2017 Winter Sealift Workshop

February 3rd, 2017

Workshop Objective

To develop an execution plan that:

- Incorporates input from community consultations
- Ensures the safety of community members
- Addresses community concerns
- Minimizes effects on traditional land use, local travel routes and the environment

Regulatory Context

- Nunavut Planning Commission
  - Notified Baffinland on Jan 26, 2017 that the proposed winter sealift conforms to the North Baffin Regional Land Use Plan
  - Forwarded project proposal to NIRB for screening on Jan 26, 2017

- Nunavut Impact Review Board
  - Currently, reviewing project proposal

Workshop Outline

1. Nain Visit – April 2015
2. 2017 Winter Sealift Proposal
3. Proposed Execution Plan
4. Proposed Monitoring
5. Conclusion




Nain, Labrador Visit – April 2015

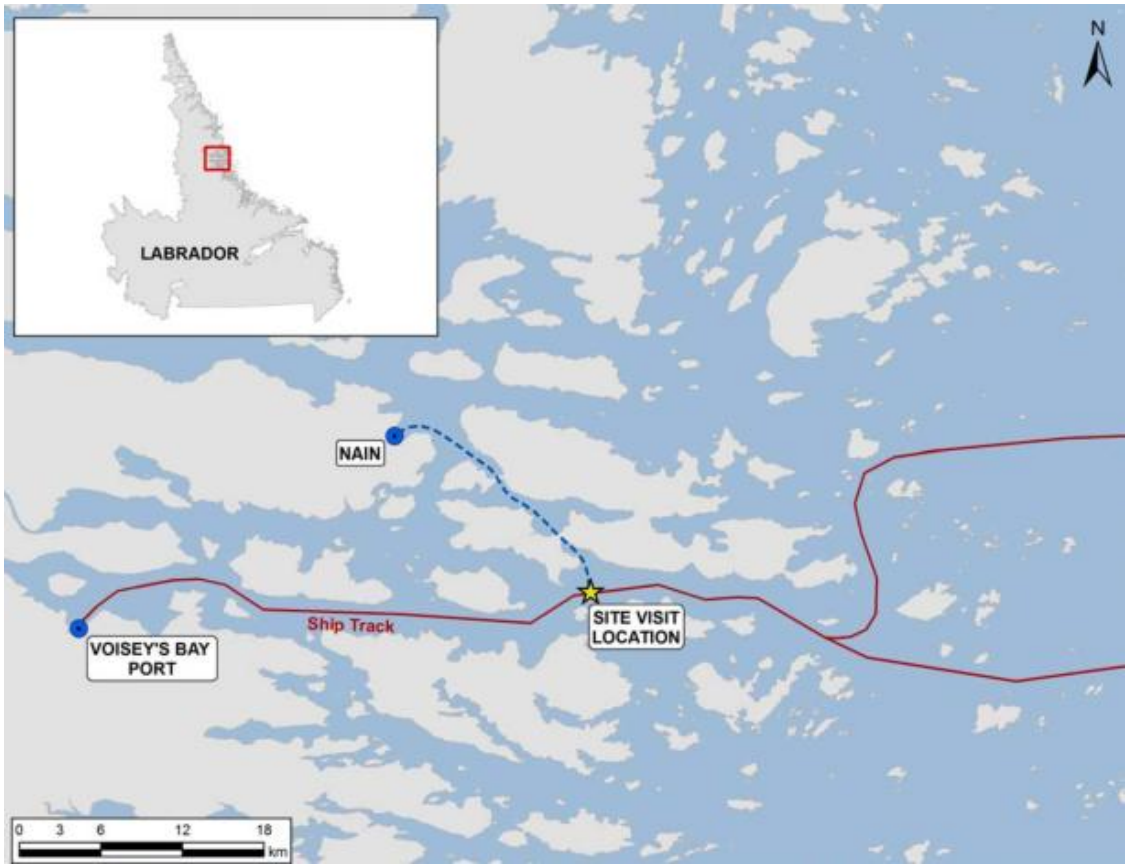
Nain Visit – April 2015

Goals

- To bring Inuit from Pond Inlet to Nain to observe the passage of the *MV Umiak I* through landfast ice.
- Allowed participants to directly experience winter shipping and related mitigation measures the Labrador Inuit employ to ensure they maintain safety and access to the area of the ship's track for traditional and recreational purposes (hunting, fishing, etc.)

Nain Visit - Schedule

- Travel to Taktok Island to observe the transit of the MV Umiak I through landfast ice
- Deployment of ice bridge system over ship's track
- Presentation with Q & A



Comments and Feedback

- The Nain visit demonstrated that winter shipping, with the proper mitigation measures, can be done safely and with minimal effects to traditional land use activities and the environment.
- Several participants mentioned they would be interested in a demonstration voyage in Eclipse Sound near Pond Inlet.
- It was noted that mitigation measures would have to be modified for a winter sealift in Eclipse Sound

Ship Transit Video – Raglan Mine, Quebec




Proposed 2017 Winter Sealift – Pond Inlet, NU

2017 Winter Sealift

- Baffinland is authorized to ship up to 4.2 mtpa via Milne Port with 2.7 mtpa shipped in 2016
- Additional ore haul trucks and trailers for the start of the 2017 shipping season are required to improve production
- Additional trucks to be brought to site through a Winter Sealift using an icebreaking bulk carrier – the MV Nunavik - in March 2017
- The Sealift will bring additional equipment to site

2017 Sea Lift MV Nunavik – Owned and Operated by Fednav, IACS Polar Class 4

Route:

1. Departure from Baltimore, USA
2. Raglan Mine, Nunavik, Canada
3. Milne Port, Nunavut, Canada
4. Destination Europe

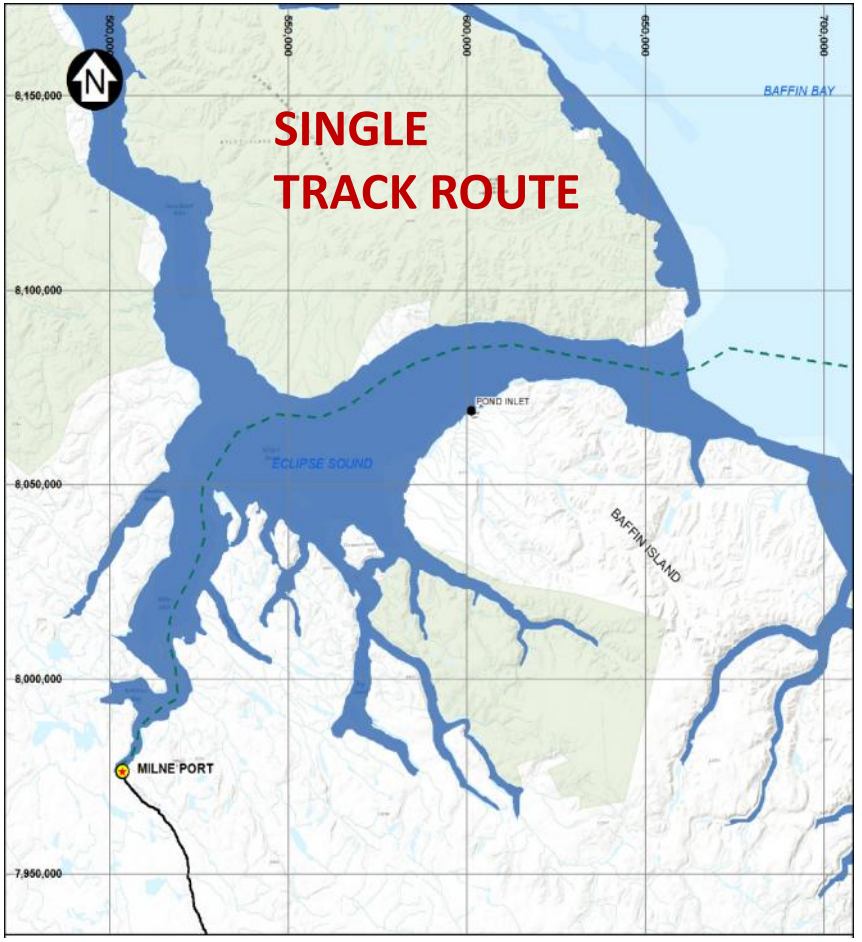
Cargo entering Eclipse Sound:

Baffinland Equipment: 4 Western Star ore haul truck, 16 SmithCo ore haul trailers, ~30 sea cans of equipment parts
Pond Inlet Re-supply: 5 sea cans if desired and feasible
Raglan Mine pick-up: 27,000 mt of Nickel Concentrate for discharge in Europe

No delivery of fuel or transport of Iron Ore to or from Milne Port

2017 MV Nunavik Winter Sealift Schedule

Schedule Event	Timing
Depart Deception Bay (Quebec) and enter Baffin Bay	March 11 - 18
Enter near Pond Inlet	March 20 - 22
Enter Milne Inlet	March 22
Discharge Baffinland cargo at Milne Inlet	March 22 - 24
Depart Milne Inlet	March 24
Enter area near Pond Inlet	March 25
Transit through Pond Inlet and enter Baffin Bay	March 25 - 28



FedNav and MV Nunavik

FEDNAV
DELIVERING A HIGHER STANDARD

- World leader in Arctic shipping for 60 years
- Owns and operates several ice breaking bulk carrier vessels in the Arctic
- Services the Raglan Mine (Nunavik Region) and Voisey's Bay Mine (Labrador) with their ice breaking bulk carriers during winter months

MV Nunavik

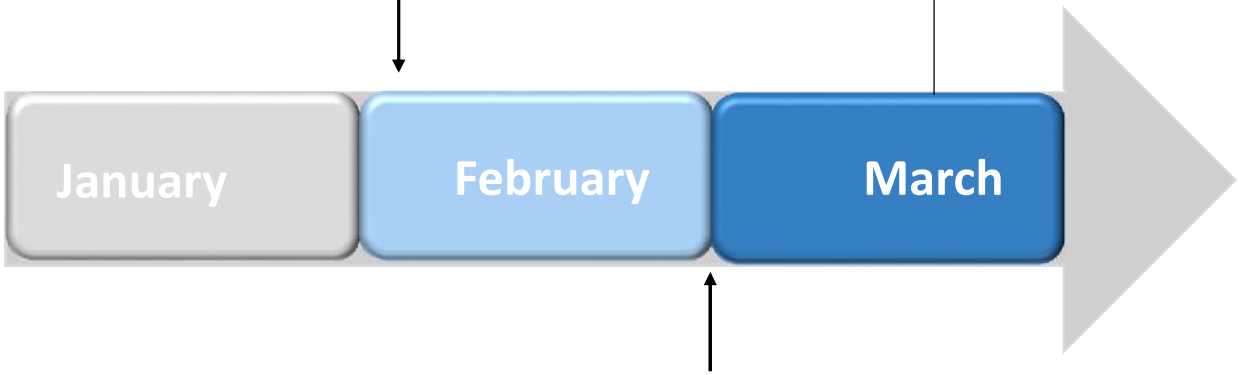
- Owned and operated by FedNav
- Classified as a Polar Class 4 (IACS) icebreaking bulk carrier
- 189 metres long with a beam of 26.6 metres
- Equipped with sea ice monitoring systems that allow the ship to operate year round in thick first-year ice, including old ice inclusions.

https://www.youtube.com/watch?v=_-w2eoCQqWA

Proposed 2017 Winter Sealift Schedule

Proposed Voyage:
Pond Inlet: Mar 20
Milne Port Offload Mar 22-24
Pond Inlet Mar 25
Exit Eclipse Sound Mar 28

Feb 3, 2017 – Pond Inlet Workshop



Feb 27 to Mar 3, 2017
- On Ice Dry Run
- Implementation of Communication Plan and Community Awareness Information Sessions (incl. Arctic Bay)
- Safety and Emergency Response Training

Discussion




Proposed Execution Plan

Elements of Proposed Execution Plan

a) Safety & Emergency Response
b) Communication Plan and Community Awareness
c) Environmental Protection – Spill Prevention and Waste Management
d) The Ice Bridge System
e) Location and Deployment of Ice Bridge
f) Marking Ice Bridge and Ship's Track

Safety and Emergency Response

Safety Concerns

- Broken and thin ice along ship's track
- Rough ice along ship's track following refreeze

Safety Mitigation Measures

- Ice Bridge System
- Community Awareness & Communication Plan
- Safety and Emergency Response Training
- Marking ship's track

Emergency Response Training and Resources

- Emergency response training – cold water rescue and working on ice (late February, early March)
- Provided by Baffinland for participants of ice bridge deployment and Monitoring
- Baffinland Mine Rescue Team Trainer on standby at Pond Inlet during ship's transit

Communication Plan and Community Awareness

Development and coordination of community communication plan with the following elements:

- Community participation and awareness of health and safety procedures
- Utilize Baffinland and SmartIce websites to provide:
  - Real time broadcast of sealift schedule and transit
  - Awareness of location of ice bridge
  - Real time broadcast of ship's track refreeze.

- Late February - Community Meetings (Arctic Bay and Pond Inlet) to inform community residents of the Communication Plan and ensure community awareness of winter sealift safety protocols

Environmental Protection

Spill Contingency and Prevention

- Experienced operator (FedNav) – low risk of a significant spill from the MV Nunavik
- Snowmobiles supporting the Monitoring and mitigation measures will be refueled in Pond Inlet
- Activation of emergency plans and resources in the event of a significant spill:
  - MV Nunavik's Oil Prevention Emergency Plan (OPEP)
  - BIM Emergency Response Plan and Spill at Sea Response Plan
  - Oil Spill Response Limited

Oil Spill Response

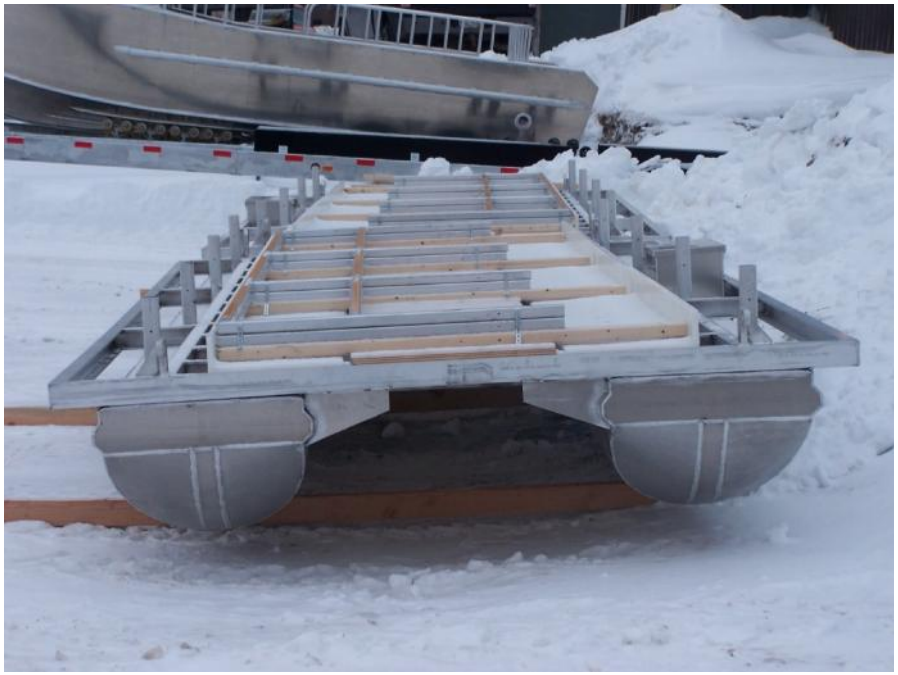
Environmental Protection

Waste Management

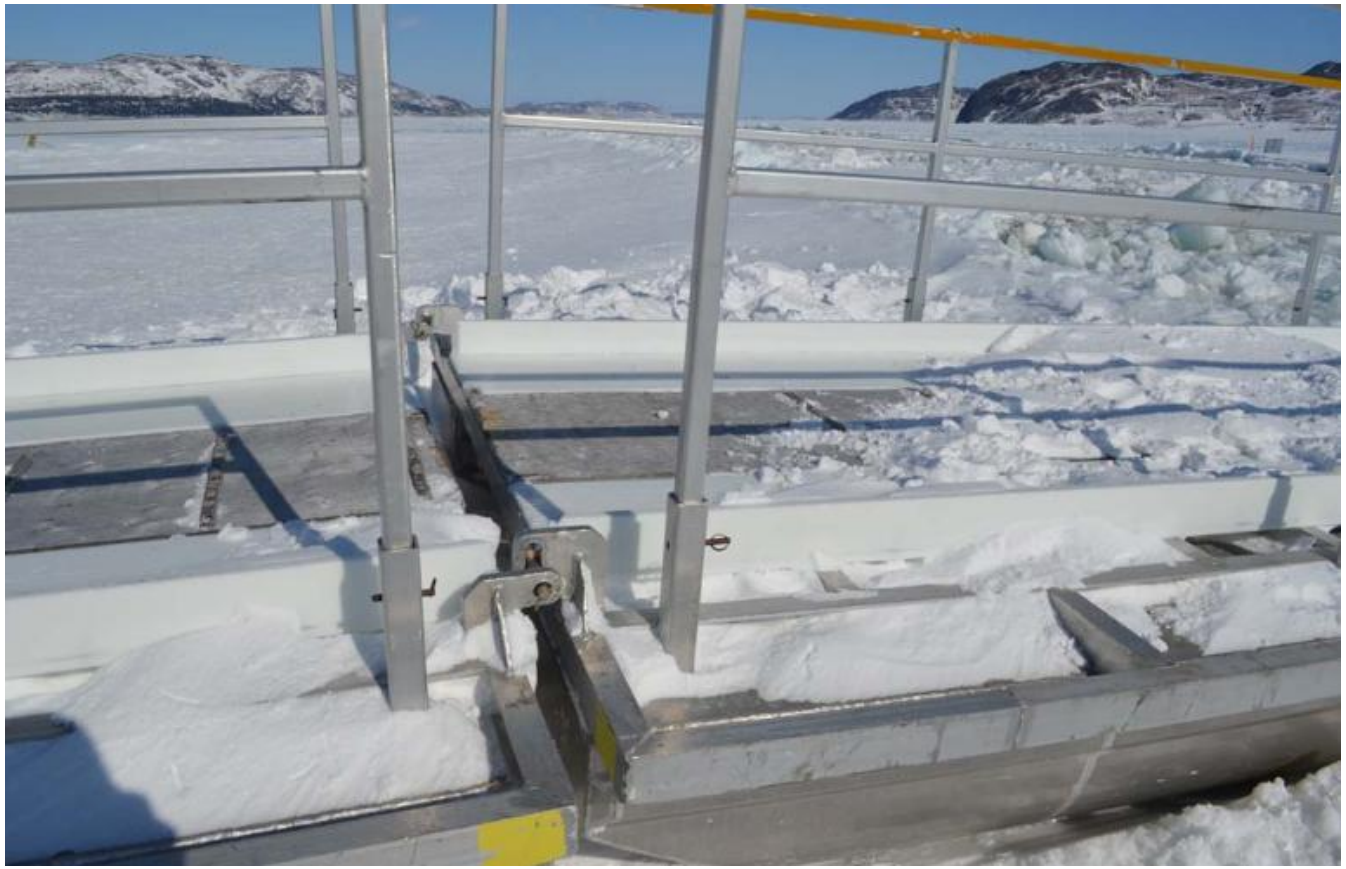
- Minimal waste generation anticipated from proposed winter sealift activities
- All waste generated by the MV Nunavik will remain on the vessel and disposed at its final destination in Europe.
- Waste generated from Monitoring and mitigation measures will be brought back to Pond Inlet and disposed at the proper facilities.
- Packaging waste generated from the cargo offload in Milne Inlet will be segregated and disposed in accordance with Baffinland's Waste Management Plan

Ice Bridge System

- Developed in Labrador to allow for safe passage across the ships track near Voisey's Bay
- Consists of:
  - Seven - 17' pontoon bridge sections
  - Two - ramps
  - Two - anchor/winch units for deploying bridge
- Ice bridge components will be flown to Pond Inlet in late February using a Lockheed C-130 Hercules aircraft



Ice Bridge System



Ice Bridge System - Deployment

Ice Bridge System - Deployment

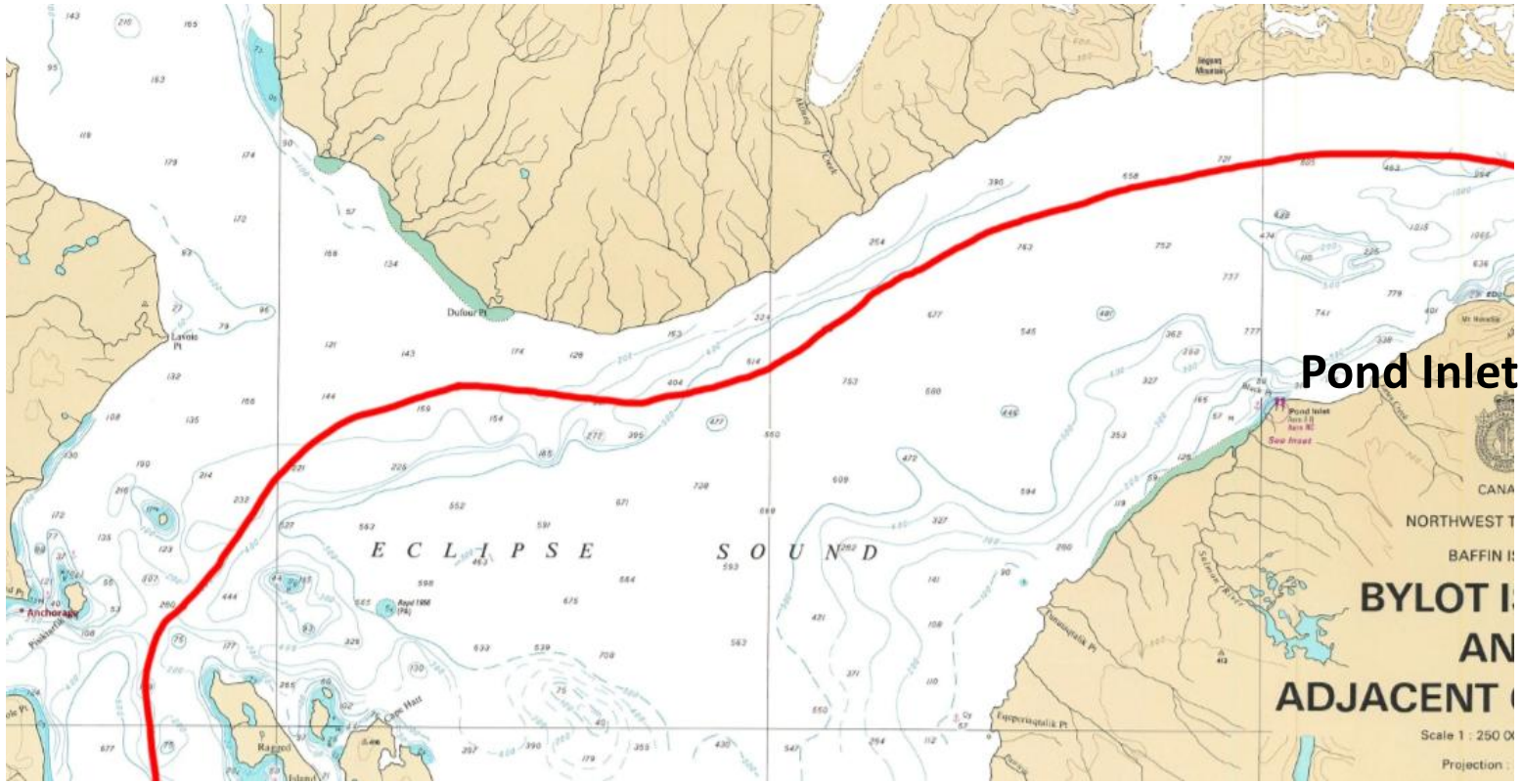
Ice Bridge System – The Final Placement

Ice Bridge Location

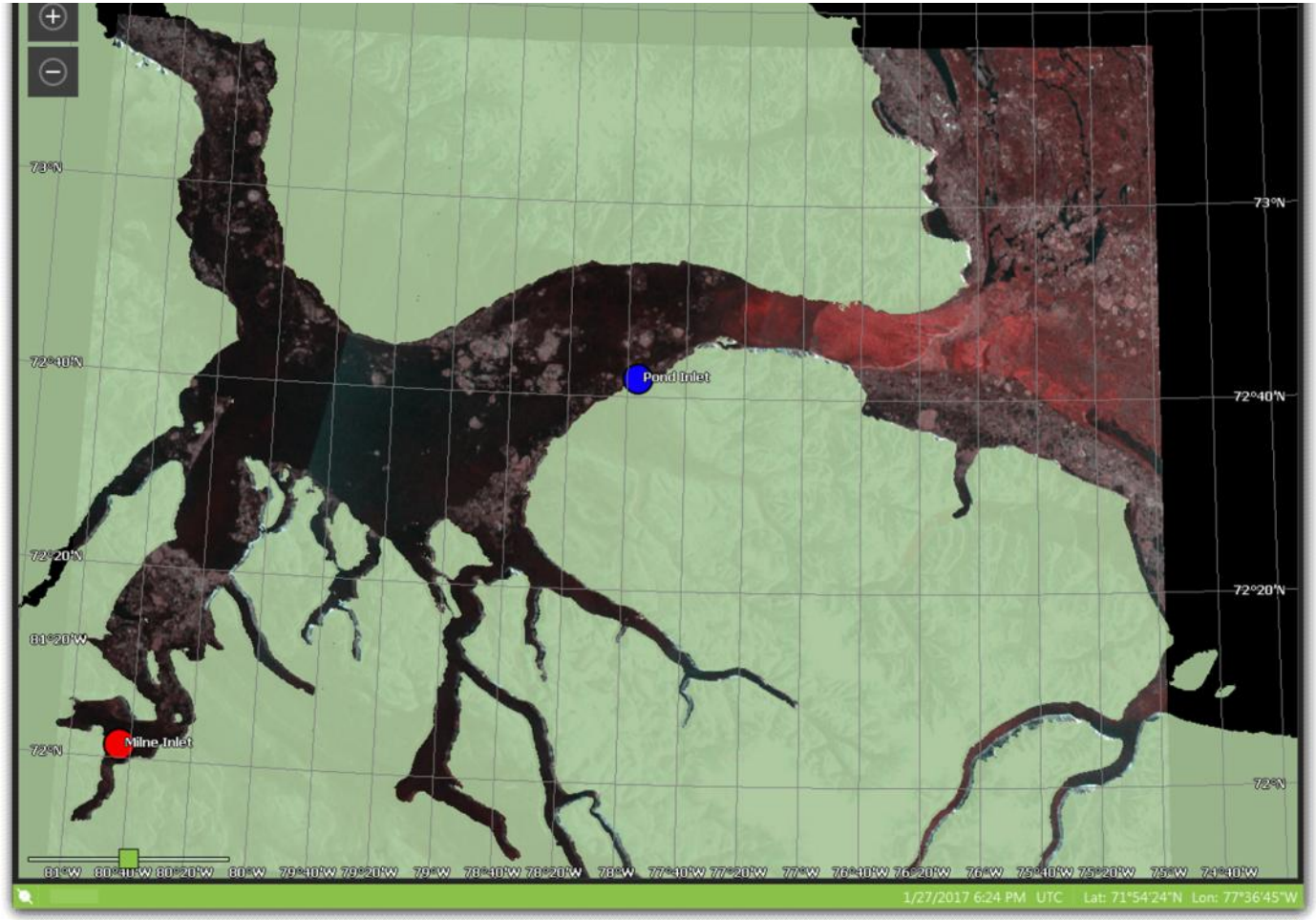
Optimal location will be chosen based on local input to minimize disruption to local travel routes and traditional land use and the environment.

Preliminary Ship's Route

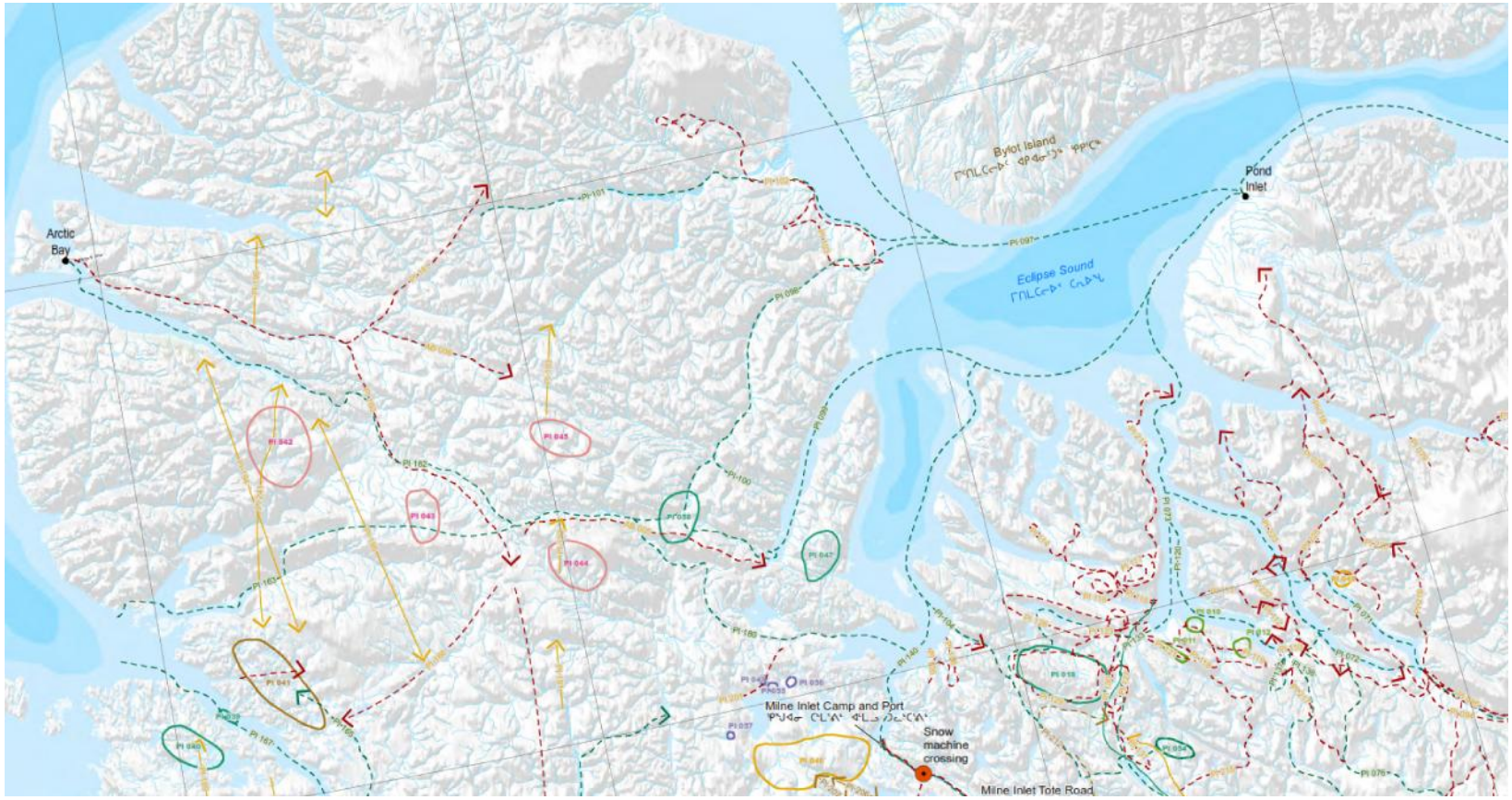
- Ship's track through landfast ice will be approx. 250 km in length
- Single track/route to reduce disruption of traditional land use activities and local travel routes



Route of the MV Nunavik



Traditional Land Use Routes



Traditional Land Use Routes (BIM, 2017)

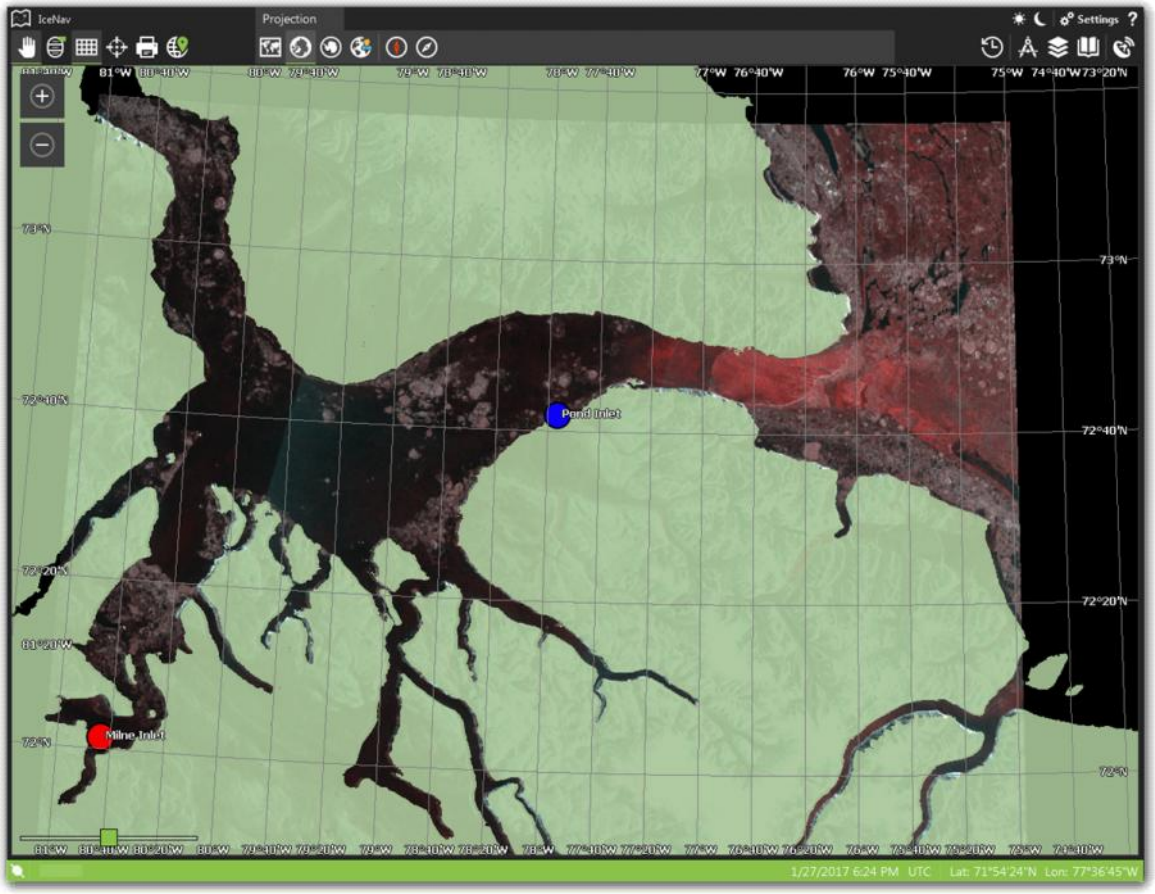
Marking Ice Bridge

Marking the Ice Bridge

- Signage (Inuktitut and English)
- Lighting (i.e. LED Lights to highlight ice bridge)
- Delineators/Markers

Marking Ship's Track

- **Factors to consider**
  - Length of ships track (~250 km)
  - Resources required
    - Field crews
    - Time
  - Refreeze rate of ships track
  - Local travel routes






Monitoring

Proposed Monitoring

- Monitoring will be conducted to better understand the effects of the ship's transit on wildlife and the physical environment.
- Based on the community consultations to date the following concerns have been brought forth by community members regarding the winter sealift.
  - Impact of the ship's transit on:
    - Marine wildlife and mammals, such as seals
    - Ice quality and thickness along ship's track
    - Traditional land use and local travel routes
    - Spring Sea Ice Breakup

Proposed Monitoring

- Seal Den Surveys – pre & post shipping
- Wildlife Interactions
- Ice Quality and Refreeze of Ship's Track
- Noise
- Spring Sea Ice Breakup
- Socio-Economic

Seal Den Survey

Objectives

- **Study 1** - Gain an understanding of seal den abundance along ship's track
- **Study 2 -** Observe seal den occupancy near ship's track

Monitoring Options

- **Study 1** - Survey sections of the ship's route before the ship's transit to gain an understanding of seal den abundance
- **Study 2** - Install camera traps at seal dens near ship's track to monitor seal den occupancy before and after ship's transit.

Wildlife Monitoring

Objective

- Document interactions between wildlife and the ships transit and track

Proposed Option

- Field crews monitoring ship's track and deploying bridge would record any incidental wildlife observations.
- Observations would be compiled into a wildlife log.

Ice Quality and Refreeze Along Ship's Track

Objective

- To monitor the ice quality (roughness, thickness) and refreeze rate along the ship's track

Proposed Option

- Survey ship's track near known local travel routes before and after ships transit

Noise Monitoring

Objective

- To gain an understanding of noise levels near the ship as its transits through the ice

Proposed Option

- Record sound of ship's transit (under and above the ice) and make available to the public

Spring Sea Ice Break-up

Objective

- To monitor the spring break-up of sea ice along the ships track and compare to historical norms.

Proposed Options

- Local Research Project - Use satellite and in field photography to document spring sea ice break up (Oceans North and Ikaarvik)
- Compare to historical normal through community Elder interviews and 30 year sea ice climatology.

Socio-Economic

Objective

- Document feedback and response to the ship's passage and its impact on local travel, sea ice activities and other community aspects.

Option

- Workshops and interviews with Hamlet, HTO and local residents following the winter sealift.




Conclusion

Continued Community Consultation

Baffinland is committed to working with Pond Inlet and Arctic Bay to address community concerns and develop an execution plan that works for all parties.

Proposed Future Community Consultation Schedule

Late February 2017 – Public Meeting (Pond Inlet and Arctic Bay)

Late February 2017 – On ice dry run, implementation of community communication strategy, safety and emergency response training

March 2017 – Sealift execution – documenting feedback from participants and observers

April 2017 – Workshops and interviews with Hamlet, MHTO and the public to document feedback and response to the ships passage and its potential impact on travel, sea ice activities and harvesting patterns

Community Involvement and Participation

- In addition to future consultations with the Pond Inlet community, participation of community organizations (i.e. HTO, SmartIce) and residents will be crucial in ensuring the proposed winter sealift is a success.

- Participating organizations and residents would be involved in:
  - Monitoring
  - Ice bridge system deployment
  - Marking the ship's track
  - Safety and emergency response training
  - Communication plan and community awareness

Discussion