

Possibilities and Challenges in the Arctic Sea Routes

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Seatransport Partnership for Industries and Commodity Trade

- Ensures availability of raw materials for energy production and industries throughout the year even in difficult climate conditions.
- Offers special services such as loading, topping off and lightering of large ocean carriers at sea.
- Core of business is heavily ice strengthened self-discharging bulk carrier fleet (15 units). Crew onboard manages operations in harsh conditions.
- Modern, substitutable fleet is operated energy efficiently with high utilization rate and with short port times.
- Majority of present clientele based on long-term partnership and contracts.
- New 1A-ice classed Supramax-vessels offer good possibility to compete for new transport opportunities in northern ice areas including the Arctic.



Fleet



**56k Supramax-class 2 x 56 000 dwt
Iceclass 1A**



**20K Eira-class 4 x 20 000 dwt
Iceclass 1A Super**



**13K Pasila-class 2 x 13 000 dwt
Iceclass 1A Super**



**Two pusher vessels and barges 5 x
9 000 – 14 000 dwt
Iceclass 1A Super**



ESL Shipping

Main Business Drivers towards Arctic Waters

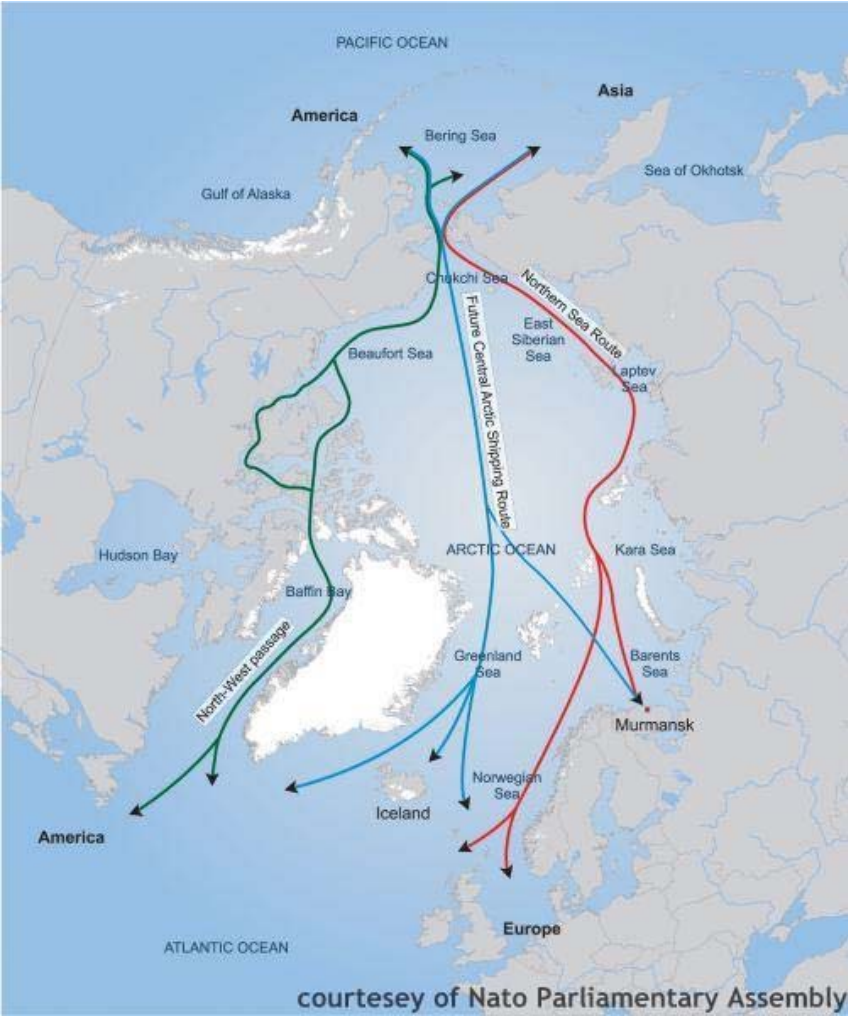
- Possibility to utilize ice-strengthened vessels outside of Baltic Sea during seasonal low-demand periods (summer).
- Rapidly developing industrial and mining projects especially in North American and Greenland ice areas, where also business environment is more established and predictable.
- Northern Sea Route contains big future potential, but in terms of profitable business it so far has marginal significance.
- Also Russian arctic areas along the NSR have many interesting industrial development projects, which may enable new business for ice-classed vessels.



Arctic Sea Routes



Arctic Sea Routes



IRON ORE CARGO FROM KIRKENES

	Through Suez Canal		Through Northern Sea Route		+/- days
China	12050 nm	34 days	6670 nm	26 days	-8
Japan	12730 nm	36 days	5830 nm	23 days	-13
Korea	12400 nm	35 days	6220 nm	24 days	-11

Arctic Sea Routes – Main Benefits

- Typically more than one third shorter than traditional shipping routes.
- Saves time, fuel and emissions. In bulk-shipping of relative low value raw materials, cost savings for fuel may, subject to freight market conditions, appear as a driver for commercial transits, not necessarily reduced lead time.
- Allows economy of scale compared to traditional route alternatives, where vessels are facing more strict draught and beam limitations.
- There is no threat of piracy.

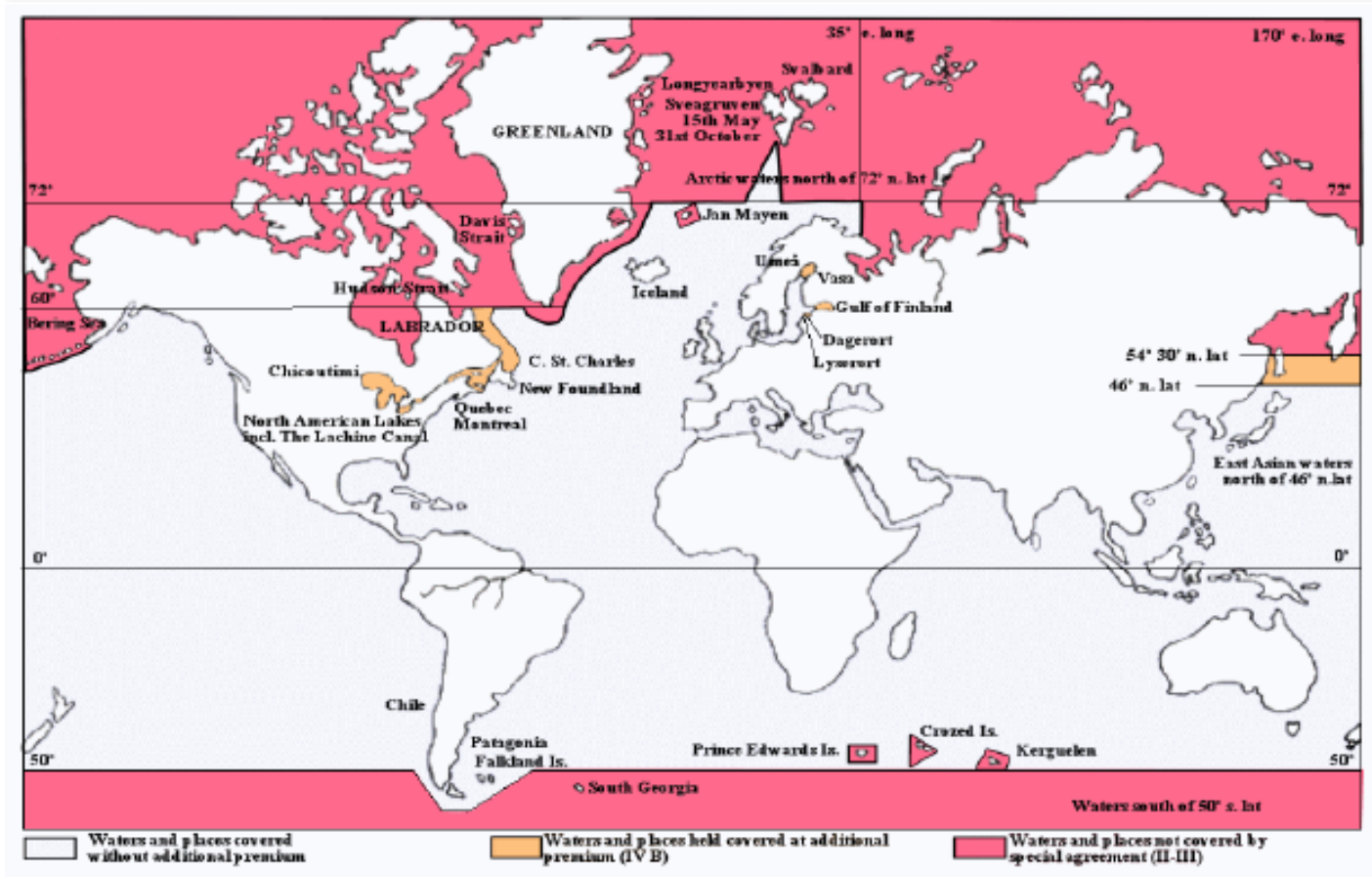
Main Challenge – Managing Increased Risk

- Operating outside normal insurance trading limits.
- Rough weather, fog, ice, cold temperature.
- Multi-year ice is a threat even for heavily iceclassed vessels.
- Unreliable weather forecasts.
- Uncharted areas and shallow waters.
- Extreme remoteness.
- No safe havens / deep water quays.
- Lack of repair facilities.
- Lack of Communication.
- No or slow data transfer service.
- Salvage in case of an accident is a real challenge.

All above means preparation for trading in Arctic Sea routes is both expensive and time consuming.

Insurance Trading Limits

- Example: Nordic Marine Insurance Plan



Result - New Market Areas and Customers

- Unique 1A-ice strengthened Supramax-class vessels.
- Widening of ESL's operating area out of Baltic Sea.
- Better profitability over business cycles by more diversified geographic presence and enlarged customer portfolio.
- During coming winter season mv Kumpula operating in the Baltic and mv Arkadia in Canadian ice area.
- We target niche businesses with ice trading premiums.



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