

ALASKA CLEAN SEAS

2019 ANNUAL REPORT





Table of Contents

Our Services

Foreword	6
About	7
Membership	8
Board of Directors	9
Committees	10 - 11
Response Services	12 - 13
Health, Safety & Environment	14 - 18

Department Overviews

Business	19
Operations	20 - 29
Planning	30 - 31
Training	32 - 35
UAV Operations	36 - 37
Longevity Awards	38 - 39
Organization Chart	40
Employees	41 - 57

Equipment

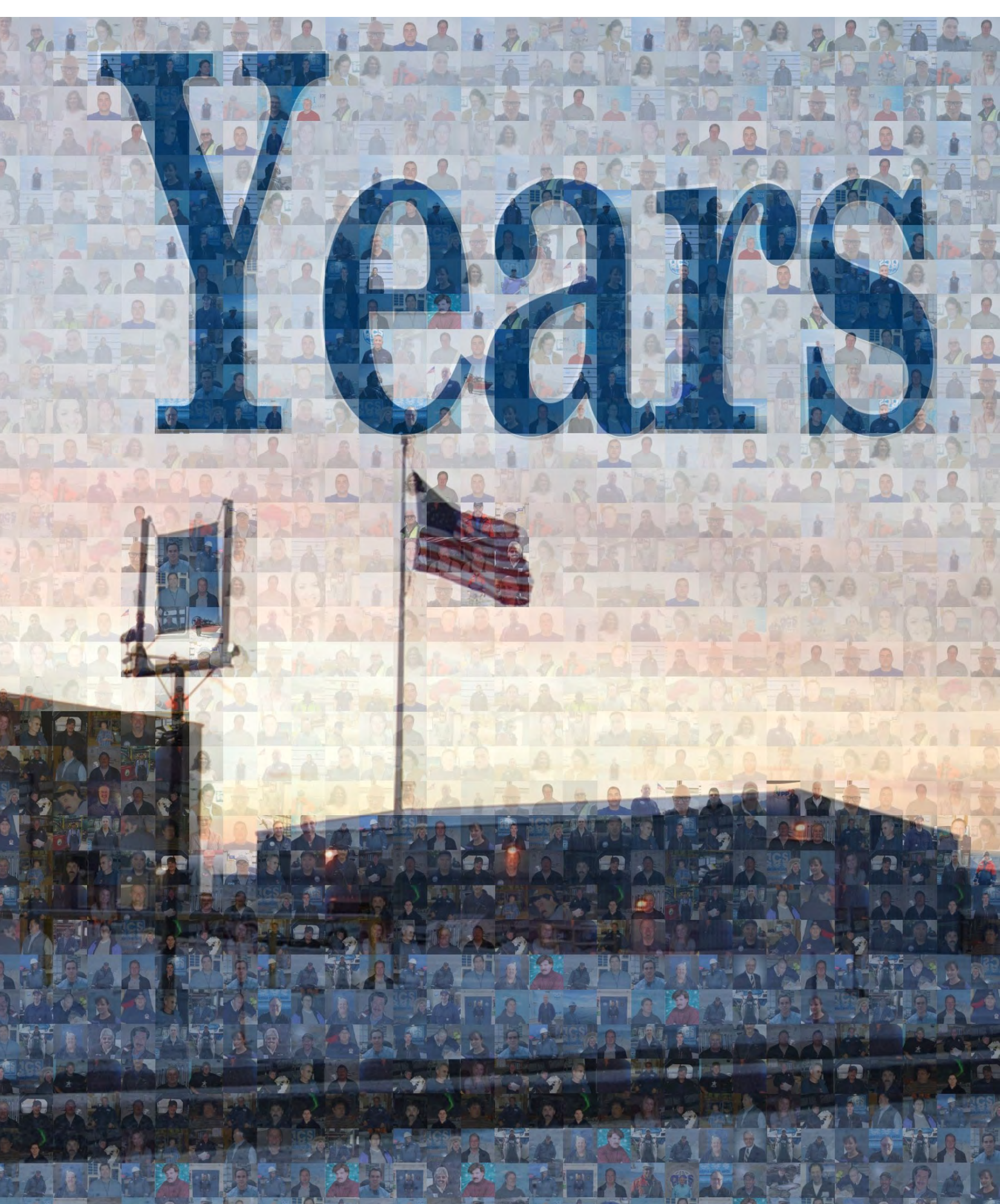
ACS Owned Equipment	58 - 59
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Contact

Contact Information	Back Cover
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Foreword

40 Years and Counting...

2019 marked 40 years of the organization today known as Alaska Clean Seas. The company was created as Alaska Beaufort Sea Oil Spill Response Body or 'ABSORB', with a mission to support Beaufort Sea off-shore oil exploration. Three employees faced a monumental task of determining the right equipment, finding a place on the slope to serve as a base, then purchasing and training. Al Allen was the first General Manager and the growth began. Three employees quickly turned to five, including ACS's longest serving employee, Bud Forbing. Not surprisingly, maintenance schedules were developed, as were response tactics then training began with twenty-five classes a year.

With 13 members, ABSORB sought to leverage member company expertise by forming committees to look at Research and Development, with a focus on how to clean up oil on ice, how to find oil in ice, and what kind of equipment would be best to clean up a spill. Research was a bit more realistic in those days as all that was needed to test a tactic with actual crude oil in the Beaufort was a letter to the State with the plan for the project.

One of the results of the testing of methods was the development of tactic to drop gelled gasoline into spilled oil. Al Allen traveled to Oregon and flew with fire fighters to examine how they ignited wildlands and the first heli-torch was brought to the North Slope and demonstrated.

The next major evolution came after the Exxon Valdez when the State of Alaska developed new regulations that later were copied by the Federal Government into the Oil Pollution Act of 1990. The modern day Alaska Clean Seas came into existence and the growth continued.

Today, after weathering some challenging issues related to the oil industry downturn, with impressive support from our eleven member companies, ACS is moving ahead in terms of new technology, recapitalization of major equipment and infrastructure, improved business processes, and cutting edge research. Specifically, all our departments are supporting the construction of a new, safer marine infrastructure; and the replacement of our twenty-year old Bay Boats with more capable, faster vessels; the evolution and continued improvement of ACS Business Software, 'CORE'. Most recently, the ACS member companies authorized funding to take the ACS UAV program to the next level to pursue beyond visual line of sight authorization with new equipment to help prevent, detect, and respond to oil spills.

Looking forward, 2020 and beyond will be a dynamic, challenging time of transformation. We fully expect the trend we've seen to continue with the departure of amazing, long-term members of ACS who, after contributing for decades to our success, move on to hopefully long and happy retirements. Already in 2019, ACS has welcomed 17 new employees to the team to respond to growth as well as transitions of our ACS family.

It is an honor and continues to be a privilege to work with such an amazing, positive, and innovative group of people. The following pages provides just a glimpse of the accomplishments and dedication they have demonstrated over the last year.



Barkley Lloyd
President & General Manager

C. Barkley Lloyd

About

Alaska Clean Seas (ACS) is a not-for-profit oil spill response cooperative whose current membership includes oil and pipeline companies that engage in or intend to undertake oil and gas exploration, development, production or pipeline transport activities on the North Slope of Alaska. Originally formed in 1979, ACS was restructured in 1990 from an equipment cooperative into a full-response organization. ACS is now poised to respond, like a fire brigade, to an emergency with trained responders and response equipment. ACS is active in fostering a common organizational structure for responding to and managing spills on the North Slope of Alaska.

Purpose

The purpose and mission of ACS is to provide personnel, material, equipment and training to its members for responding to oil spills on the North Slope. When authorized by the Board of Directors, ACS may also respond to non-member spills.

Areas of Operation

ACS's area of operation includes Alaska's North Slope, the Outer Continental Shelf off the coast of the State of Alaska, and the lands beneath navigable waters of the State of Alaska as defined in 43 U.S.C. § 1301, together with adjacent beaches, harbors, inland waterways, natural and artificial islands, shorelines and onshore facilities directly or indirectly supporting offshore explorations, development, producing and transport operations, and the TransAlaska Pipeline from Pump Station 1 to Pump Station 5.



Membership

Membership is available to entities that drill, explore, produce or transport oil or gas within the area of interest. Below is general membership information.

Producing Membership

Production Operator Members are members that produce or transport oil or gas within the area of interest. These members have Board representation and voting privileges as well as bear the responsibility of funding the annual operating costs.

Fees

- New Member Initiation Fee is \$500,000 and the annual fee is \$50,000.
- Annual operating costs are funded through an allocation model based on production and risk categories, such as road accessibility, proximity to water, and pipeline location (off-road or off-shore).
- Daily Development Fee of \$1,250 applies during the periods of transition from Inactive Member status to Producing.

Non-Producing Membership

Non-Production Operator Members are generally members that conduct exploratory drilling. These members are actively involved in the Operations Review Team Committee and have Board representation, but do not have voting rights and do not fund the annual allocated operating costs.

Fees

- New Member Initiation Fee is \$100,000 and the annual fee is \$20,000.
- Daily Fees: Rig Day Fee of \$2,500 applies to drilling days; General Activity Fee of \$625 applies to activity that poses the risk of a spill greater than one barrel (bbl). of liquid and relies on ACS response.
- Daily Development Fee of \$1,250 applies during the periods of transition from Non-Producing status to Producing.

Current Membership



- Alyeska Pipeline Service Company
- BP Exploration (Alaska), Inc.
- Brooks Range Petroleum Corporation
- Caelus Energy Alaska, LLC
- ConocoPhillips Alaska, Inc.

- Eni U.S. Operating Company, Inc.
- ExxonMobil Alaska Production Inc.
- Great Bear Petroleum Operating, LLC
- Hilcorp Alaska, LLC
- Oil Search Alaska, LLC
- Savant Alaska, LLC

Board of Directors

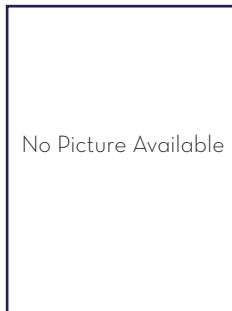
Martin Parsons
Chairman
Alyeska Pipeline Service
Company



Larry Burgess
Vice-Chairman
Eni U.S. Operating Company, Inc.



John Barnes
Hilcorp Alaska, LLC



Pat Foley
Caelus Energy Alaska
LLC



Stephen Radcliff
Glacier Oil & Gas for
Savant Alaska



Brien Reep
ExxonMobil Upstream
Oil & Gas Company



Dean Walker
ConocoPhillips, Alaska
Inc.



Lewis Westwick
BP Exploration
(Alaska), Inc.



Patrick Galvin
Great Bear Petroleum
Operating LLC*



Michael Rowe
Oil Search (Alaska)
LLC*



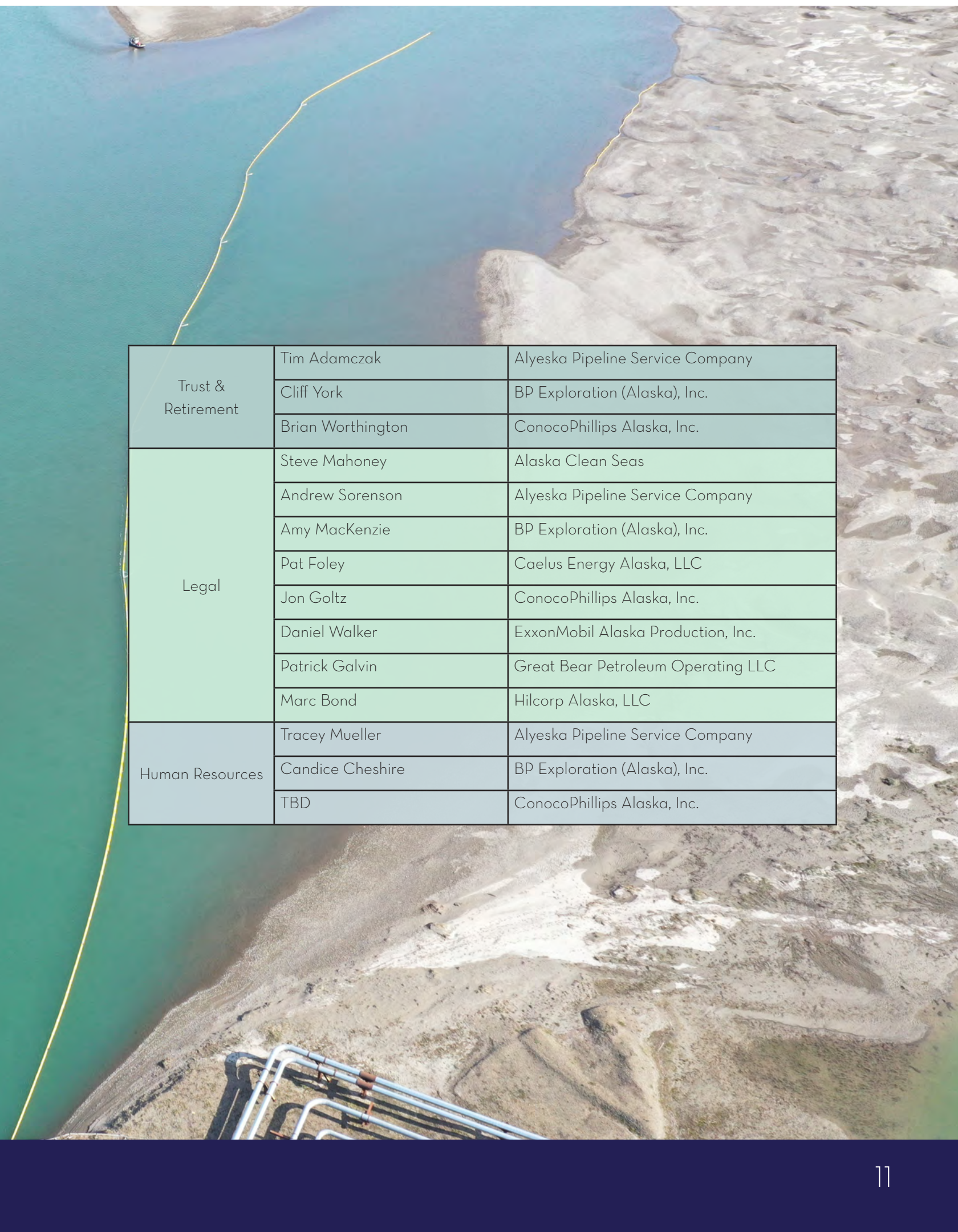
Chuck Wheat
Brooks Range
Petroleum Corporation*

*Non-producing Operator Member

ACS Committees

Six committees staffed by member company representatives have been established to assist ACS. ACS appreciates the support and expertise these individuals contribute towards all aspects of our business operations.

Operations Review	Russell Brandon, Chair	ExxonMobil Alaska Production Inc.
	Jeanie Shifflett, Vice Chair	ConocoPhillips Alaska, Inc.
	Earl Rose	Alyeska Pipeline Service Company
	Tony Parkin	BP Exploration (Alaska), Inc.
	Chuck Wheat	Brooks Range Petroleum Corporation
	Kirsten Hoppe	ENI Petroleum
	Brian Webb	Savant Alaska, LLC
	Patrick Galvin	Great Bear Petroleum Operating, LLC
	Diane Dunham	Hilcorp Alaska, LLC
	Patrick Conway	Oil Search (Alaska), LLC
Research & Development	Jeanie Shifflett, Chair	ConocoPhillips Alaska, Inc.
	Tony Parkin	BP Exploration (Alaska), Inc.
	Tim Nedwed	ExxonMobil Alaska Production Inc.
	Diane Dunham	Hilcorp Alaska, LLC
Accounting	Todd Teeples, Chair	ConocoPhillips Alaska, Inc.
	Allen Lloyd	Alyeska Pipeline Service Company
	Irina Millwood	BP Exploration (Alaska), Inc.
	Justin Taylor	Savant Alaska
	Alex Plantenga	ExxonMobil Alaska Production Inc.



Trust & Retirement	Tim Adamczak	Alyeska Pipeline Service Company
	Cliff York	BP Exploration (Alaska), Inc.
	Brian Worthington	ConocoPhillips Alaska, Inc.
Legal	Steve Mahoney	Alaska Clean Seas
	Andrew Sorenson	Alyeska Pipeline Service Company
	Amy MacKenzie	BP Exploration (Alaska), Inc.
	Pat Foley	Caelus Energy Alaska, LLC
	Jon Goltz	ConocoPhillips Alaska, Inc.
	Daniel Walker	ExxonMobil Alaska Production, Inc.
	Patrick Galvin	Great Bear Petroleum Operating LLC
	Marc Bond	Hilcorp Alaska, LLC
Human Resources	Tracey Mueller	Alyeska Pipeline Service Company
	Candice Cheshire	BP Exploration (Alaska), Inc.
	TBD	ConocoPhillips Alaska, Inc.

Response Services

Mutual Aid Emergency Response Levels

Tier I - A spill incident in which the area resources can effectively respond to the spill without assistance.

Tier II - A spill incident in which resources outside the immediate area, but still available on the North Slope, are required. A phone call to ACS can put into effect the Mutual Aid Agreement which makes available the spill response personnel and spill response equipment slope-wide.

Tier III - An extremely large incident or an incident lasting several months may require resources from off the slope. This would be considered a Tier III event. Resources are available through Master Service Agreements.

Mutual Aid Agreement

Each member of Alaska Clean Seas has the option to enter into a Mutual Aid Agreement. This agreement provides members with efficiencies and cost savings by sharing resources among all members in the event of an oil spill.

It outlines the terms and conditions under which each member company can make available their employees, contractors, equipment, materials and supplies to one another in the event of an oil spill. ACS facilitates the agreement among members.

Equipment

Response equipment totaling over \$75,000,000 is owned by ACS and member companies. All equipment is maintained by ACS and Member Companies. Member Company owned equipment is available through the Mutual Aid Agreement. The inventory includes nearly 320,000 feet of oil containment boom (including approximately 20,000 feet of fire boom), 229 skimmers, six helitorch aerial ignition systems, two helitorch batch fuel mixers, 93 vessels, two 125 barrel mini-barges, twelve 249 barrel mini-barges, one 650 barrel barge, and more than 260 storage tanks and bladders of various sizes. Also included is an extensive marine offshore response capability that will be receiving a new mooring facility and the first of four Type D work vessels to replace the Bay Boats in 2020.

Facilities

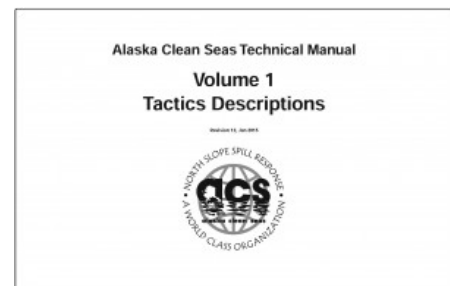
Emergency Operations Centers located in Alpine, Kuparuk, Milne Point, and Prudhoe Bay are available through the Ballot Agreements.

Mobile facilities are also available, such as the Bird Stabilization Center, Staging Area Manager office, Mechanics Shops, and Mobile Command Centers.

ACS Technical Manual

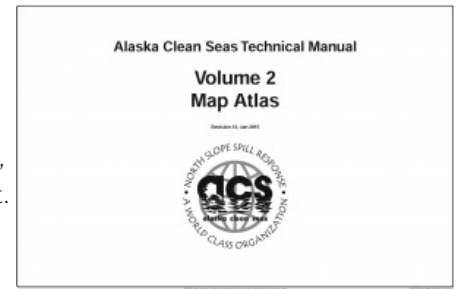
The ACS Technical Manual is the primary guidance document for oil spill response on the North Slope. It was developed in 1999 to provide descriptions of spill response tactics for use during contingency plan development and spill response activities. The manual is a living document and is revised as new tactics or equipment are identified.

Volume I lists spill response tactics in a variety of conditions and seasonal variations. It also provides summary lists of equipment,



Some services that may be needed during a major spill response event may not be available on the North Slope. ACS maintains agreements with over 40 providers of a variety of services for member company access or use during a response.

Volume II provides an atlas of the North Slope. These maps show priority protection sites, general environmental sensitivities, air and vessel access, countermeasure considerations, and pre-staged spill response equipment.



** The Alaska Department of Natural Resources has approved ACS access to the North Slope Archaeological Data which can be reviewed during a spill response event to ensure these sites are properly protected.

Response Personnel

Trained and qualified spill response personnel are required in any spill response event. Through the North Slope Spill Response Teams (NSSRT) and Auxiliary Contract Response Teams (ACRT) ACS members have rapid access to hundreds of responders. Those responders fall into five labor categories: General Laborer, Skilled Technician, Team Leader, Vessel Operator (Nearshore) and Vessel Operator (Offshore). Each category has minimum requirements for achieving and maintaining qualification.



SRT River Training



ACRT Training Academy in Prudhoe

North Slope Spill Response Team (NSSRT)

Over 500 volunteers are trained and qualified on the North Slope to make up the NSSRT. Combined with Alaska Clean Seas personnel, a minimum of 115 spill response personnel are available on the North Slope each day.

Auxiliary Contract Response Team (ACRT)

ACS maintains contracts with companies off- slope in the event additional spill response personnel are needed. Presently, the companies are CCI Industrial Services, PENCO Environmental Services and National Response Corporation Alaska. Over 400 qualified spill responders are available through these contracts.

Response Services

Permits Maintained by ACS

ACS maintains permits for oil spill training events and emergency oil spill response activities for the North Slope.

- Alaska Department of Natural Resources Land Use Permits
- Alaska Department of Natural Resources Fish Habitat Permits
- Alaska Department of Fish and Game Bird Hazing Permit
- Alaska Department of Fish and Game Mammal Hazing Permit
- Alaska Department of Fish and Game Mammal Stabilization, Transport & Disposal Permit
- U.S. Fish and Wildlife Service Capture, Salvage and Rehabilitation of Migratory Birds & Raptors Permit
- North Slope Borough Development Oil Spill Emergency Use Permit
- Bureau of Land Management Oil Spill Response Training in the NPRA Permit
- Alaska Department of Environmental Conservation Open Burn Approval for In-Situ Burn Training Permit

ACS continues to sponsor meetings with the natural resource agencies, member company representatives, and response contractors to improve working relationships and capabilities for wildlife response on the North Slope. Contracts for professional assistance are maintained with the Alaska SeaLife Center, Alaska Zoo, Pet Stop, and International Bird Rescue.

Unmanned Aerial Vehicle (UAV) Operations

ACS currently maintains a fleet of 4 UAV's available to our member companies for use in training, drills, responses, and infrastructure inspection. To fly these aircraft, ten ACS employees have obtained their FAA Part 107 Remote Pilot Certificates. In the coming year ACS will be purchasing a fixed wing UAV that will allow for greater range and duration whatever the mission.



Communications

ACS's telecommunication center houses equipment that supports day-to-day operations and emergency spill response communications. Using a VHF repeater system, ACS is able to communicate throughout its key operational areas. ACS also owns 13 VHF and UHF portable repeaters to extend its area of coverage.

Alaska Clean Seas partners with Marine Exchange Alaska in support of the maritime Automatic Identification System (AIS), a fully automatic marine vessel identification system. Vessels operating off the coast of the North Slope outfitted with an AIS transceiver receive and transmit data that includes: vessel name, position, direction of travel, course over ground, and speed. AIS provides more situational awareness than radar, horns, and plotters and is not affected by sea state or weather. During a response, AIS can assist member companies by contributing critical data to a common operating picture, AIS can easily be displayed to an Incident Command Post providing leadership with a real-time response picture previously unavailable on the North Slope.

North Slope Radio Channel Assignments

ACS owns 430 VHF and UHF radios and utilizes an Iridium Satellite Telephone System. All of these systems combined with a Mobile Response Center provide exceptional communications capability during any spill event on the North Slope.

ACS is currently licensed to operate:

- 4 Statewide VHF Oil Spill Tactical Channels
- 20 ACS Fixed VHF Repeater/Talk Around Channels
- 12 Portable VHF Repeater/Talk Around Channels
- 4 ACS Logistics VHF Repeater/Talk Around Channels
- 7 Marine Channels

Mobile Command Centers

Excellent communications capability is the cornerstone of any successful spill response. ACS and member companies maintain three separate mobile command centers which provide full on-site radio, phone and fax capabilities.



ACS provides contingency communications response support for exploration drilling. During exploration ACS employs several technologies to meet Contingency Plans. All exploration projects receive a "Drilling Kit", containing a minimum of three Motorola XPR 6550 hand held radios, three charging stations and extra batteries. Kits also have a more powerful Motorola XPR 4550 mobile radio with a power supply and antenna. The kits may also include cellular and/or satellite communication equipment as needed.



Health, Safety & Environmental

HSE Programs

ACS has a number of essential safety programs it relies on for consistency, compliance and providing the tools to its employees to do the job safely. These programs are reviewed annually to reflect any regulatory change, as well as changes in the working environment, and to maintain a safe and healthy workplace.

Our Commitment

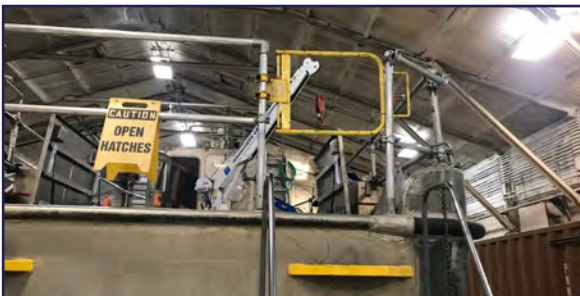
Our HSE goals provide the foundation for all activities, from jobs on the slope to play at home. In order to achieve our organizational goals, we strive to keep all members of our team focused on maintaining the highest levels of commitment to safety.

ACS works to engage each employee and contractor to participate in ACS HSE programs by incorporating the use of safety tools. Employees are also encouraged to attend safety seminars and safety conferences to enhance knowledge and awareness.

Safety Innovations

ACS employees take ownership in company safety culture. They are encouraged to find innovative ways to improve safety, and to share those innovations within the company and with our members.

- New guard rail designs for working on boats in the shop.
- Electric heating elements to walk-behind skid steer controls.
- Tread improvements on tilt-deck trailers.
- Sound deadening material to the cab of workboats with high interior noise levels.
- Grip assistance tools to eliminate or reduce the potential of soft tissue injury when moving liner material for containments.



Green Star Business Program

Green Star® is a pollution prevention program. Pollution Prevention (P2) means reducing or eliminating the volume or toxicity of materials, pollutants, or wastes at the source so that they never become waste in the first place. P2 is a proactive approach to environmental management. It is not the same as pollution control or waste management, which is responding to pollution at the “end of the pipe.”

ACS Renewed its Green Star® Business Program membership in 2019 joining the ranks of over 100 companies and organizations in Alaska that are working toward cleaner air and water, fewer greenhouse gas emissions, less toxic waste to manage, less solid waste going to landfills, greater workplace safety, and better stewardship of natural resources.

VPP

ACS is recognized as one of seven companies in Alaska to have facilities that hold VPP Star site status.

The Voluntary Protection Programs (VPP) promote effective worksite-based safety and health. In the VPP, management, labor, and OSHA establish cooperative relationships at workplaces that have implemented a comprehensive safety and health management system. Approval into VPP is OSHA's official recognition of the outstanding efforts of employers and employees who have achieved exemplary occupational safety and health.

In practice, VPP sets performance-based criteria for a managed safety and health system, invites sites to apply, and then assesses applicants against these criteria. OSHA's verification includes an application review and a rigorous onsite evaluation by a team of OSHA safety and health experts.

OSHA approves qualified sites to one of three programs:

Star: Recognition for employers and employees who demonstrate exemplary achievement in the prevention and control of occupational safety and health hazards, the development, implementation and continuous improvement of their safety and health management system.

Merit: Recognition for employers and employees who have developed and implemented good safety and health management systems but who must take additional steps to reach Star quality

Demonstration: Recognition for employers and employees who operate effective safety and health management systems that differ from current VPP requirements. This program enables OSHA to test the efficacy of different approaches.

A team of Alaska OSHA (AKOSH) VPP representatives spent a day at ACS Base and came away with a great deal of respect for the safety culture, knowledge and high level of engagement shown by all the employees they encountered. They made specific mention of outstanding reporting culture, detailed maintenance and training programs, open working relationships between management and employees, and the expert knowledge of our Safety Professionals.



Health, Safety & Environmental

ACS HSE Committee

2019 was an exciting year for revitalizing the Safety Culture at Alaska Clean Seas. In June, the HSE Committee was selected and officially formed. Members include Mac Wilson, Tammy Potter, Chuck Bartlett, Adam Kayser, and Mike Lord. This employee-driven committee is advised by ACS Safety, Human Resources, and ACS Management.



The mission of the Alaska Clean Seas HSE Committee is to develop and promote a healthy and safe environment for all employees and visitors to our facilities through the involvement of all individuals with regards to education, communication and safe work practices. The committee members are a diverse group of employees representing all areas of the company. The primary objective of this committee is the continued elimination of injuries, safety incidents, and near misses through a proactive process.

To get started, the Committee was tasked with developing a charter, mission statement, SharePoint® site, and mechanisms for employee input. The committee has been collaborating with other member company committees to learn methods to establish a successful and lasting employee-based committee. Employee submissions and concerns have been the driving force behind what the committee has established so far, and its ongoing progress.

In 2019 the committee has been a conduit for change, we've accomplished the following:

- Safety and morale bulletin boards at ACS Base and Anchorage for employees to display photos showing "reasons we stay safe" and "taking safety home".
- Increased our safety boot stipend to meet industry standards.
- Safety poster contest for employees and young people in their life.
- Employee vote for committee logo selection.

Currently the committee is working on:

- Updating and revitalizing the health and wellness essentials program.
- Evaluating employee submissions of safety innovations, improved procedures and tools that would aide in performing work more safely.
- Program to recognize and reward safe workers, in addition to our SARP program.
- Employee surveys in relation to HSE concerns.

The HSE Committee would like to thank all the employees of ACS for their submissions. These are critical to the continual improvement of our company and work environment.



Business Department Overview

A successful year in the Business Department is often evident through successful outcomes in other areas! 2019 is one of those years.

Contracts

This year contracts were awarded for two long standing projects: construction of the West Dock moorage facility and purchase of a landing craft. The marine infrastructure and moorage issues have been under review, research and advisement for almost two decades. The landing craft has been the subject of vessel replacement evaluations since 2013. Last year, after a thorough review of moorage design options, the Board of Directors supported the project and approved funding. In 2019, the contract for the West Dock moorage construction was awarded after collaboration with Ozgur Altiok (BP Project Lead) in selecting the best fit for purpose moorage design. His advisement on this project was unquestionably a key piece of its success. Construction is currently on target for meeting completion deadlines within budget. In collaboration with Walt Henry and Lewis Hiatt (Marine Supervisors) the specifications for a 48' aluminum high speed landing craft were developed and the contract awarded for delivery in 2020. Both projects have been under evaluation and review for years, and it is a substantial achievement that both are midway through completion as 2019 comes to a close.

Financial Audit

ACS once again passed an independent financial audit. Successful financial audits are the evidence of a job well done throughout the entire year – and the Accounting staff is to be commended for their efforts in this achievement.

Business Recovery Plan

In September, the Business and Planning Departments, conducted a full-scale exercise of the business recovery plan to restore critical business data after a simulated total loss of the Anchorage office building. The exercise was a success with valuable lessons learned and was another good example of the knowledge, adaptability and teamwork found in ACS employees.

Personnel

It was also a very busy year of transition – ACS hired 17 new employees this year. This involved countless interviews with Ops personnel, Business personnel and HR, followed by one-on-one onboarding with Human Resources, Payroll and their individual mentor.

And on that note – ACS says good-bye and thank you to Lindy Theis for her years of dedication to the company and its employees, as well as her service to the Board of Directors. She is retiring after almost 16 years of serving as Vice President, Secretary/Treasurer and Business Manager. Lindy's leadership and positive influence over the years have contributed in many ways to our success. We wish Lindy and Scott "fair winds and following seas" on their upcoming adventures.

We also welcome Jared Edgar (Business Manager) and Courtney Rigdon (Accounting Specialist) to the Business Department. They are welcome additions and their contributions are already benefitting the organization.

Operations Department Overview

2019 was challenging and exciting. Eleven new employees were hired in the Operations Department. One Field Support Lead position was added and one new Lead Technician position was created in the newly developed Mustang Field. However, even with the additional people, ACS coverage has continued to be stressed as a result of long-term unplanned absences. Many team members stepped into new roles and many worked over to cover their fields and help out at other locations. While it was challenging to juggle schedules at times, the entire ACS team stepped up and continued to provide our members with exceptional customer service.

As in previous years being able to utilize trainers, mechanics, warehouse and contract personnel (not normally assigned to field positions) deepens our overall knowledge and enhances value-added service allowing us to become a more well-rounded organization.

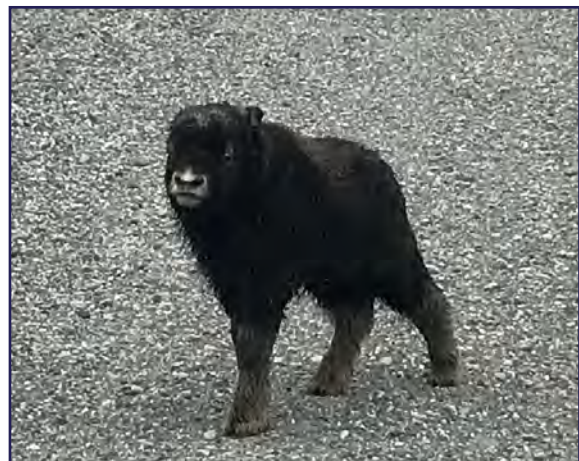
ACS Operations personnel support many exercises and training events whether marine or land based effectively completing all requirements of the established NPREP guidelines. These activities ensure that ACS continues to be response ready for our members at all times.

New developments are expected to continue adding personnel in 2020. This will continue to put a demand onto our experienced employees providing ACS with the opportunity to bring on and train new employees whom will be valuable to the sustainability of ACS to provide excellent service for years to come.

ACS received approval to start a vessel replacement program with the intent of replacing our aging nearshore fleet over the next 10 years. ACS Marine Department was busy researching, test driving, and visiting shipyards in the Northwest. Exact vessel types haven't been fully determined however the first vessel will be a 16' x 48' jet drive landing craft vessel. Munson Boats of Seattle was awarded the contract, and the new vessel is expected to be delivered and put into service in the summer of 2020. Additional vessel types and configurations will be determined after fully assessing the capabilities of the first vessel.



ACS continues to look at our budget and identify cost saving measures both internally for ACS and externally for our members. Technicians assigned to member units have continued to provide cost savings ideas and solutions to ensure we are doing our work efficiently and effectively. Internally, ACS monitors line item costs and evaluates all purchases and activities to justify expenditures to effectively manage costs.



Operations

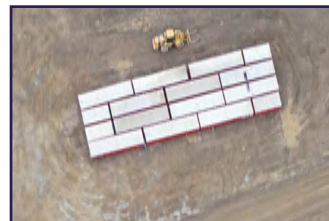
Marine Operations

Winter work at the Santa Fe Pad shop consisted of a complete rebuild of the Arctic Rose, Fireweed, and Agviq hydraulic systems, as well as a rebuild of the Gwydyr Bay starboard transmission. Shaft and propeller replacement in the Fireweed and Arctic Rose is slated for early spring 2020.

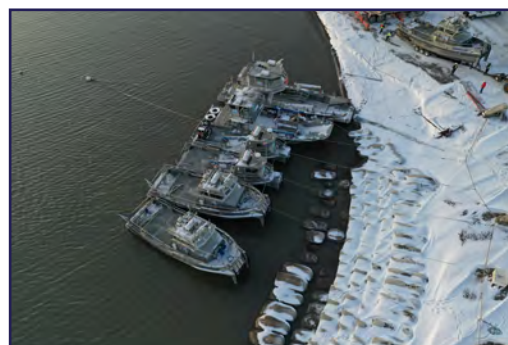
Long time mechanic, Marty Ring, decided to ride off into the Idaho sunset and start a new chapter of his life. He will be missed. We wish him all the best in his retirement. Fortunately, his replacement, Jim Wilbur, has already proven to be a great asset to our department. Between Jim and Shane Cole, there isn't anything that can't be milled, welded, or fabricated.

The Marine Department has added a new Marine Support Mechanic position. Two West Dock alumni were hired, Tyler Ouellette and Mac Wilson, both eagerly joining the ACS Team. We welcome them and look forward to the added support.

The new West Dock Marine Infrastructure has been approved and construction will begin early winter 2020. The new docks will be placed on top of the ice and melt into place for use in the upcoming summer season. The new docks have arrived and final preparations are in full swing at the West Dock Winter Staging Area. The existing docks, the Caribou and Lemming barges, have been removed. A safe harbor dock for use during westerly storms will be installed on the east side of the causeway.

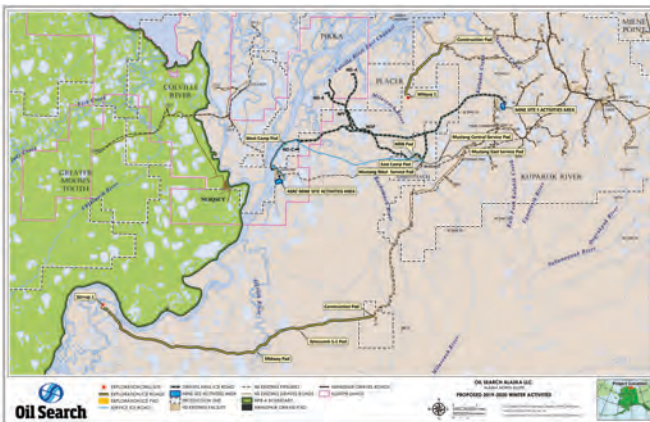


It will be another great year for SRT training which will include ongoing vessel operator training. There is a great deal of activity scheduled for the Marine Department in the coming years. Hopefully, many of you will find time to join us.

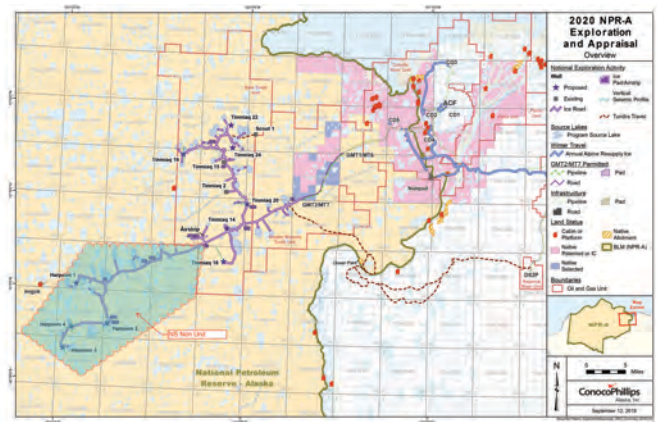


Exploration Drilling Operations

The Winter Drilling season for 2018-2019 was by far the largest and the most challenging we have seen in many years. The activity this season consisted of 44 technicians at 11 different remote locations supporting exploration activities for ConocoPhillips, Oil Search, and Great Bear. Despite the large size and incredible amount of activity, including nearly 2 million gallons of fluid transfers, we were able to complete the 2018-2019 season with no injuries, no spills and no at fault equipment damage.



2019-2020 Oil Search drilling Locations



2019-2020 ConocoPhillips drilling locations



Operations

Mutual Aid Deployment Exercise (MADEx)

The Kuparuk Contingency Plan contains a Crude Oil Pipeline Rupture over the Kuparuk River in Summer Scenario. This provided the framework for the 2019 Mutual Aid Deployment Exercise (MADEx). Hosted by ConocoPhillips Alaska, this two-day Exercise starting on August 28th, involved the activation of the Kuparuk Incident Management Team and the North Slope Spill Response Teams. A total of 174 participants including USCG, EPA, ADEC, ADFG, North Slope Borough, International Bird Rescue, and industry representatives from other North Slope operators took part in the exercise. The Field Deployment operations encompassed the lower 9.5 miles of the Kuparuk River and the tidal shoals (Priority Sites 16, and 16A) of its delta and

Gwydyr Bay.

ACS and Alyeska began staging equipment on the north and south sides of the Kuparuk River Bridge. Uncharacteristically, the Kuparuk River started rising, rapidly encroaching on the staging area in the hours prior to the exercise, at one point, there was an 8 inch rise in five hours. The evening before the



exercise, with the waterline approaching one and one-half foot from breaching the west channel crossing, the Incident Commander called for a meeting between ConocoPhillips and ACS Operations leadership to discuss options. The decision was made to move everything to higher ground, monitor weather reports, and get a visual of the staging area early the next morning. Most of the 25+ pieces of equipment were then re-staged 2.5 miles to the west, and some key operational items (ACS and BP Airboats) were kept staged on the east side of the river.

Three possible paths forward were discussed, to be determined by the behavior of the river overnight, either: (a) proceed as planned with the entire deployment; (b) scrap any on-water activities south of the bridge if the water had risen enough to prevent airboats from passing under the bridge; or (c) if launching boats at any location in the river became perilous, cancel all on-river operations. ACS does not launch boats from the upstream side of the bridge in high water, because an engine failure could prove disastrous, pinning the vessel and/or its crew against the bridge.

On Thursday, the morning of the field deployment, it was determined that it would be safe for all but one of the ACS vessels to pass under the Kuparuk River Bridge (the freighter has an extra tall prop guard), and that green light had been given for a full deployment. By 7:00AM, the staging area essentials, and most of the boats were back in the original staging area, though some vessels would continue to arrive after the morning briefing and through the early morning. Though, at first glance, this re-mobilization may have appeared as close quarters chaos. The reality is that it was tightly coordinated and executed without incident, a testament to the Staging Team.

During the morning briefing, the Kuparuk Emergency Response Chief acknowledged that because of the persistently rising water, teams would need to work quickly and efficiently, encouraging responders to “rely on your training”. After succinct meetings among the River Division

Supervisor, Task Force Leaders, and Team Leaders, a loader and vessel trailer corridor was established. Vessel safety briefings were conducted and teams were deployed. Two teams made up of SRT members from Kuparuk and Eni mobilized up-river to deploy boom and skimmer systems. One just down current from the “rupture” at the KPL crossing, and another just south of the Kuparuk River bridge. About a mile and a half down river, two teams from WOA executed the same containment and recovery tactics, but with their own set of challenges to overcome.



Meanwhile, after a briefing of their own, resources mobilized from West Dock and Point Thompson were completing objectives in Gwydyr Bay. Under the watchful eye of an ACS Unmanned Aerial Vehicle (UAV), two teams utilizing Bay class vessels and the workboat “Fireweed”, (crewed by SRT members from EOA, Kuparuk and ACS Marine), recovered oil using the J-Boom to Skimmer and Mini-Barge tactic (R-17). At Priority Protection Sites 16 and 16A, three teams comprised of ACS Personnel and SRT members from Milne Point, Endicott, North Star, Alpine and Point Thompson deployed and anchored 4000’ feet of boom. Back on the river, a team from Alyeska demonstrated ACS’s Swift Water Recovery Tactic (R-33) with their custom order “River Buster”. It was agreed by many, that this system might have had the most effective recovery ability for the operating environment. This portion of the exercise was never intended to be evaluated officially, but the contribution was appreciated by ConocoPhillips and ACS.

This was an exercise that included successes at every level of the organization, from which we can glean many positives. One notably bright star was Communications. Even though our operations area stretched from Oliktok Point to West Dock to the KPL Crossing to the Command Center, the tireless efforts of a couple individuals caused communications to flow far better than in any previous Mutual Aid Drill (or deployment exercise).

Among other things, MAD is a training exercise. One with opportunities to test new equipment, form ties with peers in your field, and learn new roles, sometimes on the fly. In those respects, this exercise was a success as well. When the dust settled, 27 vessels had been deployed and recovered, and over 5000’ of boom had been deployed. Mother Nature’s call to stage, re-stage, then stage again made this two day exercise a memorable one. In spite of those challenges, and the sheer scope of this operation, no one was injured and there was no equipment damage.



Operations

Eastern Operating Area and Western Operating Area SRT Joint Exercise

This year's exercise at Mine Site 27 was cancelled due to high winds and phase conditions.

The SRT Lake on the Heavy Equipment Warm Storage pad was cleared off and a Winter Response Workshop was held for the EOA and WOA SRT Teams.

The plan was to give new and old members the opportunity to operate equipment and practice winter tactics. Exercises were conducted for a couple of weeks to make sure everyone had an opportunity to participate.

ENI loaned us their newly designed Rube Witch and their lithium ion battery powered chain saw and augers.

We had broken the team up and everyone cycled around the different stations to run tools and equipment. The focus was not so much completing tactics as it was equipment and tactic familiarization.

We had a great turn out and everyone enjoyed the training. Thanks to everyone who came.

EOA and WOA Lead Tech

Equipment

CAT Skid Steer with Bucket
Cat Skid Steer with Trencher/ Plainer
Walk Behind Bobcat with mini trencher
Walk Behind Bobcat with bucket
Kubota ATV w/ trailer
Snow Machine w/ snow go trailers
ENI Rubewitch/Chainsaw

Tools

Electric DeWalt Chainsaw
Electric Ice Augers
Heavy Bars/ Shovels
Ice Screws



Operations

Northstar Equipment Deployment Exercise

Northstar's Spill Response Team conducted an audited Equipment Deployment Exercise on April 29 2019. This equipment deployment followed ACS recovery tactics outlined in the Hilcorp C-Plan (Crude Oil Pipeline Rupture at Northstar During Typical Winter Conditions).

Northstar's SRT was tasked with setting up and running multiple skimmer types in ice sumps and ice trenches. Skimmer types included: Elastec grooved drum, rope mop, and manta ray skimmers. The SRT was also tasked with trenching sea ice using chain saws and lifting sea ice blocks using ice screws and grating pickers. Northstar SRT was trained on hoses and pumps in series to move crude oil from recovery sumps to potential holding tanks and the possibility for direct suction using vac trucks with manta ray skimmers or suction screens. Chris Hall gave a talk about insitu burning possibilities as well as the oil-in-ice tracking buoys recently modified by ACS.

This Northstar SRT training was audited by BSEE and supported by ACS Management, Supervisors, & Spill Technicians.



Planning Department Overview

Research and Development

ACS has continued to explore best available technology options for its members in 2019. We continue to improve the UAV program finding new and exciting ways to incorporate the technology. We have tested and evaluated new equipment for containment and recovery including new absorbent technology and new boom technology. We worked with BSEE and CRREL on BSEE Project 1082 to enhance mechanical recovery in the Arctic.



NOAA SCAT Training

Shoreline Cleanup and Assessment Technique (SCAT) is a systematic method for surveying an affected shoreline after an oil spill. The SCAT approach uses standardized terminology to document shoreline oiling conditions. SCAT is designed to support decision-making for shoreline cleanup. It is flexible in its scale of surveys and in the detail of datasets collected. ACS hosted and participated in NOAA OR&R's SCAT training in Prudhoe Bay. Students learned how to conduct reconnaissance surveys, segment the shoreline, develop cleanup guidelines and endpoints, submit survey reports and shoreline oiling sketches to the ICS Planning Section, monitor effectiveness of cleanup, conduct post-cleanup inspections and do a final evaluation of cleanup activities.



Methods to Enhance Mechanical Recovery in Arctic Conditions

ACS was contracted by CRREL to take part in BSEE Project 1082 to identify and improve specific aspects of mechanical recovery in offshore and open ocean Arctic environments. Several separate tasks were explored within this project including the following:

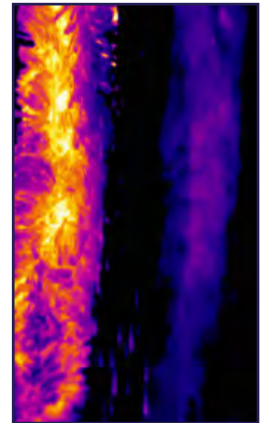
Task 1: Use of Waste Heat to Reduce Viscosity of Recovered Fluid

Methods were investigated to improve the flow of recovered fluids through the use of waste heat generated by equipment used during spill mitigation procedures. This heat was utilized to raise the temperature of fluid that is being pumped through recovery hoses, thus reducing its viscosity and facilitating the pumping process.



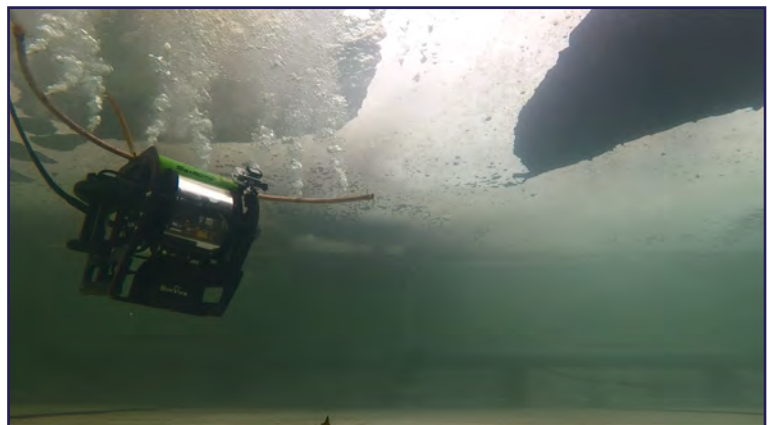
Task 2: Methods to Reduce Icing of the Vertical Rope Mop Skimmer

Methods were investigated to heat the rope mop skimmer during oil recovery operations to prevent or reduce ice accumulation on the mop, thereby allowing it to continue effective oil recovery. Several methods of heating the rope mop were evaluated. The most successful was the use of dry steam generation at the point of the oleophilic mop's departure from the skimmer head. This method allowed the material to carry heat through its entire revolution all the way back to the point of oil collection.



Task 3: Oil Herding with an ROV Mounted Bubbler System

The feasibility of herding oil under ice through the use of an ROV equipped with an air bubbler was studied. A camera and air source was mounted to an ROV, and techniques were developed to successfully herd oil from under solid ice up into channels cut into the ice for recovery with a skimmer.



Training

The training staff provides continuous oil spill training support to the member companies. This support includes classroom presentations, field practicals, tabletop exercises, and deployment drills. With over 3,000 instructor hours per year, hundreds of training development hours, and extensive oil spill response experience, their expertise radiates throughout their lessons.

SRT Training

Spill response training is provided weekly in 2-4 hour sessions to each of the North Slope Spill Response Teams. ACS instructors provide the spill response training at the Valdez Marine Terminal for Alyeska Pipeline Service Company. Specialized training is also provided by both ACS instructors and professionals from outside the organization.

ICS Training

ACS follows the National Incident Management System (NIMS). Through an agreement with Emergency Management Services International (EMSI) ACS is presenting EMSI training classes to member companies. Classes include Intermediate ICS 300, ICS-339, ICS-220, Planning Section Workshop, Situation Unit Workshop, and Resource Unit Workshop. More classes will be developed and presented as necessary. ICS training is provided to member company teams both on and off the North Slope.

Specialized Training

Alaska Clean Seas schedules several different specialized courses for the North Slope Spill Response Teams. Advanced Oil Spill Responder courses are held at Ohmsett, New Jersey. These courses provide students the opportunity to operate different types of skimmers in different types of wave conditions and in oil on water.

Oiled Wildlife Response Workshop

ACS sponsors the Oiled Wildlife Response Workshop at the Alaska Sealife Center in Seward, Alaska. This three-day course provides students a basic understanding of animal care and treatment to assist professionals in oiled pinniped response activities.

Bird Hazing Training

Bird Hazing Training, taught by an instructor from the U.S. Department of Agriculture (USDA) teaches students how to identify different species, which deterrent tools to use and how to develop a hazing strategy based on an oil spill scenario. Students also learn firearm safety and how to operate different pyrotechnics used in bird hazing.

Polar Bear Hazing

Polar Bear Hazing is an eight hour course instructed by ACS trainers authorized by the US Fish & Wildlife Service. This course provides trained responders knowledge of the regulations protecting this unique species of bear outlined by the Endangered Species Act and the Marine Mammal Protection Act. Students are taught to understand polar bear biology, behavior, and techniques to limit interaction between humans and bears through attractants management, passive hazing, and active hazing. Instruction of proper techniques and equipment enables effective hazing while providing the safest environment for bears and responders alike.

24 Hour HAZWOPER

24 Hour Hazwoper is a 3-Day course that was developed in house with the intent of merging OSHA requirements with the unique environment of the North Slope. Designed to be mostly hands-on with minimal time in the classroom, the 24 Hour HAZWOPER course takes new SRT members through what it takes to stay safe and effectively respond to a hazardous materials incident.

Bird Capture and Stabilization Course

Bird Capture and Stabilization Course is instructed by IBR and hosted by ACS. This training allows SRT members to learn the fundamentals of safely capturing birds and transporting them to our stabilization center on the North Slope. Students learn techniques to care for oiled avian species until the arrival of wildlife experts. Special training ducks are flown up with bird experts who lead the group through intensive hands on training.

Protected Species Observer

Protective Species Observer (PSO) training was initiated this year to train SRT members and member company personnel as PSO's. During a spill, responders may be required to have trained PSO's on vessels to search for any protected species in the response area. The PSO's would then advise operations of any sightings, in an effort to minimize impact to protected species.

Hazardous Waste Transportation

Hazardous Waste Transportation training is offered to all ACS employees, our member companies and their contractors. This was a multi-day course for anyone who regularly handles, transports, and ships hazardous material.

Drills and Exercises

ACS assists in both tabletop and field deployment exercises. Tabletop walk-through exercises provide an excellent training atmosphere in which students work through a scenario with instructor guidance. Field deployment exercises are conducted year-round in a variety of weather conditions. As leaders in cold weather spill response, ACS personnel are able to provide realistic conditions and activities to the field response training exercises.



Training

Auxiliary Contract Response Team Academy

2019 saw the return of ACS's Auxiliary Contract Response Team (ACRT) Academy after a five year pause in the program.



The ACRT Academy allows the professionals that make up our reserve forces to get real world, hands-on experience and practice conducting response tactics. In past years, this Academy has made use of facilities in Kenai, Alaska. This year we brought the three-day course to the North Slope. The three days consisted of systematically introducing the concepts of spill response followed immediately with a practical to solidify these concepts.



The first day consisted of a review of Contractor Safety Requirements, an overview of ACS Operations and the ACS Technical Manuals, Atmospheric Testing, Personal Protective Equipment, Respiratory Protection, and Site Safety. At the end of the day, a field exercise occurred focusing solely on these topics.



On the second day, hands-on training included what makes ACS's communications network tick, booming and containment basics, recovery of oil with skimmers, transfer pumps and storage options, and a look into research and development. The day ended with a field wide tour, focusing on site familiarization, pre-deployed equipment locations, and marine infrastructure.



The last day was all field, all day. Our scenario was to respond to a pipeline leak at river crossing by gathering, transporting, and deploying response equipment to a predetermined collection site on the Sagavanirktok River. Using the learnings from the previous two days ACRT crews gathered all of the necessary equipment and transported it via an airboat fleet. Once on scene they deployed a collection and recovery site.

UAV Operations

Alaska Clean Seas UAS Program

It was a great year for unmanned aircraft system operations for Alaska Clean Seas. With numerous activities occurring this year, ACS had many opportunities to utilize this new technology to support Member Company and ACS operations.



SAG River Flooding

As seen over the last few years, spring breakup with the Sag River has caused headaches with the Endicott Access road and this year was no different. The Sag River rose during spring break up and washed out the road east of the Sag River Bridge. In an effort to support this event, ACS utilized drones to provide daily video footage and photos of washed out sections of road. The data provided helped to support plans to rebuild the road after waters subsided.



Priority Protection Sites

To better assist responding teams in field, ACS is proactively utilizing drones to review and capture updated information regarding Priority Protection Sites. The video captured via drones helps responders make informed decisions based on the latest information regarding a site. A Video Library of each Priority protection site is being created and continually updated as additional sites are added.



Responses and Inspections

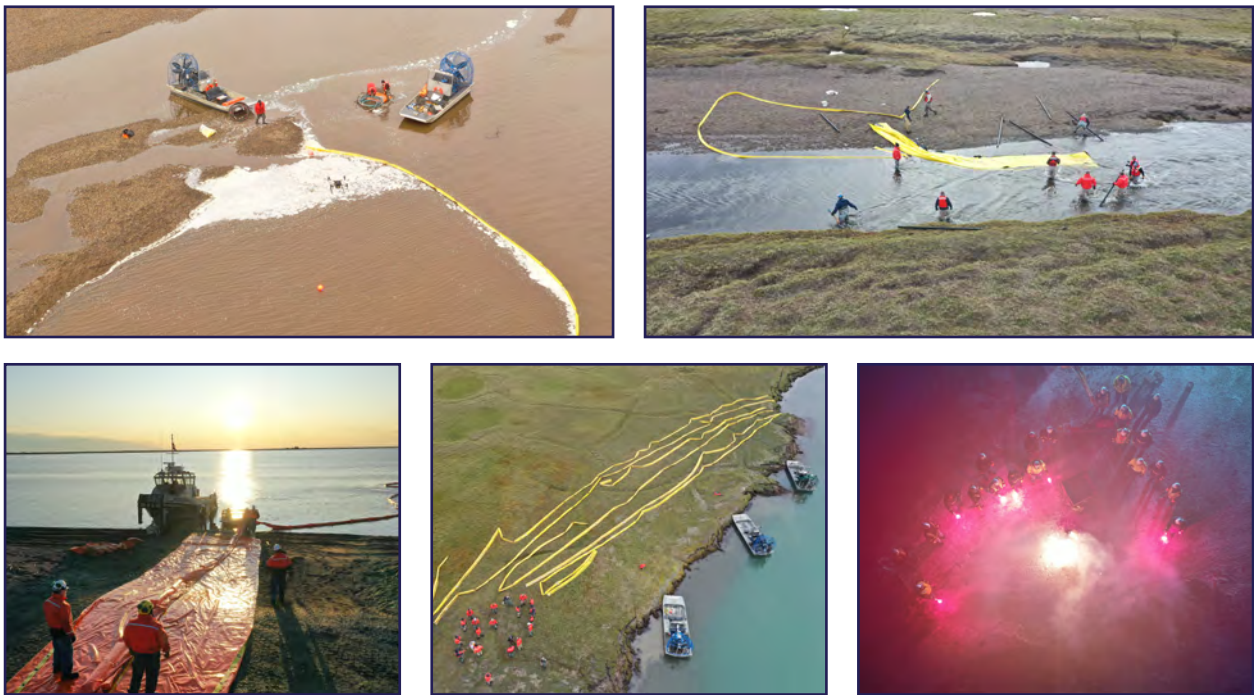
Both periodic requests and scheduled/routine inspections have occurred through ACS's UAS program to support our members. ACS was able to utilize a drone to survey tundra impacts and a spill response. Additionally, certified ACS drone operators have been performing periodic inspections of pipelines, facilities and communications towers. Each of these tasks have reduced safety hazards and saved countless dollars in labor, equipment and materials.

West Dock Marine Infrastructure

As ACS moves forward with the upgrading the West Dock Marine Infrastructure, time has been taken to capture those upgrades. As ACS moved forward with the demolition of the Lemming and Caribou barges and installation of the new moorage, we have captured those significant changes with drones. In turn, those videos and photos have been made available to other operators interested in the significant changes that are occurring to the most northern dock of the Arctic Ocean.

SRT Training

Every week Spill Response Teams across the North Slope perform training. To support SRT training, we have been utilizing drones to capture video footage of field deployment exercises where teams have been performing ACS tactics. We then refine the video footage captured into a video library of ACS Tactics. Tactic videos can be utilized as training tools to provide a visual insight into how to perform a tactic. The Tactics video library is a companion to the Priority Protection Site library also being developed.




ACS continues to fine-tune our UAS program and expand our number of certified operators. We look forward to supporting our members with this technology to provide clear images of the world around them.



ACS Owned Equipment

Description	Quantity
Skimmers	77
Barges	13
Tanks and Bladders	69
Vessels	42
Boom	137,502 feet
Semi Truck	1
Boom Truck	1
Mechanics Trailer	1
Passenger/Work Trucks	11
Front End Loaders (w/ attachments)	2
Bobcat/Skid Steer Loaders	6
Warehouse Fork Lifts	3
Kubota ATV's (w/tracks)	5
Snowmachines	8
Light Plants & Stands	26
Diesel Generators	39
Indirect Fired Heaters	6



Description	Quantity
20' x 40' Connexes	200
Portable Communication Towers	2
Portable Communication Shelters	2
Handheld & Mobile Radios	430
Hydraulic Power Units	74
Flat Bed (w/ Container Lugs)	1
14 Passenger Bus	1
Gasoline Generators	11
Direct Fired Heater	1
Heli-Torch (55 gallon)	6
Heli-Torch Batch Gel Mixers	2
Mobile Command Center	1
Envirovacs	2
Portable Warm-up Trailers	2
Weatherports	24
Bird Stabilization Center	1
Pumps	153 38,021 GPM

**The ACS Equipment Manual can be viewed online at
www.alaskacleanseas.org under Documents.**