ ᐊᕙᑎᖓᓂ.

2022 Fish Health & Tissue Chemistry – Results
2022 ᐃᖃᓗᐃᑦ ᖃᓄᐃᙱᑦᑎᐊᕐᓂᖏᑦ ᐊᒻᒪᓗ ᓂᕿᖏᑦᑕ ᖃᓄᐃᓕᖓᓂᖓ – ᖃᐅᔩᔭᐅᕐᖓᖅᑐᑦ

- Body condition and tissue analyzed for 3 species:
  - Fourhorn Sculpin
  - *Hiatella arctica (shellfish)*
  - Arctic Char
- Body condition measurements in 2022 did not change compared to previous sampling years
- ᓇᒡᔪᓖᑦ ᑲᓇᔪᑦ
  - 40 ᑭᒥᕐᕈᔭᐅᔪᑦ ᑎᒥᖏᑦ ᖃᓄᐃᓕᖓᓂᖏᑦ, 8 ᕿᒥᕐᕈᔭᐅᔪᑦ ᓴᕕᕋᔭᖕᓄᑦ, ᐅᖅᓱᐊᓗᖕᓴᓄ
  - ᐊᒻᒨᒪᔪᑦ
  - 20 ᕿᒥᕐᕈᔭᐅᔪᑦ ᑎᒥᖏᑦ ᖃᓄᐃᓕᖓᓂᖏᑦ, 4 ᖃᐅᔨᓴᖅᑕᐅᔪᑦ ᓴᕕᕋᔭᖕᓄᑦ ᐊᒻᒪᓗᓗ ᐅᖅᓱᐊᓗᒃᓴᓄᑦ
  - ᑕᕆᐅᕐᒥᐅᑕᑦ ᐃᖃᓗᐃᑦ
  - 8 ᖃᐅᔨᓴᖅᑕᐅᔪᑦ ᓴᕕᕋᔭᖕᓄᑦ, 26 ᐅᖅᓱᐊᓗᒃᓴᓄᑦ
- ᑎᒥᖏᑕ ᖃᓄᐃᓕᖓᓂᖏᓐᓂᒃ ᐆᒃᑐᕋᕐᓃᑦ 2022-ᒥ ᐊᓯᔾᔨᕐᓯᒪᙱᑦᑐᑦ ᐊᒃᑐᐊᔪᓄᑦ ᐊᕐᕌᒍᓚᐅᖅᑐᓂ

2022 Fish Health & Tissue Chemistry – Results
2022 ᐃᖃᓗᐃᑦ ᖃᓄᐃᙱᑦᑎᐊᕐᓂᖏᑦ ᐊᒻᒪᓗ ᓂᕿᖏᑦᑕ ᖃᓄᐃᓕᖓᓂᖓ – ᖃᐅᔨᕚᐅᕐᖓᖅᑐᑦ

- Tissue chemistry in 2022 did not exceed applicable guidelines, and no increasing trends in concentrations of contaminants were observed relative to previous years (2020 and 2021)

- ᓂᕿᖓ ᑭᓱᖃᕐᒪᖔᑦ 2022-ᒥ ᐅᖓᑕᐅᔾᔮᓯᒪᓚᐅᙱᑦᑐᑦ ᐊᒃᑐᐊᔪᓄᑦ ᖃᐅᔾᒪᔾᔪᑕᐅᔪᓄᑦ, ᐊᒻᒪᓗ ᐅᓄᖅᓯᒋᐊᖅᓂᖅᑕᖃᙱᕆᓗᓂ ᐃᓕᖅᑯᓯᖏᓐᓂᒃ ᐱᑕᖃᕐᓂᖏᓐᓄᑦ ᓱᑲᕐᓇᖅᑐᑦ ᐅᔾᔨᕆᔭᐅᓚᐅᖅᑐᑦ ᐊᒃᑐᐊᒍᑦ ᐊᕐᕿᒎᓚᐅᖅᑐᓂ (2020 ᐊᒻᒪᓗ 2021)

2022 Non-Indigenous Species (NIS) and Aquatic Invasive Species (AIS) Monitoring Program

2022 ᑎᑭᐸᒃᑐᑦ ᐆᒪᔪᕋᕐᑦ ᐊᒻᒪᓗ ᑖᓂᕐᒥᐅᑕᐅᙱᑦᑐᑦ ᐆᒪᔪᓃᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ

- To date, no evidence of species introductions in Project area via shipping
- ᐅᓪᓗᒥᒧᑦ, ᓇᓗᓇᐃᕈᑎᑕᖅᙱᑦᑐᖅ ᐅᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ ᓴᖅᑭᑦᑎᑐᑦ ᐱᓕᕆᐊᑉ ᖃᓂᒋᔭᙶᓂ ᐅᒥᐊᖅᔪᐊᖃᑦᑕᕐᓂᒃᑯᑦ
- Two new fish species recorded in 2022
  - Halfbarred pout and Spatulate Sculpin – both well documented in Canadian Arctic
  - **Not species of concern**
- One new class of parasitic worm identified in fish stomach
  - Cestoda Indet. (Phylum Platyhelminthes)
  - Multiple species in Eastern Canadian Arctic
  - **Not a taxa of concern**
- ᒪᕐᕈᒃ ᓄᑖᒃ ᐃᖃᓗᐃᑦ ᐊᔾᔨᒌᙱᑦᑐᑦ ᓇᓗᓇᐃᖅᑕᐅᔪᑦ
  - ᓂᐱᓴᑦ ᐊᒻᒪᓗ ᓇᒡᔪᖃᙱᑦᑐᑦ ᑲᓇᔪᑦ – ᑕᒪᕐᒥᒃ ᑎᑎᖅᑲᖁᑎᖃᐅᑦᑎᐊᖅᑐᑦ ᑲᓇᑕᐅᑉ ᐅᑭᐅᖅᑕᖅᑐᙱᓂ
  - ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᑦᑐᓄᑦ ᐃᓱᒫᓘᑕᐅᙱᑦᑐᖅ
- ᐊᑕᐅᓯᖅ ᓄᑖᖅ ᐊᕙᒃᑐᖅᓯᒪᔪᑦ ᓂᕆᔨ ᖁᐱᕐᕈᖅ ᓇᓗᓇᐃᖅᑕᐅᔪᖅ ᐃᖃᓗᐃᑦ ᐊᕿᐊᕈᕐᒥᓂᒃ ᕿᒥᕐᕈᓂᕐᒥ
  - ᖁᐱᕐᕕᑯᑖᑦ (ᕙᐃᓚᒻ ᑉᓛᑎᕼᐃᓪᒥᓐᑎᔅ)
  - ᐋᒥᓱᑦ ᐊᔾᔨᒌᙱᑦᑐᑦ ᐆᒪᔪᑦ ᑲᓇᙵᙱᓂ ᑲᓇᑕᐅᑉ ᐅᑭᐅᖅᑕᖅᑐᙱᓂ
  - ᐆᒪᔪᑦ ᐊᕙᒃᑐᖅᓯᒪᓂᖏᓐᓄᑦ ᐃᓱᒫᓘᑕᐅᙱᑦᑐᖅ

2022 Non-Indigenous Species (NIS) and Aquatic Invasive Species (AIS) Monitoring Program
2022 ᑎᑭᑉᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᑦ ᐊᒻᒪᓗ ᑕᒫᓂᕐᒥᐅᑕᐅᙱᑦᑐᑦ ᐆᒪᔪᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ

- One new polychaete worm identified in benthic infauna
  - *Myrianida* sp.
  - Taxonomic record includes Baffin Island
  - Some records of the genus on existing AIS databases, but limited to tropical waters
  - **Not a taxa of concern**
- ᐊᑕᐅᓯᖅ ᑯᐱᕆᒃᑖᑦ ᓇᓗᓇᐃᖅᑕᐅᔪᖅ ᐃᖅᑲᖓᓂ ᐱᕐᑯᖅᑐᓂ
  - ᒪᐃᑦᓂᑕ sp.
  - ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᓂᖏᓐᓄᑦ ᑎᑎᖅᑲᕐᑰᑦ ᐱᖃᓯᐅᔾᔨᔪᑦ ᕿᑭᖅᑖᓗᖕᒥᒃ
  - ᐃᓚᖏᑦ ᑎᑎᖅᑲᕐᑰᑦ ᐊᕕᒃᑐᖅᓯᒪᓂᖏᓐᓄᑦ ᐱᑕᖃᖅᐸᕐᖅᑐᑦ ᑕᒫᓂᕐᒥᐅᑕᐅᙱᑦᑐᑦ ᐆᒪᔪᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᕝᕕᖏᓐᓂᒃ, ᑭᓯᐊᓂᓕ ᑭᒡᓕᖃᖅᑐᑦ ᐅᖅᑰᔪᒧᑦ ᐃᒥᕐᓄᑦ
  - **ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᓂᖏᓐᓄᑦ ᐃᓱᒫᓘᑕᐅᙱᑦᑐᖅ**

Inuit Participation and Training in 2022 Monitoring
ᐃᓄᐃᑦ ᐃᓚᐅᓂᖏᑦ ᐊᒻᒪᓗ ᐱᓕᒻᒪᒃᓴᓂᖅ 2022-ᒥ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒥ

# of Employees # ᐃᖅᑲᓇᐃᔭᖅᑏᑦ	Employment ᐃᖅᑲᓇᐃᔮᑦ	Training ᐱᓕᒻᒪᒃᓴᓃᑦ
11 community members • 9 from Pond Inlet • 2 from Arctic Bay 11 ᓄᓇᓕᖕᓂ ᐃᓚᒋᔭᐅᔪᑦ • 9 ᒥᑦᑎᒪᑕᓕᖕᒥ • 2 ᐃᒃᐱᐊᕐᔪᖕᒥ	• 3,180 hours Positions filled: • Marine Wildlife Observer • Polar Bear Monitor • Boat operator • Field technician • 3,180 ᐃᑲᕐᕋᑦ ᐃᖅᑲᓇᐃᔮᑦ ᐃᓅᒃᑕᐅᓯᒪᔪᑦ: • ᑕᕆᐅᒥ ᓂᕐᔪᑎᓂᒃ ᓇᐅᑦᑎᖅᓱᖅᑏᑐᑦ • ᓇᓄᓕᕆᔩᑦ • ᐅᒥᐊᒥᒃ ᐊᖁᑏᑦ • ᓯᓚᒥ ᐱᓕᕆᑎᓪᓗᒋᑦ ᑲᒪᔩ	• 138 hours in total • Personal Survival Techniques (PST) training - British Columbia Institute of Technology • Marine Wildlife Observer (MWO) Training • Aircraft Egress Training • 138 ᐃᑲᕐᕋᑦ ᑲᑎᓪᓗᒃᑖᖅᓗᖏᑦ • ᐃᒻᒥᒧᑦ ᐊᓐᓇᐅᒪᓇᓱᐊᕐᓂᕐᒧᑦ ᐱᓕᕆᔾᔪᓰᑦ ᐱᓕᒻᒪᒃᓴᖅᑕᐅᔪᑦ - ᐳᕆᑎᔅ ᑲᓚᒻᒥᐊ ᐱᓕᕆᕝᕕᒃ ᓄᑖᙳᖅᐸᓪᓕᐊᔪᓄᑦ • ᑕᕆᐅᒥ ᓂᕐᔪᑎᓂᒃ ᓇᐅᑦᑎᖅᓱᖅᑎᐅᓂᕐᒧᑦ ᐱᓕᒻᒪᒃᓴᓂᖅ • ᖃᖓᑕᓲᓂᑦ ᐊᓂᑦᑎᓂᖕᒧᑦ ᐱᓕᒻᒪᒃᓴᓂᖅ

PROPOSED 2023 MARINE MONITORING PROGRAMS
2023 ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ

Baffinland

Marine Monitoring Programs – 2023
2023–ᒥᑦ ᑕᕆᐅᒥ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᖅ

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2

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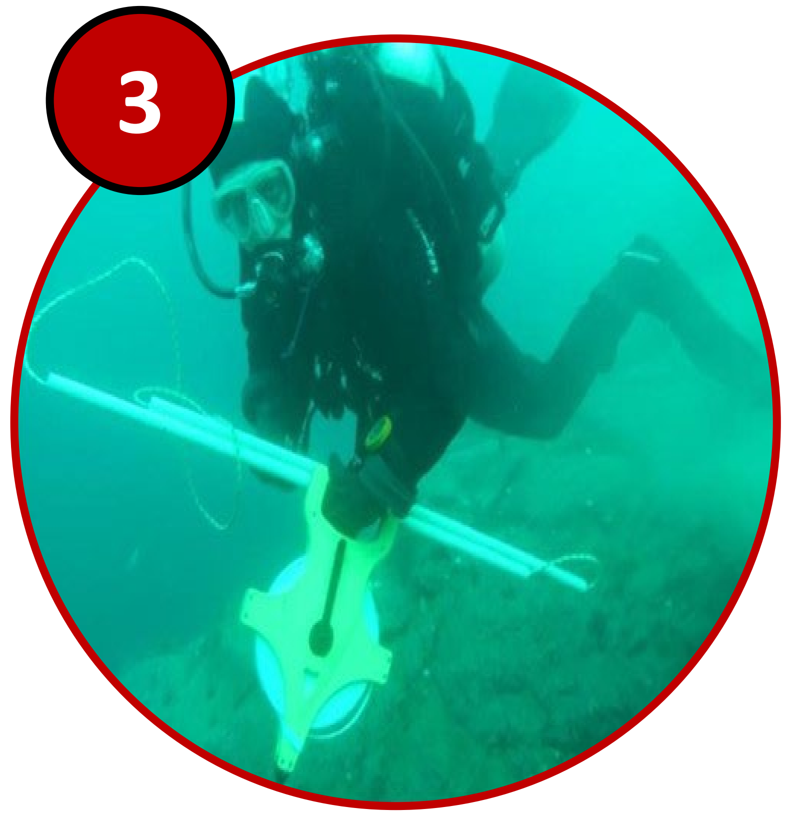

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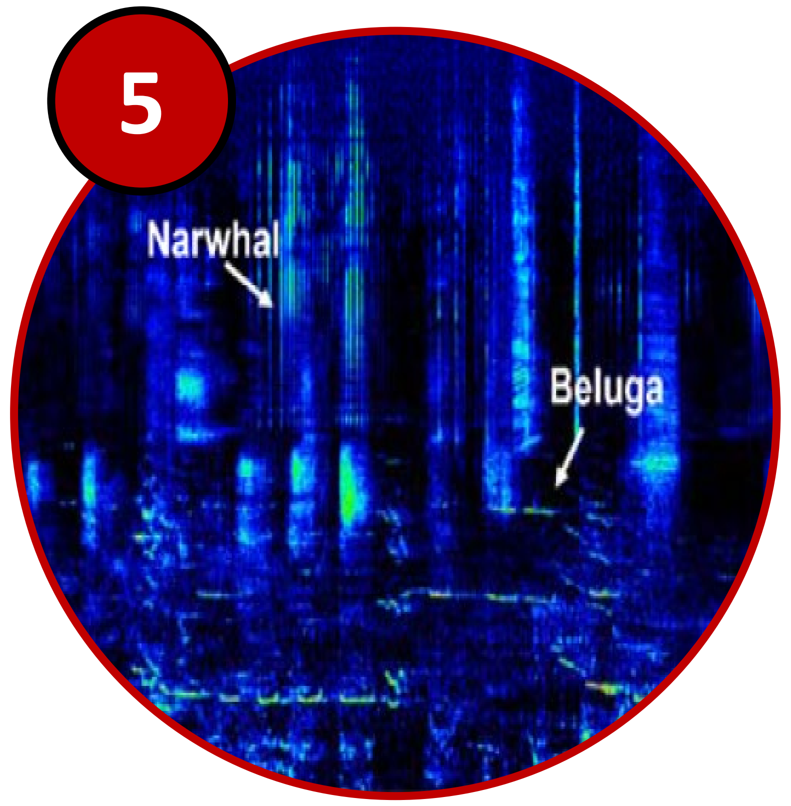


Marine Mammal Aerial Survey Program

ᑕᕆᐅᕐᒥ ᐳᐃᔩᑦ ᖃᖓᑕᔫᒃᑯᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᖏᑦ

Bruce Head Shore Based Monitoring Program

ᐃᓗᕕᓕᖕᒥ ᓯᒡᔭᒥ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᑦ

Marine Environmental Effects Monitoring Program (MEEMP) and Aquatic Invasive Species (AIS) Monitoring Program

ᑕᕆᐅᑉ ᐊᕙᑎᖓᓂ ᐊᒃᑐᐃᓂᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᑦ

Ship-based Observer Program

ᐅᒥᐊᕐᔪᐊᕐᒦᓗᑎᒃ ᓇᐅᑦᑎᖅᓱᕐᓂᑦ

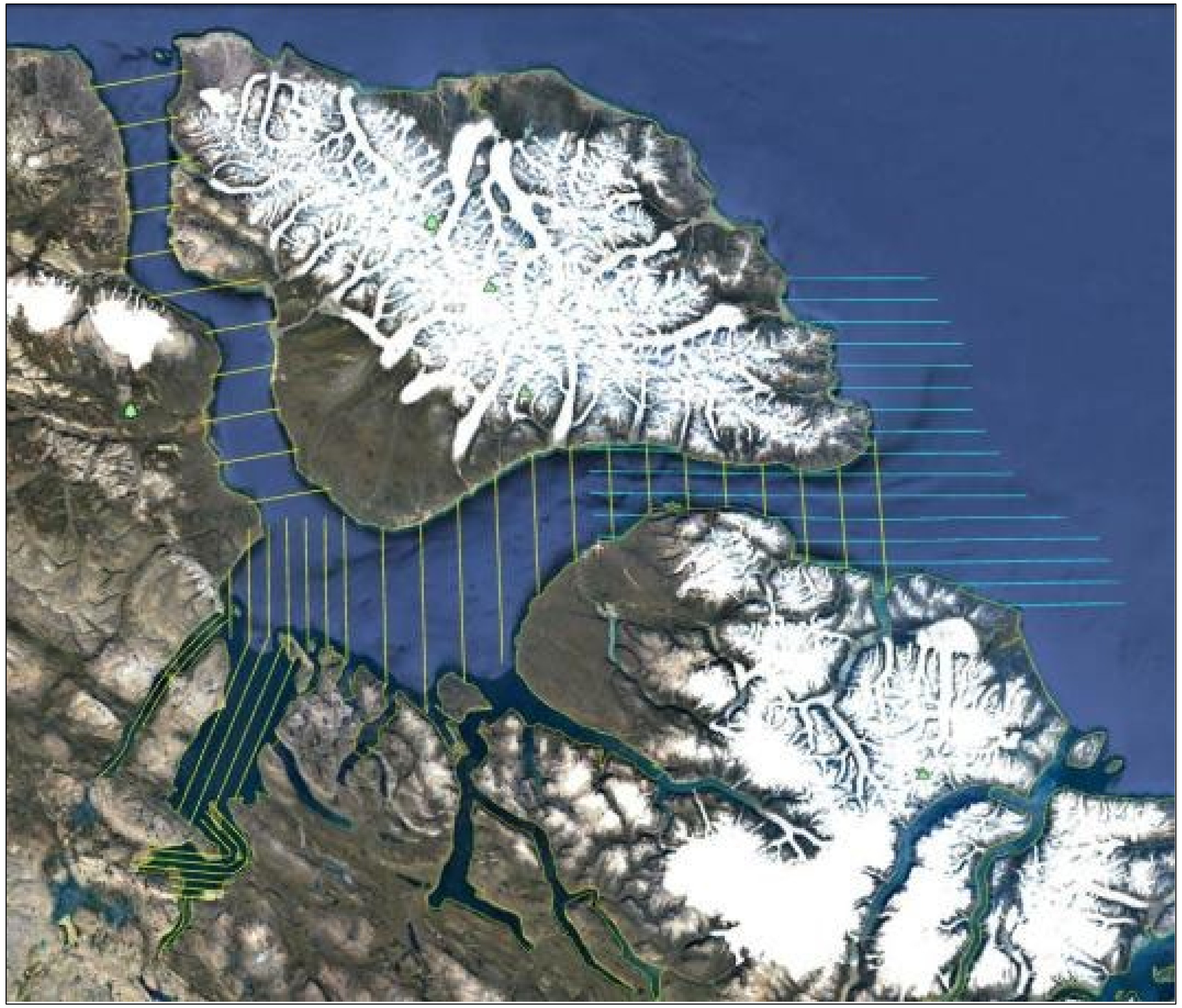
Underwater Acoustic Monitoring Program

ᐃᒫᓂ ᓂᐱᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᑦ

2023 Marine Mammal Aerial Survey Program – Leg 1
2023–ᒥᑦ ᑕᕆᐅᕐᒥ ᐳᐃᔩᑦ ᖃᖓᑕᔫᒃᑯᑦ ᓈᓴᖅᑕᐅᓂᖏᑦ – ᓯᕗᓪᓕᖅ

- Start: July 2023 (2 weeks)
- Single aircraft
- Objective: to better understand narwhal distribution and relative abundance during their inbound migration (relative to ice conditions)

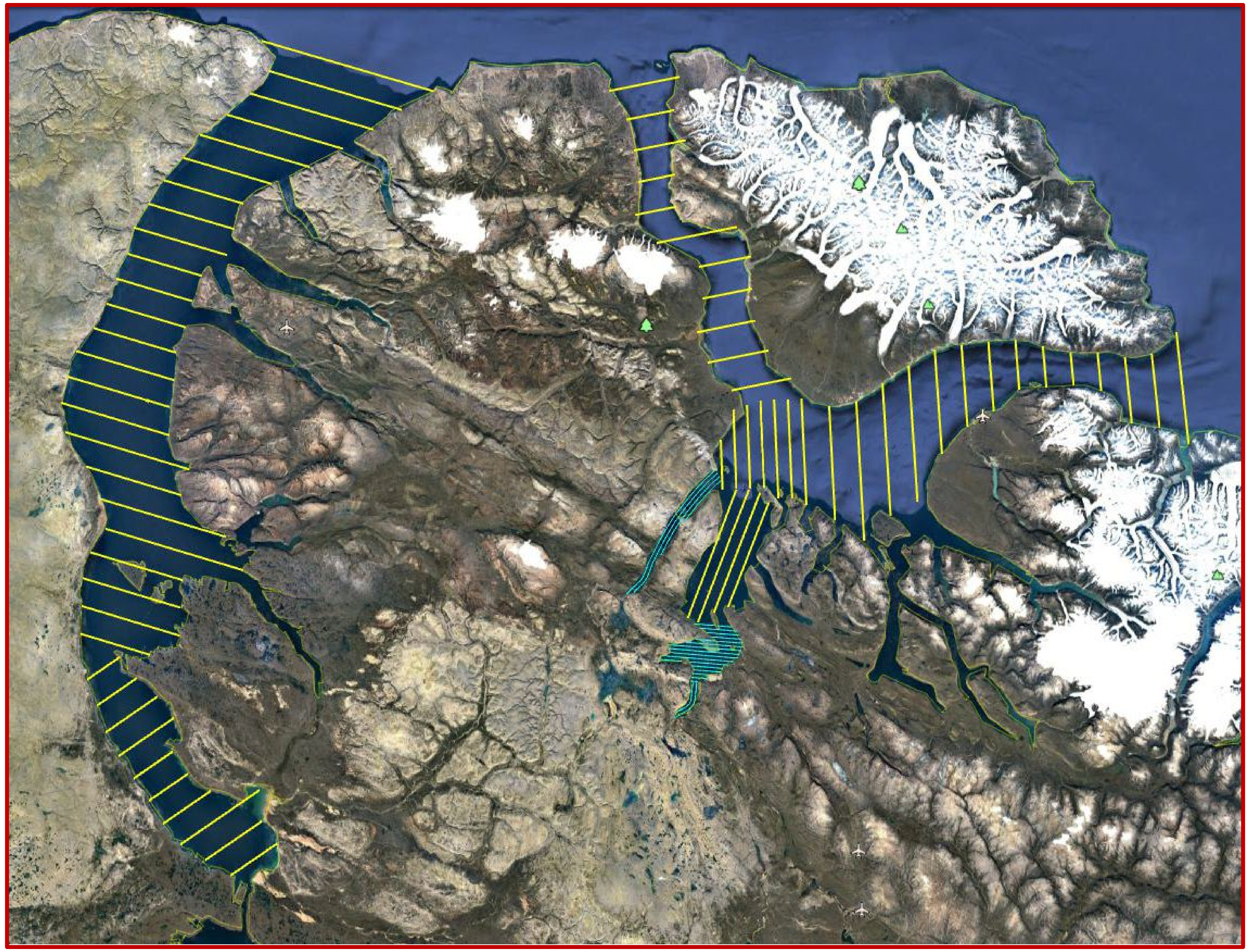
- ᐱᒋᐊᕐᓂᖓ ᔪᓚᐃ 2023
- ᐊᑯᓂᐅᓂᖓ: ᒪᕐᕉᒃ ᐱᓇᓱᐊᕈᓰᒃ
- ᐱᔾᔪᑖ: ᑐᑭᓯᑦᑎᐊᕐᓂᖅᓴᐅᕐᑯᓪᓗᒋᑦ ᕿᓚᓗᒐ ᓇᒦᖃᑦᑕᕐᓂᖏᓐᓂᒃ ᐊᒻᒪᓗ ᖃᔅᓯᐅᓂᖏᑦ ᑎᑭᓯᒪᓕᖅᑎᓪᓗᒋᑦ (ᓯᑯ ᖃᓄᐃᓕᖓᓂᖏᑦ ᑕᑯᓗᒋᑦ)



2023 Aerial Surveys – Narwhal Abundance (Leg 2)
2023–ᒥᑦ ᑕᑲᐅᕐᒥ ᐳᐃᔫᑦ ᖃᖓᑕᓲᒃᑯᑦ ᓈᓴᖅᑕᐅᓂᖏᑦ – ᐊᐃᑉᐸᖓᑦ

- Schedule: August 2023 (3 weeks)
- Potential collaboration with DFO regional surveys planned for summer 2023
- 1 aircraft - Eclipse Sound and Admiralty

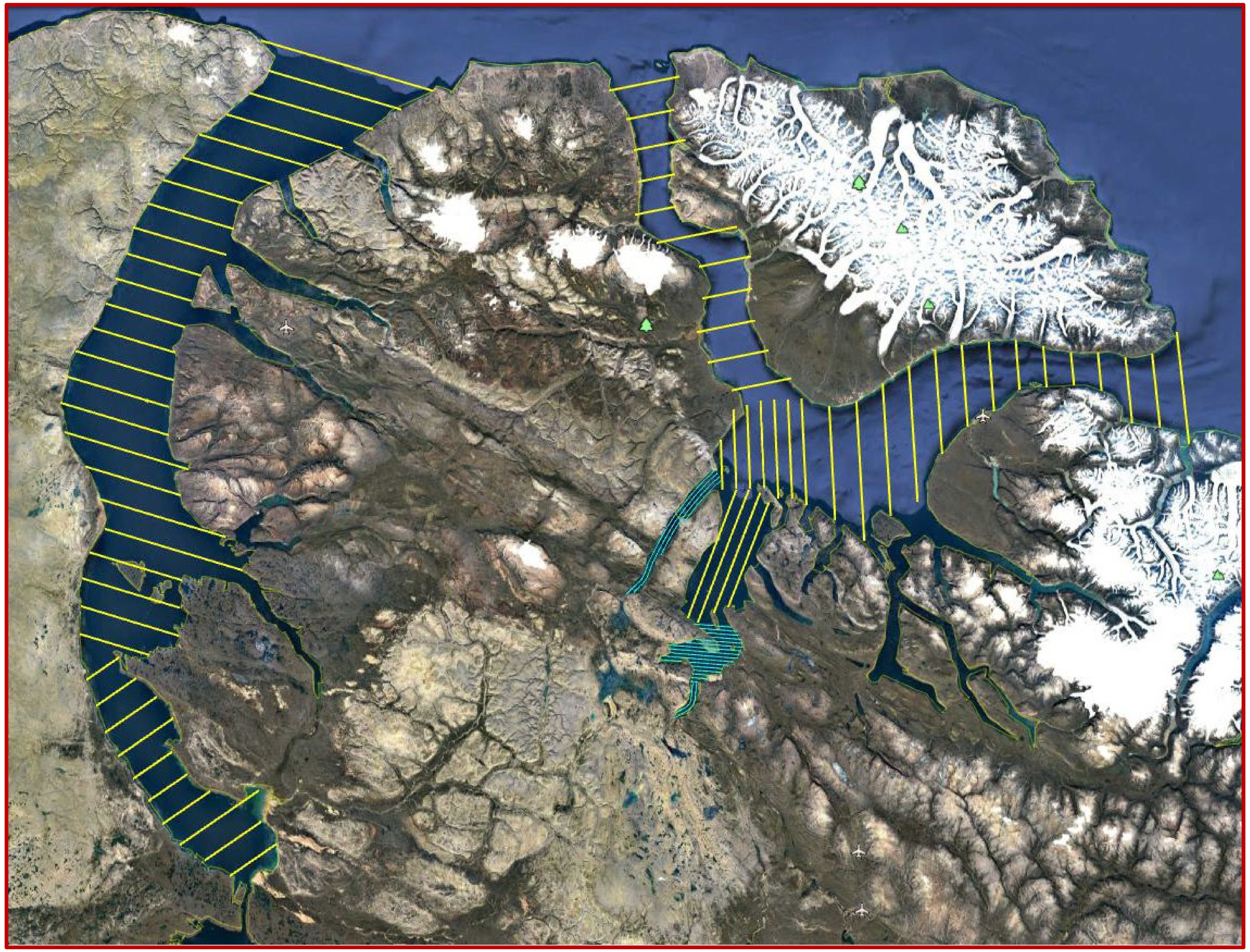
- ᐱᒋᐊᕐᓂᖓ: ᐋᒡᒌᓯ 2023 (3 ᐱᓇᓱᐊᕈᓰᑦ)
- ᐱᓕᕆᖃᑎᒌᖕᓂᐅᑐᐃᓐᓇᕆᐊᓖᑦ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᓐᓂ ᓄᓇᓂ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ ᖃᐅᔨᓴᕐᓂᐅᔪᓂ ᐸᕐᓇᒃᑕᐅᓯᒪᔪᑦ ᐊᐅᔭᖓᓂ 2023-ᒥ
- ᐊᑕᐅᓯᖅ ᖃᖓᑕᓲᖅ - ᑕᓯᐅᔭᒥ ᐊᒻᒪᓗ ᐃᒃᐱᐊᕐᔫᑉ ᐃᒪᖓᓂ



2023 Aerial Surveys – Narwhal Abundance (Leg 2)
2023–ᒥᑦ ᑕᕆᐅᕐᒥ ᐳᐃᓵᑦ ᖃᖓᑕᓱᒃᑯᑦ ᓈᓴᖅᑕᐅᓂᖏᑦ – ᐊᐃᑉᐸᖓᑦ

- Objective: to determine 2023 abundance estimate for
  - Eclipse Sound narwhal summer stock
  - Admiralty Inlet narwhal summer stock
  - Combined Eclipse/Admiralty stock

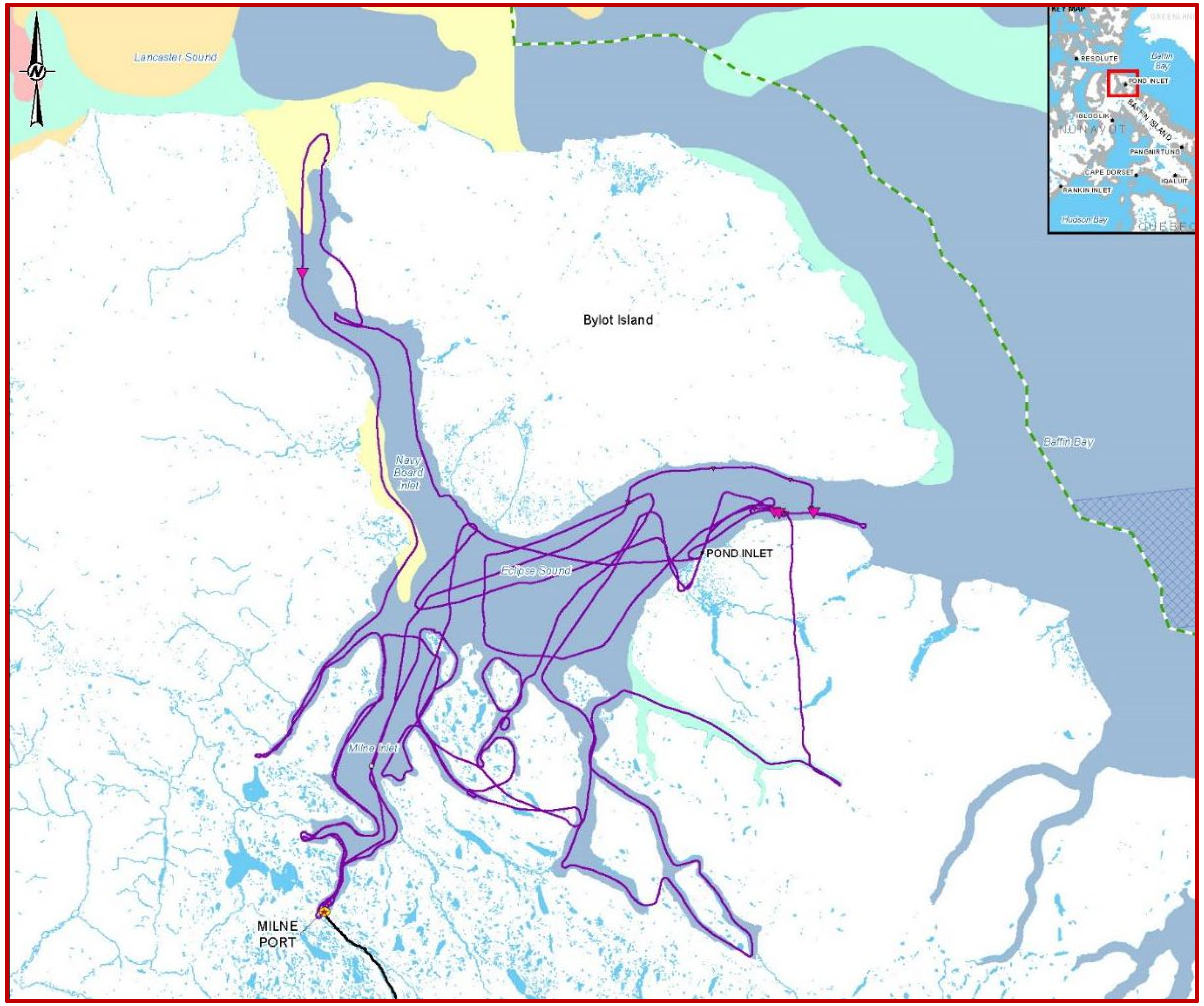
- ᐱᔾᔪᑖ: ᐱᔭᐅᕐᑯᓪᓗᒋᑦ 2023–ᒥᑦ ᐱᑕᖃᕐᓂᖏᓐᓄᑦ ᒥᒃᓴᐅᓴᒃᑕᐅᔪᑦ ᐅᑯᓄᖓ
  - ᑕᓯᐅᔭᕐᒥ ᐊᐅᔭᒃᑯᑦ ᕿᓚᓗᒐᐃᑦ
  - ᐃᒃᐱᐊᕐᔪᖅ ᐃᒪᖓᓂ ᕿᓚᓗᒐᐃᑦ ᐊᐅᔭᐅᑎᓪᓗᒍ
  - ᑲᑎᓐᓗᒋᑦ ᑕᓯᐅᔭᕐᒥ/ᐃᒃᐱᐊᕐᔪᖅ ᐃᒪᖓᓂ



2023 Aerial Surveys – End of Shipping Clearance Survey (Leg 3)
2023–ᒥᑦ ᑕᕆᐅᕐᒥ ᐳᐃᓲᑦ ᖃᖓᑕᓲᒃᑯᑦ ᓈᓴᖅᑕᐅᓂᖏᑦ – ᐱᖓᔪᖓᑦ

- Conducted at end of shipping season (following exit of last ship)
- Duration: 2 days
- 1 aircraft
- Northern Shipping Route, including previously reported entrapment areas and in fjords

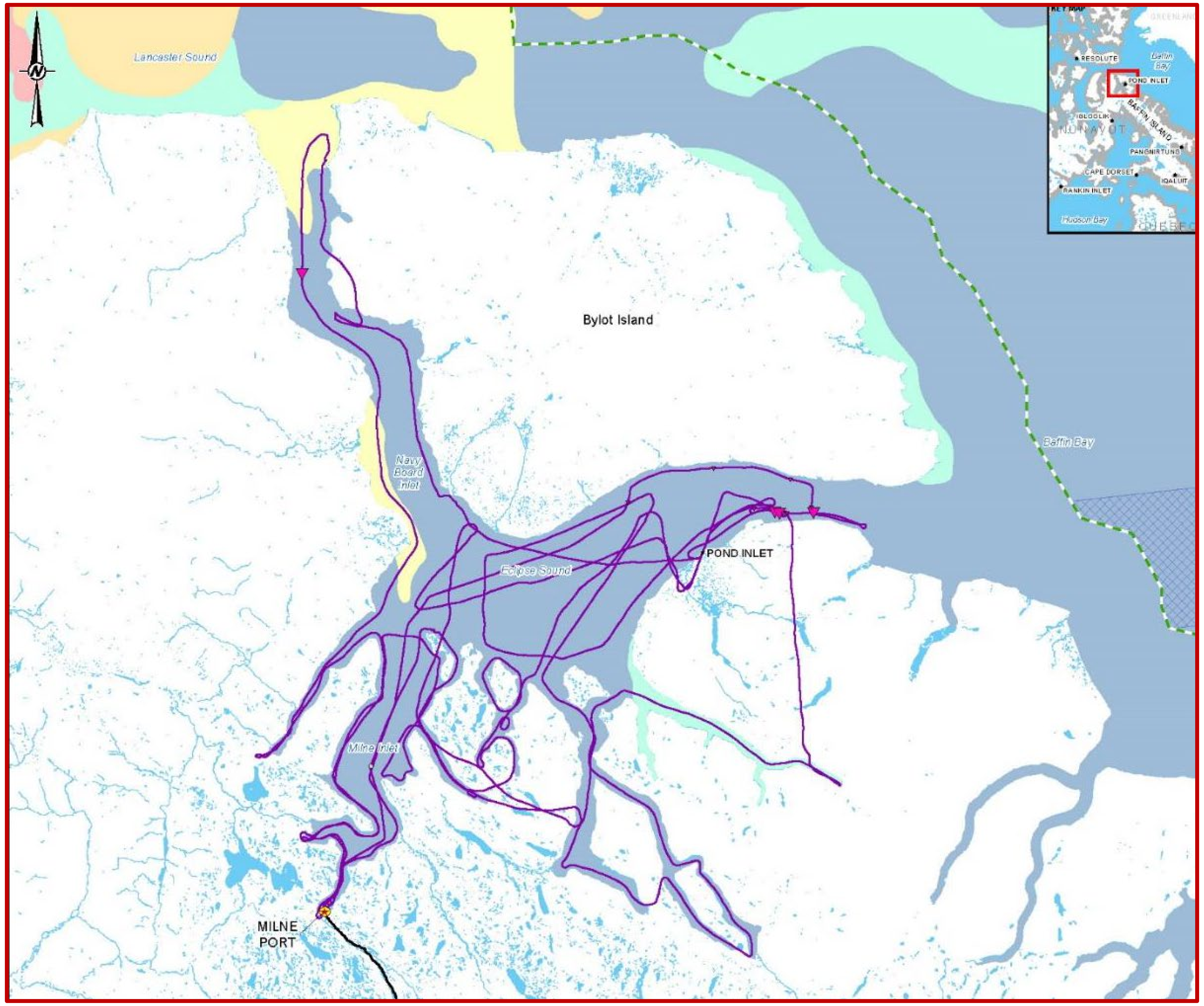
- ᐱᓕᕆᐊᖅ ᐅᒥᐊᕐᔪᐊᖃᕐᓇᐅᔾᔮᕐᓂᖅᑎᓪᓗᒍ (ᑭᖑᓂᐊᒍᑦ ᐊᐅᓪᓚᓚᐅᖅᑎᓪᓗᒍ ᑭᖑᓪᓕᖅᐹᖅ ᐅᒥᐊᕐᔪᐊᖅ)
- ᖃᓄᑎᒋᐅᓂᖓ: ᒪᕐᕉᓂᒃ ᐅᓪᓗᓂᒃ
- ᐊᑕᐅᓯᕐᒥᒃ ᖃᖓᑕᓲᕐᒥ
- ᐅᑭᐅᖅᑕᖅᑐᒥ ᐅᒥᐊᕐᔪᐊᑦ ᐃᖏᕐᕋᕕᒋᕙᒃᑕᖓ, ᐃᓚᐅᓪᓗᓂ ᐅᖃᐅᓯᐅᓯᒪᔪᖅ ᓯᒃᑯᔾᔭᐅᕝᕕᐅᓂᑯᐃ ᑲᖏᖅᓗᓂᓪᓗ



2023 Aerial Surveys – End of Shipping Clearance Survey (Leg 3)
2023–ᒥᑦ ᑕᕆᐅᕐᒥ ᐳᐃᔮᑦ ᖃᖓᑕᓲᒃᑯᑦ ᓈᓴᖅᑕᐅᓂᖏᑦ – ᐱᖓᔪᖓᑦ

- Objective: to confirm no entrapment events have occurred in the Project area following completion of shipping season
- Clearance surveys only required if shipping through ice at end of fall shipping season

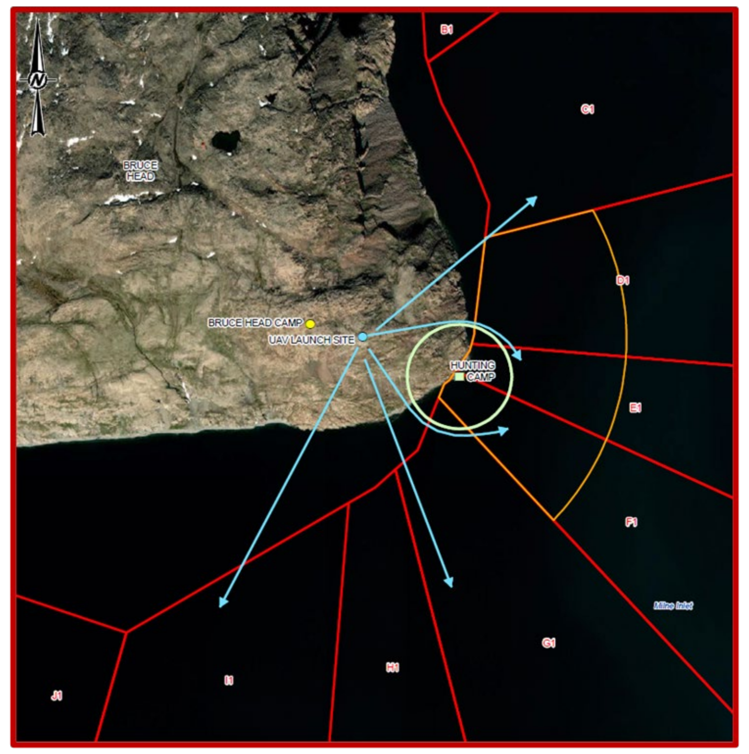
- ᐱᔾᔪᑖ: ᓇᓗᓇᐃᖅᑕᐅᖁᓪᓗᒋᑦ ᓱᒃᑯᔾᔭᐅᓯᒪᖏᓐᓂᖓᓂᒃ ᐱᓕᕆᐊᒃ ᖃᓂᒋᔮᓂ ᐅᒥᐊᕐᔪᐊᖃᕐᓇᐅᔪᓐᓃᖅᑎᓪᓗᒍ
- ᓱᒃᑯᔾᔭᐅᔪᖃᔾᔮᖏᒃᑲᓗᐊᕐᒪᖔᖅ ᖃᐅᔨᓴᕈᑏᑦ ᐱᑕᖃᕆᐊᓖᑦ ᑭᓯᐊᓂᓕ ᐅᒥᐊᕐᔪᐊᒃᑯᑦ ᐃᖏᕐᕋᔪᓐᓇᕐᒪᖔᑕ ᓯᑯᒃᑯᑦ ᓄᖑᐊᓂ ᐅᑭᐊᒃᓵᖑᓕᖅᑎᓪᓗᒍ ᐅᒥᐊᕐᔪᐊᖃᕐᓇᒥ



2023 Bruce Head Shore-based Monitoring Program
2023−ᒥᑦ ᐃᓗᕕᓂᖕᒥ ᓯᒡᔭᖕᒐᓂ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓃᑦ

- Start: Late July 2023 (4 weeks)
- Visual Observations:
  - Relative Abundance and Distribution (RAD)
  - Human Activity
    - Vessel Traffic
    - Hunting
  - Weather and Sea Conditions

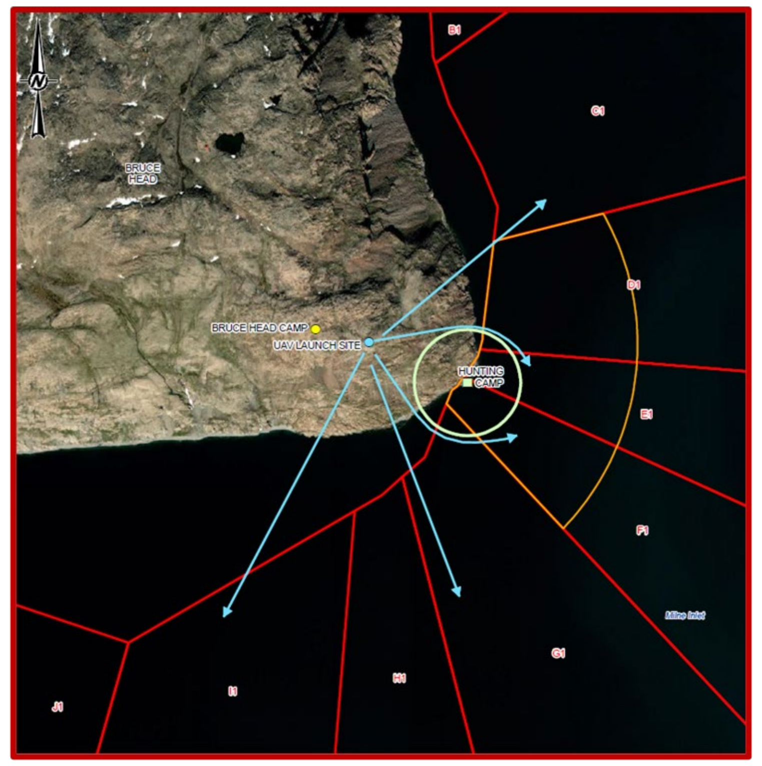
- ᐱᒋᐊᕐᕕᖕᒐ: ᔪᓚᐃ 2023 (4 ᐱᓇᓱᐊᕈᓰᑦ)
- ᑕᑯᔭᐅᔪᑦ :
  - ᖃᓄᑎᒋᐅᖕᒪᖔᑕ ᓇᓃᒻᒪᖔᑕᓗ
  - ᐃᓄᐃᑦ ᖃᓄᐃᓕᐅᕐᓂᖏᑦ
    - ᐅᒥᐊᕐᔪᐊᑦ ᐃᖏᕐᕋᓂᖏᑦ
    - ᐊᖑᓇᓱᒃᑐᑦ
  - ᓯᓚ ᖃᓄᐃᓐᓂᐅᕙᓚᐅᖅᓯᒪᔪᓪᓗ ᐅᔾᔨᕆᔭᐅᔪᑦ



2023 Bruce Head Shore-based Monitoring Program
2023−ᒥᑦ ᐃᓗᕕᓕᖕᒥ ᓯᒡᔭᖕᒐᓂ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓃᑦ

- Drone-based Surveys:
  - Group composition and behaviour
- All movements of large vessels are tracked (recorded) using AIS transponders (satellite and shore-based receiver stations)

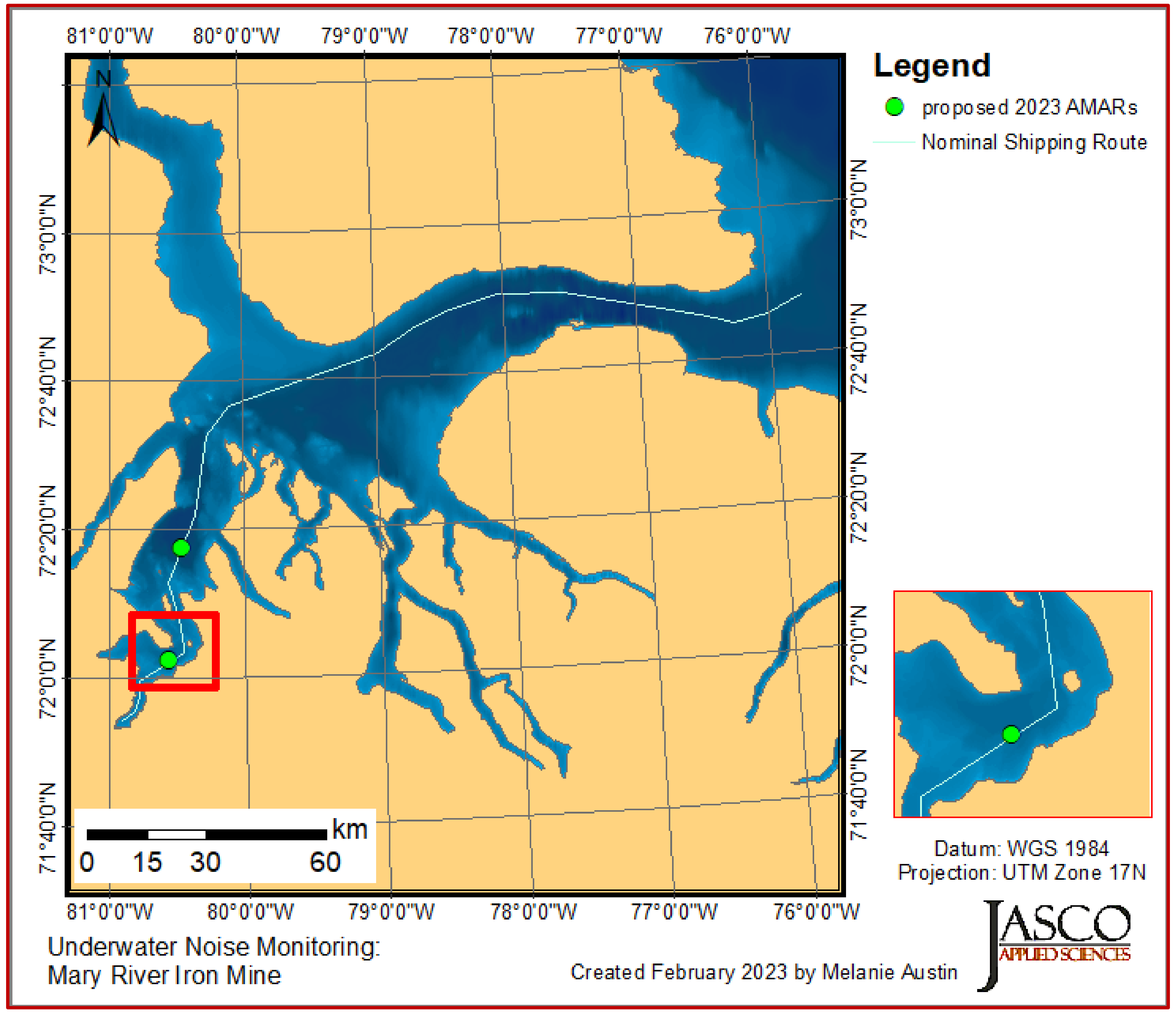
- ᖃᖓᑕᓲᕋᙳᓂᒃ ᐊᐅᓚᑕᐅᔪᓐᓇᖅᑐᓂᒃ ᐊᑐᖅᖢᑎᒃ ᖃᐅᔨᓴᕐᓃᑦ:
  - ᑲᑎᙵᔪᑦ ᖃᓄᐃᓕᖕᒐᓂᖏᑦ ᐃᓕᖅᑯᓯᖏᓪᓗ
- ᐅᒥᐊᕐᔪᐊᓕᒫᑦ ᓇᐅᑦᑎᖅᓱᖅᑕᐅᓂᖏᑦ (ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ) ᐊᑐᖅᖢᑎᒃ ᓇᓗᓇᐃᔭᖅᑕᐅᑲᐅᑎᒋᔾᔪᑎᓂᒃ (ᖃᖓᑦᑕᖅᑎᑕᐅᓯᒪᔫᒃᑯᑦ ᐊᒻᒪᓗ ᓯᒡᔭᒥ ᑐᓵᔾᔪᑕᐅᕝᕕᒃᑐᓂᒃ)



2023 Underwater Acoustic Monitoring Program
2023 ᓂᐱᖃᐃᓐᓇᐅᔮᖅᑐᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ

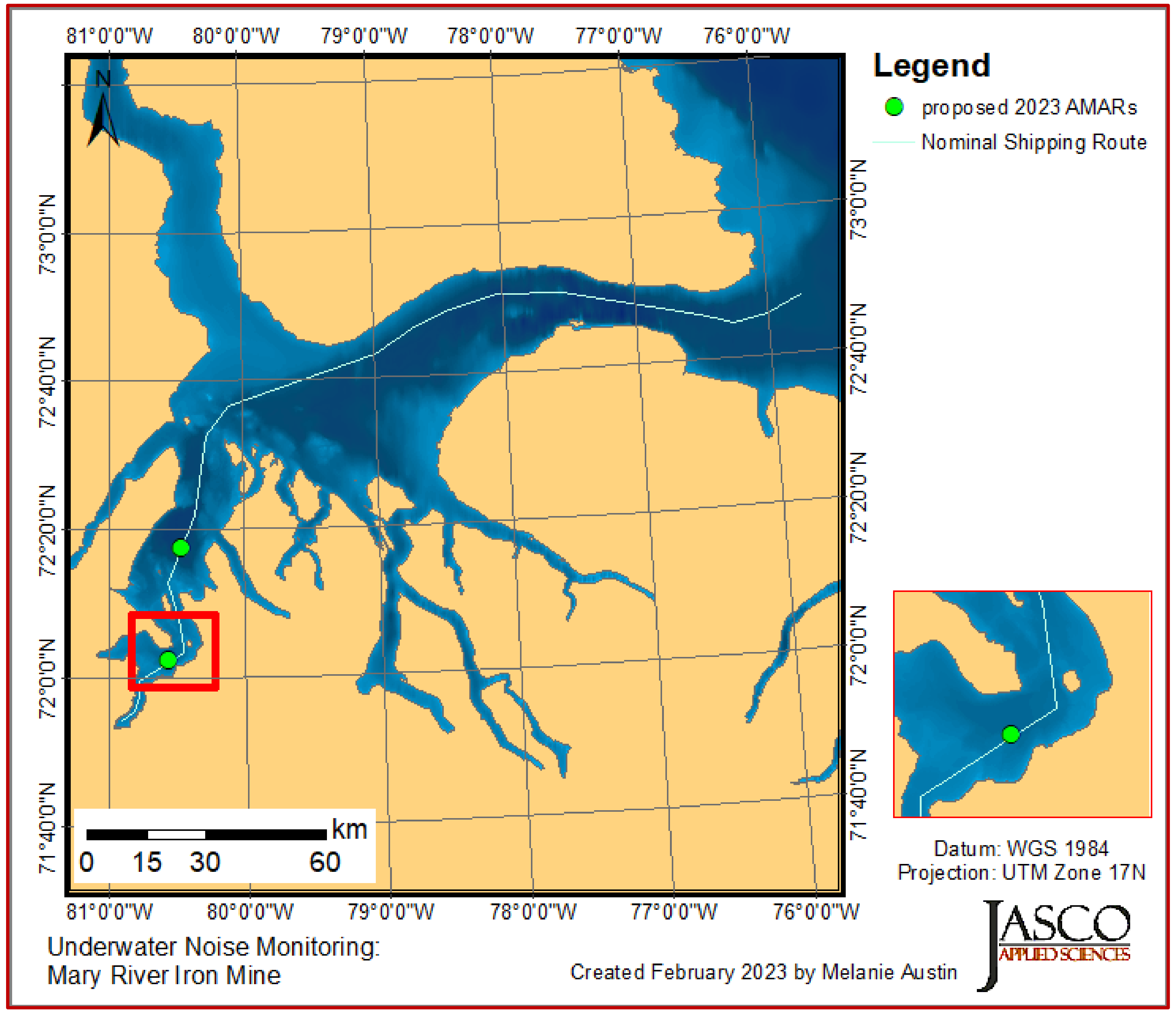
- Deploy recorders in August 2023
- Program is contingent on Cape-sized vessel being involved in 2023 shipping operations
- 2 recorders deployed – one at Bruce Head and one in North Milne Inlet

- ᐱᒋᐊᕐᕕᖓ: ᐋᒡᒋᓯ 2023 (1 ᐱᓇᓱᐊᕈᓯᖅ ᓯᓚᒥ ᐱᓕᕆᓐᓇᒥ ᐱᓕᕆᐊᑦ)
- ᐱᓕᕆᐊᖅ ᒪᓕᒃᑐᑦ ᐊᖏᖠᒥᒃ ᐅᒥᐊᕐᔪᐊᒥᒃ ᐃᓚᐅᑎᑦᑎᓂᕐᒧᑦ 2023-ᒥ ᐅᒥᐊᕐᔪᐊᑦ ᐊᐅᓚᓂᖏᓐᓄᑦ
- ᒪᕐᕉᒃ ᓂᐱᓕᐅᕈᑏᒃ ᐋᖅᑭᒃᑕᐅᔪᑦ - ᐊᑕᐅᓯᖅ ᐃᓗᕙᓕᖕᒥ ᐊᒻᒪᓗ ᐊᑕᐅᓯᖅ ᐅᐊᖕᓇᖖᓂ ᕿᙵᐊᓂ



2023 Underwater Acoustic Monitoring Program
2023 ᓂᐱᖄᐃᓐᓇᐅᔭᖅᑐᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ

- Objective:
  - Measure sound levels produced from a Cape-sized vessel during the 2023 field season.
  - Compare the measured sounds levels to previously modelled levels.
  - Create a more accurate ability to measure the amount of time Cape-sized vessels would exceed marine mammal disturbance thresholds while in transit.
- ᑎᑭᑕᐅᓇᓱᐊᖅᑐᖅ
  - ᖃᐅᔨᓴᕐᓗᒋᑦ ᓂᐱᖃᓕᖅᑎᑕᐅᔪᑦ ᐊᖏᔫᓂᒃ ᐅᒥᐊᕐᔪᐊᓂᑦ 2023-ᒥ ᓯᓚᒥ ᐱᓕᕆᓐᓇᐅᑎᓪᓗᒍ
  - ᖃᓄᐃᓐᓂᖅᓴᐅᖕᒪᖔᑕ ᐆᒃᑐᕋᖅᑕᐅᔪᑦ ᓂᐱᖃᕐᓂᖏᑦ ᐋᖅᑭᖕᒍᐊᖅᑕᐃᓯᒪᓚᐅᖅᑐᑦ ᓂᐱᖁᖅᑐᓕᓅᓄᑦ.
  - ᓴᓇᓗᑎᒃ ᑕᒻᒪᖅᓯᒪᙱᓐᓂᖅᓴᐅᔪᓂᒃ ᖃᐅᔨᓴᖅᑕᐅᓗᑎᒃ ᐊᑯᓂᐅᓂᖓ ᐊᖏᔫᑦ ᐅᒥᐊᕐᔪᐊᑦ ᐅᖓᑕᐅᔾᔨᓯᒪᓇᔭᕐᓂᖏᑦ ᑕᕆᐅᒥ ᐳᐃᔩᑦ ᐅᓚᕕᓴᖅᑕᐅᓂᕐᒧᑦ ᖃᓄᐃᓪᓕᔪᖃᖅᑳᖅᑎᓐᓇᒍ ᑭᒡᓕᐅᔪᓂᒃ ᐃᖏᕐᕋᑎᓪᓗᒋᑦ.



2023 Ship-based Observer (SBO) Program
2023 ᐅᒥᐊᕐᔪᐊᒦᓗᑎᒃ ᓇᐅᑦᑎᖅᓱᖅᑏᑦ ᐱᓕᕆᐊᖅ

- No icebreaking is occurring in early shoulder season
- Program Start: mid October 2023
- Duration: 2 weeks

- ᓯᑯᓂᒃ ᐊᔭᐅᖅᑐᐃᖃᑦᑕᙱᓪᓗᑎᒃ ᓯᑯᐃᓕᓵᖅᑎᓪᓗᒍ ᓯᑯᓕᓵᖅᑎᓪᓗᒍ
- ᐱᓕᕆᐊᑉ ᐱᒋᐊᕐᕕᖓ: ᕿᑎᐊᓂ ᐅᑐᐱᕆ 2023
- ᐊᑯᓂᐅᓂᖓ: 2 ᐱᓇᓱᐊᕈᓰᒃ

2023 Ship-based Observer (SBO) Program
2023 ᐅᒥᐊᕐᔪᐊᒦᓗᑎᒃ ᓇᐅᑦᑎᕐᓱᕐᑏᑦ ᐱᓕᕆᐊᕐ

- Objective: Monitor for potential ship strikes on marine mammals in the RSA and document relative abundance of marine mammal and seabird species in Project area relevant to icebreaking operations.
- Based onboard *MSV Botnica (or equivalent vessel)*

- ᑎᑭᑕᐅᓇᓱᐊᕐᑐᕐ: ᖃᐅᔨᓴᕐᐸᓪᓕᐊᖏᓐᓇᕐᓃᑦ ᐅᒥᐊᕐᔪᐊ ᐊᐳᕐᓯᑐᐃᓐᓇᕆᐊᖃᕐᓂᖏᑦ ᑕᕆᐅᒥ ᐳᐃᔾᓂᒃ ᑕᐅᕙᓂ ᓄᓇᓂ ᐊᕕᒃᑐᕐᓯᒪᔪᓂ ᖃᐅᔨᓴᕐᕕᐅᔪᒥ ᐊᒻᒪᓗ ᑎᑎᕋᕐᑕᐅᓗᑎᒃ ᐊᒃᑐᐊᔪᑦ ᐊᒥᓲᓂᖏᓐᓄᑦ ᑕᕆᐅᑉ ᐳᐃᔾᓄᑦ ᐊᒻᒪᓗ ᑕᕆᐅᒥ ᑎᖕᒥᐊᓂᒃ ᐱᓕᕆᕝᕕᐅᔪᒥ ᐊᒃᑐᐊᔪᑦ ᓯᑯᓂᒃ ᐊᔭᐅᕐᑐᐃᓂᕐᒧᑦ ᐊᐅᓚᓂᐅᔪᓂ.
- ᐃᑭᒪᓗᑎᒃ *MSV ᐹᑦᓂᑲ (ᐅᕝᕙᓘᓐᓃᑦ (ᓇᓕᒧᐊᓂᒡᓘᓐᓃᑦ ᐅᒥᐊᕐᔪᐊᒥ)*

2023 Ship-board Observer (SBO) Program
2023 ᐅᒥᐊᕐᔪᐊᒦᑦᑐᑎᒃ ᓇᐅᑦᑎᖅᓱᖅᑏᑦ ᐱᓕᕆᐊᖅ

- Data recorded on relative abundance, behaviour and environmental conditions (ice, glare, wind)
- Seabird observations following Eastern Canada Seabirds at Sea (ECSAS) protocol
- ᑎᑎᕋᖅᓯᒪᔪᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᑯᐃᑦ ᑕᒪᒃᑯᐊ ᐅᒡᕐᓂᖏᑦ, ᐱᐅᓯᖏᑦ ᐊᕙᑎᖏᓪᓗ ᖃᓄᐃᑦᑑᓂᖏᑦ (ᓯᑯ, ᕿᓪᓕᕐᓂᖏᑦ, ᐊᓄᓇ)
- ᐃᒪᕐᒥᐅᑕᐃᑦ ᑎᖕᒥᐊᑦ ᖃᐅᔨᓴᖅᑕᐅᔪᑦ ᒪᓕᒃᑐᑎᒃ ᑲᓇᖕᓇᕐᒥ ᑲᓇᑕᐅᑉ ᐃᒪᕐᒥᐅᑕᐃᑦ ᑎᖕᒥᐊᑦ ᐃᒫᓂᓪᓗᑎᒃ ᒪᓕᒐᖏᓐᓂ

2023 Ship-board Observer (SBO) Program
2023 ᐅᒥᐊᕐᔪᐊᒦᖢᑎᒃ ᓇᐅᑦᑎᖅᓱᖅᑏᑦ ᐱᓕᕆᐊᖅ

- 5 staff with marine offshore safety training
  - 2–3 Inuit Marine Wildlife Observers
  - 2 Golder biologists
- Board / de-board ship at Milne Port
- Accommodation on ship during survey

- ᑕᓪᓕᒪᑦ ᐃᖅᑲᓇᐃᔭᖅᑏᑦ ᐃᓚᖃᕐᓗᑎᒃ ᐃᒪᕕᖕᒥ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐃᓕᓐᓂᐊᕐᓯᒪᔪᑦ
  - ᒪᕉᒃ ᐱᖓᓱᓪᓘᓃᑦ ᐃᓄᐃᑦ ᐃᒪᕐᒥᐅᑕᓂᒃ ᐆᒪᔪᓂᒃ ᖃᐅᔨᓴᕐᑏᑦ
  - ᒪᕐᕉᒃ ᑑᕐᑐᒃᑯᑦ ᐆᒪᔪᓕᕆᔩᒃ
- ᐃᑭᓗᑎᒃ / ᓂᐅᓗᑎᒃ ᕿᙳᐊᓂ
- ᖃᐅᔨᓴᖅᑎᓪᓗᒋᑦ ᐅᒥᐊᕐᔪᐊᒦᓐᓂᐊᖅᑐᑦ

2023 Marine Environmental Effects Monitoring Program (MEEMP) and Non-Indigenous Species/Aquatic Invasive Species (NIS/AIS) Monitoring Program

2023–ᒥᑦ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᒃᑐᐃᓂᕐᓄᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᑦ

- ~5 weeks (July/August) at Milne Port
- MEEMP study components:
  - Marine water quality
  - Marine sediment quality
  - Benthic invertebrates (on the seabed and in sediment)
  - Marine fish community
  - Fish health (fish tissue monitoring for metals)

- ᓯᓚᒥ ᐱᓕᕆᓂᖅ: ᔪᓚᐃ – ᐋᒡᒌᓯ (ᐱᖓᓱᑦ ᐱᓇᓱᐊᕈᓯᑦ)
- ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᒃᑐᐃᓂᕐᓄᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐃᓗᓕᖏᑦ:
  - ᑕᕆᐅᕐᒥ ᐃᒪᖓ ᐱᐅᑎᒋᖕᒪᖔᑦ
  - ᐃᒫᓂ ᐱᕈᖅᑐᓂᒃ ᐊᒻᒪᓗ ᑯᐊᓐᓃᑦ (ᕿᖅᑯᐊᑦ)
  - ᐃᖃᓗᐃᑦ ᓇᔪᖓᖏᓪᓗ
  - ᐃᖃᓘᑉ ᓂᕿᖓ
  - ᐃᖅᑳᖓᓄᑦ ᑭᕕᕚᓪᓕᐊᔪᑦ ᖃᓄᐃᑦᑑᓂᖏᑦ (ᐅᓄᙱᑦᑐᖅ ᖃᐅᔨᓴᒃᓴᓕᐊᑦ)

2023 Marine Environmental Effects Monitoring Program (MEEMP) and Non-Indigenous Species/Aquatic Invasive Species (NIS/AIS) Monitoring Program
2023−ᒥᑦ ᑕᕆᐅᑉ ᐊᕙᑎᖕᒐᓄᑦ ᐊᒃᑐᐃᓂᕐᓄᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓂᕐᓃᑦ

- AIS/NIS monitoring in Milne Port and Ragged Island
- Ballast water salinity testing on each ship
- Ballast Water Monitoring Program at Milne Port (DFO Collaboration)

- ᐃᖅᑲᖕᒐᓂ ᐱᕈᖅᑐᑦ
- ᐱᓕᕆᐊᖃᕐᓗᑎᒃ ᑕᕆᐅᖑᓂᖕᒐᓄᑦ ᖃᐅᔨᓴᕈᑎᒥᒃ ᓇᓕᐊᖕᓄᑐᐃᓐᓇᖅ ᐃᒥᖅ ᐃᒃᑕᖅᑯᑕᐅᕝᒄᑑᑉ ᖃᑦᑕᖕᒐᓂᖕᒎᖅᑐᓂᒃ ᐊᑐᓂ ᓴᕕᒃᓴᓂᒃ ᐅᓯᖓᒃᓴᓂᑦ ᑐᓚᖕᓂᐊᖅᑐᓄᑦ ᕿᓪᓗᐊᓂ ᑐᓚᒃᑕᕐᕕᖕᒧᑦ.
- ᐃᒥᕐᒥᒃ ᐃᒃᑕᖅᑯᑕᐅᕝᒃᑐᒥᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓂᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ ᕿᓪᓗᐊᓂ (ᐃᒪᕐᒥᐅᑕᓕᕆᔾᔪᓯᒃ ᐱᓕᕆᖃᑎᖃᕐᓗᑎᒃ)

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Inuit Research Positions for 2023 Monitoring Programs
ᐃᓄᐃᑦ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᐃᖅᑲᓇᐃᔮᕐᖏᑦ 2023-ᒥ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᕐᕕᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ

2023 Monitoring Programs 2023 ᖃᐅᔨᓴᖅᐸᓪᓕᐊᕐᕕᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ	Number of Inuit Employees ᖃᑦᓯᐅᓂᖏᑦ ᐃᓄᐃᑦ ᐃᖅᑲᓇᐃᔭᖅᑏᑦ	Length of Program ᐊᑯᓂᐅᓂᖓ ᐱᓕᕆᐊᑉ	Position ᐃᖅᑲᓇᐃᔮᑦ
Aerial Survey Program ᖃᖓᑕᓲᒃ ᓈᓴᐃᓂᖅ	4	Leg 1: 14 days / 14 ᐅᓪᓗᑦ Leg 2: 21 days / 21 ᐅᓪᓗᑦ Leg 3: 3 days / 3 ᐅᓪᓗᑦ	Marine Wildlife Observer ᑕᕆᐅᒥ ᐆᒪᔪᓂᒃ ᓇᐅᑦᑎᖅᓱᖅᑏᑦ
Bruce Head Monitoring Program ᐃᓗᕿᓕᖕᒥ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᕐᕕᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ	7	28 days 28 ᐅᓪᓗᑦ	Marine Wildlife Observer Polar Bear Monitor ᑕᕆᐅᒥ ᓃᕐᔪᑎᓂᒃ ᓇᐅᑦᑎᖅᓱᖅᑎ ᓇᓄᓕᕆᔨ
Shipboard Observer Program ᐅᒥᐊᑦ ᐃᓂᖕᓂᓂᒃ ᓇᐅᑎᖅᓱᖅᑏᑦ ᐱᓕᕆᐊᑦ	3	14 days 14 ᐅᓪᓗᑦ	Marine Wildlife Observer ᑕᕆᐅᒥ ᓂᕐᔪᑎᓂᒃ ᓇᐅᑦᑎᖅᓱᖅᑎ
Marine Environmental Effects Monitoring Program (MEEMP) ᑕᕆᐅᑉ ᐊᕙᑎᖓᓂᒃ ᐊᒃᑐᐃᓂᕐᓂᒃ ᖃᐅᔨᓴᖅᐸᓕᐊᕐᕕᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ	2	28 days 28 ᐅᓪᓗᑦ	Boat Operator Field Technician ᐅᒥᐊᕐᑐᖅᑎ ᓱᓚᒥ ᐱᓕᕆᓐᓇᖅᑎᓪᓗᒍ ᑲᒪᔨ
Shipping Monitor Program ᐅᒥᐊᕐᔪᐊᕐᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᕐᕕᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ	10	2023 Shipping Season 2023 ᐅᒥᐊᖅᔪᐊᖃᕐᓇᐅᑎᓪᓗᒍ ᓇᓗᓇᐃᖅᓯᒪᔪᑦ	Shipping Monitor ᐅᒥᐊᕐᔪᐊᕐᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᕐᕕᓐᓇᕐᓂᕐᒧᑦ
Total **ᑲᑎᓪᓗᒋᑦ**	**26**		


#3


STATUS OF COMPLIANCE FOR
MARINE PROJECT CERTIFICATE
TERMS AND CONDITIONS
ᖃᓄᐃᓕᖓᖕᒪᖔᑕ ᒪᓕᖕᓂᖅᒧᑦ ᑕᓇᐅᒥ
ᐅᔭᕋᖕᓂᐊᕈᓐᓇᐅᑎᒥ ᑕᐃᒎᓰᑦ ᐊᒻᒪᓗ
ᒪᓕᒋᐊᓖᑦ

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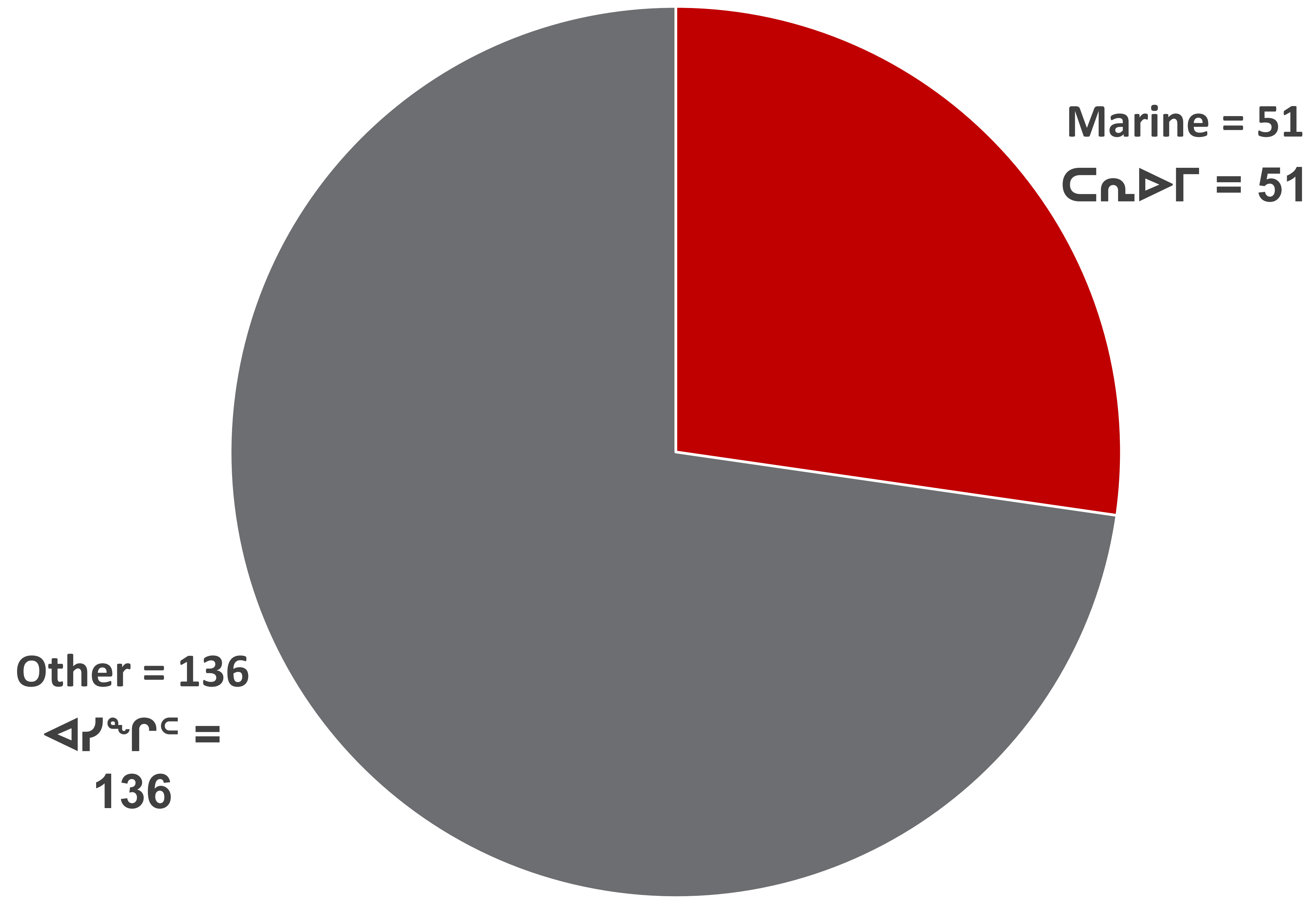
Total 187 Project Terms and Conditions
ᑲᑎᓪᓗᒃᑖᕐᓗᒋᑦ 187 ᐱᓕᕆᐊᒥ ᑕᐃᒎᓰᑦ ᐊᒻᒪᓗ ᒪᓕᒋᐊᓖᑦ

- **Marine = 51/187**
  - Marine Environment
  - Marine Wildlife
- **Other = 136/187**
  - Atmospheric = 17
  - Freshwater = 24
  - Terrestrial = 37
  - Socio-Economic = 41
  - Other = 17

- **ᑕᕆᐅᒥ = 51/187**
  - ᑕᕆᐅᑉ ᐊᕙᑎᖓᓂ
  - ᑕᕆᐅᒥ ᐆᒪᔪᑦ
- **ᐊᓯᖏᑦ = 136/187**
- ᐊᓂᖅᓂᖅᑲᖅᓇᖅᓂᖓ = 17
  - ᐃᒪᑦᑎᐊᕙᒃ = 24
  - ᓄᓇ = 37
  - ᐃᓅᓰᑦ-ᒪᑭᒪᔾᔪᑏᑦ = 41
  - ᐊᓯᖏᑦ = 17

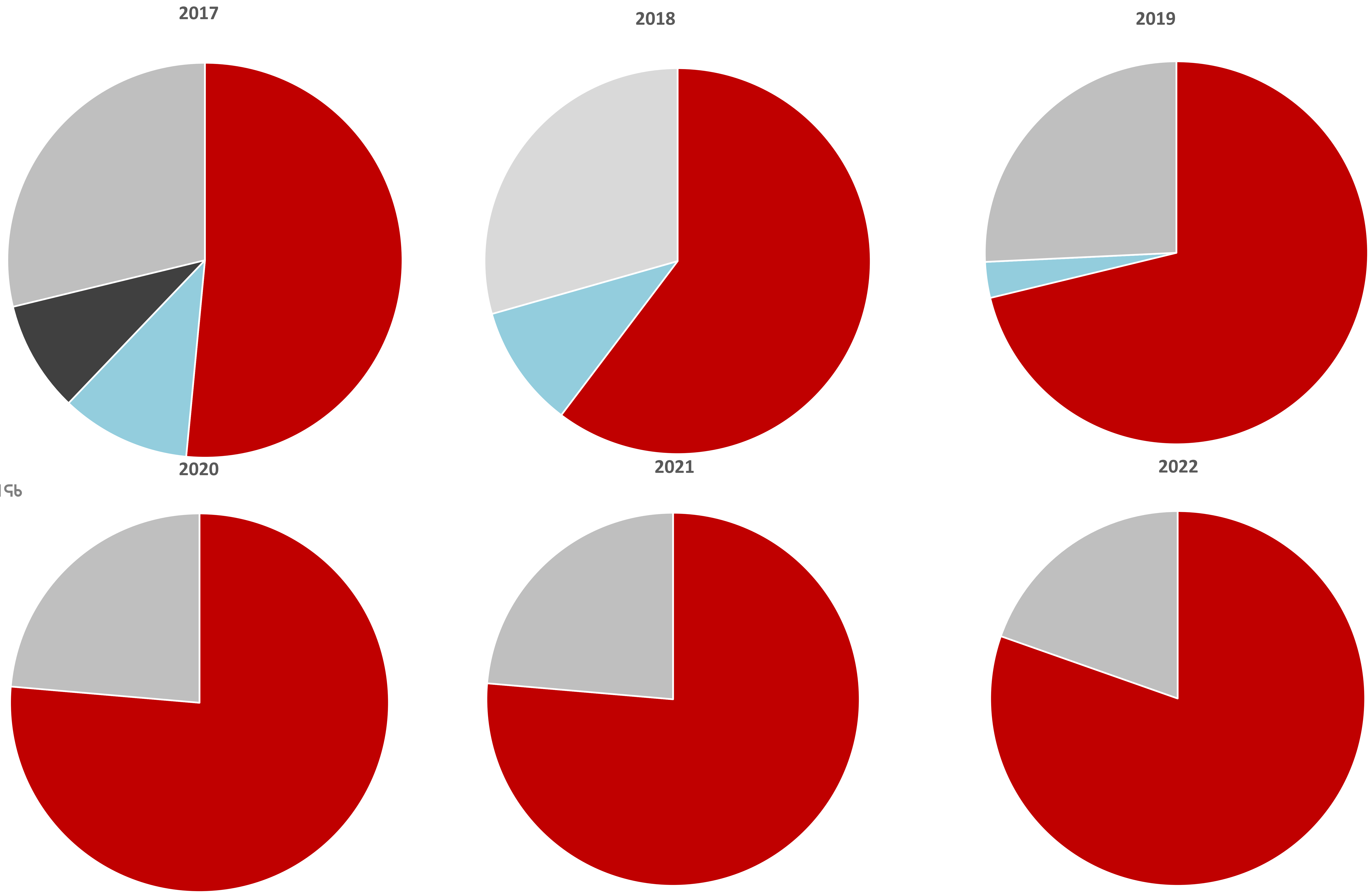


Approved Terms and Conditions
ᐱᓕᕆᐊᒥ ᑕᐃᒎᓰᑦ ᐊᒻᒪᓗ ᒪᓕᒋᐊᓖᑦ

2017 to 2022 Marine Conditions – Status of Compliance
2017-ᒥᑦ 2022-ᒧᑦ ᑕᑎᐅᑉ ᖃᓄᐃᓕᖓᓂᖓ - ᖃᓄᐃᓕᖓᓂᖏᑦ ᒪᓕᖕᓂᕐᒧᑦ

- In Compliance
- Partially-Compliant / In Progress
- Non Compliant
- Not Applicable

- ᒪᓕᒃᑐᑦ
- ᐃᓚᐃᓐᓇᖓᓂᒃ ᒪᓕᒃᑐᑦ/ᑲᒪᒋᔭᐅᕙᓪᓕᐊᔪᖅ
- ᒪᓕᙱᑦᑐᖅ
- ᐋᑎᖃᙱᑦᑐᖅ

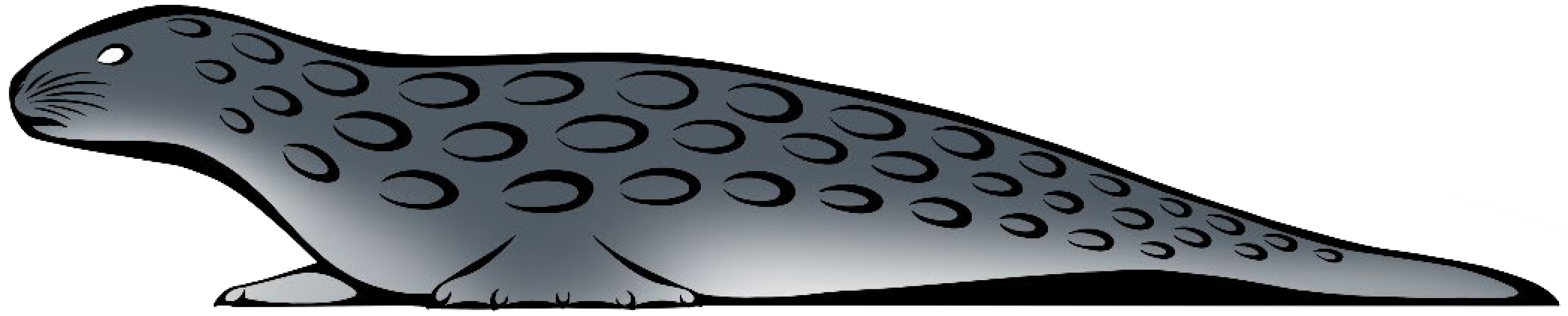



Community Concerns Related to
Shipping
ᓄᓇᓕᖕᓂ ᐃᓱᒫᓘᑕᐅᔪᑦ ᐊᒃᑐᐊᔪᑦ
ᐅᒥᐊᕐᔪᐊᖅᖃᑦᑕᕐᓂᕐᒧᑦ

What We Have Heard – Summary of Previous Years
ᑐᓴᖅᓯᒪᔭᕗᑦ - ᓇᐃᓈᖅᓯᒪᔪᑦ ᐊᕐᕌᒎᓯᒪᔪᓂ

- **Vessels are travelling too fast**
- Larger vessels and speed of vessels are creating wakes that affect hunters
- **ᐅᒥᐊᕐᔪᐊᑦ ᓱᒃᑲᓪᓗᑎᒃ ᐃᖏᕐᕋᖅᑲᑦᑕᕐᓂᖏᓐᓄᑦ**
- ᐊᖏᓂᑦᓴᐃᑦ ᐅᒥᐊᕐᔪᐊᑦ ᐃᖏᕐᕋᓂᖏᓪᓗ ᐅᒥᐊᕐᔪᐊᑦ ᐊᒃᑐᐃᔾᔪᑎᖃᓪᓕᕐᓂᖏᓐᓄᑦ ᐊᖑᓇᓱᕐᑎᓄᑦ

- **Narwhal abundance has been changing**
- Hunters have to travel further to harvest narwhal
- Condition and health of narwhal may be declining
- Narwhal are being displaced from vessel noise
- Icebreaking will scare narwhal away
- **ᑑᒐᓖᑦ ᐅᓄᕐᓂᖏᑦ ᐊᓯᔾᔨᖅᐸᓪᓕᐊᔪᑦ**
- ᐊᖑᓇᓱᒃᑏᑦ ᐅᖓᓯᖕᓂᖅᓴᒧᑦ ᐊᖑᓇᓱᖅᑕᓪᓕᕐᓂᖏᓐᓄᑦ ᑑᒐᓕᖕᓂᑦ
- ᖃᓄᐃᓐᓂᖏᑦ ᖃᓄᐃᖏᓐᓂᖏᓪᓗ ᑑᒑᓖ ᐅᓄᕈᓐᓃᖅᐸᓪᓕᐊᖅᑯᖅᑐᑦ
- ᑑᒑᓖᑦ ᐊᓯᐊᒎᖕᒐᓕᕐᓂᖏᓐᓄᑦ ᐱᔾᔪᑎᖏᓪᓗᒍ ᓂᐲᑦ ᐅᒥᐊᕐᔪᐊᓂᖔᖅᑐᑦ
- ᓯᑯᓂ ᐊᔭᐅᖅᑐᐃᔪᖃᕈᓂ ᑑᒑᓖᖕᓂᑦ ᑲᐸᓐᓂᐊᖅᑐ



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What We Have Heard – Summary of Previous Years
ᑐᓴᖅᓯᒪᔭᕗᑦ - ᓇᐃᓈᖅᓯᒪᔪᑦ ᐊᕐᕌᒎᓯᒪᔪᓂ

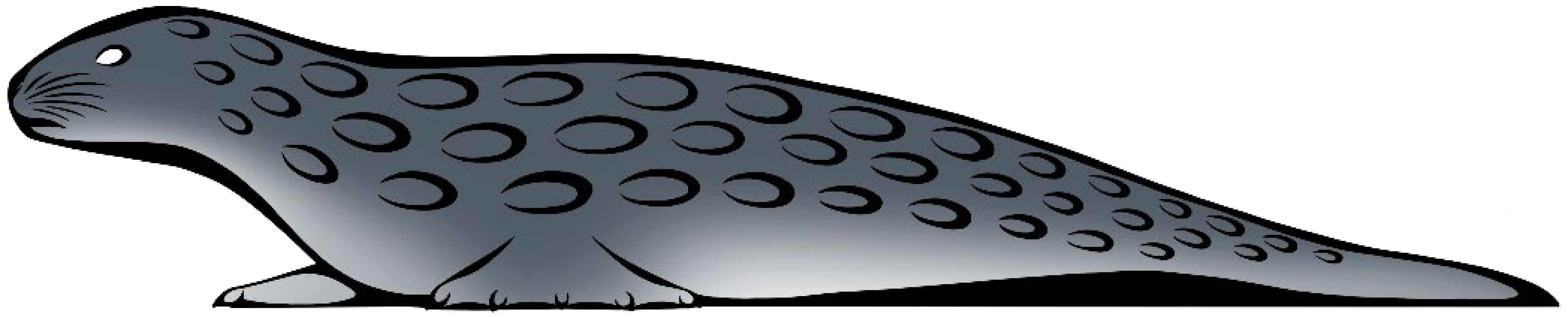
- **There are new species being observed**
- Concerns that invasive species could have a negative effect on fish and marine mammals that are important food sources
- Invasive species may be introduced through ballast water discharges
- **ᓄᑖᓂᒃ ᐆᒪᔪᓂᒃ ᓇᐅᑦᑎᖅᓱᖅᑕᐅᔪᖃᖅᑐᖅ**
- ᐃᓱᒫᓘᑖᐅᔪᑦ ᑎᑭᑉᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᑦ ᓈᒻᒪᖕᒋᑦᑐᒃᑯᑦ ᐊᒃᑐᐃᓂᖅᑐᐃᓐᓇᓇᐊᓕᒃ ᐃᖃᓗᖕᓄᑦ ᐃᒪᕐᒥᐅᑕᓄᓪᓗ ᐱᒻᒪᕆᐅᔫᓪᓗᑎᒃ ᓂᕿᒋᔭᐅᓲᓄᑦ
- ᑎᑭᑉᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᑦ ᓴᖅᑭᑐᐃᓐᓇᓇᐊᓛᑦ ᐊᑐᖅᑕᐅᓗᓂ ᐃᒃᑕᖅᑯᑕᐅᕙᒃᑐᑦ ᐃᒥᖅ ᑯᕓᔭᐅᓂᖓᓄᑦ

- **Vessels are travelling through ecologically sensitive areas**
- Vessels are travelling too close to the western shoreline of Milne Inlet
- Too many vessels drifting in Eclipse sound
- Too many ships in the area, which are disrupting hunting and marine mammal availability (including narwhal and ringed seal)
- **ᐅᒥᐊᕐᔪᐊᑦ ᐃᖕᒋᕐᕋᒃᑕᕐᓂᖕᒋᓐᓄᑦ ᑕᐅᕘᓇ ᐆᒪᔪᑦ ᓇᔪᕐᕕᒋᕙᒃᑕᖕᒋᑦᑎᒍᑦ ᐃᒃᐱᖕᓂᖅᓴᕋᐃᑦᑐᑎᒍᑦ**
- ᐅᒥᐊᕐᔪᐊᑦ ᐃᖕᒋᕐᕋᒃᑕᕐᓂᖕᒋᓐᓄᑦ ᐱᓇᖕᓇᖕᓛᖕᒐᓂ ᓯᒡᔭᖕᒐᓂ ᖃᖖᒍᐊᓂ
- ᐅᓄᓗᐊᓕᕐᓂᖕᒋᓐᓄᑦ ᐅᒥᐊᕐᔪᐊᑦ ᑎᒃᑕᐅᔪᑦ ᑕᓯᐅᔭᒥ
- ᐅᒥᐊᕐᔪᐊᖃᐅᓗᐊᕐᓂᖕᒐᓄᑦ ᑕᐅᕙᓂ, ᐅᓚᕕᓴᐃᓕᓗᑎᒡᓗ ᐊᖑᓇᓱᒃᑎᓂᒃ ᐃᒪᕐᒥᐅᑕᓂᓪᓗ (ᐱᖃᓯᐅᑎᓕᓗᒋᑦ ᑑᒑᓕᑦ ᓇᑦᑏᓕᓗ)

What We Have Heard – 2022 End of Shipping Season Meeting
ᖃᓄᖅ ᑐᓴᖅᓯᒪᕕᑕ – 2022-ᒥ ᐅᒥᐊᕐᕝᐊᖄᕐᓈᓂᒃᑎᓪᓗᒍ ᓈᓚᐅᑎᒃᑯᖅᑎᓪᓗᒋᑦ

- Held Feb 8th, 2023 in Pond Inlet
- Attendees from MHTO, Hamlet of Pond Inlet, Government of Nunavut, QIA
- ᑲᑎᒪᓚᐅᖅᑐᑦ ᕖᕗᐊᕆ 8, 2023 ᒥᑦᑎᒪᑕᓂᖕᒥ
- ᑲᑎᒪᕝᓃᖃᑕᐅᓚᐅᖅᑐᑦ ᒥᑦᑎᒪᑕᓂᖕᒥᑦ ᐊᖑᓇᓱᒃᑐᓕᓄᐃᑦ, Hᐋᒪᓚᒃᑯᑦ, ᒐᕙᒪᒃᑯᑦ ᓄᓇᕗᒻᒥ, ᕿᑭᖅᑕᓂ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᑦ

- **Navy Board Inlet is preferred shipping route**
- Community members do not like ships passing by
- Fewer narwhals would be displaced shipping through Navy Board
- **ᐃᒡᓗᐊᑕ ᓰᓗᐊ ᐊᖁᑎᒋᔭᐅᖕᒫᕐᑯᓪᓗᒍ ᐅᒥᐊᕐᕝᐊᓄᑦ**
- ᓄᓇᓕᖕᓂᕐᒥᐅᑦ ᓈᒻᒪᒃᓴᖏᑦᑐᑦ ᐊᖁᓵᖅᓯᖃᑦᑕᖅᑎᓪᓗᒍ
- ᐅᓄᖏᓐᓂᖅᓴᐅᓇᔭᖅᑐ ᑑᒡᓘᑦ ᐅᓚᕕᑕᐅᕝᑦ ᐅᒥᐊᖅᕝᐊᖃᕈᑎ ᐃᒡᓗᐊᑕ ᓰᓗᐊᒃᑯᓐᓂ

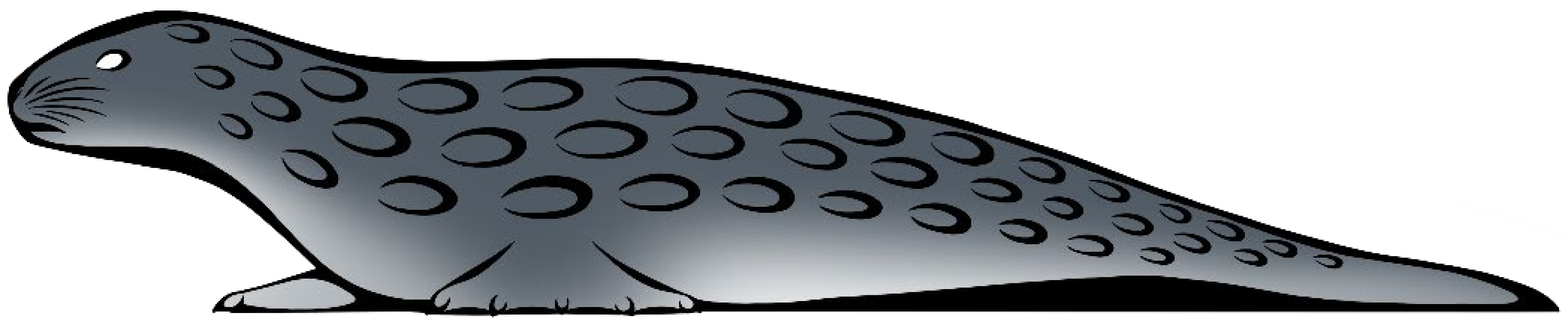


Baffinland

What We Have Heard – 2022 End of Shipping Season Meeting
ᖃᓄᖅ ᑐᓴᖅᓯᒪᕕᑕ – 2022-ᒥ ᐅᒥᐊᖅᔪᐊᖃᖅᓈᓂᒃᑎᓪᓗᒍ ᓈᓚᐅᑎᒃᑯᖅᑎᓪᓗᒥᑦ

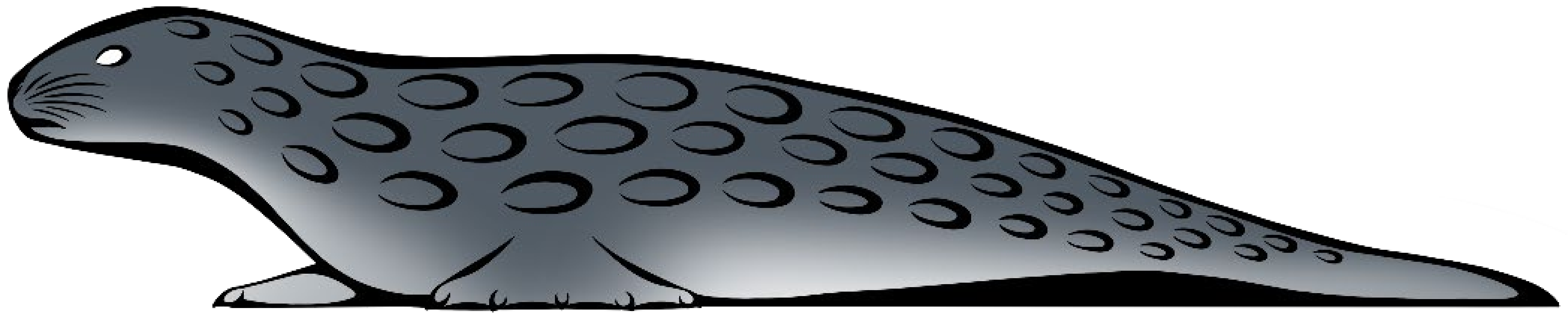
- **Do not want vessels anchoring at Ragged Island**
- Less marine life in the area since vessels began anchoring at Ragged Island
- Concerned that ships are deballasting at anchorage
- Would like to see videos of vessels deballasting at Port

- **ᐅᒥᐊᖅᔪᐊᓂ ᑭᓴᒃᓯᒪᖅᑯᔨᖏᑦᑐᑦ ᐃᒥᓕᖕᒥᑦ**
- ᐃᒪᖅᒥᐅᑕᖃᓗᐊᕈᓐᓃᖅᓂᖕᖓᓄᑦ ᐃᒥᓕᐅᑉ ᖃᓂᒋᔭᖕᖓᓂᒃ ᑐᓚᖃᑦᑕᓕᖅᑎᓪᓗᒍ
- ᐃᓱᒫᓘᑕᐅᔪᑦ ᐅᒥᐊᖅᔪᐊᑦ ᐃᑦᑕᖅᓯᖃᑦᑕᖅᓂᖏᓐᓄᑦ ᑭᓴᖅᓯᒪᓕᓗᑎᒃ
- ᓂᐱᓕᐅᕆᓯᒪᔪᓂᒃ ᑕᑯᔪᒪᓇᔭᖅᑐᑦ ᐅᒥᐊᖅᔪᐊᑦ ᐃᑦᑕᖅᓯᓕᓗᑎᒃ ᑐᓚᑦᑕᕐᕕᖕᒥᑦ



What We Have Heard – 2022 End of Shipping Season Radio Show
ᖃᓄᖅ ᑐᓴᖅᓯᒪᕙᑕ – 2022-ᒥ ᐅᒥᐊᕐᔪᐊᖃᕐᓈᓂᒃᑎᓪᓗᒍ ᓈᓚᐅᑎᒃᑯᖅᑎᓪᓗᒥᑦ

- Held Feb 8th, 2023 in Pond Inlet
- 11 callers
- ᑐᓴᖅᓴᐅᓚᐅᖅᑐᑦ ᓈᓚᐅᑎᒃᑯᑦ ᕖᕝᕗᐊᕆ 8, 2023 ᒥᑦᑎᒪᑕᓕᖕᒥ
- ᐅᖄᓚᓚᐅᖅᑐᑦ 11



- **Narwhal population was low in 2022 and narwhal went to Arctic Bay**
- **ᑑᓗᓃᑦ ᐅᓄᖏᓐᓂᖅᓴᐅᓚᐅᖅᑐᑦ 2022-ᒥ ᐊᒻᒪᓗ ᑑᓗᓃᑦ ᐃᒃᐱᐊᕐᔪᖕᓄᐊᓚᐅᖅᑐᑦ**

- **Seals in Milne Port could have high concentrations of mercury**
- **ᓇᑦᑏᑦ ᕿᙳᐊᓂ ᑐᓚᑦᑕᕐᕕᖕᒦᑦᑐᑦ ᐃᓚᐅᖅᑐᕋᖃᓗᐊᕆᕐᓂᖏᓐᓄᑦ**

- **There should be more marine studies, including a tagging program**
- **ᖃᐅᔨᓴᕐᓂᖅᑕᖃᐅᓪᓗᐊᖅᑐᖅ ᐃᒪᕐᒧᑦ ᖃᐅᔨᓴᕐᓂᕐᒥᒃ, ᐱᖃᓯᐅᑎᓗᒍ ᓈᓴᐃᔾᔪᑎᓂᒃ ᐱᓕᕆᐊᖅ**

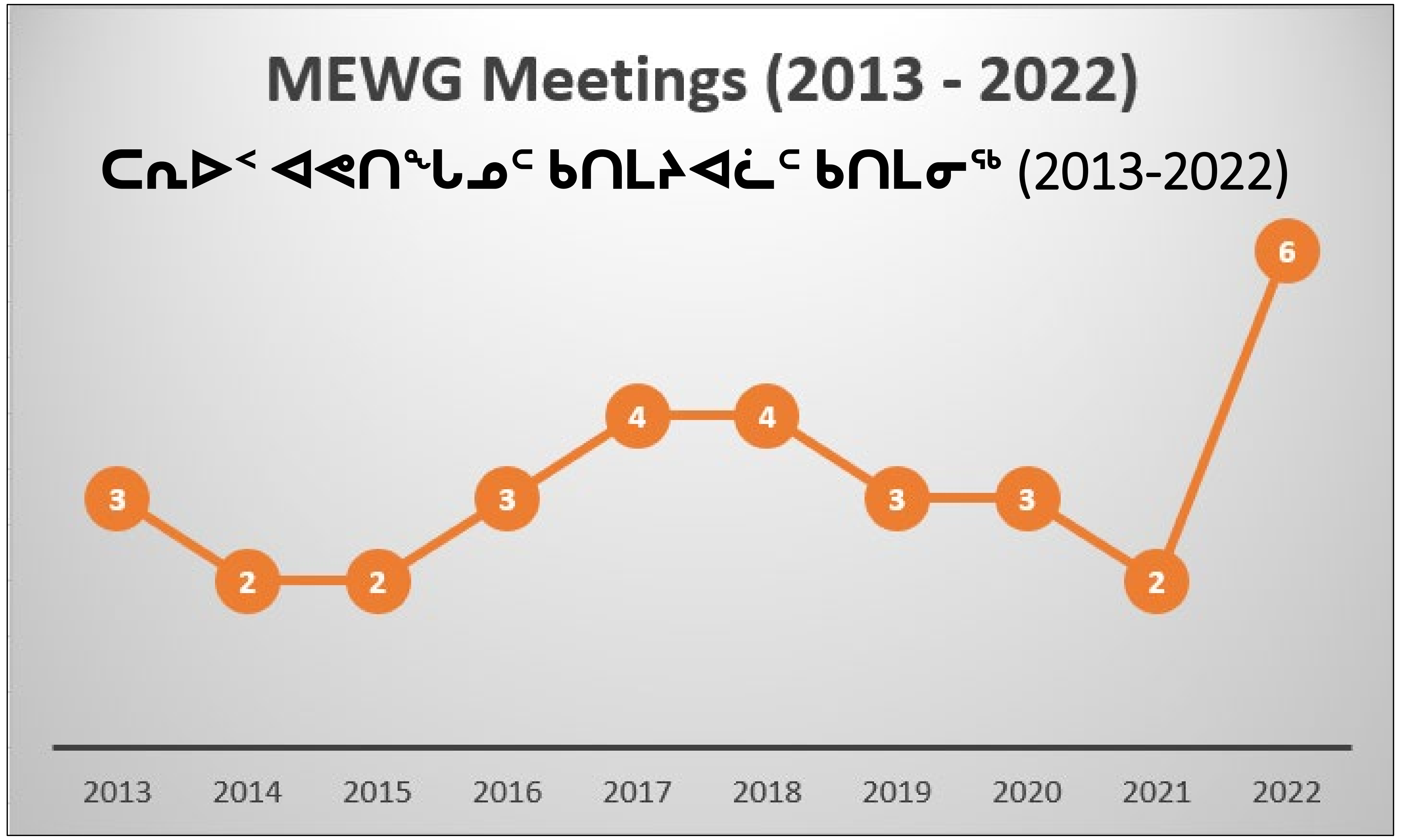
"We have gone through changes over time and marine mammals are more abundant in some years than others. When they migrate, they always come back."

"ᐊᓯᔾᔨᖅᐸᓪᓕᐊᓯᒪᔪᒃᑯᑦ ᐊᑐᖅᓯᒪᒪᒐᑦᑕ ᑕᐃᒪᖕᒐ ᐊᒻᒪᓗ ᐃᒪᕐᒥᐅᑕᐃᑦ ᐅᓄᕐᓂᖕᒋᑦ ᐊᔾᔨᒌᖕᒋᓇᖅᓗᑎᒃ ᐊᓯᖕᒋᑦᑎᒍᑦ. ᓅᑦᑕᓕᖅᑎᓪᓗᒋᑦ, ᐅᑎᖃᑦᑕᖅᑐᑦ"

What We Have Heard – 2022 MEWG Meetings
ᖃᓄᖅ ᑐᓴᖅᓯᒪᕕᑕ – 2022 ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᑲᑎᒪᔩᐊᓛᑦ ᑲᑎᒪᓂᖅ

- Six meetings held May 3rd, June 14th, June 22nd, June 29th, August 4th, December 2nd 2022
- 6-ᒋᔭᐅᔪᖅ ᑲᑎᒪᓂᖅ ᑲᑎᓚᐅᖅᑐᑦ ᒪᐃ 3, ᔫᓐ 14, ᔫᓐ 22, ᔫᓐ 29, ᐋᒋᓯ 4, ᑎᓯᐱᕆ 2, 2022
-
- Now includes 5 HTOs as members – Pond Inlet, Igloolik, Clyde River, Sanirajak, Arctic Bay
- ᐃᓚᒋᔭᐅᓕᖅᑐᑦ ᑕᓪᓕᒪᑦ ᐊᖑᓇᓱᒃᑐᓕᕆᔩᒃᑯᓐᓂ ᑲᑎᒪᔩᑦ – ᒥᑦᑎᒪᑕᓕᒃ, ᐃᒡᓗᓕᒃ, ᑲᖏᖅᑐᒑᐱᒃ, ᓴᓂᕋᔭᒃ, ᐃᒃᐱᐊᕐᔪᒃ

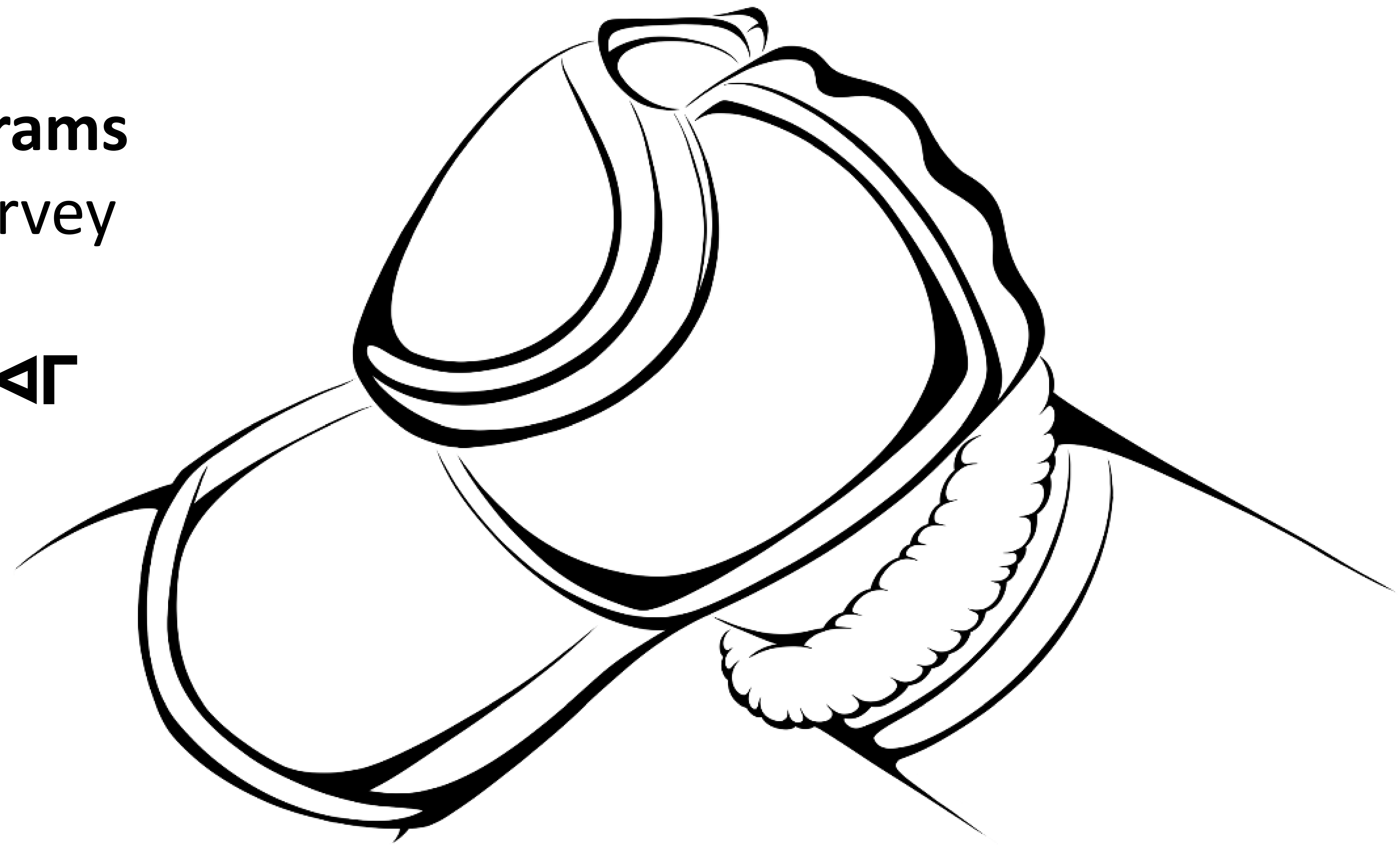
- Developed Action Item Tracker dating back to 2018
- ᓴᖅᑭᑦᑎᓚᐅᖅᑐᑦ ᐱᓕᕆᐊᒃᓴᕐᓂᑦ ᓇᐅᓇᐃᒃᑯᑕᓂᑦ ᑕᐃᒪᖕᒐᓂ 2018-ᒥᓂ



What We Have Heard – 2022 MEWG Meetings
ᖃᓄᖅ ᑐᓴᖅᓯᒪᕙᑕ – 2022 ᑕᓇᐅᑉ ᐊᕙᑎᖓᓄᑦ ᑲᑎᒪᔨᐊᓛᑦ ᑲᑎᒪᓐᓂᖅ

- **Do not want acoustic recording devices**
- Noise scares away marine mammals
- **ᓂᐱᓕᓇᐅᓇᕐᔪᑎᓂᒃ ᐃᓕᓯᖁᔭᓯᒪᖏᑦᑐᑦ**
- ᓂᐲᑦ ᑲᑉᐱᐊᒋᔭᐅᖃᑦᑕᕐᓂᖓᓄᑦ ᐃᒪᕐᒥᐅᑕᓄᑦ

- **Want more Inuit representation in marine monitoring programs**
- MHTO would like to be included in marine mammal aerial survey program
- **ᐃᓄᖕᓂᑦ ᐃᓚᐅᑎᑦᑎᒃᑲᓐᓂᕐᓗᑎᒃ ᑕᓇᐅᕐᒥᒃ ᖃᐅᔨᓴᕐᓂᕐᒥᑦ ᐱᓕᕆᐊᒥ**
- ᒥᑦᑎᒪᑕᓕᖕᒥᑦ ᐊᖑᓇᓱᒃᑐᓕᕆᔩᒃᑯᑦ ᐃᓚᒋᔭᐅᔪᒪᔪᑦ ᐃᒪᕐᒥᐊᑕᓂᒃ ᖃᐅᔨᓴᖅᑎᓪᓗᒋᑦ ᖃᖓᑕᔫᒃᑯᑦ ᐱᓕᕆᐊᒥᑦ

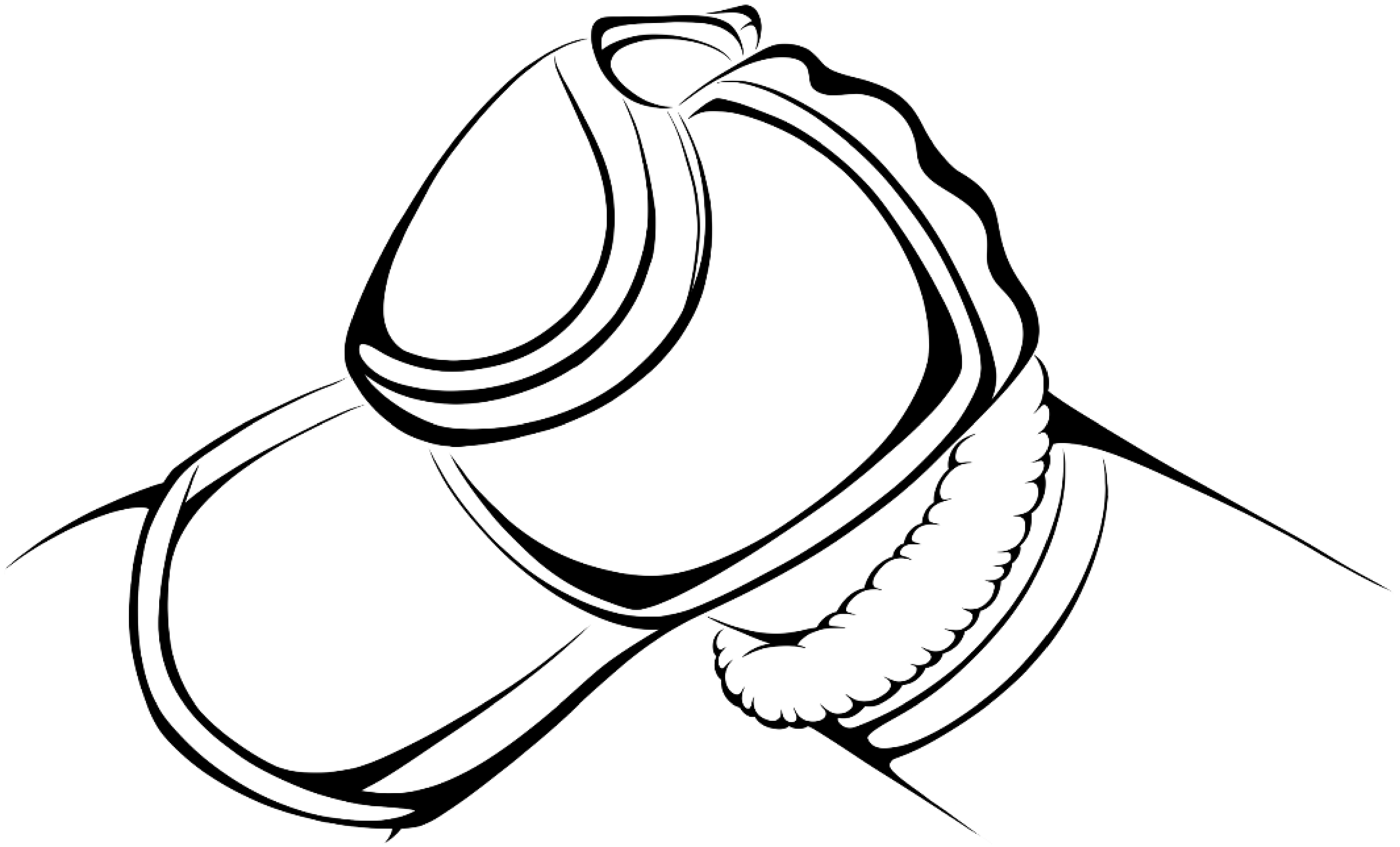


Baffinland

What We Have Heard – 2022 MEWG Meetings
ᖃᓄᖅ ᑐᓴᖅᓯᒪᕕᑕ – 2022 ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᑲᑎᒪᔩᐊᓛᑦ ᑲᑎᒪᓐᓇᖅ

- **Do not want ore carriers with thrusters**
- **ᓴᕕᒃᓴᓂᑦ ᐅᓯᑫᒃᑐᑦ ᐊᐅᓚᐅᑎᖃᕐᑯᓇᒍᑦ**

- **Do not want Baffinland to conduct a narwhal tagging program**
- Want DFO to lead this program
- **ᐹᕙᓐᓈᓐᑯᓐᓂ ᖃᐅᔨᓴᕐᓂᕐᒥᒃ ᑑᒫᓅᖕᓂᑦ ᓂᕕᖕᒐᑲᑖᓕᖅᓱᐃᕐᑯᔨᖕᒋᑦᑐᑦ**
- ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦᓂ ᐱᓕᕆᐊᖃᕐᑯᔨᖕᓛᖅᑐ ᐱᓕᕆᐊᒥ



QUESTIONS / THANK YOU

ᐅᖃᖃᑎᒋᔪᓐᓇᖅᑕᑎ/
ᐊᐱᖅᑯᑏᑦ/ᖁᔭᓐᓇᒦᒃ

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