

# NOVA SCOTIA MINING SOCIETY AGM

JUNE 01 – 02, 2006

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## *MINING – CLEANING UP THE PAST; PREPARING FOR THE FUTURE*

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### Technical Program

Thursday June 01, 2006 – Afternoon Session

#### Theme: Mining and Environment

- 1:30 – 2:00            Tar Ponds Remediation Project  
**Frank Potter**, P.Eng., Acting Director, Sydney Tar Ponds Agency
- 2:00 – 2:30            Solidification/Stabilization of Mine Sites  
**Colin Dickson**, P.Eng., Cement Association of Canada
- 2:30 – 3:00            Nova Scotia Power Air Emissions Study  
**Graeme MacKenzie**, P.Eng., Project Manager, NSPI
- 3:00 – 3:20            ----- Break -----
- 3:20 – 3:50            NS Mining Society Business Meeting No. 1
- 3:50 – 4:20            CBDC Site Closure Program  
**Bob MacDonald**, P.Eng., Director General Property and  
Development Cape Breton Development Corporation
- 4:20 – 4:50            Industrial Mineral Potential in Nova Scotia, Opportunities for  
Deep Water Aggregate Quarries  
**Bob Ryan, Phil Finck and Garth Prime**, NS Department of  
Natural Resources
- 4:50 – 5:00            ----- Session Closure -----

Friday June 02, 2006 – Morning Session

#### Theme: Resurgence of Coal in Nova Scotia

- 8:30 – 9:00            International Coal Pier Characteristics  
**Robert Kazamel**, General Manager, Logistec

# Industrial Mineral Potential in Nova Scotia

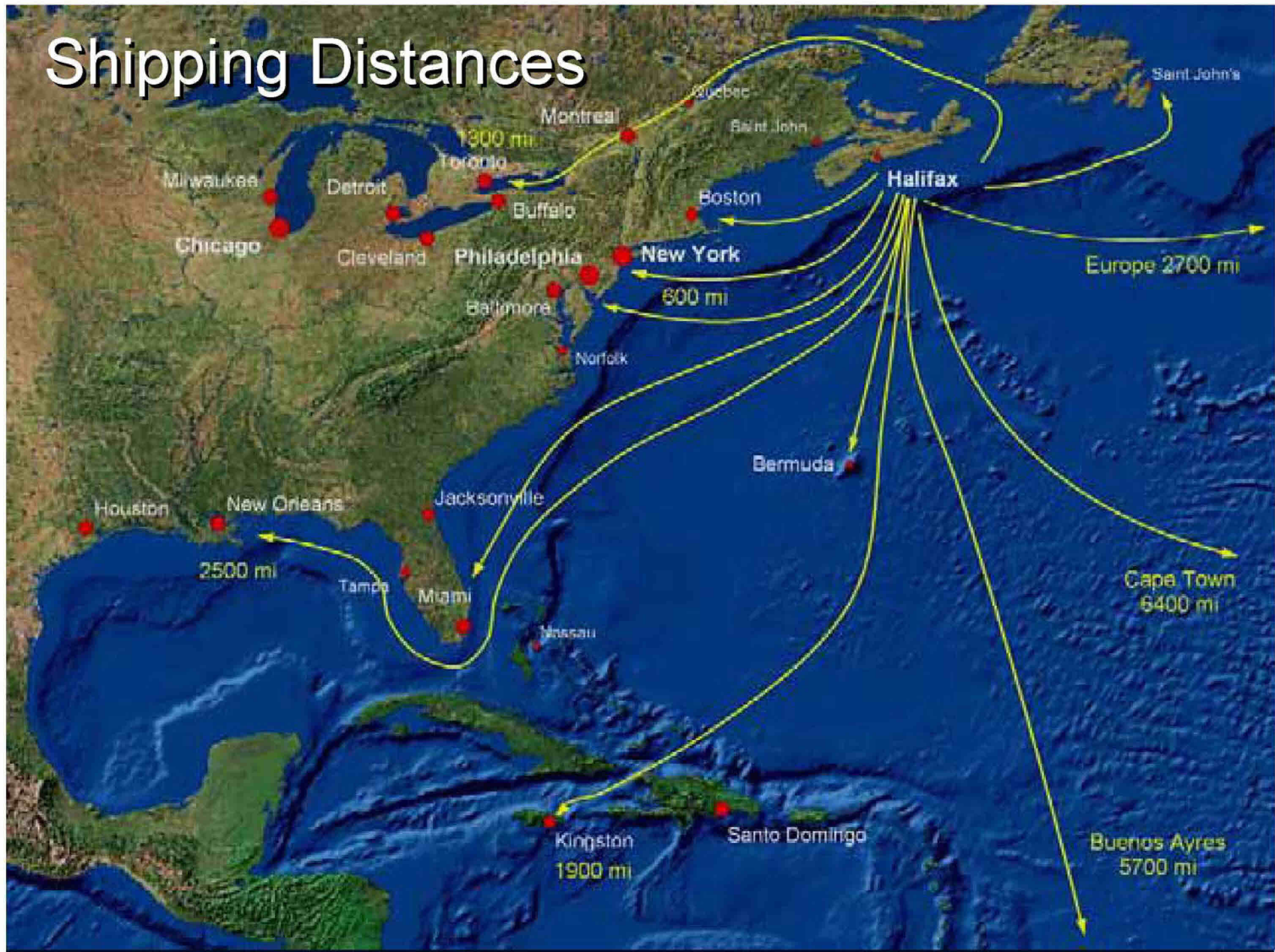
## *Opportunities to Develop Deep-water Aggregate Quarries*

*P. Finck*

Natural Resources



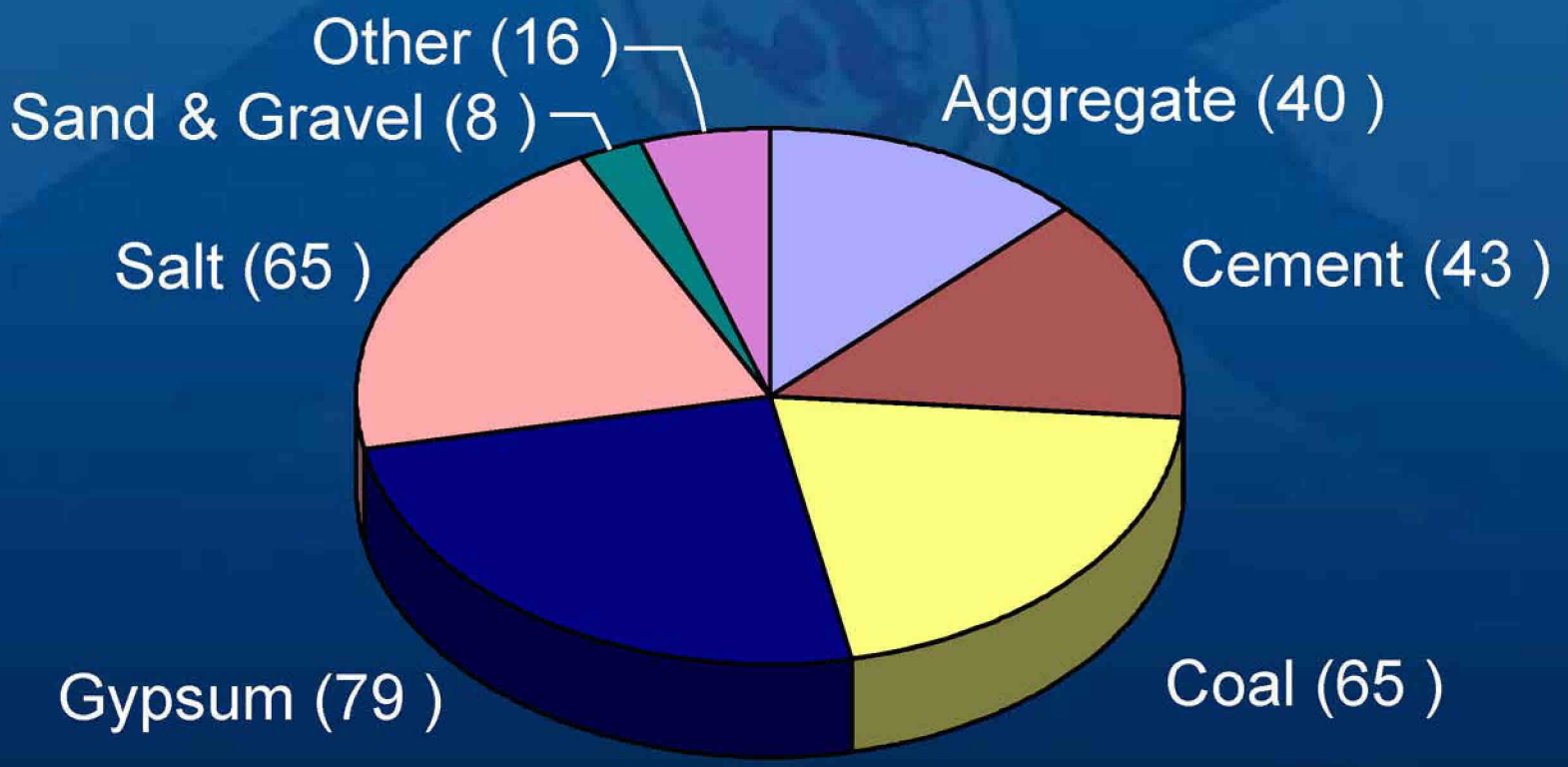
# Shipping Distances





# Mineral Production by Commodity, 2001

\$316 Million

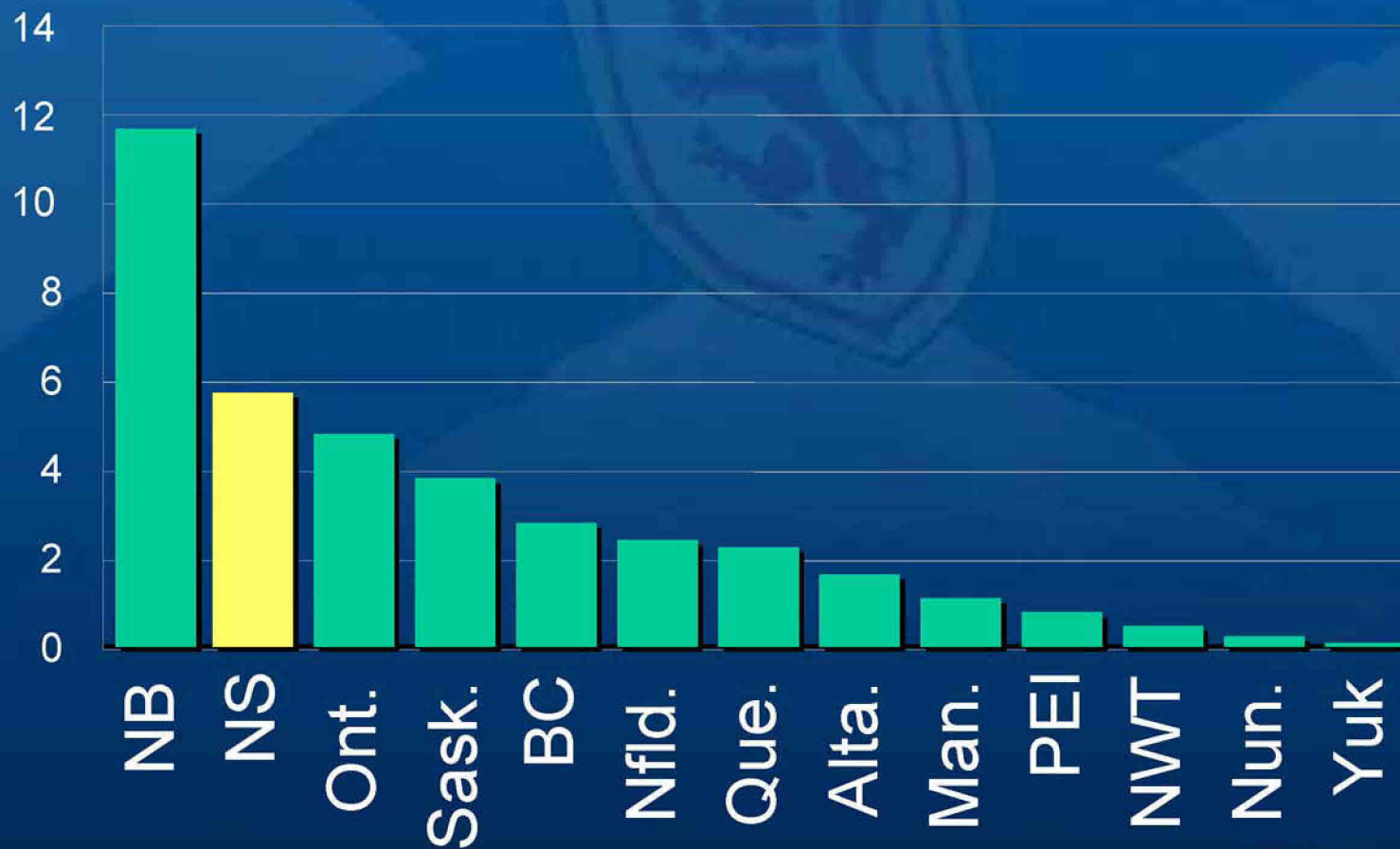


Natural Resources





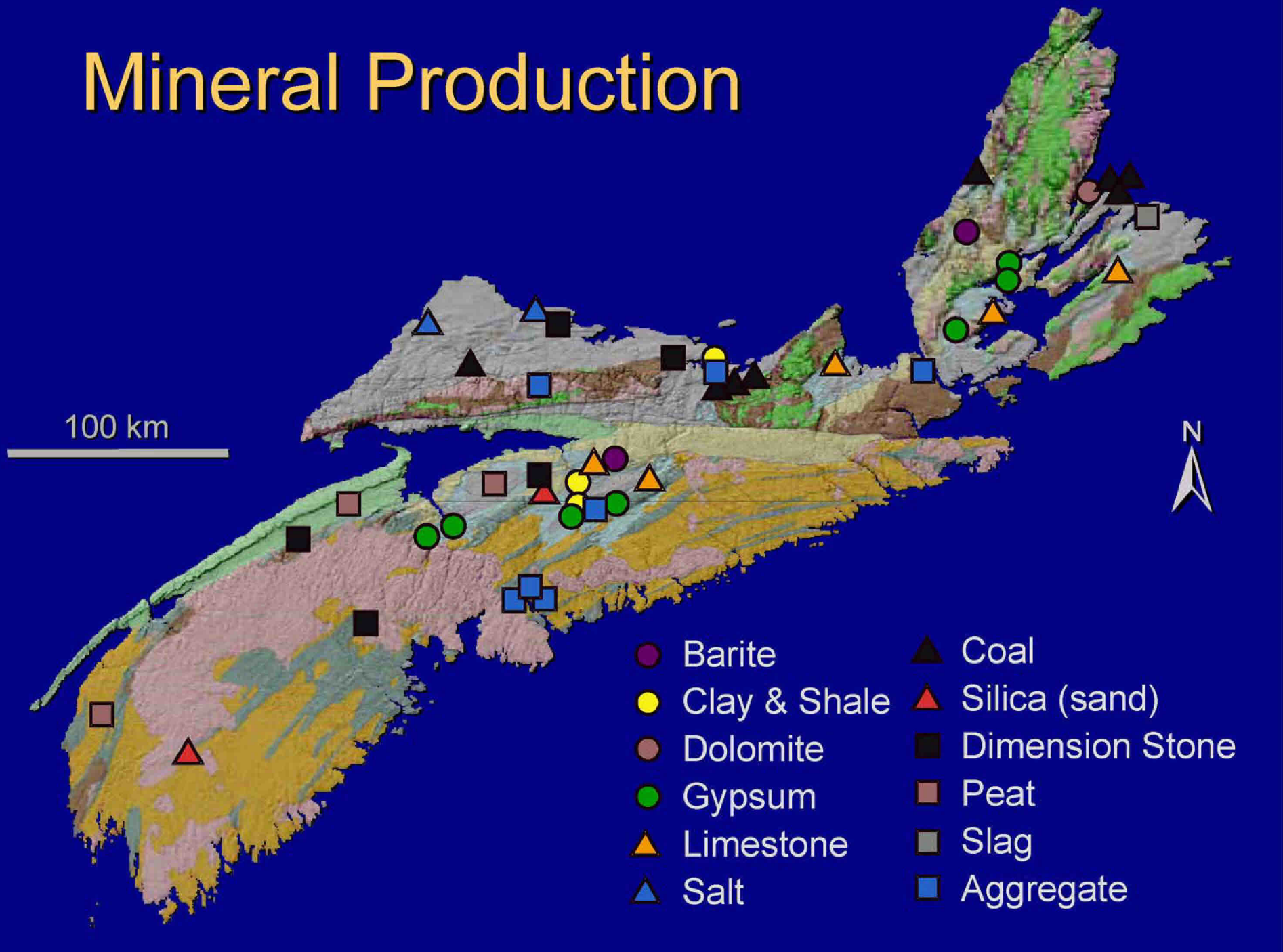
# Avg. Value of Mineral Production / km<sup>2</sup>



Natural Resources



# Mineral Production



# Nova Scotia Mineral Production

<b>Industrial Minerals</b>	Amount (tonnes)	Value (\$000)
Anhydrite	180,000	
Barite	600	
Gypsum	7,200,000	
Limestone & Dolomite	700,000	
Peat	9,300	
Salt	900,000	
Silica	49,000	
<i>Total</i>		<b>140,000</b>
<b>Structural Materials</b>		
Building - Ornamental Stone	2000	
Clay Products	25,400	
Crushed Stone	7,800,000	
Sand & Gravel	2,750,000	
Cement	331,000	
<i>Total</i>		96,060
<b>Total Mineral Production</b>		<b>236,060</b>



# Troy Quarry

- total production  
10 M tones
- metasediment  
& granite



Natural Resources



# Conrad Brothers (Dartmouth)

- 7.5 M tonnes (domestic)
- 2.5 M tonnes (export)
- adequate supply



Natural Resources



# Offshore Markets

- Martin Marietta
- operating near capacity
- exporting to the Gulf, East Coast & Caribbean



Natural Resources





# Sites of Interest

1. Kelly's Mountain

2. Maritime Stone

3. Rhodena Rock

4. Queensport

5. Eastern Shore

6. Port Mouton Island

7. North Mountain

8. Aspotogan



1

2

3

4

5

7

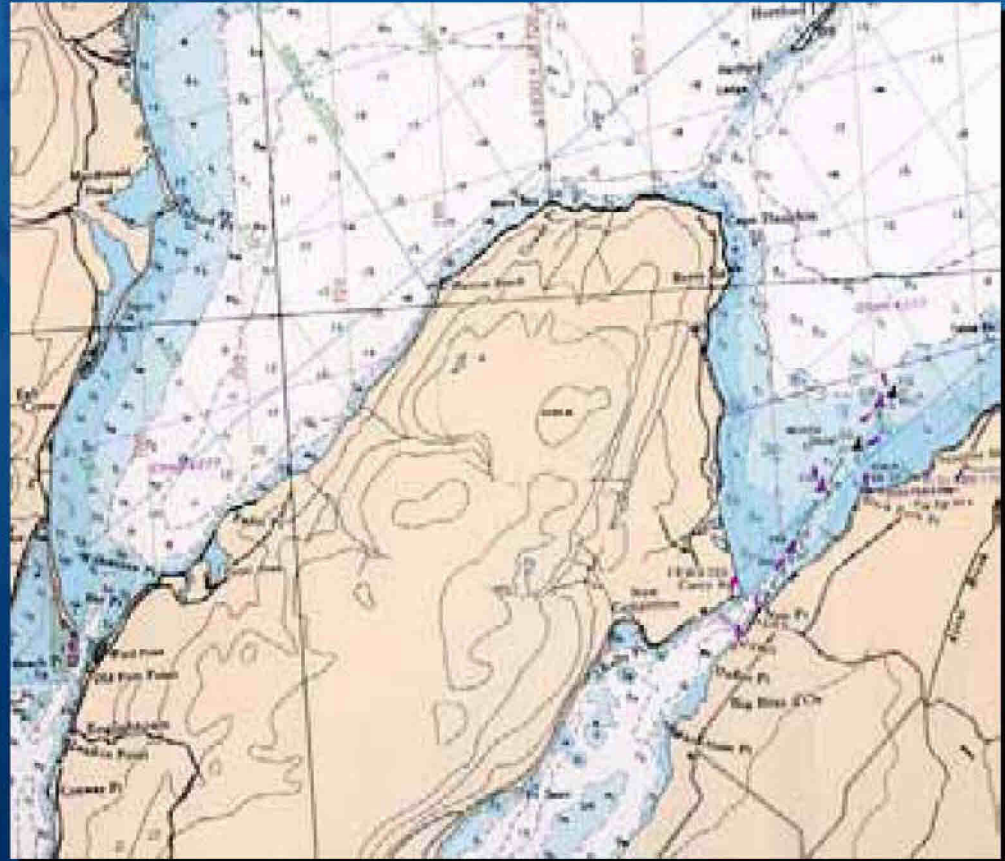
8

6

100 km

# Kellys Mountain Area

- water depth
  - > 45 feet north side
  - < 30 K south channel
- elevation up to 300 m
- unlimited tonnage



Natural Resources





# Kellys Mountain Area

- Crown Land Areas (North side)
- Scotia Limestone mining lease (south side)
- red granite, LA abrasion of 22
- unlimited tonnages



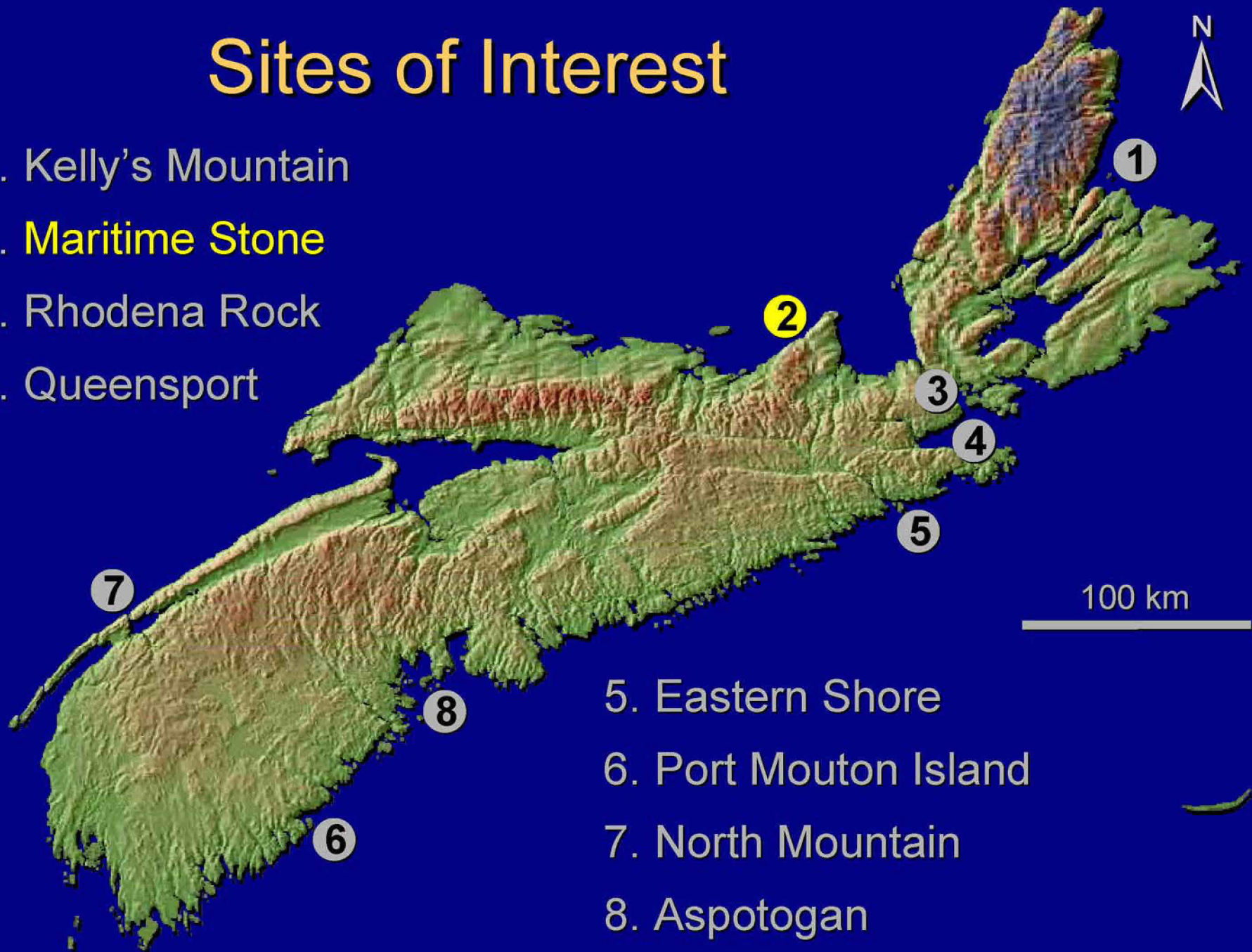
Natural Resources





# Sites of Interest

1. Kelly's Mountain
2. **Maritime Stone**
3. Rhodena Rock
4. Queensport



5. Eastern Shore
6. Port Mouton Island
7. North Mountain
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# Maritime Rock Quarry

- access to deep water
- ice free mid-March to January
- relatively isolated



Natural Resources





# Shipping

- 30 K tonne through Canso Causeway
- north around Cape Breton Island



Natural Resources





# Resource

- mafic granite
- LA abrasion of 17
- existing 4 hectare permit

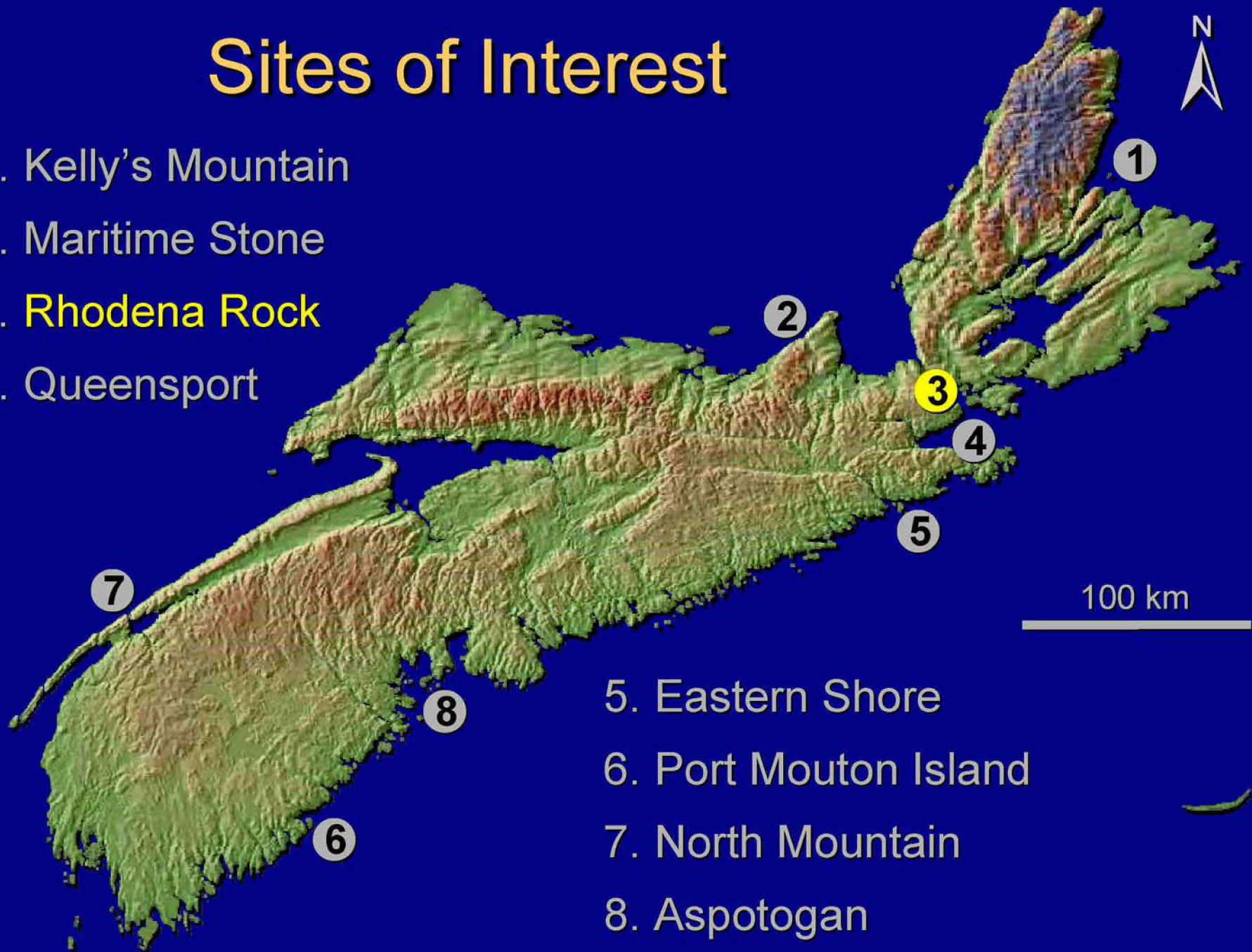


Natural Resources



# Sites of Interest

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# Rhodena Rock



Located beside Martin Marietta's operation at Canso



# Rhodena Rock

- mixed volcanics & granites
- deep water access by conveyor
- truck to Mulgrave
- high quality stone
- optioned by Lafarge
- tonnage?

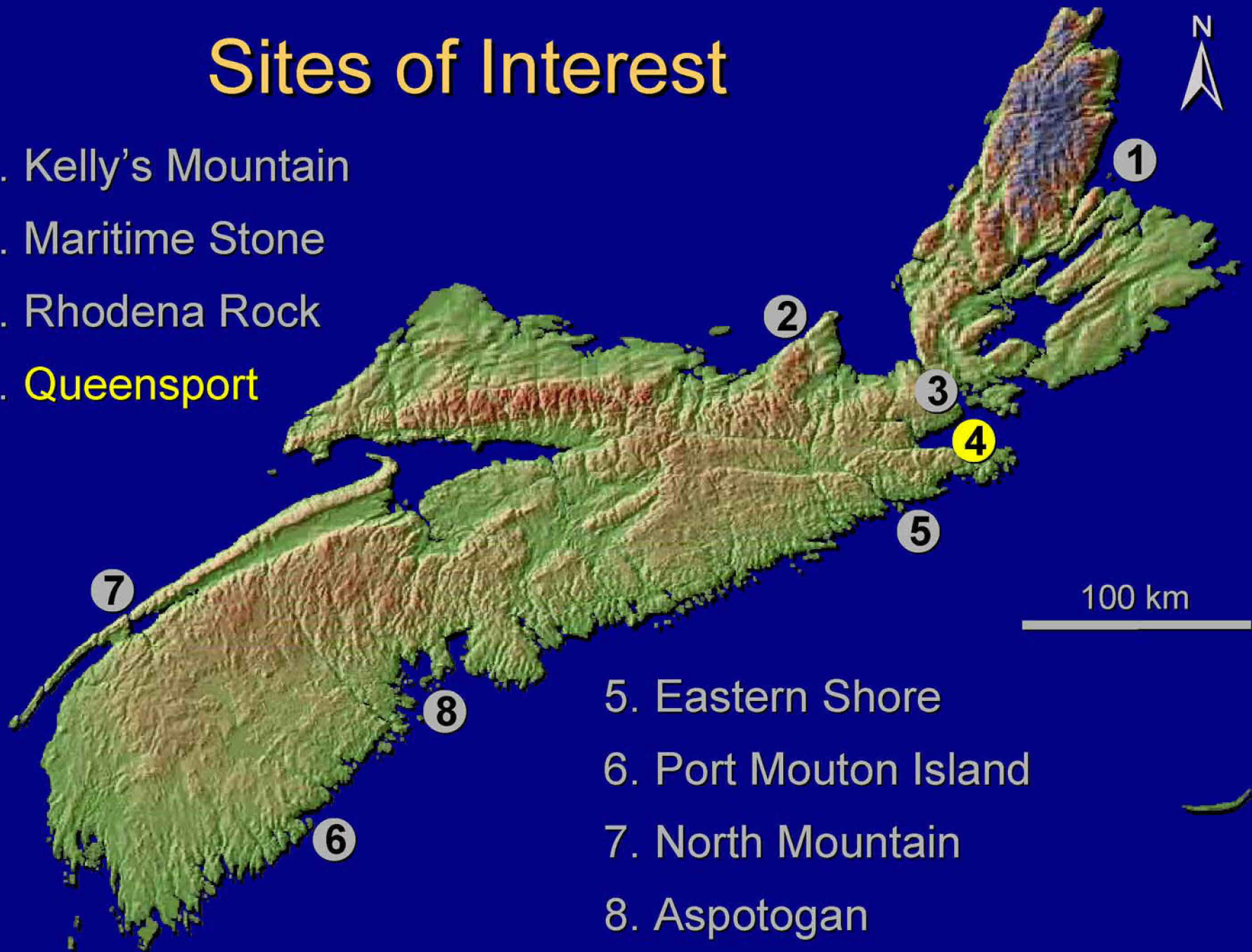


Natural Resources



# Sites of Interest

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# Queensport Shore (*South of Martin Marietta*)

- deep water
- no overburden
- unlimited tonnage
- grey granite, LA abrasion in low 20's
- very strong local support



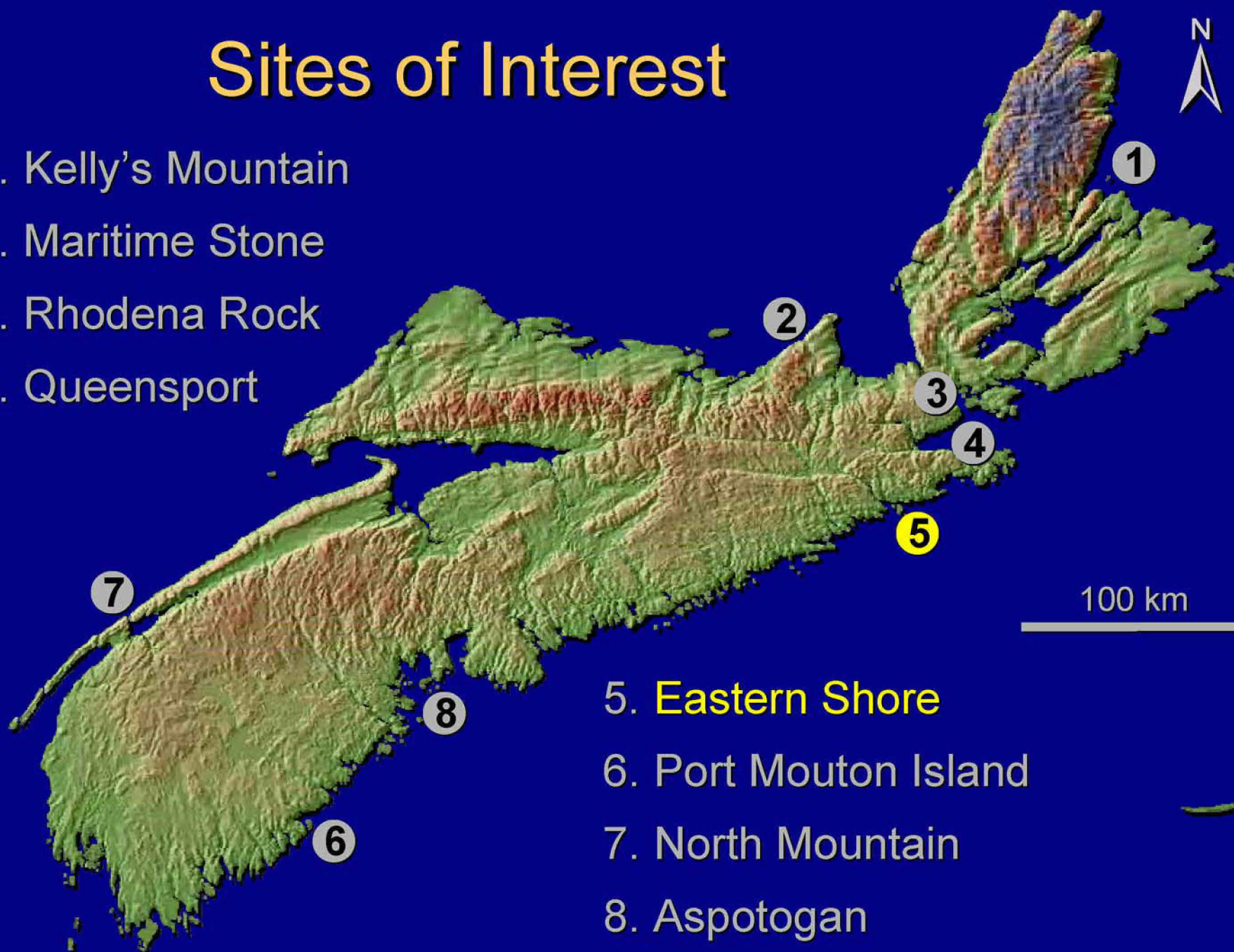
Natural Resources





# Sites of Interest

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# Eastern Shore

- grey metasediment
- variety of locations with deep water
- LA abrasion 17 - 20
- alkali reactivity



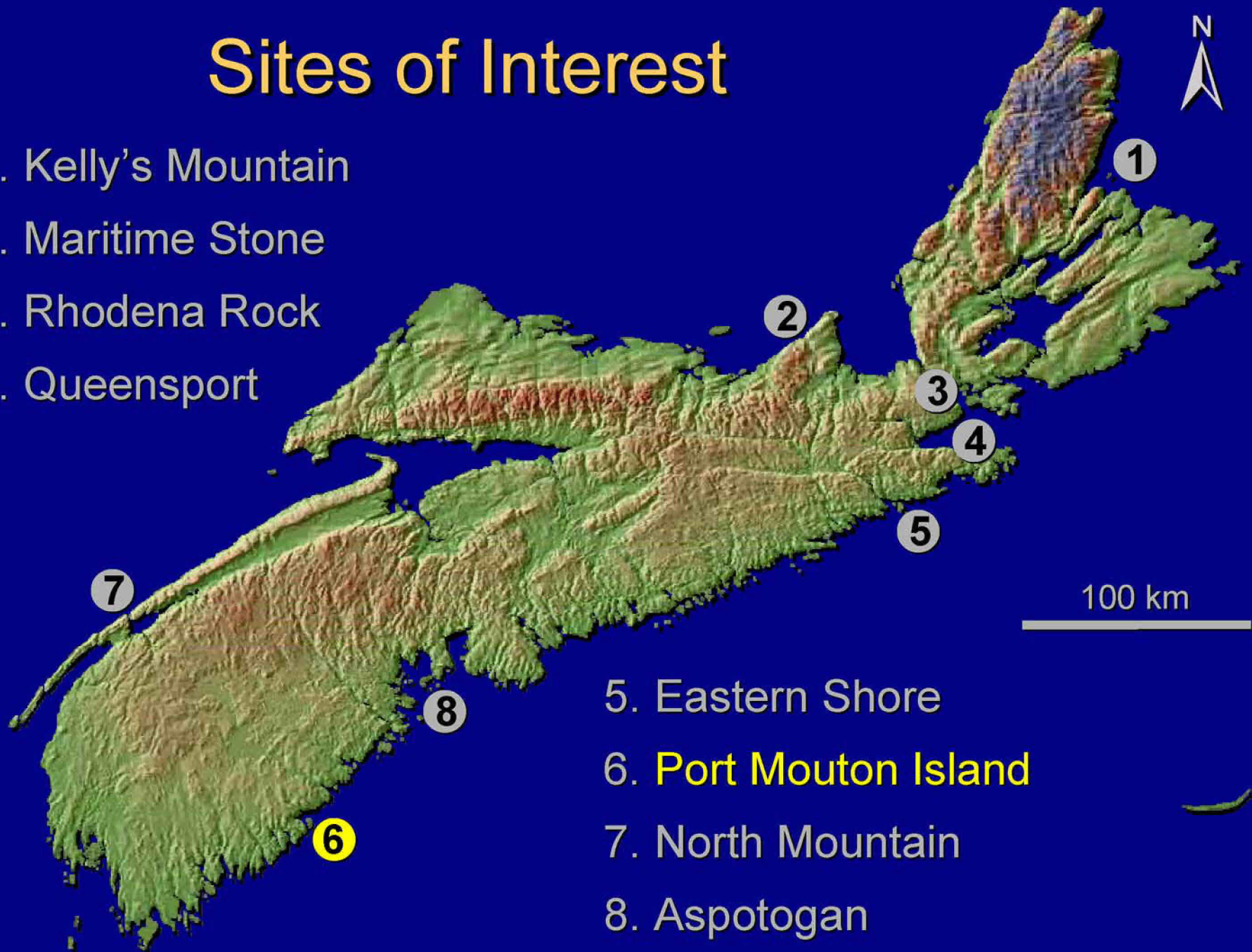
Natural Resources





# Sites of Interest

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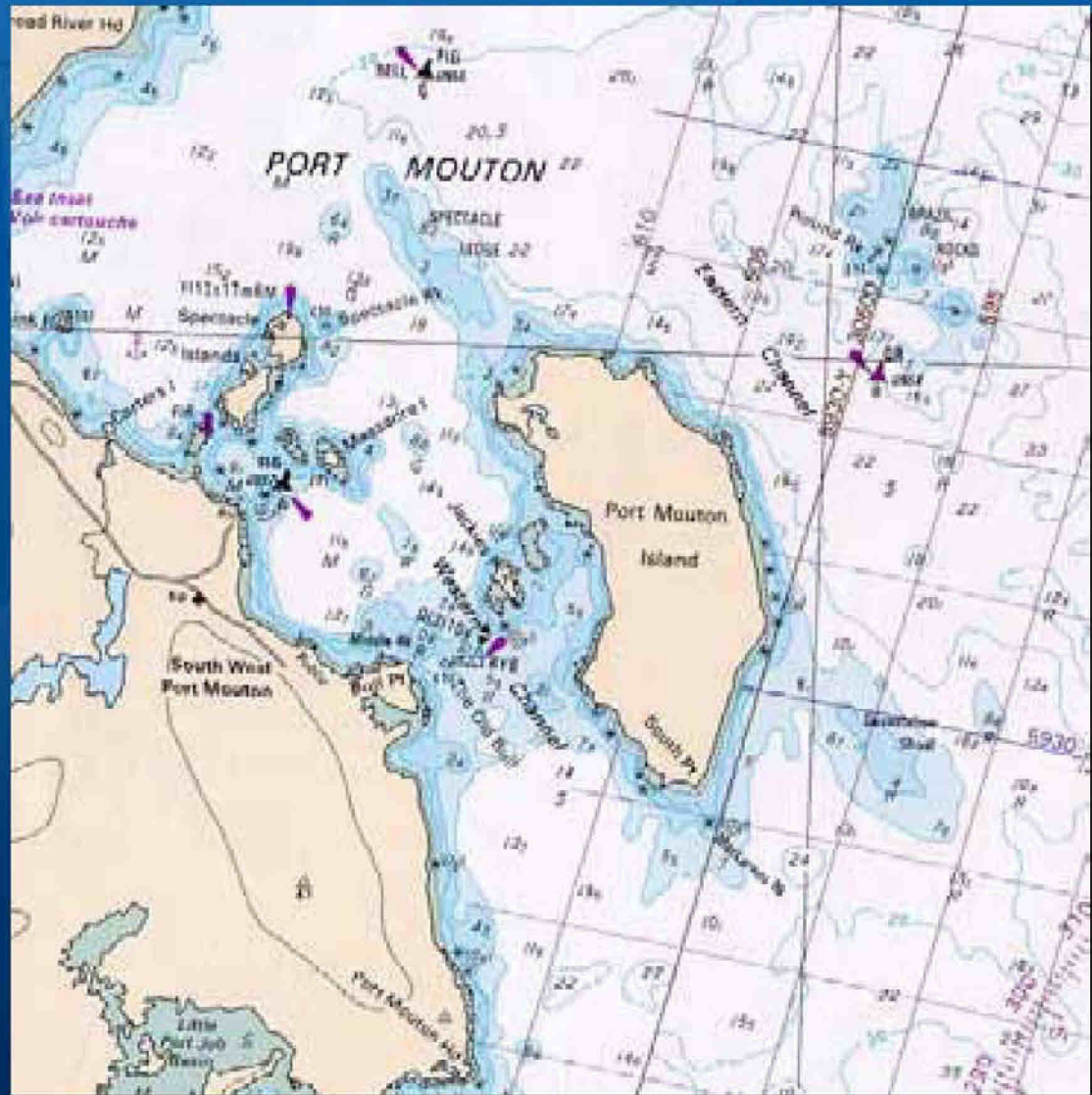


5. Eastern Shore
6. **Port Mouton Island**
7. North Mountain
8. Aspotogan



# Port Mouton Island

- reasonably deep water



Natural Resources



# Port Mouton Island

- elevation up to 50 m
- fine grained grey granite
- LA abrasion in mid-20's



Natural Resources



# Port Mouton Island

- 100% Swiss owned
- available
- an island?
- beside a Federal Park
- require a different way of thinking



Natural Resources





# Port Mouton Island

- closer to US than other sites
- make it a park?

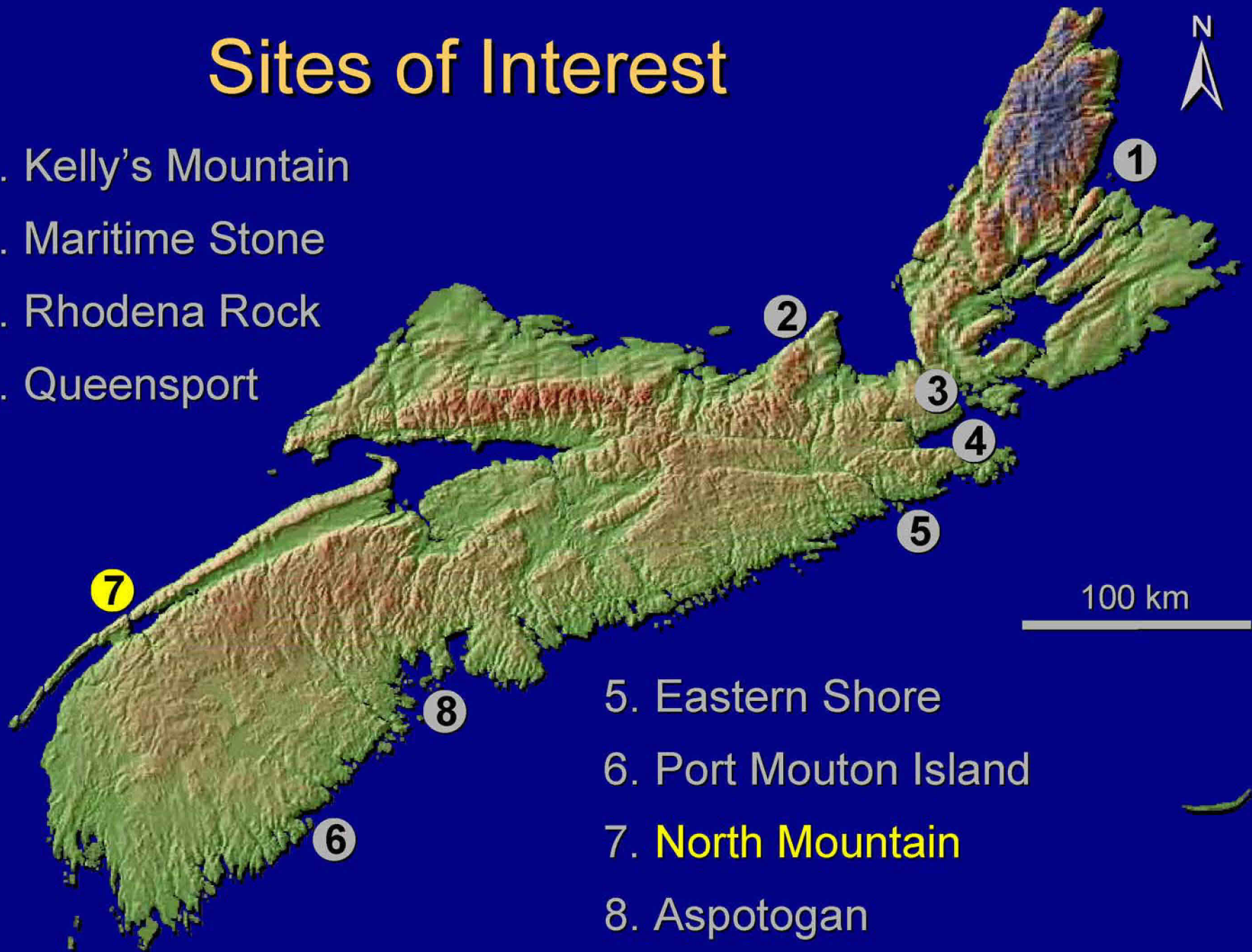


Natural Resources



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# North Mountain - Digby Area

- unlimited amounts of trap rock



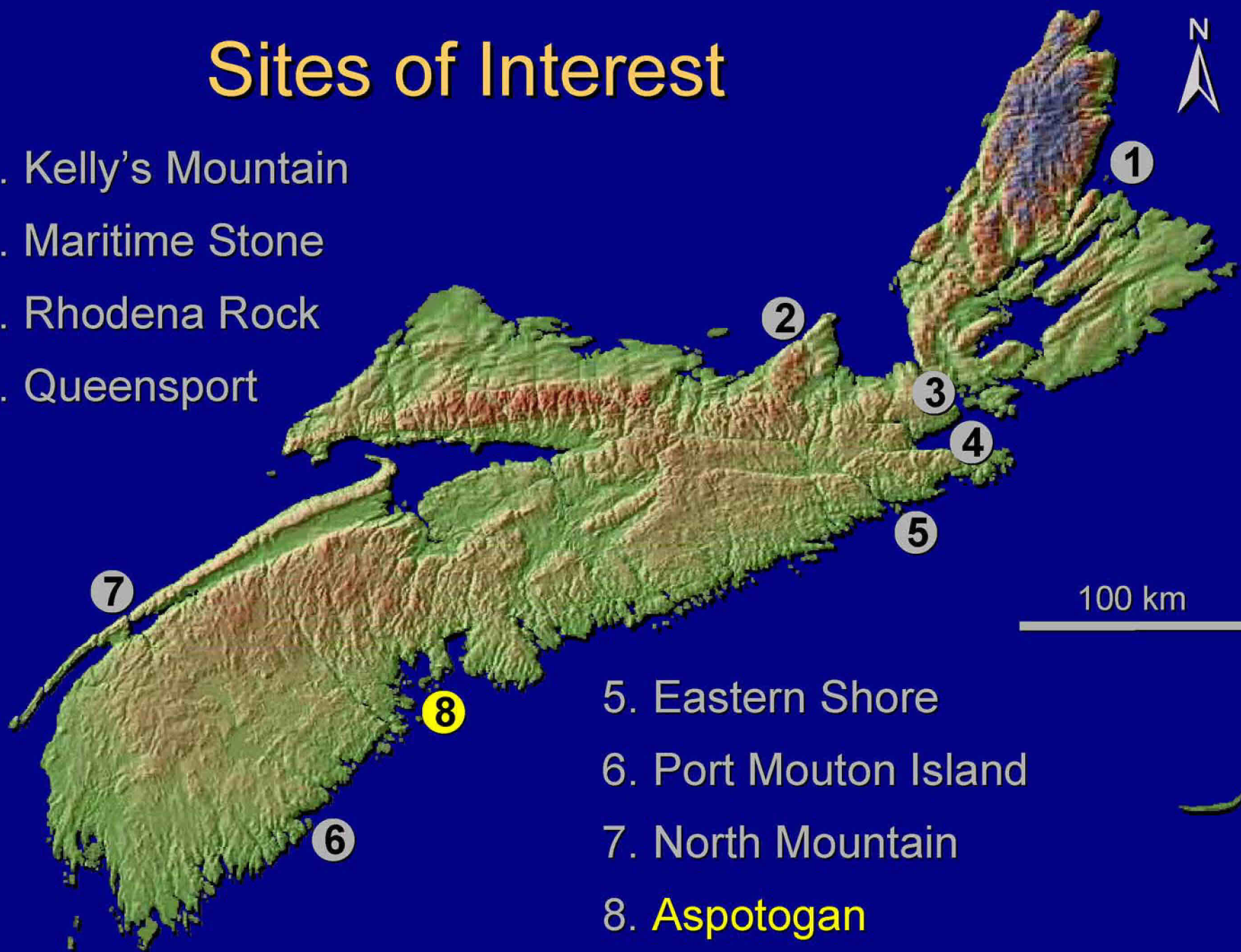
Natural Resources





# Sites of Interest

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# Aspotogan - The Lodge

- grey - buff granite
- deep water
- LA abrasion in low 20's
- impossible to permit



Natural Resources





# Can you permit a quarry in Nova Scotia?





# Black Bull Resources

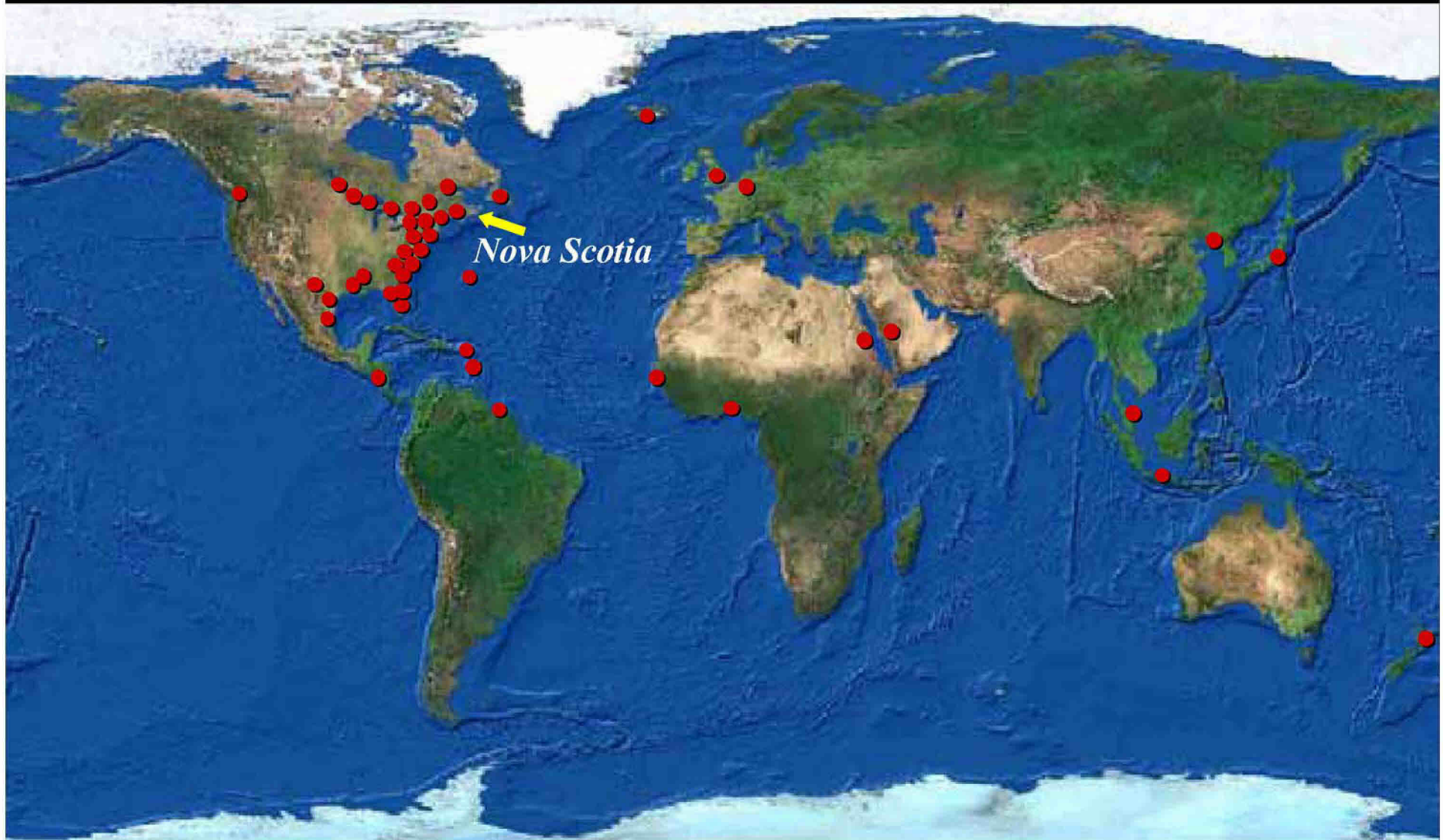
- Silica mine
- 100 m wide zone
- bounded by kaolinized granite
- mining to within 5 m of protected area
- permitted 27 Apr/04



Natural Resources



# Destinations for Nova Scotia Mineral Products



Deep, Ice-free harbors provide Nova Scotia's mineral products with window on the world.



# Nova Scotia Geology

