Increase in Arctic shipping poses risk to marine mammals

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An increase in shipping in the formerly ice-choked waterways of the Arctic poses a growing potential concern to the region's bowhead whale populations and other marine mammal species. With the assistance of the Wildlife Conservation Society and other partners, an assemblage of Alaska Native groups met in Anchorage, Alaska, March 14-16 to examine both the issue and possible solutions. Credit: Laura Morse, NOAA/NMFS/AFSC/NMML: Taken under Permit #782-1719.

A rapid increase in shipping in the formerly ice-choked waterways of the Arctic poses a significant increase in risk to the region's marine mammals and the local communities that rely on them for food security and cultural identity, according to an Alaska Native groups and the Wildlife Conservation Society who convened at a recent workshop.

The workshop—which ran from March 12-14—examined the potential

impacts to the region's wildlife and highlighted priorities for future management of shipping in the region. The meeting included participants from the Alaska Eskimo Whaling Commission, Eskimo Walrus Commission, Alaska Beluga Whale Committee, Ice Seal Committee, Indigenous People's Council for Marine Mammals, and the Inuit Circumpolar Council. Other participants included the University of Alaska, government agencies such as the U.S. Coast Guard, Arctic Research Commission, and the Marine Mammal Commission, and regional Alaska Native groups such as Kawerak Inc., North Slope Borough, Northwest Alaska Borough, and Association of Village Council Presidents.

At issue is the effect of climate change on Arctic waters, which over the last few decades have become increasingly ice-free during the summer and fall. The lengthening of the open-water season has led to new industrial developments, including oil and gas activities and a rising number of large maritime vessels transiting either the Northern Sea Route over the Russian Arctic from Europe, or the Northwest Passage through the Canadian Arctic from the Atlantic. Whichever route is being used, the only gateway to the Pacific is through the Bering Strait—an important migratory pathway for marine mammals. In spring and fall for example, almost the entire bowhead whale and walrus populations migrate through this narrow strait.

Workshop participants gathered to discuss the impact of more shipping traffic in both international and national waters between Alaska and Russia on marine mammals, including the bowhead whale, beluga whale, walrus, several seal species, and polar bear.

In the past, multi-year sea ice in the Arctic basin that extended to both the Canadian and Russian Federation coastlines had been a serious obstacle for large ships.

"The disappearance of summer sea ice from the region's coastal areas is leading to major changes in this part of the world," said Dr. Martin Robards, Director of WCS's Beringia Program and one of the event's organizers. "The presence of large ocean-going vessels is expected to increase as the region becomes more attractive to both international shipping and extractive industries seeking minerals, oil, and gas. The northern sea route is 30 percent shorter than the comparable route linking northern Europe to Asia via the Suez Canal, which only supports the conclusion that the Bering Strait is likely to get busier. We need to ensure that the mutual interests shared by Alaska Natives and the conservation community for the health and safety of marine mammals are included in the protection of the region's natural resources."

A number of studies have raised significant concerns about the impacts from shipping and resource extraction on large whales. The North Atlantic right whale, a close relative of the bowhead whale, occurs in heavily industrialized waters of the East Coast of North America. Estimated to number only between 400-450 individuals, the North Atlantic right whale is threatened by mortalities from vessel strikes and entanglement in fishing gear. Based on scientific insights that reflected the needs of these whales, new speed restrictions, navigational alternatives, and vessel tracking systems in areas of importance to North Atlantic right whales were successfully implemented in Canadian and U.S. waters, minimizing the possibility of large vessels striking whales. Similar accommodations—particularly in funnel areas such as the Bering Strait—will become essential as vessel traffic increases, if strikes and other impacts to bowhead whales are to be minimized.

Apart from the risk of ship strikes, large vessels also emit low-frequency noises that can disrupt important behavioral functions for whales and potentially impair their ability to communicate and navigate. Degradation of the acoustic habitat can have consequences not only for whales, but also for other marine mammals such as walrus, and even

fish.

"There is mounting evidence that human-generated sounds in the marine environment have negative effects on marine life," said Dr. Howard Rosenbaum, Director of The Wildlife Conservation Society's Ocean Giants Program. "An increase in background noise from increased shipping, coupled with increases in underwater noise from industrial activities and other potential stressors, is of great concern for the Arctic's marine species and their important habitats."

Another threat to bowheads and other Arctic denizens: an oil spill in a region with little or no capacity for containment.

"The lack of international response capability to a spill in these waters is a serious concern in light of the increased interest in oil and gas exploration, or the rise in transportation of petroleum products by tankers through the Arctic," added Robards. "A comprehensive approach is clearly needed to prepare for a potential environmental disaster in a region where marine mammals transit both national and international waters."

Outcomes from the workshop will help inform both future research on the effects of development on fragile Arctic ecosystems and support Alaska natives as they seek to actively protect the health and safety of the marine mammal populations they rely on. This will help engage local communities and their representatives with the regulatory decisions being made by the U.S. Coast Guard, the U.S. and Russian Governments, and the International Maritime Organization.

"The involvement of local communities in this process is crucial for both the cultural integrity and the conservation of the Arctic," said Dr. Caleb McClennen, Director of the Wildlife Conservation Society's Marine Conservation Program. "This workshop will ensure that Alaska's Native

organizations have a seat at the table for the key decisions on the future of this biologically diverse region."

Provided by Wildlife Conservation Society