



Bering Sea and Arctic Ocean Pollution Response

September 10, 2018

Fiscal Year 2017 Report to Congress



**Homeland
Security**

United States Coast Guard

Foreword

September 10, 2018

I am pleased to present the following report, “Bering Sea and Arctic Ocean Pollution Response,” as prepared by the U.S. Coast Guard.

The Fiscal Year 2017 Department of Homeland Security Appropriations Act (P.L. 115-31) requires the submission of the Coast Guard's plans to ensure that it is capable of conducting its response missions throughout the Western Alaska Captain of the Port Zone, including the Bering Sea and Arctic Ocean.

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,



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





Bering Sea and Arctic Ocean Pollution Response

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I. Legislative Language

This document responds to language in Senate Report 114-264 accompanying the Fiscal Year 2017 Department of Homeland Security Appropriations Act (P.L. 115-31).

Specifically, Senate Report 114-264 states:

Not later than 180 days after the date of enactment of this Act, the Secretary shall submit to the Committee a report on the Coast Guard's plans to ensure that it is capable of conducting its response missions throughout the Western Alaska Captain of the Port Zone, including the Bering Sea and Arctic Ocean. The report shall include: a list of pollution response equipment and spill response organizations capable of mitigating an oil or hazardous material release in the Bering Sea or Arctic Ocean; the role prevention plays in preventing a pollution incident; a detailed description of how a spill that occurs in icy waters will be mitigated and the methods used; and how the Coast Guard is partnering with federal, state, and local entities to ensure a well-coordinated response.

II. Pollution Response Equipment and Capabilities

USCG Pollution Response Equipment in Alaska

The U.S. Coast Guard (USCG) maintains two types of spill response systems deployed from afloat units: the Spilled Oil Recovery Systems (SORS) and Vessel of Opportunity Skimming Systems (VOSS). SORS and VOSS equipment can be deployed and operated from a properly equipped vessel. There are two USCG open-water, SORS-capable, response resource units homeported in the Western Alaska Captain of the Port (COPT) Zone: Coast Guard Cutter SPAR, homeported in Kodiak, Alaska, and CGC HICKORY, homeported in Homer, Alaska. Figure 1 shows the locations of SORS and VOSS equipment, as well as the homeports of the response units in Alaska. Table 1 outlines the deployable response equipment located in Anchorage, Alaska. The deployable equipment is maintained in ISU-90 containers that are designed to be loaded easily into and delivered by aircraft.

Figure 1: Alaska-based USCG SORS and VOSS Equipment Sites

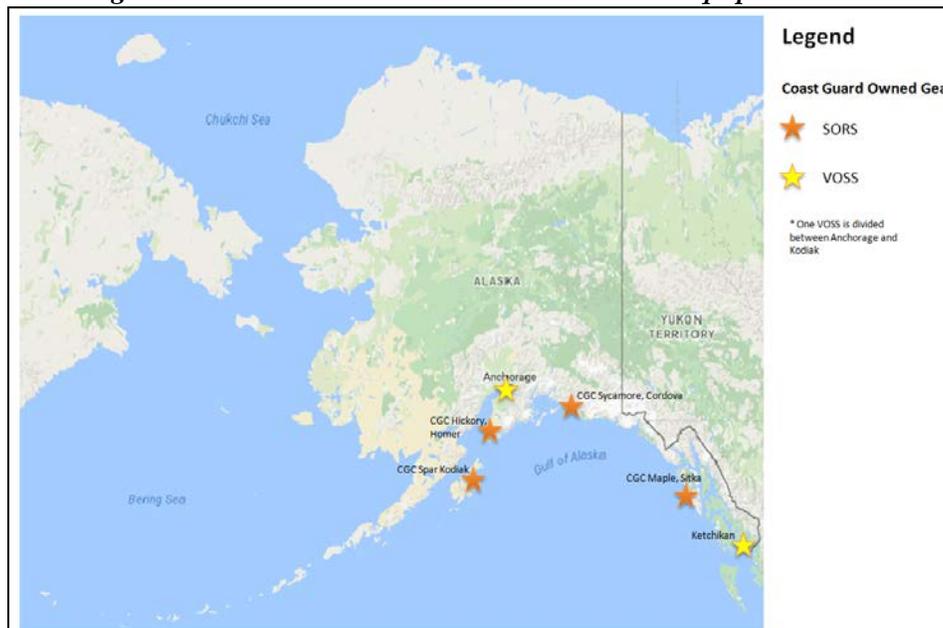


Table 1: USCG Pre-positioned and Deployable Equipment in Anchorage, AK

Standard Pre-positioned Equipment Loads in 20ft container (total of 50)	Deployable Loads	Aerial Dispersant Delivery System
Harbor boom (various lengths, ranging from 200'- 2400')	7 containers, each containing harbor boom and anchoring systems (2,900' total)	Located in Anchorage, AK; owned by SERVVS
Sorbents (various pads, boom, and sweep)	10 containers of ocean boom (5,000' total)	5000-gallon capacity
Pumps – Yanmar & Honda 2” and 3” pumps	1- various sorbent materials (pads, boom, and sweep)	Stockpile of dispersants in Anchorage (65,000 gallons of 9527 COREX)
Skimmer – SkimPac 4200 hand-operated weir	1- 60-person personnel protective equipment (PPE) tote, pump, SkimPac, generator, and temporary storage bladder	Training annually with Lynden Air, SERVVS Alyeska, and Air Station Kodiak
	1- field camp supplies	
	1 Air Deployable Mobile Command Post	
50 PPE totes	5 Conex boxes with Harbor Boom (10,000' total)	

Deployable USCG Response Capabilities

National Strike Force (NSF): The NSF is comprised of more than 200 active-duty, civilian, and reserve personnel and includes the NSF Coordination Center, the Atlantic Strike Team, the Gulf Strike Team, the Pacific Strike Team, the USCG Incident Management Assist Team (IMAT), and the Public Information Assist Team. The NSF supports the Federal On-Scene Coordinator (FOSC) and/or Lead Agency Incident Commander response organization by rapidly deploying a surge capacity of technical experts, specialized response equipment, and incident management skills in preparing for and minimizing adverse impacts from oil and hazardous substances. The following NSF capabilities and personnel can be deployed within 6 hours of an incident:

- 12-member strike team qualified to perform hazardous materials responses to handle and control actual or potential releases or spills;
- 6-member incident management team qualified to assist with operations, logistics, and planning; and
- 2-member public information team qualified to assist with crisis communications.

The NSF deploys to incidents via commercial or USCG/Department of Defense aircraft, which generally are configured to carry equipment pallets or ISU-90 (shipping container) ready-loads. The NSF deployable spill response equipment includes:

- Spill Response Systems
 - VOSS;
 - Inflatable boom and mooring system;
 - Large, small, and nonsubmersible pumping systems with hydraulic lines and discharge/suction hoses rated to operate in extreme cold temperature;
 - Enhanced Viscous Oil Pumping System;
 - Environmental monitoring equipment for low-explosive limit, Volatile Organic Compounds, and aromatic hydrocarbons

- Support Equipment
 - Canflex SeaSlug temporary storage;
 - Response Command Post command and communications trailer;
 - Utility boats and all-terrain vehicle;
 - Nonsecure telecommunications equipment (e.g. computers, phones, fax, radio, etc.)
- Deployable IMAT kit appropriate for assigned position

District Response Advisory Team (DRAT): DRATs execute preparedness and response duties in support of legislative mandates in the Federal Water Pollution Control Act of 1972 and the Oil Pollution Act of 1990 (OPA 90). DRAT preparedness duties include assisting the FOSCs and Area Committees in developing booming strategies and resource priorities. DRAT response duties include serving as a technical advisor to the District Commander, and/or FOSC, deploying to support field operations as requested, validating geographic response strategies, providing oversight and coordination for training, and providing Area Contingency Plan (ACP) and Regional Contingency Plan (RCP) input.

SUPSALV Pollution Response Equipment

The U.S. Navy Supervisor of Salvage and Diving's depot in Anchorage, Alaska, is available for response assistance in the event of large spills. The Salvage Facilities Act (Title 10 U.S. Code § 7361-7664) authorizes the Secretary of the Navy to provide necessary salvage facilities and to provide oil spill response capability to the FOSC. SUPSALV has an extensive and diverse inventory of deployable response and salvage equipment.

Industry Pollution Response Equipment

The OPA 90 requires owners or operators of certain oil-handling facilities and all applicable tank vessels and nontank vessels (hereafter referred to as "plan holders") to prepare and submit response plans to the USCG. The plans must outline how the plan holder will, to the maximum extent practicable, respond to a worst case discharge (WCD), and to a substantial threat of such as a discharge of oil or a hazardous substance. The plan holder must ensure, by contract or other approved means, the availability of private personnel and equipment necessary to remove to the maximum extent practicable a WCD, including a discharge from a fire or explosion. The plan holder is required to name qualified individuals who speak English and reside in the U.S., and who are available to respond 24 hours a day, with the full authority of the owner or operator to activate the response plan and contract for oil spill response services. Vessel plan holders must identify salvage and marine firefighting (SMFF) resource providers to perform the 19 required SMFF services, outlined in Subpart I of Title 33, Code of Federal Regulations (CFR), part 155. Both vessel response plans (VRP) and facility response plans (FRP) must align with ACPs and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), for response to oil spills and hazardous substance releases.

In addition to aligning with the applicable ACP and NCP, response plans must meet the requirements established in the National Planning Criteria (NPC). The NPC are the regulatory requirements in Title 33, CFR, parts 154 and 155. However, in some remote areas such as

Alaska, due to geographical, environmental, or other reasons, the NPC may not be appropriate to a particular plan holder. As such, the regulations allow a plan holder to propose alternative planning criteria (APC) when they believe the NPC are inappropriate or cannot be met. Proposed APC must specify which NPC cannot be met and how the plan holder will address that gap. APC serve a vital role in VRPs for tank and nontank vessels operating in Western Alaska. Figure 2 shows locations of response resources used by plan holders in their APC. Table 3 lists the response equipment owned by each oil spill response organization (OSRO) for use in APC.

Figure 2: Response Resources for APC

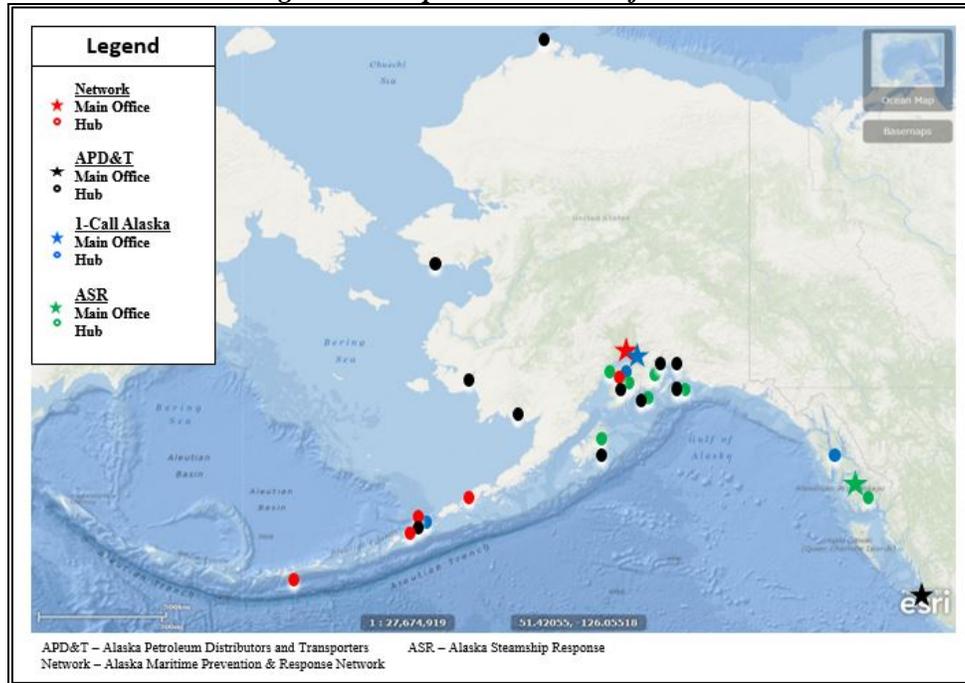


Table 2: OSRO Providers and Equipment for Use in APC

OSRO	Equipment
Alaska Petroleum Distributors and Transporters	Beach Cleanup Tool Kits - 10
	Sorbent Sweep - 20,500 feet
	Support Vessels - 12
	Boom - 41,000 feet
	Workboats - 15
	VOSS - 1
Alaska Maritime Prevention and Response Network	Boom - 6,300 feet
	Temporary Storage/Fixed - 35,100 bbls
	Temporary Storage/Mobile - 13,900 bbls
	Workboats - 2
	Skimmers - 10
	Towing Vessels - 5
	Support Vessels - 1

OSRO	Equipment
1-Call Alaska	Boom - 32,000 feet
	Temporary Storage - 193,500 bbls
	Skimmers - 7
	Emergency Lightering equipment
	Marine Firefighting equipment

OSRO	Equipment
Alaska Steamship Response	Boom - 53,450 feet
	Temporary Storage - 5,873 bbls
	Skimmers - 2
	Towable Storage Bladder
	Towing Vessels

Figure 3 shows the locations of additional OSROs in Alaska that are generally employed in land-based or near-shore incidents. Table 3 identifies their operating areas. Figure 4 identifies the response equipment totals in each of the operating areas in Alaska.

Figure 3: Alaska OSRO Sites¹

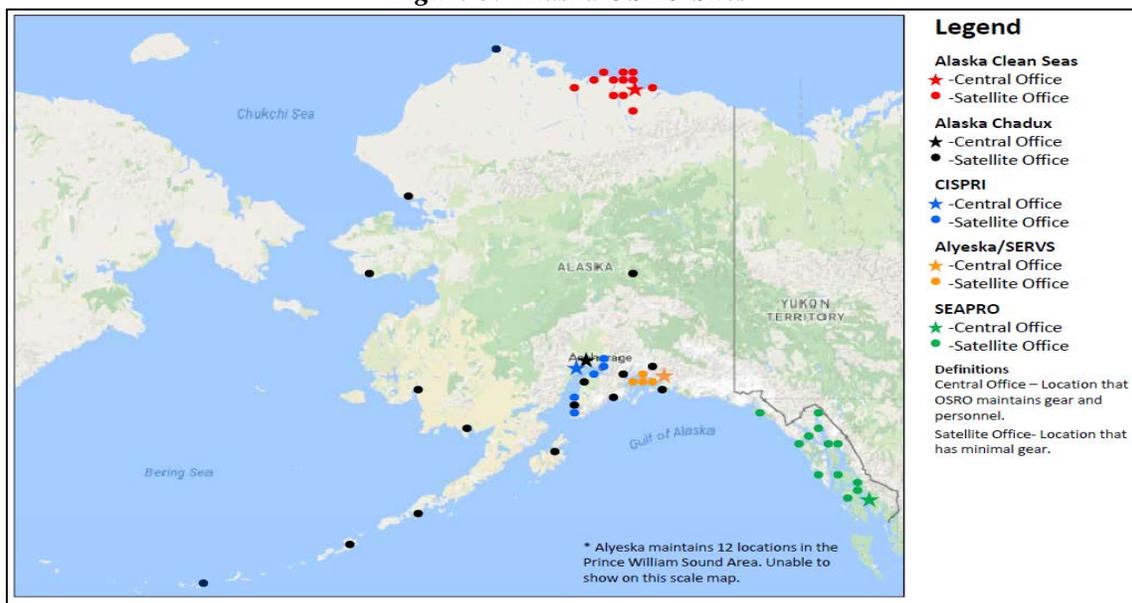
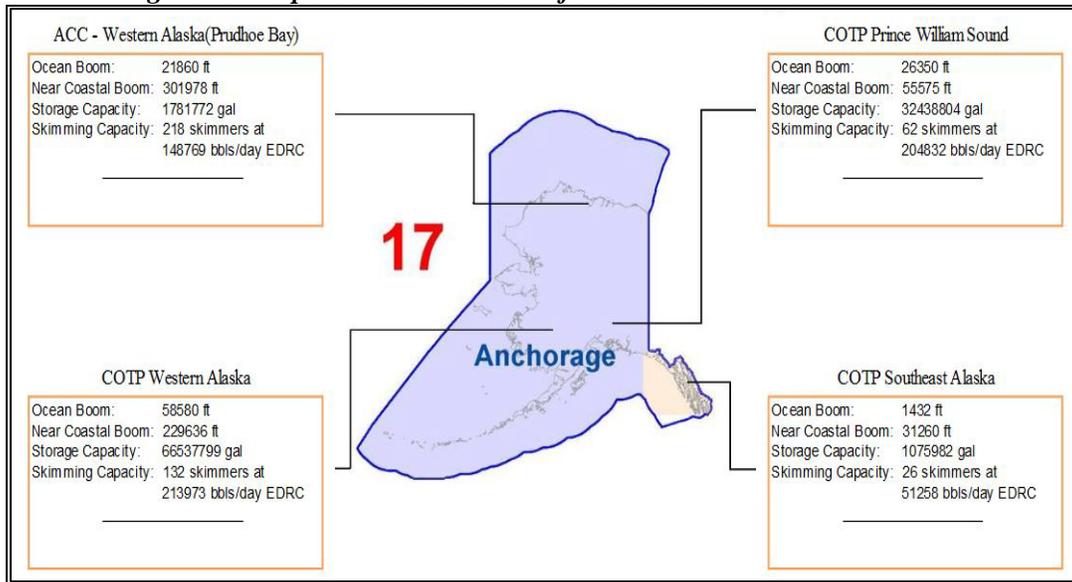


Table 3: Alaskan OSROs

OSRO	Operating Location	Website
Alaska Clean Seas (ACS)	Operates only on the North Slope. Serves the drill/oil production fields.	http://www.alaskacleanseas.org/
Alaska Chadux	Mainly operates in western AK and Aleutian chain. Operates out of Anchorage and flies personnel out for response.	https://www.chadux.com/
Cook Inlet Spill Prevention and Response, Inc.	Operates in Cook Inlet.	https://cispri.org/
Alyeska/SERVS	Operates in Prince William Sound serving the Valdez terminal and Trans-Alaska Pipeline System tanker traffic.	http://www.alyeska-pipe.com/TAPS/SERVS
S.E. Alaska Petroleum Response Organization	Operates in southeast Alaska.	http://www.seapro.org/

¹ Alaska OSROs may share, under emergent circumstances, certain equipment through an intrastate mutual aid compact. However, there are strict limitations imposed via the State of Alaska, and often State permissions are required for out-of-area movement of certain types of equipment.

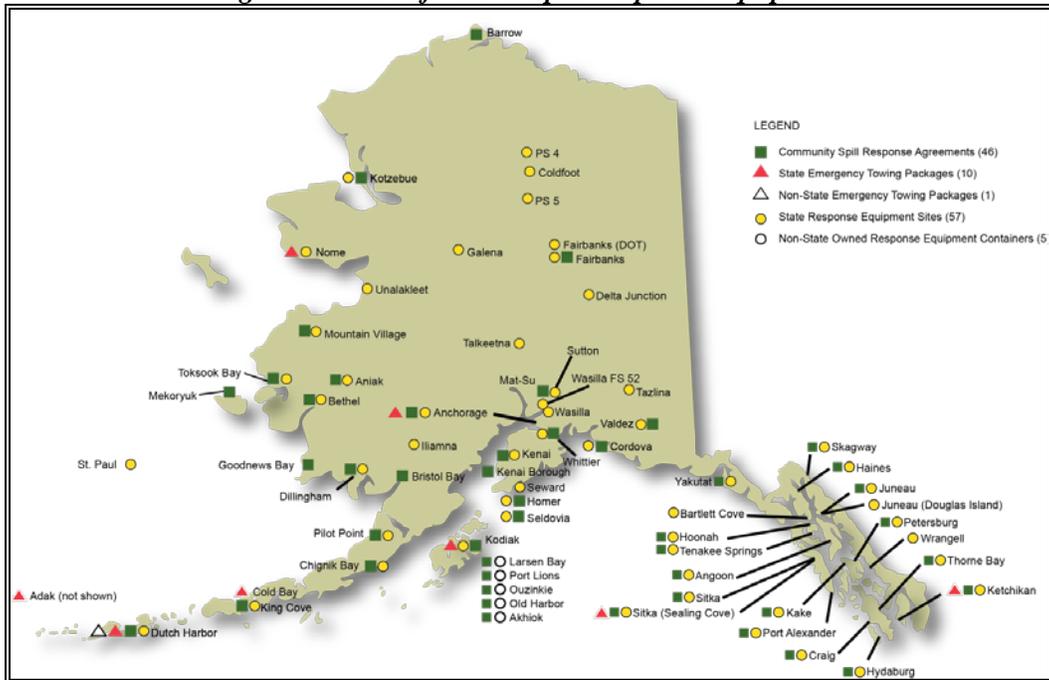
Figure 4: Response Resource totals for USCG COTP Zones in Alaska



State of Alaska Response Equipment

The State of Alaska maintains 57 spill response containers in 53 communities throughout the state (Figure 5). Most locations contain equipment to address two types of spills: marine spills and road spills. The State developed and pre-staged Emergency Tow Systems (ETS) across Alaska. An ETS may be deployed in the event that a disabled vessel requires assistance in accessing a place of refuge, and is designed to use vessels of opportunity to assist disabled vessels that are in Alaskan waters. The ETS can be configured to deploy to a disabled ship from the stern of a tugboat or airdropped to the ship's deck via helicopter. Alaska has a total of 10 systems; 3 are capable of towing vessels under 50,000 dead weight tons, while the remaining 7 systems can tow vessels in excess of 50,000 dead weight tons. Four of the systems are pre-staged in the Western Alaska Captain of the Port (COTP) Zone in Nome, Cold Bay, Unalaska, and Adak.

Figure 5: State of Alaska Spill Response Equipment



III. Prevention of Pollution Incidents

Risk mitigation plays an important role in preventing oil pollution. The USCG pursues prevention as a comprehensive strategic and operational undertaking—through regulatory regimes, operational capabilities, and port activity monitoring and awareness—to ensure compliance with established standards and regulations. Pollution prevention is enabled by a regulatory regime that provides a set of balanced safety standards that meet government, industry, and public needs. Industry’s compliance with these standards mitigates the risk of pollution incidents. The worldwide implementation of prevention requirements mandated by OPA 90 and the International Convention for the Prevention of Pollution from Ships drastically reduced the frequency of vessel-related pollution incidents, and contributed to a decrease in the total volume of oil spilled from ships. These prevention requirements include double hulls for tank vessels, the establishment of vessel traffic services for navigation safety, mandating navigation radars on ships, and other measures.

IV. Spill Response and Mitigation Strategies in Icy Waters

Current Response and Mitigation Strategies

The spill response cooperative for the North Slope oil production industry, ACS, developed a three-volume technical manual to guide their responders in the event of an oil spill. The manual describes itself as providing “a detailed source of information pertaining to spill response variables on the North Slope of Alaska.” The North Slope Subarea Committee has chosen to use the ACS Technical Manual as the regionally accepted response strategy to protect the priority sensitive areas in the geographic zone. The manual includes multiple mitigation strategies for recovery and containment of oil in icy conditions.

The Arctic Council’s Emergency Prevention, Preparedness and Response Field Guide for Oil Spill Response in Arctic Waters (2017) and the Guide to Oil Spill Response in Snow and Ice Conditions in the Arctic (2015) detail common response strategies in icy conditions.

Research and Development

Research and Development Center (RDC): As part of the USCG's Research, Development, Test, and Evaluation Program, the RDC is committed to evaluating countermeasures and cleanup technologies for a range of oil spills. The RDC currently is performing a multi-phase assessment of potential solutions and emerging technologies for better responding to oil spills in ice conditions.

As part of this project, prototype equipment is deployed from USCG cutters operating in ice conditions in the Arctic, the Great Lakes, and off the coast of Alaska. This equipment includes standard response items (e.g., skimmers and fire-resistant booms) in addition to newer technologies with the potential to support response operations, such as an aerostat balloon, unmanned aerial and underwater systems, and communications gear that facilitates the passing of information back to the command center. Testing is planned to continue through 2018.

Among the efforts completed during this project, RDC researchers and partners developed a cage that was deployed around a weir skimmer in order to protect the mouth of the skimmer from clogging or being blocked by pieces of ice. This ice cage was developed as part of a larger Ice Management System that included a deployable and portable temporary storage tank and the associated equipment required for skimming and collecting oil onboard a ship. The ice cage was initially tested onboard USCG cutters in March 2015 in the Arctic, and then in August 2016 in the North Atlantic. The RDC identified lessons learned and areas for improvement to guide future efforts in mitigating the complications of oil spill response in broken ice conditions. The RDC deployed additional equipment from the CGC HEALY, which included another potential skimmer (July 2017) and an unmanned surface vehicle (July through August 2017).

Figure 6: Research and Development ice cage deployed around a skimmer.



Oil Spill Recovery Institute (OSRI): OSRI was established by Congress in response to the 1989 Exxon Valdez oil spill. The Congressional mandate given to OSRI is:

- To identify and develop the best available techniques, equipment, and materials for dealing with oil spills in the Arctic and sub-Arctic marine environment;
- To complement federal and state damage assessment efforts; and
- To determine, document, assess, and understand the long-range effects of Arctic and sub-Arctic oil spills on the natural resources of Prince William Sound, as well as on the environment, economy, lifestyle, and well-being of the people who are dependent on those resources.

OPA 90 established OSRI. Amendments in 1996 and 2004 extended the original mandate through September 2012, and provided a funding mechanism for the Institute. Legislation in 2005 assures that OSRI's research program will continue as long as oil exploration and development occurs in Alaska.

OSRI is administered through and housed at the Prince William Sound Science Center, a nonprofit research and education organization located in Cordova, Alaska. The Prince William Sound Science Center facilitates and encourages ecosystem studies in the Greater Prince William Sound region. More information can be found on its website: <http://www.pws-osri.org/oil-spill-recovery-institute/>.

V. Federal Partnerships During Spill Responses

Marine Environmental Response: As the FOSC for response to pollution in the coastal zone under the NCP, the USCG maintains primary responsibility for oil spill response in U.S. Arctic waters. The USCG implements the following initiatives to enhance spill preparedness and response in the Arctic:

- Maintains vigilance for responses where responsible parties are unknown or fail to respond adequately;
- Serves as Vice-chair of the National Response Team and engages with the Alaska Regional Response Team (ARRT) to enhance coordination with state, local, and indigenous populations to improve preparedness and response capabilities for oil spills and hazardous substance releases;
- Coordinates with interagency partners, indigenous populations, and the commercial maritime sector to address and apply statutory and regulatory responsibilities for marine environmental preparedness and response;
- Ensures an active and effective Area Committee and ACP process in order to identify threats, risks, and strategies necessary to mitigate the effect of oil pollution in the U.S. Arctic, in accordance with the NCP and applicable USCG policy; and
- Coordinates 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.

Interagency Coordination: Since 2010, the USCG strengthened its relationship with the U.S. Department of the Interior's Bureau of Safety and Environmental Enforcement (BSEE). The Director of Minerals Management Service (now known as BSEE) and the Commandant of the USCG signed a memorandum of understanding (MOU) on September 30, 2004. To meet the objectives of the MOU and address lessons learned from Deepwater Horizon, the USCG and BSEE formed Response and Prevention Workgroups. Specifically, the Response Workgroup's goal is to improve national oil spill planning, preparedness, and response for facilities located seaward of the coastline through improved alignment of BSEE and USCG regulatory authorities and preparedness oversight activities. A USCG and BSEE Principals Meeting is held quarterly with the BSEE Director and USCG's Assistant Commandant for Prevention Policy to discuss the following objectives as they relate to the MOU:

- Foster communication and cooperation among agencies;
- Optimize use of government resources and clearly delineate areas of expertise and jurisdiction;
- Develop compatible regulations/policies and encourage adoption of similar codes/standards; and
- Assist the regulated community in understanding applicable regulations.

Area Contingency Planning: As required by OPA 90 and the NCP, ACPs are the nucleus of domestic spill response preparedness. In general, the USCG COTP functions as the FOSC in the coastal zone. The FOSC helps to lead the Area Committee, comprised of local subject matter experts, in creating the ACP.

To meet this challenge, the Alaska Department of Environmental Conservation (ADEC), USCG, and U.S. Environmental Protection Agency (EPA) have developed a unified planning regime that merges applicable state and federal law to develop jointly approved contingency plans, divided into subareas, which are equivalent to the ACPs required by OPA 90. Currently, there are 10 subareas developed in the State of Alaska, of which the following five lie within the Arctic: Aleutians (revised May 2015); Bristol Bay (revised February 2013); North Slope (revised May 2012); Northwest Arctic (revised January 2012); and Western Alaska (revised February 2013).

The recently promulgated USCG guidance entitled “Area Contingency Plan Revitalization,” dated February 2, 2017, requires Sector Anchorage to create one ACP for the Western Alaska COTP Zone that would combine all seven of the current coastal subarea contingency plans. The realigned ACP would be developed concurrently with the Alaska RCP, to ensure consistency across both plans.

Alaska Regional Response Team (ARRT): The ARRT is an intergovernmental body established under the NCP (40 CFR 300). The purpose of the ARRT is to oversee pollution preparedness and response policy and organization throughout the region (the State of Alaska and adjacent waters of the U.S., to the extent of the Exclusive Economic Zone), in accordance with federal and state laws and best management practices. Membership of the ARRT includes 14 federal agencies, the State of Alaska (represented by ADEC), and federally recognized tribes. The ARRT cooperates with the NRT to support FOSCs in planning efforts and response operations, through its standing and incident specific incarnations, respectively. The standing ARRT holds three scheduled meetings per year in various locales around the region, in coordination with subarea committees. These meetings are open to the public. *Ad hoc* activations of the incident specific ARRT are convened, usually on short notice, as operations dictate. Most work on policy and coordination is completed intersessionally. The ARRT maintains the Alaska Unified Plan, which satisfied the federal requirements for the RCP and the State of Alaska requirements for a State Master Plan.

PREP4C: OPA 90 mandates VRP and FRP exercises. The USCG, EPA, the Department of Transportation’s Pipeline and Hazardous Materials Safety Administration, and BSEE established the Pollution Preparedness for Response Exercise Program (PREP) to manage the myriad of exercise requirements. Collectively, these four agencies comprise the PREP Compliance, Coordination, and Consistency Committee (PREP4C). PREP4C fulfills a growing need for better interagency collaboration within the context of oil spill and hazardous substance response plan preparedness.

Primary responsibilities of the PREP4C include:

- Maintaining a common operating picture of current risks, emerging issues, and trends that affect response plan development, maintenance, compliance, and exercise activities;

- Maintaining a national PREP schedule;
- Discussing and analyzing incidents and major exercises on a routine basis to share lessons learned and recommendations, and to maintain a unified posture with respect to response planning and compliance; and
- Promoting consistency within OSRO oversight.

Pacific States/British Columbia Oil Spill Task Force: The task force was created in 1989 to address oil spill prevention and response issues on a regional level. The States of Alaska, California, Oregon, and Washington have been members since its inception, as has the Province of British Columbia. In 2001, the State of Hawaii joined the task force. Member agencies share a mandate to protect their environmental, cultural, and economic resources from oil spills. The USCG Pacific Area (PACAREA) and the state members of the task force are focused on common goals, and share geographic jurisdictions and responsibility for the protection of the same marine resources from Alaska to California, including the Hawaiian archipelago.

An MOU between the task force and USCG PACAREA acknowledges and affirms the value of these existing partnership efforts to enhance regional marine safety and environmental protection while improving coordination, communication, and consistency among the partners. The USCG PACAREA - Pacific States/British Columbia Oil Spill Task Force Steering Committee, which meets annually, serves as the focal point of this partnership. USCG members of the Steering Committee include representatives as designated by PACAREA, as well as the accompanying USCG Districts.

The Coordinating Committee members represent the task force. The specific functions of the Steering Committee are:

- To serve as a forum for the discussion of Pacific Region marine safety and oil spill prevention, preparedness, and response issues;
- To coordinate the establishment and implementation of consistent and effective oil spill prevention, preparedness, and response measures tailored for the Pacific region; and
- To identify opportunities for improving oil spill prevention, preparedness, and response in the Pacific region.

The federal policies that guide the ARRT and FOSC-led Area Planning system and interactions (and state, tribal, and local partnerships) for pollution preparedness and response run in accordance with the NCP.

VI. Abbreviations

Abbreviations	Definition
ACP	Area Contingency Plan
ACS	Alaska Clean Sea
ADEC	Alaska Department of Environmental Conservation
APC	Alternative Planning Criteria
ARRT	Alaska Regional Response Team
BSEE	Bureau of Safety and Environmental Enforcement
CFR	Code of Federal Regulations
COTP	Captain of the Port
DRAT	District Response Advisory Team
EPA	United States Environmental Protection Agency
ETS	Emergency Tow Systems
FOSC	Federal On-Scene Coordinator
FRP	Facility Response Plan
IMAT	Incident Management Assist Team
MOU	Memorandum of Understanding
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NSF	National Strike Force
OPA 90	Oil Pollution Act of 1990
OSRI	Oil Spill Recovery Institute
OSRO	Oil Spill Removal Organization
PACAREA	USCG Pacific Area
PPE	Personal Protective Equipment
PREP	Pollution Preparedness for Response Exercise Program
PREP4C	PREP Compliance, Coordination, and Consistency Committee
RCP	Regional Contingency Plan
RDC	Research and Development Center
SMFF	Salvage and Marine Firefighting
SORS	Spilled Oil Recovery Systems
SUPSALV	Supervisor of Salvage and Diving
USCG	U.S. Coast Guard
VOSS	Vessel of Opportunity Skimming Systems
VRP	Vessel Response Plan
WCD	Worst Case Discharge