



An Overview of Low-Impact Shipping Corridors and other Shipping Management Schemes in the Circumpolar Arctic

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1. Introduction

As interest and opportunity for shipping activity in the Arctic grows, Arctic States will be challenged to ensure that any increase in activity does not result in damaging environmental effects. Moreover, growing awareness of fragile ecosystems and increasing interest in the Arctic have heightened the need to develop shipping routes that minimize the negative impacts on coastal communities and the marine environment. In tackling this challenge, Arctic States would benefit from sharing best practices on existing and ongoing efforts to provide environmentally safe shipping routes across the circumpolar Arctic.

Building on existing measures for area-based protection developed by the International Maritime Organization (IMO), the purpose of this report is to present domestic approaches to minimize environmental impacts and ensure safety of Arctic shipping, and stimulate discussions on possible future collaboration and coordination amongst Arctic States. Canada is working with territorial, provincial, and Indigenous governments to build partnerships to collaboratively manage shipping in the North. Together, partners will identify Northern Low-Impact Shipping Corridors, and develop a governance framework to promote safer marine transportation in the North and ensure the provision of essential services to Northern communities while respecting the environment.

This report also seeks to incorporate non-governmental perspectives on ways to minimize the environmental impact of increased shipping activity in the Arctic, including indigenous, academic and industry views. Finally, the report features a section on best practices and recommendations for possible joint action amongst Arctic States.

2. International Framework for Arctic Shipping

The United Nations Convention on the Law of the Sea (UNCLOS) sets forth a comprehensive legal framework governing the use of the world's oceans. UNCLOS came into force in 1994, and it has been ratified or acceded to by 168 parties, including the majority of Arctic states. UNCLOS establishes key principles relevant to shipping, including "territorial seas", "innocent passage", "contiguous zones", "exclusive economic zones", "transit passage" and "high seas". UNCLOS also includes extensive provisions relating to the protection and preservation of the marine environment and divides responsibility for navigation safety, environmental protection, and other matters between coastal states, the port state, and the flag state.

Article 22 allows a coastal state to unilaterally establish sea lanes and traffic separation schemes within its territorial sea and require ships to follow these lanes or schemes, so long as the coastal state takes into account any relevant recommendations made by the International Maritime Organization (IMO), any channels customarily used for international navigation, the special characteristics of particular ships and channels, and the density of traffic.



A key international governing shipping



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agreement

is the International Convention for the Safety of Life at Sea of 1974 (SOLAS), which came into force in 1980. It has been ratified or acceded to by 164 parties, representing over 99% of global shipping tonnage. SOLAS and its associated codes set international safety standards for the construction, equipment, and operation of merchant ships. In particular, SOLAS authorizes coastal states to adopt, implement, and enforce shore-based vessel traffic service (VTS) areas, which range from information exchange with ships to comprehensive management of vessel traffic in a particular area. The implementation of SOLAS is overseen by the IMO.

Another important international agreement dealing with shipping is the International Regulations for Preventing Collisions at Sea (COLREGs), a convention of the IMO. The COLREGs entered into force in 1977 and have since been ratified or acceded to by 159 nations—including the United States, Canada, and all other Arctic nations. The COLREGs aim to avoid collisions and ensure navigation safety. COLREGs include provisions relating to maintaining a proper look-out, safe vessel speed, actions to avoid collision, transit through narrow channels and adherence to traffic separation schemes.

The IMO recently achieved a major milestone by overseeing the adoption of the International Code for Ships Operating in Polar Waters (Polar Code), which came into force in 2017. The Polar Code includes both safety provisions, made mandatory through amendments to SOLAS, and environmental provisions, made mandatory through amendments to the International Convention for the Prevention of Pollution from Ships, known as the Marine Pollution Convention (MARPOL). Like SOLAS and the COLREGs, MARPOL is overseen by the IMO, and governs various types of marine pollution, including oil pollution, noxious liquids and air pollution. International agreements governing vessel traffic—including SOLAS, the COLREGs, and the Polar Code—are implemented largely through domestic laws and regulations.

3. International Maritime Organization measures for area-based protection

The IMO developed measures to protect the environment from the negative impacts of shipping, providing a framework and tools for member states to devise their own low-impact shipping corridors or ship management schemes, adapted to specific circumstances. IMO-approved measures, both recommendatory and mandatory, include:

A **Particularly Sensitive Sea Area (PSSA)** is an area of the marine environment that merits special protection through action by the IMO because of its significance for recognized ecological, socio-economic, or scientific attributes that may be vulnerable to damage by international shipping activities. Short of requesting the establishment of a PSSA, member states may pursue other protected measures, which fall into two general categories: Navigation Restrictions and Discharge Restrictions.

Navigation Restrictions



a. *Ship*

systems: these are and corollary measures that are recommended for use by, and may be made mandatory for, all ships, certain categories of ships or ships carrying certain cargoes when adopted and implemented in accordance with the guidelines and criteria developed by the IMO, and are designed to contribute to the safety of life at sea, safety and efficiency of navigation, and/or protection of the marine environment.

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Routeing

systems of predetermined routes

Ship Routeing systems include:

- *Traffic separation scheme*: a routeing measure aimed at the separation of opposing streams of traffic by appropriate means and by the establishment of traffic lanes;
- *Traffic lane*: an areas within defined limits in which one-way traffic is established. natural obstacles, including those forming separation zones, may constitute a boundary;
- *Separation zone or line*: a zone or line separating traffic lanes in which ships are proceeding in opposite or nearly opposite directions; or separating a traffic lane from the adjacent sea area; or separating traffic lanes designated for particular classes of ship proceeding in the same direction;
- *Roundabout*: a separation point or circular separation zone and a circular traffic lane within defined limits;
- *Inshore traffic zone*: a designated area between the landward boundary of a traffic separation scheme and the adjacent coast;
- *Recommended route*: a route of undefined width, for the convenience of ships in transit, which is often marked by centreline buoys;
- *Deep-water route*: a route within defined limits which has been accurately surveyed for clearance of sea bottom and submerged articles;
- *Precautionary area*: an area within defined limits where ships must navigate with particular caution and within which the direction of flow of traffic may be recommended; and
- *Area to be avoided*: an area within defined limits in which either navigation is particularly hazardous or it is exceptionally important to avoid casualties and which should be avoided by all ships, or by certain classes of ships.

- b. ***Ship Reporting Systems (SRS)***: these are measures designed to provide coastal States with notice of the presence of all or specified categories of ships within a specific zone of adjacent waters. In general, SRSs increase knowledge of ship movements and can facilitate a timely response to any developing maritime emergency. A SRS will provide for covered ships to report the vessel name, radio call sign, position, course, and speed to a shore-based authority and such authority should have the capability of interaction with such vessels.



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Discharge Restrictions



- a. **Special Areas:** MARPOL provides for the designation of particular areas of the ocean as “special areas” and defines them as a sea area where for recognised technical reasons the adoption of special mandatory methods for the prevention of sea pollution by oil, noxious liquid substances, sewage, or garbage, as applicable, is required. Designation of special areas is to be made on the basis of three criteria: (1) oceanographic conditions; (2) ecological conditions; and (3) vessel traffic characteristics. Of particular relevance, the ecological criterion considers whether ecological conditions indicate the need to protect the area from harmful substances in order to preserve its resources, including endangered marine species, areas of high natural productivity, migratory routes for sea birds, and critical habitats for fish stocks.
- b. **Emission Control Areas:** ECAs are areas where the adoption of special mandatory measures for emissions from ships is required to prevent, reduce, and control air pollution from ship emissions as well as adverse impacts on land and sea areas, as well as human health, caused by such emissions.

4. Arctic shipping management

i. Canada

Overview of existing legislative and regulatory regime

Canada’s Arctic shipping regulatory regime is multi-tiered, based on the foundations established by the United Nations Convention on the Safety of Life at Sea (UNCLOS) and the public maritime law framework established by the International Maritime Organization (IMO). The Domestic Framework, Canada-wide, consists of key legislation such as the Canada Shipping Act, 2001; the Marine Liability Act and the Marine Transportation Security Act.

The Canada Shipping Act, 2001 is the primary piece of federal legislation in Canada applicable to shipping. It applies to all vessels operating in Canadian waters, including Arctic waters, and Canadian vessels worldwide. Provisions from key international conventions adopted by Canada such as the International Convention for the Safety of Life at Sea and the International Convention for the Prevention of Pollution from Ships are reflected in the Canada Shipping Act, 2001.

The Arctic Waters Pollution Prevention Act complements the Canada Shipping Act 2001, with a focus on the Canadian Arctic. The Act and associated regulations limits and reduces the risk of accidental spills by ensuring that ships only navigate in areas that are appropriate for their capabilities, including with an experienced ice navigator in certain cases. It also sets standards that prohibit the operational discharge



of most pollutants
implements a highly

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and



precautionary zero-discharge

regime, with exceptions allowed by regulation.

The Northern Canada Vessel Traffic Services Zone (NORDREG) is a vessel traffic system for ships operating in Canadian waters north of 60°N, as well as in the Hudson Bay, James Bay, Kigmallit Bay and Ungava Bay. The stated objectives of NORDREG are the enhancement of safety and movement of traffic, the strengthening of Canadian sovereignty in Arctic waters and the prevention of pollution of Arctic waters. Although NORDREG was originally implemented in 1977 as a voluntary scheme, as of 2010 compliance is mandatory. All vessels with a gross tonnage of 300 or more, and those vessels involved in towing or pushing operations with a combined gross tonnage of 500 or more, are subject to mandatory reporting under NORDREG. Mandatory reporting also applies to all vessels of any size that carry, tow or push cargoes of pollutants or dangerous goods.

In December 2017, the International Code for Ships Operating in Polar Waters – also known as the Polar Code – was brought into force in Canada through the new Arctic Shipping Safety and Pollution Prevention Regulations, marking the most significant changes to Canada's Arctic shipping regulatory regime in more than 20 years. The regulations incorporate the Polar Code, with the addition of specific Canadian modifications designed to ensure that Canada's Arctic shipping regime continues to rank amongst the safest and most environmentally friendly in the world. In general, the primary objectives of the Arctic Shipping Safety and Pollution Prevention Regulations are to introduce new safety and pollution prevention requirements while ensuring existing levels of safety and pollution prevention are maintained (e.g. complete prohibition of most discharges).

New Approaches and Developments

Canada is also engaged in other shipping-related initiatives that contribute to improve vessel safety and pollution prevention in the Canadian Arctic. Of note, the Oceans Protection Plan, launched in 2016, is the largest investment ever made in Canada's coasts and waterways, and includes actions to protect Canada's Arctic coast, support safe and responsible shipping in Arctic waters, and offer new opportunities for Indigenous and coastal communities. One of such actions is the identification and development of Northern Low-Impact Shipping Corridors.

Northern Low-Impact Shipping Corridors

This initiative seeks to minimize the cumulative impact of marine transportation on Northern ecosystems and communities through the identification and charting of low-impact shipping corridors. The geographic span of the corridors include the three Canadian territories (Yukon, Yellowknife and Nunavut) and the northern portions of three provinces (Manitoba, Quebec and Newfoundland and Labrador).



These corridors will **Protection of the Arctic Marine Environment** be informed by historic, current and projected traffic patterns, local usage, the location of breeding grounds for marine mammals and migratory birds, science and indigenous knowledge, among other factors. Promoting the use of low impact shipping corridors will involve designing navigational products and services to better support mariners and community resupply efforts including improved charting (about 30 percent of the Canadian Arctic is charted and a much smaller proportion to modern standards), increased emergency response services, and marine infrastructure. The availability of these products and services is expected to incentivize the use of the Corridors, which will be voluntary.

Further, the Corridors will be used as framework to guide future investments to support marine navigation safety in Canada's North. Determining location, necessary protective measures, the appropriate mix of navigational services, infrastructure, knowledge and emergency response services required to meet the changing service demands of Northerners and the marine transportation sector is crucial to operationalizing the Corridors.

A novel element in Canada's approach is the establishment of a collaborative governance framework, inclusive of Inuit and other Indigenous partnerships, to manage the Corridors. Partners and stakeholders include territorial, provincial and indigenous governments, private sector, academic and non-governmental organizations. Canada is working with Northern partners to make Arctic marine shipping sustainable by avoiding ecologically sensitive and culturally significant areas, enhancing partnerships with Indigenous peoples and promoting sustainable economic development in the North. Work with partners and stakeholders on the development of a governance framework for the Low-Impact Shipping Corridors is on-going and expected to continue through to 2022.

Other perspectives:

ii. Finland

Overview of existing regime

Finland is party to key international conventions including UNCLOS, SOLAS and MARPOL. The main national legislation governing maritime transport in Finland is the *Act on Transport Services*. Finland is in the process of reforming their legislative and regulatory regime for the transport sector by bringing all



relevant aspects
one legislation. The



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under the



second phase amendments to the

Act on Transport Services entered into force on 1 July 2018. In the first stage, provisions on road transport were brought together, while in the second stage, provisions on air, maritime and rail transport markets and on the qualifications of transport personnel will be included in the Act. Finland also maintains joint ice class regulations with Sweden, “Ice Class Regulations and the Application Thereof (Finnish-Swedish Ice Class regulations 2017).” Provisions on vessel traffic services are laid down in the *Vessel Traffic Service Act 623/2005* and in the *Government Decree on Vessel Traffic Service 763/2005*.

New approaches and developments

Potential Arctic Railway to Arctic Ocean through Norway – The Finish government, in partnership with Norway, is researching and considering investing in an a railway routing to the Arctic Ocean via Oulu, Rovaniemi and Kirkenes. The Arctic railway would improve Finland's logistical position and accessibility as well as promote connections with the whole of Europe. It would be an alternative transport route to be used in Finland's imports and exports. The deep-water ports of the Arctic Ocean that are ice-free throughout the year would also open up a new connection to the Atlantic Ocean and Northeast Passage.

Other perspectives

iii. Iceland

Overview of existing regime

Iceland has ratified most of the Conventions and instruments adopted by the IMO, including SOLAS and MARPOL. National legislation includes *Pollution Act* No. 33/2004, on Marine and Coastal Antipollution Measures; *Maritime Act* No. 34/1985; Act No 41/2003 on the Maritime Traffic Service; and Regulation No. 524/2008 on the Delimitation of Shipping Routes, Areas to be Avoided and Mandatory Reporting of Ships off the Southwest Coast of Iceland.

New approaches and developments

Routeing Measures off South-West Iceland - In November 2007, the IMO’s Maritime Safety Committee adopted a series of routing measures off the South-West Coast of Iceland to reduce the dangers of shipping in the area, which entered into force in July 2008. Iceland proposed these routeing measures to



address safety of
concerns off the



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navigation

Reykjanes Peninsula and

Gardskagi Point and prevent and reduce the risk of pollution or other damage to the marine environment. The measures consist of two Traffic Separation Schemes and two Two-way Routes.

Areas to be Avoided off South-West Iceland - In November 2007, the IMO's Maritime Safety Committee adopted three Areas to be Avoided (ATBAs) off the South, Southwest, and Western Coast of Iceland in order to protect fishing and spawning grounds from the threat of pollution. The ATBAs entered into force in Jul 2008. The eastern most ATBA covers an area from Dyrholaey Lighthouse, around Surtsey Island, to the TSS at Reykjanes Point. The western ATBA surrounds a chain of islets, rocks and banks called Fuglasker, which is demarcated by the inner and outer routes through the Húllid Passage. The third ATBA surrounds the shallows of the Sydra-Hraun Bank, located 8nm off Gardskagi Point.

TRANSREP Ship Reporting System (SRS)- In November 2007, the IMO's Maritime Safety Committee adopted the mandatory TRANSREP Ship Reporting System off of the south-west coast of Iceland in order to contribute to safety of life at sea, safety and efficiency of navigation, and protection of the marine environment as well as to facilitate the movements of vessels and to support oil pollution response operations. The SRS entered into force in May 2008. When entering the demarcated area, ships subject to the SRS are required to make a VHF report to the Icelandic Maritime Traffic Service, located in Reykjavik.

Other perspectives

iv. Kingdom of Denmark

Overview of existing regime

Denmark has ratified key IMO conventions, including UNCLOS, MARPOL and SOLAS. The main domestic legislations relating to the shipping regime include the *Merchant Shipping Act*, the *Act on Safety at Sea and the Marine Protection Act*. The provisions of the Polar Code have been enacted through "Order on Notice B from the Danish Maritime Authority".

There are two mandatory ship reporting systems in Greenland (IMO circular on the GREENPOS/COASTAL CONTROL (IMO SN/Circ. 221 of 29 May 2002)). One is the GREENPOS system monitored by MRCC Groennedal. The second is the KYSTKONTROL (coastal control) system monitored by the Greenland coast radio stations. The GREENPOS system applies to all ships on voyage to and from Greenlandic waters and inside the Greenlandic continental shelf or exclusive economic zone. The ships are to report



their position,
speed and actual



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course,
weather information every 6th

hour. The coastal control system applies to ships engaged in coastal trade between Greenland ports and places of call.

A mandatory Ship Reporting System in the Sound between Denmark and Sweden called SOUNDREP – call sign “Sound Traffic” - has been established. Participation in the SOUNDREP Ship Reporting System is mandatory for all vessels above 300 GT transiting through the SOUNDREP operational area or proceeding to or from ports and anchorages in The Sound.

New approaches and developments

In order to enhance safety of navigation in Greenland waters, the Danish Maritime Authority has engaged in dialogue with the Government of Greenland about the introduction of stricter requirements for passenger ships carrying more than 250 passengers and navigating Greenland waters. ArcticWeb is one of the measures taken by the Danish Maritime Authority to ensure safety of navigation in Arctic regions. ArcticWeb is a web application that collects and presents relevant information to persons who are navigating the waters of Arctic regions, including Greenland waters, such as ice conditions, weather conditions and live access to AIS data. ArcticWeb is operated by the Norwegian Coastal Administration. The Danish Maritime Authority is still partner and data provider.

In cooperation between Denmark and Sweden, new routeing measures for ship traffic in Kattegat and Skagerrak have been developed. The purpose of the proposal is to lead the ship traffic via routes that will guide and separate two-way ship traffic better than is the case today and make navigation more predictable. The routeing measures were approved by IMO IN 2018 and they are expected to enter into force on 1 July 2020, simultaneously with the publication of new editions of charts containing the new routeing systems.

Other perspectives

v. Norway

Overview of existing regime

Norway is party to key conventions, including SOLAS, MARPOL and UNCLOS. The main domestic legislation relating to marine shipping is the *Norwegian Maritime Code* (Act No. 39 of 1994).



From January 1st,
ship reporting

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2016, all



obligations pursuant to the

Harbour Act will become available in one common regulation, the “Regulation on vessels' notification obligations under the *Harbour and Fairways Act*.” The new ship reporting regulation will provide an easier overview of ship reporting obligations and which ship reporting obligations are applicable at any given time. The following ship reporting obligations will be included in the new regulation: Notifications of the Shipping Traffic Systems’ operations in Norway’s Economic Exclusive Zone and Notifications in connection with Barents Ship Reporting Systems’ voyages. Vessel Traffic Service measures are accounted though the “Regulations relating to the use of vessel traffic service areas and use of specific waters (Maritime Traffic Regulations)”.

New approaches and developments

Barents Area Ship Reporting System (Norway and Russian Federation) - In November 2012, the IMO’s Maritime Safety Committee adopted the mandatory Barents Area Ship Reporting System (SRS). The SRS entered into force in June of 2013. Norway and Russia proposed the mandatory SRS for the protection of the marine environment, and to facilitate information exchange for search and rescue (SAR) purposes. It is the first IMO approved SRS where all of the reporting requirements can be accomplished by non-verbal means.

Prior to or when entering or departing the SRS operational area, applicable ships—which are those ships 5,000 gross tonnage (GT) and above; all tankers; all ships carrying hazardous cargoes; a vessel towing when the length of the tow exceeds 200 meters; and any ship not under command, restricted in their ability to manoeuvre or having defective navigational aids—must submit a report to the Vardø Vessel Traffic Service (VTS) center or the Murmansk VTS center identifying, among others, the ships name, course, speed, destination, maximum present draught, and class and quantity of hazardous cargo. In turn, these ships may request information from either VTS center about positioning, weather forecast, navigational warnings and other hazards in the ship reporting area. The VTS center can also recommend suitable anchorages or other places of refuge within the operational area.

Routeing Measures from Vardø to Røst - In August of 2006, the IMO’s Maritime Safety Committee adopted eight new Traffic Separation Schemes (TSSs) and seven recommended routes connecting the TSSs between Vardø and Røst. The measures, which entered into force in February 2007, were proposed by Norway in order to establish a safe route for sea transport in the region, in particular for the transport of oil from the increased petroleum activity in the Barents region. The measures apply to tankers of all size, including gas and chemical tankers, and ships transporting cargo in excess of 5,000 GT. Ships in transit or on international voyages to or from Norwegian ports are required to travel within the defined limits of the TSSs and will be monitored from the Vardø VTS. The routeing measures reduce both the probability of accidents and the consequences of possible accidents.

Other perspectives



vi. Russian Federation

Overview of existing regime

Many international conventions and instruments are in force, including UNCLOS, SOLAS, & MARPOL. The main legislation governing shipping in the Russian Federation is the *Merchant Shipping Code of the Russian Federation* No. 81-FZ (1999). There are also numerous internal legislative acts regulating pollution and maritime pollution. The starting point is the *Federal Law on the Protection of the Environment*, as well as other federal laws followed by government decrees and regulations enacted by the Russian administrative bodies, such as the Ministry of Transport and the Ministry of Natural Resources and Ecology.

Northern Sea Route - On March 15 2013 the government issued an order to establish the Administration of the Northern Sea Route. The creation of this state institution was one of the measures indicated in the recent Federal Law 132-FZ, which entered into force in January 2013 and provides the foundation for the new regulation of issues relating to the Northern Sea Route. It provides that navigation in this route will include safety requirements and rules for navigation, icebreaker escort, ice pilotage and radio communications. General organisation and supervision of navigation of the route will be undertaken by the Administration of the Northern Sea Route

The sea route, which is also known outside Russia as the Northeastern Passage, runs along Russia's Arctic coast and mainly traverses Russia's territorial sea and exclusive economic zone. For almost the whole of its length, the sea route lies beyond the Arctic Circle and is covered with ice for most of the year, but it is nonetheless extensively used for the transport of cargo to the northern parts of Russia (many of these areas being unreachable by land). Over the past few years, international interest in the sea route has increased, since it provides a significantly shorter transit route between the ports of Western Europe and Asia than the route through the Suez Canal.

Barents Area Ship Reporting System (Norway and Russian Federation) - In November 2012, the IMO's Maritime Safety Committee adopted the mandatory Barents Area Ship Reporting System (SRS). The SRS entered into force in June of 2013. Norway and Russia proposed the mandatory SRS for the protection of the marine environment, and to facilitate information exchange for search and rescue (SAR) purposes. It is the first IMO approved SRS where all of the reporting requirements can be accomplished by non-verbal means. This SRS is discussed in further detail under the section dealing with Norway.

New approaches and developments



The IMO approved a proposal by the



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joint



United States and Russia to

establish two-way shipping lanes across the Bering Sea and into the Arctic Ocean. The newly adopted measure, which came into effect on Dec 1 2018, specifies six two-way routes and six areas of precaution that aim to improve safety of navigation, reduce the risk of incidents and collisions, and protect the marine environment as well as local fishing activities. The six two-way routes and six precautionary areas will be voluntary for or all ships of 400 gross tonnage and above, in the Bering Sea and Bering Strait off the coast of the Chukotskiy Peninsula and Alaska. These waters are expected to see increased traffic due to rising economic activity in the Arctic.

Future Amendments to the Ice-Class Requirements for the Northern Sea Route - On November 2, 2018, the Russian Transport Ministry announced that it plans to undertake a revision of shipping regulations in Arctic waters. In a new normative act, the ministry calls for the introduction of new zones with lower ice-class requirements. Currently, the Arctic sea route is divided into seven parts with different ice-class requirements. The new regulations will diversify those areas.



Other perspectives



Vii. Sweden

Overview of existing regime

Sweden is party to UNCLOS, SOLAS and MARPOL. Domestic legislation includes the *Maritime Code* (MC 1994:1009), the *Vessel Safety Act* (2003:364) and Ordinance (2003:438), the *Act on Measures against Pollution from Vessels (Water Pollution Act)* (1980:424). There is also an ordinance and regulations for winter navigation in place, which jointly ensure the efficiency of Swedish merchant shipping and to reduce its total costs in wintertime without lowering the standard of service.

New approaches and developments

In cooperation between Denmark and Sweden, new routeing measures for ship traffic in Kattegat and Skagerrak have been developed. The purpose of the proposal is to lead the ship traffic via routes that will guide and separate two-way ship traffic better than is the case today and make navigation more predictable. The routeing measures were approved by the IMO in 2018. They are planned to enter into force on 1 July 2020 simultaneously with the publication of new editions of charts containing the new routeing systems.

Other perspectives

viii. United States

Overview of existing regime

The U.S. is not a party to UNCLOS, but recognizes much of the convention as reflecting customary international law and therefore applies those provisions relating to the maritime zones.



The United States implements its



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obligations under MARPOL

through domestic law. The U.S. is party to MARPOL Annexes I, II, III, V and VI. The *Act to Prevent Pollution from Ships (APPS)*, as amended by the Maritime Pollution Prevention Act of 2008, incorporates Annexes I, II, V and VI into U.S. law while the *Hazardous Material Transportation Act (HMTA)* incorporates Annex III. The U.S. is not a party to Annex IV. Although the U.S. has not ratified Annex IV, the U.S. has equivalent regulations for the treatment and discharge standards of shipboard sewage – the *Federal Water Pollution Control Act (FWPCA)* as amended by the *Clean Water Act*.

The U.S. is a party to the SOLAS Convention. As the U.S. enforcement agency for SOLAS 1974, the Coast Guard has the authority and responsibility to ensure that U.S. ships and foreign ships visiting U.S. ports comply with the treaty and its amendments – which are reflected in U.S. laws and regulations, notably the U.S. Shipping Act and the Merchant Marine Act of 1920 / Jones Act.

New approaches and developments

Routeing Measure in the Bering Sea and Bering Strait – The IMO approved a joint proposal by the United States and Russia to establish a new routeing measure across the Bering Sea and the Bering Strait, off the coast of the Chukotskiy Peninsula and Alaska. These waters are expected to see increased traffic due to rising economic activity in the Arctic. The newly adopted measure, which came into effect on Dec 1 2018, specifies six two-way routes and six areas of precaution and aims to improve safety of navigation, reduce the risk of incidents and collisions, and to protect the marine environment as well as local fishing activities. The six two-way routes and six precautionary areas are voluntary for or all ships of 400 gross tonnage and above.

In 2016, the United States and Canada committed to working together to establish consistent policies for ships operating in the region. In the same year, both countries launched the first processes ever to identify sustainable shipping lanes throughout their connected Arctic waters, in collaboration with Northern and Indigenous partners. With this objective, the U.S. Coast Guard has conducted a Port Access Route Study (PARS) in the Beaufort and Chukchi Seas. Results from this analysis may be used to establish vessel routing measures including Traffic Separation Schemes, Recommended Routes, Areas To Be Avoided.

Other perspectives



5. Best practices

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6. Conclusion and recommendations for potential future coordination

7. Maps

