

Northern Exposures in Manitoba

A presentation given to the Rural Development Institute of
Brandon University on October 4, 2011

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churchillnorthernstudiescentre



**BRANDON
UNIVERSITY**

Founded 1899

transportation

- time

- cost











Miss Piggy

Curtiss C46 cargo plane

crash landed November 1979 shortly after take off

access

- local roads
- wetland, coast, and river



Town of Churchill

Churchill Airport

CNSC

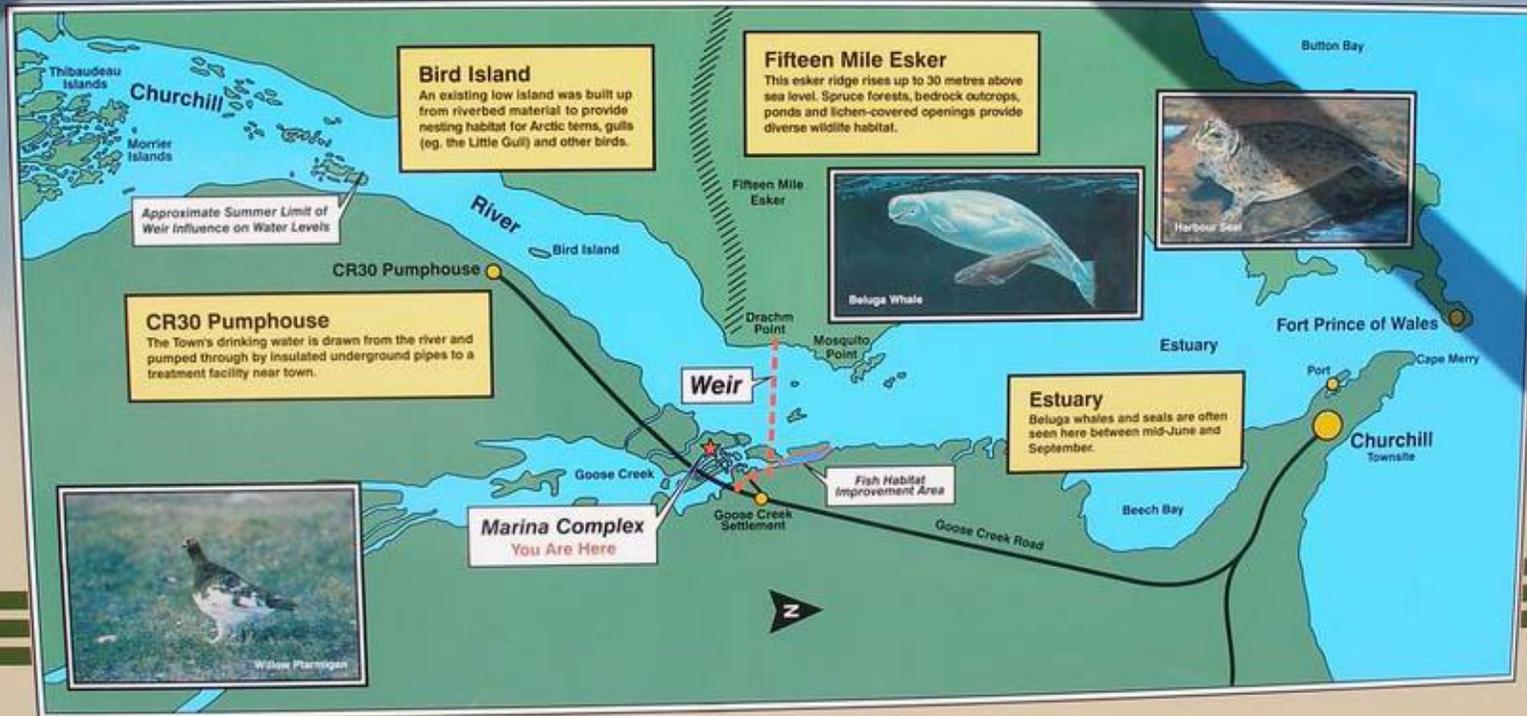
Landing Lake

Churchill River

5 km



Area Orientation Map



The Weir Project

What is the weir project?

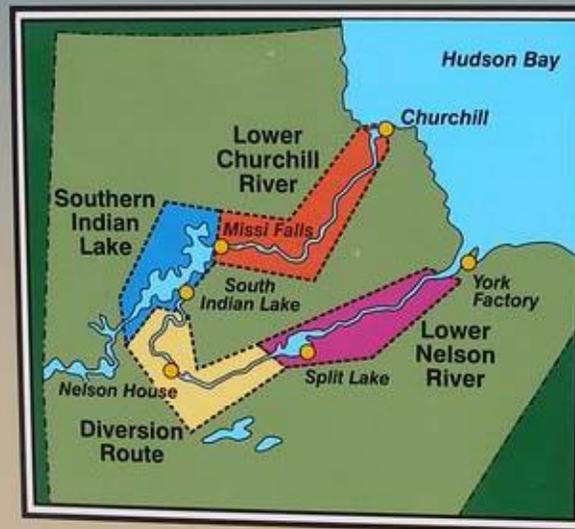
This project was a collaborative effort between Manitoba Hydro and the Town of Churchill designed to increase water levels in a reach of the lower Churchill River to improve recreational boating and fishing. There are 3 main parts to the project:

- The weir.
- The marina / wayside park.
- The enhancement of fish habitat in a portion of Goose Creek.



Churchill River Diversion

Since 1976, the majority of the Churchill River stream flow has been impounded at Southern Indian Lake and diverted to hydroelectric generating stations along the Nelson River.



Reduced water flow along the lower Churchill River made boating and other river-based activities more difficult. Completion of the weir in 1999 has increased water levels along a 10 km reach upstream of the weir.

What is the weir and how does it work?

The weir is a 3,700 metre long rockfill structure that extends across the river. It improves water levels for boating and fishing by backing up a portion of the Churchill River. Water levels and flows are not affected downstream of the weir.



The weir under construction





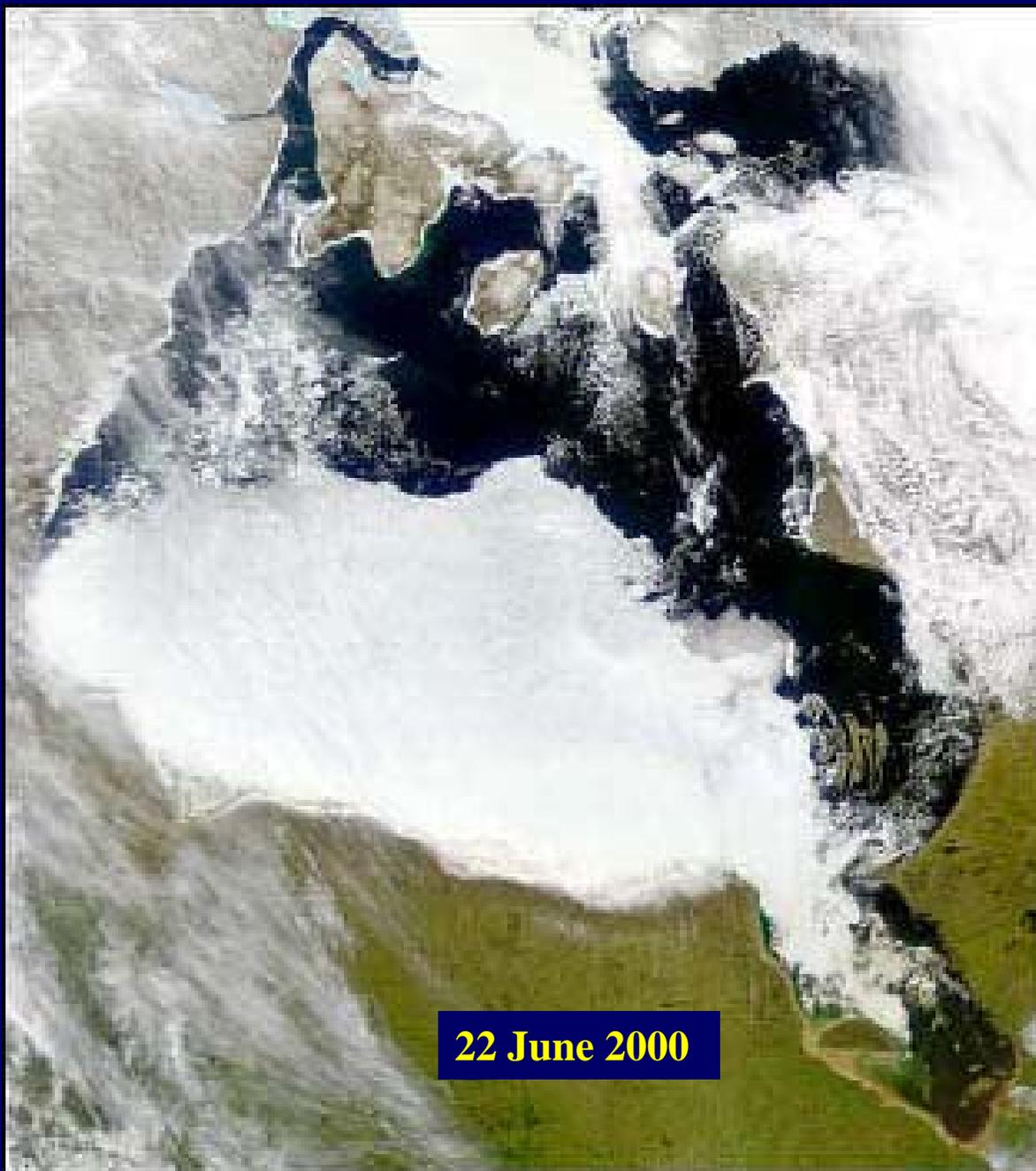
weather

● fog

● wind





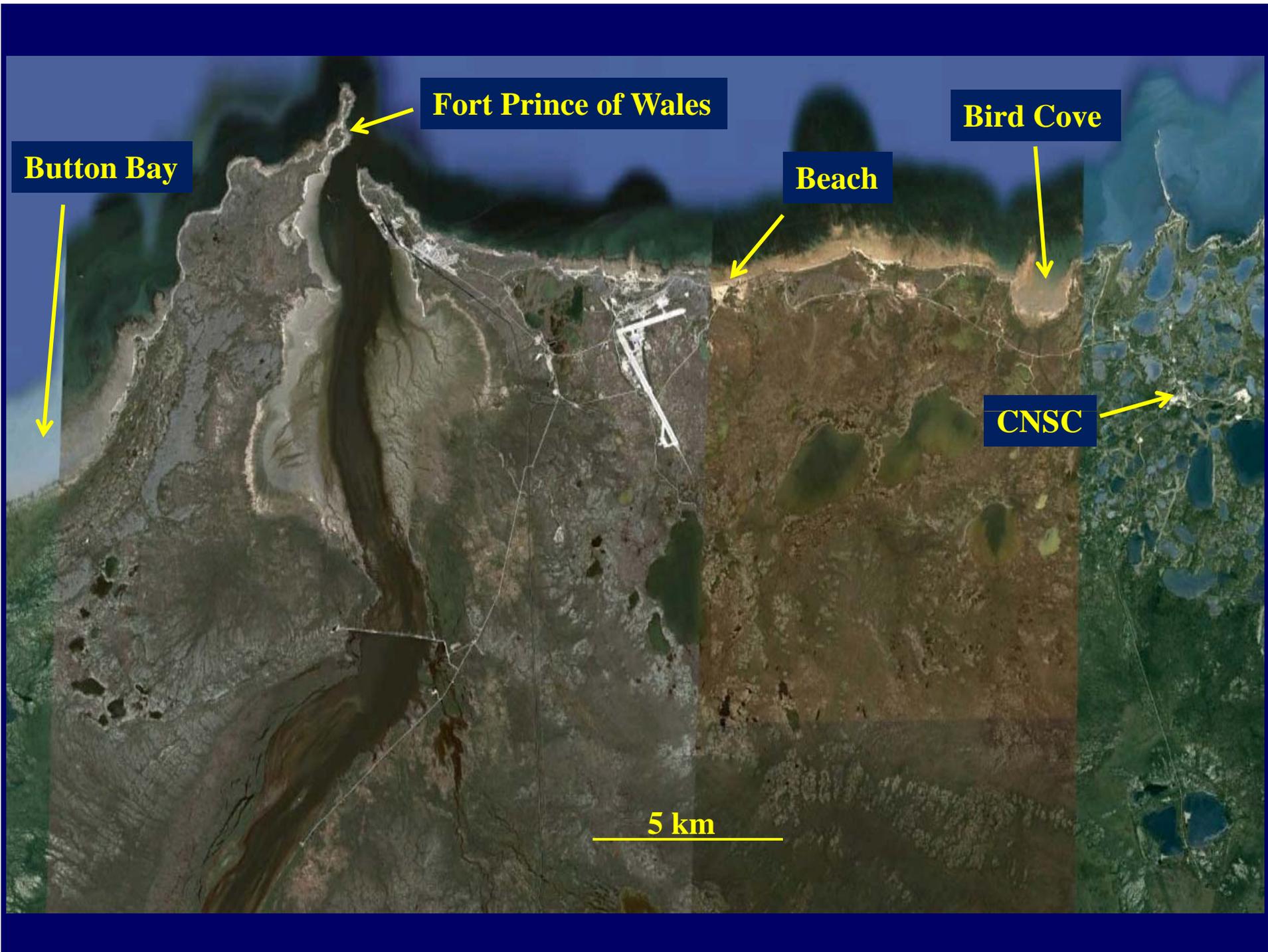


22 June 2000

http://nsidc.org/seaice/study/visible_remote_sensing.html







Button Bay

Fort Prince of Wales

Bird Cove

Beach

CNSC

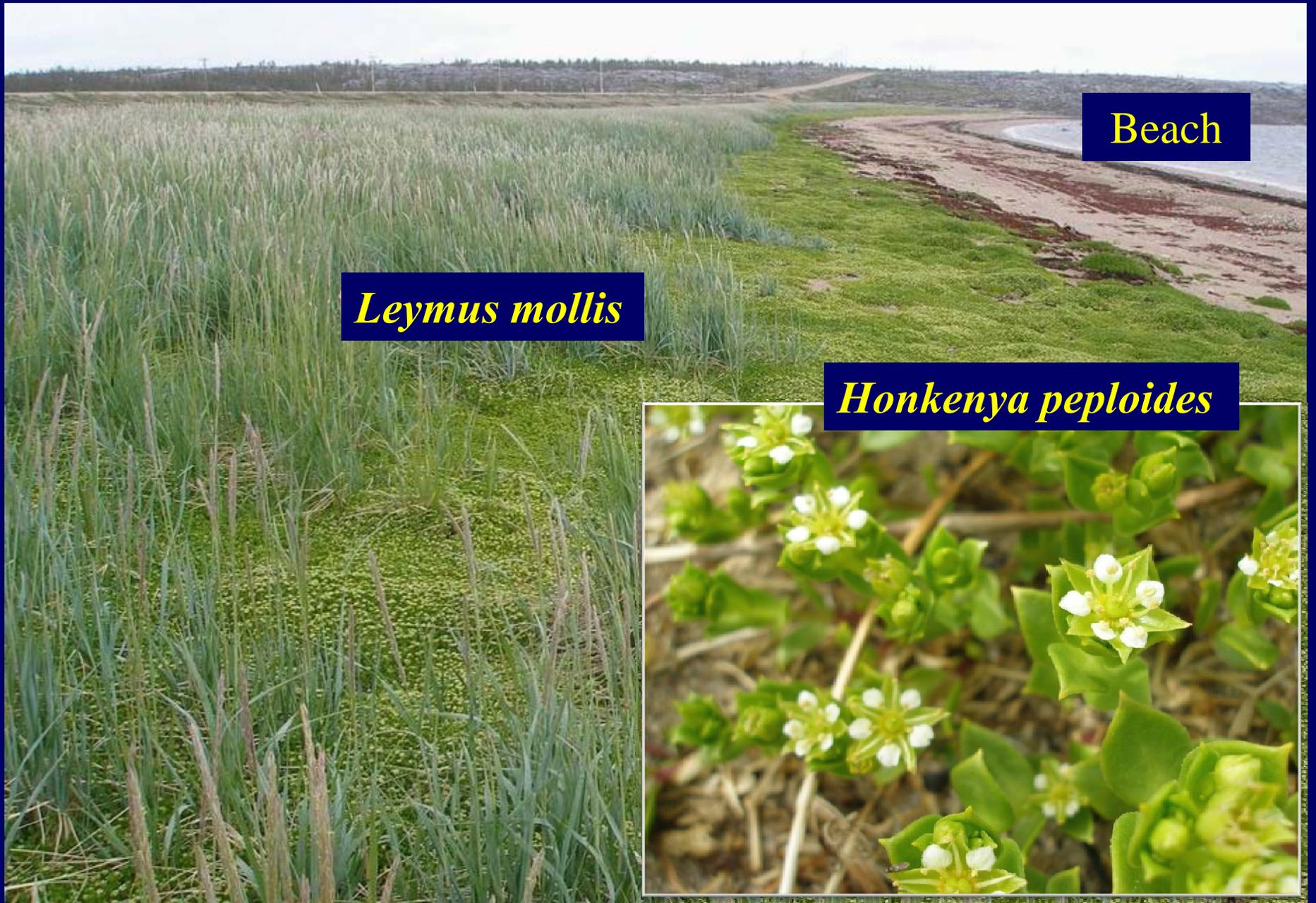
5 km

polar bears

- vegetation
- ridges
- rocks



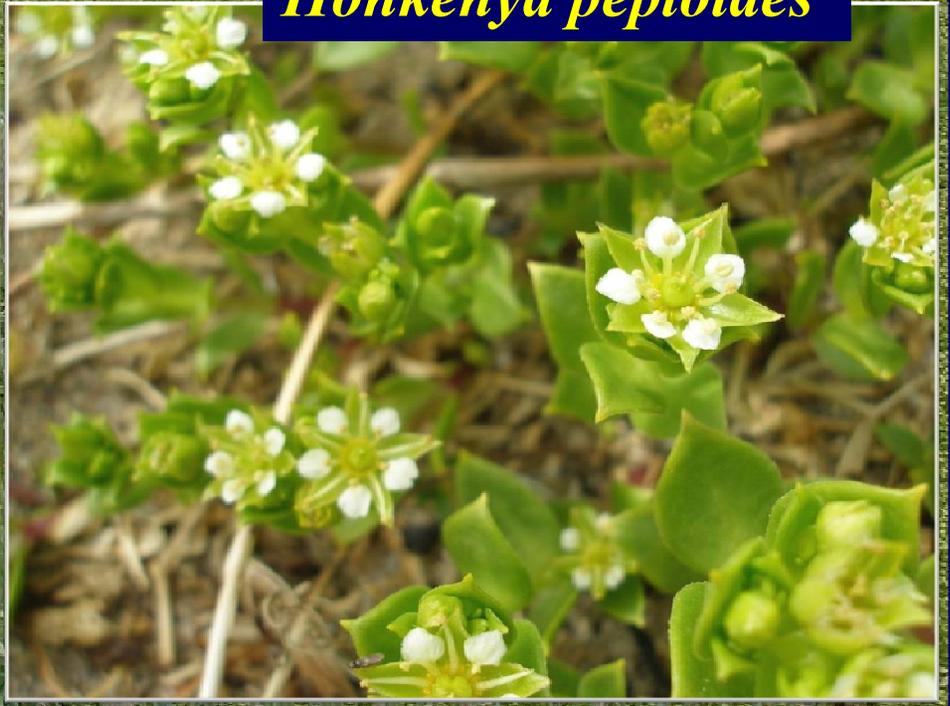




Beach

Leymus mollis

Honkenya peploides



96% sand
organic C 0.2%
pH 8.0



Astragalus alpinus

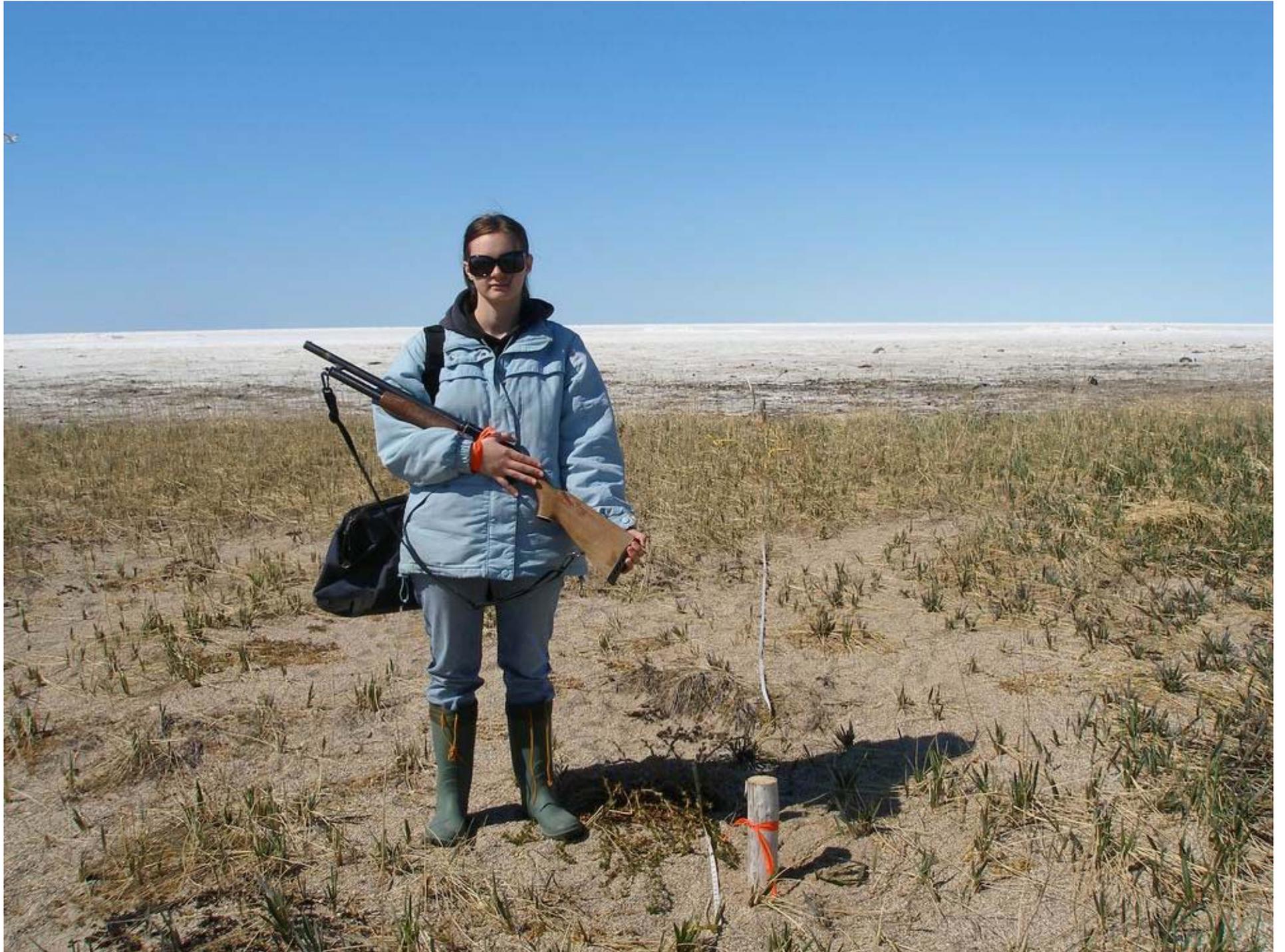


Botrychium lunaria



*Chamerion
angustifolium*





inland beach ridge



sand and gravel



Arnica angustifolia



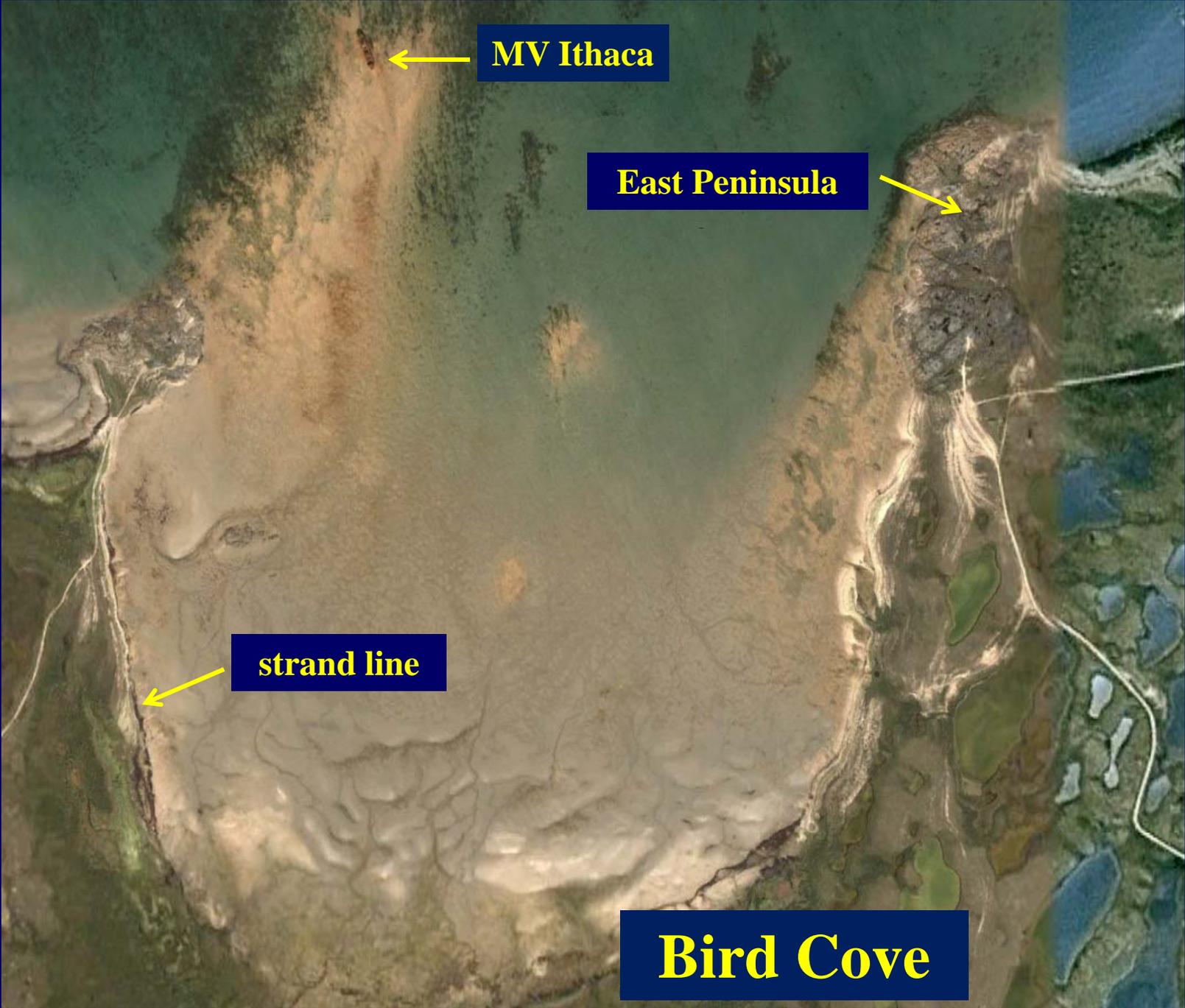
Hedysarum boreale



Saxifraga oppositifolia



Saxifraga tricuspidata



MV Ithaca

East Peninsula

strand line

Bird Cove



<http://www.youtube.com/watch?v=rRf5MYNVstA>



MV Ithaca

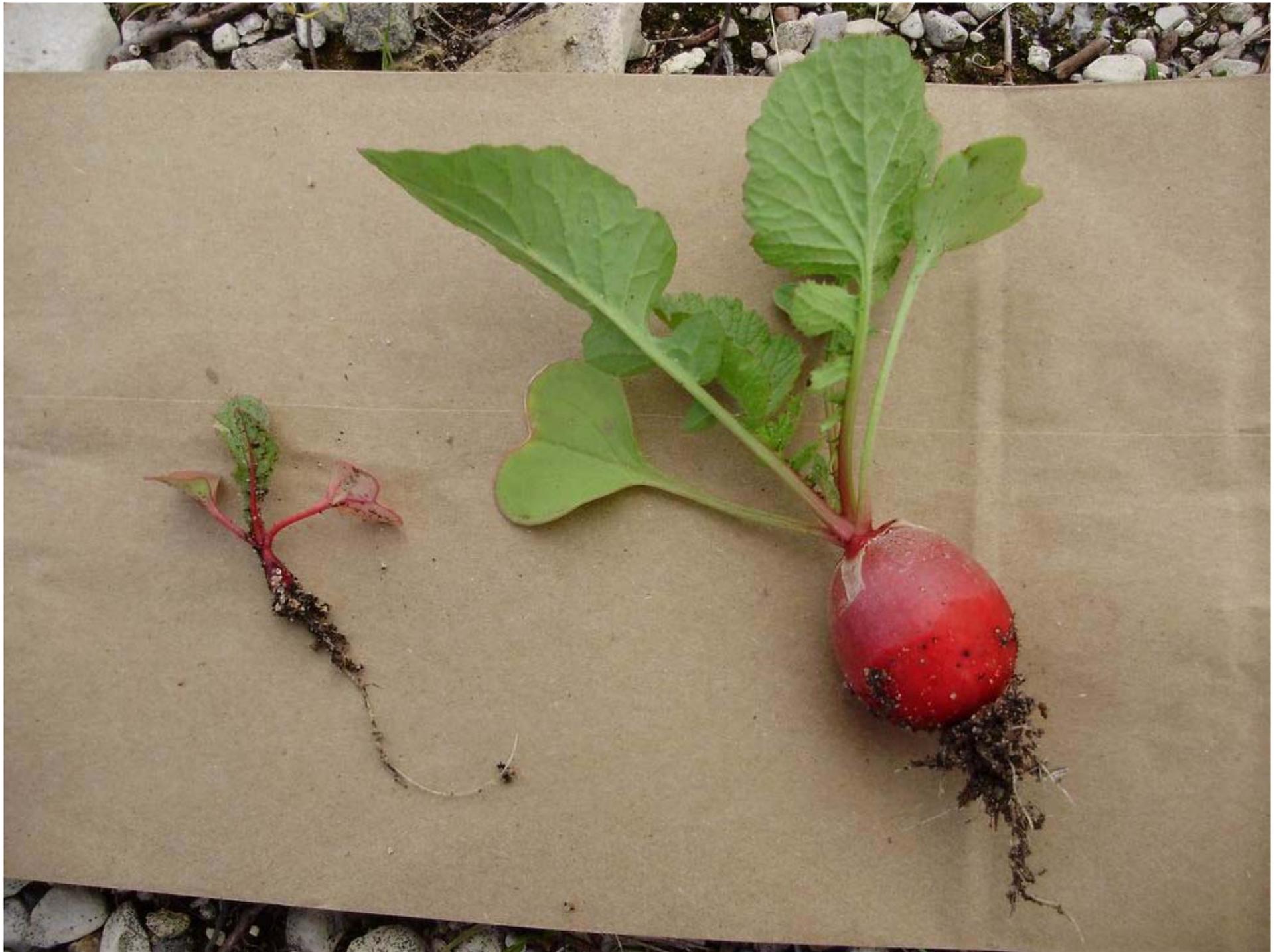
80 m long

ran aground in gale on 14th September 1960

seaweed strand line







peninsula rock outcrop





Salix reticulata





Salix reticulata
♂



Fucus distichus ssp. *evanescens*



Fucus distichus ssp. *evanescens*

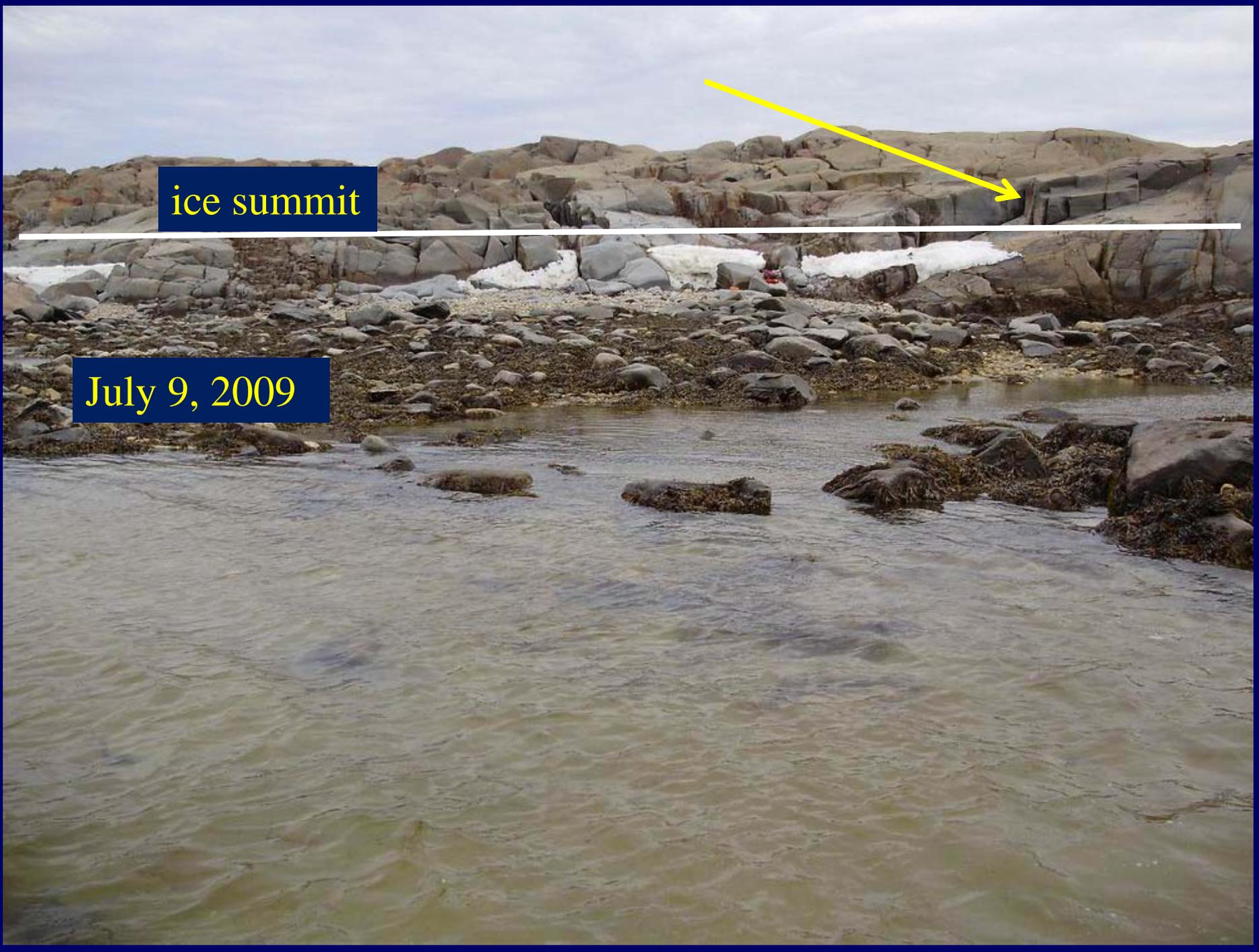


July 6, 2009



ice summit

July 9, 2009



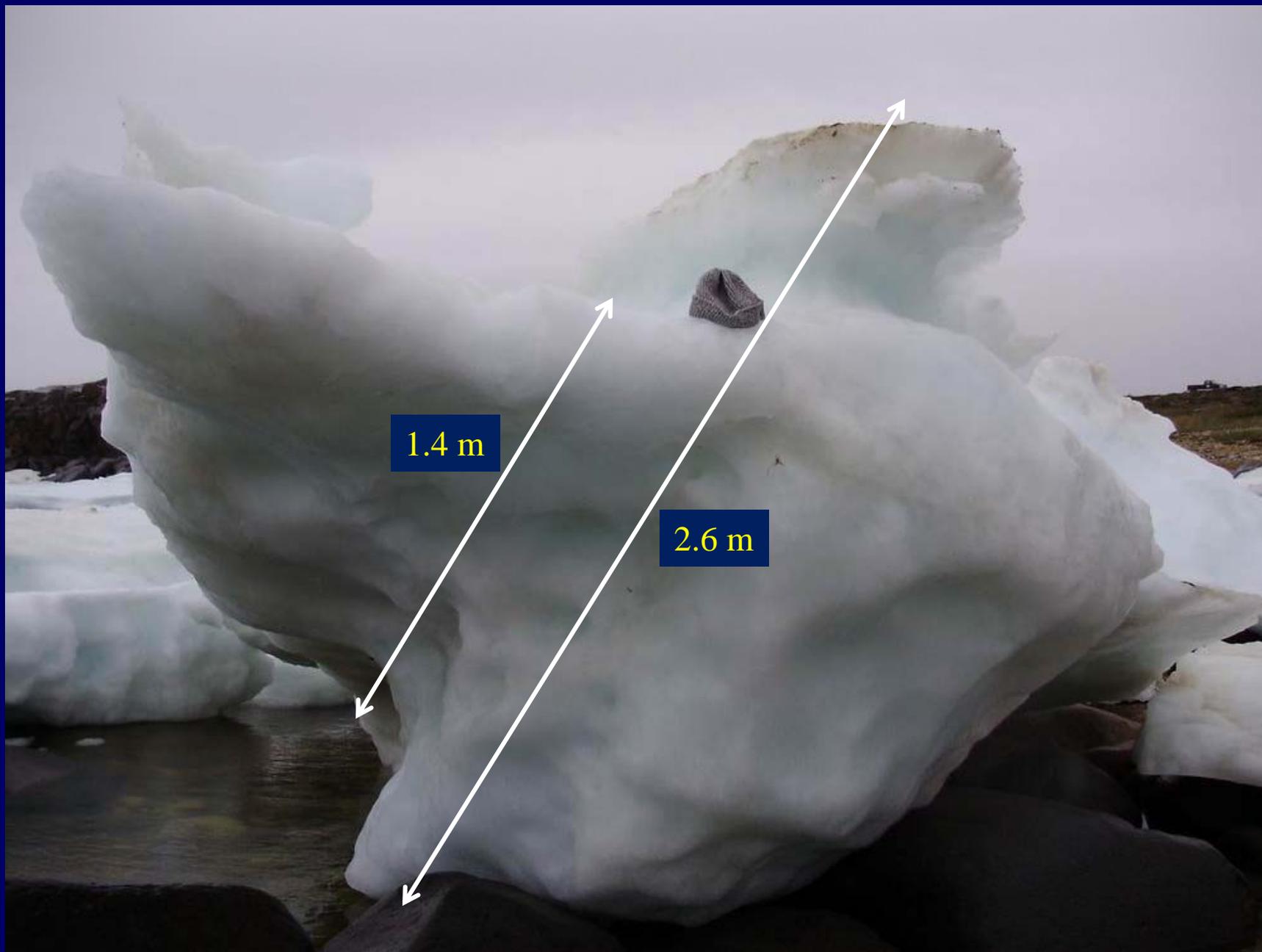












1.4 m

2.6 m















insects

- mosquito
- black flies
- tabanids













6.5 m

construction
began 1731

42 cannon



In 1782, with 39 non-military men manning the fort, three French warships led by Jean-François de La Pérouse took over the fort without a single shot being fired. The Fort Governor at the time, Samuel Hearne, having quickly recognized the military imbalance, surrendered immediately. The fort returned to the Hudson Bay Company in 1783 after the French had partially destroyed it. Thereafter, the importance of the fort began to wane with the decline in the fur trade (http://en.wikipedia.org/wiki/Prince_of_Wales_Fort).









Polysiphonia sp.



Agarum clathratum

Brandon University Herbarium
Plants of Manitoba, Churchill Area
Family: Costariaceae
Agarum clathratum Dumortier
sea colander
Location: on shore at east end of Bird Cove
58 45.756N 93 52.320W
Habitat: not attached; in pool between tides
Link: FORM09070403, GEL09070403
Collector: T. McGonigle TPM2009023
Identified by: T. McGonigle
Date: 4 July 2009

Saccharina latissima





Chondrus crispus

Ulva lactuca

wire-brush red seaweed

wire-brush red seaweed



Brandon University Herbarium
Plants of Manitoba, Churchill Area

Family:
wire-brush red seaweed

Location: rocky shore near Fort Prince of Wales
58 47.789N 94 13.122W

Habitat: attached to 10-cm diameter rock buried in sand in
shallow water at low tide

Link: FORM09071803, GEL09071803

Collector: T. McGonigle TPM2009025

Identified by:

Date: 18 July 2009



Brandon University Herbarium
Plants of Manitoba, Churchill Area

Family:
hair-like brown seaweed

Location: on shore at east end of Bird Cove
58 45.429N 93 52.632W

Habitat: not attached; in pool between tides

Link: FORM09070402, GEL09070402

Collector: T. McGonigle TPM2009028

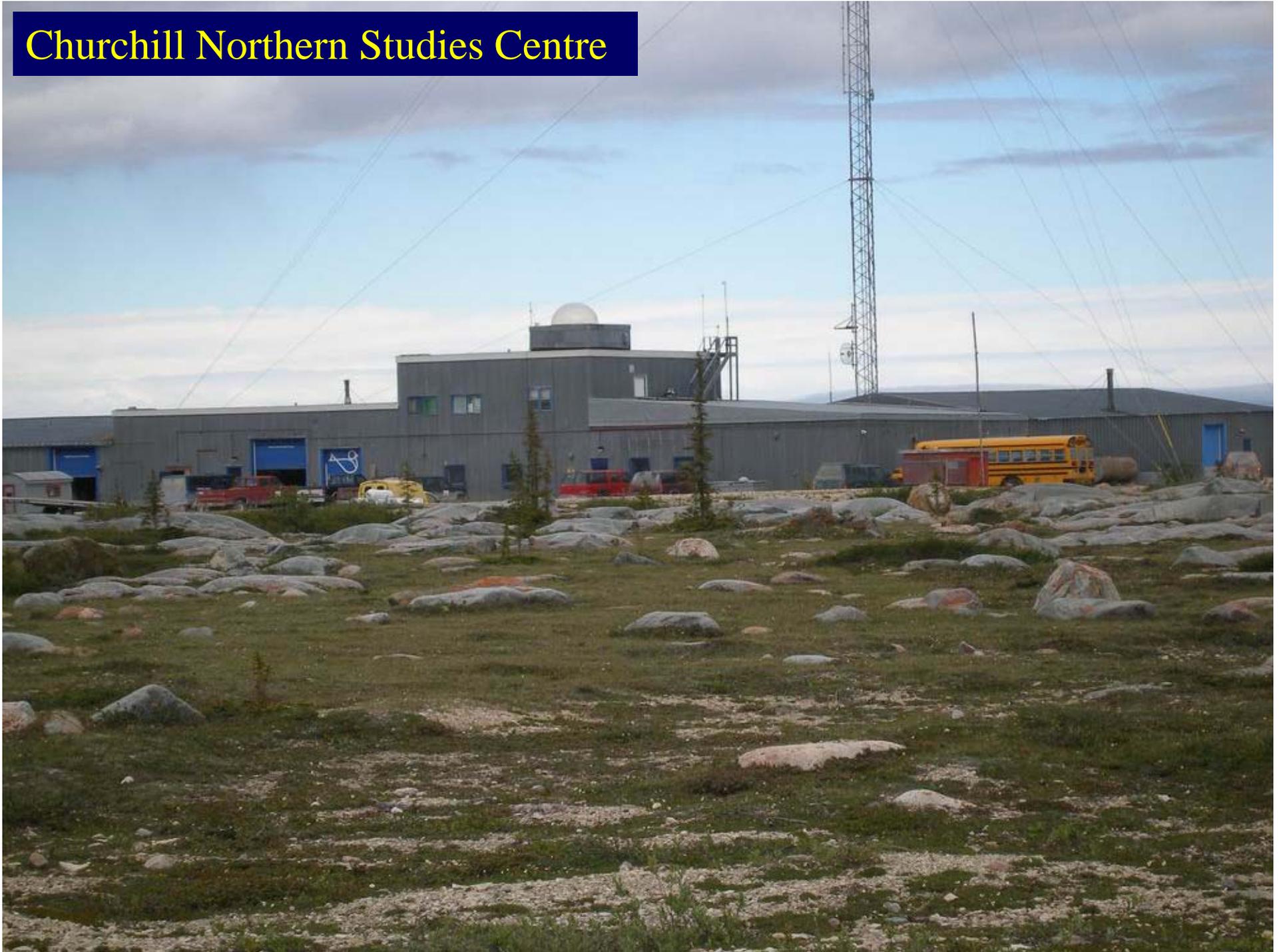
Identified by:

Date: 4 July 2009

hair-like brown seaweed



Churchill Northern Studies Centre















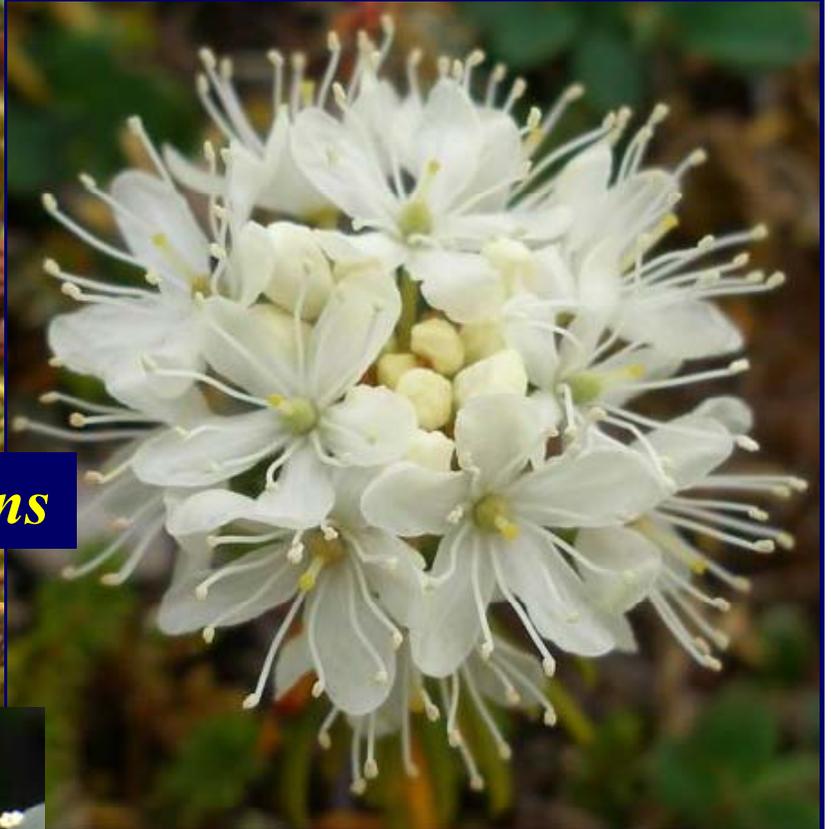


Rhododendron lapponicum





Ledum palustre ssp. *decumbens*



Ledum groenlandicum



Arctostaphylos rubra



Picea glauca



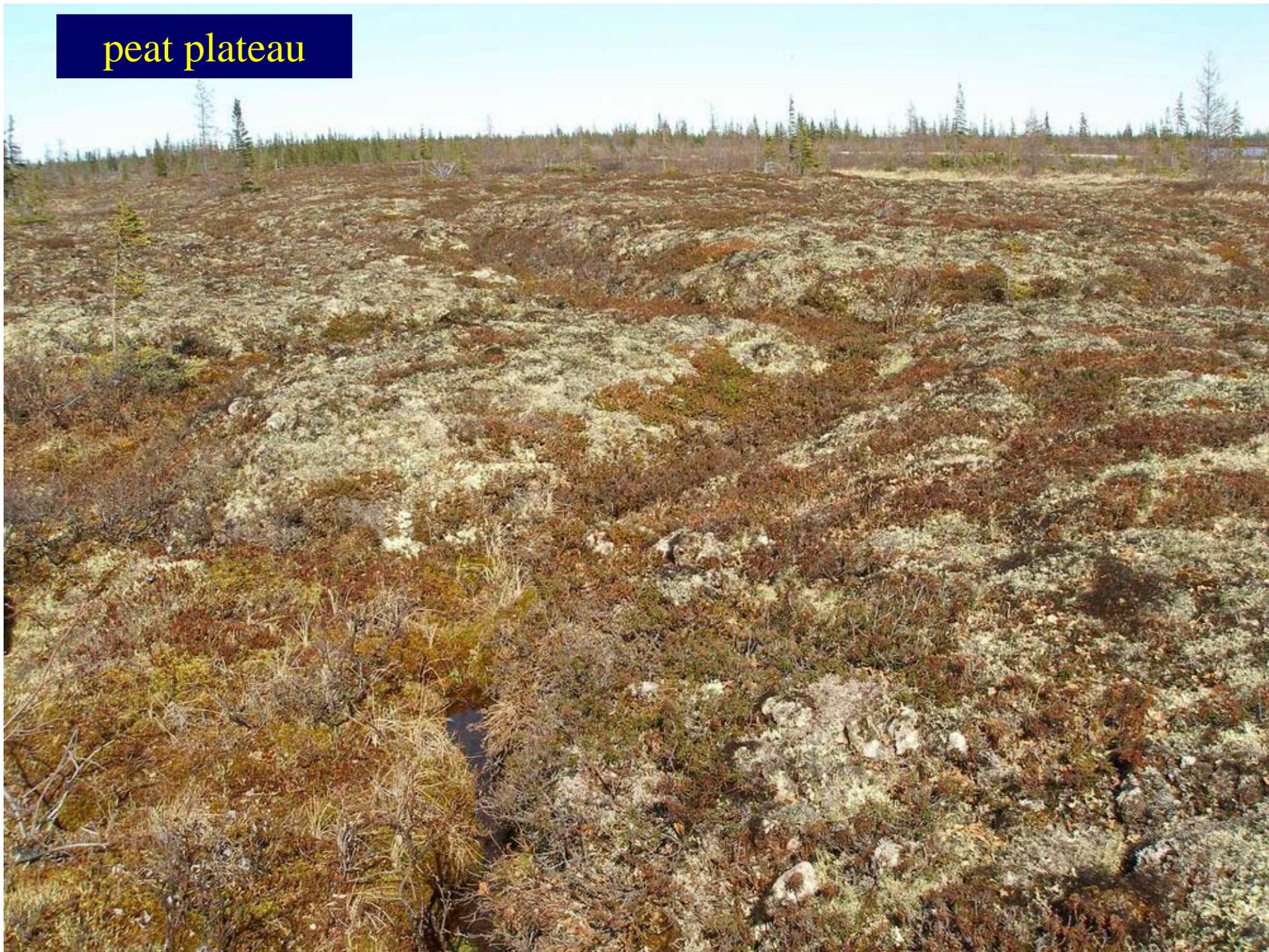
sedge meadow

organic C 48%
pH 7.6





peat plateau



Petasites sagittatus wetland

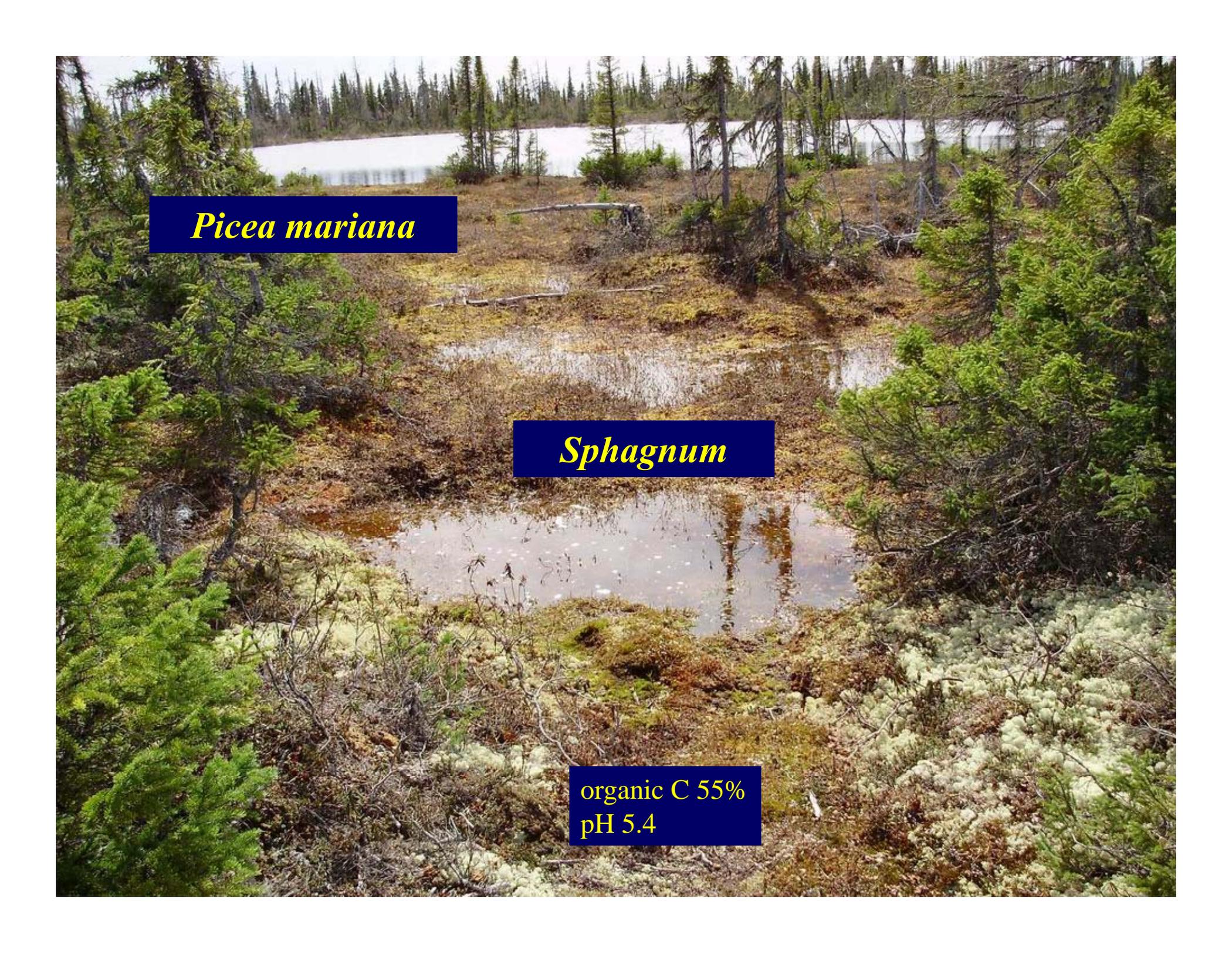




Menyanthes trifoliata



Menyanthes trifoliata



Picea mariana

Sphagnum

organic C 55%
pH 5.4



Sphagnum



CNSC

5 km

Twin Lakes

Twin Lakes
kame
no burn for 300 years

Picea glauca

Larix laricina



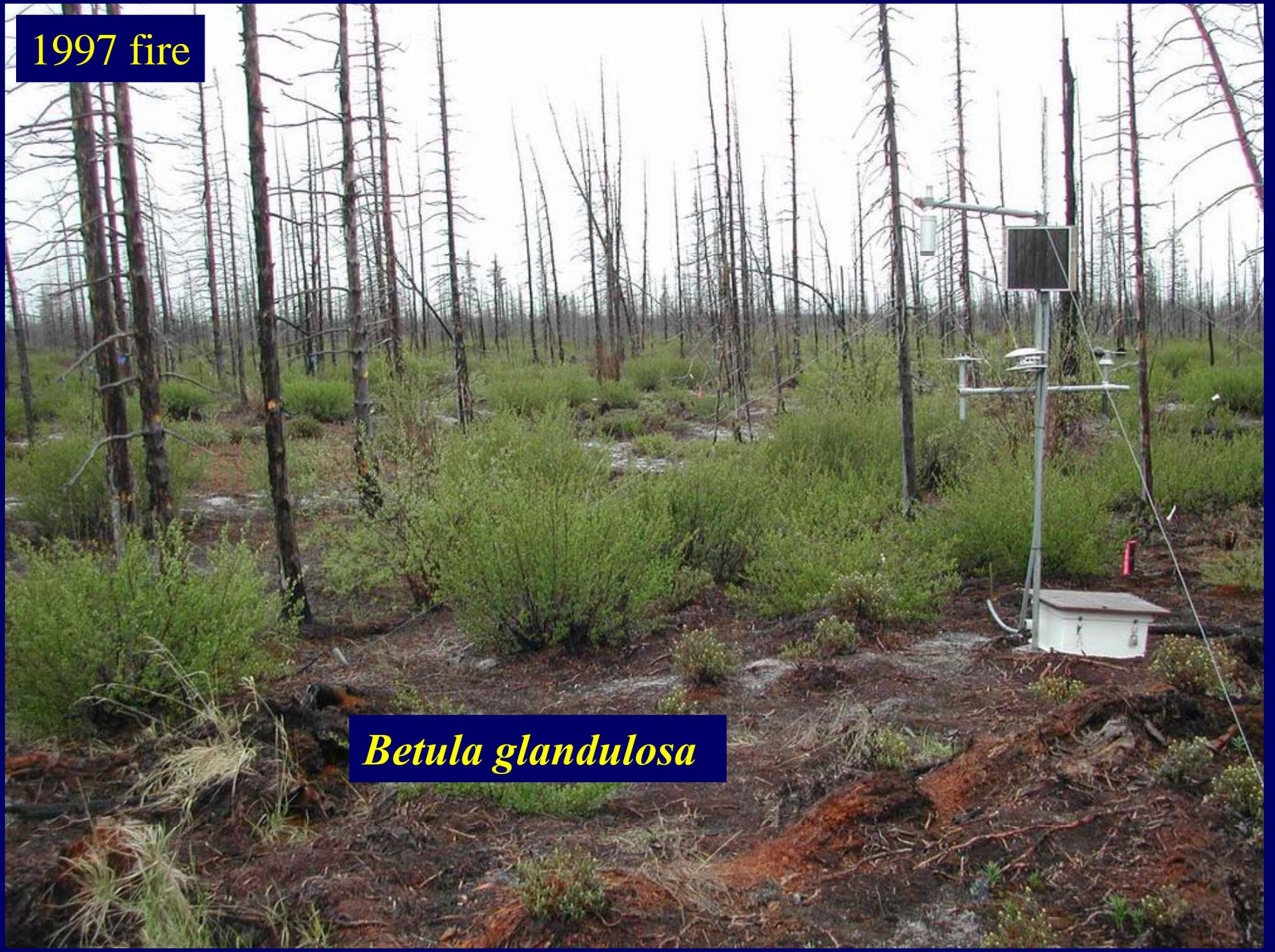


Lycopodium annotinum

time frame

- fire
- peat

1997 fire



Betula glandulosa

Summary

Challenges

- transportation
 - time and cost
- access
 - local roads
 - wetland, coast, and river
- weather
- polar bears
- insects
- time frame

Benefits

- scientific knowledge
- student training



Questions?