Fostering Environmental Resilience in the Polar North: Collaborative Mechanisms to Strengthen Marine Environmental Security in the Arctic

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Outline of Presentation

- The potential impact of increased shipping and resource exploitation in Arctic waters on the marine environment
- Current regulatory framework for Arctic shipping and EIA
- Potential collaborative measures to lessen the adverse impact of these activities on the Arctic marine environment
Changing Arctic Waters – Increased Shipping Transits

- The sea routes through Arctic waters have held an enduring attraction for adventurous voyagers, scientific expeditions and nuclear submarine deployments.

- As the planet warms and the Arctic ice recedes, the lure of these routes will become even more irresistible for a whole new cadre of vessels including commercial shipping, scientific research vessels, vessels servicing oil and gas installations, fishing vessels and warships.
Arctic Sea Routes

Within Arctic waters the focus of debate on increased shipping transits has centred on:

- the **North West passage** - a set of alternative sea routes connecting Europe and the Atlantic Ocean with Asia and the Pacific Ocean passing through interconnecting waters in the northern part of the North American continent through the Canadian coastal archipelago and along the north coast of Alaska; and

- the **Northern Sea Route** along the Russian coasts of the Far East and Siberia also connecting the Atlantic and Pacific Ocean.
Arctic Sea Routes

- There have also been suggestions that with the melting of the Arctic sea ice, routes through the central polar ice cap could open up for shipping.
- The particular attraction of these routes is that they involve a much shorter transit time for ships travelling between Europe and Asia than routes through the Panama Canal or around Cape Horn.
Potential Impact of Increased Shipping on Arctic Marine Environment

- The prospect of major navigational channels opening up in Arctic waters brings risks as well as opportunities to this remote part of the globe and its marine environment.

- The marine environment in and around the Arctic sea routes has unique characteristics which make its protection and preservation critical for the region and for the global environment.
Potential Impact of Increased Shipping on Arctic Marine Environment

- Many of the species, habitats and ecosystems of the Arctic contribute significantly to global biodiversity as they are found nowhere else on the planet.
- They are uniquely adapted to that region and highly sensitive to the changes in its environmental conditions predicted as a result of global warming and the melting of the Arctic sea ice.
- The integral connection of the Arctic to other parts of the globe through ocean and air currents and migratory species will also ensure that rapid changes in its marine environment are likely to have widespread effects on global oceans and species distribution.
Potential Impact of Increased Shipping on Arctic Marine Environment

- Increases in marine transport activities in the Arctic will compound the effects of climate change with a further array of shipping impacts which have the potential to harm the marine environment.

- A higher volume of vessel traffic is likely to result in a rise in accidental and intentional discharges of harmful substances and increased noise pollution.

- The risk of groundings, collisions, fires and ship strikes of marine mammals will escalate particularly in areas where some ice still exists.
Potential Impact of Increased Shipping and Resource Exploitation in the Arctic

- The exchange of ballast water in the high seas areas of Arctic waters has the potential to introduce marine organisms and pathogens which are alien to the Arctic marine environment and likely to overrun endemic populations.

- As resource exploitation activities for oil and gas intensify, the associated vessel and drilling activities will have potentially adverse effects on slow growing Arctic marine species, their habitats and host ecosystems.
Current Regulatory Structure for Arctic Shipping

- The Arctic Ocean is surrounded by littoral States with claims to territorial seas, EEZs or exclusive fisheries zones and continental shelves leaving relatively small areas of high seas and seabed beyond national jurisdiction.

- The passage rights of foreign vessels in the offshore waters of Arctic States is determined by the status of those waters under the 1982 United Nations Convention on the Law of the Sea (LOSC) and customary international law.
Current Regulatory Structure for Arctic Shipping

- Under the LOSC, coastal States have rights to prescribe and enforce certain laws and regulations concerning the passage of foreign vessels through their offshore zones relating to the protection and preservation of the marine environment and safety of navigation.

- Beyond the territorial sea, these laws must conform to generally accepted international rules and standards such as those contained in the 1973/78 International Convention for the Prevention of Pollution from Ships (MARPOL 73/78), the London Convention and its 1996 Protocol, the 2001 Anti Fouling Convention and the 2004 Ballast Water Convention.
Current Regulatory Structure for Arctic Shipping

- Enforcement of international rules and standards on vessel source pollution and safety of navigation in high seas areas is primarily dependent on flag State jurisdiction
- The current regulatory framework for Arctic shipping relies heavily on unilateral action by coastal and flag States
Current Regulatory Structure for EIA in the Arctic

- EIA is primarily regulated at the national level
- Voluntary Arctic EIA Guidelines
- No transboundary EIA/SEA regime
Potential Collaborative Measures to Lessen the Adverse Impact of Increased Shipping on the Arctic Marine Environment

- Arctic States have already collaborated through the IMO in developing rules for navigation through ice covered areas under their jurisdiction in the Guidelines for Ships Operating in Arctic Ice Covered Waters and now in the development of the Polar Code.

- The potential for adverse impacts from higher shipping density in Arctic waters may make further cooperation among the Arctic States and the global shipping community imperative in devising suitable protective measures to avert the risks.
Options for Collaborative Shipping Related Protective Measures in Arctic Waters

- Particularly sensitive sea areas (PSSA) designations
- Identification of MARPOL 73/78 Special Areas
- Establishment of Port State Control Memorandum of Understanding
Particularly Sensitive Sea Areas

- Under the Revised Guidelines on PSSAs (Feb 2006), the IMO is able to assess areas of ocean space within and beyond the territorial sea of member States to determine whether they meet the criteria for special protective measures applicable to international shipping.

- A PSSA is an area that needs special protection through action by the IMO because of its significance for recognized ecological socio-economic or scientific attributes where such attributes may be vulnerable to damage by international shipping activities.
Joint Proposals for PSSAs

- An application for designation of a PSSA may be submitted by a member government or two or more member governments of IMO having a common interest in a particular area.

- Joint proposals may be made by member governments for designation of transboundary areas of ocean space which are vulnerable to damage from international shipping activities.
Criteria for Designation of PSSAs and their Potential Application to Arctic Waters

Identification of a PSSA and the adoption of associated protective measures requires consideration of three components:

- The attributes of the area
- The vulnerability of the area to damage by international shipping activities
- The availability of associated protective measures within the competence of IMO to prevent reduce or eliminate risks from these activities
Potential Application of Criteria to Arctic Waters

- Under the PSSA ecological criteria, “uniqueness or rarity” and “representativeness”, could include the habitats of Arctic mammals such as the ringed and northern fur seals and Arctic cetaceans including the bowhead and beluga whales and narwhal.

- The “critical habitat” criterion could apply to some Arctic fish species which include slow growing deep sea fisheries of low fecundity.
Potential Application of PSSA Designation Criteria to Arctic Waters

- The species, habitats and ecosystems of Arctic waters could also fulfil the scientific criterion of “area of high scientific interest”

- The substantial reliance of indigenous Arctic inhabitants on subsistence fishing and whaling could fulfil the social or economic dependency criterion
Potential Application of PSSA Designation Criteria to Arctic Waters

Factors relating to the risk from international shipping in the PSSA Guidelines which could apply to Arctic waters are:

- The types and quantities of substances carried by international shipping in the area which would be harmful if released into the sea
- The meteorological, hydrographic and oceanographic characteristics of Arctic waters such as wind strength, water depth and ice cover which might increase the risk of structural failure in ships
Potential Associated Protective Measures in Arctic Waters

- Strict restrictions on vessel source discharge
- Steering ships away from the most sensitive habitats by the prescription of specific shipping channels or areas to be avoided
- More intense surveillance and monitoring of shipping activity through ship reporting services and vessel traffic services to prevent groundings and collisions
Potential Associated Protective Measures in Arctic Waters

- Early notification of ships in distress
- Prescription of high quality construction, design, equipment and manning standards to afford the maximum protection for the sensitive Arctic marine environment
State Practice in Designating Transboundary PSSAs

- PSSA designations in the Wadden Sea, Western European waters, Baltic Sea and Torres Strait all provide models for consideration in developing a proposal for PSSA designation in Arctic waters.

- The Guidelines place particular emphasis on ensuring that in the process of designation, all interests including those of coastal States, flag States and the environmental and shipping communities are thoroughly considered on the basis of relevant scientific, technical, economic and environmental information regarding the area at risk from international shipping.
State Practice in Designating Transboundary PSSAs

The first joint proposal for a PSSA in the Wadden Sea adjacent to the North Sea illustrates the importance of:

- Careful analysis of the nature of marine traffic in the area including cargo types, manning, range, purpose of activities and traffic flow; and

- Consultation with stakeholders affected by the proposed protective measures to gauge the level of support for any new measures.
State Practice in Designating Transboundary PSSAs

- In the Wadden sea case, a feasibility study was conducted prior to submitting the proposal which surveyed a variety of stakeholders including the shipping industry, the energy sector, local users and non-government organisations to assess their views on multiple options for associated protective measures.

- A similar comprehensive analysis of changing Arctic waters would optimise the likelihood of support for a PSSA designation and associated protective measures from the shipping industry and other users of the Arctic shipping routes.
State Practice in Designating Transboundary PSSAs

- Both the Western European Waters and Torres Strait PSSA designation proposals were politically sensitive and attracted criticism from some States.
- The Western European waters proposal covered an expansive sea area which included the western coasts of the UK, Ireland, Belgium, France, Spain and Portugal.
The six applicant States in the Western European waters case proposed two associated protective measures which would prohibit the carriage of heavy grades of oil through the entire PSSA in vessels of more than 600 dwt except in double hulled tankers and transiting vessels would also be obliged to comply with a mandatory reporting requirement.

After concerns raised by some IMO member States as to the extent of the area covered by the proposed designation and the lack of a basis under international law for denying the innocent passage and freedom of navigation of single hulled vessels carrying heavy grades of oil the first protective measure was withdrawn from the proposal.
State Practice in Designating Transboundary PSSAs

The Western European waters case highlights the importance of being able to justify the application of the proposed measures across the whole of the area to be designated and the necessity of preserving established navigational rights within an environmentally sustainable context.
State Practice in Designating Transboundary PSSAs

The implementation of the Torres Strait PSSA designation also demonstrates the delicate balance involved in developing appropriate environmental safeguards for vessels transiting a PSSA and preserving their passage rights under international law.
State Practice in Designating PSSAs

- The Torres Strait lies to the north and east of Cape York and separates Australia and PNG
- Passage through the very few useable routes in the Strait is navigationally demanding with limited under keel clearance for deep draught vessels, low visibility and strong tidal currents
State Practice in Designating Transboundary PSSAs

- Torres Strait hosts critical habitats for many vulnerable species including dugongs and green and flat back turtles.
- The several thousand Torres Strait islanders are ethnically distinct and are heavily dependent on the continuing health of the surrounding marine environment and its resources for their livelihood.
State Practice in Designating Transboundary PSSAs

- Torres Strait is used principally by large commercial vessels trading between ports in Southern Asia and NZ, South America, PNG and Pacific Island countries with approximately 3000 transits each year.

- Maritime casualties in the Torres Strait could obstruct shipping transits because of the confined navigable channels and could have profound and deleterious impacts on the marine species, habitats and ecosystems of the strait.
State Practice in Designating Transboundary PSSAs

- Australia and PNG proposed that the Torres Strait be designated as a PSSA with an associated protective measure of compulsory pilotage in the recommended navigation channels.

- The IMO Resolution adopted on 22 July 2005 recommended that member Governments recognize the need for effective protection of the Torres Strait and inform ships flying their flag that they should act in accordance with Australia’s pilotage system for merchant ships 70 metres in length or for oil, chemical and gas tankers irrespective of size.
State Practice in Designating Transboundary PSSAs

- To implement the IMO Resolution, Australia passed amendments to its Navigation Act, 1912 making it an offence to navigate in designated pilotage areas without a licensed pilot.

- These amendments provided significant financial penalties for a master or owner of a vessel who failed to comply with the pilotage requirements but did not include provisions for Australian Government authorities to stop or board vessels transiting the Torres Strait.
State Practice in Designating Transboundary PSSAs

- The regulations did provide for recording an offence by a master or owner of a non-compliant vessel and then for the enforcement of the penalty when the vessel entered an Australian port.

- Since the introduction of the amendments there has been no recorded non-compliance but Singapore and the US have objected to the Australian legislation and questioned its consistency with the obligation not to hamper, deny or impair transit passage under Art. 44 of the LOSC.
State Practice in Designating Transboundary PSSAs

The objections on the part of some States to the Australian implementing legislation reflect flag States sensitivity and resistance to any perceived erosion of navigational rights through the actions of coastal States in implementing environmental safeguards particularly in straits used for international navigation.
MARPOL Special Areas

- As a precursor to or in conjunction with a PSSA designation, the Arctic States could examine the designation of special areas under MARPOL 73/78 in Arctic waters which have become more vulnerable to marine pollution from increased shipping traffic.

- The concept of MARPOL special areas recognises the existence of oceanographical, ecological and traffic conditions in a particular area of the sea which justify a complete prohibition on oil and other vessel discharges except in very limited circumstances.
MARPOL Special Areas

- A special area may encompass the maritime zones of several States or even a whole enclosed or semi-enclosed sea.

- States must provide information on its oceanographic conditions, ecological conditions and evidence that the area is used to such an extent by ships that the discharge of harmful substances when operating in accordance with the normal requirements of MARPOL 73/78 would be unacceptable in the light oceanographic or ecological conditions in the area.
Port State Control Memorandum of Understanding

- The establishment of port state control MOUs has ameliorated some of the laxities of flag state control
- With increased shipping traffic in Arctic waters the establishment of a port state MOU among the Arctic States could be a useful adjunct to flag State enforcement together with the development of Arctic port reception facilities for vessel source discharges
Transboundary EIA and SEA

- Espoo Convention on EIA in Transboundary Context and Kiev Protocol on SEA in Transboundary Context provide useful models for transboundary EIA and SEA

- These models could be implemented to assess environmental impacts of resource exploitation activities, plans, programmes and policies in the Arctic
Conclusions

- To ensure future shipping in changing Arctic waters exercises environmentally sustainable navigation, it would be prudent for Arctic states to instigate forward planning for a robust regulatory framework which is consistent with both law of the sea and international environmental law.

- Relying on the powers of coastal and flag States to prescribe and enforce laws and regulations unilaterally for the potentially adverse impacts of increased shipping in the Arctic is likely to be insufficient.
Conclusions

- Effective implementation of protective measures to avert the adverse impacts of increased shipping in Arctic waters may require collaborative enforcement measures which encompass both transboundary and high seas areas. These might include measures such as PSSAs, MARPOL special areas, port state control MOU and transboundary EIA/SEA.

- The development of these measures should be the product of internal and external consultation by Arctic States which transcends the sovereignty and legal status disputes in Arctic waters.