



Marine protection in the Arctic cannot wait

Global economics, not declining sea ice, is driving ships to the Arctic Ocean. Only international regulation will protect the region, says **Lawson Brigham**.

Most people know that profound change is happening in the Arctic Ocean. Most people would say that this is because the sea ice there is in retreat. But most people would be wrong. Changes in ice cover are only part of a story that is, in fact, driven largely by economics and geopolitics. Despite the headlines, policy-makers, planners and regulators need to look beyond the disappearing ice and understand the economic drivers to grasp the urgent need for maritime regulations to address the booming development of the region.

It is true, of course, that Arctic sea ice is in decline. In the summer of 1994, I was part of a historic scientific crossing of the Arctic Ocean, from the Bering Strait to the North Pole and out the other side through the Fram Strait. Sailing in company, the icebreakers *Polar Sea* and *Louis S. St-Laurent* encountered nearly 2,000 nautical miles of continuous sea ice. I remember, because *Polar Sea*, of which I was captain, observed, sampled and broke through much of it. A similar expedition this summer would probably have seen ice for only half that distance — and much of it would have been thinner.

It is also true that retreating ice provides greater access throughout the Arctic Ocean. This has led to speculation about quicker trade routes across the entire maritime Arctic. But what tends to be overlooked in these discussions about trans-Arctic navigation is that traffic is already increasing in the north, driven by marine tourism and the development of natural resources.

This reality must be understood because it makes the issue of how to improve protection of Arctic people and the environment a question not for the future, but for now.

The Arctic is connecting to the global economy, so development there is being driven by global commodity prices. Already we see summertime shipping from the world's largest zinc mine (Red Dog), off the northwest coast of Alaska; in northwest Russia icebreaking container ships navigate year-round to near the world's largest nickel mine in Norilsk; icebreaking shuttle tankers ply offshore facilities in the Pechora Sea; and summer oil drilling off western Greenland brings drill ships and a support fleet. The past two summers have seen large tankers and bulk carriers sailing across the Russian maritime Arctic to investigate how to carry natural resources from Russia and northern Norway to China. Also, a fleet of icebreaking ships is planned to take high-grade iron from a mine on Canada's Baffin Island to steel producers in Europe. And more and more tourists are visiting the region aboard cruise ships, especially along Greenland's west coast.



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The rise in ship traffic has the potential to increase pollution in the region and heightens the risk of spills. We therefore need to develop effective international rules and regulations to enhance marine safety and protect the environment.

In December 2009, the International Maritime Organization (IMO), the United Nations agency responsible for the safety and security of shipping and the prevention of pollution by ships, developed voluntary guidelines for ships operating in polar waters that recognize the unique challenges of the region. Temperatures there are low and weather conditions poor. There is also a lack of adequate charts and other navigation and communication services, and the waters are remote from search and rescue, salvage and other maritime infrastructure found at lower latitudes. Sea ice also presents specific stresses on ship hulls and systems.

The IMO must make such standards mandatory. Indeed, that was the conclusion of Arctic Council's *Arctic Marine Shipping Assessment Report 2009*. The council — an inter-governmental forum of the eight states with territory in the Arctic — called for structural standards for ships sailing to the Arctic, the carriage of adequate marine safety equipment and enhanced training for ice navigators. Arctic ministers accepted these recommendations and the Arctic states, led by Norway, are working with the IMO to make them mandatory. A binding set of standards is due to be introduced by 2013. Even then, however, the lack of infrastructure will continue to undermine safe and efficient Arctic shipping. We need more public

and commercial investments, and new public-private ventures, to rapidly develop this crucial safety net for the region.

Loss of sea ice potentially allows longer seasons for scientific research, commercial operations and even adventurers. And the possibility of a brief, ice-free period in summer throughout the Arctic Ocean, which some researchers expect to happen within two decades, will be a remarkable physical change. Most climate models show that despite the warming, the Arctic Ocean will be fully or partially ice-covered for a good part of the year. Thus, all ships are likely to encounter sea ice.

If the maritime Arctic is to be developed safely, then greater attention to detail is needed. International cooperation, better science and knowledge of the local environment and investment in key infrastructure will be essential. ■

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