



Vessel Traffic Communications in Coastal Western Alaska

October 11, 2018

Fiscal Year 2018 Report to Congress



**Homeland
Security**

United States Coast Guard

Foreword

October 11, 2018

I am pleased to present the following report, "Vessel Traffic Communications in Coastal Western Alaska," as prepared by the U.S. Coast Guard.

The Explanatory Statement accompanying the Fiscal Year 2018 Department of Homeland Security Appropriations Act (P.L. 115-141) directs the submission of a plan to provide communications throughout the entire Coastal Western Alaska Captain of the Port zone to improve waterway safety and to mitigate close calls, collisions, and other dangerous interactions between large ships and subsistence hunter vessels.



Pursuant to congressional requirements, this report is being provided to the following Members of Congress:

The Honorable Kevin Yoder
Chairman, House Appropriations Subcommittee on Homeland Security

The Honorable Lucille Roybal-Allard
Ranking Member, House Appropriations Subcommittee on Homeland Security

The Honorable Shelley Moore Capito
Chairman, Senate Appropriations Subcommittee on Homeland Security

The Honorable Jon Tester
Ranking Member, Senate Appropriations Subcommittee on Homeland Security.

I am happy to answer any further questions you may have, or your staff may contact my Senate Liaison Office at (202) 224-2913 or House Liaison Office at (202) 225-4775.

Sincerely,

A handwritten signature in blue ink that reads "Karl L. Schultz". The signature is stylized and includes a large loop at the end.

Karl L. Schultz
Admiral, U.S. Coast Guard
Commandant



Vessel Traffic Communications in Coastal Western Alaska

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I. Legislative Language

This document responds to the language set forth in the Explanatory Statement accompanying the Fiscal Year 2018 Department of Homeland Security (DHS) Appropriations Act (P.L. 115-141).

Specifically, the Explanatory Statement states:

Not later than 180 days after the date of enactment of this Act, the Coast Guard shall submit to the Committees a report on a plan to provide communications throughout the entire Coastal Western Alaska Captain of the Port zone to improve waterway safety and to mitigate close calls, collisions, and other dangerous interactions between large ships and subsistence hunter vessels. The report should also include: any shore infrastructure improvements necessary to fulfill such a plan; an explanation of the feasibility of establishing a vessel traffic service that covers the region using existing resources or public-private partnerships; and a timeline of when funding is needed to implement these improvements.

II. Discussion

The U.S. Coast Guard in the Arctic

The United States is an Arctic nation that has substantial political, national security, natural resource, environmental, socioeconomic, and other interests in the region.

Although winter sea travel still is severely limited because of extensive ice coverage across the region, record low ice extent in recent summers has made seasonal maritime navigation more feasible for longer periods of time. The current seasonal ice edge recession rate in the Arctic allows for commercial, subsistence, and recreational maritime activity for approximately 3 to 5 months each year.

The rate of ice recession is forecasted to increase the length of that season, and the Coast Guard is observing increased maritime activity during the “shoulder” seasons. Much of the current maritime activity in the region is driven by traditional subsistence activities such as hunting and economic development such as resource extraction, adventure tourism, and trans-Arctic shipping.

Increased activity in the Arctic maritime environment requires an extended Coast Guard presence in the Arctic operating area and improved communications. Coast Guard District Seventeen, as the operational command for Coast Guard operations in the Arctic, is responsible for carrying out missions in an area of operations that encompasses more than 3,853,500 square miles and more than 47,300 miles of shoreline throughout Alaska and the Arctic.¹

Communications Challenges in the Arctic

Communications in the Arctic maritime environment are challenged by the region’s inherent remoteness, mountainous terrain, extreme weather conditions, and atmospheric interference. Network connectivity and signal bandwidth also make communications in the Arctic challenging.

In the past decade, the Coast Guard has made significant progress to improve communications in Alaska and the Arctic. In 2007, the Coast Guard established a project office in Juneau, Alaska, to manage the design, development, deployment, and integration of the Rescue 21 Alaska system. Rescue 21 Alaska is an advanced command, control, and communications system that greatly enhances the Coast Guard’s ability to execute missions in the coastal zone, and it is a critical capability that supports the Coast Guard’s search and rescue (SAR) mission-program performance. Rescue 21 Alaska incorporates Very High Frequency (VHF) radio Digital Selective Calling (DSC) capabilities.

In the Alaskan coastal western region, the Coast Guard has made significant progress in improving communications. In 2014, the Coast Guard constructed a Remote Fixed Facility (RFF) at Middle Cape that provides distress communications coverage for Southwestern Kodiak Island. Also in

¹ See <https://www.pacificarea.uscg.mil/Our-Organization/District-17/>.

2014, the Coast Guard installed DSC equipment on other RFFs in Glen Alps, Pillar Mountain, and Valdez.

More recently, the Coast Guard has focused efforts to improve satellite communications capability aboard cutters and aircraft operating in the Arctic. To support the Coast Guard's annual *Arctic Shield* operations,² the Coast Guard transports a mobile Arctic support system to Uquiagvik from mid-June to late-October to supplement fixed VHF and high frequency communications.

Finally, the Coast Guard's Research and Development Center has been reviewing how best to extend Coast Guard tactical and public service voice and data networks in the region. This fall, the Coast Guard—in cooperation with DHS, the U.S. Air Force, industry, and academia partners—expects to launch a “CubeSat,” which is intended to detect emergency position-indicating radio beacons for SAR missions. If successfully deployed, the CubeSat can remain in suborbit for 2 or more years while its capabilities are tested. Results from this testing will be used to determine in what scenarios this technology could support Coast Guard mission needs and could assist in developing operational requirements.

The U.S. Coast Guard's Cooperative Research and Development Agreement with Marine Exchange of Alaska

To continue to improve waterway safety specific to Coastal Western Alaska, in 2013, the Coast Guard embarked on a Cooperative Research and Development Agreement (CRADA) with the Marine Exchange of Alaska. The CRADA was established to address concerns over increasing maritime activity in the Arctic, along with the potential for maritime accidents and serious harm to the Arctic environment. The CRADA's objective is to define, develop, demonstrate, and evaluate, in an operational setting, a technology approach to a “Next Generation Arctic Maritime Navigational Safety Information System,” which will provide time-critical information to mariners to assess and manage their voyage risks better as they transit the U.S. Arctic Exclusive Economic Zone.

The CRADA is exploring the feasibility of a public-private partnership that uses shoreside Automatic Identification System (AIS) stations. These stations have a broader reach than current Coast Guard radio and AIS networks, and they could enhance navigation and marine safety through the dissemination of near real-time maritime safety information—information that could detail the presence of maritime subsistence hunter activity.

Until the CRADA is concluded, the results are analyzed, and a final project report is prepared, the Coast Guard will not know the feasibility of such a public-private partnership.

² Additional information regarding *Arctic Shield* operations can be found at <https://www.pacificarea.uscg.mil/Our-Organization/District-17/Arctic-Shield/>.

U.S. Coast Guard Vessel Traffic Services

Under the Ports and Waterways Safety Act (33 U.S. Code Chapter 25), the Coast Guard maintains the authority to establish and operate Vessel Traffic Services (VTS) in our Nation's busiest and most vulnerable ports and waterways.

Before establishment of a VTS, the Coast Guard conducts an analysis to determine if a VTS is an appropriate measure to reduce risk on a given waterway. Next, the Coast Guard conducts a cost/benefit analysis of the proposed VTS. Finally, the Coast Guard must find a compelling federal interest to establish a VTS with the full authority of the U.S. Government. Factors that the Coast Guard considers when identifying such an interest include: the need for a traffic organization service provided from ashore; the need for a level of leadership unavailable or in dispute at the local level; or the need for the highest levels of environmental protection in a particularly vulnerable waterway.

On the basis of those statutory requirements, the Coast Guard currently operates VTS in 12 U.S. waterways: New York, New York; Sault Sainte Marie, Michigan; Louisville, Kentucky; Tampa, Florida; New Orleans, Louisiana; Morgan City, Louisiana; Port Arthur, Texas; Houston/Galveston, Texas; Los Angeles/Long Beach, California; San Francisco, California; Seattle, Washington; and Valdez, Alaska.

III. Conclusion

The Coast Guard recognizes the need for clear communications and waterway safety to reduce close calls, collisions, and other dangerous interactions between large ships and subsistence hunter vessels in Coastal Western Alaska. The Coast Guard remains committed to performing all of its statutory missions, ensuring the sovereignty of the United States, leveraging partnerships, and increasing maritime domain awareness to support safe, secure, and environmentally responsible maritime activity in U.S. Arctic waters.

IV. Appendix: Abbreviations

Abbreviation	Definition
AIS	Automatic Identification System
CRADA	Cooperative Research and Development Agreement
DHS	Department of Homeland Security
DSC	Digital Selective Calling
RFF	Remote Fixed Facility
SAR	Search and Rescue
VHF	Very High Frequency
VTS	Vessel Traffic Service(s)