

Workshop Report

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April 2013

The authors would like to thank the following individuals for their valuable contributions and assistance: Katie Wagner, Doané Herr, Craig Beatty, all the workshop attendees and report reviewers.

IUCN, NRDC and UAF would like to thank the J.M. Kaplan Fund, the John D. and Catherine T. MacArthur Foundation and the Oak Foundation for their generous support for this project.

Photo credit: U.S. Coast Guard The Coast Guard Cutter Healy, right, approaches the Russian tanker Renda while breaking ice around the vessel in the Bering Sea on January 10, 2012.

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1. Introduction

Warming ocean temperature and the dramatic loss of ice cover is opening Arctic waters to new and expanded shipping, fishing, research, offshore oil development, tourism, and other economic activities. Trans-Arctic shipping voyages will likely grow substantially in number as summer sea ice continues to retreat. All trans-Arctic and much destination shipping will necessarily transit the Bering Strait, a 53 mile wide passage which provides the only connection between the Pacific and Arctic Oceans. The region is defined legally as an international strait bordered by the United States and Russia, and ringed by numerous small communities and indigenous populations. The region is also physically and biologically dynamic as sea ice conditions of all types are found seasonally within this natural bottleneck.

The growth in Arctic marine operations is due in large part to natural resource development within the region and greater economic ties of the Arctic to the global economy. Bering Strait transit increased from 245 in 2008 to 325 in 2012. Ships include tankers, cargo ships, container ships, tugs, offshore supply vessels, landing craft, fishing vessels, passenger vessels, offshore drill ships, oil spill response vessels, and cruise ships of various sizes. While vessel activity is light compared to other regions of the world, the capacity to provide aid and support for these vessels is extremely limited. For example, only 7-8% of the Arctic Ocean has been charted to international navigation standards. There are limited aids to navigation and Automatic Identification System (AIS) coverage. Arctic waters lack deep water ports or refuge for large ships and real-time weather and ice flow forecasts are limited. For the U.S. Arctic, the nearest Coast Guard facilities are Kodiak and Dutch Harbors, 800nm and 1000nm, respectively, from the Arctic Circle. While sea ice loss is accelerating during summer months due to warmer global temperatures, the regional weather includes dense fog, extreme cold, severe storms and unpredictable ice flows. This is evidenced by the challenge faced with respect to the January 2012 delivery of fuel to Nome, AK. More recently, the tug Aiviq lost the Arctic class drilling unit, the Kulluk, in December 2012 which later ran aground by violent weather on the southeast shoreline of Sitkalidak Island carrying approximately 143,000 gallons of diesel and 12,000 gallons of other oil products. Dkt-12-5(il)3(-)-12(p)3(r)12(o)-It on w

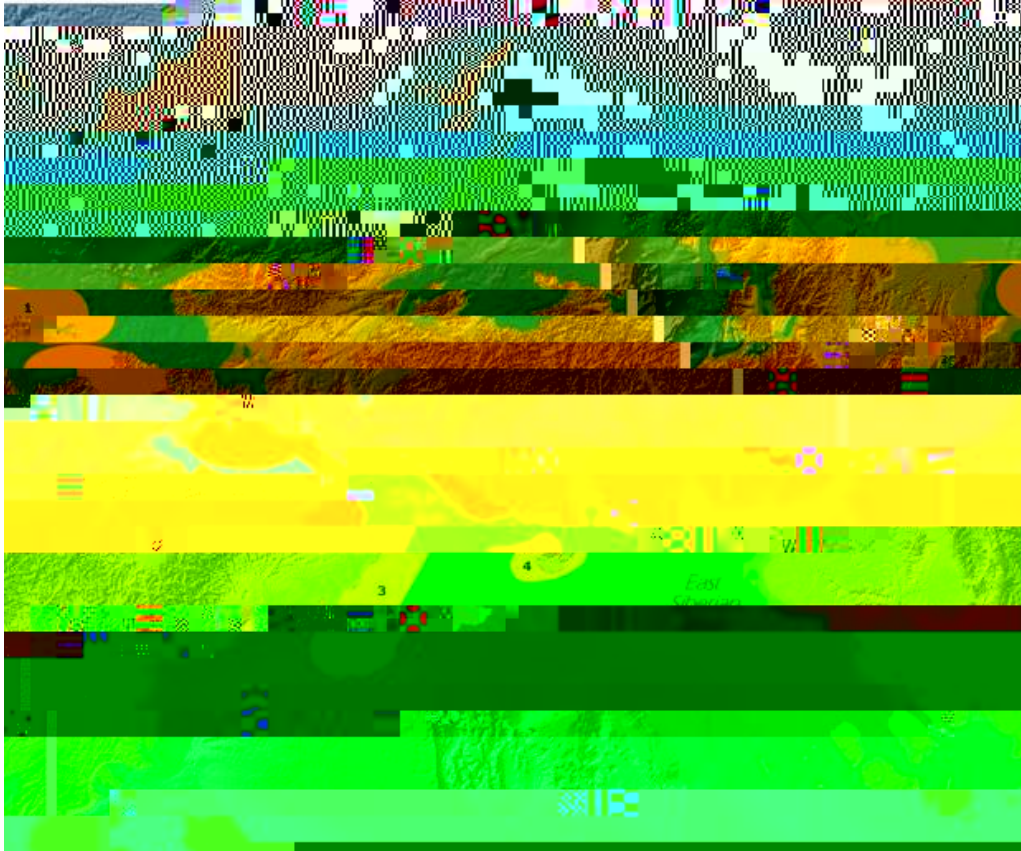


Figure 1. A depiction of (1) the Beaufort Coast, 2) Wrangel Island (IUCN/NRDC Workshop, 2010).

The project involves two workshops. The first workshop, held 26-28 June 2012 in Nome, Alaska, with 35 local, governmental, scientific, indigenous and environmental experts focused on identifying a range of potential measures to manage and protect important areas. These measures, presented in a report were grouped in four broad categories, 1) Communications, 2) Tools for Area Protection, 3) U.S./Russia bilateral opportunities, and 4) The polar code for ships being developed by the International Maritime Organization (IMO).

Building off the first meeting, the second workshop, hosted in Washington, DC, on 31 October-2 November focused on possible means of implementing the measures identified. The meeting agenda and list of attendees are attached as annexes to this report. Views expressed at the workshop were not for attribution. This report reflects a meeting summary prepared by IUCN/NRDC/UAF. Although workshop attendees had the opportunity to review and comment on a draft report, the final report does not necessarily reflect the views of individuals who attended the workshop.

² Nome workshop report 2012: http://www.iucn.org/about/work/programmes/marine/marine_resources/?11649/nomereport
 Identify Several Viable Options for the Protection of Ecologically and Biologically Significant Areas (EBSA) for the
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Pacific walrus and breeding and feeding habitat for extensive seabird colonies including thick-billed and common murre, black-legged kittiwake, horned puffin and black guillemots.

Wrangel Island is one of the three most important biological areas of Russian Beringia. It was established as a Regional Wildlife Reserve in 1960 and as a Republic Wildlife Reserve in 1968. In 1976, the island was designated as a State Structure Reserve (Zapovednik).

Twelve nautical miles of the marine area around the island were included in the Wrangel Island State Nature Reserve in 1997, adding 1.4 million hectares to the Reserve. This was supplemented in 1999 with the addition of a 24 nautical mile buffer zone. In 2004, the area (without the buffer zone) was designated as a World Heritage Site. In 2009, the buffer zone was abolished by the regional government, but was recently established in December 2012 (see Box 1).

2.2 Subsistence Use of the Bering Strait Region

The regional indigenous culture and its subsistence hunting and fishing traditions continue to be vibrant today. The ocean waters in the Bering Strait region are some of the most biologically productive waters in the world. Fish, seals, walrus and whales are key components of indigenous diets, as they have been for over 1000 years. The presence of these animals is dependent on the rich primary productivity associated with sea ice and the confluence of major oceanographic fronts through the Bering Strait. In spring, hunters may have to go long distances (up to 50 nautical miles from shore) in small boats to find prey. Certain key areas, such as marine mammal haul out areas, ice edges, nutrient upwellings and coastal wetlands and surrounding waters support healthy populations of fish, birds and marine mammals. The spring subsistence harvest is key to the survival of indigenous communities in the area. During this period, both hunters and passing ships are likely to use the same open water areas. An increase in shipping activity has the potential to negatively impact the natural environment. The noise and speed of boats can drive off animals and compromise the safety of hunters in small boats. In addition, marine pollution has negative effects on human, animal and ecosystem health.

Critical to developing mitigation measures for Arctic marine traffic is having a spatial and temporal understanding of the patterns of indigenous marine use. The Bering Sea Sub Network (BSSN), National Science Foundation funded project gathering local observations on the environment and subsistence harvest in coastal Russian and U.S. communities around the Bering Sea, utilizes the density mapping method to develop spatial data of subsistence areas. These maps show aggregated data by species and season. They can be correlated with other types of data, such as ice extent. (More workshop report, 2012).

In addition to the BSSN, Kawerak Inc. is conducting a major study to prepare maps showing seasonally defined habitat and subsistence use areas for seals and walrus on the U.S. side of the Bering Strait. The study involves collaboration with nine federally recognized tribes. Examples of these seasonal maps (Figure 2) are given here and, when finalized, may help inform decisions on appropriate protective measures.

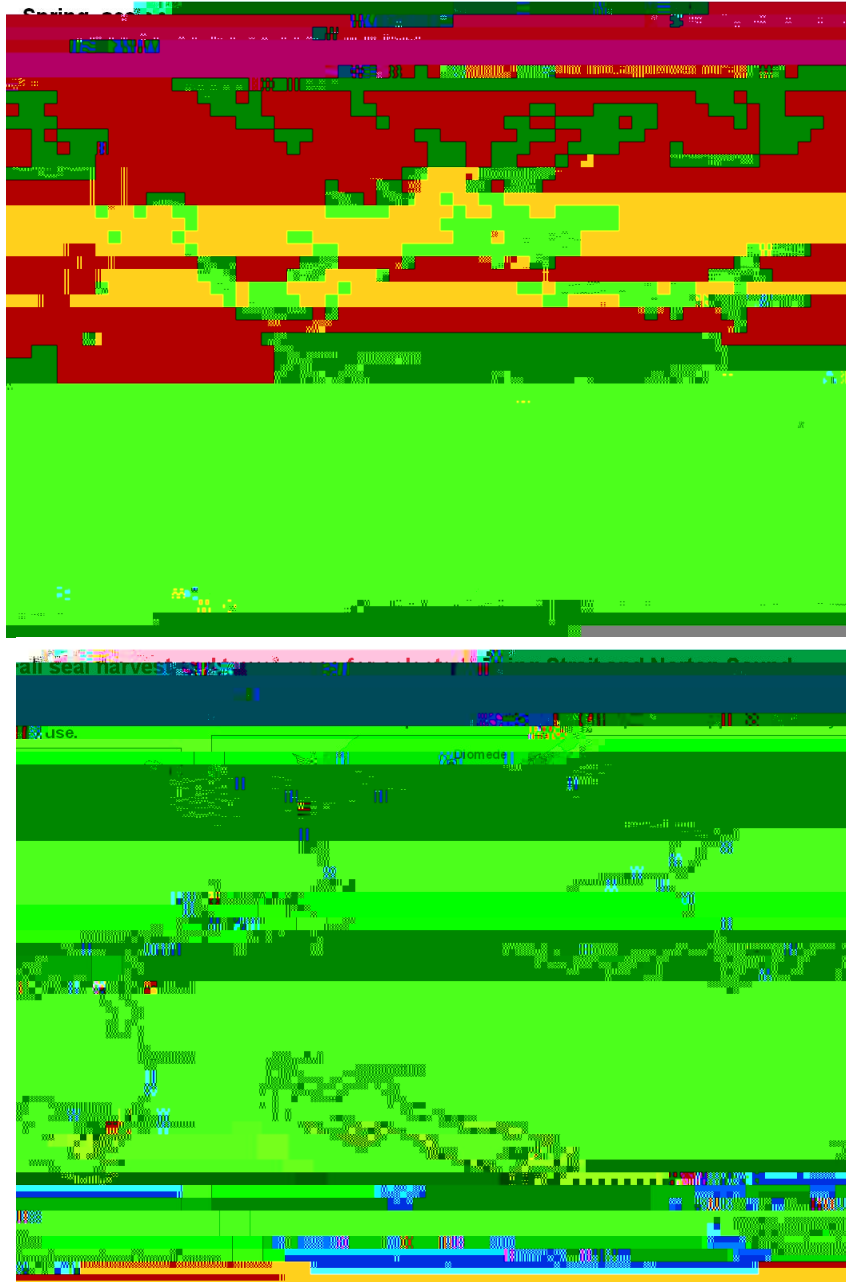


Figure 2. Seasonal seal and walrus harvest for 9 of 20 tribes on the Bering Strait region. Fall seal hunting generally occurs near shore, where seals are killed in large numbers (Kawerak, 2012).

2.3 Shipping in the Bering Strait Region

Arctic marine shipping has been the focus of considerable attention and study in recent years. The most comprehensive study to date is the Arctic Marine Shipping Assessment of 2009, prepared under the auspices of the Arctic Council and its Protection of Arctic Marine Environment (PAME) working group. The report makes seventeen recommendations, three of which are of particular importance: 1) Recommendation II A, calling for a survey of Arctic indigenous marine use; 2) Recommendation II C,

calling for identification of areas of heightened ecological and cultural significance and 3) Recommendation II D, asking Arctic States to explore the need for internationally designated areas for the purpose of environmental protection of the Arctic Ocean.

During 2012, a recent record 49 commercial ships transited the Northern Sea Route (NSR) (Figure 3) between northern Europe, western Siberia and Asia, a 10-fold increase from two years ago. Over 1 million tons of cargo, primarily petroleum products, iron ore, and coal were transported through the route, a 50 percent increase from 2011. The Arctic Institute Center for Circumpolar Security Studies (CCSS) also reported that shipping volume soared more than 75% above 2011 tonnage, about 1.5 million tons. In addition, last year marked the first time that a liquefied natural gas (LNG) carrier, Ob River owned by Gazprom Group, successfully completed NSR, opening up the future for Russian LNG to supply Asian and European markets.

Figure 3. TransArctic shipping routes (AMSA, 2009).

Over the course of this study the Russian State Duma adopted a Law on the NSR in July 2012 and entered into force January 2013. The Russian Federation also established a Northern Sea Route Administration under the Ministry of Transport. Ships transiting the Arctic Ocean through either the



Figure 4: Arctic marine activity tracked by Automatic Identification System (AIS) in 2012 (Source: Marine Exchange of Alaska)

The impacts of increased shipping activity on marine ecosystems and the people who depend on them for subsistence as well as cultural and spiritual well-being has been a cause of concern. Increased ship traffic carries with it associated risks of collisions, noise and disturbance impacts, oil, exotic and invasive species introductions, polluting discharges and other effects (see some workshop report 2012 for further discussion).

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3. Workshop Outcomes

As marine mammals migrate, subsistence hunters travel, and patterns of sea ice change, identification of vulnerable areas is essential. Workshop attendees focused the discussion on how to best acquire and disseminate information on the location of ships, hunters, hazards, and mammals. Because of the multiple users of the marine environment, timely and effective communication is paramount between governments, vessels, and hunters. The participants identified three areas to advance improved management in this region:

1. Voluntary Measures for Shippers;
2. Communications Infrastructure; and
3. International cooperation.

There was common agreement that each of these areas requires increased cooperation among the Arctic states, in particular between U.S., Russia and Canada at the federal level. At the regional level, it

was noted that representatives from the State of Alaska and the Chukotka Autonomous District have cooperated in the past and that dialogue should continue between governments on marine activities in this region. Representatives from the Global Environment Facility (GEF) at the meeting also expressed that the GEF-Russian Federation Partnership on Sustainable Environmental Management in the Arctic

- Ship routing
- Ship speed
- Ship reporting with respect to location of hazards such as sea ice.

The Arctic community has significant information about Arctic ship traffic, indigenous marine use, animal migratory patterns and the location of ecologically/biological significant areas. With advanced spatial and temporal information on indigenous marine use and migratory patterns, a process to integrate this information could begin examining the interactions of these components in the Arctic marine environment.

In addition to federal agencies in the U.S., Russia, and Canada, as well as the indigenous populations, workshop participants identified other stakeholders that might have an interest in this information.

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Identifying how voluntary measures will be communicated to shippers and other stakeholder groups.

How the region might effectively monitor compliance.

How measures might evolve as the environment changes and ship traffic increases.

Each of these requires advances in communications infrastructure throughout this region.

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equipment can provide information to vessels and shore based communications stations on both sides of the Bering Strait (U.S. and Russia) to aid the prevention of maritime accidents, pollution incidents,

b. Coast Pilot for the Bering Strait Region

One of the greatest challenges is how to disseminate more detailed environmental, geographic and marine use information into the pilot houses of the international and U.S. ships that are navigating in this sensitive and complex region. Timely information would enhance marine safety, improve marine environmental protection and mitigate the interactions between ships and indigenous users and marine life. The U.S. Coast Pilot provides a variety of information important to navigators that may not be included on nautical charts. However, the chapters that address the Bering Strait region currently lack information on the presence of subsistence hunters and marine mammals.

Select information for a Coast Pilot of the Bering Strait region could include:

- Seasonal routes and areas of concentration of marine mammals and seabirds;
- Regional sea ice conditions and other unique oceanographic and meteorological conditions;
- Regional indigenous/traditional marine use on a seasonal basis (with highlighted regions of significant hunting and fishing activities by coastal communities);
- Seasonal ship traffic in the BSR;
- Locations of coastal communities and the areas of their hunting and fishing;
- Voluntary measures or marine routes when

3.3 International Cooperation

a. Bilateral efforts

It was stressed that the numerous reports that have been generated for this region provide a foundation of information to easily proceed with a preliminary risk assessment.

b. Multilateral efforts

IMO Polar Shipping Code

Several of the Arctic states have taken the lead at the International Maritime Organization to develop a man

Convention on Biological Diversity

Workshop participants discussed how Arctic shipping activities relate to the Convention on Biological Diversity. It was noted that Article 8(j) in the convention is relevant to the Bering Strait region as it considers ~~the~~ contracting Party shall respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of benefits arising from the utilization of genetic resources. It was noted that Russia and Canada are parties to CBD, the United States is not.

Annexes

Annex 1 List of persons that attended all or part of the workshop

Agarkova	Elena	World Wildlife Fund US
Arnaudo	Ray	Office of the Secretary (Policy Planning), U.S. State Department
Aubrey	David	Woods Hole Group
Bergmann	Trisha	International Affairs Specialist, Office of International Affairs, NOAA
Boda	LCDR Ken	Strategy Analyst, United States Coast Guard
Brigham	Lawson	Professor of Geography & Arctic Policy, UAF
Cohen	Harlan	Advisor, Ocean Governance and International Institutions, IUCN
Daniel	Raychelle	Senior Associate, PEW Environment Group
Duda	Al	Global Environment Facility secretariat
Farrell	John	Executive Director, U.S. Arctic Research Commission
Fraser	Drummond	Chief of Regulations, Compliance and Licensing, Transport Canada
Gibbons	LT Andrew	United States Coast Guard
Gofman	Victoria	Collaborative Research & Consulting
Gourley	Julie	Office of Ocean and Polar Affairs, U.S. State Department
Herr	Dorothee	Marine Research Associate, IUCN
Huffines	Eleanor	

Robinson	LCDR Brian	U.S. Coast Guard liaison to the U.S. State Department OES/OPA
Rodionov	Sergey	Head of Division for Central Marine Research and Design Institute, St Petersburg
Rosa	Cheryl	Deputy Director, U.S. Arctic Research Commission
Speer	Lisa	Director, International Ocean Program, Natural Resources Defense Council
Stishov	Mikhail	Arctic Biodiversity Coordinator, WWF Russia
Wagner	Katie	Marine Research Associate, IUCN
Williams	Margaret	Managing Director, U.S. Arctic, World Wildlife Fund US
Zdor	Eduard	Executive Secretary of Chukotka Association of Traditional Marine Mammal Hunters

Annex 2

Expanding Shipping and the Ecology of the Bering Strait Region
Workshop II Agenda

Wednesday - October 31

- 1:00 Opening remarks and review of outcomes of Nome workshop
Tom Laughlin (IUCN)
Lawson Brigham (UAF)
Lisa Speer (NRDC)
- 1:15 Update on the Polar Code and PARS Process
Trisha Bergmann (NOAA)
LCDR Brian Robinson (USCG)
- Discussion
- 1:45 Recent progress U.S. Coast Guard
LCDR Ken Boda (US

Panel:

