UNITED STATES COAST GUARD

ARCTIC STRATEGY

MAY 2013

WASHINGTON, D.C.

THE U.S. COAST GUARD'S VISION FOR OPERATING IN THE ARCTIC REGION:

"Ensure safe, secure, and environmentally responsible maritime activity in the Arctic."

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THE COMMANDANT
OF THE UNITED STATES COAST GUARD

The U.S. Coast Guard's value to the nation resides in our proven ability to protect those on the sea, protect the United States from threats delivered by sea and protect the sea itself. Our unique authorities, capabilities, competencies and partnerships as a military, law enforcement, regulatory and humanitarian Service are central to that value proposition. We are recognized worldwide for our ability to execute these diverse maritime missions over vast geographic areas and under the most challenging and demanding conditions.

As we prepare for the future, the emerging maritime frontier of the Arctic is significantly expanding our operating area. Last September we observed the lowest sea ice extent in recorded history, and there are vast areas of open water where there used to be ice. Activity in the most remote reaches of Alaska continues to evolve and grow, including planned drilling operations in the Chukchi and Beaufort Seas, foreign tankers using the northern sea routes which transit through the Bering Strait and Sea, and small cruise ships pressing even further into the Arctic. As the receding ice invites increased human activity in commercial and private ventures, there is increasing demand for the Coast Guard to ensure the safety, security and stewardship of the nation's Arctic waters.

We must think and act strategically.

I am pleased to introduce the U.S. Coast Guard Arctic Strategy to guide our efforts in the region over the next 10 years. This strategy is based on nearly 150 years of Coast Guard experience in maritime operations in the Arctic region, since the U.S. Revenue Cutter Lincoln first arrived in the new U.S. territory of Alaska in 1867.

The U.S. Coast Guard Arctic Strategy documents our intent to pursue three key objectives: Improving Awareness, Modernizing Governance, and Broadening Partnerships.

Beyond these objectives, we will continue to build upon our Service's long heritage of leadership in the Arctic, working with Federal, state, local, and territorial partners to ensure maritime governance in the region.

Semper Paratus. Stand a taut watch.

R. J. PAPP, JR.
Admiral, U.S. Coast Guard

THE ARCTIC REGION

The Arctic Region is all United States and foreign territory north of the Arctic Circle and all United States territory north and west of the boundary formed by the Porcupine, Yukon and Kuskokwim Rivers; all contiguous seas and straits north of and adjacent to the Arctic Circle, including the Arctic Ocean; the Bering, Chukchi, Beaufort, Greenland, Norwegian, Barents, Karak, Laptev, Lincoln, Wandel and East Siberian seas; the Bering, Davis, Fram and Denmark straits; the Canadian archipelago and Baffin Bay; and the Aleutian islands chain.

Shipping & Transit

118 Percent Increase in Maritime Transit

through the Bering Strait from 2008 to 2012

1 Million Adventure Tourists

may visit the region in 2013

1 Million Tons

of cargo were trans-shipped in 2012

Climate Change

4.57 Million Square Miles

of Arctic sea ice melted between March and September 2012

2x the Warming Rate

Alaska has warmed more than twice as rapidly as the rest of the U.S. in the last 60 years

40 Percent Smaller

The Polar Ice Cap today is 40 percent smaller than it was in 1979

Oil Production & Natural Resources

The circum-Arctic region and Outer Continental Shelf area ranks second behind the Gulf of Mexico for volume of resources.

90 Billion Barrels

or approximately 13 percent of the world's undiscovered oil reserves

35 Percent of Alaska's Jobs

are tied to the energy sector

$1 Trillion

worth of minerals, such as zinc and nickel

$3.7 Billion

in commercial investments in offshore leases in the Chukchi and Beaufort Seas since 2005

Undiscovered Gas Reserves

is estimated to be 30 percent of the world's undiscovered natural gas and natural gas liquids

I.

Introduction

As Arctic ice recedes and maritime activity increases, the Coast Guard must be prepared to administer and inform national objectives over the long-term. The United States is an Arctic nation, and the Coast Guard supports numerous experienced and capable partners in the region. The aim of this strategy is to ensure safe, secure, and environmentally responsible maritime activity in the Arctic. This strategy establishes objectives to meet this aim and support national policy. Framed with a planning horizon of 10 years, it delineates the ends, ways, and means for achieving strategic objectives while articulating factors that contribute to long-term success.

Environmental changes and economic incentives are driving a transformation of maritime activity in the Arctic region. Climate change has resulted in higher water and air temperatures, which have caused permanent ice cover to diminish to record low levels seasonally. Scientists predict this trend will continue. Sovereign and industrial activities will continue to evolve around access to an abundance of resources. These resources include an estimated 13 percent of the world's undiscovered oil, 30 percent of undiscovered gas, and some two trillion dollars worth of minerals including gold, zinc, palladium, nickel, platinum, lead, rare-earth minerals, and gem-quality diamonds.

In addition to oil, gas, and minerals, more than 50 percent of America's fish stock comes from the Nation's Exclusive Economic Zone (EEZ) off of Alaska. Moreover, trans-shipment of cargo through the Arctic region is increasing. In 2012, over one million tons of cargo transited an Arctic route that reduces thousands of miles off of traditional voyages between the Atlantic and Pacific Oceans. Arctic tourism is also rising rapidly. Higher risk activities such as adventure and eco-tourism often involve transportation via passenger vessel due to limited road and air infrastructure in the region. Protest activities and other demonstrations that advocate for a variety of interests – including the environment, indigenous ways of life, and climate change issues – are expanding. The nature of maritime activity in the Arctic is indeed evolving from exploration and scientific research to resource extraction, commercial shipping, and a broad array of other pursuits.

This strategy is guided by direction from the President of the United States, including the National Security Strategy, National Military and Maritime Strategies, National Strategy for the Arctic Region, Arctic Region Policy NSPD-66/HSPD-25, National Strategies for Homeland Security and Maritime Domain Awareness, National Ocean Policy, Executive Order 13580, as well as the Quadrennial Defense, Diplomatic, and Homeland Security reviews. It is also informed by more than 150 years of experience in the Arctic, including work with indigenous populations in the region.

This document conveys major dynamics shaping the region and is intended to be a reference for readers of all levels of interest. Formulated with extensive deliberation and peer review, the strategic objectives include improving awareness of maritime activity, modernizing governance, and broadening partnerships.

This document is a theater strategy for the U.S. Coast Guard's operations in the Arctic region. It is not an implementation plan. This strategy will guide efforts to accomplish organizational objectives in the region by leveraging the Coast Guard's unique capabilities, authorities, and partnerships.

750
U.S. COAST GUARD

ARCTIC FACT

1,000 visitors to the north pole annually.

ARCTIC FACT

3.36 million square miles of U.S. continental shelf.

II.

Executive Summary

The United States is an Arctic nation with significant interests in the future of the region. The U.S. Coast Guard, as the maritime component of the U.S. Department of Homeland Security (DHS), has specific statutory responsibilities in U.S. Arctic waters. This strategy outlines the ends, ways, and means for achieving strategic objectives in the Arctic over the next 10 years. The Coast Guard is responsible for ensuring safe, secure, and environmentally responsible maritime activity in U.S. Arctic waters. Our efforts must be accomplished in close coordination with DHS components, and involve facilitating commerce, managing borders, and improving resilience to disasters.

The Coast Guard's current suite of cutters, boats, aircraft, and shore infrastructure must meet a number of near-term mission demands. The Coast Guard employs mobile command and control platforms such as large cutters and ocean-going ice-strengthened buoy tenders, as well as seasonal air and communications capabilities through leased or deployable assets and facilities. These mobile and seasonal assets and facilities have proven to be important enablers for front-line priorities in the region, including search and rescue operations, securing the maritime border, collecting critical intelligence, responding to potential disasters, and protecting the marine environment.

The Arctic environment is changing dramatically. Satellite observations over time show decreasing multi-year ice and increasing open water during the Arctic summer. The lowest sea ice extent on record occurred in September 2012. Consequently, coastal villagers have been experiencing environmental changes that have made their communities more prone to storm surges, diminishing permafrost, and coastal erosion. Although winter sea travel is still severely limited due to extensive ice coverage across the region, recent summer and early autumn sea ice extent record lows have made seasonal maritime navigation more feasible. Economic development, in the forms of resource extraction, adventure tourism, and trans-Arctic shipping drives much of the current maritime activity in the region.

The Arctic region contains an estimated 13 percent of the world's undiscovered oil and 30 percent of undiscovered gas. More than 35 percent of Alaska's jobs are tied to the energy sector, and onshore production of oil in Alaska is diminishing. Decreasing sea ice and diminishing onshore oil production are creating incentives for further exploration offshore. These activities bring risk, which can be mitigated through appropriate maritime governance.

Additionally, tourism is increasing rapidly in the Arctic. Due to undeveloped shore-based infrastructure, much of the increased tourism is expected to involve transportation via passenger vessel, further increasing near- and offshore activities in Arctic waters.

This document outlines three strategic objectives in the Arctic for the U.S. Coast Guard over the next 10 years:

- **Improving Awareness**
- **Modernizing Governance**
- **Broadening Partnerships**

Improving Awareness: Coast Guard operations require precise and ongoing awareness of activities in the maritime domain. Maritime awareness in the Arctic is currently restricted due to limited surveillance, monitoring, and information system capabilities. Persistent awareness enables identification of threats, information-sharing with front-line partners, and improved risk management. Improving awareness requires close collaboration within DHS, as well as with the Departments of State, Defense, Interior, the National Science Foundation and other stakeholders to enhance integration, innovation, and fielding of emerging technologies. The Intelligence Community and non-federal partners are also vital stakeholders.

Modernizing Governance: The concept of governance involves institutions, structures of authority, and capabilities necessary to oversee maritime activities while safeguarding national interests. Limited awareness and oversight challenge maritime sovereignty, including the protection of natural resources and control of maritime borders. The Coast Guard will work within its authorities to foster collective efforts, both domestically and internationally, to improve Arctic governance. In so doing, the Coast Guard will review its own institutions and regimes of governance to prepare for future missions throughout the Arctic.

Broadening Partnerships: Success in the Arctic requires a collective effort across both the public and private sectors. Such a collective effort must be inclusive of domestic regulatory regimes; international collaborative forums such as the Arctic Council, International Maritime Organization (IMO), and Inuit Circumpolar Council; domestic and international partnerships; and local engagements in Arctic communities focusing on training and volunteer service. Success in the Arctic also depends upon close intergovernmental cooperation to support national interests, including working closely within DHS, as well as with the Department of State, Department of Interior and other Federal partners as the U.S. prepares to assume Chairmanship of the Arctic Council in 2015.

Beyond these three strategic objectives, there are a number of additional factors that will position the Coast Guard for long-term success. These factors include building national awareness of the Arctic and its opportunities, strengthening maritime regimes, improving public-private relationships through a national concept of operations, seeking necessary authorities, and identifying future requirements and resources to shape trends favorably. This strategy outlines a number of priorities, ranging from capabilities and requirements to advances in science and technology that will facilitate our Nation's success in the region. Specifically, the strategy advocates to leverage the entire DHS enterprise and component capabilities to secure our borders, prevent terrorism, adapt to changing environmental conditions, enable community resilience and inform future policy.

Operating in the Arctic is not a new venture for the Coast Guard. However, adapting to changing conditions will require foresight, focus, and clear priorities. This strategy will ensure we attain the aim of safe, secure, and environmentally responsible maritime activity in the Arctic by improving awareness, modernizing governance, and broadening partnerships to ensure long-term success.

ARCTIC FACT

Barrow, AK is 504 miles to the closest coffee chain.

III.

Today's Realities

This section provides readers with background on the Arctic's physical environment, resource potential, and current regimes of governance. It serves as a scene-setter for articulation of Coast Guard strategic objectives later in the document.

THE PHYSICAL ENVIRONMENT

Statutory Scope of the Arctic

The Arctic is defined in statute (15 USC § 4111) as all United States and foreign territory north of the Arctic Circle and all United States territory north and west of the boundary formed by the Porcupine, Yukon, and Kuskokwim Rivers; all contiguous seas, including the Arctic Ocean and the Beaufort, Bering, and Chukchi Seas; and the Aleutian Chain.

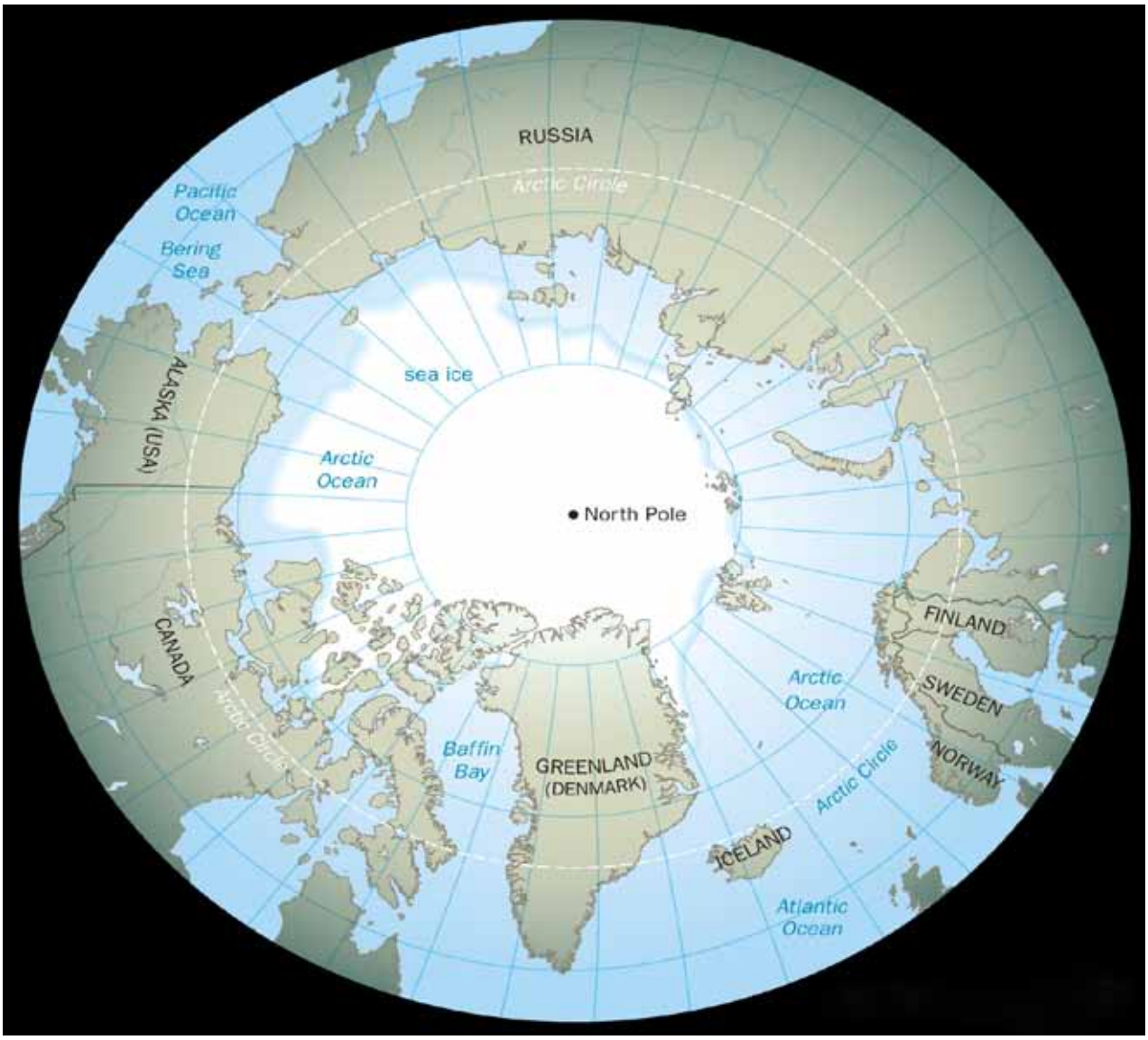
Arctic Landscape

The Arctic Circle designates the approximate southern limit at which the sun becomes circumpolar[1] – which means continuous daylight during the summer solstice. Seasonal variance of solar heating is a factor in shaping the climate of the Arctic region, which is characterized by frigid temperatures, stormy weather, and oceanographic conditions far different than more temperate latitudes. In Barrow, the most northerly U.S. community, minimum temperatures reach as low as negative 40 degrees Fahrenheit in mid-winter, and highs exceed 60 degrees Fahrenheit during mid-summer. During the darkness of late autumn, winter, and early spring, sea ice grows to maximum coverage and extends across much of the Bering Sea. The ice then retreats through late spring, summer, and early autumn to a minimum, which is typically observed during late September. The Bering Strait is covered with sea ice from mid-December to mid-June, while frequent fog and northerly winds dominate during the summer months.[2]

Sea ice that survives through the summer months is called multi-year ice, while ice that grows and is consumed seasonally is referred to as first-year ice. Icebergs, ice produced by glaciers calving into the sea, are not typically found in U.S. Arctic waters. Recent Arctic environmental trends show record low sea ice. Moreover, recent satellite observations show a marked decrease in the volume of multi-year ice.

These environmental changes result in seasonally open waters, increasing human access to the Arctic, and increasing maritime activity. Some Alaskan coastal villages are experiencing impacts of climate change. For example, the retreat of "fast ice" (i.e., sea ice that forms and remains fast along the coast) in recent years has exposed the village of Kivalina in Northwest Alaska, and other coastal villages, to storm surges and coastal erosion.

1. Nathaniel Bowditch, The American Practical Navigator (2002).
2. State of Alaska, Department of Commerce, community summary for Diomede, 2002. www.commerce.state.ak.us/dca/commdb/CIS.cfm.



Resources

Commercial activities are expanding in the Arctic in two primary areas: the extraction of oil and natural gas, and the mining of hard minerals. According to a 2008 U.S. Geological Survey (USGS) report, "The extensive Arctic continental shelves may constitute the geographically largest unexplored prospective area for petroleum remaining on Earth." The USGS estimates that 13 percent of the world's undiscovered oil reserves (90 billion barrels) and 30 percent of the undiscovered gas reserves (1,700 trillion cubic feet of natural gas, and 44 billion barrels of natural gas liquids) are in the Arctic.[3]

These estimates are in addition to more than 240 billion barrels of petroleum reserves that have already been discovered.[4] Eighty-four percent of these reserves estimated by USGS are predicted to lie offshore. The report estimates that one-third of the oil is in the circum-Arctic region of Alaska and the Alaska Outer Continental Shelf (OCS). The area is ranked second behind the Gulf of Mexico for volume of resources.[5] The USGS estimates that the Russian Arctic contains far more oil and gas resources, including over one quadrillion cubic feet of undiscovered natural gas.[6]

3. USGS Fact Sheet 2008-3049: Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle. http://pubs.usgs.gov/fs/2008/3049/
4. Ibid.
5. Department of Interior, "Estimated Undiscovered, Economically Recoverable Resources." http://www.doi.gov/whatwedo/energy/ocs/upload/UERR-map-2012-2017-80-NoYear-Note.pdf
6. D.L. Gautier, U.S. Geologic Survey, presented at US Coast Guard Academy Leadership for the Arctic Conference, 12 Apr. 2012. http://www.uscga.edu/WorkArea/DownloadAsset.aspx?id=2717

Commercial investment in offshore leases in the Chukchi and Beaufort Seas, totaling over $3.7 billion since 2005,[7] illustrates the economic significance of the region. Exploratory drilling operations were conducted in 2012, and may continue in coming years.

Hard mineral extraction is a mature industry in the Russian Arctic and is growing in the U.S. Arctic. Indeed, the U.S. Arctic is home to one of the largest zinc and lead mines in the world which is located in northwest Alaska. The Government of Norway attributes the following percentages of worldwide mineral production to the Arctic: nickel (11 percent), cobalt (11 percent), tungsten (9 percent), zinc (8 percent), palladium (40 percent), platinum (15 percent), gem-grade diamonds (26 percent), industrial-grade diamonds (24 percent), and apatite (11 percent).[8]

Shipping and the Maritime Transportation System

Commercial ship traffic in the Arctic falls into three categories: destinational shipping, trans-Arctic shipping, and adventure tourism. Destinational shipping refers to shipping into or out of the Arctic, in support of commercial activity, and comprises the majority of traffic passing through the Bering Strait. Examples include ship traffic supporting seasonal oil drilling operations in U.S. Arctic waters, tugs and barges resupplying diesel oil and other commodities to remote Alaskan villages, and vessels transporting ore from Arctic mines to markets in North America and Asia.

Trans-Arctic shipping refers to use of the Arctic as a route between two destinations outside of the Arctic. The two trans-Arctic routes connecting Europe and eastern Asia are the Northwest Passage over the North American continent and the Northern Sea Route over Eurasia. Northern Sea Route traffic is growing each year, primarily in response to energy and mineral resource demands from Asia. Due to adverse weather conditions, unpredictable ice conditions, and limited navigation infrastructure, neither route is expected to become extensively trafficked during the next 10 years. However, the Russian Federation continues to develop and promote the Northern Sea Route as a viable option for commercial trans-shipment which could increase maritime activity over time.

As the only route between the Arctic and Pacific Oceans, the Bering Strait portends significant strategic importance in the future. Expanding commercial ventures in the Arctic have increased maritime traffic in the Bering Strait. From 2008 to 2012, traffic through the Bering Strait increased by 118 percent. Increased traffic, accompanied by polar weather, ice conditions, and a limited area to safely navigate, are factors that make the Bering Strait increasingly vulnerable to maritime casualties and a priority for future traffic management services. In response, the Coast Guard is conducting a Bering Strait Port Access Route Study. Potential outcomes of this study could include recommendations for a traffic separation scheme, designation of areas to be avoided, or other provisions necessary for safe navigation and protection of the marine environment. Implementing such recommendations would require consultation with the Russian Federation and other appropriate stakeholders to prepare a proposal for consideration by the IMO.

Although northern Alaskan waters are not currently as popular a tourist destination as waters in southeastern Alaska, Norway, or Greenland, the cruise industry schedules adventure tours through the Northwest Passage and into the U.S. Arctic. While tourism is not yet a significant contributor to local economies in the U.S. Arctic, it is likely to grow in decades ahead.

7. Bureau of Ocean Energy Management. www.boem.gov/BOEM-Newsroom/Offshore-Stats-and-Facts/Alaska-Region/Alaska-Historical-Leasing-Information.aspx
8. L. Lindholt in the Statistic Norway publication SA 84, "The Economy of the North," Sept. 2006. www.ssb.no/english/subjects/00/00/30/sa_economy_north/sa84_en/

Vast Distances and Limited Infrastructure

Extensive distances, extreme weather, and scarcity of physical infrastructure present logistical challenges. These factors accentuate the challenges of routine operations or response to major contingencies in the Arctic. Barrow is the major population center on the north slope of Alaska and is only accessible by air or in a limited fashion by sea. Dutch Harbor in the Aleutian Islands is the closest U.S. deepwater port to the Arctic; roughly 1,100 nautical miles from Barrow, as is depicted on page 16. The closest Coast Guard Air Station to Barrow is located approximately 945 nautical miles south in Kodiak, Alaska. There is limited commercial air and sea infrastructure along Alaska's western and northern shores. Nome has a small, modern harbor with a 175-foot pier and depth of 21 feet. There is a pier and loading facility north of the Bering Strait designed to support mining operations with barges. Deep draft vessels must anchor offshore. There are commercial airports in Nome, Barrow, and Deadhorse/Prudhoe Bay. The harsh operating environment, geographic spread of these facilities, lack of roads, and vast distances from major Coast Guard support hubs make Arctic missions challenging.

Arctic operations require reliable command, control, communications, computers, and information technology (C4IT) capabilities. The Arctic region is known for poor propagation of radio signals, geomagnetic interference, and limited satellite coverage and bandwidth. Some communities in the Arctic have cellular phone networks, but with limits to coverage, capacity, and reliability.

ROLES AND GOVERNANCE

International

The 1982 Convention on the Law of the Sea, as modified in 1994, sets forth a comprehensive legal framework for activities on and in the sea, the seabed, and its subsoil, as well as the protection of the marine environment and its natural and cultural resources. The United States is not a party to the Convention, but accepts and acts in accordance with the provisions of the Convention relating to traditional uses of the oceans -- such as navigation and overflight -- as reflective of customary international law and practice. Hence, in 2008, the United States, along with four other Arctic coastal states (i.e., Canada, Russia, Norway, and Denmark/Greenland) adopted the Ilulissat Declaration. The Declaration states, in part, "the law of the sea provides for important rights and obligations concerning the delineation of the outer limits of the continental shelf, the protection of the marine environment, including ice-covered areas, freedom of navigation, marine scientific research, and other uses of the sea." Also, signatory nations remain committed to this legal framework and see no need to develop a new comprehensive international legal regime to govern the Arctic Ocean.[9]

The Ottawa Declaration of 1996 established the Arctic Council as a high-level, consensus-based intergovernmental forum for cooperation in the Arctic. While not a governing body, the Arctic Council provides the primary institutional framework for international Arctic issues. Council participants consist of Arctic nations: Canada, Denmark (Greenland), Finland, Iceland, Norway, Russia, Sweden, and the United States. Moreover, six permanent participants are non-governmental organizations (NGOs) that represent most of the Native groups living above the Arctic Circle. These include: Aleut International Association, Arctic Athabaskan Council, Gwich'in Council International, Inuit Circumpolar Council, Saami Council, and the Russian Association of Indigenous People of the North. Non-Arctic states, inter-governmental and inter-parliamentary organizations, and non-governmental organizations may apply for observer status to the Arctic Council.

The International Maritime Organization (IMO) is a United Nations specialized agency with responsibility for the safety and security of shipping and the prevention of marine pollution by ships. All Arctic States are members of the IMO. In 2009, the IMO agreed to develop a mandatory Polar

9. "The Ilulissat Declaration," Arctic Ocean Conference, Ilulissat, Greenland, 27–29 May 2008.

Code that would offer construction, operating, and environmental guidelines for shipping through polar waters.[10] In the interim, an IMO voluntary Polar Code provides guidelines for ships operating in the polar regions.

Security matters fall under the auspices of the United Nations Security Council. The risk of direct conflict in the Arctic region is remote. The North Atlantic Treaty Organization (NATO), the Permanent Joint Board on Defense (U.S.-Canada), the European Union, and other multi-lateral and bilateral forums focus on specific issues to advance sovereign interests. In September 2010, Norway and the Russian Federation successfully resolved a long-standing maritime boundary dispute in the western Barents Sea through diplomatic means. Current regimes of international governance provide consistent processes and structures to discuss and resolve multi-lateral issues in the region.

National

National Security Presidential Directive 66/Homeland Security Presidential Directive 25 (NSPD-66/HSPD-25) sets forth United States Arctic Policy guidance and directs actions of implementation.[11] The policy outlines the U.S. Government's priorities including: National Security and Homeland Security interests in the Arctic Region, International Governance, Extended Continental Shelf and Boundary Issues, International Scientific Cooperation, Marine Transportation in the Arctic Region, Economic Issues (including energy), Environmental Protection and Conservation of Natural Resources; and the Involvement of Indigenous Communities.

The National Security Strategy of May 2010 also outlines U.S. Arctic interests. It states in part: "The United States is an Arctic nation with broad and fundamental interests in the Arctic region, where we seek to meet our national security needs, protect the environment, responsibly manage resources, account for indigenous communities, support scientific research, and strengthen international cooperation on a wide range of issues."[12]

"Changing Conditions in the Arctic" is one of the nine priority objectives included in the President's National Ocean Policy.[13] The U.S. Arctic is also one of nine regions in the United States where the National Ocean Policy contemplates regional-based marine planning. Among other things, these policy approaches advocate for improved situational awareness in the Arctic maritime domain, greater scientific certainty with environmental conditions and resources, and the need for intergovernmental and international cooperation to promote shared interests.

Executive Order 13580, issued July 20, 2012, established the Interagency Working Group on Coordination of Domestic Energy Development and Permitting in Alaska. The Working Group facilitates orderly and environmentally sound development of renewable and conventional energy in Alaska. Led by the Department of Interior, the Working Group is charged with coordinating activities among agencies which possess permitting-related authority.

The President signed the National Strategy for the Arctic Region[14] on May 10, 2013. That document identifies strategic priorities for the U.S. Government to advance U.S. security interests, promote responsible Arctic stewardship, and strengthen international cooperation.

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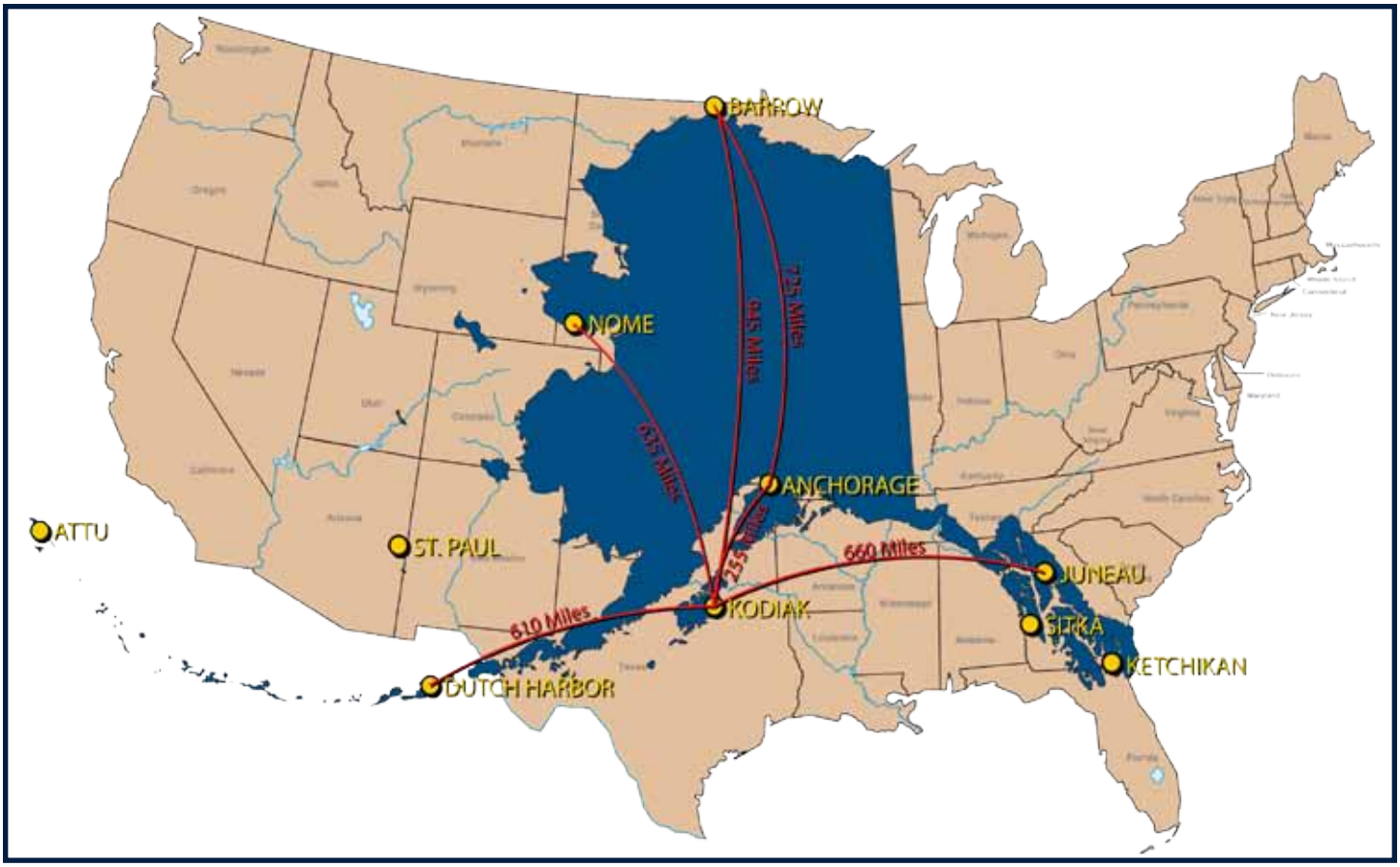
10. IMO, "Protecting the Polar Regions from Shipping, Protecting Ships on Polar Waters." www.imo.org/MEDIACENTRE/HOTTOPICS/POLAR/Pages/default.aspx
11. White House, National Security Presidential Directive 66/Homeland Security Presidential Directive 25 (NPS-66/HSPD-25), "Arctic Region Policy," Jan. 9, 2009. www.fas.org/irp/off-docs/nspd/nsp-66.htm
12. "National Security Strategy", May 2010, The White House, Washington, DC, pg. 50.
13. National Ocean Council, National Ocean Policy Implementation Plan. Apr. 2013. www.whitehouse.gov//site/default/files/national_ocean_policy_ip_appendix.pdf
14. White House, National Strategy for the Arctic Region, May 10, 2013. http://www.whitehouse.gov/sites/default/files/docs/nat_arctic_strategy.pdf.



State, Local, Tribal, and Territorial

The U.S. Arctic domain includes a significant land area within the State of Alaska as well as Federal waters offshore. Indeed, the Northwest Arctic Borough, North Slope Borough, and Bering Strait region cover an area of nearly 41,000 square miles and include more than one dozen villages and towns. The State of Alaska is the primary advocate for Arctic issues to the Federal government, and legislative committees such as the North Waters Task Force work to advance regional priorities. Alaskan State agencies, such as the Department of Fish and Game, play a major role in Arctic resource management. Local governance in Alaska is centered on the borough structure, which is similar to the county structure in other states. Larger settlements, such as Barrow and Point Hope, are incorporated into cities.

Indigenous Native communities have many diverse organizations organized around ethnicity, geography, subsistence, and other factors. The Alaska Native Claims Settlement Act of 1971 created 13 regional corporations and over 200 village corporations as revenue-producing mechanisms for Tribes, granting rights to land and resources. Twelve Native associations were also created to address non-profit social services. Additionally, there are Native political federations, associations, and councils, such as the Alaska Inter-Tribal Council, to address priorities for Native communities.

Other Stakeholders, Participants, and Interest Groups

Subsistence hunting of caribou, moose, seals, walrus, and whales provides a food source for Native communities. Indigenous and commercial activities coexist through ongoing communication and mediation.[15] Non-governmental organizations promote and advance Native tradition, subsistence, and conservation. These include the Alaska Eskimo Whaling Commission, the Alaska Walrus Commission, and the Inuit Circumpolar Council of Alaska.

15. Reiss, Bob. "The Eskimo and The Oil Man: The Battle at the Top of the World for America's Future," Business Plus, 2012.

ARCTIC FACT

One time per year gasoline is delivered to Barrow's only gas station.

ARCTIC FACT

The shortest flight between DC and Barrow, AK is 4,208 miles.

IV.

Geo-Strategic Environment

The Arctic is a region of highly complicated networks, interests, and governance structures that will continue to evolve with the expansion of maritime activity. The principal drivers of expanding activity include new access to undiscovered resources, increasing interest in adventure tourism, and more economical routes of cargo trans-shipment. These factors are becoming more pronounced through the dynamics of climate change which include a reduction in the amount of sea ice, diminishment of permafrost, and expansion of ice-free ocean. Moreover, the number of nations and other organizations requesting observer status on the Arctic Council is increasing which demonstrates growing sovereign stakes in the region.[16] This interest could be driven by projected shortages in energy, clean water, and other resources. Recent actions by the IMO to develop a mandatory Polar Code for vessels, and the Arctic Council in planning international search-and-rescue (SAR) and oil spill agreements, illustrate the ongoing modernization of governance regimes. This section examines how the Arctic is evolving strategically, without regard to governmental or institutional presence or priorities. It outlines factors that must be considered when contemplating implementation of future priorities.

A number of non-Arctic nations and non-state organizations maintain awareness and engage in Arctic maritime activity. China is expanding polar research capabilities and is considering the consequences of diminishing sea ice. China is also interested in resource extraction, as well as the advantages of shorter sea routes to and from Siberia, Western Europe, and the eastern United States. Moreover, there are other non-Arctic states with commercial and research interests in the Arctic that have petitioned the Arctic Council for observer status (see Appendix II).

Environmental advocacy groups, such as the International Union for the Conservation of Nature, Natural Resources Defense Council, Audubon Society, Oceana, World Wildlife Fund and PEW Environmental, promote conservation and protection of natural resources and traditional culture. Research Institutions, such as the University of Alaska, Fairbanks, maintain and sponsor extensive Arctic advocacy and studies. Commercial business ventures, such as the petroleum and mining industries, and business service providers, such as the Alaskan Marine Exchange, have Arctic interests, infrastructure, and presence in the region.

Geo-Economic Factors

At present, geo-economic factors drive most activity in the Arctic. There are especially significant incentives for exploration and development based on the following projections for the region:

- 13 percent of the world's undiscovered oil.
- 30 percent of the world's undiscovered gas (pre-shale development).
- More than one trillion U.S. dollars worth of minerals, such as zinc and nickel.

16. Arctic Council Observers. www.arctic-council.org/index.php/en/about-us/partners-links

- More than one million adventure tourists expected to visit in 2013.
- More than one million tons of cargo trans-shipped in 2012.
- More than 35 percent of Alaskan jobs tied to the energy sector.
- Diminishing onshore oil production in Alaska.

Notably, receding sea ice enables seasonal offshore oil exploration. In 2012, one multi-national oil company commenced offshore exploration activities in the U.S. Arctic. Such commercial exploratory efforts are expected to expand during the next decade.

Other Major Trends

The Arctic Ocean's ice cap experienced a historic low for the satellite era (i.e., 1979 – present) in September 2012. Specifically, the extent of the ice cover was 1.32 million square miles below the average September ice cover from 1979 to 2000. Between March and September of 2012, 4.57 million square miles of Arctic sea ice melted. This area of melt is larger than the size of the continental United States.[17] Moreover, Alaska has warmed more than twice as rapidly as the rest of the United States over the past 60 years, with state-wide average annual air temperature increasing by three degrees Fahrenheit and winter temperature by six degrees Fahrenheit. This warming involves more extreme hot days and fewer extreme cold days.[18] Climate-change impacts in Alaska are already apparent, including earlier spring snowmelt, reduced sea ice, widespread glacier retreat, warmer permafrost, drier landscapes, and more extensive insect outbreaks and wildfires.

The decrease in the age of sea ice is also an important environmental trend. Older, multi-year ice tends to be harder, thicker, and more dangerous to ships than first year ice. At the climatologically maximum ice month of March, older ice (e.g., four years and older) has decreased from 26 percent of the ice cover in 1988 to 7 percent in 2012. In March 1988, 58 percent of the ice pack was composed of first-year ice (i.e., ice that has not survived a melt season). In March 2012, first-year ice dominated the pack (i.e., 75 percent.)[19] The receding and thinning trend of sea ice makes the Arctic more accessible to shipping and prolongs the season of open water.

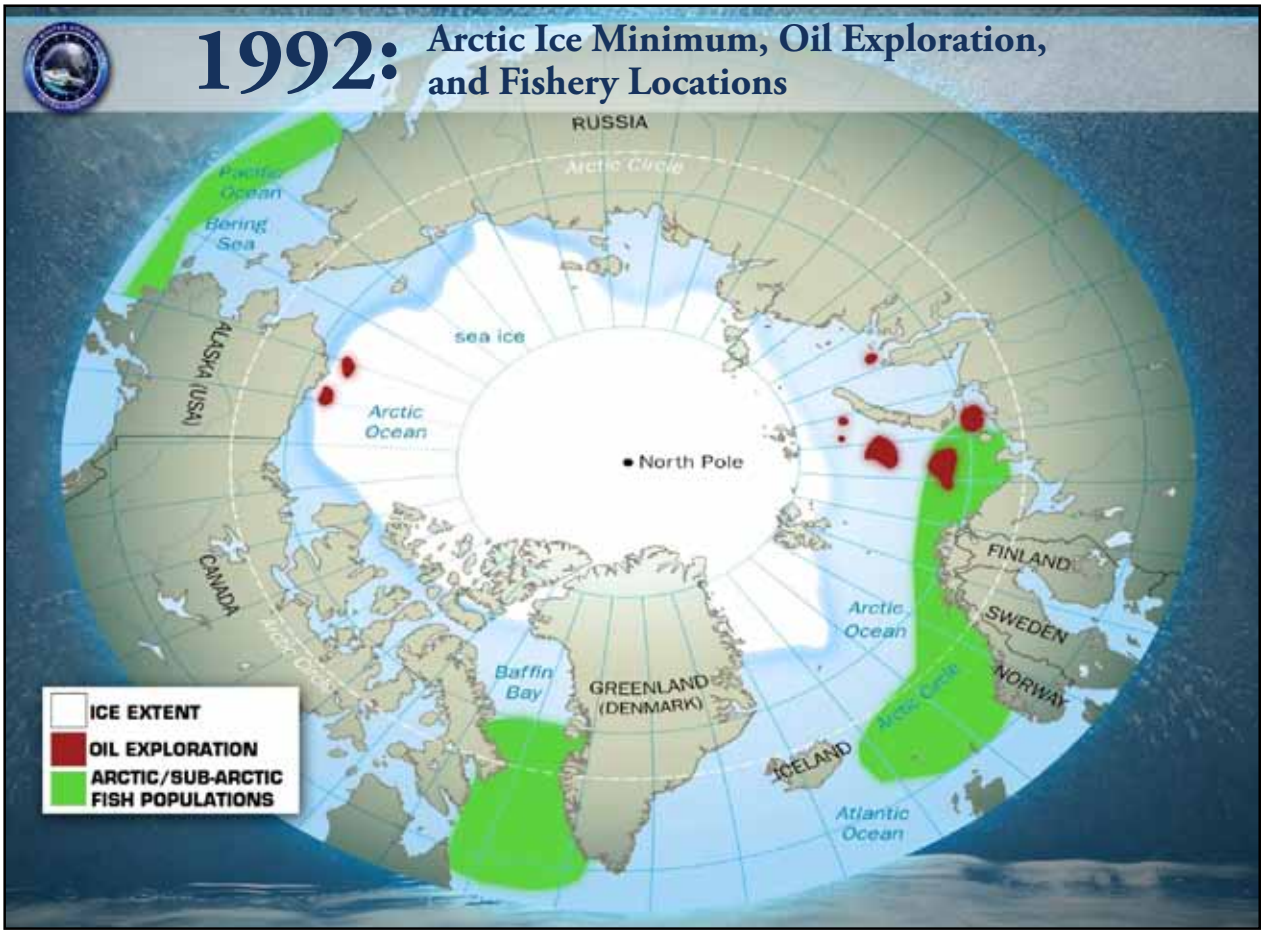
As sea ice recedes, the distribution of remaining ice becomes more variable which impacts maritime activity in a variety of ways. For example, although 2012 was a minimum for Arctic-wide sea ice, the ongoing presence of ice at certain drill sites in the Chukchi Sea delayed drilling efforts for the season.[20] Commercial harvesting of Arctic resources and use of Arctic shipping routes are likely to be restricted by the temporal and spatial variability of sea ice and its associated challenges in the coming years.

The nature of resource extraction and other activities in the Arctic is evolving with levels of activity. Climate change and technological innovations are reshaping many activities and fostering growth. These increasing and sometimes competing uses will challenge norms of safety, security, and environmental sustainability throughout the region.

Arctic drilling is conducted primarily from fixed, man-made platforms. Floating offshore platforms are becoming more attractive as exploration increases.

Depletion of living marine resources is a serious challenge globally. Overfishing, the unintentional removal of non-targeted species, uneven management, and illegal harvesting of resources are

17. UN Report: 2012 Arctic Ice Melt Larger Than Size of United States. www.usnews.com/news/articles/2012/11/28/un-report-2012-arctic-ice-melt-larger-than-size-of-united-states
18. U.S. Global Climate Change Science Program 2008, Stewart et al. 2012.
19. UN Report: 2012 Arctic Ice Melt Larger Than Size of United States. www.usnews.com/news/articles/2012/11/28/un-report-2012-arctic-ice-melt-larger-than-size-of-united-states
20. "Drifting Sea Ice Halts Shell's Arctic Drilling" by Lisa Demer, Anchorage Daily News, 10 Sept. 2012. www.adn.com/2012/09/10/2619205/shell-halts-chukchi-sea-drilling.html


1992: Arctic Ice Minimum, Oil Exploration, and Fishery Locations
RUSSIA
Arctic Circle
Pacific Ocean
Bering Sea
ALASKA (USA)
sea ice
Arctic Ocean
North Pole
CANADA
FINLAND
SWEDEN
NORWAY
Arctic Ocean
Baffin Bay
GREENLAND (DENMARK)
ICELAND
Atlantic Ocean
ICE EXTENT
OIL EXPLORATION
ARCTIC/SUB-ARCTIC FISH POPULATIONS

2012: Arctic Ice Minimum, Trade Routes, Oil Exploration and Fishery Locations
RUSSIA
Arctic Circle
Pacific Ocean
Bering Sea
ALASKA (USA)
sea ice
Arctic Ocean
North Pole
CANADA
FINLAND
SWEDEN
NORWAY
Arctic Ocean
Baffin Bay
GREENLAND (DENMARK)
Arctic Circle
ICELAND
Atlantic Ocean
NORTHWEST PASSAGE
NORTHERN SEA ROUTE
ICE EXTENT
OIL EXPLORATION
ARCTIC/SUB-ARCTIC FISH POPULATIONS

detrimental to fragile ecosystems. The volume of fishing vessels operating in U.S. waters north of the Bering Strait is low. The February 2009 Fishery Management Plan for the U.S. waters of the Chukchi and Beaufort Seas prohibits commercial fishing in certain regions.[21] The viability of commercial fishing activities is also limited due to a lack of processing infrastructure.

An oceanic trade route across the Arctic from the North Atlantic to the North Pacific would represent a transformational shift in maritime trade, akin to the opening of the Panama Canal in the early 20th century. An Arctic marine highway would cut existing oceanic transit between Europe and Asia by an estimated 5,000 nautical miles. While a shipping route through Canada's Northwest Passage has yet to prove economically viable, trans-Arctic traffic through Russia's Northern Sea Route is increasing. Forty-six vessels transited the Northern Sea Route in 2012, compared to 34 in 2011, and four in 2010. Additionally, 2012 marked the first time the Northern Sea Route was used for transit of a liquefied natural gas (LNG) vessel.[22]

The increase in vessel traffic presents challenges to sovereign capacity for incident prevention and response in the Arctic. A major casualty on board a large modern cruise ship in the Arctic would pose a significant challenge to responders and stress any one nation's capacity for mass rescue at sea. If an oil tanker were to spill its cargo in Arctic waters the potential impact to the marine environment would be profound, and removing the oil would be challenging. Additionally, transits of the Northwest Passage by small craft are increasing. In 2008, the Canadian Coast Guard created the Northern Canada Vessel Traffic Services Zone to monitor vessels more than 300 gross tons attempting the transit.[23] Increasing vessel traffic requires a commensurate increase in search and rescue capabilities throughout the region.

21. http://alaskafisheries.noaa.gov/sustainablefisheries/arctic/
22. "46 Vessels through the Northern Sea Route," Barents Observer, 23 Nov. 2012. http://barentsobserver.com/en/arctic/2012/11/46-vessels-through-northern-sea-route-23-11
23. Vessel Traffic Reporting Northern Canada Vessel Traffic Services Zone (NORDREG). www.ccg-gcc.gc.ca/eng/MCTS/Vtr_Arctic_Canada

ARCTIC FACT

Barrow averages 324 days with freezing temperature.

ARCTIC FACT

Barrow's high temperature is 79 degrees and record low, negative 58 degrees Fahrenheit.

V.

U.S. Coast Guard in the Arctic

Our Mission

The Coast Guard's mission is to ensure the safety, security, and stewardship of U.S. waters. This extends to the increasingly accessible Arctic. Expanding maritime activities in the Arctic require increased presence, oversight, regulatory enforcement, and contingency response. In this context, the people, industries, and interest groups of Alaska expect the same level of services as other regions of the Nation. This is a cause to assess long-term requirements and plan strategically for the future.

Safety: Increased energy exploration and production will require additional regulatory oversight, facility inspections, domestic commercial vessel examinations, merchant marine credentialing, and investigations. Increased commercial vessel activity, fishing, transits, and tourism will also stress search and rescue capabilities. As the lead Federal agency for maritime search and rescue, the Coast Guard must ensure the marine public is prepared for Arctic operations. The Coast Guard must provide search and rescue capabilities when self-rescue options are not sufficient. The increase in vessel traffic will require modern charting, waterways management, and maritime infrastructure to reduce risk. The Coast Guard must also work closely with front-line partners to enhance operational efficacy.

Security: The Arctic includes areas of sovereign U.S. territory and rights which have resources requiring protection and security. The Nation's EEZ extends up to 200 nautical miles from shore and provides exclusive rights to the rich natural resources within the water column and on and beneath the seafloor. The Coast Guard must provide a surface presence to safeguard this region and its resources. The United States also safeguards freedom of navigation throughout the world's international waters, including those in the Arctic region.

Stewardship: Safe marine transportation is fundamental to U.S. maritime interests in the Arctic. The Coast Guard will promote efforts to establish and maintain a Marine Transportation System[24] capable of meeting the safety, security, and environmental protection needs of current and future stakeholders.[25] Moreover, as a lead organization for oil and hazardous materials incident responses in our Nation's waters, the Coast Guard will lead efforts to plan for and respond to environmental threats under the National Oil and Hazardous Substances Pollution Contingency Plan. Spill response in the Arctic presents major operational challenges due to the distances involved in mounting a response, limited infrastructure, and inherent difficulty of recovering oil from ice-covered waters. Increased fishing activities will require coordinated oversight to ensure the preservation of resources, protection of endangered species, and safety of commercial operators.

24. "The Marine Transportation System, or MTS, consists of waterways, ports, and intermodal landside connections that allow the various modes of transportation to move people and goods to, from, and on the water. More information can be found at: www.marad.dot.gov/ports_landing_page/marine_transportation_system/MTS.htm"

Our Future

The Coast Guard is committed to ensuring safe, secure, and environmentally responsible maritime activity in Arctic waters. This commitment requires an integrated and coherent Arctic strategy. The strategy focuses on three specific objectives:

- **Improving Awareness**
- **Modernizing Governance**
- **Broadening Partnerships**

This strategy assumes that recent decreases in Arctic ice mass will continue over the next 10 years. Even so, while previously unreachable areas will be increasingly open to vessel traffic, the remaining permanent ice cover, the continued winter ice cover, and hazards from ice floes and smaller ice remnants will continue to pose challenges to regional civilian, industrial, and military operations. Through efforts to discover and exploit offshore oil and gas reserves, the energy industry will deploy oil rigs, offshore supply vessels, barges, and tankers in Arctic waters. Cruise ship traffic will increase in areas that are unique and of commercial value to the recreational tourism industry, often in areas that are remote and challenging to render aid.

The three strategic priorities of this Arctic strategy draw upon the Coast Guard's strengths as a military, multi-mission, maritime service, leveraging authorities and partnerships, flexible operational capabilities, and relevant expertise within the international community to achieve an integrated, coherent approach to maritime operations and regional governance.

Improving Awareness: The U.S. government requires effective understanding of maritime activity in the Arctic region in order to enforce maritime sovereignty and address threats as early as possible. Accurate awareness requires greater collection and sharing of maritime data, as well as increased cooperation in analyzing and disseminating near-real-time information. The Coast Guard will work with DHS, Department of Defense, other interagency partners, state, tribal, and local governments, the private sector, advocacy groups, academia, and the international community to improve maritime intelligence and information-sharing. Improvements require proper infrastructure for sensing, collecting, fusing, analyzing, and disseminating information. Improved awareness is critical for ensuring preparedness to respond to contingencies and is consistent with strategic priorities delineated in the National Strategy for Maritime Security and the National Plan to Achieve Maritime Domain Awareness. As long as there is maritime activity in the Arctic, the Coast Guard must maintain appropriate presence to monitor, regulate, and respond to threats and hazards. Effective presence on shore and at sea enables the awareness necessary to focus resources on highest risks and threats.

Modernizing Governance: The safety, security, and economic well-being of the United States rely upon sound governance of the world's oceans. To advance U.S. interests in the region, the Coast Guard must work with other Federal, state, tribal, and local government entities, international counterparts, relevant industries, and other stakeholders to promote maritime safety, security, and environmental responsibility in the Arctic region. Notable efforts include active participation in international organizations, such as the Arctic Council and the International Maritime Organization, and continued support of accession to the 1982 Convention on the Law of the Sea.

Broadening Partnerships: Limited operational resources and expanding maritime risks underline the need for increasing collaboration in the region. The Coast Guard must foster domestic and international partnerships to specifically increase coordination, enhance efficiency, and reduce risk. Mutually beneficial relationships with and among our international, interagency, state, tribal, local, and other partners are essential for mission success. The Coast Guard must also collaborate with academia and non-governmental partners to incentivize Arctic research and expand the base of Arctic-related literature.

ARCTIC FACT

The American Arctic zone is larger than the lower 48 states combined.

ARCTIC FACT

The American Arctic zone is larger than that of any other country in the world at 8.7 million sq. km or 3,360,000 square miles.

VI.

STRATEGIC OBJECTIVE: Improving Awareness

Maritime risk increases as maritime activity increases. This trend can manifest in collisions, sinkings, oil spills, illegal fishing and negative impacts on harvesting of other natural resources, as well as threats to U.S. sovereignty. Such risks require improved awareness and effective presence for the Coast Guard to meet statutory responsibilities. The Coast Guard's mandate to protect people on the sea, protect the Nation from threats delivered by sea, and protect the sea itself applies in the Arctic just as it does in the Atlantic and Pacific Oceans, Gulf of Mexico, Great Lakes, and the Caribbean Sea.

As demand for Coast Guard presence increases in the Arctic region, Maritime Domain Awareness (MDA) capabilities must evolve consistent with the National Plan to Achieve Maritime Domain Awareness. Whether looking for a suspicious vessel, pollution in the water, or a vessel or person in distress, the Coast Guard needs persistent awareness to deliver the right capabilities, to the right places at the right times. This objective requires a combination of technology, sound regulatory regimes, and solid partnerships.

The National Strategy for Maritime Security defines MDA as "the effective understanding of anything associated with the maritime domain that could impact the safety, security, economy or environment of the United States."[23] As lead Federal agency for maritime safety, security, and stewardship, the Coast Guard has extensive authorities, dual status as a military service and law enforcement agency, and is a member of the National Intelligence Community. The Coast Guard is uniquely suited to take a national leadership role in improving maritime domain awareness in the Arctic.

1. Ensure Effective Coordination and Information-Sharing

No one nation, department, or agency can attain MDA in isolation. MDA requires a collaborative network of partners drawing upon their cumulative authorities, capabilities, and experience. To this end, the Coast Guard will:

- Advocate for the establishment of an interagency Arctic Fusion Center, pending resources or funding, that promotes cooperation and coordination, and employs joint, interagency, and international capabilities to enable sustainable development and environmental protection.
- Optimize communication networks, maritime tracking technologies, and other MDA capabilities by expanding and strengthening partnerships internationally (i.e., especially with border partners Canada and the Russian Federation); Federal, state, tribal, local, and territorial governments; as well as with academia, industry, and other non-governmental organizations.

25. www.dhs.gov/xlibrary/assets/HSPD_MDAPlan.pdf

- Encourage information-sharing among partners by:
  a. Sharing relevant and appropriate information to increase transparency and domain awareness. This information must assist in diminishing threats and illicit activities while striking a balance between security and the facilitation of commerce.
  b. Leveraging international information-sharing arrangements, such as through the North American Ice Service (a collaborative partnership with the International Ice Patrol, the National Ice Center, and the Canadian Ice Service) to improve environmental stewardship and safe navigation.
  c. Contributing information and intelligence to the maritime Common Operational Picture (COP) – the primary method for information-sharing, situational awareness, and collaborative planning–and ensuring broad dissemination to partners and stakeholders.
- Consolidate data and analysis among partner organizations to optimize decision-making cycles.
- Integrate service needs into other agency processes by combining systems and databases.
- Advocate among intelligence community partners to improve data collection in the Arctic.
- Develop data requirements and collect information on Arctic marine conditions, climate, maritime activity, and threats for operational and planning products, in cooperation with the Intelligence Community and other Arctic partners.
- Develop and ensure access to accurate and persistent, real-time, vessel tracking information to enhance MDA.

2. Enhance Collection, Fusion, and Analysis of Maritime Information and Intelligence

The U.S. government seeks to identify and intercept threats long before they pose a risk to national or allied interests. This priority relies upon an ability to detect and respond to environmental, ecological, and security challenges. MDA allows the Coast Guard to identify and assess potential threats in order to improve functional and operational decision-making. Vast amounts of disparate information must be collected, fused and analyzed effectively. Automated or autonomous monitoring enables focus of limited resources on the greatest risks and threats.

The timely development of an MDA enterprise architecture, in which data from disparate sources and environments will be discoverable, accessible, understandable, fused, and usable, is essential to achieving this strategic objective. To this end, the Coast Guard will:

- Improve processes and capacity for intelligence collection, fusion, analysis, and dissemination.
- Refine existing collection plans to support operational missions, training, and planning in the region.
- Expand the base of Arctic knowledge by integrating multi-sourced information, analyzing voluminous data more efficiently, and detecting unique patterns and trends in coordination with partners.
- Support deployment of portable surveillance sensor packages positioned at critical geographic choke points, on board existing offshore drilling infrastructure, and on Coast Guard assets to contribute to vessel awareness and enhance communications capabilities.

- Evaluate carriage requirements to determine efficacy of technology for vessel tracking in high latitudes and seek international requirements for such technology on vessels operating in the Arctic region.
- Assist government-sponsored scientific exploration to develop a greater understanding of the changing Arctic environment, associated impacts, and emergent maritime threats.
- Encourage enhanced scientific monitoring and research into local, regional, and global environmental priorities.
- Address environmental information and system gaps by leveraging all aspects of data collection, analysis, prediction, and exploitation with interagency partners, such as the Department of Defense (DoD), National Science Foundation, National Oceanic and Atmospheric Administration, and the National Geospatial-Intelligence Agency. Forecasting for the short- or long-term is difficult due to limited data and products. Enhanced atmospheric and marine data are required for safe operations. The DHS-DoD Capabilities Assessment Working Group (CAWG) will continue to play an important role with new capabilities through a variety of sub-groups. U.S. Northern Command is DoD's Arctic capabilities advocate and represents DoD in the CAWG effort.
- Participate in human intelligence collection and law enforcement actions to enhance understanding of maritime trends, threats, and challenges in the Arctic region.
- Monitor maritime activity by enhancing short- and long-range vessel detection and monitoring capabilities; increasing human intelligence collection in the port, coastal, and offshore areas of the Arctic; and improving information processing tools in partnership with other nations at strategic choke points.

- Leverage lessons-learned, training, and exercises to enhance knowledge of the Arctic and further refine mission focus.
- Use icebreakers, airborne sensors, and a wide spectrum of local and indigenous expertise, in conjunction with interagency partners, to maintain a sea ice atlas for Alaskan waters.
- Integrate and network current and future platforms with appropriate sensor technologies and commercial products to enhance situational awareness.
- Strengthen ocean surveillance and reconnaissance by optimizing availability of Arctic capable assets.
- Collaborate with the National Science Foundation (NSF) and support NSF efforts in the Arctic region to improve awareness.

3. Achieve Effective Presence

Effective maritime presence is essential to improving awareness and ensuring safe, secure, and environmentally responsible maritime activity in Arctic waters. Presence enables the Coast Guard to respond to vessels in distress, save lives, prevent attacks, and protect against pollution. Presence also enable adequate enforcement of vessel routing regimes and compliance with safety, security, and environmental laws and treaties. Moreover, front-line maritime forces generate valuable surveillance that enhances MDA. Effective presence requires the right assets and capabilities to be in the right places at the right times. An integrated surface and air presence will yield critical, real-time information and enhanced MDA on vessels transiting and operating in the region.

The Coast Guard will establish the following strategic priorities to achieve effective presence:

- Monitor and assess risks posed by increasing maritime activity.
- Set requirements and seek an adaptable mix of cutters, boats, aircraft (including unmanned aerial systems), and shore infrastructure to enable effective seasonal operations.
- Monitor and assess changes in the physical environment to inform development of Arctic capabilities and requirements.
- Exercise and assert U.S. sovereignty and advance U.S. interests in the Arctic by conducting operations and training exercises, and expanding capacity to respond to emergency and other time-critical events.
- Maintain a scalable presence commensurate with risks posed by increasing activity.
- Develop the appropriate capabilities and competencies, with sufficient capacity, to execute missions at an acceptable level of risk, and in a manner that is adaptive to changes in environmental conditions.
- Proceed with a risk-based, phased approach to resourcing to address the highest operational needs, including the establishment of infrastructure and communications systems to support operations.
- Conduct operations, training, and familiarization activities including Operation Arctic Shield and regional domain awareness flights. Such missions enhance awareness, cultivate operational competencies, and test suitability of assets and equipment.

ARCTIC FACT

34 vessels transported 820,000 tons of cargo though the Northern Sea Route in 2011, up from just four transits in 2010.

ARCTIC FACT

Approximately 27 percent of Alaska is in the Arctic Circle.

VII.

STRATEGIC OBJECTIVE: Modernizing Governance

Effective governance helps to ensure safe, secure, and environmentally responsible maritime activity in any region. Regimes of governance in the Arctic require diplomatic coordination and engagement for efficacy and success.

1. Inform Domestic and International Governance

Effective governance incentivizes mariners to comply with appropriate safety, security, and environmental standards. Clear, consistent, inclusive governance involves shared values, supportable standards, and balanced regimes of enforcement and discretion. International governance is built upon a foundation of cooperation among states. Consistent with the law, the Coast Guard is uniquely positioned to inform and sustain effective governance both domestically and internationally.

- Adopted in 1982 and substantially modified by the 1994 Agreement relating to the deep seabed mining provisions, the 1982 Convention on the Law of the Sea (Convention) sets forth a comprehensive legal framework for activities on and in the sea, the seabed, and its subsoil as well as the protection of the marine environment and its natural and cultural resources. The Convention advances a broad range of U.S. interests, including critical freedom of navigation and overflight provisions and protection of offshore resources. Joining the Convention and protecting U.S. maritime interests are complementary actions. U.S. accession to the Convention would strengthen, enhance, and facilitate the Coast Guard's ability to protect those on the sea, protect the Nation from threats by the sea, and protect the sea itself. The Coast Guard remains committed to this legal framework and will continue to advocate for joining the Convention.

- The Coast Guard will advocate for development of an Arctic Policy Board within DHS, pending resources or funding, that aggregates the best minds in government, industry, and academia in order to garner external perspectives on Arctic policy.

- In coordination with DHS and other relevant agencies, the Coast Guard will evaluate current regimes of governance and consider models employed for other regions and functions as benchmarks for the future. The concepts of a Combined Multi-National Assistance Group-Arctic and Arctic Coast Guard Forum will be assessed as priorities for follow-up to DHS leadership following promulgation of this strategy.

2. Safeguard the Marine Environment

The Arctic is sensitive ecologically. Increasing human activity in Arctic waters will pose additional risk of pollution at sea. The Coast Guard will establish best practices that protect and promote environmental resilience.

- To protect the Arctic environment from pollution resulting from maritime activities, the Coast Guard will engage government partners and the private sector to address, and apply, statutory and regulatory responsibilities for environmental preparedness and response.
- The Coast Guard will partner with Arctic nations to develop and implement prevention and response strategies to potential marine pollution incidents through research, training, exercises, and international agreements.
- While prevention is the goal, the Coast Guard must be prepared to respond to pollution incidents, especially where responsible parties are unknown or fail to adequately respond. Under the auspices of the National Oil and Hazardous Substance Pollution Contingency Plan (NCP), 40 CFR Part 300, the Coast Guard will continue to serve as vice chair of the National Response Team (NRT), co-chair of the Alaska Regional Response Team, and the Federal On-Scene Coordinator in the coastal zone. In these roles, the Coast Guard will work with the various Arctic communities of interest to plan for pollution threats, identify areas and resources at risk, and build response strategies for oil spills and hazardous substance releases, including Spills of National Significance (SONS).

3. Preserve Living Marine Resources

The Bering Sea remains home to one of the world's richest biomasses and is currently the only sustainable fishery in U.S. Arctic waters. As ice recedes and water temperatures change, fish stocks are observed to be migrating northwest. This observation is informal and anecdotal. The North Pacific Fishery Management Council is conducting a study to gather more reliable data on migration of fish stocks. Preliminary information indicates there may be a "cool pool" of water below the surface that is discouraging a further shift northward. However, if fish stocks begin to migrate north, commercial fishing interests will surely follow, which could lead to increased foreign incursions into the U.S. EEZ in the Arctic Ocean.

- The National Marine Fisheries Service (NMFS), based on a recommendation from the North Pacific Fisheries Management Council, imposed a moratorium on fishing within the U.S. EEZ north of the Bering Strait until an assessment of the practicality of sustained commercial fishing is completed. Regardless of the outcome of this assessment, the Coast Guard will continue to execute its mission to enforce and protect living marine resources in the high latitudes to include support for appropriate regulatory regimes.
- Regional Fishery Management Organizations (RFMO) are increasingly used to manage international fish stocks. As these organizations become a more prevalent element of the international fishery management system, the Coast Guard will have greater opportunities to deter illegal fishing and influence international regimes of enforcement. The Coast Guard will seek formal agreements with partners at multiple levels of government and internationally to facilitate maritime law enforcement. These partnerships provide a force multiplier by encouraging efficient, unified efforts across multiple agencies, and facilitating the sharing of information and pooling of assets.

4. Protect U.S. Sovereignty and Sovereign Rights

Consistent with domestic and international law, the U.S. government exercises all lawful claims of sovereignty, sovereign rights, and jurisdiction in the Arctic region. Among these sovereign rights are duties relating to freedom of navigation and overflight. As a military service, the Coast Guard will exercise and assert U.S. sovereignty where necessary, ensuring freedom of navigation and overflight, security of U.S. Arctic waters, and integrity of sovereign borders.

- The Coast Guard will use its status and expertise in the international maritime community to preserve American sovereign rights in U.S. Arctic waters. The effort requires strong relationships and dialogue with international partners.

- Arctic energy production in the region is expected to increase with global demands. This trend will require new or enhanced infrastructure such as pipelines, oil facilities, expanded port and intermodal transportation systems, and other shore-side infrastructure. Broadening partnerships within the Transportation Systems-sector and across other critical infrastructure sectors will be necessary to stay risk informed. This sharing of information will be required for the effective implementation of critical infrastructure protection programs. These public-private partnerships will provide the foundation for effective critical infrastructure protection.

U. S. COAST GUARD
20

ARCTIC FACT

The length of the Alaska-Canada border alone is 1,538 miles.

ARCTIC FACT

The first cruise ship successfully crossed the Northwest Passage in 1984.

VIII.

STRATEGIC OBJECTIVE: Broadening Partnerships

1. Develop and Promote the U.S. Coast Guard as an Expert Resource for Partners

As interest in the Arctic continues to grow, the Coast Guard must be positioned to advance U.S. priorities in the region. The Coast Guard will focus its efforts both internally and externally. Internally, the Service will examine and adapt to ensure frameworks, competencies, and resources address distinct regional challenges. Externally, the Coast Guard will continue to partner across sectors to build knowledge, capacity, and resilience.

- The Coast Guard must modify and tailor command elements (e.g., command and control, centers of expertise, etc.) to enable successful mission execution in the region.
- To share information and build competence, the Coast Guard must be a leader in promoting forums to advance understanding and appreciation for challenges and opportunities in the region.
- Native Alaskans, industry, and other Arctic stakeholders have untapped knowledge and resources that can help close information and operational gaps while minimizing risk. Regular information exchanges with Arctic stakeholders will take place both formally and ad hoc within the parameters of current laws and regulations. Such dialogue will help the Coast Guard to build awareness and knowledge of Arctic issues, and inform and guide development of policy.
- Academic resources are important for building knowledge and developing solutions to complex regional challenges. The Coast Guard will engage academia strategically through the DHS Science & Technology Directorate's network of Centers of Excellence (COE) and other Federal research partners, to promote education, research, and policy innovation in the Arctic region.
- The Coast Guard will establish an Arctic Center of Expertise at the U.S. Coast Guard Academy, pending resources or funding availability. This center will serve as a premier institution and collaboratively work with DHS Science & Technology Directorate's network of COE and others for the advancement of safe, secure, and environmentally responsible maritime activity in the Arctic region.

2. Leverage Domestic and International Partnerships as Force Multipliers

No single agency or nation has the sovereignty, capacity, or control over resources necessary to meet all emerging challenges in the Arctic.

- A strong network of partnerships is required to deliver the platforms, people, and protocols necessary to secure the region against transnational threats, facilitate legitimate commerce, and protect the environment. The Coast Guard will seek out new areas of mutual interest

to build strategic partnerships which promote innovative and affordable solutions, and enhance burden-sharing throughout the region. These efforts must be collaborative with the private sector and international partners to amplify capabilities, enhance operational effectiveness, and establish a balanced and capable future force construct.

- Improve modal and infrastructure risk assessments to identify interdependencies and incorporate mitigation measures into associated management frameworks.

3. Support a National Approach for Arctic Planning

The cross-cutting nature of Arctic issues requires collaborative and coordinated solutions. The Coast Guard will support whole-of-government efforts for Arctic planning and operations. By integrating operational capabilities, reducing redundancies, and leveraging authorities across all levels of governance, the Coast Guard will improve unity of command and unity of effort.

- The Coast Guard will consult and engage with federally recognized tribes in accordance with Executive Order 13175. The unique and valuable relationship established with tribal entities builds mutual trust and improves mission readiness.

- The Coast Guard will seek whole-of-government solutions that create efficiencies, eliminate redundancies, and contribute to improving stewardship of resources.

- The Coast Guard will lead and participate in national-level planning and exercises that include Federal, state, tribal, local, and non-governmental partners in order to test preparedness and adaptability. This inclusive approach will identify overlap in organizational roles, responsibilities, authorities, and resources.

IX.

Ensuring Long-Term Success

Beyond articulating vision and strategy for the Arctic region, there are several additional concepts and imperatives that are necessary for the Coast Guard to ensure long-term success. This section outlines such factors, which are independent of but directly support the three strategic objectives.

A "One DHS" Approach for Operations in the Arctic region and Adaptation to Climate Change: DHS is taking a major leadership role in adaptation to climate change. The risks posed or exacerbated by extreme weather, including recession of sea ice, droughts, severe storms, and diminishing river levels transcend national borders and impact DHS missions in new and uncertain ways. Through a unified approach across components, DHS will secure and manage our borders, prevent terrorism, enhance security, and adapt to the realities of climate change. By adapting to climate change early, DHS will be prepared to identify and mitigate vulnerabilities across each mission area. As changing environmental conditions continue to shape the Arctic region in years to come, the Coast Guard will leverage established partnerships with other DHS components including U.S. Customs and Border Protection (CBP), Immigration and Customs Enforcement (ICE), and the Federal Emergency Management Agency (FEMA) to bring a unified effort to the front lines. By working together and capitalizing on the unique authorities and capabilities of partner agencies, the Coast Guard, CBP, ICE, and FEMA will meet evolving responsibilities with efficiency and efficacy. Ultimately, unity of effort, situational awareness, integration and synchronization of planning will be essential at every level of coordination across the homeland security enterprise.

The Arctic as a National Priority: The changing Arctic environment presents challenges and opportunities that are driving the region to global prominence and making it a national priority. The Coast Guard's expertise in maritime safety, security, and environmental protection is essential to balancing the equities of increasing commercial activities with protection of the marine environment. Moreover, the Coast Guard's firmly established relationships with all stakeholders, including indigenous populations, make it a respected entity in decisions that affect the well-being of local communities. These long-standing relationships will ensure long-term success across a full spectrum of regional priorities.

Strategy, Policy, and Implementation: Although the Arctic consists of far more than its maritime domain, the greatest near-term economic, environmental, and other changes are taking place at sea and along the coastline. One of the nine priority objectives of the President's National Ocean Policy is taking appropriate action to respond as effective governmental stewards. In this regard, the National Ocean Policy is fully consistent with the Arctic Region Policy contained in NSPD-66/HSPD-25. The implementation plan contains specific, achievable actions, sets timelines to accomplish them, and lists the various Federal agencies and groups responsible for implementation. The National Ocean Policy objectives are an integral part of a national commitment to improve and integrate a more comprehensive ocean management policy in the United States.

Economic Security: The vast array of economic opportunities (e.g., oil and gas, shipping, fishing, mining, logging, adventure tourism, and renewable energy) is the primary driver for increasing human activity in the Arctic. As these activities increase there will be a corresponding demand for the Coast Guard to exercise all of its mission sets in the region. From a strategic perspective, sustainable economic development in the Arctic is essential for increasing economic security. Accordingly, the Coast Guard must continue to broaden partnerships.

Risk Management: Safely operating in the Arctic maritime environment, far from Coast Guard bases and other infrastructure, requires careful risk management. Long-term success means that the oil, gas, and shipping industries, as well as other entities involved in economic development, minimize risks and be prepared to respond quickly and decisively to incidents that may occur. Moreover, the Coast Guard must manage resources to help prevent, oversee, manage, and respond to incidents. Long-term success requires collaboration with industry, academia, environmental groups, tribes and other nations, state and local governments, and other stakeholders to acquire and apply best practices to manage risks. The three strategic objectives contribute to managing and reducing risks associated with increasing human activities over the long-term.

National Concept of Operations: In achieving long-term success, the Coast Guard must act to shape whole-of-government and whole-of-society approaches to future threats. Increased awareness, improved regimes of governance, comprehensive and systematic planning, and efficient operations are all essential to improving mission effectiveness in the region.

Public-Private Relationships: The oil and gas industry, shipping companies, mining and fishing enterprises, adventure tour operators, and others seeking gains in the Arctic serve critical roles – especially with respect to pollution prevention and response. The "polluter pays" principle is a motivating factor and corresponding requirement for all operators, to do all possible to prevent

and everything necessary to lessen their environmental impact. The Coast Guard, DHS, Department of the Interior, Environmental Protection Agency, National Oceanographic and Atmospheric Administration, Department of Transportation, Department of Defense, and other governmental experts must work together with industry and others in the private sector to identify and implement best practices to prevent and respond to challenges in the region. This effort may require innovate funding schemes to ensure appropriate federal presence.

Interagency: Federal agencies must work together efficiently and effectively to refine permitting, improve operational performance, and reduce risk. To ensure long-term success in the Arctic, the Federal government must continually improve inter-governmental coordination and decision-making processes. This is consistent with NSPD-66/HSPD-25, "Arctic Region Policy", the National Ocean Policy, and other goals and objectives. As an example, the interagency working group established by Executive Order 13580 to coordinate domestic energy development and permitting in Alaska will continue improving coordination nationally.

International Cooperation/Governance: The challenge of operating in the Arctic is a topic of major discussion at the Arctic Council, the IMO, NATO, the Commission on the Limits of the Continental Shelf, and other international forums. In the Ilulissat Declaration of 2008, the five nations bordering the Arctic (i.e., United States, Canada, Denmark/Greenland, Norway, and the Russian Federation) agreed that no new governance framework was required to meet their mutual long-term goals for the region. Specifically, they noted that the 1982 Convention on the Law of the Sea provided the provisions necessary for international cooperation.

Science and Technology: Scientific research and advancement of technology are vital to U.S. interests in the Arctic region. Access throughout the Arctic Ocean, including deep into the high ice-covered latitudes, is essential for U.S. scientific research efforts. The United States must have adequate icebreaking capability to support research that advances fundamental understanding of the region and its evolution. Accurate prediction of future environmental changes, and the delivery of near real-time information to end-users, requires obtaining, analyzing, and disseminating pertinent data from across the entire Arctic region. The United States has invested in infrastructure to collect environmental data, including the establishment of portions of an Arctic circumpolar observing network through a partnership between United States agencies, academic collaborators, and Arctic residents. The Nation must also make a strategic investment in icebreaking capability to enable access to the high latitudes over the long-term. To this end, the Coast Guard will partner closely with the DHS Science & Technology Directorate, the Department of Energy National Laboratories, NSF, NASA, NOAA, and others to advance U.S. interests involving education, environment sustainability, and scientific research.

Assessment and Evaluation: The United States must continue to set the standard for collaboration on scientific research. The Arctic environment is unique and changing. Increased human activity is expected to stress the Arctic environment, with potentially serious consequences for indigenous communities and ecosystems. Despite a growing body of research, many characteristics of the Arctic environment are still largely unsettled academically. Sea ice and glaciers are in retreat. Permafrost is thawing and coasts are eroding. Pollutants from within and outside the Arctic are contaminating the region. High levels of uncertainty remain concerning the effects of climate change and increasing human activity in the Arctic. Given the need for decisions to be based on sound scientific and socio-economic information, Arctic environmental research, monitoring, and vulnerability assessments are top priorities. Taking into account the lack of existing data and resources, Coast Guard efforts to understand and protect the Arctic environment must be risk-based, coordinated with partners and stakeholders, and rely upon the most comprehensive information available.

Requirements and Resources: Given a constrained fiscal climate globally, decision-makers must approach regional challenges realistically by balancing competing interests to delineate the highest priorities, and allocate resources accordingly.

Current gaps: Numerous studies have examined national and Coast Guard shortfalls in the Arctic, from the need for additional icebreakers and long-range patrol vessels to improved communications and maritime domain awareness capabilities and aviation assets. There is no obvious or easy way to close these gaps. However, recent reactivation of USCGC Polar Star will bring major icebreaking capability to the region. The Coast Guard will continue to monitor evolving Arctic activities, and re-invest, where funding allows, to overcome potential gaps and shortfalls. Improved communications, charting, domain awareness, infrastructure investments, and training and exercise opportunities are critical enablers for future success. Long-term commitment and innovation are necessary to address gaps as efficiently as possible.

Burden-sharing: The U.S. government and its allies must leverage capabilities to meet legal and policy responsibilities. The 1970 Memorandum of Understanding (MOU) between the Department of Transportation and the Canadian Ministry of Transport concerning research and development in transportation is an example of success in this regard. The MOU in part provides that Canadian icebreakers will provide support to the United States, as available, in the Arctic east of the Canadian Arctic archipelago, such as to enable resupply ships to reach Thule, Greenland. Conversely, United States icebreakers will assist, as available, to meet Canadian government requirements in the Arctic north of Alaska and west of Canada. A more recent example is the Agreement on Cooperation on Aeronautical and Maritime Search and Rescue (SAR) in the Arctic concluded among Arctic Council member states in May 2011. It coordinates international SAR coverage and response in the Arctic and establishes the area of SAR responsibility for each party. Such clear assignments of responsibilities and burden-sharing are critical for mission success in the region. Another recent example is the Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic, which the Arctic Council signed at a meeting of Ministers in Kiruna, Sweden, in May 2013. This agreement is designed to improve cooperative procedures for preparing and responding to offshore oil spills in the Arctic.

Long-term capability requirements and resources: Over the near-term, the Coast Guard must work within its existing resource base to meet requirements. Concurrently, this strategy establishes areas in which national capacity could be expanded to develop necessary capabilities.

Icebreaking capability by Coast Guard cutters is limited: The January 2012 resupply effort to Nome, Alaska, which required breaking an ice channel and escorting a commercial tanker to port, would not have happened but for the availability of the Coast Guard icebreaker USCGC Healy (WAGB 20). Surface capability is vital to meeting statutory responsibilities. As such, the Nation must plan for ice capable assets that can effectively carry out year-round search and rescue, environmental response, charting, scientific research, and other Arctic operations. The Coast Guard will inform national efforts to identify and invest in the appropriate mix of operational assets to meet interagency needs.

Forward operating locations: During the summer season, the Coast Guard may forward-deploy aircraft, cutters, small boats, communication assets, personnel, and/or other resources to Barrow, Alaska, and other sites in the Arctic. For example, in 2012, the Coast Guard deployed its largest Arctic force package in history as part of Operation Arctic Shield. Given the level of oil exploration and attendant risks associated with activity in the Chukchi and Beaufort Seas, the Coast Guard forward deployed the National Security Cutter USCGC Bertholf (WMSL-750), two helicopters, several boats, scores of support personnel, communications equipment, and other resources for the summer and early fall seasons. The use of mobile assets and seasonal presence, supplemented by existing shore-based infrastructure, will be the preferred strategy for Coast Guard operations during periods of peak activity.

X.

Conclusions

The Arctic region is gathering increased global attention due to dynamic geo-political factors such as climate change, diminishing permanent ice cover, and intensifying competition for undiscovered resources. However, fiscal constraints require thoughtful approaches for advancing priorities in science, resource development, environmental resilience, and security. A collaborative and innovative approach is needed to address governance, coordination, and requirements of capability across these areas.

At present, the Coast Guard ensures safe, secure, and environmentally responsible maritime activity in the Arctic by shifting priorities, reallocating resources, and using temporary facilities to keep pace with growing maritime activity. For example, as exploratory drilling began in earnest during the summer of 2012, the Coast Guard deployed a newly commissioned National Security Cutter with an embarked helicopter to facilitate operational communications, command and control, maritime domain awareness, and response operations. Moreover, shore-based facilities were leased to provide modest infrastructure for forward-deployed helicopters and other resources.

The Coast Guard meets Arctic mission responsibilities through difficult trade-offs. As such, this strategy is an important step forward in preparing for the future. As human activity increases in the region and challenges and opportunities intensify, the Coast Guard will require a larger and more permanent Arctic presence guided by prudent investments supporting national objectives.

This document establishes the Coast Guard's service strategy for operations in the Arctic. It describes today's realities within a geo-strategic context; outlines the Coast Guard's vision for the future; establishes strategic objectives of improving awareness, modernizing governance, and broadening partnerships; as well as considers tenets of long-term success. The next steps will be to continue engaging public and private stakeholders at the Federal, state, tribal and local levels; develop concepts of operation optimizing the Coast Guard's authorities, competencies, capabilities, and partnerships; determine future needs; and implement the three strategic objectives.

The Coast Guard's legacy is defined uniquely, and proudly, by adaption through adversity. However, responses to major catastrophes always highlight gaps in preparedness. Examples include the Exxon Valdez oil spill, the 9/11 terrorist attacks, and the 2010 BP Deepwater Horizon Oil Spill. Conversely, such disasters also affirm the Coast Guard's value proposition to the Nation. This strategy is informed by such historic lessons and embraces adaptation as a vital enabler in the U.S. Arctic. This Arctic Strategy will guide the U.S. Coast Guard as it seeks to ensure safe, secure, and environmentally responsible maritime activity in the Arctic.

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Appendix I

Glossary of Select Institutions, Organizations, and Agreements

Agreement on Cooperation on Aeronautical and Maritime Search and Rescue (SAR) in the Arctic. This international SAR agreement is an international treaty signed on May 12, 2011, by the member states of the Arctic Council. It coordinates international SAR coverage and response in the Arctic region and establishes areas of SAR responsibilities for each party. Such assignments of responsibilities and burden sharing are vital to successful Arctic SAR. The Arctic SAR Agreement is the first binding agreement negotiated under the auspices of the Arctic Council.

Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic. At a Ministerial meeting of the Arctic Council held on May 13-15, 2013 in Sweden, the members signed an agreement on cooperation to combat oil spills in the Arctic region. The treaty is designed to improve international procedures for preparing and responding to offshore oil spills in the Arctic region.

Arctic Council. The Arctic Council is a high-level international forum that addresses non-security-related issues faced by Arctic States and the indigenous people of the region. It has eight member states: Canada, Denmark (Greenland), Finland, Iceland, Norway, the Russian Federation, Sweden, and the United States. The Council focuses on sustainable development and environmental protection. In recent years, the Arctic Council has conducted studies on climate change, oil and gas development in the Arctic region, and Arctic shipping. Council Chairmanship rotates every 2 years.

Arctic Policy Board (*proposed*)**.** If approved, the Arctic Policy Board (APB) would be established under the Federal Advisory Committee Act to provide advice to the Secretary of Homeland Security, acting through the Commandant of the Coast Guard, on any matter of interest relating to the Arctic region. The APB would be available to the Secretary and Commandant to carry out specific assignments and respond to specific requests for information or advice related to the many challenges and opportunities in the Arctic region. It could also conduct studies, inquiries, and fact-finding investigations in consultation with individuals and groups in the private sector and/or with state, tribal, and local government jurisdictions among others.

Ilulissat Declaration. The five Arctic circumpolar nations – the United States, Canada, Denmark, Norway, and the Russian Federation – signed the Ilulissat Declaration on May 28, 2008, during the Arctic Ocean Conference in Ilulissat, Greenland. The conference addressed governance, climate change, marine environmental protection, maritime shipping safety, and division of emergency responsibilities in the Arctic region. One of the chief agreements in the Declaration was that the 1982 Convention on the Law of the Sea provided adequate international guidance on issues involving governance of the Arctic Ocean, and there was no need for any new comprehensive international legal regime. The parties also agreed to "the orderly settlement of any possible overlapping claims."

Interagency Working Group on Coordination of Domestic Energy Development and Permitting in Alaska. On July 12, 2011, President Obama signed Executive Order 13580 to establish an Interagency Working Group to coordinate the efforts of Federal agencies responsible for overseeing the safe and responsible development of onshore and offshore energy resources and associated infrastructure in Alaska. The Working Group has met regularly ever since, under the chairmanship of the Department of the Interior, to improve the efficient and responsible development of oil and natural gas resources in Alaska, both onshore and on the Outer Continental Shelf (OCS), while protecting human health, the environment, and indigenous peoples.

International Maritime Organization. The International Maritime Organization (IMO) was established in Geneva in 1948, and came into force 10 years later, meeting for the first time in 1959. Headquartered in London, the IMO is a specialized agency of the United Nations with 170 member states, three Associate Members, several indigenous groups, and observers. The IMO's primary purpose is to develop a comprehensive regulatory framework for shipping. It focuses on marine safety, environmental concerns, legal matters, technical cooperation, maritime security, and the efficiency of global shipping. In 2009 the IMO agreed to develop a Polar Code to provide construction and environmental guidelines to promote safe shipping in and through polar waters.

Inuit Circumpolar Council. The Inuit Circumpolar Council (ICC) is a multi-national, non-governmental organization and indigenous peoples' organization representing approximately 160,000 Inuit living in Alaska, Canada, Greenland, and Siberia. The organization first met in June 1977 in Barrow, Alaska, and initially represented Native Peoples from Canada, Alaska, and Greenland. In 1980, the charter and by-laws of ICC were adopted. The goals of the ICC are to strengthen ties between Arctic peoples and to promote wise human, cultural, political, and environmental policies at the international level.

National Security Presidential Directive-66/Homeland Security Presidential Directive-25, January 9, 2009, "Arctic Region Policy." NSPD-66/HSPD-25 establishes the policy of the United States with respect to the Arctic region and directs actions to implement policy. It establishes several policy goals for the Arctic region, including meeting national and homeland security needs, protecting the Arctic environment, strengthening institutions among the eight Arctic nations, involving indigenous communities in decisions that affect them, and promoting scientific research.

National Ocean Policy. This is the first comprehensive policy to promote the health and value of the Nation's ocean, coastal, and Great Lakes waters. This policy is based on the Final Recommendations of the Interagency Ocean Policy Task Force, as implemented in Executive Order 13547, July 19, 2010, "Stewardship of the Ocean, Our Coasts, and the Great Lakes." The National Ocean Council, a cabinet-level group that meets semi-annually, oversees policy implementation. Improved response to the opportunities and challenges represented by the changing Arctic is one of the nine priority objectives.

National Strategy for the Arctic Region. The President signed the strategy on May 10, 2013. It identifies strategic priorities for the U.S. Government which are to advance U.S. security interests, promote responsible Arctic stewardship, and strengthen international cooperation.

National Security Strategy of 2010. The Goldwater-Nichols Department of Defense Reorganization Act of 1986 directs each Administration to develop a National Security Strategy for a "common understanding" of the strategic environment and the Administration's intent. President Obama issued the latest National Security Strategy on May 26, 2010. The document advocates increased engagement with the Russian Federation, China, and India. It identifies nuclear non-proliferation and climate change as priorities. The Strategy also recognizes that "[t]he United States is an Arctic Nation with broad and fundamental interests in the Arctic region, where we seek to meet our national security needs, protect the environment, responsibly manage resources, account for indigenous communities, support scientific research, and strengthen international cooperation."

North American Ice Service. The North American Ice Service (NAIS) is an international partnership between the Canadian Ice Service, International Ice Patrol, and U.S. National Ice Center. The mission of the NAIS is to leverage the strengths of these organizations to monitor and provide the highest quality, timely, and accurate ice analysis, and to meet the needs of the maritime interests of the United States and Canadian governments in support of: safe and efficient maritime operations; weather and environmental modeling; national and environmental security; research and climate understanding; and international treaty obligations.

North Pacific Fishery Management Council. The North Pacific Fishery Management Council (NPFMC) is one of eight regional councils established by the Magnuson Fishery Conservation and Management Act of 1976 to manage commercial fisheries in U.S. waters. With jurisdiction over the 950,000-square-mile Exclusive Economic Zone (EEZ) off Alaska, the Council has primary responsibility for management of the commercial fishing industry in the Gulf of Alaska, Bering Sea, and Aleutian Islands. The NPFMC is responsible for developing a Fishery Management Plan that governs most ground fish, crab, salmon, scallop, and others. Given the fragile Arctic environment, the NPFMC is monitoring the region closely. In 2009, the Council developed a plan, which the National Marine Fisheries Service later approved, providing that finfish, mollusks, crustaceans, and other marine animals are not open to commercial fishing north of the Bering Strait. This moratorium on commercial fishing will continue until research can prove how a commercial fishery industry in the Arctic region might be sustainable.

Ottawa Declaration. The Ottawa Declaration is an international agreement signed in Ottawa, Canada, on September 19, 1996, which formally established the Arctic Council as an international forum for promoting cooperation, coordination, and interaction among the Arctic States, with the involvement of the Arctic indigenous communities and inhabitants, on issues such as sustainable development and environmental protection. It followed a predecessor Council from 1991, when the eight Arctic States signed the Arctic Environmental Protection Strategy (AEPS).

Regional Fishery Management Organization. A Regional Fisheries Management Organization (RFMO) is an international organization dedicated to the sustainable management of fishery resources in a particular region of international waters and/or of highly migratory species. An RFMO may focus on conservation of certain species of fish (e.g., tuna in the Atlantic) or of all fish stocks in a region (e.g., the Commission for the Conservation of Antarctic Marine Living Resources). If an RFMO is established for the Arctic, the Coast Guard will have greater opportunities to deter illegal, unreported, and unregulated (IUU) fishing and influence international enforcement policies to protect vulnerable fish stocks and other living marine resources in the region.

1982 Convention on the Law of the Sea. The Convention is the international agreement negotiated under the auspices of the third United Nations Conference on the Law of the Sea from 1973 through 1982. The Convention defines the rights and responsibilities of nations in their use of the world's ocean and coastal regions, establishing guidelines for commercial users, the environment, and the management of marine natural resources. The Convention replaced the four 1958 "Geneva Conventions" on different legal aspects of ocean uses. The United States is not a party to the Convention; however, the United States has accepted all but the provisions on deep seabed mining (Part XI) as customary international law.

U.S. Coast Guard Strategy for Maritime Safety, Security, and Stewardship. This document, promulgated by the Commandant of the Coast Guard on January 19, 2007, describes how the Coast Guard will work to safeguard the Nation against all threats, hazards, and challenges in the maritime domain, today and in the future. It discusses the Coast Guard's enduring roles, future challenges and threats, and a systems approach for improving maritime governance. The Strategy then presents strategic priorities that build on the Coast Guard's value proposition to the nation. Among its many references to the Arctic, the document notes that "[t]he Coast Guard must be more active in the development and implementation of national and international regimes" in view of the many challenges and opportunities in the Arctic region.

Appendix II

Observer Status to the Arctic Council (as of May 2013)

Twelve non-Arctic countries have been admitted as observers to the Arctic Council:

France
Germany
The Netherlands
Poland
Spain
United Kingdom
China
Italy
India
Japan
South Korea
Singapore

Nine Intergovernmental and Inter-Parliamentary Organizations have been given observer status:

International Federation of Red Cross & Red Crescent Societies (**IFRC**)
International Union for the Conservation of Nature (**IUCN**)
Nordic Council of Ministers (**NCM**)
Nordic Environment Finance Corporation (**NEFCO**)
North Atlantic Marine Mammal Commission (**NAMMCO**)
Standing Committee of the Parliamentarians of the Arctic Region (**SCPAR**)
United Nations Economic Commission for Europe (**UN-ECE**)
United Nations Development Program (**UNDP**)
United Nations Environment Program (**UNEP**)

Eleven Non-government organizations are observers in the Arctic Council:

Advisory Committee on Protection of the Seas (**ACOPS**)
Arctic Circumpolar Gateway
Association of World Reindeer Herders (**AWRH**)
Circumpolar Conservation Union (**CCU**)
International Arctic Science Committee (**IASC**)
International Arctic Social Sciences Association (**IASSA**)
International Union for Circumpolar Health (**IUCH**)
International Work Group for Indigenous Affairs (**IWGIA**)
Northern Forum (**NF**)
University of the Arctic (**UArctic**)
World Wide Fund for Nature-Global Arctic Program (**WWF**)

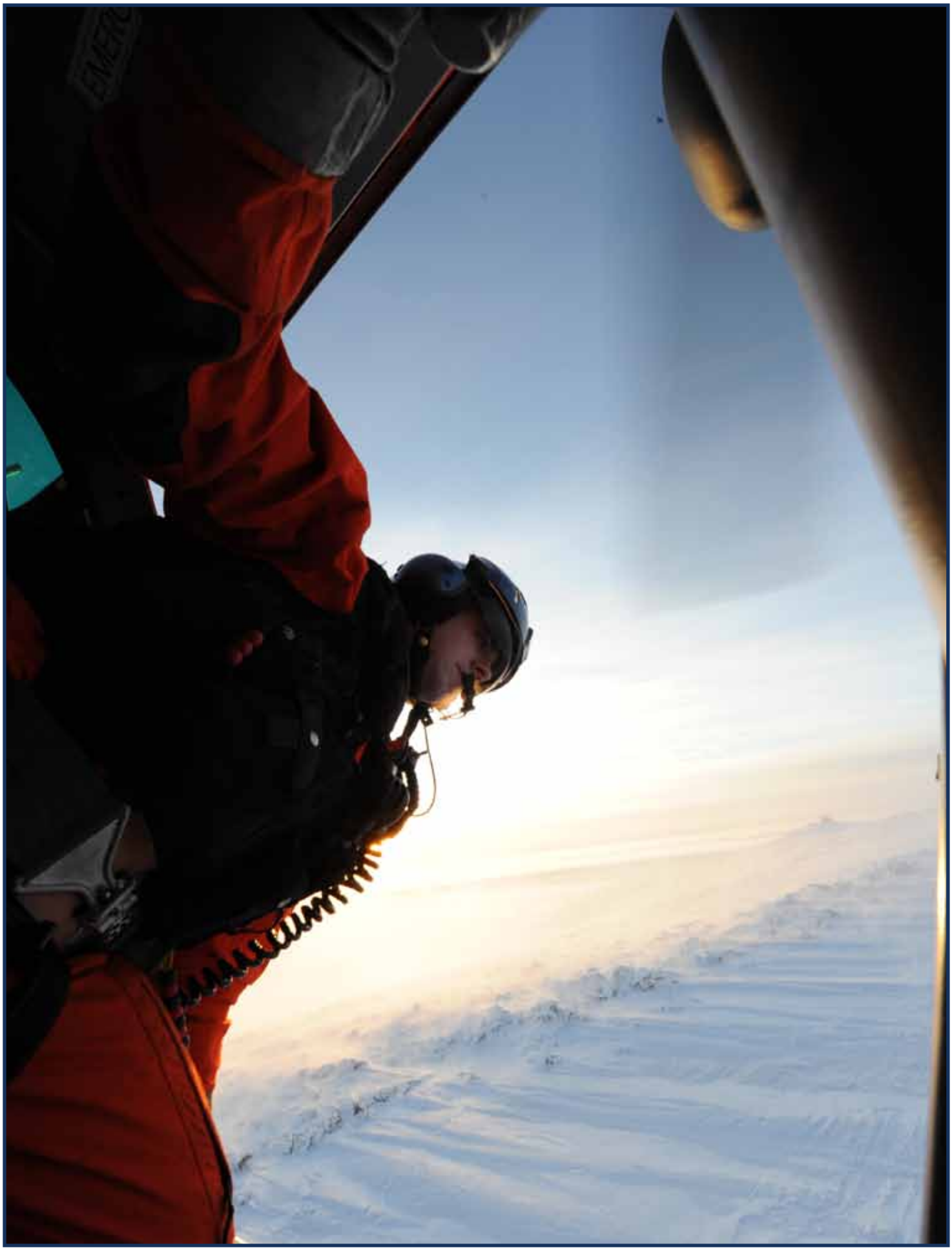
Observer status in the Arctic Council is open to:

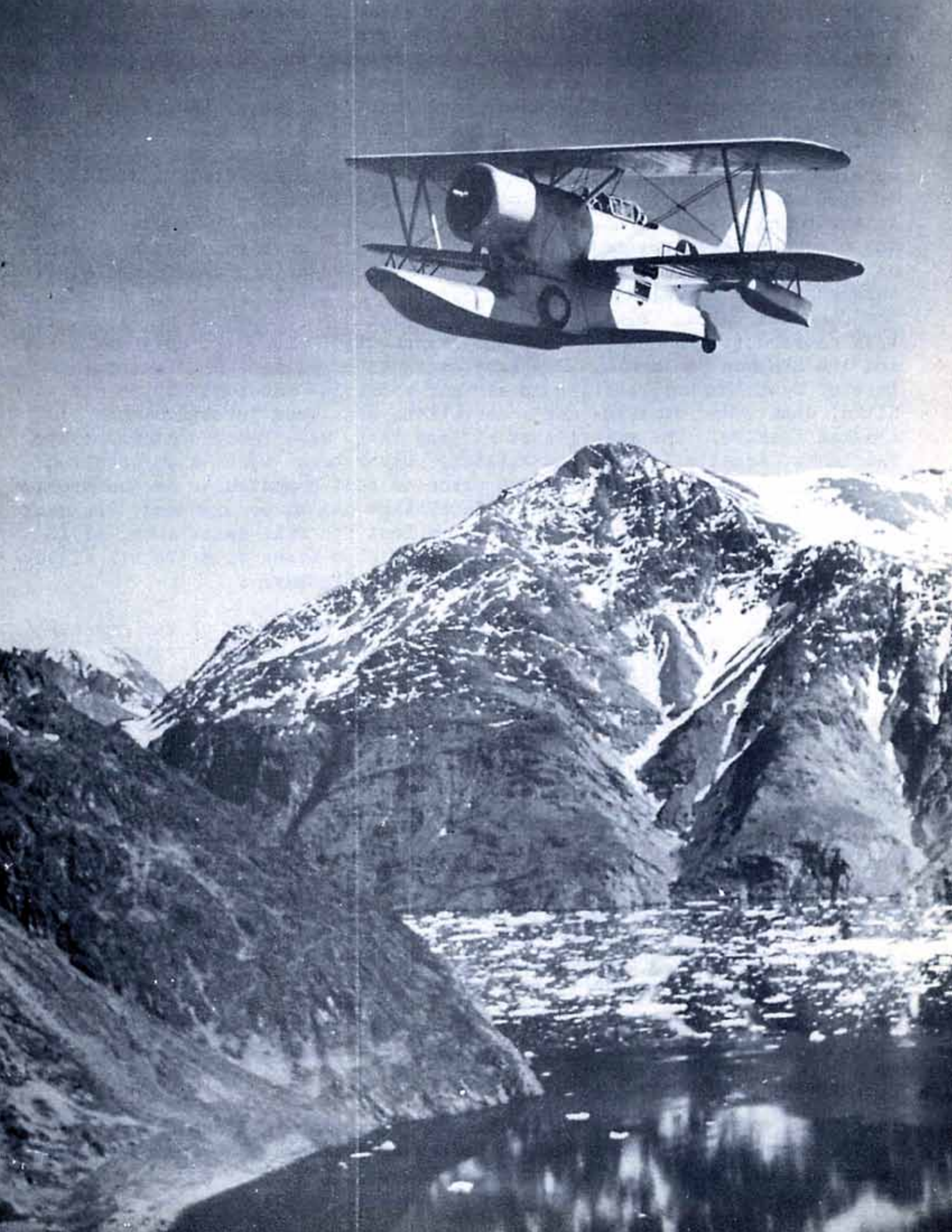
- non-Arctic States
- inter-governmental and inter-parliamentary organizations, global and regional
- non-governmental organizations

Criteria for admitting observers:
As set out in the Declaration on the Establishment of the Arctic Council and governed by the Arctic Council Rules of Procedure, observer status in the Arctic Council is open to non-Arctic States; inter-governmental and inter-parliamentary organizations, global and regional; and non-governmental organizations that the Council determines can contribute to its work. In the determination by the Council of the general suitability of an applicant for observer status the Council will, inter alia, take into account the extent to which observers:

- Accept and support the objectives of the Arctic Council defined in the Ottawa declaration.
- Recognize Arctic States' sovereignty, sovereign rights, and jurisdiction in the Arctic.
- Recognize that an extensive legal framework applies to the Arctic Ocean including, notably, the 1982 Convention on the Law of the Sea, and that this framework provides a solid foundation for responsible management of this ocean.
- Respect the values, interests, culture, and traditions of Arctic indigenous peoples and other Arctic inhabitants.
- Have demonstrated a political willingness as well as financial ability to contribute to the work of the Permanent Participants and other Arctic indigenous peoples.
- Have demonstrated their Arctic interests and expertise relevant to the work of the Arctic Council.
- Have demonstrated a concrete interest and ability to support the work of the Arctic Council, including through partnerships with member states and Permanent Participants bringing Arctic concerns to global decision making bodies.

Role of observers:
Decisions at all levels in the Arctic Council are the exclusive right and responsibility of the eight Arctic States with the involvement of the Permanent Participants. Observers shall be invited to the meetings of the Arctic Council once observer status has been granted. While the primary role of observers is to observe the work of the Arctic Council, observers should continue to make relevant contributions through their engagement in the Arctic Council primarily at the level of Working Groups. Observers may propose projects through an Arctic State or a Permanent Participant but financial contributions from observers to any given project may not exceed the financing from Arctic States, unless otherwise decided by the Senior Arctic Officials. In meetings of the Council's subsidiary bodies to which observers have been invited to participate, observers may, at the discretion of the Chair, make statements after Arctic states and Permanent Participants, present written statements, submit relevant documents and provide views on the issues under discussion. Observers may also submit written statements at Ministerial meetings.





Appendix III

U.S. Coast Guard Arctic History

The Coast Guard has carried out missions in the Arctic region since 1867, when Alaska first became part of the United States. From enforcing living marine resource regulations for fish stocks and fur seals, to saving stranded whalers caught on ice flows, to enabling the establishment of cold war defense infrastructure, the Coast Guard has protected those on Arctic waters, protected the Nation from threats delivered from Arctic waters, and protected Arctic resources themselves. Some of the Coast Guard's greatest heroes and namesakes earned their reputations in the Arctic. For the Coast Guard, the Arctic is a legacy, heritage, pedigree, and domain of profound importance.

The Arctic is a cold and forbidding region. Death is often only one mistake away, and many have perished trying to best nature in this extreme climate. Yet, for the Coast Guard, this same hostile landscape has defined some of the service's most inspirational figures. Names like Jarvis, Healy, and Bertholf, now synonymous with operational excellence, performed admirably in this forbidding region. Cutters Bear, Thetis and Rush were the ships that carried these men forth for the Nation and the indigenous people of the region. Following the Alaska purchase in 1867, the Revenue Cutter Lincoln transported some of the first U.S. officials to tour the new territory. As the vast size and remoteness of this new land became clearer, the nation recognized that more than just conventional measures would be required to carry out Federal responsibilities. The original priorities included meeting the needs of whalers and indigenous peoples, as well as preventing over-harvesting of seals. The Revenue Cutter Thetis was one of the first ships to conduct a Bering Sea patrol, ensuring international fishing fleets declared boundaries and laws. Care and concern for the people of Alaska was at the forefront of the Coast Guard's mission in the region. In 1891, Revenue Cutter Bear and its famous commanding officer, Capt. Michael "Hell Roaring Mike" Healy, acquired herds of reindeer from nearby Siberia to help ease the transition of indigenous peoples from hunters to herdsman, thus ensuring a steady food supply.

The Coast Guard's Overland Expedition of 1897 was an extraordinary display of courage and devotion in the Arctic. During the fall of 1897, eight whaling vessels with 265 persons embarked became trapped in the ice near Point Barrow. The Revenue Cutter Service was called upon to attempt a rescue mission. With the potential of these ships not being rescued until the summer of 1898, Revenue Cutter Bear sailed north in support of two missions: first, to break free the trapped whaling fleet; and second, to send an overland expedition to the whaling fleet to ensure survival through the winter until the Bear could arrive and free them. It was successful in both, saving hundreds of lives.

At the height of the Cold War, the Coast Guard again served a leadership role in the Arctic, this time in the defense of our Nation. The Distant Early Warning (DEW) Line was constructed as an early warning radar observation and detection outpost against the threat of hostile aircraft reaching North America. The Navy's Military Sealift Command transported over 2.5 million tons of cargo, 12 million barrels of fuel, and 7,500 personnel over a period of two years to construct some 50 DEW Line sites. The Coast Guard, in conjunction with Navy and Canadian forces, led what remains one of the largest mobilizations of materials and equipment ever in the Arctic. Moreover, Coast Guard Cutters Storis, Bramble, and Spar were the first U.S. ships to sail through the Northwest Passage. After clearing the way for the summer DEW Line construction work, the cutters continued to press on through the openings in the summer ice cover. Eventually rendezvousing with the Canadian icebreaker HMCS Labrador on Sept. 6, 1957, the cutters proceeded together through the Bellot Strait, which is geographically the northernmost point of the North American continent.

Most recently in 2012, the Coast Guard Cutter Healy, the Nation's only operational polar icebreaker as of winter 2012, received national acclaim for breaking through ice to enable a critical delivery of fuel to Nome, Alaska. The Healy's efforts facilitated the delivery of diesel fuel and gasoline to the city after the last scheduled delivery of the year was cancelled due to early winter storms. Healy rendezvoused with the Russian fuel tanker Renda for this mission. The vessels then proceeded to Nome, breaking through ice upwards of eight feet thick to deliver fuel and avoid a crisis.

Appendix IV

U.S. Coast Guard Forces and Assets

1. **U.S. Coast Guard Operating Forces – Maritime Trident of Forces.** Coast Guard forces are organized into a Maritime Trident: (1) Shore-based Forces, (2) Maritime Patrol Forces, and (3) Deployable Specialized Forces.

   a. **Shore-based Coast Guard forces** are comprised of Sector commands and specific subordinate units that operate in ports, waterways, and coastal regions of the United States and its territories. Sector commands include a command and control element and staff (i.e., with organic mission support and intelligence functions), and prevention and response elements. Prevention elements conduct marine inspections of commercial vessels, management of waterways, and investigations following marine accidents. Response elements conduct emergency response and enforcement activities (e.g., search and rescue, pollution investigation, security patrols, and maritime interdiction).

   b. **Maritime Patrol Forces** are comprised of U.S. Coast Guard cutters, aircraft, and their crews. These assets deploy primarily in coastal and offshore areas to conduct prevention and response operations through patrol, presence, and at-sea operations (e.g., interdiction, boarding, enforcement, and search and rescue). Cutters provide armed, persistent presence, and command and control capabilities throughout the maritime domain. In addition to conducting Coast Guard operations, cutters project U.S. presence and protect U.S. sovereignty. These forces provide unique capabilities to the Department of Defense for joint operations, including warfighting under the operational command of combatant commanders. Cutters also include polar icebreakers, which are the Nation's only surface capability for providing access to Polar Regions when restricted by ice. Maritime Patrol Forces also conduct Intelligence, Surveillance, and Reconnaissance (ISR) activities in support of Coast Guard and national requirements.

   c. **Deployable Specialized Forces** (DSF) are teams of readily available and globally deployable personnel and assets with specialized capabilities. They are organized by specialty and capability. DSF conduct operations across a range of Coast Guard missions where unique, high-end capabilities are required.

2. **U.S. Coast Guard Assets.** Coast Guard Cutters Polar Star and Polar Sea are the two most powerful non-nuclear icebreakers in the world. At the time of this writing, neither vessel is fully-mission-capable. Polar Star recently underwent an extensive refit and was reactivated for service by the Coast Guard in December 2012. Polar Sea is in caretaker status. Coast Guard Cutter Healy is a medium icebreaker with the capability to operate seasonally in the Arctic. Each of these icebreakers is outfitted with a variety of ice-capable small boats and a flight deck.

   The Coast Guard has other cutters capable of operating in the Arctic during periods of limited ice. The Coast Guard's Seventeenth District, which is headquartered in the State of Alaska, is home to ice-strengthened ocean-going buoy tenders (WLB). WLBs are capable of operating in light ice. They provide heavy-lift crane capability and deploy small boats, but are not equipped with a flight deck and have limited endurance. Coast Guard Cutter Alex Haley, also home ported in Alaska, can operate in light ice conditions, is flight-deck equipped and capable of extended time on station. Other ships in the Coast Guard's fleet, including the National Security Cutters and High Endurance Cutters, are not ice-strengthened, but can operate in open water north of the Arctic Circle for limited periods.

   Air Station Kodiak is the closest Coast Guard air station to the Arctic. It has the following airframes: fixed wing HC-130H Hercules aircraft, MH-60T Jayhawk helicopters, and MH-65D Dolphin helicopters. Air Station Sitka, located in Southeast Alaska, has MH-60T Jayhawk helicopters. The Coast Guard has no shore-based small boats capable of operating in the Arctic, nor shore infrastructure for their support.

   At the time of this writing, the Coast Guard is recapitalizing its major cutter assets, and new National Security Cutters are replacing the aging Hamilton-class High Endurance Cutter (WHECs). The condition of this deepwater fleet is tenuous, and until the Coast Guard receives all eight NSCs planned for in the acquisition program of record, the demand for these ships will outpace availability. Moreover, the nearest port with refueling capability lies in Nome, Alaska for smaller vessels. NSCs and WHECs typically rely on Dutch Harbor at the southeastern end of the Bering Sea for refueling.

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