

ARCTIC SHIPPING ACTIVITIES INTO THE NEXT DECADE¹

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The following note is a brief summary of the previous status and developments on shipping activities in Arctic waters. We invite all countries to provide additional information on this topic during the workshop in Reykjavik.

Background

Shipping activities pose greater risk for accidents in the Arctic than further south, because of the extreme conditions with ice, darkness and fog. The same climatic conditions also complicate the rescue and clean-up work and thus increase risks of environmental impacts as a consequence of shipping accidents. Significant environmental impacts are only likely to result from large, concentrated accidental releases of oil. However, chronic oil discharges could have a negative impact on sensitive wildlife habitat or hunting areas used by indigenous communities. Dumping of waste at sea is also one of the issues of concern with respect to chronic pollution in arctic waters (PAME 1996).

With respect to navigation seasons, the ACIA will show that longer seasons and greater access will occur around the entire periphery of the Arctic Ocean basin in the future.

¹ The content of this paper is the responsibility of the author(s) and does not necessarily represent the views of the PAME Working Group as a whole, or it's member countries.

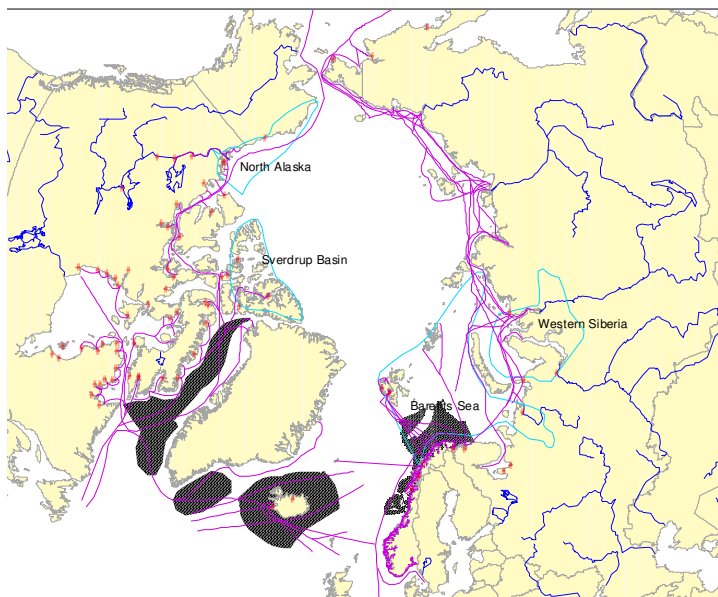


Figure 1. Major ports and navigation routes in the Arctic. Geographical references of fishing grounds have not been made available for USA and Russia (Norwegian Maritime Directorate, 2000).

Developments in different parts of Arctic waters

A. The Barents Sea

Shipping activities in the Barents Sea is expected to increase substantially during the 10 to 20 years. This is mainly caused by:

- Increase in petroleum traffic from Russia to Europe and the USA.
- Increase in traffic caused by petroleum activities in Norwegian sector of the Barents Sea.
- Increase in cruise and speed boat traffic.

Several incidents in the Barents Sea indicate the need for comprehensive and unified actions to reduce the environmental impact of maritime activities in the Barents Sea. It is reasonable to assume that in addition to tanker traffic, the increase in petroleum activities will also lead to a considerable increase in the transport by sea of prospecting and production equipment to the northern region.

Russia's five largest oil companies have agreed to undertake a feasibility study on a pipeline, which will run from western Siberia to the ice-free Arctic port of Murmansk. The feasibility study is, according to Reuters News, planned finalised before the end of 2004. The aim of the pipeline is to increase exports to Europe and the United States. The three million barrel per day pipeline will stretch 2,500-3,600-km (1,560-2,250-mile) from existing pipeline network to the deep-water port of Murmansk, which would be able to load very large tankers for trans-Atlantic shipments. The port at Murmansk is at present not deep enough to accept Very Large Crude Carriers. Russian crude shipped from Murmansk is either railed up to the port or shipped in smaller 50,000mt cargoes from White Sea port Vitino. The pipeline can be commissioned in 2007.

Initiatives have also been started to develop sea transport as an attractive form of transport to and from Northwest Russia on a more general basis via what is known as the «Northern Maritime Corridor» (NMC). There has also been presented plans for imports of spent nuclear fuel from countries in Western Europe to reprocessing plants in Russia and in this case transport by sea along the coast of

Norway would be one alternative. The increased risk must in such a situation be countered by introducing preventive measures and by being prepared for emergencies so that damage to the environment can be limited if an accident does occur.

Norway has synthesized concerns and actions to be taken in the white paper *Protecting the Riches of the Seas*, presented to the national assembly in 2002 and endorsed in March 2003. Norway is also performing an environmental risk assessment on maritime activities in the Barents Sea including present and future national and international traffic pattern, to be finalised by the end of 2003.

Norwegian-Russian cooperation on preparedness against oil pollution has existed for more than ten years, and was formalised in 1994 by a bilateral agreement. Annual meetings are arranged, and a large joint oil preparedness exercise is held every other year. The responsibility for the exercise alternates between the countries. In addition to the agreement, a contingency plan has been established in order to handle the situation in the event of an oil spill accident threatening either nation's areas.

The following figures present existing and expected future (in year 2015) shipping activities in the Barents Sea region.

| Year 2002 | | | | | |
|---------------------------------|------------------------------|--------------------------|----------------------------------------|------------------------------------|-----------------------------------|
| Transport type | Size dwt/Type | Number port calls | Distance sailed in ballast (nm) | Distance sailed loaded (nm) | Total distance sailed (nm) |
| Russian petroleum transport | 20 000 dwt | 140 | 79 800 | 79 800 | 159 600 |
| | 100 000 dwt | 16 | 9 360 | 9 360 | 18 720 |
| Distribution of petroleum prod. | | | | | 160 000 |
| Fishing vessels | | | | | 9 309 100 |
| General cargo, coastal traffic | | | | | 2 000 000 |
| Passenger | Ferries | | | | 650 393 |
| | Cruise along Norwegian coast | | | | 45 000 |
| | Cruise to Svalbard | | | | 50 080 |
| | Local cruise Svalbard | | | | 42 500 |
| | Speed boats | | | | 86 232 |
| Year 2015 | | | | | |
| Transport type | Size dwt/Type | Number port calls | Distance sailed in ballast (nm) | Distance sailed loaded (nm) | Total distance sailed (nm) |
| Norwegian petroleum transport | 100 000 dwt | 170 | 59 630 | 59 630 | 119 260 |
| | 200 000 dwt | 63 | 5 040 | 5 040 | 10 080 |
| | 100 000 dwt LNG | 130 | 54 285 | 54 285 | 108 570 |
| | 25 000 dwt kondensat | 53 | 22 085 | 22 085 | 44 170 |
| Russian petroleum transport | 100 000 dwt | 240 | 140 040 | 140 040 | 280 080 |
| | 200 000 dwt | 160 | 93 360 | 93 360 | 186 720 |
| | 300 000 dwt | 80 | 46 680 | 46 680 | 93 360 |
| | 100 000 dwt LNG | 60 | 35 010 | 35 010 | 70 020 |
| | 25 000 dwt kondensat | 40 | 23 340 | 23 340 | 46 680 |
| Supply vessels | Goliat Troms I olje | 60 | | | 6 000 |
| | Lopparyggen Øst | 380 | | | 98 800 |
| | Nordkappbassenget Gass | 50 | | | 8 500 |
| | Nordland VI Olje | 156 | | | 31 200 |
| Distribution of petroleum prod. | | | | | 176 000 |
| Fishing vessels | | | | | 8 843 645 |
| General cargo, coastal traffic | | | | | 2 100 000 |
| Passenger | Ferries | | | | 650 393 |
| | Cruise along Norwegian coast | | | | 45 000 |
| | Cruise to Svalbard | | | | 55 088 |
| | Local cruise Svalbard | | | | 46 750 |
| | Speed boats | | | | 350 000 |

Source: Norwegian study, ongoing.

B. Canadian and US waters

Maritime transport of crude oil in the Canadian Arctic is associated with bent Horn and a facility on Cameron Island, where tankers load from the shore via hoses. Deliveries of general cargo and fuel are sourced primarily out of Hay River through the Mackenzie River system. The preferred mode of transportation in the Beaufort Sea, Northwest Passage and Hudson Bay is by tug and barge. There are also deliveries of general cargo and petroleum products to Eastern Arctic communities. Most shipping in the U.S. Arctic region is from southern Alaska or the west coast of Canada and the United States. About 90% of goods transported into Alaska is by waterborne transport. The vessels will normally transit to Point Barrow or Prudhoe Bay, Alaska, during the summer months, travelling through the Bering Strait along the northern coast of Alaska. There is no tanker transport of crude oil in the U.S. Arctic since North Slope production is transported via the Trans-Alaska Pipeline (PAME 1996). Details on the trend of maritime traffic in the Canadian and U.S. Arctic have not been available within the timeframe of the production of this note.

The US has several ongoing activities related to maritime transportation.

The department of Transportation within the Maritime Administration has ongoing programmes and initiatives related to, among others:

- Marine Transportation System (MTS)
- Port, Intermodal and Environmental Activities. Environmental issues encompass Industry Environmental Support, Marine Air Emissions and Ballast Water.
- International Activities. Including among others Agreement on Maritime Transport between the US and the Russian federation.
- Research programmes. Several research programmes involves environmental issues as air emissions, ballast water, brownfields, dredging, oil pollution, ship scrapping as well as cross cutting/ overall environmental R&D.

C. Russia – The Siberian coast

The most extensive shipping activities in the Arctic take place in Russia. The Northern Sea Route carries the largest volume of traffic of any Arctic seaway. Serviced by icebreakers, a fleet of ice-strengthened freighters carries cargoes of several million tons annually to and from the ports of Murmansk and Vladivostok. The shallowness of the water obliges the use of relatively small ships of up to 20,000 tons dead weight. The major constraint is sea ice, which determines the length of the season. This is as little as two and a half months at some points, but at the western end year-round navigation is possible as far as the Yenisey River. Strenuous efforts have been made to extend the season, if possible to the point at which it will be year-round over the whole length. The present route serves ports at the mouth of the major rivers, the principal freight being general cargo and fuel into the north and ore and timber out. There is also extensive use of the rivers themselves: All the major and many of the minor rivers carry large fleets of barges, tugs, and hydrofoils.

The Northern Sea Route (from Novaya Zemlja to the Bering Strait) was officially opened for international transit trading in 1991. However, presently commercial utilisation by non-Russian vessels has been insignificant. The distance advantage of using the NSR for transcontinental transport between the Pacific and the Atlantic is in many cases obvious and has been demonstrated by Russian activities. It remains however, to establish this as a stable and safe route on an annual basis. Improvements and optimisations of economical, logistical and technical aspects are necessary to make the NSR economically feasible for international traffic. The present status of NSR and results of the INSROP programme hence indicates that the use of the NSR for transit shipping operations is not yet proved capable (Norwegian Maritime Directorate, 2000).

Institutions & organisations

In the following, institutions and organisations working with arctic marine issues are listed. The list comprises organisations working with ecosystem approach to management and/or shipping issues.

International Arctic Science Committee – IASC

The IASC runs a project on Marine Transportation and Changing Access in the Arctic Ocean.

Source: <http://www.iasc.no/>

Arctic Climate Impact Assessment – ACIA

The Arctic Climate Impact Assessment (ACIA) is an international project of the Arctic Council and the International Arctic Science Committee (IASC), to evaluate and synthesize knowledge on climate variability, climate change, and increased ultraviolet radiation and their consequences.

Source: <http://www.iasc.no/>

ICARP II

According to the IASC Founding Articles, the organisation has a responsibility to convene periodically an Arctic Science Conference, in order to identify key scientific questions and issues. After consultations with other international arctic research (and user) organisations, and at its annual meeting in April 2003, IASC Council agreed to initiate an ICARP II, in the form of a broad community effort and with a planning process similar to ICARP I (held in 1995).

Source: <http://www.iasc.no/>

IMO – International Maritime Organization

IMO adopted in 2002 "Guidelines for Ships Operating in Arctic Ice-covered Waters.

IUCN – International Union for Conservation of Nature

The IUCN Council endorsed in May 2002 a strategy for IUCN's engagement in the Arctic. The Arctic Coordinating Committee arranged a meeting in May 2003 for the purpose of planning fundraising and arctic work. Emphasis will be put on projects in the Chukotka and Barents regions.

Source: www.iucn.org/places/canada/prog/arctic.htm

Commission of the European Communities – Marine Strategy

The European Parliament has suggested that the EU Marine Strategy should set an ambitious, clear and coherent set of objectives with a view to promoting sustainable use of the seas and conserving marine ecosystems through an integrated policy focussed on the protection of European seas and oceans.

Source: COMMUNICATION FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN PARLIAMENT. Towards a strategy to protect and conserve the marine environment. Brussels, 02.10.2002, COM(2002) 539 final (http://europa.eu.int/eur-lex/en/com/pdf/2002/com2002_0539en01.pdf).

Barents Euro-Arctic Transport Area

The creation of the Barents Euro-Arctic Transport Area (BEATA) follows the process started on Crete in 1994, when the European Ministers of Transport identified the first priority corridors between the EU and the Central and Eastern European countries

Source: <http://www.barentsinfo.fi/beata/links.asp>

References

Norwegian Maritime Directorate, 2000. PAME – Snap Shot Analysis of Maritime Activities in the Arctic. Report No. 2000-3220.

PAME, 1996. PAME Working Group on the Protection of the Arctic Marine Environment. Report to the Third Ministerial Conference on the Protection of the Arctic Environment 20-21 March 1996, Inuvik, Canada.