Alaska Clean Seas

NORTH SLOPE SPILL RESPONSE
acs
alaska clean seas
A WORLD CLASS ORGANIZATION

Alaska Clean Seas
VPP
Voluntary Protection Programs
An OSHA Cooperative Program
OSHA VPP Star Site

Response Organization

- Originally Established in 1979 as ABSORB
- Restructured in 1990 from equipment Co-Op into full Response Organization
- Not-for-Profit
- Responds like a fire brigade to emergencies with equipment and trained personnel

Mission

To provide personnel, equipment, and spill response training for our members in preparing for and cleaning up an oil spill within our area of interest.

Under ACS By Laws – All members are entitled to:

1. Call upon ACS and receive assistance in the above activities.
2. Refer to ACS resources in their contingency plans

ACS is equipped to meet our member company response requirements under their contingency plans

ACS Support to our Members

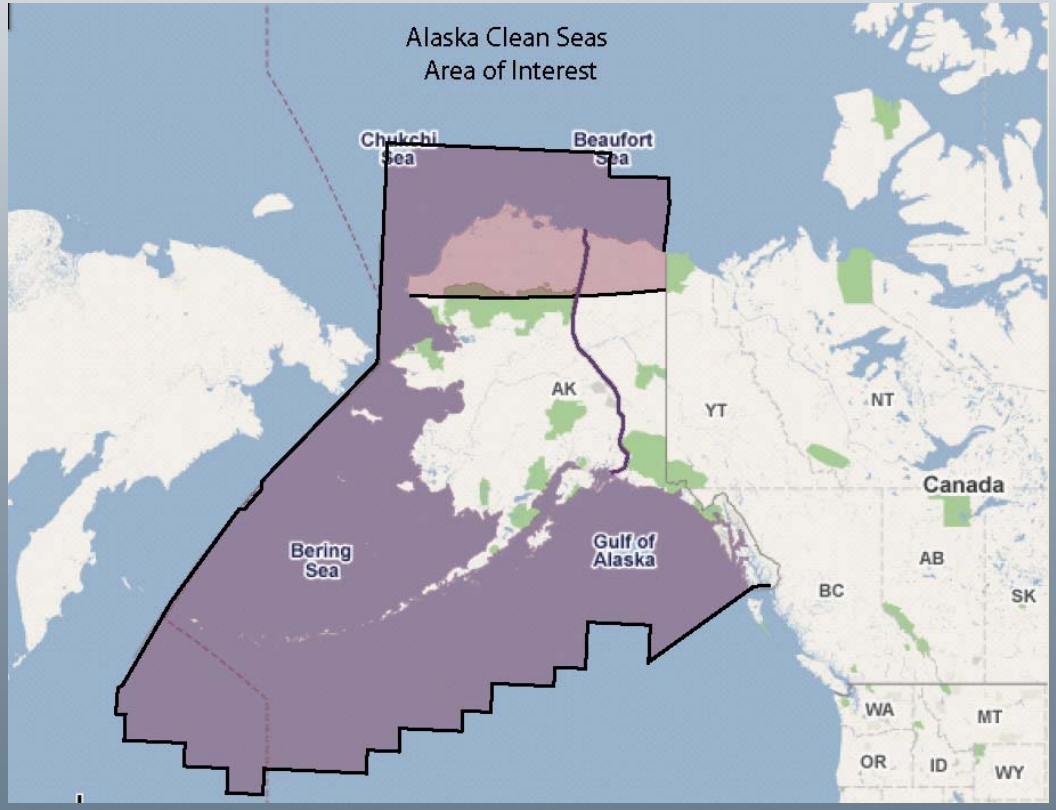
- Spill Response, equipment maintenance and training (Primary Job)

- Day to Day Field Environmental Support
  - Storm Water Run-off Management
  - Oversight and Proper Manifesting of Hazardous Waste Shipments
  - Environmental Management System Development and Audits
  - Maintenance of Satellite Accumulation Areas and Recycling Accumulation Areas
  - Wildlife Hazing and Reporting

ACS Membership

- Alyeska Pipeline Service Company
- Anadarko Petroleum Corporation
- Brooks Range Petroleum Corporation
- BP Exploration (Alaska) Inc.
- ConocoPhillips Alaska Inc.
- Eni U.S. Operating Company Inc.
- ExxonMobil Production Company
- FEX L.P.
- Pioneer Natural Resources (USA)
- Shell Exploration & Production Company

ACS Area of Interest



Manpower

ACS - 78 full-time personnel.

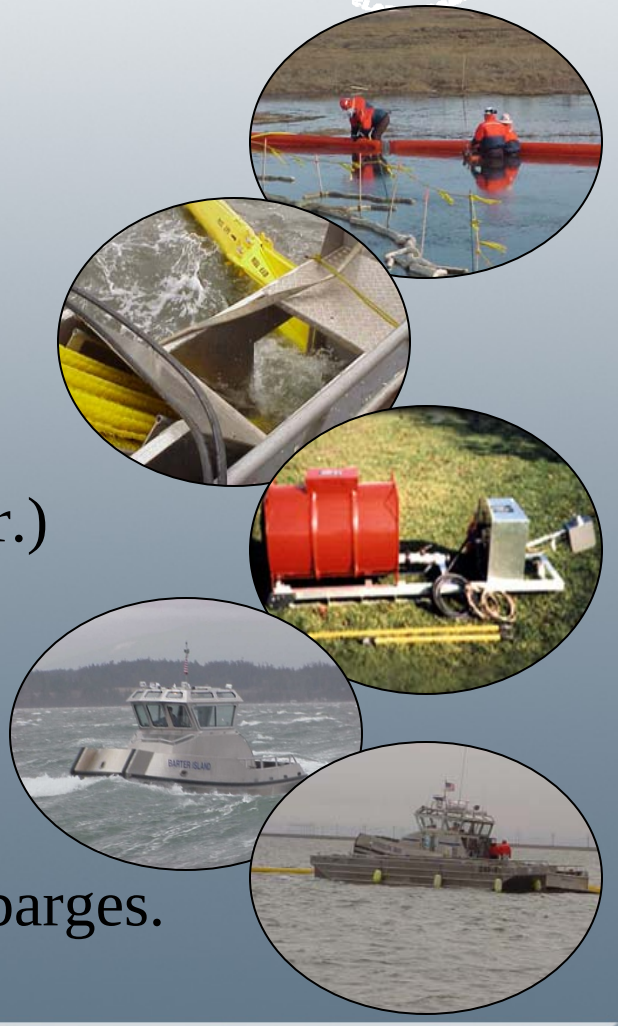
Additional trained responders are available through the North Slope Spill Response Team (NSSRT).

ACS maintains retainers for additional personnel from, Auxiliary Contract Response Teams (ACRT) and North Slope Village Response Teams (VRT).

Equipment

50 million dollars of equipment is maintained by ACS. The inventory includes –

- –287,184 feet of containment boom (17,450 feet of which is Fire Boom)
- –160 Skimmers (Totaling over 19,000 Bbls/Hr.)
- –Eight Heli-torch aerial ignition systems
- –94 vessels
- –Two 128 barrel and Twelve 249 barrel mini barges.



North Slope Spill Response Techniques

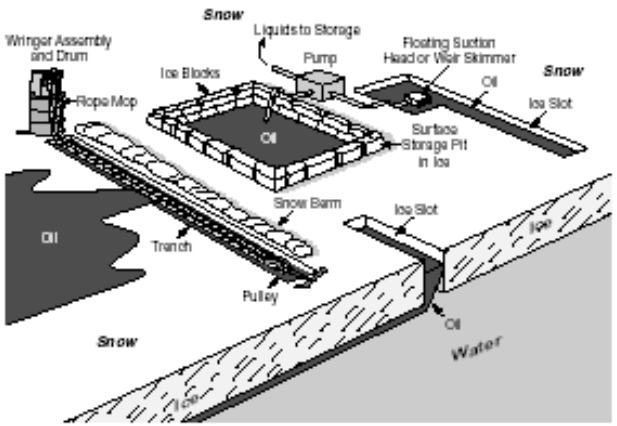
- Mechanical Recovery
  - Heavy Equipment
  - Skimmers
- In-Situ Burning
  - Heli-Torch
  - On Land
  - On Ice

Alaska Clean Seas Technical Manuals

- Developed by the Industry/Agency North Slope Spill Response Project Team and termed as a Best Practice by our membership.
- Applicable to all operators on the North Slope
- Manuals developed into three volumes:
  - Tactics Descriptions
  - Map Atlas (priority protection sites)
  - Incident Management System

Volume 1 - Tactics Descriptions

TACTIC R-13 Cutting Ice Slots for Recovery



Oil moving both on the surface of ice and underneath it can be concentrated in slots cut in the ice and recovered by skimming with rope mops or other types of skimmers. If the oil in the slot is thick enough, it can be removed using weir skimmers or direct suction.

Oil entrained in subsurface pockets can be reached by drilling holes with ice augers and pumping the oil directly to storage containers such as drums or bladders. Temporary storage can also be provided by excavating shallow pits in the ice surface using chain saws and chipper bars. These oil concentrations can be pumped off or burned.

EQUIPMENT AND PERSONNEL

EQUIPMENT	BASE LOCATION	FUNCTION	PIECES	NO. STAFF/SHIFT	MOBE TIME	DEPLOY TIME
Rube Witch w/Chain Saw	All	Trenching	3	6	1 hr	0.5 hr
Ice Auger	WOA, EOA, KRU, ACS, Endicott, Alpine	Recovery hole	1	4	1 hr	0.5 hr
Rope Mop (4-inch)	All	Recovery	1		1 hr	1 hr
Weatherport (10x12)	ACS, WOA, Alpine	Shelter	1		1 hr	1 hr
Diaphragm Pump (3-inch)	All (ACS, MPU, Alpine have diesel)	Recovery	1		1 hr	0.5 hr
Slurp Skimmer	ACS	Recovery	1		1 hr	0.5 hr
Suction Hose (3-inch)	All	Recovery	2 ≥20 ft	2 for setup	2 hr	0.5 hr
Discharge Hose (3-inch)	All	Recovery	2 ≥50 ft	—	1 hr	0.5 hr
Generator	All	Rope mop power	1	2 for setup	1 hr	0.5 hr
4-Wheeler w/Plow	All, except Badami & MPU	Berming	2	2	1 hr	0.5 hr

TOTAL STAFF FOR SETUP AND TRENCHING 12
TOTAL STAFF TO SUSTAIN OPERATIONS 3

NOTE: *"Base Location" is storage location (may change seasonally); "Mobe Time" is time to get it out of storage, prepare it for operation, and make it ready to travel (concurrent for all equipment); "Deploy Time" is time to make it operational for its intended use at the spill site. These times do not include travel time from base to spill site, which may have multiple components (see Tactic L-3).*

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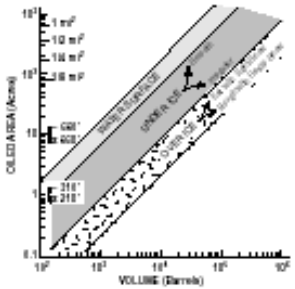
SUPPORT

EQUIPMENT	BASE LOCATION	FUNCTION	PIECES	NO. STAFF/SHIFT	MOBE TIME	DEPLOY TIME
Mechanic Truck	All	Support equipment	1	1	1 hr	0.5 hr
Light Plant	All	Illumination	≥1	2 for initial setup, and 1 to check and fuel occasionally	1 hr	0.5 hr
Tioga Heater	All	Heat	≥1	1 initial setup	1 hr	0.5 hr

CAPACITIES FOR PLANNING

- Slurp skimmer = 62 bbl/hr nameplate
- 3-inch diaphragm pump = 114 bbl/hr nameplate

TYPICAL ARCTIC HOLDING CAPACITY



DEPLOYMENT CONSIDERATIONS AND LIMITATIONS

- Check ice thickness for safe bearing capacity before working on ice. The ice must be sufficiently strong to support personnel and heavy equipment. See Tactic L-7 for realistic maximum operating limits (RMOL) for ice thickness and temperature. Also, ensure ice can withstand extra load of oil and snow on the surface without either breaking the ice or forcing oil to migrate through existing cracks. Extreme care must be taken when positioning or operating any heavy equipment close to trenches or slots in the ice. Stresses in the ice for a given load can double under these situations. Ensure that oil that accumulates in an ice trench is continually removed. If allowed to build up to a thick layer, some oil may escape the ice slot.
- "In-ice" trenches do not extend through the ice and contain spills flowing over the ice surface. "Through-ice" or slots or trenches extend through ice to free water to contain spills moving under the ice.
- Ice trenches can be configured in "U" shapes or herringbone patterns to contain oil. Remove cut ice blocks in 1-cubic-ft pieces and place on side opposite oil. The width of the trench should not exceed 4 ft.
- Use of Rube Witch chain saw is labor-intensive.
- Use of heat will make the rope mop and pump more effective.

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Volume 2 - Map Atlas

PRIORITY PROTECTION SITES

SITE NO.	DESCRIPTION	SENSITIVITY	TACTIC	EST. BOOM
PS18	Creek mouth 2 miles SE of Milne Point	Most sensitive during open water season. Keep oil from entering lagoon.	C-13 or C-14	800'
PS18A	Salt marsh 1.75 miles SE of Milne Point	Most sensitive during open water season. Keep oil from entering salt marsh.	C-13 or C-14	800'
PS19	Inlet to marsh 2 miles SW of Milne Point	Most sensitive during open water season. Inundated low-lying tundra shorelines.	C-13 or C-14	500'

GENERAL SENSITIVITIES

- Coastal areas support high concentrations of breeding, nesting, brood-rearing, and molting waterbirds during the summer.
- Simpson Lagoon has large flocks of molting male Oldsquaw in July and early August, especially in the lee shores of the barrier islands.
- Shoreline and offshore areas support molting and brood-rearing eiders. This is also a staging area for migrating Phalaropes (shorebirds). Birds are present in June through September.
- This is a Brant nesting, brood-rearing, and molting area. Birds are present from May through August.
- Pairs of Spectacled Eiders have been found in this area.
- Plan to deploy bird-hazing systems during the open-water season.

CULTURAL SITES

Information on the exact locations of cultural sites is confidential. This information is contained in the *North Slope Archaeological Data* document, copies of which are kept at the following offices: State Historical Preservation Officer (SHPO) (907-269-8721), ACS in Deadhorse (907-659-2405), North Slope Borough Lands Division (907-852-0322), North Slope Borough Lands Division (907-852-0322), BPXA Crisis Center in Anchorage (907-564-5243), and the ARCO Incident Command Center in Anchorage (907-265-1000). The following cultural site(s) are located in the area depicted on this sheet:

- XBP-010 on the coast east of Milne Point

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AIR ACCESS*

- There is an emergency aircraft landing strip located on Oliktok Point (Sheet 35) approximately 9 miles west of Milne Point. This a 4,000-ft gravel airstrip, which is unattended and closed to the public. Approval to use the strip must be obtained 24 hours in advance by calling 907-552-1738 or 317-552-1738. Visual inspection prior to use is recommended.
- The Kuparuk airstrip (Sheet 51) is located approximately 13 miles south-southwest of Milne Point.

AIRSTRIP	DESCRIPTION/ LOCATION	FIXED-WING MINIMUMS	FUEL/ SERVICES	TRAFFIC CONTROL
Kuparuk Airstrip	6,000-ft. gravel runway, attended continuously	VFR: 1 mi vis. clear of clouds IFR: 0.75 mi vis.	Jet A	24-hr advance notification required: 907-659-7213

VESSEL ACCESS* AND HYDROGRAPHIC CONDITIONS

- Simpson Lagoon water depths range from 3 to 7 ft.
- Aircraft wreckage is present in 4 ft of water 0.5 mile offshore north of Milne Pt. 18-1.
- Simpson Lagoon currents are generally to the west at 10 to 30 cm/sec.

COUNTERMEASURES CONSIDERATIONS

- Vegetated shorelines making up much of this area will preclude the use of heavy equipment. Sand-silt washed over on the vegetated shorelines is mixed with large peat blocks, making mechanized travel difficult.

STAGING AREAS AND PRESTAGED EQUIPMENT

- There are staging areas at MPU D Pad and at MPU L Pad.
- Boom is typically predeployed seasonally on Central Milne Creek north of MPU-2 and northeast of Milne Point Road.

PRESTAGED EQUIP. AREA	LOCATION	ITEM	QUANTITY	TYPE
MPU-2	At river east of MPU A Pad	Boom Boom Pump Skimmer Skimmer Storage	1,000' 200' 1 1 1 1	8" x 6" river Shoreline 3" diaphragm Rope mop, Z14-E Disc, MI-30 2,400-gal. Fastank
MPU-3	On south side of inlet, northwest of MPU D Pad	Boom Boom Pump Skimmer Skimmer Storage	1,000' 100' 1 1 1 1	8" x 6" river Shoreline 3" diaphragm Rope mop, Z14-E Weir, slurp 2,400-gal. Fastank
MPU-4	West of mouth of Central Milne Creek on south side of inlet	Boom Boom	1,000' 200'	8" x 6" river Shoreline
MPU-5	On south side of inlet near entrance to bay	Boom Boom Pump Skimmer	1,500' 200' 1 1	8" x 6" river Shoreline 3" diaphragm Disc, MI-30

*See the latest *Supplement, Alaska* and United States Coast Pilot for current information on air and vessel access, respectively.

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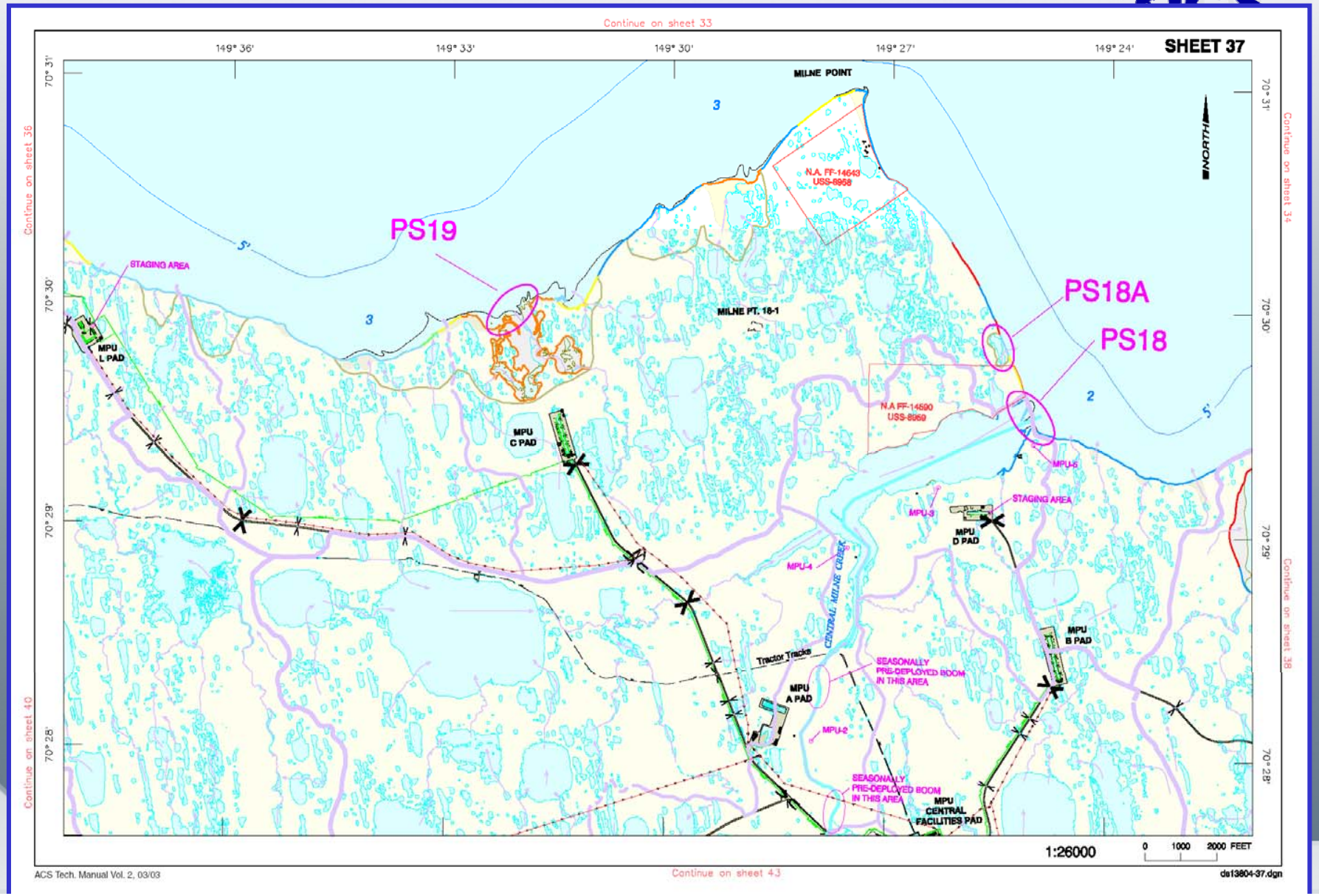
Volume 2 - Map Atlas



Research and Development

- ACS has maintained an active oil spill R&D program since the early 1980s

- Acts as facilitator for much of R & D related to spill response in arctic conditions.

- Contributing Organization to recent SINTEF JIP for Arctic.

- The R&D program focuses on areas such as:
  - oil spill recovery techniques in, on, and under ice, during various broken ice conditions,
  - detection and tracking of oil under ice
  - in-situ burning techniques

Alaska Clean Seas

www.alaskacleanseas.org