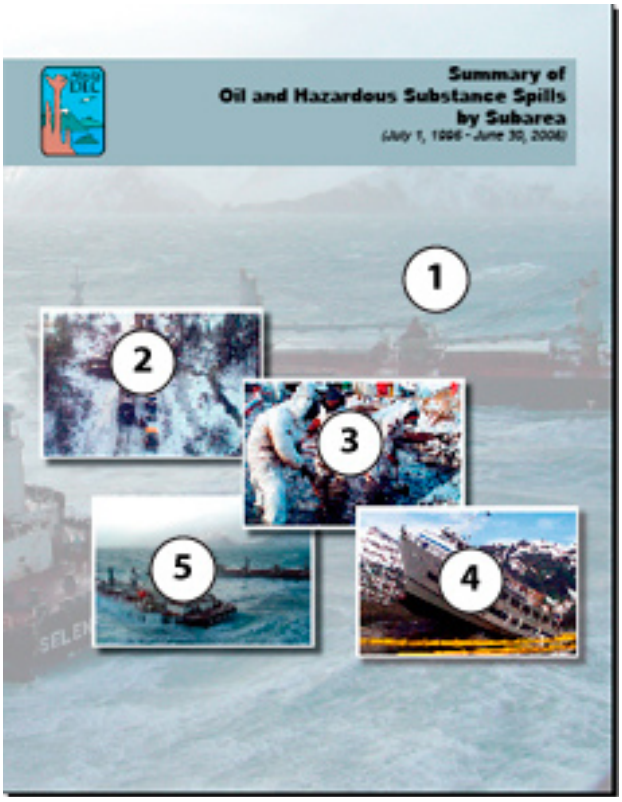
Summary of Oil and Hazardous Substance Spills by Subarea

(July 1, 1995 - June 30, 2005)

October 2007



On the Cover:

1. M/V Selendang Ayu Grounding, 12/07/2004
2. Canyon Derailment, 10/31/1999
3. M/V Kuroshima Grounding, 11/26/1997
4. Wilderness Adventurer Grounding, 06/12/1999
5. M/V Selendang Ayu Grounding, 12/07/2004

DISCLAIMER

The data presented and summarized in this report is provisional only due to ongoing quality assurance/quality control (QA/QC) on the part of data entry staff and primary users. Additional on-going reviews will further refine the accuracy of the data. As an example, a spill from an un-regulated vehicle at a regulated facility may have previously been entered as a spill at a regulated facility. This and other types of data entry issues are being addressed to ensure further data entry problems are precluded.

Summary of Oil and Hazardous Substance Spills by Subarea

(July 1, 1995 - June 30, 2005)

prepared by

Alaska Department of Environmental Conservation
Division of Spill Prevention and Response

October 2007

Table of Contents

Executive Summary

The Department of Environmental Conservation (DEC), Prevention & Emergency Response Program (PERP) has finalized a 10-year spill data summary report which spans the period of July 1, 1995 to June 30, 2005 and examines each of the 10 Subareas or Regions of the State. This report complements the 10-year Statewide Summary report published in June 2007, which examined general statewide spill trends.

Prominent Conclusions

- Spills occur in subareas of the state where the population base is higher and oil exploration and production, mining and commercial fishing activities exist.
- Spills from unregulated vessels (< 400 gross tons) were most common for the coastal subareas such as Southeast Alaska, Prince William Sound, Kodiak, Cook Inlet and the Aleutians.
- Spills from vehicles and gas stations are common in the urbanized subareas where primary road systems exist such as the Interior (Fairbanks) and Cook Inlet (Municipality of Anchorage, Matanuska-Susitna Borough, Kenai Peninsula Borough).

Spill Data Highlights

Seasonal Spill Trends in Alaska

- Seasonal trends for marine spills occur in the coastal subareas of the state during the commercial fishing season, typically April through September.
- The discovery and reporting of spills typically occurs in the Northwest Arctic, Western Alaska, Bristol Bay and Interior subareas with the onset of Spring breakup.
- On the North Slope a seasonal increase in the number of spills occurs during the January through April timeframe, which is related to the increased oil exploration activity in the winter.

Spills from Storage Facilities

- Spills in Southeast Alaska, Bristol Bay, Western Alaska and the Interior primarily occur at fuel storage facilities not regulated by the State. These storage facilities or fuel tanks are typically located at residences, power generation facilities, transportation facilities and schools. Structural/mechanical and human factors were the leading cause of most spills.

Spills from Oil Exploration and Production Facilities

- In the Cook Inlet subarea nearly two-thirds of the spills from regulated facilities were from oil exploration and production facilities. In the North Slope subarea, 90% of the spills from regulated entities occurred at oil exploration and production facilities resulting in 95% of the total volume spilled. These include spills from pipelines that carry crude oil and other substances to the production facilities. Structural/mechanical was the leading cause of most spills.

Spills from Mining Operations

- Although only 6% of the spills reported statewide occur in the Northwest Arctic subarea, mining operations were responsible for 80% of these spills and 69% of the volume spilled in this subarea. The majority of these spills occurred from unregulated components associated with the mine. A separate report is currently being developed which will further examine spills in Alaska at mining operations.

The Unified and Subarea Federal/State Planning Process

Subarea Contingency Plans serve as supplements to the Alaska Federal/State Preparedness Plan for Response to Oil & Hazardous Substance Discharges/Releases (commonly referred to as the Unified Plan). The Unified and the Subarea Contingency Plans represent a coordinated and cooperative effort by government agencies and were written jointly by the U.S. Coast Guard (USCG), the U.S. Environmental Protection Agency (USEPA), and the Alaska Department of Environmental Conservation. The Oil Pollution Act of 1990 (OPA 90) requires the USCG and the USEPA to prepare oil spill response plans for the State of Alaska, which is designated as an entire planning region under federal guidelines. Alaska statute requires the ADEC to prepare a state-wide master plan addressing oil and hazardous substance discharges. The Unified Plan meets these federal (National Contingency Plan and OPA 90) requirements for regional and area planning, as well as State planning requirements.

OPA 90 requires the development of Area Contingency Plans for the inland and coastal zones of each federal region. For the Alaska region, there are three Coast Guard Captain of the Port (COTP) zones and one inland zone. The three Captain of the Port zones are: 1) Southeast, which covers all of Southeast Alaska; 2) Prince William Sound, which covers the Prince William Sound area; and 3) Western Alaska, which includes the rest of coastal Alaska from Cook Inlet out to the Aleutians and north to the Beaufort Sea and the Canadian border. The inland zone is subdivided into two sectors: 1) the North Slope oil production area and the Trans-Alaska Pipeline System (TAPS) and 2) all other areas inland from the coastal zones.

Alaska statute divides the state into ten regions for oil and hazardous substance spill planning and preparedness. The USCG and the USEPA joined with the ADEC to use these ten regions for area planning instead of the federal planning divisions since this would facilitate unified planning for the State of Alaska and prove more practical as well (for example, the huge COTP Western Alaska planning area is replaced by seven more manageable divisions). Because the State of Alaska is called a planning "region" under federal planning guidelines and to avoid confusion with the other federal term, "area contingency plans," these ten subordinate planning regions of the State are called "subareas" in the context of the Unified Plan.

General Subarea Description and Boundaries

Aleutian Subarea: The subarea encompasses the boundaries of the Aleutians East Borough, the Pribilof Islands, and the Aleutians West Coastal Resource Service Area, including adjacent shorelines and state waters, and having as its seaward boundary a line drawn in such a manner that each point on the line is 200 nautical miles from which the territorial sea is measured. The subarea includes the southern portion of the Alaska Peninsula as well as the Aleutian archipelago. The major islands in the region include Unimak, Unalaska, Umnak, Atka, Adak, Attu, and the Pribilof Islands of St. George and St. Paul.

Bristol Bay Subarea: The Bristol Bay subarea is that area of the State encompassed by the boundaries of the Bristol Bay Coastal Resource Service Area, the Bristol Bay Borough, and the Lake and Peninsula Borough, including adjacent shorelines and state waters, and having as its seaward boundary a line drawn in such a manner that each point on it is 200 nautical miles from the baseline from which the territorial sea is measured.

Cook Inlet Subarea: As defined by Alaska regulations, the Cook Inlet Subarea encompasses the boundaries of the Kenai Peninsula Borough, the Municipality of Anchorage, and the Matanuska Susitna Borough, including adjacent shorelines, waters of Cook Inlet and waters having as their seaward boundary a line drawn in such a manner that each point on it is 200 nautical miles from which the territorial sea is measured.

Interior Alaska Subarea: The Interior Alaska subarea is that area of the State not included in the other nine subareas. Specifically, this is the area which is bordered by the North Slope Borough boundary to the North, the Northwest Arctic Borough boundary to the Northwest, the Matanuska-Susitna Borough and Regional Educational Attendance Area (REAA) 11 to the South and Southwest, including the area north of the 63° 30' North latitude line extending from the Canadian border to the northeastern boundary of the Matanuska-Susitna Borough. The Interior Alaska subarea includes the Fairbanks North Star Borough, the Denali Borough, REAAs 12, 13, and 15, and part of REAA 16.

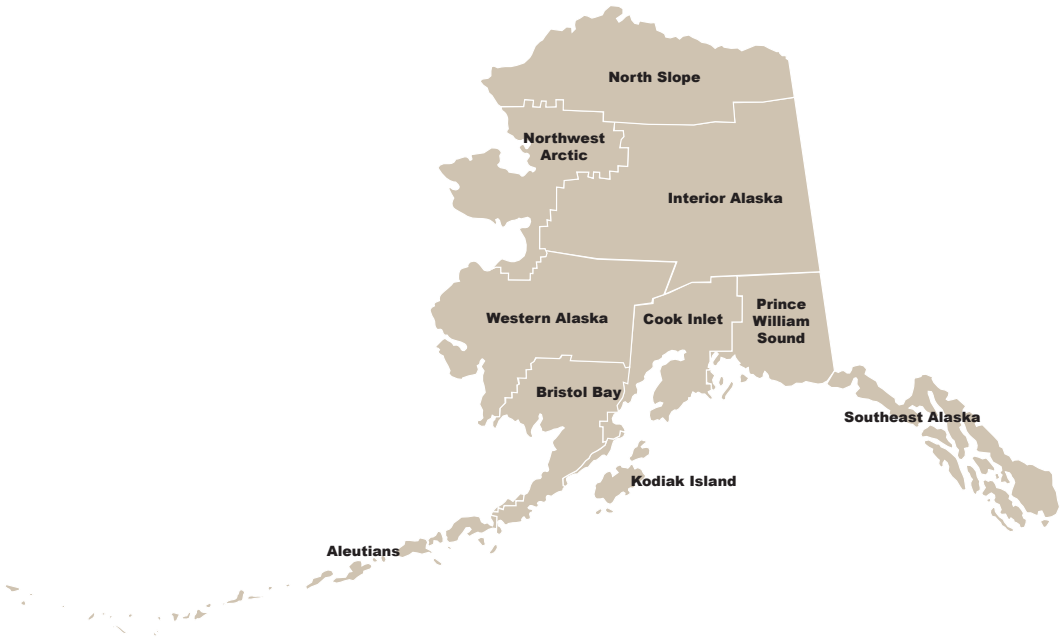
Kodiak Island Subarea: The Kodiak Island Subarea is that area encompassed by the boundaries of the Kodiak Island Borough, including adjacent shorelines and state waters, and municipal bound-

aries and having as its seaward boundary a line drawn in such a manner that each point on it is 200 nautical miles from the baseline which the territorial sea is measured. The subarea encompasses the Kodiak Island archipelago, extending from the Barren Islands at the north to Chirikof Island and the Semidi Island group at the south, and the coastal area watershed draining to the Shelikof Strait on the south side of the Alaska Peninsula from Cape Kilokak to Cape Douglas. The Kodiak archipelago and west side of Shelikof Strait within the Kodiak Island Borough is approximately 100 miles wide and 250 miles long. It includes more than 5,000 square miles of land, no point of which is more than 15 miles from the sea.

North Slope Subarea: As defined by Alaska regulations, the North Slope subarea is that area of the State encompassed by the boundaries of the North Slope Borough, including adjacent shorelines and state waters, and having as its seaward boundary a line drawn in such a manner that each point on it is 200 nautical miles from the baseline from which the territorial sea is measured. The subarea is located between the Brooks Range and the Arctic Ocean (to include the Beaufort and Chukchi Seas) and can be characterized as rolling tundra, barren, and treeless. Other mountain ranges in the region include the Davidson, Philip Smith, Endicott, and the DeLong mountains. Permafrost underlies the entire region.

Northwest Arctic Subarea: This is the area of the State encompassed by the Northwest Arctic Borough and the Bering Straits Regional Corporation, including adjacent shorelines and state waters, and having as its seaward boundary a line drawn in such a manner that each point on it is 200 nautical miles from the baseline from which the territorial sea is measured. Portions of the region are in the arctic, transitional, and continental climatic zones. Permafrost underlies much of the region. The weather in the region is the result of the interaction between global air movements, land topography, and major weather systems that move north-south and east-west across the Bering Sea. The larger river basins in the region include the Noatak, Kobuk, and Koyuk rivers. Marine waters associated with the region are comprised of the Chukchi and Bering Seas. Sea ice formation in the Chukchi Sea can begin in October and spreads south into the Bering. The ice pack can persist through late June, although the ice begins to melt and break up in April. The entire marine area of the region lies within the continental shelf.

Prince William Sound Subarea: As defined by Alaska regulations, the Prince William Sound Subarea is the area of the state south of 63° 30' North latitude, west of 142° West longitude, and east of the Cook Inlet Subarea (which is that area encompassed by the boundaries of the Kenai Peninsula Borough, the Municipality of Anchorage, and the Matanuska-Susitna Borough) including adjacent shorelines and state waters, and having as its seaward boundary a line drawn in such a manner that each point on it is 200 nautical miles from which the territorial sea is measured. (18 AAC 75.495)

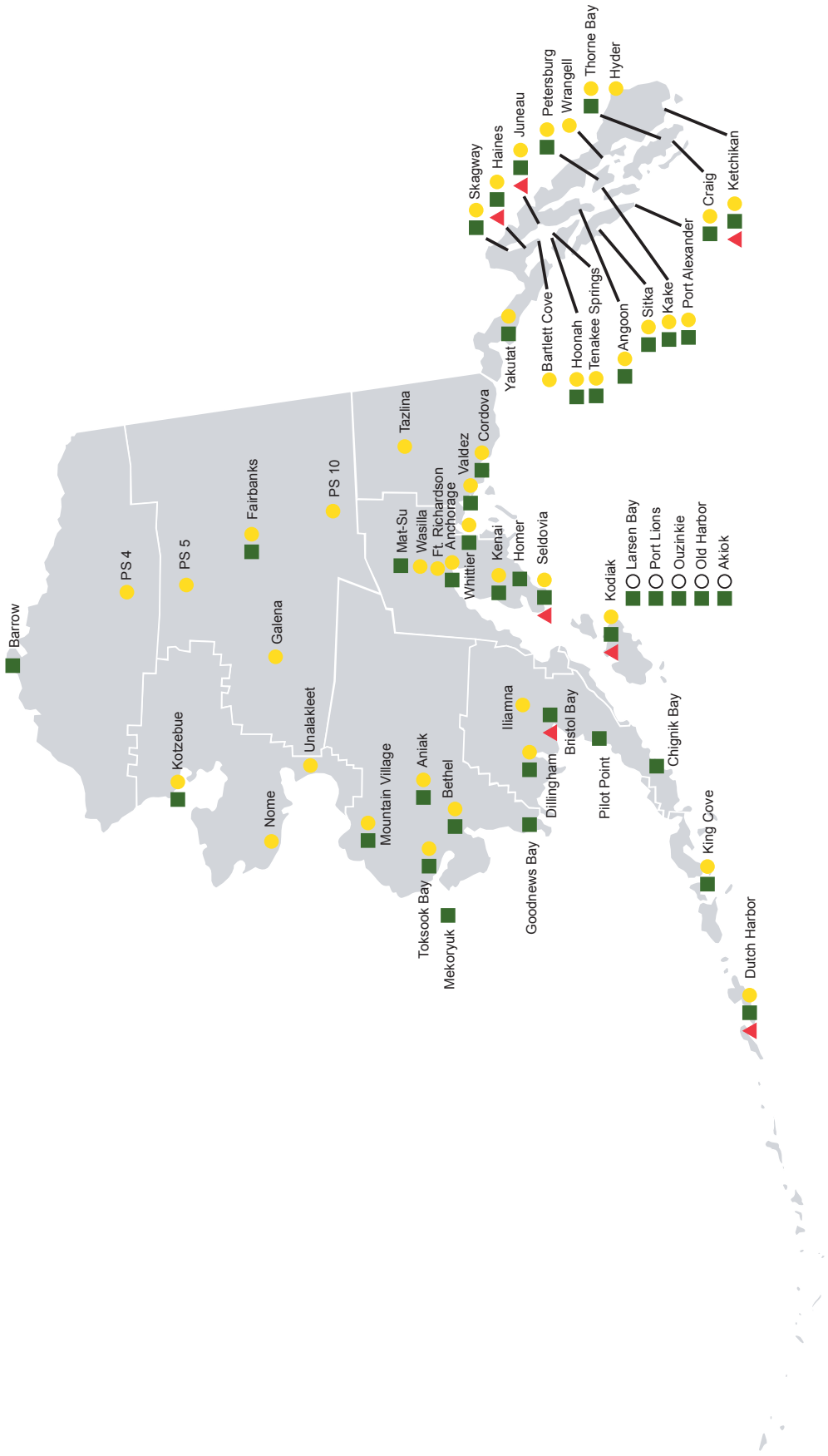


Southeast Alaska Subarea: This subarea is comprised of that portion of the State of Alaska east of a straight line commencing at 60.01.3 degrees north latitude, 142 degrees west latitude, thence proceeding northeasterly to its end at the international boundary between the United States and Canada at 60.18.7 degrees north latitude, 141 degrees west longitude. The offshore boundary is 142.00 degrees west longitude from shore to the offshore extent of the Exclusive Economic Zone (EEZ) thence southerly and easterly along the boundary of the EEZ to the international boundary at Dixon Entrance. This area includes all of Southeast Alaska from Dixon Entrance to the south up to and including Icy Cape to the north, a distance stretching over 530 miles.

Western Alaska Subarea: The subarea is that portion of the State north of the Bristol Bay subarea, encompassed by the boundaries of the southernmost boundary of the Bering Straits Regional Corporation, and Iditarod and Kuspuk Regional Educational Attendance Areas, including adjacent shorelines and state waters, and having as its seaward boundary a line drawn in such a manner that each point on it is 200 nautical miles from the baseline from which the territorial sea is measured. *[note: this description reflects corrected language included in proposed regulations that have not been adopted at the time this report was published]*

Local Response Agreements and Response Equipment Locations

(as of March 2007)



Local Response Agreements and Response Equipment Locations *(as of March 2007)*

Subarea	Community	CSRA	Conex	Nearshore	Other Equipment
AL	Dutch Harbor	■	●	▲	
AL	King Cove	■	●		
BB	Chignik Bay	■			
BB	Bristol Bay	■		▲	
BB	Dillingham	■	●		
BB	Iliamna		●		
BB	Pilot Point	■			
CI	Anchorage	■	●		
CI	Ft. Richardson		●		
CI	Homer	■			
CI	Kenai	■	●		
CI	Mat-Su	■			
CI	Seldovia	■	●	▲	
CI	Wasilla		●		
IN	Fairbanks	■	●		
IN	Galena		●		
IN	PS 5		●		
KO	Akhiok	■			○
KO	Kodiak	■		▲	
KO	Larsen Bay	■			○
KO	Old Harbor	■			○
KO	Ouzinkie	■			○
KO	Port Lions	■			○
NS	Barrow	■			
NS	PS 4		●		
NW	Kotzebue	■	●		
NW	Nome		●		
NW	Unalakleet		●		
PW	Whittier	■	●		
PW	Cordova	■	●		
PW	PS 10		●		
PW	Tazlina		●		
PW	Valdez	■	●		
SE	Angoon	■	●		
SE	Bartlett Cove		●		
SE	Craig	■	●		
SE	Haines	■	●	▲	
SE	Hoonah	■	●		
SE	Hyder		●		
SE	Juneau	■	●	▲	
SE	Kake	■	●		
SE	Ketchikan	■	●	▲	
SE	Petersburg	■	●		
SE	Port Alexander	■	●		
SE	Sitka	■	●		
SE	Skagway	■	●		
SE	Tenakee Springs	■	●		
SE	Thorne Bay	■	●		
SE	Wrangell		●		
SE	Yakutat	■	●		
WE	Aniak	■	●		
WE	Bethel	■	●		
WE	Goodnews Bay	■			
WE	Mekoryuk	■			
WE	Mountain Village	■	●		
WE	Toksook Bay	■	●		
	Total	43	42	7	5

Statewide Overview

Total Spills:	23,009
Total Volume:	5,617,304
Average Spill Size:	244
Average Spills/Year:	2,301
Average Volume/Year:	561,730

Top 5 Facility Types

Facility Type	Spills	Gallons
Oil Production	3,918	1,885,170
Mining Operation	1,854	1,070,151
Vessel	1,799	549,176
Pipeline	732	506,337
Noncrude Terminal	857	261,642

Top 5 Causes

Cause	Spills	Gallons
Leak	3,360	1,219,158
Human Error	1,667	606,681
Other	1,290	482,077
Line Failure	3,036	462,331
Equipment Failure	1,453	378,286

Top 5 Products

Product	Spills	Gallons
Diesel	7,698	1,128,729
Seawater	143	1,067,912
Other	1,394	657,633
Crude	853	457,738
Produced Water	336	420,125

Top 5 Subareas

Subarea	Spills	Gallons
North Slope	4,481	1,916,958
Northwest Arctic	1,483	1,105,220
Interior Alaska	4,179	782,403
Cook Inlet	5,819	622,231
Aleutian	683	469,439

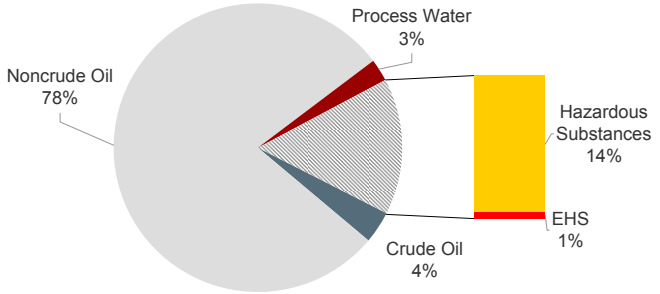
NOTE: The data summary above excludes spills reported in pounds and potential spills.

- Alaska averages 2,301 spills each year. There is no noticeable trend in the number of spills, other than the annual count appears to be on a decline over the past two years of this reporting period.

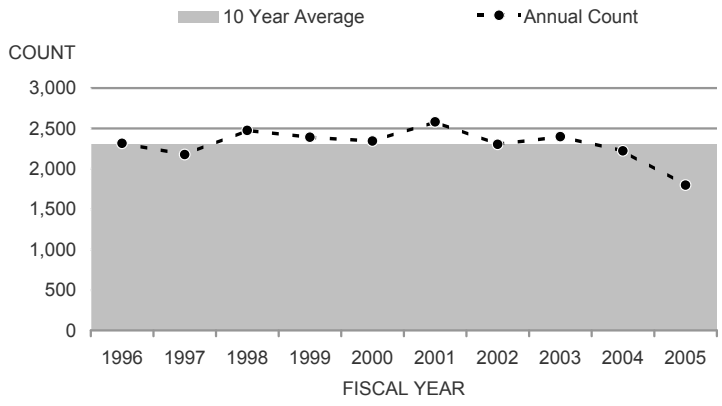
Product Category	Count	Gallons
Crude Oil	853	457,738
Hazardous Substance	3,487	1,376,506
Noncrude Oil	18,078	2,067,208
Process Water	591	1,715,852

- Oil (both crude and noncrude oil products) constituted the vast majority (82%) of the reported spills.
- During the 10-year period, there was an average of 349 hazardous substance spills per year, with an average spill volume per incident of 395 gallons. In the last five years of this reporting period, the number of hazardous substance spills has increased by 14% compared to the previous five-year period. The total volume decreased by 58% during the same period.
- During the 10-year period, there was an average of 59 process water spills per year, with an average spill volume per incident of 2,903 gallons. In the last five years of this reporting period, the number of process water spills has increased by 29% compared to the previous five-year period. The total volume released decreased 58% during the same period.
- A total of 5.6 million gallons of oil, hazardous substances and process water were released during the 10-year period.

Number of Spills by Product

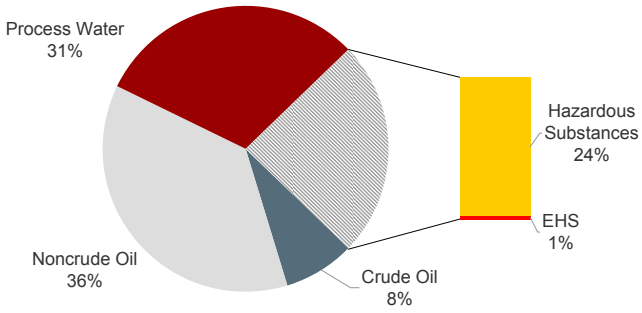


Number of Spills by Fiscal Year Compared to 10-Year Average

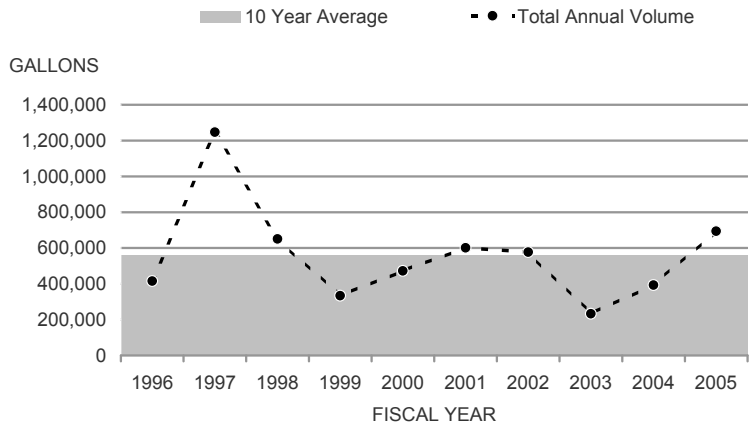


- Oil accounted for 44% of the total volume released over the 10-year period. The average spill volume for the reported oil spills was 133 gallons.
- While process water spill reports made up only 3% of the total spill reports received, these spills accounted for 31% of the total volume released. Process water spills often involve a significantly higher volume than oil or hazardous substance releases. The average spill volume for process water incidents was 2,903 gallons.
- There were no significant trends in the total volume released over the 10-year period. The total for FY97 includes a major process water spill of 994,000 gallons (North Slope, March 1997).

Volume Released by Product

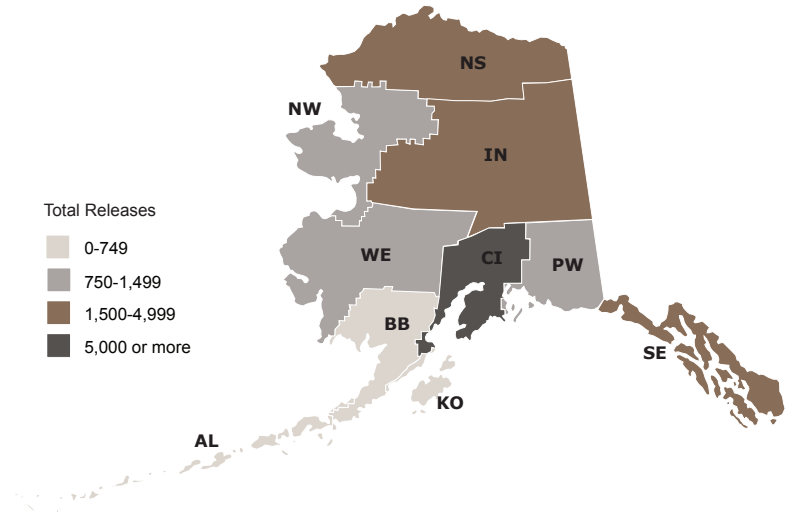


Total Volume Released by Fiscal Year Compared to 10-Year Average

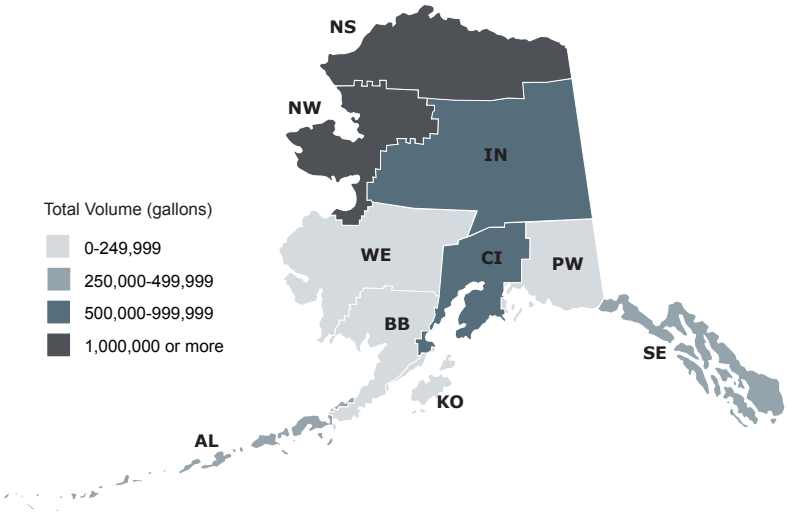


- The map on the upper right of this page denotes the number of spills by the ten subareas of the State. Cook Inlet experienced the greatest number of spills, and this can be attributed to the higher population and industrial density, plus the major highways, railway, and other transportation systems in the subarea.
- The North Slope, Interior, and Southeast were next in terms of total numbers of spills. The large number of spills on the North Slope is primarily due to the oil industry exploration and production activities. Spills in the Interior subarea may be related to the higher population and industrial centers as well. Similarly, the higher number of spills in the Southeast subarea may be the result of population densities and industrial activities.
- The Northwest Arctic, Western Alaska, and Prince William Sound experienced 750-1499 spills over this 10-year period. The Aleutian, Bristol Bay, and Kodiak subareas reported total number of spills in the 0-749 range.
- In terms of total volume, the North Slope and Northwest Arctic subareas both exceeded 1,000,000 gallons of spilled product over this ten-year period. This total includes Process Water.

Number of Spills by Subarea



Gallons Spilled by Subarea



Abbreviation	Subarea
AL	Aleutian
BB	Bristol Bay
CI	Cook Inlet
IN	Interior Alaska
KI	Kodiak Island
NS	North Slope
NW	Northwest Arctic
PW	Prince William Sound
SE	Southeast Alaska
WE	Western Alaska

Aleutian Subarea

Total Spills:	683
Total Volume:	469,439
Average Spill Size:	687
Average Spills/Year:	68
Average Volume/Year:	46,944

Top 5 Causes

Cause	Spills	Gallons
Human Error	38	342,282
Grounding	16	65,095
Overfill	191	13,970
Tank Failure	4	10,080
Valve Failure	30	6,089

Top 5 Products

Product	Spills	Gallons
Bunker	4	360,432
Diesel	399	87,572
Aviation Fuel	31	7,046
Gasoline	16	5,539
Freon	1	2,000

Top 5 Facility Types

Facility Type	Spills	Gallons
Vessel	320	412,204
Cannery	57	16,128
Noncrude Terminal	28	13,735
Air Transportation	41	8,119
Other	63	7,353

NOTE: The data summary above excludes spills reported in pounds and potential spills.

Shoreline: 6,500 miles
Land Area: 7,300,000 acres or 11,400 square miles

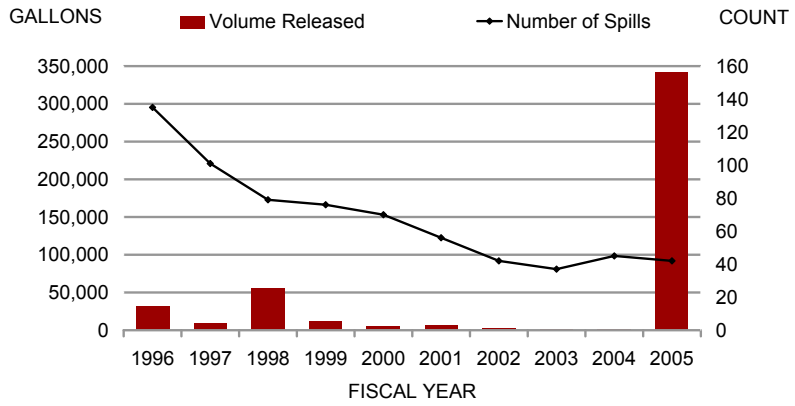
The Aleutian Subarea includes the southern portion of the Alaska Peninsula as well as the Aleutian archipelago. The major islands in the region include Unimak, Unalaska, Umnak, Atka, Adak, Attu, and the Pribilof Islands of St. George and St. Paul. The region includes two Local Emergency Planning Districts (LEPD): the Aleutians East Borough LEPD and the Aleutian and Pribilof Islands LEPD. Major communities include the cities of Unalaska, Sand Point, and St. Paul. Industrial activity is limited to seafood processing, although Unalaska is a major port for freight into the region and a waypoint for freight shipments to Asia.

Discernible Trends

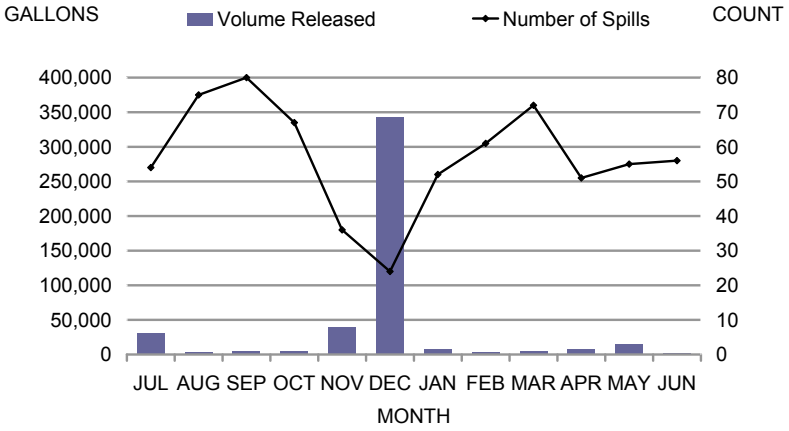
- The total number of spills in the Aleutian subarea appear to be on a general decline during this period.
- In terms of spill frequency related to the time of year, there appears to be a distinct period from October to January when a lesser number of spills occur. Further study may reveal that seasonal trends could be related to the fishery openers that occur along the Aleutian chain.
- Spills greater than 1,000 gallons in size were on a general decline following the November 1997 grounding of the M/V Kuroshima. However, the December 2004 grounding of the Selendang Ayu resulted in the huge spike in total volume spilled during that fiscal year.
- Spills from vessels were most common and accounted for 47% of the total number of spills, and 88% of the total volume spilled.
- Primary spill causes were relatively evenly distributed between Other causes (21%), Structural/Mechanical (33%), and Human Factors (42%). In terms of volume released, Human Factors causes resulted in 77% of the total volume released.
- Noncrude oil was the primary product spilled in 98% of the spills, and contributed to 99% of the total volume spilled.

M/V Kuroshima, aground at Summer Bay, Unalaska Island, November 1997.

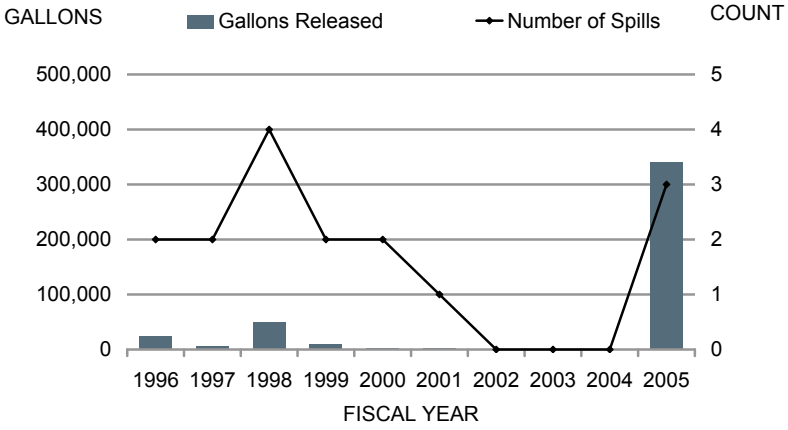
All Spills by Fiscal Year



All Spills by Month



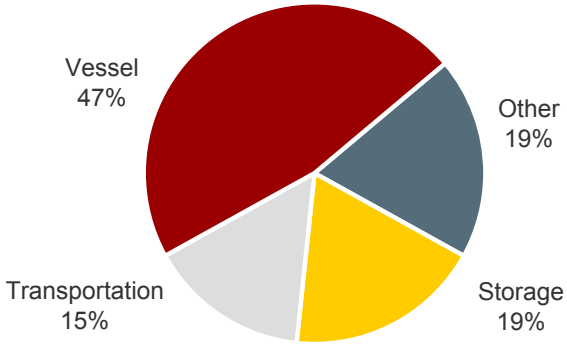
Spills >1,000 gallons



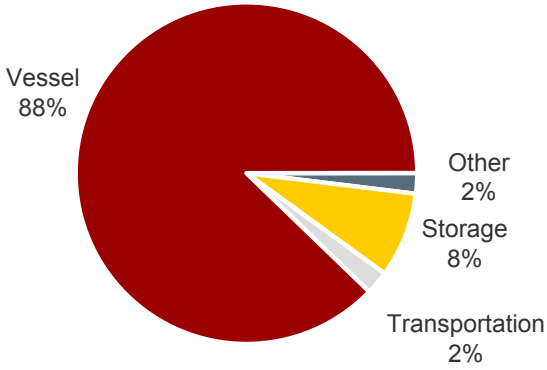
NOTE: Graphs do not include spills reported in pounds or potential spills.

Aleutian Subarea Spills by Facility Type

Number of Spills

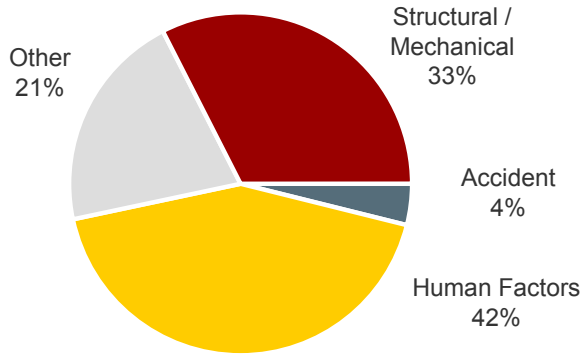


Gallons Released

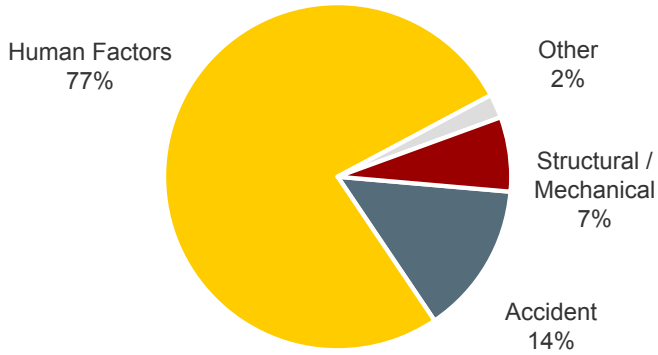


Aleutian Subarea Spills by Cause

Number of Spills

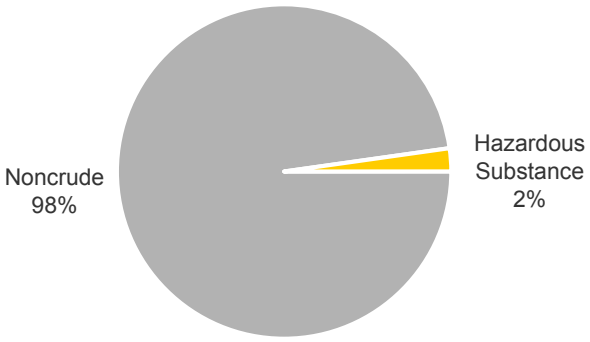


Gallons Released

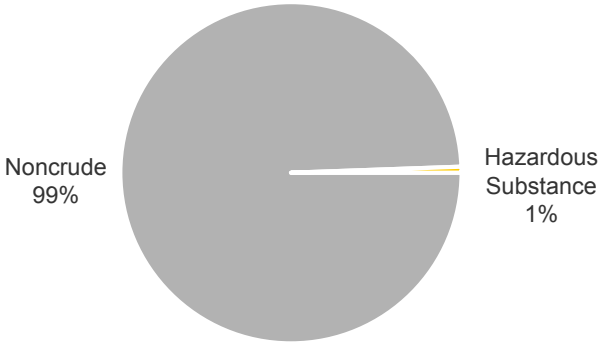


Aleutian Subarea Spills by Product

Number of Spills



Gallons Released

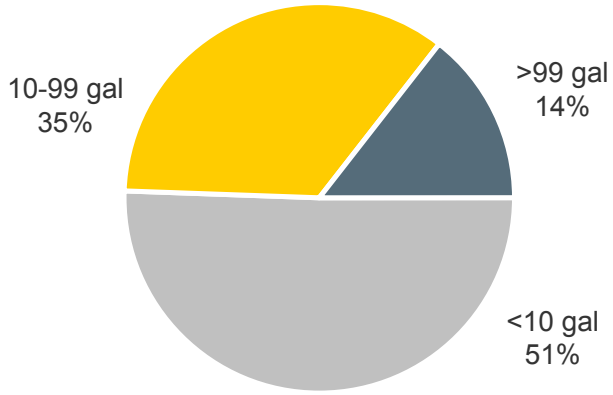


NOTE: Graphs do not include spills reported in pounds or potential spills.

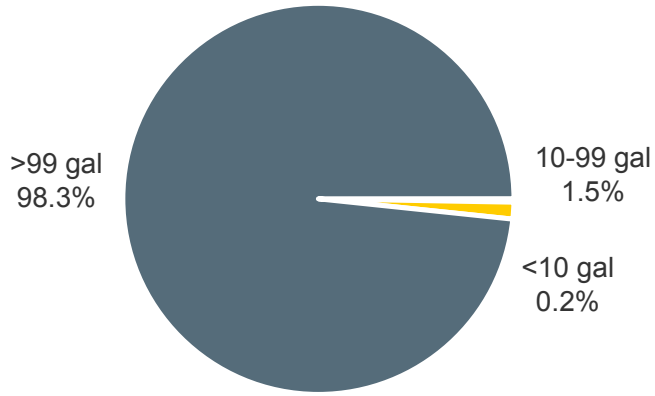
Aleutian Subarea Spills by Size Class

- More than half of the spills reported during the 10-year period were less than 10 gallons in size.
- More than 98% of the total volume released was attributable to spills with a volume greater than 99 gallons.

Number of Spills



Gallons Released



NOTE: Graphs do not include spills reported in pounds or potential spills.

Aleutian Subarea Spills at Regulated vs. Unregulated Facilities

Numerous oil facilities and vessels operating in Alaska are subject to Alaska's spill response planning and financial responsibility statutes. This section summarizes spills from:

- facilities and vessels required by statute to have an approved oil discharge prevention and contingency plan; and,
- non-tank vessels which are required to have an approved certificate of financial responsibility are also included.

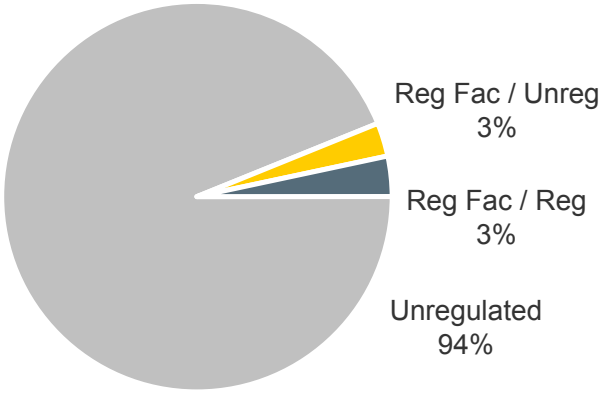
Spills from underground storage tanks are not included in this analysis.

Alaska's contingency planning requirements apply to specific aspects (components) of a facility's or vessel's operations. The analysis in this report distinguishes between spills from regulated versus unregulated components. Examples of spills from unregulated components include:

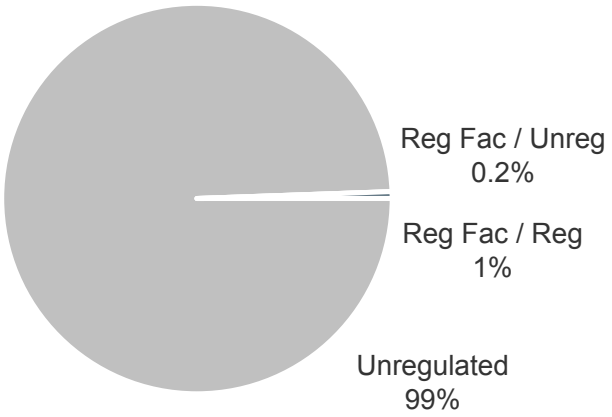
- a spill from a vehicle at a regulated facility;
- a spill from a fuel tank (below the regulatory threshold of 10,000 barrels) at a regulated facility

- More than 90% of the spills and nearly 100% of the total volume released during the 10-year period were from unregulated facilities, primarily Vessels.

Number of Spills

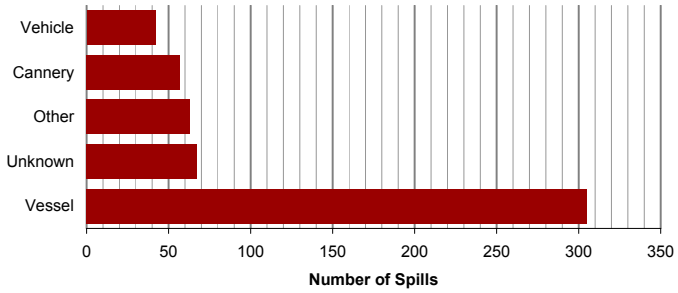


Gallons Released

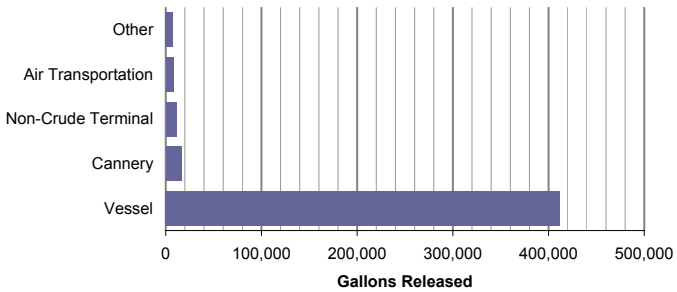


Top Unregulated Facilities

Number of Spills



Gallons Released



NOTE: Graphs do not include spills reported in pounds or potential spills.

Major Spills in the Aleutian Subarea

Spill Date	Location	Spill Name	Facility Type	Product	Gallons
12/26/1988	East of Shumagin Islands	Tank Barge 283	Vessel	Diesel	2,041,662
12/8/2004	Unalaska Island, Skan Bay	M/V Selendang Ayu	Vessel	IFO 380, Diesel	335,732
3/5/1981	Attu Island	M/V Dae Rim	Vessel	Diesel	109,998
1/17/1989	Amchitka Island	T/B Foss 256	Vessel	Diesel	83,958
1/11/1989	Unalaska Island	M/V Chil Bo San	Vessel	Diesel	60,984
11/26/1997	Unalaska, Summer Bay	M/V Kuroshima	Vessel	Bunker	38,976
2/1/1988	Nikolski	F/V Alaska Star	Vessel	Diesel	35,952
12/10/1988	Akun Island	M/V Aoyagi Maru	Vessel	Diesel	31,962
2/27/1989	Dutch Harbor	M/V Swallow	Vessel	Diesel	29,988
12/10/1986	Adak	Adak Tank	Tank	JP-5	27,006
2/17/1988	Yunalaska Island	F/V Captain Billy	Vessel	Diesel	16,002
12/3/1988	Shemya Island	F/V Opty	Vessel	Diesel	16,002
7/22/1995	Seguam Island	F/V Northern Wind	Vessel	Diesel	14,994
3/8/1987	Uluak Island	F/V Birgit	Vessel	Diesel	12,012
11/3/1988	Atka Island	F/V City of Seattle	Vessel	Diesel	12,012
5/6/1987	Uliaga Island	F/V Tae Woong	Vessel	Diesel	10,500
2/8/1991	Unalaska, Reese Bay	F/V Skagit Eagle	Vessel	Diesel	9,954
7/5/1995	Akutan	Trident Seafood	Cannery	Diesel	9,954
5/8/1999	Unamak Island	F/V Controller Bay	Vessel	Diesel	7,980
4/12/1993	Umnak Island	F/V Phoenix	Vessel	Diesel	6,972
10/15/1989	Chuginadak Island	F/V Polar Command	Vessel	Diesel	4,998
1/00/1990	Sand Point	Trident Seafood	Cannery	Diesel	4,998
2/20/1989	St. Paul Island	M/V Yard Arm Knot	Vessel	Diesel	3,500
3/00/1985	Akutan	Unknown	Unknown	Diesel	3,360
12/8/1986	St. Paul Island	F/V Jamie Lynn	Vessel	Diesel	3,000
8/13/1991	Atka Island	F/V Greenhope	Vessel	Diesel	2,982
5/11/2001	Cold Bay	F/V Kristen	Vessel	Diesel	2,982
5/11/1987	North of Unimak Pass	Tank Vessel	Vessel	Diesel	2,674
10/24/1996	Tanaga Island	F/V Rebecca B	Vessel	Diesel	1,512
2/19/1997	Akun Island	F/V Lisa Jo	Vessel	Diesel	1,176
8/10/1995	Akutan	Akutan	Cannery	Fish Oil	1,008
9/10/2000	False Pass	Peter Pan	Cannery	Diesel	1,008

Data Sources:

Department of Environmental Conservation
US Coast Guard
NOAA
Aleutian Subarea Contingency Plan for Oil and Hazardous Substance Discharges/Releases, September 1999

Contingency Plan Facilities in the Aleutian Subarea

Facility Name	Facility Type
Island Tug and Barge, Ltd. Barges (1)	Barge
Crowley Barges (1)	Barge
Sea Coast Transportation Barges (1)	Barge
Sirius Maritime Barges	Barge
Sause Brothers, Inc -- Klamath	Barge
Spot Charter - Adak Petroleum LLC	Tank Vessel
Fictitious Spot Charter Tanker - DW	Tank Vessel
Crowley Tanker Vessel	Tank Vessel
Chembulk New Orleans	Tank Vessel
Renda	Tank Vessel
Peter Pan Seafoods King Cove Shore Plant	Noncrude Terminal
Trident Akutan Bulk Fuel Storage Facility	Noncrude Terminal
Frosty Fuel Cold Bay Bulk Plant	Noncrude Terminal
City of St. Paul Bulk Fuel Storage	Noncrude Terminal
Delta Western - St. Paul Delta Fuel	Noncrude Terminal
USAF Eareckson Air Station	Noncrude Terminal
Offshore Systems, Inc - Dutch Harbor	Noncrude Terminal
Trident Seafood Sand Point Fuel Plant	Noncrude Terminal
Delta Western Dutch Harbor Tank Farm	Noncrude Terminal
North Pacific Fuel - Ballyhoo	Noncrude Terminal
North Pacific Fuel - Capt. Bay Tank Farm	Noncrude Terminal
North Pacific Fuel - Resoff Tank Farm	Noncrude Terminal
North Pacific Fuel - Westward Seafoods	Noncrude Terminal
Delta Western - St. George Delta Fuel	Noncrude Terminal
Adak Bulk Fuel Facility-Aleut Corp	Noncrude Terminal

NOTES:

(1) Authorized to operate statewide

Active Contaminated Sites in the Aleutian Subarea

This table summarizes the number of active contaminated site cleanup projects in the Aleutian subarea as of August 20, 2007.

Primary Contaminant	Sites	%
Petroleum	185	76%
Hazardous Substances	59	24%
Total	244	

Aleutian Subarea Spill Preparedness and Response Initiatives

Response Corps and Equipment Depots

Community	CRSA	Conex	Nearshore	Other Equipment
Dutch Harbor	■	●	▲	
King Cove	■	●		

Aleutian Island Risk Assessment

DEC, the U.S. Coast Guard, and the Transportation Research Board of the National Academies have executed a memorandum of agreement with the goal of establishing a study framework for conducting a large-scale comprehensive maritime transportation risk assessment.

Vessel Traffic Study

DEC (thru a contractor) produced the initial Vessel Traffic in the Aleutian Subarea report in April 2005. This vessel traffic study was subsequently updated in September 2006. The report is available on the DEC website at:

http://www.dec.state.ak.us/spar/perp/docs/060920vesselreport_s.pdf

Ports and Waterway Safety Assessment (PAWSA)

The initial PAWSA meeting for the Aleutians was held in July 2006. The PAWSA work group will focus primarily on vessel traffic through the Unimak Pass area as this is an area of high concentrations of vessel traffic and hence the location of greatest concern for the Coast Guard and the State of Alaska. Further details on the PAWSA are also available on the DEC website at:

http://www.dec.state.ak.us/spar/perp/ai_risk/ai_risk.htm

Arctic Marine Shipping Assessment (AMSA)

DEC staff is also assisting with the AMSA initiative which is led by the U.S. Arctic Research Council at the request of the eight Arctic member nations. This study will further research arctic vessel traffic including traffic through the Aleutian Islands.

Aleutian Potential Places of Refuge (PPOR) and Geographic Response Strategies (GRS) Development

DEC is sponsoring both of these initiatives which commenced in January 2007. The PPOR project will identify approximately 70 different locations where a vessel in distress could seek shelter along the Aleutian chain. The GRS project provides detailed, pre-planned spill response tactics for protecting extremely sensitive resources. Due to funding limitations, DEC is initially focusing its efforts on developing GRS for the Unalaska Island and vicinity. As funding becomes available, DEC will proceed with developing GRS for the remainder of the Aleutians. DEC website-http://www.dec.state.ak.us/spar/perp/aippor/home.htm

Unalaska/Dutch Harbor Disabled Vessel Workgroup

Following the near grounding of the Salica Frigo on March 9, 2007, the Mayor of Unalaska convened an ad-hoc workgroup to discuss ways to enhance the ability of local tug assets to respond to a distressed vessel in need of assistance due to engine failure, rudder failure, or any other failure which compromises the safe navigation of a vessel. DEC is a participating agency and has committed to purchasing an emergency towing system (ETS) for vessels greater than 50,000 DWT and the City of Unalaska is purchasing an ETS for vessels less than 50,000 DWT. The goal of the system design is to make the system deployable from a rescue vessel or deployable from a disabled vessel. The towing systems will be located in Unalaska. DEC project website: http://www.dec.state.ak.us/spar/perp/aiets/home.htm

Aleutian Subarea Contingency Plan for Oil and Hazardous Substance Spills and Releases

The current plan is dated September 1999, and is undergoing revision. The plan pre-dates the M/V Selendang Ayu incident, and the update will include improvements to the entire plan based on the information and lessons learned from that incident. Additionally, the GRS and PPOR currently under development, along with the vessel traffic study will be incorporated into the plan. The target date for publishing the revision to the plan is Spring 2008.

Bristol Bay Subarea

Total Spills:	296
Total Volume:	59,708
Average Spill Size:	202
Average Spills/Year:	30
Average Volume/Year:	5,971

Top 5 Causes

Cause	Spills	Gallons
Tank Failure	11	15,221
Line Failure	38	7,152
Tank Support Structure Failure	2	5,300
Valve Failure	21	5,037
Overfill	47	4,830

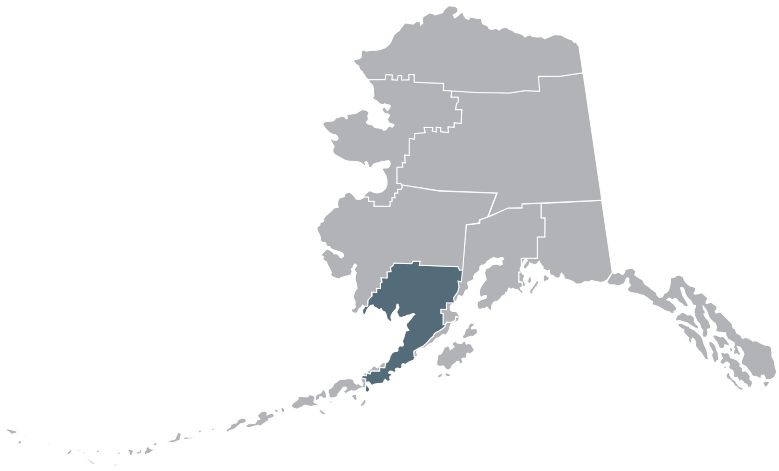
Top 5 Products

Product	Spills	Gallons
Diesel	195	51,184
Gasoline	18	6,031
Other	20	1,043
Used Oil	7	526
Aviation Fuel	14	307

Top 5 Facility Types

Facility Type	Spills	Gallons
Power Generation	13	14,484
Other	47	8,577
School	16	8,134
Noncrude Terminal	14	7,312
Cannery	33	7,035

NOTE: The data summary above excludes spills reported in pounds and potential spills.



Shoreline: 1,800 miles
Land Area: 29,400,000 acres or 45,900 square miles

There are a total of 30 communities in the region (including the two boroughs), 27 Native and 3 non-Native.

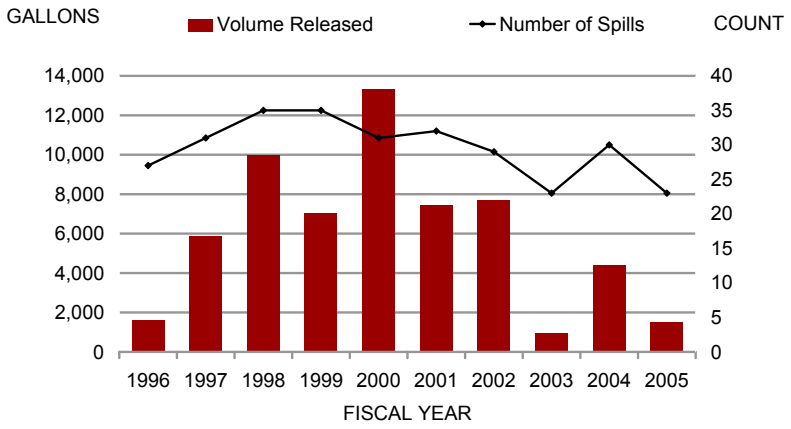
Deliveries of noncrude oils are made to the villages in this area primarily by barges operating from Dutch Harbor or the Cook Inlet Region. Deliveries are ice dependent and do not occur as ice forms. Delivery of noncrude oil is made to the remote villages in this area primarily by small barges.

Discernible Trends

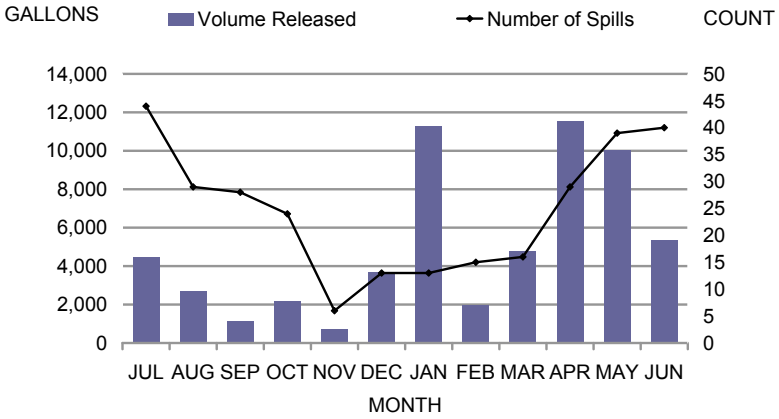
- There are no noticeable trends with regard to the total number of spills and the total spill volume over this ten-year period.
- Similar to the Aleutians, there is a seasonal trend in terms of when spills occur in the Bristol Bay subarea. Spills appear to reflect the fishing season as well as the Spring breakup season when oil spills are noticed and reported.
- Spills from Storage facilities contributed to 71% of the total volume spilled, although the number of spills were fairly evenly distributed between Storage (41%), Other (24%), Vessels (18%), and Transportation (17%).
- Spills from Structural/Mechanical causes accounted for 45% of the total number of spills, followed by Human Factors (34%), and Other causes (18%). In terms of total volume, Structural/Mechanical causes led the way with 64%, followed by Human Factors with 24%.
- Noncrude oil was the predominant product spilled, both in terms of numbers of spills (98%) and the total volume spilled (99%).

Power plant facility in Ivanoff Bay.

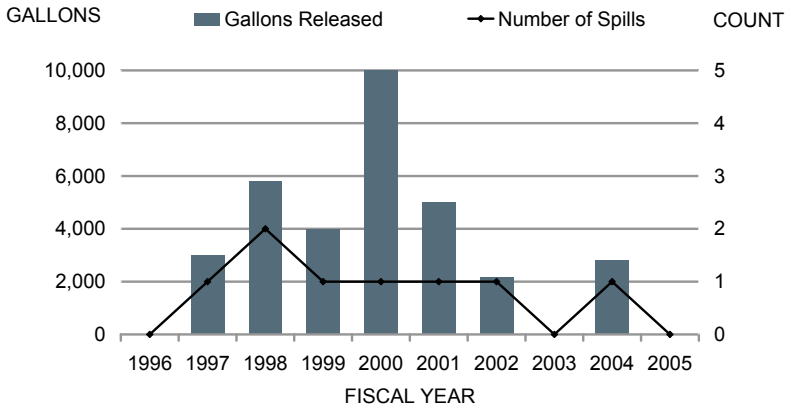
All Spills by Fiscal Year



All Spills by Month



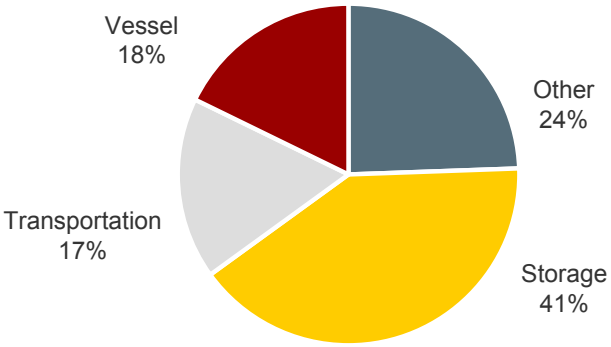
Spills >1,000 gallons



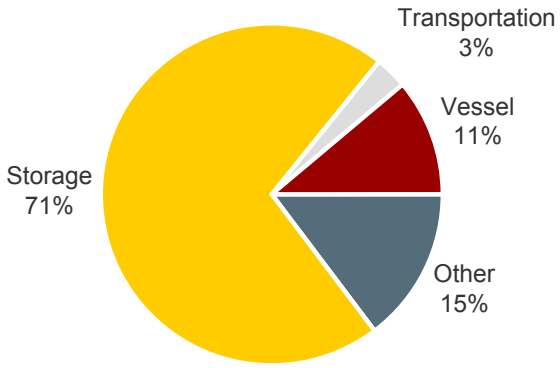
NOTE: Graphs do not include spills reported in pounds or potential spills.

Bristol Bay Subarea Spills by Facility Type

Number of Spills

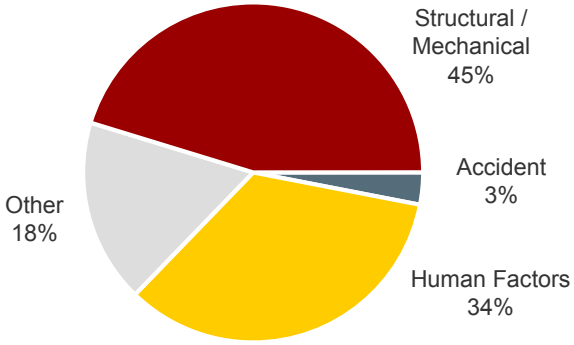


Gallons Released

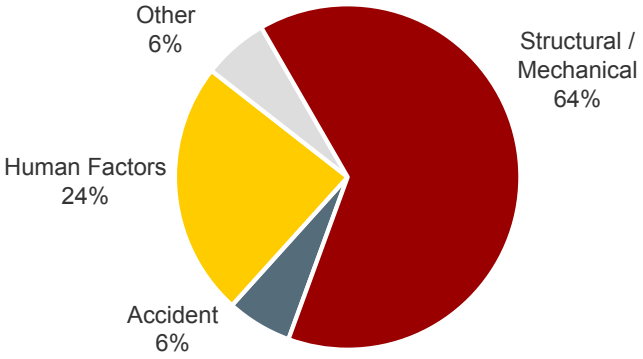


Bristol Bay Subarea Spills by Cause

Number of Spills

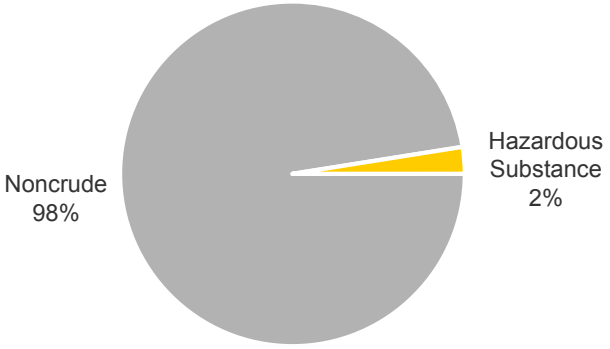


Gallons Released

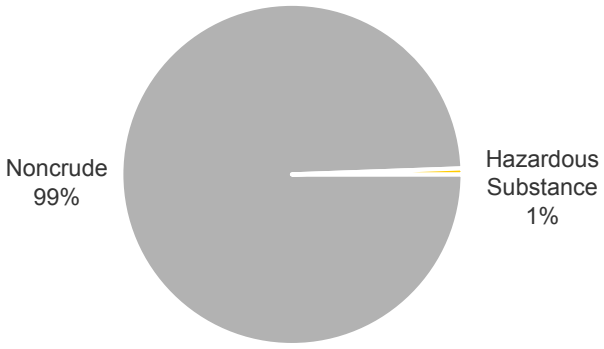


Bristol Bay Subarea Spills by Product

Number of Spills



Gallons Released

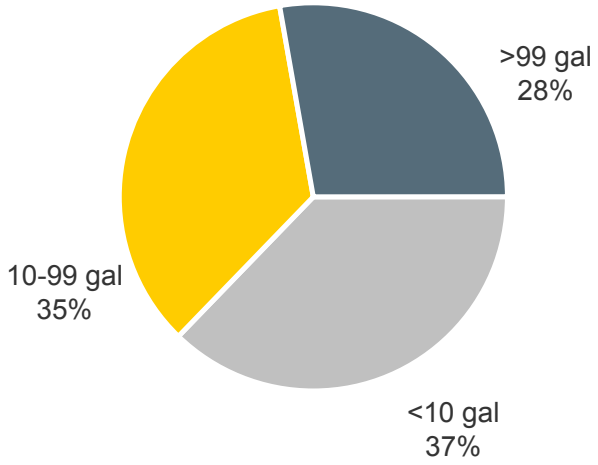


NOTE: Graphs do not include spills reported in pounds or potential spills.

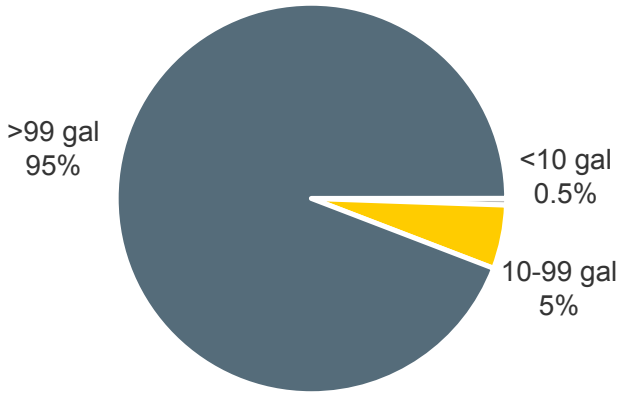
Bristol Bay Subarea Spills by Size Class

- More than two-thirds of the spills during the report period were less than 100 gallons in volume.
- Approximately 95% of the total volume released resulted from spills larger than 99 gallons.

Number of Spills



Gallons Released



NOTE: Graphs do not include spills reported in pounds or potential spills.

Bristol Bay Subarea Spills at Regulated vs. Unregulated Facilities

Numerous oil facilities and vessels operating in Alaska are subject to Alaska's spill response planning and financial responsibility statutes. This section summarizes spills from:

- facilities and vessels required by statute to have an approved oil discharge prevention and contingency plan; and,
- non-tank vessels which are required to have an approved certificate of financial responsibility are also included.

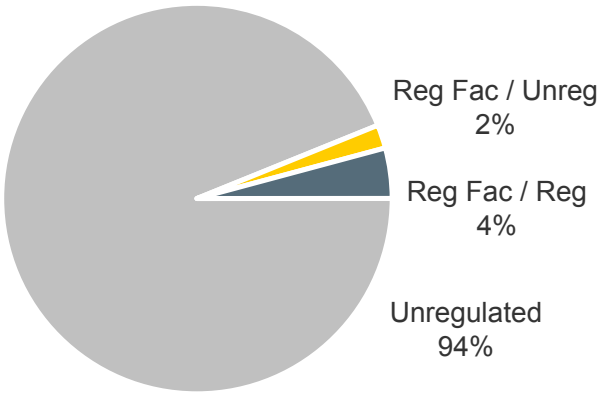
Spills from underground storage tanks are not included in this analysis.

Alaska's contingency planning requirements apply to specific aspects (components) of a facility's or vessel's operations. The analysis in this report distinguishes between spills from regulated versus unregulated components. Examples of spills from unregulated components include:

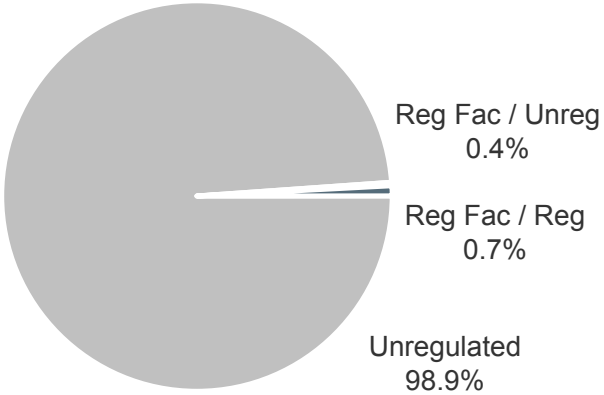
- a spill from a vehicle at a regulated facility;
- a spill from a fuel tank (below the regulatory threshold of 10,000 barrels) at a regulated facility

- More than 90% of the spills and nearly 100% of the total volume released during the 10-year period were from unregulated facilities.
- Power Generation Facilities were the leading unregulated facility type in terms of total volume released.

Number of Spills

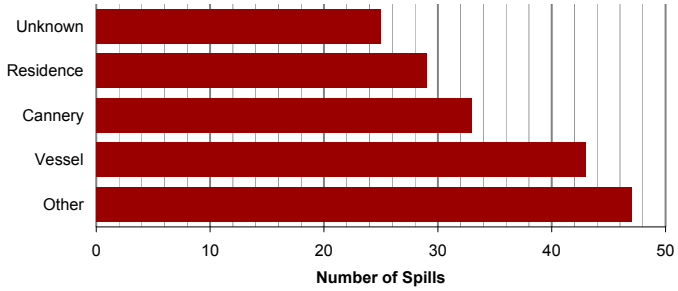


Gallons Released

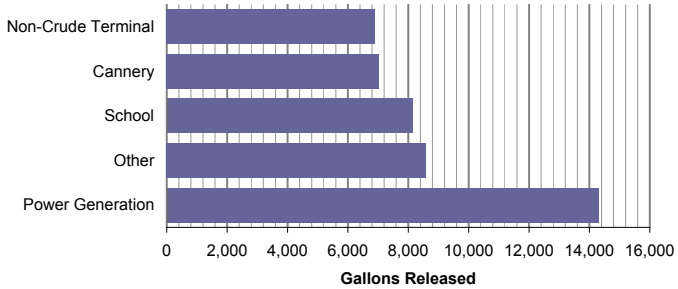


Top Unregulated Facilities

Number of Spills



Gallons Released



NOTE: Graphs do not include spills reported in pounds or potential spills.

Major Spills in the Bristol Bay Subarea

Spill Date	Location	Facility Type	Product	Gallons
1/3/2000	Ivanof Bay	Power Generation	Diesel	10,000
5/20/2001	Aleknagik	Harbor/Port	Unleaded Gasoline	5,000
4/18/1999	Pedro Bay	School	Diesel	4,000
5/22/1997	Levelock	Vessel	Diesel	3,000
4/28/1993	Pilot Point	Cannery	Refined Product	3,000
7/9/1997	Perryville	School	Diesel	3,000
12/14/1997	Ekuk	Cannery	Diesel	2,796
6/20/2000	Aleknagik City	Heating Oil Tank	Heating Oil	1,000
6/27/1997	Dillingham	Residence	Diesel	900
3/17/1998	Ekwok	Tank	Diesel	800
2/4/1998	Dillingham	Fire Station	Diesel	700
8/14/1994	Ugashik	Cannery	Refined Product	600
5/12/1999	Naknek	Cannery	Diesel	593

Data Sources:

Department of Environmental Conservation
US Coast Guard
NOAA
Bristol Bay Subarea Contingency Plan for Oil and Hazardous Substance Discharges/Releases, June 2001

Contingency Plan Facilities in the Bristol Bay Subarea

Facility Name	Facility Type
Island Tug and Barge, Ltd. Barges (1)	Barge
Crowley Barges (1)	Barge
Sea Coast Transportation Barges (1)	Barge
Sirius Maritime Barges	Barge
Sause Brothers, Inc. -- Klamath	Barge
Ruby Marine -- Melozi	Barge
Ruby Marine -- Novi	Barge
Delta Western Naknek Bulk Plant	Noncrude Terminal
Delta Western Dillingham Bulk Plant	Noncrude Terminal
Nushagak Electric Power Plant	Noncrude Terminal
USAF King Salmon Airport	Noncrude Terminal
Naknek Electrical Power Plant	Noncrude Terminal
Bristol Express Fuels Dillingham Plant	Noncrude Terminal

NOTES:

(1) Authorized to operate statewide

Active Contaminated Sites in the Bristol Bay Subarea

This table summarizes the number of active contaminated site cleanup projects in the Bristol Bay subarea as of August 20, 2007.

Primary Contaminant	Sites	%
Petroleum	103	87%
Hazardous Substances	15	13%
Total	118	

Bristol Bay Subarea Spill Preparedness and Response Initiatives

Response Corps and Equipment Depots

Community	CRSA	Conex	Nearshore	Other Equipment
Chignik Bay	■			
Bristol Bay	■		▲	
Dillingham	■	●		
Iliamna		●		
Pilot Point	■			

Bristol Bay Subarea Contingency Plan for Oil and Hazardous Substance Spills and Releases

The current plan is dated June 2001, and a revision is planned for the 2008/2009 timeframe. The plan can be accessed at the following website: http://www.dec.state.ak.us/spar/perp/plans/scp_bb.htm

Cook Inlet Subarea

Total Spills:	5,819
Total Volume:	622,231
Average Spill Size:	107
Average Spills/Year:	582
Average Volume/Year:	62,223

Top 5 Causes

Cause	Spills	Gallons
Derailment	9	132,946
Line Failure	531	129,493
Leak	842	69,523
Unknown	562	52,893
Overfill	910	32,061

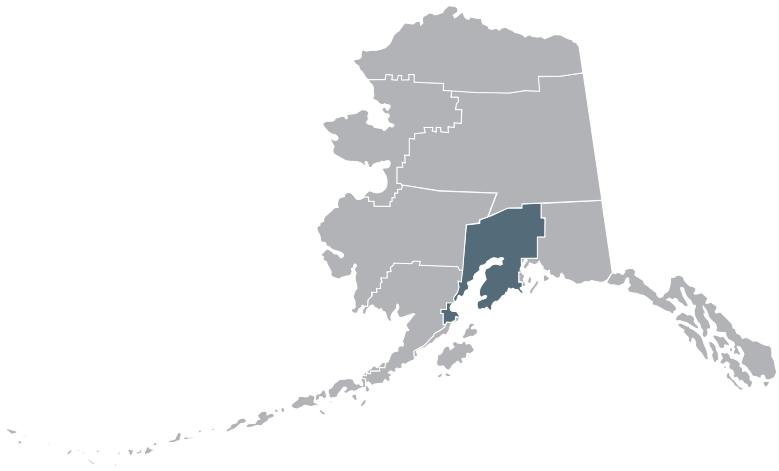
Top 5 Products

Product	Spills	Gallons
Diesel	1,535	257,030
Aviation Fuel	460	133,885
Other	310	56,450
Produced Water	106	36,533
Ammonia	16	24,831

Top 5 Facility Types

Facility Type	Spills	Gallons
Railroad Operation	127	160,760
Pipeline	51	134,511
Oil Production	606	66,654
Other	643	43,070
Vehicle	888	38,306

NOTE: The data summary above excludes spills reported in pounds and potential spills.



Shoreline: 2,600 miles
Land Area: 27,600,000 acres or 43,100 square miles

Most oil activities are concentrated in the East Forelands area, between Kenai and Nikiski, and along Trading Bay, between West Foreland and North Foreland. Offshore platforms are also located in Trading Bay and in the upper portions of Cook Inlet.

Several submerged pipelines cross the Inlet in this area as well. Noncrude products are stored in tank farms in Anchorage and other areas of upper Cook Inlet. The area includes onshore and offshore crude oil production facilities, major crude oil and non-crude oil storage, and terminal facilities in Anchorage, Nikiski, and Redoubt Bay.

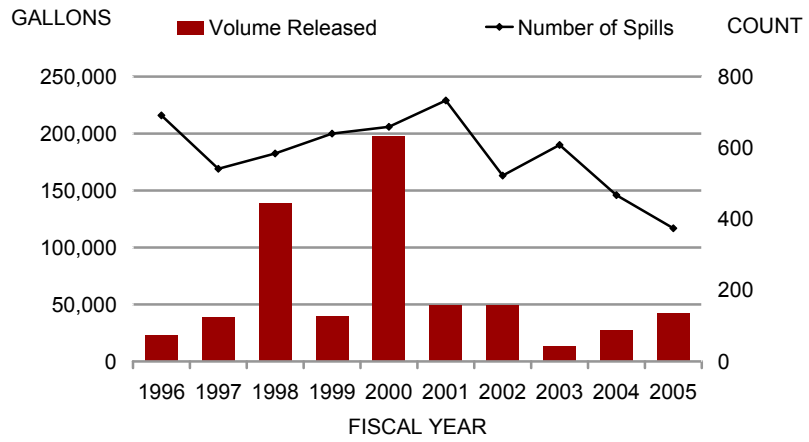
The region also contains the southern half of the Alaska Railroad system which transports passengers and cargo, including oil and hazardous substances, from Seward and Whittier to Anchorage and Fairbanks.

The majority of the State's highway system is also located in this region with major roadways linking Anchorage with communities to the south on the Kenai Peninsula and to the north in the Matanuska-Susitna Borough and beyond.

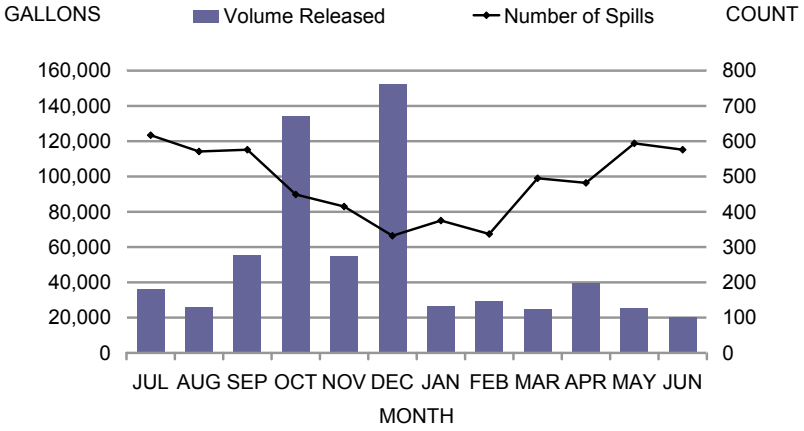
Discernible Trends

- The total number of spills for the Cook Inlet subarea appear to be on a decline after FY 2003. With the exception of FYs 1998 and 2000, there is no apparent trend to the overall spill volume. A series of Alaska Railroad train derailments in FY 2000 reflects the large increase in the spill volume for this FY.
- There also appears to be a seasonal trend in terms of when spills occur in the Cook Inlet subarea. Spills appear to reflect the fishing season (May thru September), with a lesser number of spills during the October thru April timeframe.
- Within the Cook Inlet subarea, Transportation and Storage facilities combined to account for 81% of the total number of spills. Transportations facilities alone accounted for 74% of the total volume spilled.
- 53% of the total number of spills were directly attributed to Structural/Mechanical causes, followed by Human Factors at 30%. With regard to total volume, Structural/Mechanical causes produced 49% of the total spill volume, followed by Accidents at (26%), Other causes (13%), and Human Factors (12%).
- Noncrude oil was the most common product spilled at 85% of the total number of spills, and 76% of the total volume released.

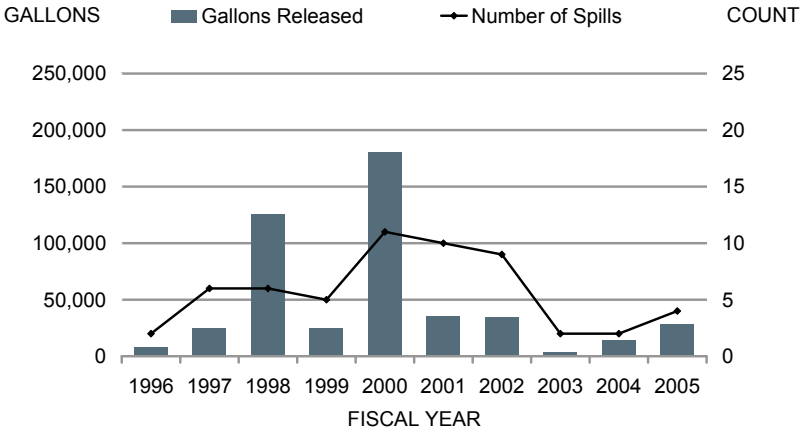
All Spills by Fiscal Year



All Spills by Month



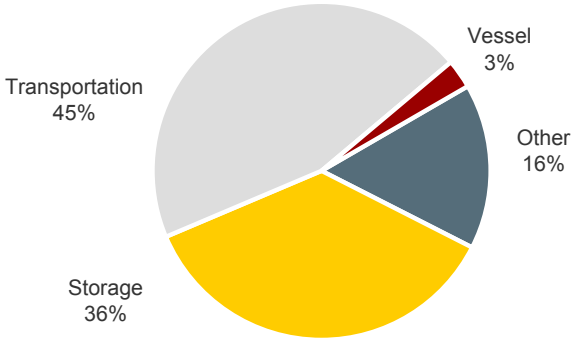
Spills >1,000 gallons



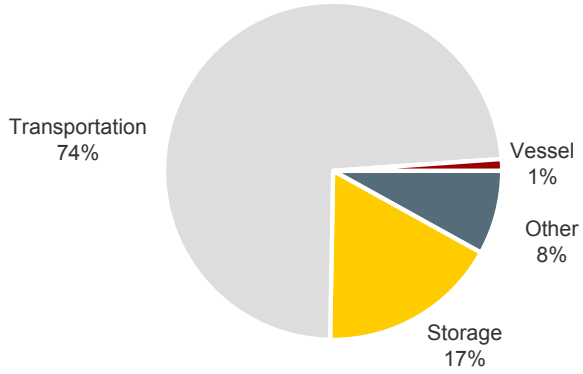
NOTE: Graphs do not include spills reported in pounds or potential spills.

Cook Inlet Subarea Spills by Facility Type

Number of Spills

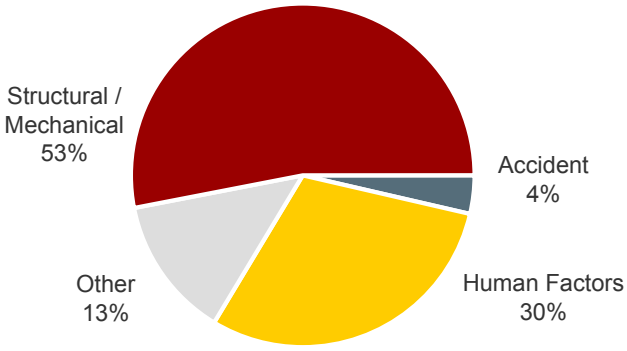


Gallons Released

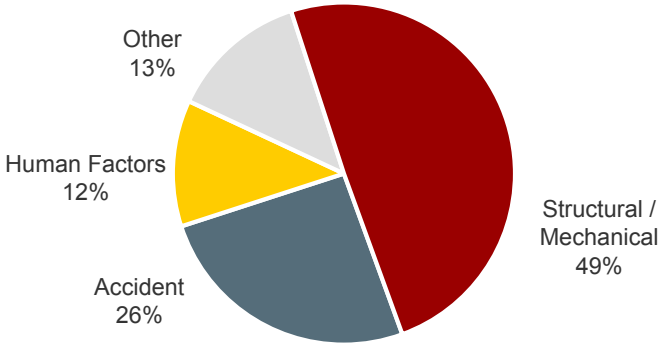


Cook Inlet Subarea Spills by Cause

Number of Spills

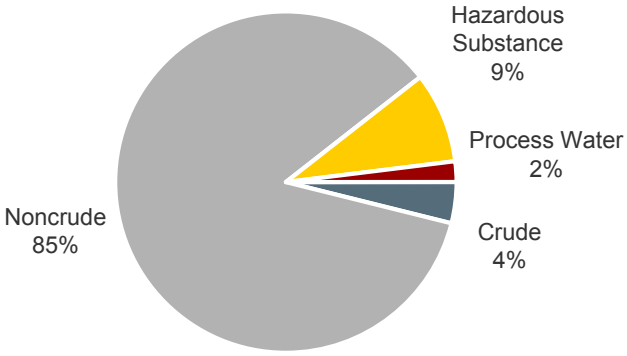


Gallons Released

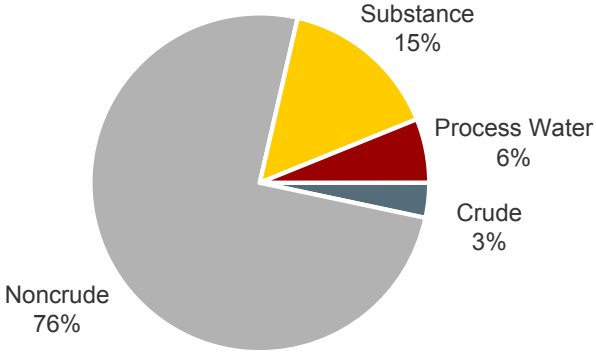


Cook Inlet Subarea Spills by Product

Number of Spills



Gallons Released

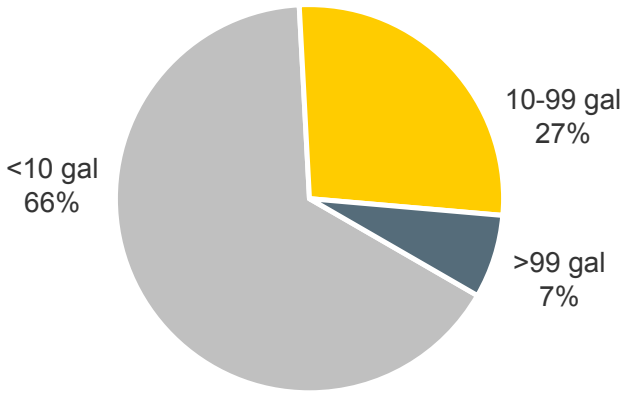


NOTE: Graphs do not include spills reported in pounds or potential spills.

Cook Inlet Subarea Spills by Size Class

- Approximately two-thirds of the spills during the report period were less than 10 gallons in volume.
- More than 90% of the total volume released resulted from spills larger than 99 gallons.

Number of Spills



Gallons Released

NOTE: Graphs do not include spills reported in pounds or potential spills.

Cook Inlet Subarea Spills at Regulated vs. Unregulated Facilities

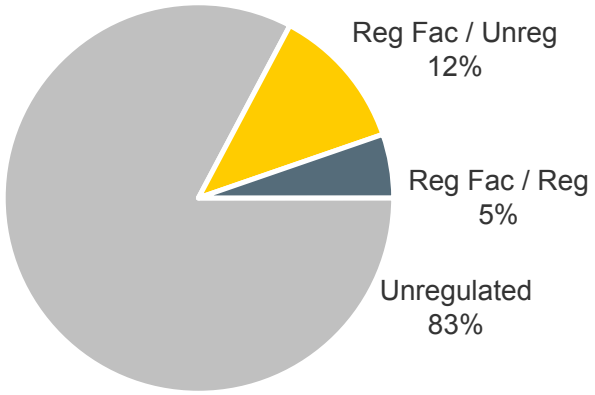
Numerous oil facilities and vessels operating in Alaska are subject to Alaska's spill response planning and financial responsibility statutes. This section summarizes spills from:

- facilities and vessels required by statute to have an approved oil discharge prevention and contingency plan; and,
- non-tank vessels which are required to have an approved certificate of financial responsibility are also included.
- Spills from underground storage tanks are not included in this analysis.

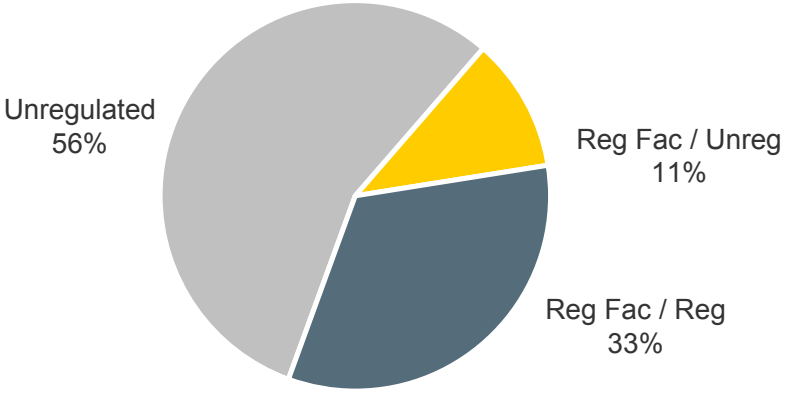
Alaska's contingency planning requirements apply to specific aspects (components) of a facility's or vessel's operations. The analysis in this report distinguishes between spills from regulated versus unregulated components. Examples of spills from unregulated components include:

- a spill from a vehicle at a regulated facility;
- a spill from a fuel tank (below the regulatory threshold of 10,000 barrels) at a regulated facility
- certain piping at oil production facilities

Number of Spills



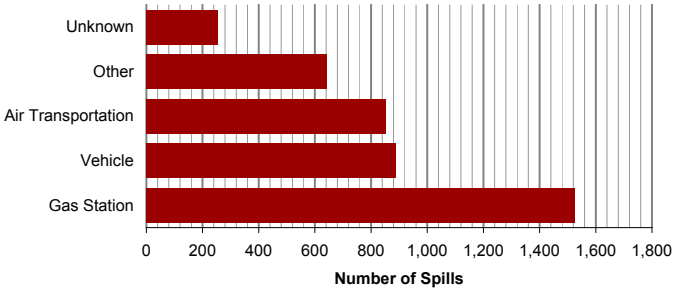
Gallons Released



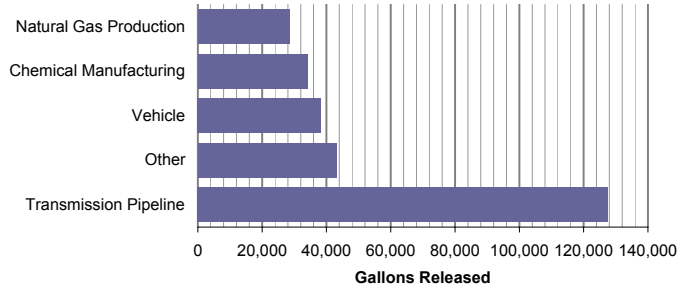
- More than 80% of the spills and more than 50% of the total volume released during the 10-year period were from unregulated facilities.
- Gas Stations were the top unregulated facility type in terms of number of releases.
- Transmission pipelines carrying non-crude product were the leading unregulated facility type in terms of total volume released.

Top Unregulated Facilities

Number of Spills



Gallons Released

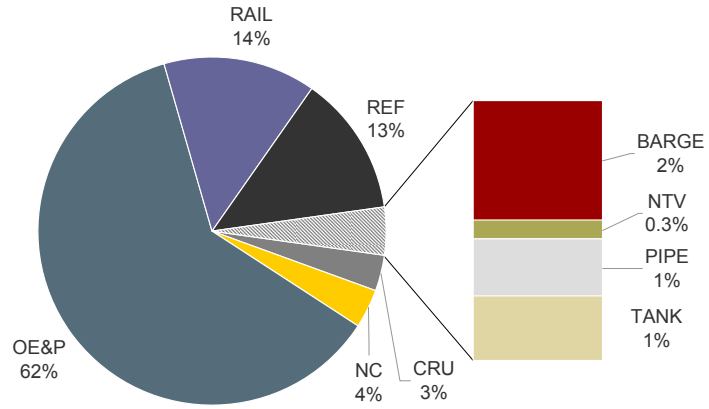


NOTE: Graphs do not include spills reported in pounds or potential spills.

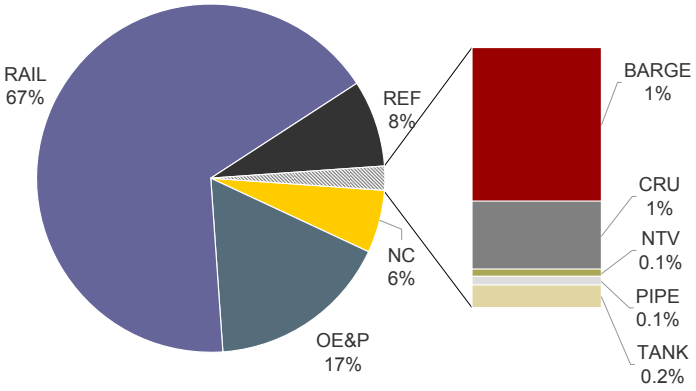
Cook Inlet Subarea Spills by Regulated Facility Type

- Nearly two-thirds of the spills during the 10-year period were from Oil Exploration and Production (OE&P) facilities.
- More than two-thirds of the total volume was from Railroad Transportation facilities. *(NOTE: The 120,000 gallon Gold Creek Derailment spill in December 1999 was responsible for nearly 75% of the total volume released by Railroad facilities. This release occurred prior to legislation subjecting railroad operations to contingency planning requirements. For purposes of this report, railroads are considered a regulated facility.)*

Number of Spills



Gallons Released



NOTE: Graphs do not include process water spills, spills reported in pounds, or potential spills.

Major Spills in the Cook Inlet Subarea

Date	Location	Spill Name	Product	Gallons
10/5/1976	Cook Inlet	USNS Sealift Pacific	Jet Fuel	395,640
7/2/1987	Cook Inlet	T/V Glacier Bay	Crude Oil	210,000
12/22/1999	Gold Creek	Alaska Railroad Derailment	Jet Fuel	120,000
2/22/1995	Whittier	Defense Fuels Supply Center	JP-5	113,000
10/27/1997	Elmendorf AFB	Elmendorf AFB	Aviation fuel	100,000
3/1/1990	Drift River Terminal	Cook Inlet Pipeline	Crude Oil	84,000
8/16/1991	Nikiski	Shell Western ENP	Crude Oil	84,000
8/19/1989	Cook Inlet	M/V Lorna B	Diesel	80,000
11/14/1988	Cook Inlet	Marathon Spark Platform	Crude Oil	23,000 to 46,000*
11/2/1988	Trading Bay, Cook Inlet	M/V Alaska Constructor	Diesel	30,000
10/31/1999	Canyon Creek	Alaska Railroad Derailment	Jet A	15,000
7/17/1997	Elmendorf AFB	Elmendorf AFB	JP-8	13,600
11/21/1999	Kenai Peninsula	Unocal Swanson River Field	Produced Water	10,500
11/2/1988	Trading Bay, Cook Inlet	M/V Alaska Constructor	Gasoline	10,000
8/2/1998	Palmer	Palmer Correctional Facility	Diesel	10,000
3/6/1997	Trading Bay, Cook Inlet	Steelhead Platform	Diesel	9,000
12/12/1988	Nikiski	T/V Oriental Crane	Bunker oil	7,600
10/29/2001	Sterling Highway MP 52	Truck rollover	Gasoline	7,000
9/4/1997	Elmendorf AFB	Elmendorf AFB	Aviation fuel	6,300
4/13/2000	Port of Anchorage	Tesoro Pipeline Terminal	Diesel	5,082
1/31/1989	Cook Inlet	Amoco Anna Platform	Crude Oil	4,600
6/22/1999	Glenn Highway MP 84	Long Lake Truck Rollover	Jet B	4,500
8/13/1991	Cook Inlet	M/V Atlantic Seahorse	Diesel	4,000
6/29/2001	Junction Seward Hwy/Sterling Hwy	Truck rollover	Asphalt	4,000
5/2/1997	Anchorage	Anchorage International Airport	Jet A	3,000
12/5/1995	Nikiski	Tesoro Tank Farm	Crude Oil	2,500 to 2,900**
1/6/1999	Kenai Peninsula	Unocal Swanson River Field	Crude Oil	2,520
8/28/1992	Outer Kenai Coast	F/V Loon	Diesel	1,500

Data Sources:

Department of Environmental Conservation
US Coast Guard
NOAA
Cook Inlet Subarea Contingency Plan for Oil and Hazardous Substance Discharges/Releases, May 2004

*according to NOAA, quantity was 20 BBLs (840 gallons).
**according to NOAA, quantity was 40 BBLs (1680 gallons)

Contingency Plan Facilities in the Cook Inlet Subarea

Facility Name	Facility Type
Island Tug and Barge, Ltd. Barges [1]	Barge
Crowley Barges [1]	Barge
Sea Coast Transportation Barges [1]	Barge
Sirius Maritime Barges	Barge
Marine Transport Corp. Barges	Barge
Sause Brothers, Inc -- Klamath	Barge
Forest Oil - Osprey Platform	Offshore Exploration
XTO Energy - Platform "C"	Offshore Production
XTO Energy - Platform "A"	Offshore Production
CIPL - Christy Lee Platform	Offshore Production
Unocal Cook Inlet - ALL Facility Folder	Offshore Production
Unocal - ANNA Platform	Offshore Production
Unocal - Monopod Platform	Offshore Production
Unocal - Dolly Varden Platform	Offshore Production
Unocal - Steelhead Platform	Offshore Production
Unocal - King Salmon Platform	Offshore Production
Unocal - BRUCE Platform	Offshore Production
Unocal - Dillon Platform	Offshore Production
Unocal - Grayling Platform	Offshore Production
Unocal - BAKER Platform	Offshore Production
ConocoPhillips - Hansen # 1	Onshore Exploration
Forest Oil - McArthur River Unit No. 1	Onshore Production
Marathon - Granite Point	Onshore Production
Marathon - Kenai Gas Field	Onshore Production
Marathon - Cannery Loop Facilities	Onshore Production
Marathon Beaver Creek Production Facility	Onshore Production
Unocal - Granite Point Tank Farm	Onshore Production
Unocal - Trading Bay Production Facility	Onshore Production
Unocal - Swanson River Field	Onshore Production
Forest Oil - Kustatan Pipeline	Pipeline
CIPL - West Foreland Pipeline	Pipeline
KPL - Middle Ground Shoals Pipeline	Pipeline
KPL - Swanson River Crude Pipeline	Pipeline
Alaska Railroad	Railroad
Arizona Voyager (Cook Inlet)	Tank Vessel
Washington Voyager (Cook Inlet)	Tank Vessel
Colorado Voyager (Cook Inlet)	Tank Vessel
Seabulk Pride (Cook Inlet)	Tank Vessel
Seabulk Arctic (Cook Inlet)	Tank Vessel
Capt H A Downing	Tank Vessel
M/V Monarch	Tank Vessel
M/V Champion	Tank Vessel
Lady Nina	Tank Vessel
M/V Pioneer Service (OSV)	Tank Vessel
CISPRI Anchorage	Tank Vessel
CISPRI Nikiski	Tank Vessel

Contingency Plan Facilities in the Cook Inlet Subarea *(continued)*

Facility Name	Facility Type
Crowley Tanker Vessel	Tank Vessel
Chembulk New Orleans	Tank Vessel
Renda	Tank Vessel
Forest Oil - Kustatan Prod. Facility	Crude Oil Terminal
Tesoro Kenai Refinery	Crude Oil Terminal
XTO Energy Nikiski Onshore Facility	Crude Oil Terminal
CIPL - Drift River Terminal and Pipeline	Crude Oil Terminal
CIPL - Granite Point Station	Crude Oil Terminal
KPL - Kenai Pipeline Terminal	Crude Oil Terminal
Unocal - Granite Point Tank Farm	Crude Oil Terminal
Unocal - Granite Point Tank Farm	Crude Oil Terminal
Chevron Anchorage Terminal	Noncrude Terminal
Tesoro Anchorage Terminal	Noncrude Terminal
Tesoro Anchorage Terminal II	Noncrude Terminal
Petro Marine Homer Bulk Plant	Noncrude Terminal
USAF - Elmendorf AFB	Noncrude Terminal
AFSC/Signature Flight Support	Noncrude Terminal
Anchorage Municipal Light & Power	Noncrude Terminal
Flint Hills Resources Anchorage Terminal	Noncrude Terminal
Shoreside Petroleum Seward	Noncrude Terminal

NOTES:

(1) Authorized to operate statewide

Active Contaminated Sites in the Cook Inlet Subarea

This table summarizes the number of active contaminated site cleanup projects in the Cook Inlet subarea as of August 20, 2007.

Primary Contaminant	Sites	%
Petroleum	621	83%
Hazardous Substances	128	17%
Total	749	

Cook Inlet Subarea Spill Preparedness and Response Initiatives

Response Corps and Equipment Depots

Community	CRSA	Conex	Nearshore	Other Equipment
Anchorage	■	●		
Ft. Richardson		●		
Homer	■			
Kenai	■	●		
Mat-Su	■			
Seldovia	■	●	▲	
Wasilla		●		

Cook Inlet Subarea Contingency Plan for Oil and Hazardous Substance Spills and Releases

The current plan is dated May 2004, and a revision is planned in 2008. The revision will include the addition of an updated Potential Places of Refuge section with detailed plans for this contingency. The plan can be accessed at the following website:

http://www.dec.state.ak.us/spar/perp/plans/scp_ci.htm

Cook Inlet Potential Places of Refuge (PPOR) and Geographic Response Strategies (GRS) Development

DEC and the Cook Inlet Regional Citizens Advisory Council (CIRCAC) continue to sponsor both of these initiatives. The PPOR project will produce a series of six maps with a total of 56 PPOR sites identified, along with detailed information for each of the sites. To date, a total of 107 GRS have been developed for the Cook Inlet subarea. Additional information on both of these initiatives can be found at the following websites:

Cook Inlet PPOR: http://www.dec.state.ak.us/spar/perp/cookinletpor/index.htm

Cook Inlet GRS: http://www.dec.state.ak.us/spar/perp/grs/ci/home.htm

Cook Inlet Risk Assessment

DEC has received funding through a Capital Improvement Project to proceed with this initiative, which will provide an update to a previous risk assessment done for Cook Inlet. The Cook Inlet Regional Citizens Advisory Council (CIRCAC) also commissioned a vessel traffic study in December 2006.

Interior Alaska Subarea

Total Spills:	4,179
Total Volume:	782,403
Average Spill Size:	187
Average Spills/Year:	418
Average Volume/Year:	78,240

Top 5 Causes

Cause	Spills	Gallons
Sabotage/Vandalism	10	285,862
Equipment Failure	401	115,725
Rollover/Capsize	82	50,438
Overfill	406	38,290
Human Error	302	37,957

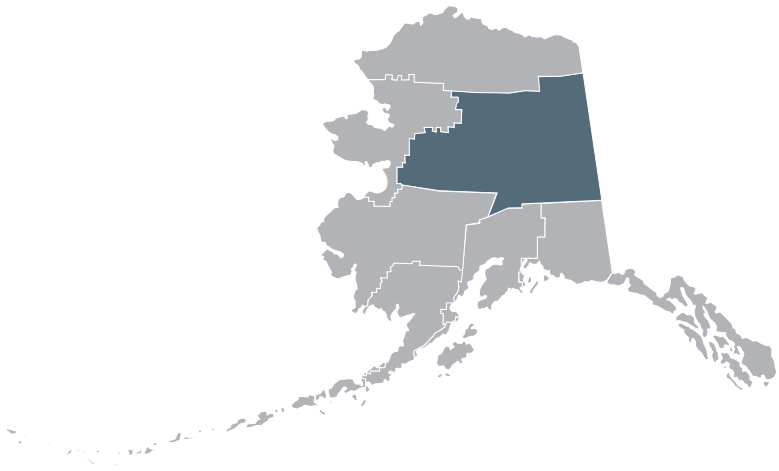
Top 5 Products

Product	Spills	Gallons
Crude	44	293,901
Diesel	1,296	236,161
Process Water	40	72,217
Aviation Fuel	232	39,350
Ethylene Glycol	292	29,890

Top 5 Facility Types

Facility Type	Spills	Gallons
Pipeline	235	302,947
Air Transportation	230	113,257
Mining Operation	444	87,588
Vehicle	1,100	81,922
Noncrude Terminal	577	54,670

NOTE: The data summary above excludes spills reported in pounds and potential spills.



Shoreline: n/a
Land Area: 96,600,000 acres or 150,900 square miles

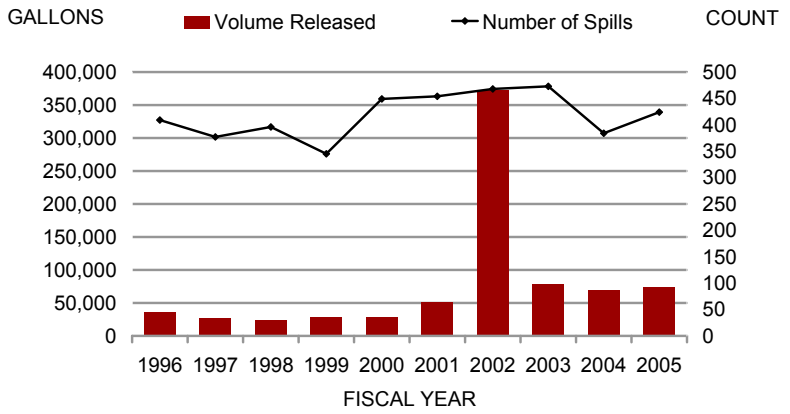
Delivery of noncrude oil is made to the remote villages in this area primarily by small barges (normally 300,000 gallon capacity). Deliveries are ice-dependent and do not occur as ice forms. The Trans Alaska Pipeline System also transits through the area enroute to the terminus at Valdez. The Flint Hills oil refinery is located in North Pole, and the majority of petroleum products are shipped via the railroad.

There are a total of 57 communities in the region (including the two boroughs), 31 Native and 26 non-Native.

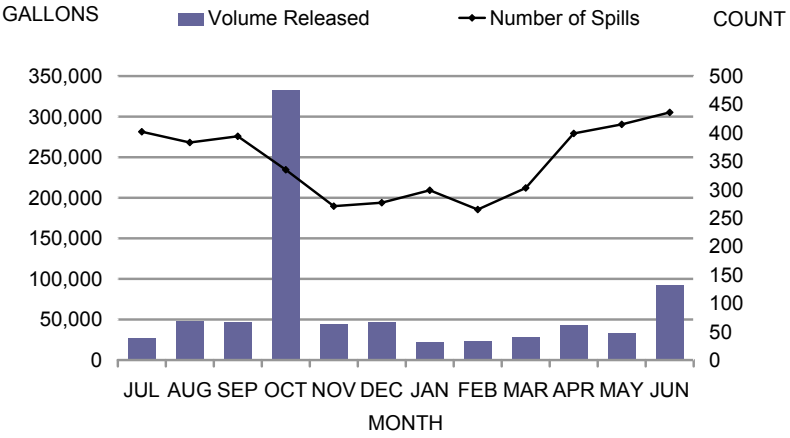
Discernible Trends

- There was no apparent trend in the average number of spills and average volume per year. The one anomaly was the TAPS 400 Bullet Hole incident in FY 2002 which resulted in a spill of 285,600 gallons of crude oil.
- There appears to be a seasonal trend in the average number of spills for the Interior Alaska subarea. There is a noticeable decrease in the number of spills from October thru April. This may be attributed to the onset of the winter season and the inability to detect spills due to ice and snow cover, plus the extreme cold temperatures. During Spring breakup, it can be speculated that a large number of spills appear and are subsequently reported to DEC.
- The number of spills greater than 1,000 gallons also appear to be on a decline since 2001.
- In terms of facility types relative to the number of spills, Storage (43%) and Transportation facilities (38%) were the main contributors, although Transportation facilities (including the Trans Alaska Pipeline System) accounted for 64% of the total volume spilled.
- Structural/Mechanical causes resulted in 62% of the reported spills. However, Human Factors (in this case, the TAPS 400 Bullet Hole incident) accounted for 51% of the total volume.
- Noncrude oil was the primary product spilled in 81% of the reported spills, and accounted for 43% of the total volume. Crude oil was next with 38% of the total volume, much of which can be attributed to the TAPS 400 Bullet Hole incident.

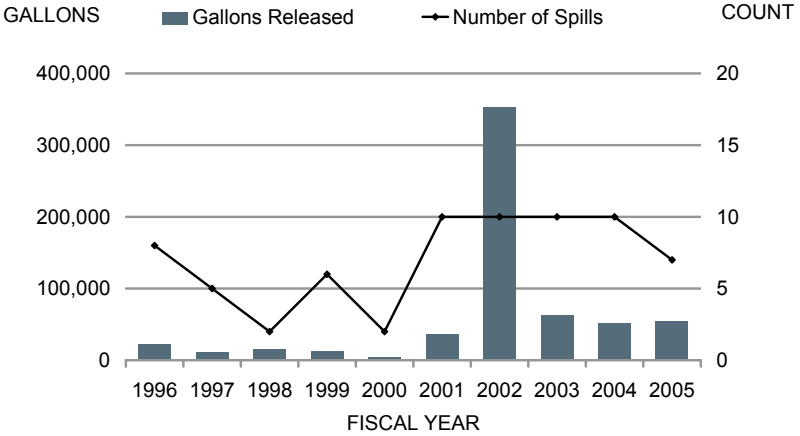
All Spills by Fiscal Year



All Spills by Month



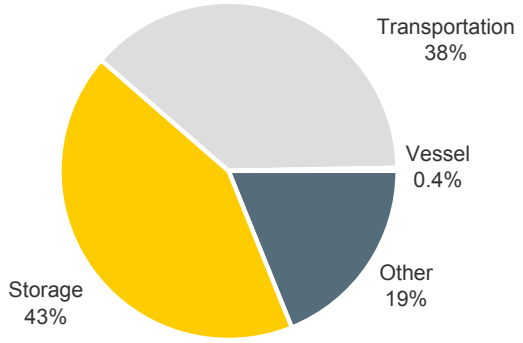
Spills >1,000 gallons



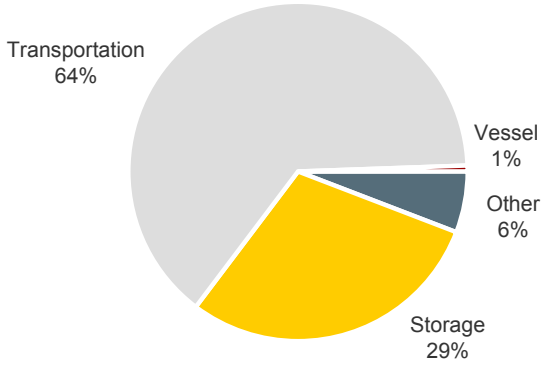
NOTE: Graphs do not include spills reported in pounds or potential spills.

Interior Alaska Subarea Spills by Facility Type

Number of Spills

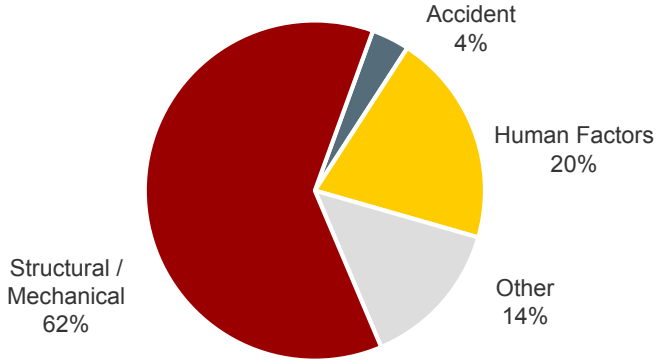


Gallons Released

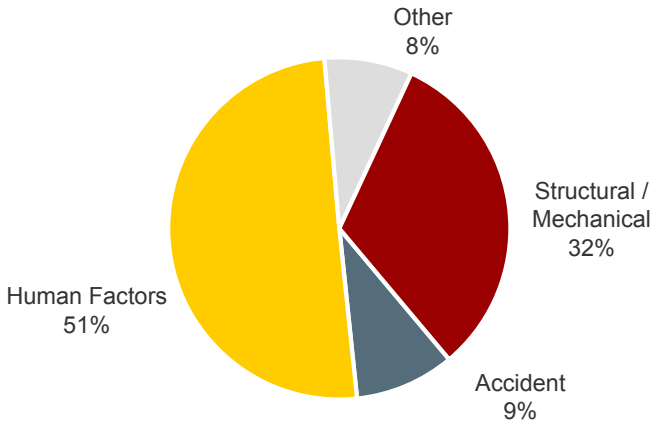


Interior Alaska Subarea Spills by Cause

Number of Spills

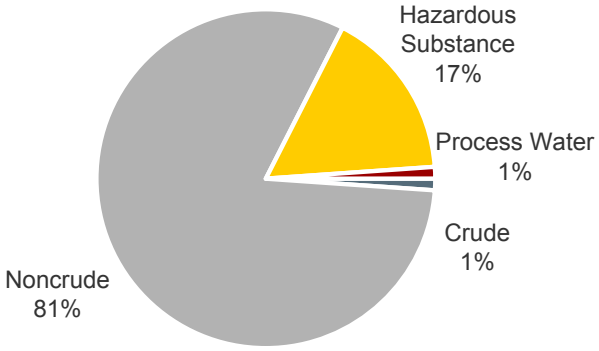


Gallons Released

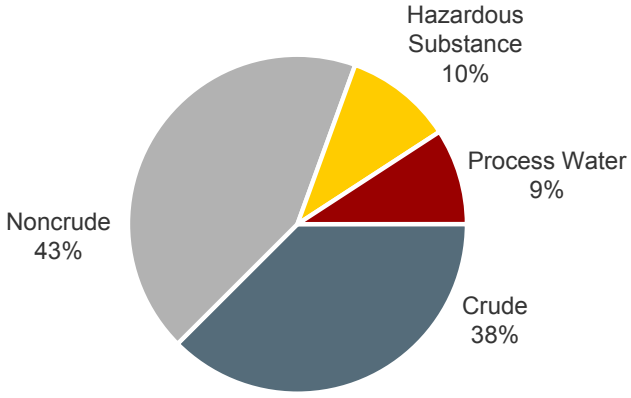


Interior Alaska Subarea Spills by Product

Number of Spills



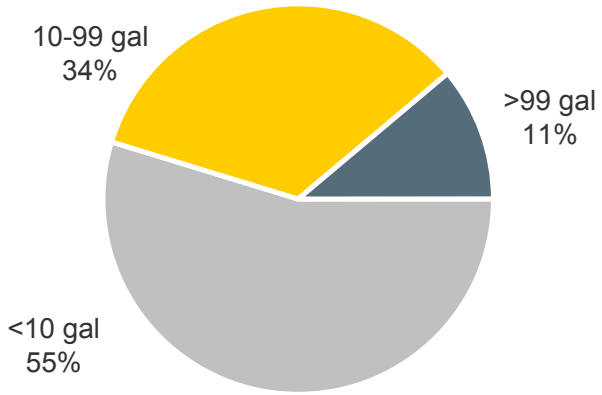
Gallons Released



NOTE: Graphs do not include spills reported in pounds or potential spills.

Interior Alaska Subarea Spills by Size Class

Number of Spills



Gallons Released

NOTE: Graphs do not include spills reported in pounds or potential spills.

Interior Alaska Subarea Spills at Regulated vs. Unregulated Facilities

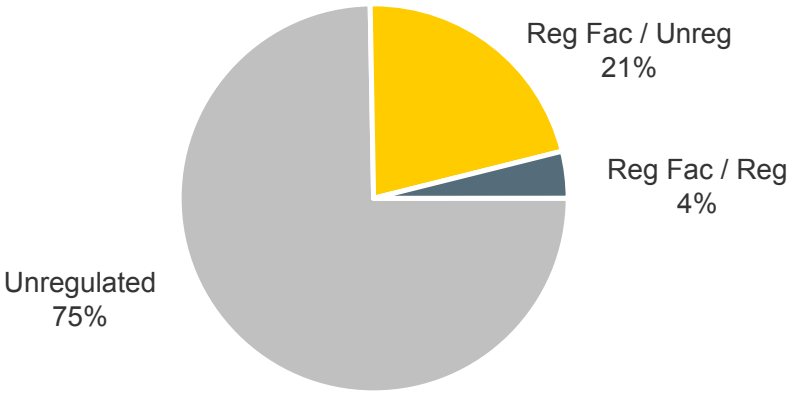
Numerous oil facilities and vessels operating in Alaska are subject to Alaska's spill response planning and financial responsibility statutes. This section summarizes spills from:

- facilities and vessels required by statute to have an approved oil discharge prevention and contingency plan; and,
- non-tank vessels which are required to have an approved certificate of financial responsibility are also included.
- Spills from underground storage tanks are not included in this analysis.

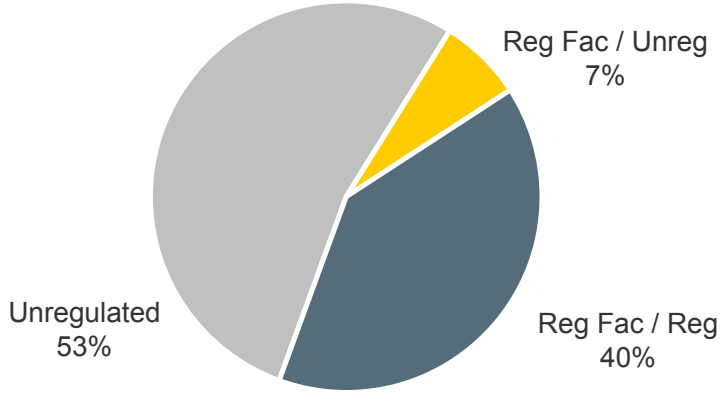
Alaska's contingency planning requirements apply to specific aspects (components) of a facility's or vessel's operations. The analysis in this report distinguishes between spills from regulated versus unregulated components. Examples of spills from unregulated components include:

- a spill from a vehicle at a regulated facility;
- a spill from a fuel tank (below the regulatory threshold of 10,000 barrels) at a regulated facility
- certain piping at oil production facilities

Number of Spills



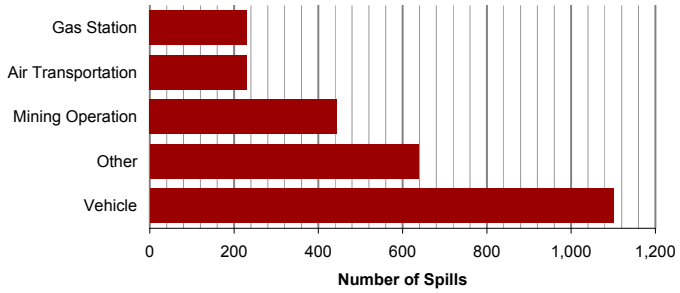
Gallons Released



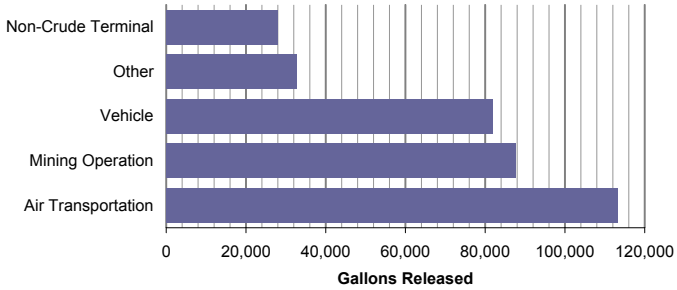
- Approximately three-quarters of the spills and more than half of the total volume released during the 10-year period were from unregulated facilities.
- Vehicles led unregulated facilities in total number of spills during the period whereas Air Transportation led in total volume released.

Top Unregulated Facilities

Number of Spills



Gallons Released

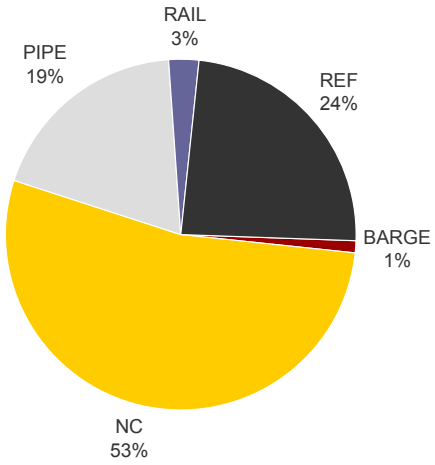


NOTE: Graphs do not include spills reported in pounds or potential spills.

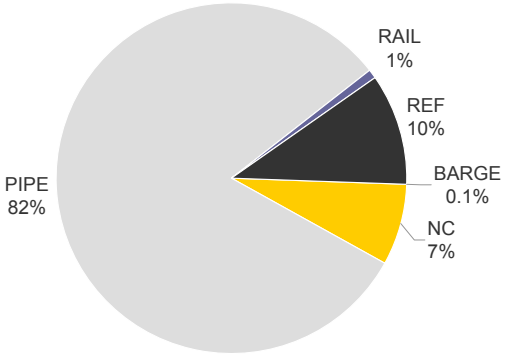
Interior Alaska Subarea Spills by Regulated Facility Type

- A little more than half of the spills during the 10-year period were from regulated Non-Crude Terminal facilities.
- More than 80% of the total volume was from Transmission Pipelines.

Number of Spills



Gallons Released



NOTE: Graphs do not include process water spills, spills reported in pounds, or potential spills.

Major Spills in the Interior Alaska Subarea

Date	Spill Name	Product	Gallons
02/15/1978	TAPS MP 474, near Steele Creek	Crude Oil	672,000
02/09/1995	Clear AFS; State hatchery	Sodium Dichromate	462,000
10/04/2001	TAPS MP 400, TAPS Bullet Hole Release	Crude	285,600
05/28/1990	Mile 433 AK RR, 20-30 miles N. of Nenana	Diesel	100,000
01/01/1981	Check Valve 23	Crude Oil	84,000
10/16/1981	Fairbanks Petroleum Terminal Tank Farm	Diesel	84,000
09/23/1980	North Pole Refinery	JP 4	60,000
06/12/1982	Parker's Patch, Alaska Railroad	Jet-A	50,000
01/11/1982	Near POL facility-Fort Greely	Diesel	44,000
07/29/1993	Port Site Sacrificial Pit #2	Diesel	36,000
12/06/2004	Eielson AFB, Jettisoned fuel	Diesel	35,000
12/12/1989	Nulato on Yukon River (200 mi west of Fairbanks)	Fuel Oil	34,000
12/24/1981	Runway Aircraft Fueling point	AV Fuel	31,000
05/08/1995	Tailings Impoundment	Other	25,000
06/11/2003	Fort Knox Gold Mine, Spill to containment	Process Water	24,092
01/01/1987	North Pole Refinery	HAGO	20,000
12/15/2005	Eielson AFB, Jettisoned fuel	Diesel	17,200
03/23/1985	North Pole Refinery	JP 4	17,004
05/11/2004	Fairbanks, Jettisoned fuel	Diesel	16,000
02/25/2004	Eielson AFB, A-10 Jet Crash	Aviation Fuel	15,001
02/20/1985	Nulato	Gasoline	15,000
10/04/1988	Galena High School area	Diesel	15,000
01/25/1982	Bldg. T-2016, Fort Greely	Diesel	14,000
08/21/1997	Richardson Hwy, Big State Logistics, MP 231	Diesel	13,750
11/16/2001	Fairbanks, Jettisoned fuel	Diesel	13,055
08/27/2001	Richardson Hwy MP 215, Tanker Rollover	Diesel	13,000
06/18/2002	Fort Knox Gold Mine, NE of Mill Yard	Process Water	12,800
06/23/2002	Eielson AFB, Jettisoned fuel	Diesel	12,500
08/28/1994	Allakaket School	Diesel	12,400
04/24/2005	Fairbanks, Sourdough Fuel Bulk Plant	Diesel	12,248
02/02/1978	Tank 504, North Pole Refinery	JP 4	12,000
05/25/1991	Tank Farm, North Pole	Diesel	11,500
12/04/1989	ARCO Storage Yard, off Van Horn Road, Fbks	Methanol	11,125
09/16/2002	Huslia Abandoned Drums	Diesel	11,000
06/02/2003	Fort Knox Gold Mine, Process water release	Process Water	10,500
05/12/1980	Pump Station 10	Crude Oil	10,000
05/07/1981	5 Mi. TAPS Lost Creek	Diesel	10,000
12/04/1981	Tank # 509, North Pole Refinery	JP 4	10,000
07/22/1982	NP Power Plant - H&H Lane	Kerosene	10,000
09/20/1985	1 mi S. of Ft Greely main gate	Diesel	10,000
06/23/2001	Delta Junction, Jettisoned fuel	Aviation Fuel	9,700
10/10/1986	Murphy Dome AFS	Diesel	9,400
12/28/1980	Galena Gasoline Storage	Gasoline	9,200
06/26/1974	Mile 230, Richardson Highway	Diesel	9,000
10/20/1995	Taylor Highway, Mile 61	Diesel	9,000
12/03/1981	MP 273 Dalton/Haul Road, 0.2 mile N of creek	Diesel	8,900
03/04/1989	2 mi N. PS 3, 314 mi Dalton	Methanol	8,700

Major Spills in the Interior Alaska Subarea *(continued from previous page)*

Date	Spill Name	Product	Gallons
2/23/1989	South End of Eielson AFB	JP 4	8,500
1/2/1986	North Pole Refinery	Gasoline	8,400
8/29/1983	Mile Post 125, Dalton Hwy	Diesel	8,350
6/9/1981	Fairbanks International Airport	Diesel	8,000
6/9/1981	Murphy Dome/ACWS	Diesel	8,000
9/12/1985	Refinery Asphalt loading rack	Asphalt	8,000
4/5/1991	North Pole Refinery	Kerosene	8,000
10/12/2001	Fairbanks, Fairbanks International Airport	Ethylene Glycol	7,575
9/2/1981	2 miles north Black Rapids	Diesel	7,500
2/8/2006	Pogo Mine, Accidental release	Other	7,500
12/4/1985	Airport Facility, Fairbanks	Jet-A	7,386
10/8/2000	Fairbanks, Fairbanks International Airport	Ethylene Glycol	7,234
6/26/1974	Mile 88 Glenn Highway	Fuel Oil	7,200
6/26/1989	20,000 ft over Eielson North Dump Area	JP 4	7,150
5/19/1981	Rampart Eureka Trail area	Diesel	7,000
9/10/1981	Mile Post 239, Richardson Highway	Asphalt	7,000
8/14/1983	11.5 Mile Dalton Hwy	Diesel	7,000
11/18/1990	Mile 100.6 Dalton Hwy East side of road	Methanol	7,000
4/15/1991	Galena Power House, Galena, AK	Antifreeze	7,000
6/6/1983	Chevron USA/B. Collins	Diesel	6,787
12/23/1990	Eielson South Dump Area	AV Fuel	6,500
9/8/2002	McCallom Creek, McCallom Creek Repeater	Diesel	6,000
8/2/1990	24 miles Elliott Highway	Diesel	5,721
11/28/1986	20 miles north of Yukon River	Methanol	5,700
1/12/1986	46 Elliot Highway	Reformate	5,613
2/12/1980	Tank 501, North Pole Refinery	JP 4	5,600
9/30/1985	Arctic Lighterace Bulk Storage	Jet-A	5,546
10/10/1991	92.9 mile Taylor Highway	Diesel	5,400
6/7/1990	Arpt Fire Training Pit Area, Fairbanks Int'l Arpt	Diesel	5,020
7/8/1981	Kateel River, Sec 22 Meridian 132N, R20W, NF1/4	AV Fuel	5,000
12/29/1981	Tanana	Fuel Oil	5,000
1/17/1983	Clear Creek Area, 30 miles south Fairbanks	Other	5,000
2/2/1986	Mile 156 1/2 Dalton Highway	Diesel	5,000
7/15/1987	5.5 Mile Elliot	JP 4	5,000
4/13/1990	Milepost 44.5 Elliott Highway	Diesel	5,000
4/5/1994	Bldg. 2111, concrete casements around 50,000 UST	AV Fuel	5,000
8/30/1998	FNSB, MAPCO Refinery	Propylene glycol	5,000
11/11/1993	Truck loading rack	Fuel Oil	4,900
12/3/1981	Inside Building 2351, Eielson AFB	AV Fuel	4,800
4/7/1984	Rail loading station, North Pole Refinery	Fuel Oil #4	4,782
10/27/1981	Trooper Facility 7 mile camp	Fuel Oil	4,500
1/11/1983	Arctic Village	Fuel Oil	4,500
1/29/1983	7 Mile Camp.	Diesel	4,500
9/4/1992	Hoosier Creek, Claim #17	Diesel	4,500
4/25/2003	Fort Knox Gold Mine, Equipment failure	Process Water	4,200
4/1/1981	29 Mile Elliott Highway	Diesel	4,000
12/24/1981	Runway Aircraft Fueling Point, Ft Wainwright	AV Fuel	4,000

Major Spills in the Interior Alaska Subarea *(continued from previous page)*

Date	Spill Name	Product	Gallons
6/20/1988	Eielson AFB	JP 4	4,000
10/21/2000	Richardson Hwy, Polar Fuel truck rollover	Diesel	4,000
9/24/1986	4 miles from Eagle	Gasoline	3,800
3/7/2001	Eielson AFB, Ice damage to fuel storage tank	Diesel	3,760
3/3/2004	Fairbanks, Sourdough Fuel Bulk Plant	Gasoline	3,700
11/6/2003	Fairbanks, Fairbanks International Airport	Ethylene Glycol	3,692
4/30/2002	North Pole, Petro Star Refinery	Crude	3,570
9/15/1986	Manley Hot Springs	Fuel Oil #1	3,400
12/8/1979	Pump Station 8	AV Fuel	3,380
12/8/1985	Tank 317, Fort Wainwright	Gasoline	3,300
6/11/2001	Huslia Fuel Storage Facility	Diesel	3,300
12/16/2005	Richardson Hwy, Carlile Fuel Truck Accident	Diesel	3,110
5/27/1981	Khotol Mtn. area, 100 mi. south of Galena	AV Fuel	3,000
1/19/1983	PS 10	Diesel	3,000
10/14/1985	Richardson Highway MP 169.9	Turbine Fuel	3,000
3/3/1987	241.5 Dalton Highway	Gasoline	3,000
10/6/1987	Eielson AFB	JP 4	3,000
3/24/1994	221.4 Richardson Highway	Fuel Oil	3,000
2/9/1995	Sewage Treatment Plant	Other	3,000
11/2/2005	Fort Knox Gold Mine, Equipment failure	Process Water	3,000
3/28/2001	Eielson AFB, Jettisoned fuel	Diesel	2,985
8/28/1994	Hughes School	Diesel	2,833
7/6/1987	45 Mile Dalton Highway	Fuel Oil #2	2,828
1/20/1989	Galena Air Force Power Plant	Diesel	2,709
3/24/1992	MI 307.9 Dalton HWY	Gasoline	2,700
7/6/2000	Summit Lake, Rollover	Diesel	2,660
5/13/1986	Storage area	U (BA)	2,618
3/24/1992	Mile 306.5 Dalton Hwy	Gasoline	2,600
8/3/1995	Interior Yukon, Charley River Park	AV Fuel	2,600
1/29/1982	Hansen Road, Fairbanks	DRA	2,500
4/29/1986	North Pole Refinery	HA 60	2,500
6/19/1986	Tanana Valley Fairgrounds	CRS 2	2,500
8/12/1994	Fuel pit on Cargain Road, near Bldg.. 1341	AV Fuel	2,500
11/18/1996	Fort Wainwright Bldg. 3694	AV Fuel	2,500
7/15/2003	Fort Knox Gold Mine, Process water release	Process Water	2,500
11/12/2003	Fairbanks, H&H Contractors Spill	Gasoline	2,500
3/29/2004	Fort Knox Gold Mine, Equipment failure	Process Water	2,500
7/5/1990	North Pole Refinery	AV Fuel	2,400
1/18/2000	North Pole, Williams Refinery	Other	2,400
10/7/1983	Mile 301 Haul Rd.	Antifreeze	2,300
9/4/1996	Pump Station 9	DRA	2,300
8/17/1987	212.7 Richardson Highway	Turbine Fuel	2,250
2/21/1991	Between Fairbanks Terminal and Pit C	AV Fuel	2,250
9/22/2001	Pump Station 5, Manifold building relief bay	Crude	2,237
4/24/2000	Pump Station 1, Booster pump	Halon	2,200
12/14/1979	North Pole Refinery	Fuel Oil #1	2,000
1/5/1981	Bldg. 1902, motor pool Bldg., Fort Greely	Fuel Oil	2,000

Major Spills in the Interior Alaska Subarea *(continued from previous page)*

Date	Spill Name	Product	Gallons
5/4/1981	Chandalar Area	Crude Oil	2,000
11/1/1981	Areas around tank 508 & 509, North Pole Refinery	JP 4	2,000
11/14/1981	Off Old Richardson Hwy 2 mile	Diesel	2,000
7/18/1983	Tanana River (8-10 miles upriver)	Diesel	2,000
9/3/1983	Corner Rich and 5th Ave., North Pole	Gasoline	2,000
5/16/1985	Ft Wainwright Commissary	Gasoline	2,000
5/6/1988	ADOTPF 7-Mile Camp	Diesel	2,000
10/14/1988	Mile 188.3 Dalton Hwy/Coldfoot	Fuel Oil #1	2,000
3/14/1989	Old Rich Hwy near K & K Recycling, North Pole	Fuel Oil #1	2,000
5/10/1990	34 mile Dalton Highway, 35 mi. north Livengood on Haul Road	Diesel	2,000
7/17/1990	By community washeteria, Rampart	Diesel	2,000
4/14/1992	Mill Park yard in Deadhorse	Antifreeze	2,000
4/1/1994	Bettles Light & Power	Diesel	2,000
11/2/1995	UAF Hess Village	Other	2,000
1/18/1996	DOT/PF Jim River, MILE 137.8 Dalton	Diesel	2,000
3/11/1996	Eielson AFB, OSCAR ROW	AV Fuel	2,000
1/3/2002	North Pole, Williams Refinery	Kerosene	2,000
11/3/2002	Stevens Village, Generator building	Diesel	2,000
7/6/2003	Fort Knox Gold Mine, SE Corner of Mill	Process Water	2,000
10/9/1998	Eielson AFB, Bldg 1321	Diesel	1,964
11/12/1981	Mile 218 two miles north of Cantwell	Other	1,800
4/8/1983	Mile 383 AK RR	Diesel	1,800
10/8/1994	Water treatment plant	Diesel	1,800
9/8/1999	Eielson AFB	P GLYCOL/Water	1,800
5/8/1986	Fuel facility near washeteria, City of Allakaket	Fuel Oil #1	1,755
12/13/1989	ARR yard, under overpass on Peger Road, Fbks	CI	1,716
3/27/1987	Milepost 203	DRA	1,700
6/24/1994	Mile 64- Tok Cutoff - Wolverine Gas & Fuel	Diesel	1,700
10/28/1996	FMUS Power Plant	E GLYCOL	1,600
6/20/2004	Fairbanks, Interior Fuels Truck Rollover	Diesel	1,600
4/24/1996	Birch Park Pub. Housing, 505 Stewart St.	P GLYCOL	1,540
12/4/1978	Fairbanks International Airport	JP 4	1,500
12/12/1981	Mile 206, Richardson Hwy	Gasoline	1,500
3/3/1983	Dalton Highway 24 miles N. of Yukon	Diesel	1,500
5/15/1986	Tank Farm at Huslia	Fuel Oil #2	1,500
9/13/1986	Pipeline Milepost 203	DRA	1,500
1/12/1988	Chandalar Shelf Camp	Fuel Oil #1	1,500
1/24/1989	8th Ave. & Cushman Street, Fairbanks	Gasoline	1,500
8/26/1989	Laurance Rd at Robin Rd in North Pole	AV Fuel	1,500
1/19/1990	Milepost 11.7 Dalton Highway	Methanol	1,500
2/13/1995	Blair Lakes Range	Diesel	1,500
4/4/1997	Denali National Park, C Camp	Diesel	1,500
11/30/1998	FNSB, MAPCO Refinery, Tank Farm Sump 922	Kerosene	1,500
4/6/1999	ERA Aviation, Fairbanks Intl Airport	Other	1,500
6/16/2001	North Pole, North Pole Refinery	Other	1,500
6/21/2001	Elliot Hwy, Truck Rollover	Diesel	1,500
6/25/2004	Fort Knox Gold Mine, Mill Yard	Process Water	1,500

Major Spills in the Interior Alaska Subarea *(continued from previous page)*

Date	Spill Name	Product	Gallons
11/4/2004	Fort Knox Gold Mine, Line Failure	Process Water	1,500
1/30/2005	North Pole, Flint Hills Refinery valve failure	Other	1,500
3/10/1999	Eielson AFB, F-18 Acft Crash	Diesel	1,493
3/19/1980	Fairbanks International Airport	AV Fuel	1,400
12/25/1980	Next to Bldg. 4365, Eielson AFB	AV Fuel	1,400
12/18/1981	Cold Region testing center, Fort Greely	Diesel	1,400
10/1/1991	MUS Power Plant 1204 1st Ave., Fairbanks	Diesel	1,400
1/21/1994	Alaska Railroad Corp. Yard - Fairbanks	Diesel	1,400
4/29/1996	Eielson AFB, Tank 560, E-11 Tank Farm	AV Fuel	1,400
5/19/2001	Fairbanks, Hose malfunction, deicing truck	Ethylene Glycol	1,400
10/6/2004	Eielson AFB, Heating system leak	Ethylene Glycol	1,400
3/13/1999	Eielson AFB, E-2 Tank Farm, Bldg 6231	Diesel	1,383
7/26/2002	Coldfoot, Big State Logistics	Diesel	1,340
6/7/1985	Bld 3562 PX gas station, Fort Wainwright	Unleaded gas	1,300
10/7/2004	Fort Knox Gold Mine, Sag mill overload	Process Water	1,300
9/25/1995	Pump Station 6	HALON	1,250
8/8/2002	Beaver, Beaver School	Diesel	1,250
7/21/1987	Refueling Pit #4, Eielson AFB	JP 4	1,200
8/30/1994	Asphalt rail loading rack; Mapco Refinery	Gasoline	1,200
6/27/1996	North Pole Refinery	Crude Oil	1,200
9/5/1997	FNSB, Madcap Lane, Off Ballaine Road	Diesel	1,200
7/25/2001	Yukon-Charley Rivers National Preserve, Military Jet crash	Diesel	1,200
11/3/2002	Mentasta, Earthquake Spills	Diesel	1,200
11/3/2002	Chistochina, Earthquake Spills	Diesel	1,200
3/12/1995	Building 1338, Mech. Room	Unknown	1,175
10/29/1978	Pipe rack area - skid #4, North Pole Refinery	Glycol	1,150
1/29/1989	Just past W bank-Chena River, Fairbanks	JP 4	1,150
1/10/1981	Tank 501, North Pole Refinery	JP 4	1,100
9/28/1987	Fox Fuels	Diesel	1,100
12/7/1990	Bldg. 300, Fort Greely	Diesel	1,100
4/14/2006	North Pole, Flint Hills Refinery	Diesel	1,100
7/31/2004	North Pole, Flint Hills Refinery	Kerosene	1,071
11/4/2000	Fairbanks, Railcar transfer spill	Bases	1,020
1/22/1985	MP 207.4 Dalton Hwy	Crude Oil	1,008
1/10/1978	At loading dock, North Pole Refinery	Diesel	1,000
6/13/1981	5 miles south of Dietrich Camp on Haul Road.	Diesel	1,000
1/8/1982	Loading Ramp area, Interior Energy yard	Fuel Oil	1,000
1/14/1982	East Fork DOT camp, 7 miles south Brood Pass on Parks	Diesel	1,000
11/11/1982	Rail loading station, North Pole Refinery	JP 4	1,000
5/5/1985	North Pole Refinery	Kerosene	1,000
9/16/1985	PS 6	Thermal #44	1,000
9/17/1985	24 Mile Elliot Highway	Glycol	1,000
5/23/1986	Fairbanks International Airport	AC 5	1,000
7/26/1990	Texas Range old generator Bldg. Ft. Greely	Diesel	1,000
7/31/1990	Generator Bldg. Texas Range, Fort Greely	Diesel	1,000
7/8/1991	Stevens Village tank farm	Fuel Oil	1,000
4/5/1994	Bldg.. 2111, 1,000 slop Tank, UST	AV Fuel	1,000

Major Spills in the Interior Alaska Subarea *(continued from previous page)*

Date	Spill Name	Product	Gallons
4/11/1994	Village of Venetie tank farm	Diesel	1,000
2/10/1995	N. shore of Healy Lake, next to generator Bldg.	Diesel	1,000
5/24/1995	Inside Bldg. 3480, majority down floor drain	WC	1,000
5/24/1995	Bldg. 3480, Fort Wainwright	E L Oil	1,000
6/22/1995	Tanana River, 20 miles from Manley,50 miles south of village of Tanana	Diesel	1,000
2/22/1996	Fairbanks City, 900 Aurora Drive	DRA	1,000
7/24/1996	Near Munson Fork, Chena Hot Springs	AV Fuel	1,000
4/9/1999	PetroStar Refinery	Diesel	1,000

Data Sources:

Department of Environmental Conservation

Interior Subarea Contingency Plan for Oil and Hazardous Substance Discharges/Releases, June 2000

Contingency Plan Facilities in the Interior Alaska Subarea

Facility Name	Facility Type
Island Tug and Barge, Ltd. Barges (1)	Barge
Crowley Barges (1)	Barge
Sea Coast Transportation Barges (1)	Barge
Sirius Maritime Barges	Barge
Ruby Marine -- Melozi	Barge
Ruby Marine -- Novi	Barge
Alaska Railroad	Railroad
Flint Hills Res. - North Pole Refinery	Crude Terminal
Petro Star North Pole Refinery	Crude Terminal
City of Galena Power Plant Tank Farm	Noncrude Terminal
USAF - Eielson AFB	Noncrude Terminal
Flint Hills, Fbx Airport Fuel Facility	Noncrude Terminal
Fort Greely	Noncrude Terminal
Crowley Marine Services Ft. Yukon Tank Farm	Noncrude Terminal
Crowley Marine Services Galena Tank Farm	Noncrude Terminal
Crowley Marine Services Nenana Tank Farm	Noncrude Terminal
USAF Galena Airport	Noncrude Terminal

NOTES:

(1) Authorized to operate statewide

Active Contaminated Sites in the Interior Alaska Subarea

This table summarizes the number of active contaminated site cleanup projects in the Interior Alaska subarea as of August 20, 2007.

Primary Contaminant	Sites	%
Petroleum	429	71%
Hazardous Substances	173	29%
Total	602	

Interior Alaska Subarea Spill Preparedness and Response Initiatives

Response Corps and Equipment Depots

Community	CRSA	Conex	Nearshore	Other Equipment
Fairbanks	■	●		
Galena		●		
PS 5		●		

Interior Alaska Contingency Plan for Oil and Hazardous Substance Spills and Releases

The current plan is dated April 2007, and includes major revisions and updates to the plan. The plan can be accessed at the following website: http://www.dec.state.ak.us/spar/perp/plans/scp_int.htm

Kodiak Island Subarea

Total Spills:	590
Total Volume:	25,796
Average Spill Size:	44
Average Spills/Year:	59
Average Volume/Year:	2,580

Top 5 Causes

Cause	Spills	Gallons
Sinking	27	12,692
Unknown	76	2,601
Overfill	76	2,204
Valve Failure	16	1,254
Line Failure	93	1,240

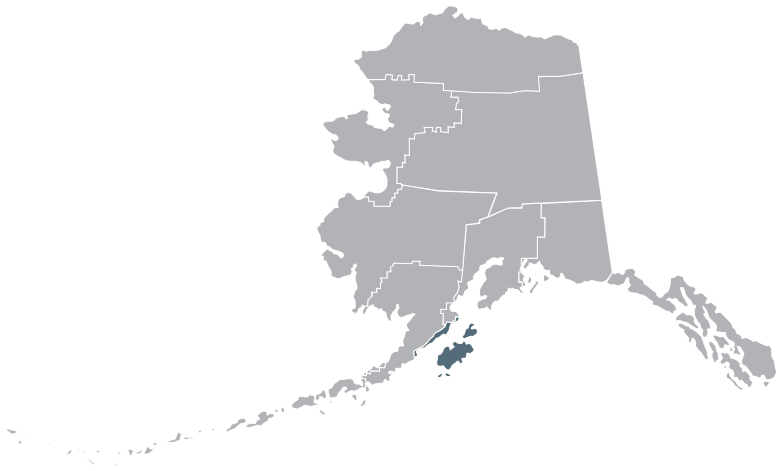
Top 5 Products

Product	Spills	Gallons
Diesel	252	23,096
Hydraulic Oil	116	554
Aviation Fuel	23	467
Gasoline	29	352
Other	39	293

Top 5 Facility Types

Facility Type	Spills	Gallons
Vessel	129	16,246
Residence	46	2,427
Unknown	52	1,936
Other	78	1,686
Vehicle	98	851

NOTE: The data summary above excludes spills reported in pounds and potential spills.



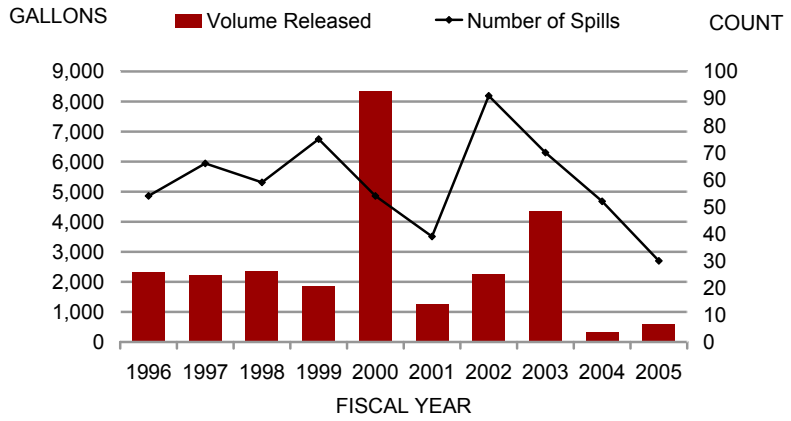
Shoreline: 3,900 miles
Land Area: 4,300,000 acres or 6,700 square miles

The waters and coastline of the Kodiak Subarea are vulnerable to the introduction of petroleum products, oil, or hazardous chemicals from a variety of sources. Marine vessel fuel, jet fuel, lubricants, toxic chemicals, crude oil and other noncrude petroleum products are transported through the Kodiak Subarea and adjacent waters. Noncrude fuels and several hazardous chemicals are stored in facilities throughout the subarea in varying quantities. Pollution risks faced by the Kodiak Subarea include spills of all sizes and severity as well as chronic leaks or low-volume inputs. While chronic spills may be less noticeable than major spills, they can introduce potentially more oil into the marine and coastal environment and cause devastating long term impacts. The Kodiak Subarea is also plagued by the threat of more acute spill events, from tank ships, barges, or freight vessels transiting nearby waters.

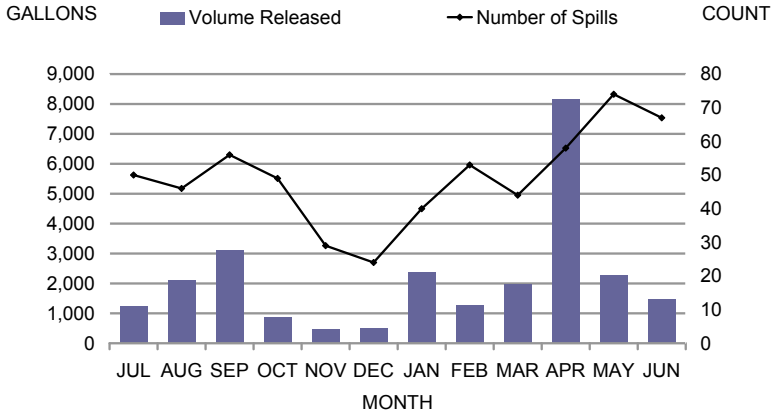
Discernible Trends

- The average number of spills per year have been decreasing since FY 2002. There also appears to be a seasonal decline in the number of spills between the months of October thru March.
- For facility types, the reported spills were evenly distributed between Storage (30%), Transportation (26%), Vessels (22%), and Other (22%). However, in terms of total volume, Vessels contributed 63% of the total volume spilled.
- Turning to causes, Structural/Mechanical (45%) and Human Factors (35%) were the primary causes in 80% of the spills, while Human Factors causes resulted in 62% of the total volume spilled, followed by Structural/Mechanical causes at 23%.
- Noncrude oil was the primary product spilled in 95% of the reported spills, and also accounted for 99% of the total volume.

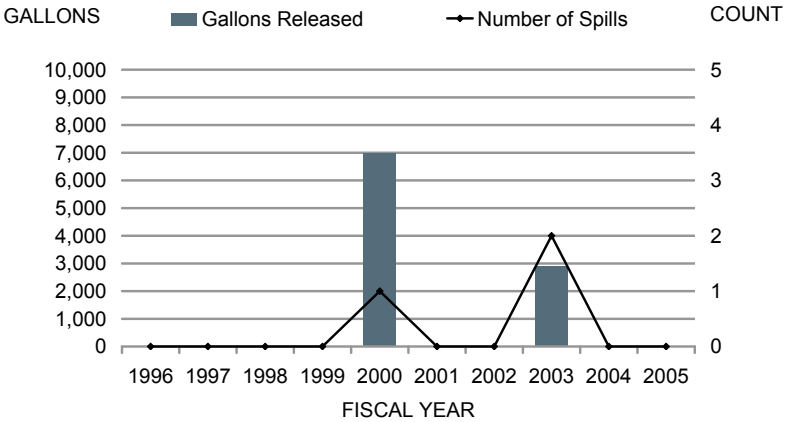
All Spills by Fiscal Year



All Spills by Month



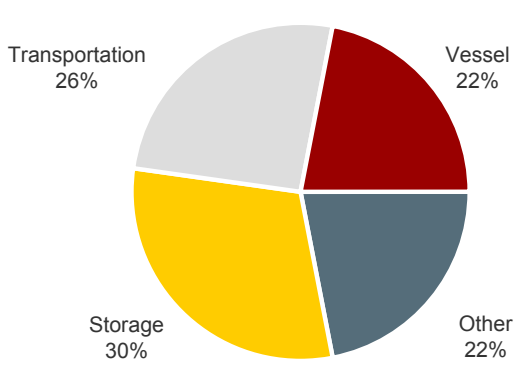
Spills >1,000 gallons



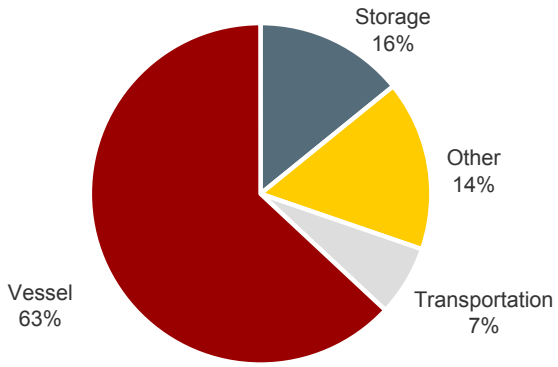
NOTE: Graphs do not include spills reported in pounds or potential spills.

Kodiak Island Subarea Spills by Facility Type

Number of Spills

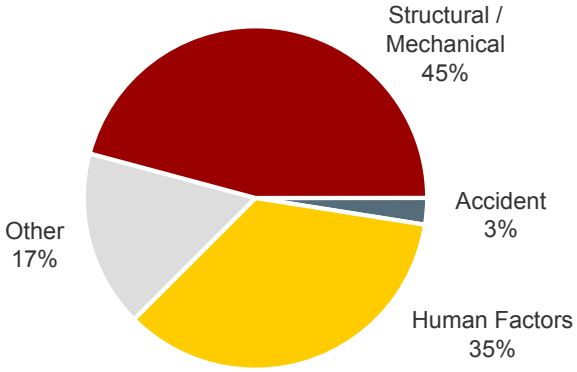


Gallons Released

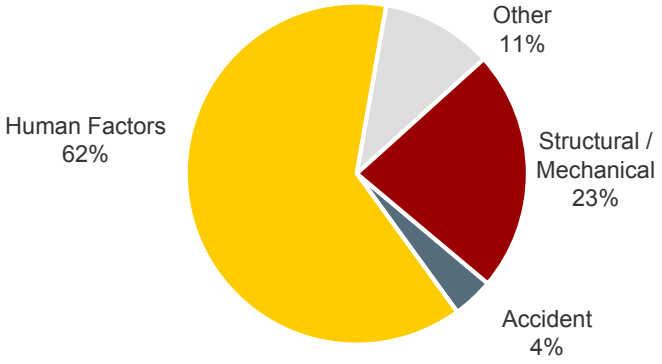


Kodiak Island Subarea Spills by Cause

Number of Spills

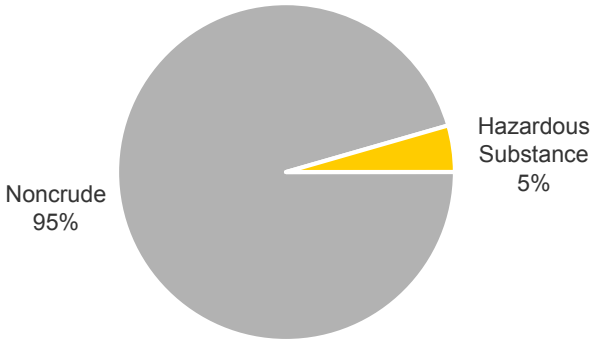


Gallons Released

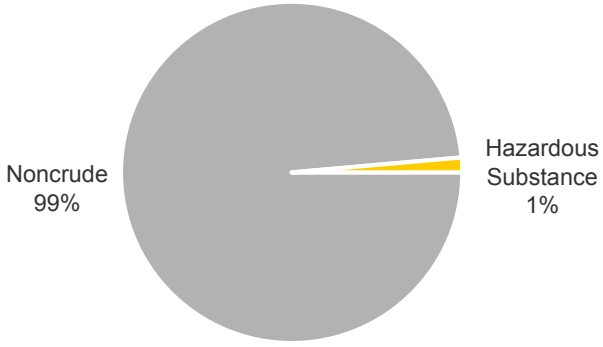


Kodiak Island Subarea Spills by Product

Number of Spills



Gallons Released

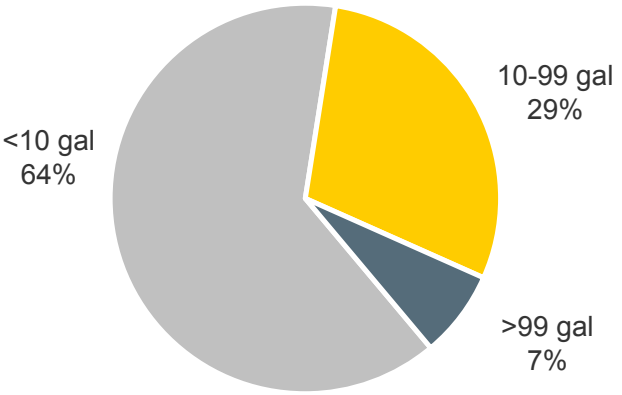


NOTE: Graphs do not include spills reported in pounds or potential spills.

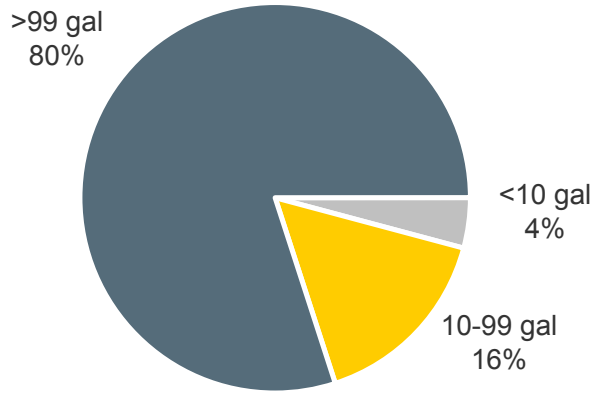
Kodiak Island Subarea Spills by Size Class

- Nearly two-thirds of the spills during the report period were less than 10 gallons in volume.
- Approximately 80% of the total volume released resulted from spills larger than 99 gallons.

Number of Spills



Gallons Released



NOTE: Graphs do not include spills reported in pounds or potential spills.

Kodiak Island Subarea Spills at Regulated vs. Unregulated Facilities

Numerous oil facilities and vessels operating in Alaska are subject to Alaska's spill response planning and financial responsibility statutes. This section summarizes spills from:

- facilities and vessels required by statute to have an approved oil discharge prevention and contingency plan; and,
- non-tank vessels which are required to have an approved certificate of financial responsibility are also included.

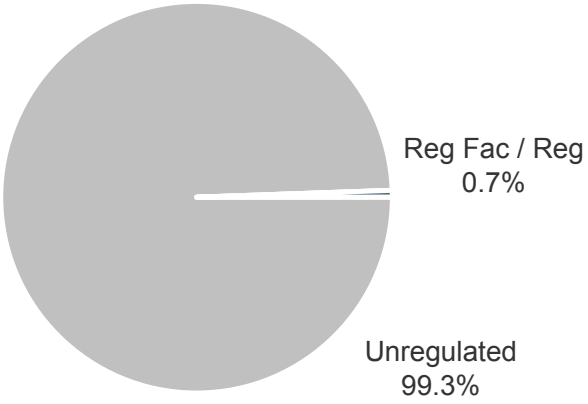
Spills from underground storage tanks are not included in this analysis.

Alaska's contingency planning requirements apply to specific aspects (components) of a facility's or vessel's operations. The analysis in this report distinguishes between spills from regulated versus unregulated components. Examples of spills from unregulated components include:

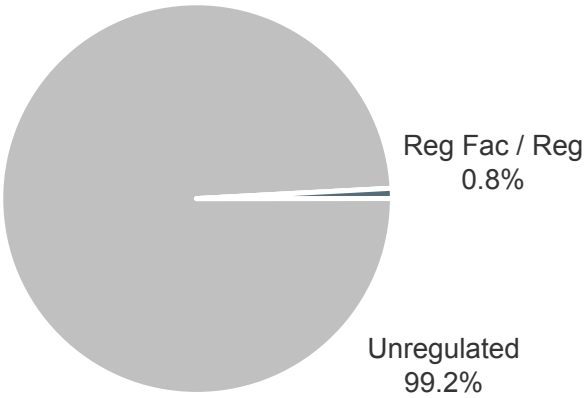
- a spill from a vehicle at a regulated facility;
- a spill from a fuel tank (below the regulatory threshold of 10,000 barrels) at a regulated facility

- Virtually all the spills during the 10-year period were from unregulated facilities, primarily vessels.

Number of Spills

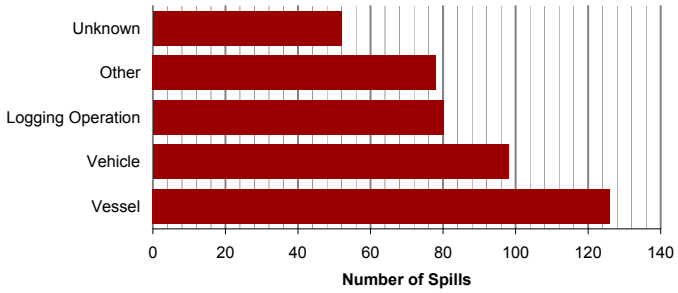


Gallons Released

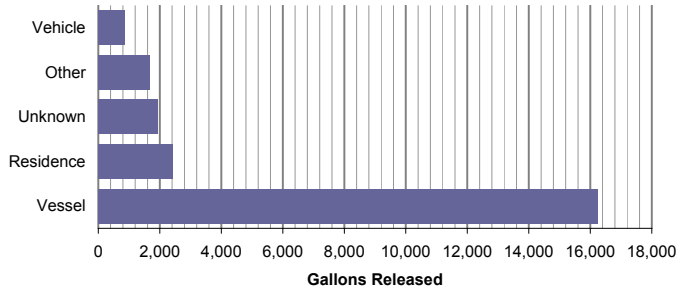


Top Unregulated Facilities

Number of Spills



Gallons Released



NOTE: Graphs do not include spills reported in pounds or potential spills.

Major Spills in the Kodiak Island Subarea

Date	Spill Name	Product	Gallons
3/24/1989	T/V Exxon Valdez*	crude	11 million
4/1/1992	USCG Air Station	diesel	46,200
9/1/1994	Bells Flats Construction Site	MC 70	10,500
1/1/1993	USCG Air Station	Jet A	10,000
7/1/1993	F/V Francis Lee	diesel	10,000
4/20/2000	F/V Destiny sinking, Shelikof Strait	Diesel	7,000
1/1/1993	F/V Massacre Bay	diesel	5,040
4/1/1992	USCG Air Station	JP-5	4,700
2/1/1994	F/V Eagle	diesel	4,000
8/1/1994	F/V Knight Island	diesel	4,000
1/1/1997	F/V Sandra W.	diesel	2,800
1/1/1992	F/V Mahato	diesel	2,000
10/1/1992	F/V Miss Angel	diesel	2,000
10/1/1995	F/V Royal Baron	diesel	2,000
5/30/2003	F/V Rocona II sinking, Spruce Cape	Diesel	1,500
9/26/2002	F/V Dakota Sinking, Ishut Bay	Diesel	1,400
6/1/1994	USCG ISC Kodiak	JP-5	1,300
1/25/1996	F/V Sally J	diesel	1,175

*Although the T/V Exxon Valdez spill occurred in Prince William Sound, Kodiak Island was significantly impacted by crude oil.

Data Sources:

Department of Environmental Conservation

Kodiak Subarea Contingency Plan for Oil and Hazardous Substance Discharges/Releases, March 2002

Contingency Plan Facilities in the Kodiak Island Subarea

Facility Name	Facility Type
Island Tug and Barge, Ltd. Barges (1)	Barge
Crowley Barges (1)	Barge
Sea Coast Transportation Barges (1)	Barge
Sirius Maritime Barges	Barge
Sause Brothers, Inc. -- Klamath	Barge
Island Provider Transportation -- Lady Nina	Tank Vessel
Petro Marine Kodiak Bulk Plant	Noncrude Terminal
North Pacific Fuel - Kodiak Oil Sales	Noncrude Terminal
USCG - Integrated Support Command Kodiak	Noncrude Terminal

NOTES:

(1) Authorized to operate statewide

Active Contaminated Sites in the Kodiak Island Alaska Subarea

This table summarizes the number of active contaminated site cleanup projects in the Kodiak Island subarea as of August 20, 2007.

Primary Contaminant	Sites	%
Petroleum	96	80%
Hazardous Substances	23	20%
Total	119	

Kodiak Island Subarea Spill Preparedness and Response Initiatives

Response Corps and Equipment Depots

Community	CRSA	Conex	Nearshore	Other Equipment
Akhiok	■			○
Kodiak	■		▲	
Larsen Bay	■			○
Old Harbor	■			○
Ouzinkie	■			○
Port Lions	■			○

Kodiak Island Contingency Plan for Oil and Hazardous Substance Spills and Releases

The current plan is dated March 2002, and a revision is planned in 2008. The revision will include the addition of a Potential Places of Refuge section, plus updates to the GRS section.

http://www.dec.state.ak.us/spar/perp/plans/scp_ki.htm

Kodiak Island Potential Places of Refuge (PPOR) and Geographic Response Strategies (GRS) Development

DEC and the Cook Inlet Regional Citizens Advisory Council (CIRCAC) sponsored these initiatives.

The GRS Work Group participants include Local, State and Federal agencies, spill response experts, oil spill contingency plan holders and the Cook Inlet and Prince William Sound Citizens advisory councils. In 2001, 21 GRS were developed for the Kodiak area. The workgroup has also completed an additional 26 GRS in the Northern and Western Zones, and work progresses on developing sites in the Mainland Zone (see the website below for the latest updates).

Eleven PPOR maps were developed that include a total of 97 PPOR sites identified by the PPOR workgroup for the Kodiak subarea. Each of the 11 maps provides the locations of the sites, along with three tables for each map that give specific information for each individual site. This information includes site considerations, stakeholders, and physical and operational characteristics. (see the website below for the latest updates).

Kodiak GRS: http://www.dec.state.ak.us/spar/perp/grs/ki/home.htm

Kodiak PPOR: http://www.dec.state.ak.us/spar/perp/kppor/index.htm

North Slope Subarea

Total Spills:	4,481
Total Volume:	1,916,958
Average Spill Size:	428
Average Spills/Year:	448
Average Volume/Year:	191,696

Top 5 Causes

Cause	Spills	Gallons
Leak	659	1,049,717
Corrosion	98	219,688
Unknown	291	106,844
Other	242	92,585
Valve Failure	377	91,730

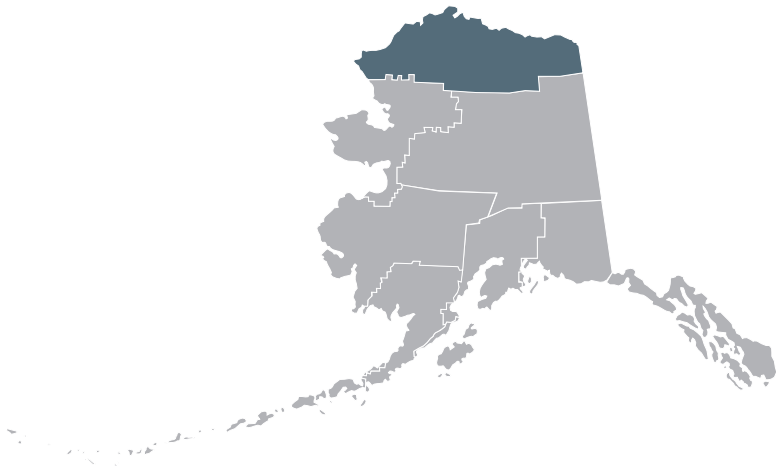
Top 5 Products

Product	Spills	Gallons
Seawater	143	1,067,912
Produced Water	200	349,274
Crude	516	103,397
Diesel	990	98,002
Drilling Muds	206	83,157

Top 5 Facility Types

Facility Type	Spills	Gallons
Oil Production	3,258	1,793,114
Pipeline	343	29,185
Noncrude Terminal	28	23,586
Oil Exploration	95	20,786
Other	173	14,892

NOTE: The data summary above excludes spills reported in pounds and potential spills.



Shoreline: 2,800 miles
Land Area: 57,500,000 acres or 89,800 square miles

There are a total of 10 villages in the region, 8 Native and 2 non-Native (Deadhorse and Cape Lisburne).

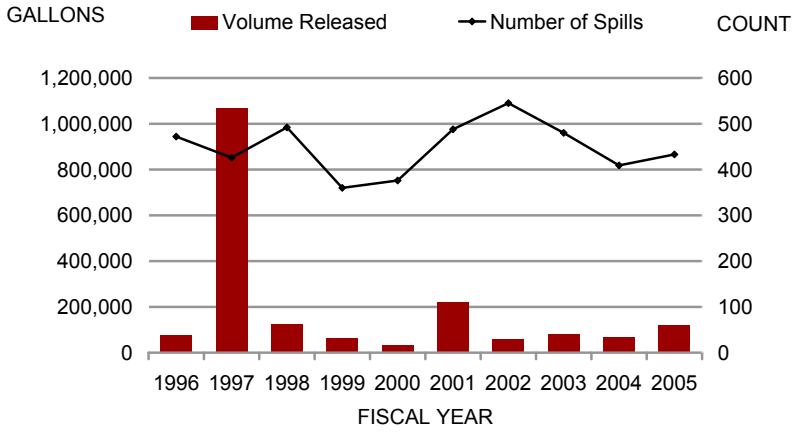
The number of facilities storing, handling, and transferring noncrude products is very small. These facilities typically provide fuel mainly for the generation of electricity and heating homes. The fuel is also used to power vehicles and vessels which are relatively few in number as well. Tank barges provide fuel to these facilities no more than twice each year and only during the short open-water season. Numerous exploratory and production wells exist in the region and produce a large amount of crude oil which is piped above ground to processing facilities before being shipped through the Trans Alaska Pipeline to Valdez.

The highest probability of spills of noncrude products occurs during fuel transfer operations at the remote villages. Historically, the occurrence of spills from facilities during these operations is not significant. Spills of noncrude product that enter the water will rapidly disperse and evaporate making cleanup difficult. Crude oil will be affected by the same natural degradation factors but to a much lesser degree. Crude oil spills will be persistent and will require aggressive actions and innovative techniques in the harsh Arctic environment.

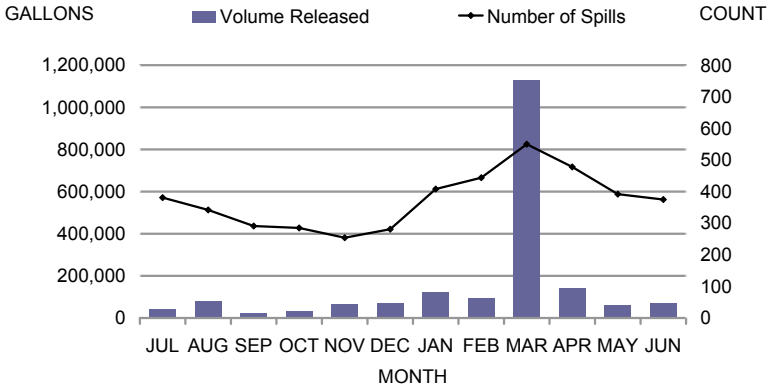
Discernible Trends

- There is no discernible trend in the average number of spills per year and the total volume released (with the exception of FY 2001).
- There appears to be a seasonal increase in the number of spills during the January through April timeframe. This could be the result of increased exploration activities during the winter months.
- 93% of the reported spills in the North Slope subarea were from Transportation facilities. This category includes pipelines that carry crude oil and other substances to the production facilities and on to the Trans Alaska Pipeline System.
- Structural/Mechanical (66%) was the leading cause of most spills in the North Slope subarea, and also accounted for 82% of the total volume spilled.
- 49% of the total number of spills involved noncrude oil, followed by hazardous substances (31%) and crude oil (12%). In terms of total volume, process water represented 75% of the total volume spilled, followed by hazardous substances (13%), noncrude oil (7%), and crude oil (5%).

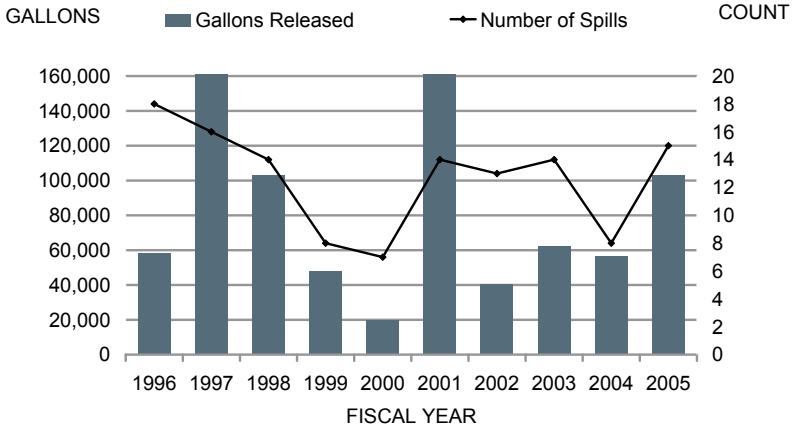
All Spills by Fiscal Year



All Spills by Month



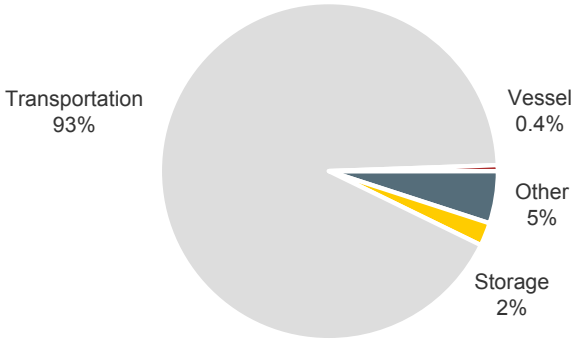
Spills >1,000 gallons



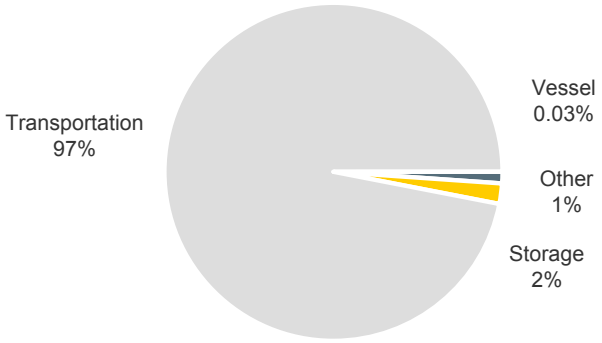
NOTE: Graphs do not include spills reported in pounds or potential spills.

North Slope Subarea Spills by Facility Type

Number of Spills

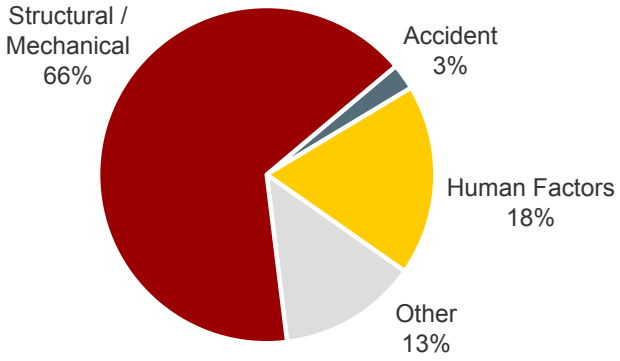


Gallons Released

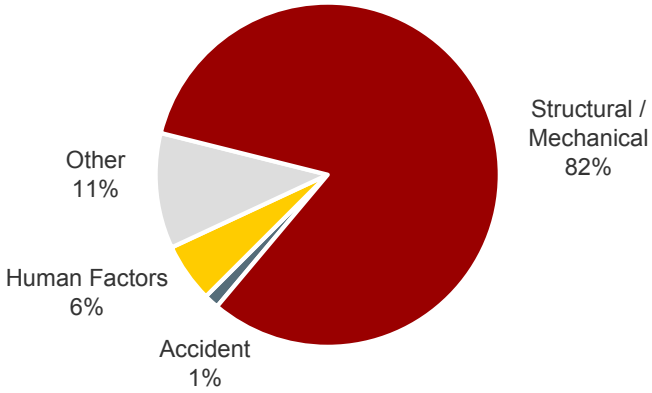


North Slope Subarea Spills by Cause

Number of Spills

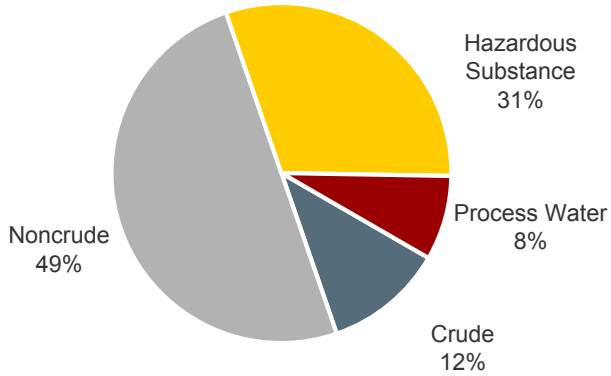


Gallons Released

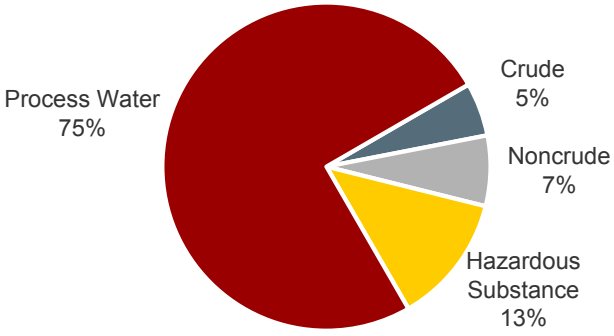


North Slope Subarea Spills by Product

Number of Spills



Gallons Released

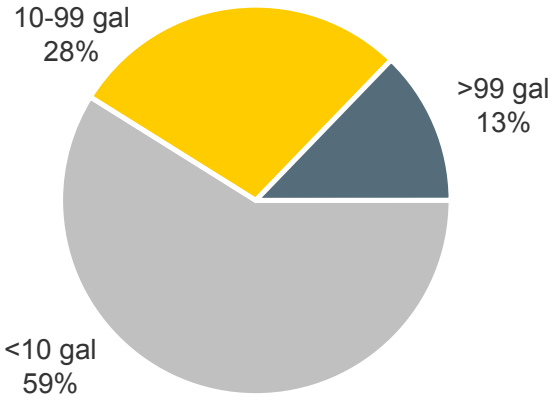


NOTE: Graphs do not include spills reported in pounds or potential spills.

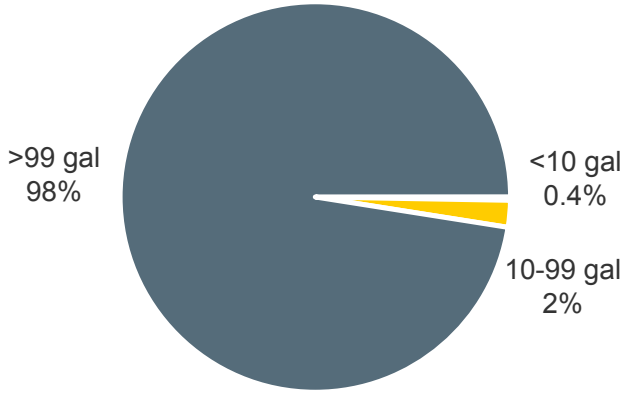
North Slope Subarea Spills by Size Class

- More than half of the spills during the report period were less than 10 gallons in volume.
- Approximately 98% of the total volume released resulted from spills larger than 99 gallons.

Number of Spills



Gallons Released



NOTE: Graphs do not include spills reported in pounds or potential spills.

North Slope Subarea Spills at Regulated vs. Unregulated Facilities

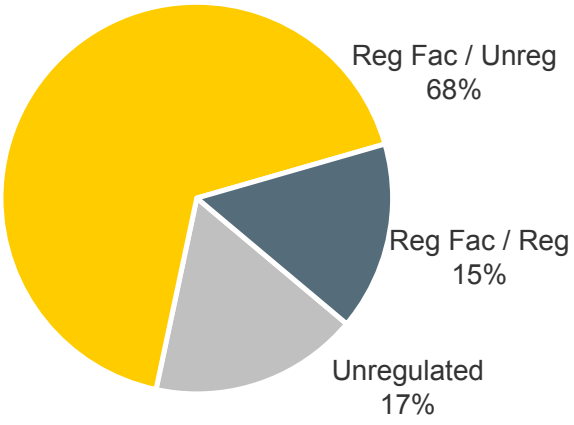
Numerous oil facilities and vessels operating in Alaska are subject to Alaska's spill response planning and financial responsibility statutes. This section summarizes spills from:

- facilities and vessels required by statute to have an approved oil discharge prevention and contingency plan; and,
- non-tank vessels which are required to have an approved certificate of financial responsibility are also included.
- Spills from underground storage tanks are not included in this analysis.

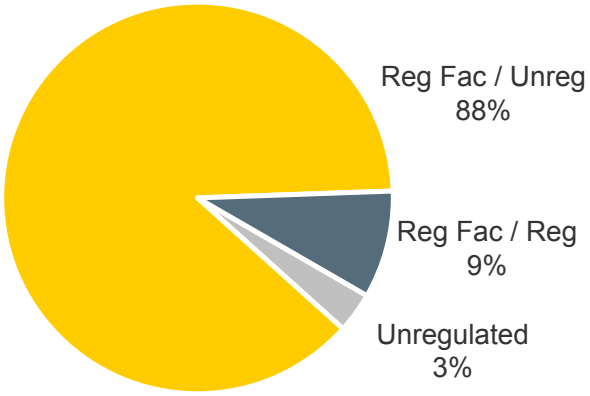
Alaska's contingency planning requirements apply to specific aspects (components) of a facility's or vessel's operations. The analysis in this report distinguishes between spills from regulated versus unregulated components. Examples of spills from unregulated components include:

- a spill from a vehicle at a regulated facility;
- a spill from a fuel tank (below the regulatory threshold of 10,000 barrels) at a regulated facility
- certain piping at oil production facilities

Number of Spills



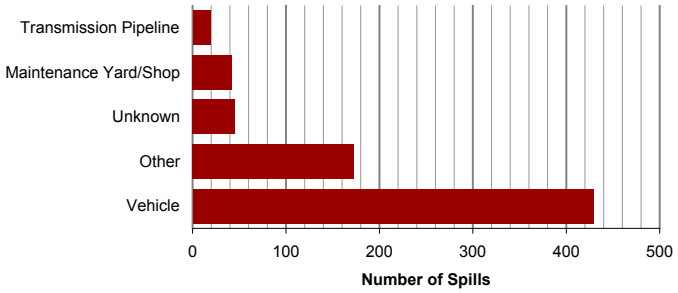
Gallons Released



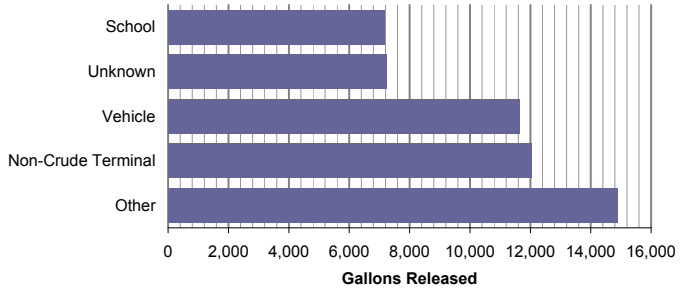
- More than two-thirds of the spills and more than three-quarters of the total volume released during the 10-year period were from unregulated components of regulated facilities.
- Spills from unregulated vehicles accounted for the majority of spills, while spills from Other facilities accounted for the greatest volume released.

Top Unregulated Facilities

Number of Spills



Gallons Released

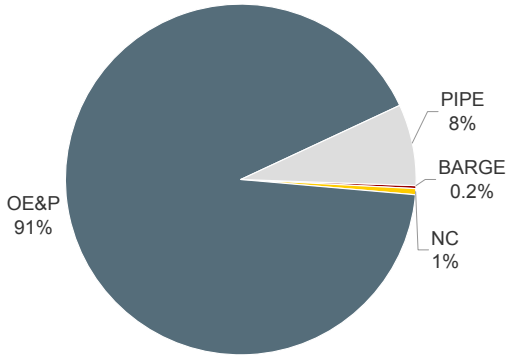


NOTE: Graphs do not include spills reported in pounds or potential spills.

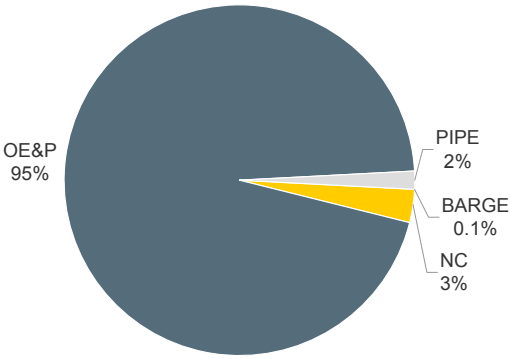
North Slope Subarea Spills by Regulated Facility Type

- Oil Exploration and Production (OE&P) facilities were responsible for more than 90% of the spills during the 10-year period and approximately 95% of the total volume from.

Number of Spills



Gallons Released



NOTE: Graphs do not include process water spills, spills reported in pounds, or potential spills.

Major Spills in the North Slope Subarea

Date	Spill Name	Product	Gallons
3/17/1997	East Prudhoe Bay, DS 4	Seawater	994,400
1/31/1990	Anaktuvuk Pass Power Plant, ruptured line	diesel	100,000
4/15/2001	Kuparuk, From CPF1 To Drill Site 1B	Produced Water	92,400
1/1/1981	Check Valve 23, faulty valve	crude oil	84,000
8/1/1988	Tanker 570	heating fuel	68,000
1/10/1998	Kuparuk, Arco DS 1A	Produced Water	63,000
3/26/2005	Kuparuk 2-H Pad	Produced Water	51,198
6/3/1971	ARCO airfield	aviation fuel	45,000
7/28/1989	CPF Milne Point	crude oil	38,850
8/21/2000	W Prudhoe Bay,GC-2	Crude	30,030
1/8/2000	West Prudhoe Bay, GC-3 Flare	Other	30,000
6/18/2004	Flow Station 2	Produced Water	28,350
2/19/2001	W Prudhoe Bay, Between D-Pad And GC	Crude	25,500
8/25/1989	Drilling Site 2U leak	crude oil	25,200
12/10/1990	Drilling Site L5 explosion	diesel	25,200
3/5/1999	Arco, Alpine, Colville River Crossing-East Bank	Other	24,654
1/5/1972	BP side of ARCO airfield	diesel	20,000
1/16/2001	Northstar Containment Cell #6	Drilling Muds	18,900
8/22/1981	COTU Fuel Storage Tanks	diesel	18,900
2/3/2005	CPF Pad	Methyl Alcohol (Methanol)	12,811
11/7/1995	West Prudhoe Bay, Y Pad Behind Well 7	Seawater	12,600
12/18/2002	West North Slope, B.P. Price Pad.	Drilling Muds	12,118
2/26/2002	West Prudhoe Bay, Well Pad A	Source Water	11,611
3/5/2001	Pump Station 1, FBU Main Meter Bldg	Halon	11,400
11/17/2003	Deadhorse	Diesel	11,000
4/13/2003	Kuparuk, 1H Pad Manifold Bldg Release	Produced Water	10,810
10/6/1998	Kuparuk, Arco, Drill Site 1L	Produced Water	10,500
10/8/1998	Kuparuk, Arco, Drill Site 1-L	Produced Water	10,500
11/14/1985	Prudhoe Bay Fuel Terminal, valve left open	gasoline	10,500
5/7/1981	Mile 5 TAPS	diesel	10,000
6/2/1985	Prudhoe Bay PBOC leak	crude oil	10,000
4/25/1988	Atqasuk	diesel	10,000
6/16/1988	Barrow Tank Farm, faulty valve	diesel	10,000
5/24/1994	Wainwright (School District pipeline)	diesel	10,000
11/1/1996	SIP	Seawater	9,695
1/7/1996	Kuparuk, DS 2D Arco Prod Water Spill	Produced Water	8,820
10/31/1982	Diesel Storage Tank (PBOC), Prudhoe Bay	diesel	8,400
8/29/1983	Mile 125, Dalton Highway, truck accident	diesel	8,350
12/10/2000	Milne Point, Central Processing Facility	Source Water	7,754
12/17/2000	E North Slope, ADOT Sag River Maintenance Station	Diesel	7,600
5/19/1997	North Slope, Arco Pad 10	Diesel	7,560
7/28/1983	NSB Service Area #10, ruptured line	gasoline	7,550
11/15/1985	CPF Holding Pit, Milne Point, faulty valve	crude oil	7,350
8/14/1983	Mile 11.5 Dalton Highway, truck accident	diesel	7,000
8/1/2002	Lisburne Production Center	Produced Water	6,301
7/23/1999	West North Slope, Arco Kuparuk Hset, Well 15 Pwi L	Produced Water	6,300

Major Spills in the North Slope Subarea *(continued from previous page)*

Date	Spill Name	Product	Gallons
2/28/2005	Spy Island Sea Floor Mud	Drilling Muds	6,300
3/2/2000	East Prudhoe Bay, CGF Module 4907	Drag Reducing Agent	6,000
5/27/2003	Flowline Between GC1 And Q Pad LDF Y-36	Crude	6,000
6/17/1991	NE Point Lay Tank Farm	diesel	6,000
3/6/2001	E Prudhoe Bay, G1 Facility, Surfcote Pad G1	Drilling Muds	5,880
8/16/1997	West Prudhoe Bay, Arco.	Therminal	5,700
8/7/1995	West Prudhoe Bay, GC 1 BP Glycol Spill	Ethylene Glycol (Antifreeze)	5,700
4/14/2003	CPF 3	Seawater	5,670
12/20/1995	West Prudhoe Bay, MPU A Pad, BP Drilling Cuttings	Other	5,670
2/19/2001	East Prudhoe Bay, DS-7 Well-8 Blowout	Seawater	5,345
12/4/2004	Well Pad Z	Produced Water	5,250
11/11/1997	M.P. 289 Dalton Highway Truck Rollover	Diesel	5,217
11/25/1997	Wainwright City, Day Tank by Water Plant	Diesel	5,200
6/10/1999	East North Slope, DS14, Well 29 Flowline Blowout	Produced Water	5,107
2/17/2005	Drill Site 11 Methanol Release	Methyl Alcohol (Methanol)	5,040
3/10/2002	Seawater Injection Well CD2-24	Seawater	4,998
3/26/1997	East Prudhoe Bay, DS 16 Well 18	Crude	4,914
12/6/2003	CFP At Milne Point	Produced Water	4,831
5/22/1998	Kuparuk, Arco DS 2N-341	Drilling Muds	4,820
4/6/1997	East Prudhoe Bay, CGF	Drag Reducing Agent	4,670
6/3/2005	Lisburne Production Center	Produced Water	4,600
5/29/2002	Flow Sta 2 Produced Water Release	Produced Water	4,469
3/21/2003	Endicott	Produced Water	4,366
7/10/2000	Kuparuk, 2N Tarn Well 316, Nabors 19E	Drilling Muds	4,200
1/1/2005	Gathering Center 2	Other	4,200
7/6/1996	Wainwright City Diesel Spill	Diesel	4,000
6/4/2004	Point Lay School Diesel Spill	Diesel	4,000
2/28/2003	MCC Fuel Dock	Diesel	3,576
3/1/2003		Diesel	3,576
11/23/1995	Kuparuk, CPF 1 Seawater	Other	3,403
7/15/1997	East North Slope, Arco DS4.	Seawater	3,360
5/3/1998	Milne Point, BP B Pad.	Seawater	3,360
5/28/2002	Seawater Injection Plant	Seawater	3,150
1/9/2002	KCS Pad	Seawater	3,108
11/15/1997	Kuparuk, Arco Between CPF1 & Flare Pit.	Produced Water	3,030
5/20/2003	Spine Road, Deadhorse	Drilling Muds	3,030
12/5/2004	Endicott Production Facility Glycol Release	Propylene Glycol	3,000
3/10/1995	E Prudhoe Bay (Prudhoe Bay Storage), line ruptured	diesel	3,000
6/12/1996	Barrow (MarkAir Tank Farm), leak	aviation fuel	3,000
4/17/2005	DS 14	Produced Water	2,940
12/29/1995	Endicott, Well 1-33 BP Drilling Mud	Drilling Muds	2,940
1/22/2001	West Prudhoe Bay, R-Pad, Well 3-AI	Diesel	2,856
8/16/1995	North Slope, Remote GV #53	Propane (LPG)	2,843
12/15/2001	Well Pad A Flow Sta 2 Produced Water Release	Produced Water	2,600
6/17/1997	North Slope, BP Central Facility Pad Mod-53.	Other	2,520
6/19/1997	East North Slope, B.P CFP Module 53.	Other	2,520

Major Spills in the North Slope Subarea *(continued from previous page)*

Date	Spill Name	Product	Gallons
8/16/2002	Well Pad A-22 Explosion/Fire	Methyl Alcohol (Methanol)	2,520
3/18/2004	CPF 1	Seawater	2,520
3/16/2004	Point Hope Day Tank Overfill	Diesel	2,500
1/1/2002	Alyeska Brine Release PS-1	Other	2,450
9/11/1995	Kuparuk DS 1Q-20	Other	2,310
10/17/1996	Milne Point, MPU C Pad	Produced Water	2,268
1/31/1996	Point Lay LRRS Frontec Diesel Spill	Diesel	2,200
2/19/2001	West Prudhoe Bay, Between D-Pad And GC Flowline	Methyl Alcohol (Methanol)	2,100
4/13/1998	West North Slope, Arco CPF 3.	Produced Water	2,100
5/20/2003	East Operating Area Prudhoe Bay, Grind & Inject	Drilling Muds	2,100
9/9/2004	Z-Pad Doyon Drilling Seawater Spill	Seawater	2,100
10/5/1995	East Prudhoe Bay, DS 6-3 (Arco)	Other	2,100
2/13/1997	Nuiqsut Tank Farm	Diesel	2,000
6/22/1997	Milne Point, BP Between F And L Pad Rollover	Diesel	2,000
7/15/1997	Kuparuk, Arco DS 3B, 3F & 3G.	Crude	2,000
5/19/1999	BP, WOA, D Pad	Diesel	2,000
1/6/2000	East Prudhoe Bay, Drillsite 9	Seawater	2,000
5/16/1997	North Slope, Arco 2C	Seawater	1,974
4/13/1999	West North Slope, Kuparuk, 1CP	Drilling Muds	1,890
7/27/2002	NARL Site	Diesel	1,800
5/12/2004	2 M Pad	Produced Water	1,782
10/30/2001	West Prudhoe Bay Access Road	Hydrochloric Acid	1,764
4/30/1997	West Prudhoe, West Pad	Crude	1,732
5/25/2003	Gathering Center 2	Produced Water	1,681
12/2/1995	Milne Point L Pad BP Drill Cuttings	Drilling Muds	1,680
3/14/1998	Alpine Colville River Crossing	Other	1,600
9/21/1999	West North Slope, GC-1 Pad Mod 525	Ethylene Glycol (Antifreeze)	1,600
2/28/2004	CPF 1, Kuparuk Topping Unit	Naphtha	1,600
11/27/1996	CPF 1	Ethylene Glycol (Antifreeze)	1,533
12/24/2000	East Prudhoe Bay, Bulk Fuel Facility, Tank #3	Diesel	1,512
9/15/2001	Caribou Corp Maintenance Shop	Waste Oil (all types)	1,500
6/22/2000	West North Slope, Alpine Development Project	Seawater	1,492
8/21/2000	W Prudhoe Bay, GC-2 Produced Water Handling Sec	Ethylene Glycol (Antifreeze)	1,470
8/15/1999	W North Slope, Kuparuk Hset, 1l Manifold Building	Produced Water	1,350
3/8/2003	East North Slope Northstar Island	Other	1,300
6/10/1999	East North Slope, DS14, Well29 Flowline Blowout	Crude	1,277
8/30/1995	Kuparuk, CPF 1	Ethylene Glycol (Antifreeze)	1,270
6/30/1996	Kuparuk, DS 1F Well 20	Other	1,260
3/29/1997	East Prudhoe Bay, DS 9	Methyl Alcohol (Methanol)	1,260
6/24/1997	Kuparuk, Arco 1G Well 6.	Seawater	1,260
3/21/1998	Kuparuk, Arco , 1Y-13	Produced Water	1,260
11/13/1998	West Prudhoe Bay, BP, CFP	Source Water	1,260
5/1/2002	L-1 Module	Ethylene Glycol (Antifreeze)	1,260
9/11/2004	Seawater Injection Plant	Seawater	1,260
4/12/2005	DS 14	Crude	1,260
8/6/1995	Kuparuk, 2C Pad	Produced Water	1,260

Major Spills in the North Slope Subarea *(continued from previous page)*

Date	Spill Name	Product	Gallons
10/20/1998	Point Mcintyre, BP, Rig 33E	Drilling Muds	1,210
1/27/1998	BP, West North Slope, GC-3.	Crude	1,200
10/30/2001	U Pad Truck Rollover	Source Water	1,200
12/25/1995	Milne Point, H Pad Source Water	Other	1,200
11/30/2001	Kuparuk, DS 1E	Produced Water	1,146
8/30/2004	Drill Site 15	Drilling Muds	1,134
2/16/2005	Well Pad S	Produced Water	1,116
4/7/2002	Kuparuk, DS-2A Crude Release	Produced Water	1,104
6/30/1996	W Prudhoe Bay Mukluk Pad, puncture in storage tank	diesel	1,100
7/13/1999	Wainwright Water Treatment Plant, Nano Storage	Other	1,100
4/17/1996	West Prudhoe Bay, GC 2	Crude	1,075
4/17/1996	West Prudhoe Bay, GC 2	Produced Water	1,075
8/16/2002	Well Pad A	Seawater	1,050
8/13/2004	1 E Pad	Drilling Muds	1,050
7/21/1997	North Slope, Arco Lisburne Production Center.	Crude	1,008
2/2/2001	East Prudhoe Bay, Northern Gas Injection Pad Well	Crude	1,008

Data Sources:

Department of Environmental Conservation

North Slope Subarea Contingency Plan for Oil and Hazardous Substance Discharges/Releases, April 2007

Contingency Plan Facilities in the North Slope Subarea

Facility Name	Facility Type
Island Tug and Barge, Ltd. Barges (1)	Barge
Crowley Barges (1)	Barge
Sea Coast Transportation Barges (1)	Barge
Northern Transportation Barges	Barge
Pioneer Natural Resources Alaska, Inc., Thetis Island	Offshore Exploration
Kerr-McGee - Northwest Milne Point	Offshore Exploration
BPX Endicott	Offshore Production
BPX Northstar	Offshore Production
ENI - Nikaitchuq	Offshore Production
Oooguruk Development Project	Offshore Production
Anadarko - Jacob's Ladder	Onshore Exploration
Anadarko - Altamura North & South	Onshore Exploration
Anadarko - Whiskey Gulch A & B	Onshore Exploration
ConocoPhillips - Puviaq Drillsite	Onshore Exploration
ConocoPhillips - Carbon 1 Drillsite	Onshore Exploration
ConocoPhillips - Scout 1 Drillsite	Onshore Exploration
ConocoPhillips - Intrepid 1-3	Onshore Exploration
ConocoPhillips - Noatak1-3	Onshore Exploration
Pioneer North Slope Exploration - Cronus #1	Onshore Exploration
Pioneer North Slope Exploration - Hailstorm #1	Onshore Exploration
FEX L.P. Northwest NPR-A Exploration Drilling Prog - Aklaq #6	Onshore Exploration
FEX L.P. Northwest NPR-A Exploration Drilling Prog - Aklaq	Onshore Exploration
FEX L.P. Northwest NPR-A Exploration Drilling Prog - Aklaqyaaq #1	Onshore Exploration
FEX L.P. Northwest NPR-A Exploration Drilling Prog - Amaguq #2	Onshore Exploration
ConocoPhillips - Kuparuk River Unit	Onshore Production
BPX Badami Development Area	Onshore Production
BPX Milne Point Unit	Onshore Production
ConocoPhillips -Alpine Development Field	Onshore Production
BPX Greater Prudhoe Bay (GPB)	Onshore Production
ConocoPhillips Kuparuk Pipeline	Pipeline
Eskimos Inc. - Block B Tank Farm	Noncrude Terminal
North Slope Borough NSB Barrow Facility	Noncrude Terminal
North Slope Borough NSB Pt Hope Facility	Noncrude Terminal
North Slope Borough NSB Atqasuk Facility	Noncrude Terminal
North Slope Borough NSB Nuiqsut Facility	Noncrude Terminal

NOTES:

(1) Authorized to operate statewide

Active Contaminated Sites in the North Slope Subarea

This table summarizes the number of active contaminated site cleanup projects in the North Slope subarea as of August 20, 2007.

Primary Contaminant	Sites	%
Petroleum	148	73%
Hazardous Substances	55	27%
Total	203	

North Slope Subarea Spill Preparedness and Response Initiatives

Response Corps and Equipment Depots

Community	CRSA	Conex	Nearshore	Other Equipment
Barrow	■			
PS 4		●		

North Slope Contingency Plan for Oil and Hazardous Substance Spills and Releases

The current plan is dated April 2007, and includes major revisions and updates to the plan. The plan can be accessed at the following website: http://www.dec.state.ak.us/spar/perp/plans/scp_ns.htm

Northwest Arctic Subarea

Total Spills:	1,483
Total Volume:	1,105,220
Average Spill Size:	745
Average Spills/Year:	148
Average Volume/Year:	110,522

Top 5 Causes

Cause	Spills	Gallons
Other	88	313,832
Equipment Failure	181	169,662
Rollover/Capsize	20	155,812
Tank Failure	5	84,422
Line Failure	332	64,102

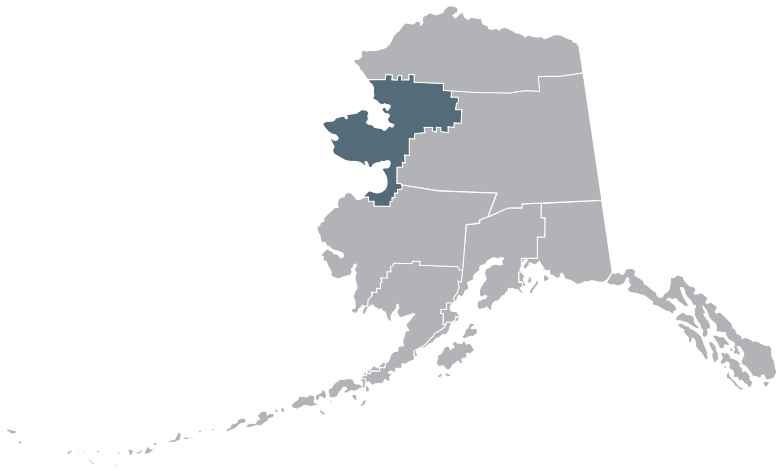
Top 5 Products

Product	Spills	Gallons
Other	198	468,361
Magnesium Oxide (Slurry)	11	206,137
Gasoline	23	92,395
Diesel	431	87,132
Zinc Concentrate	11	81,070

Top 5 Facility Types

Facility Type	Spills	Gallons
Mining Operation	1,205	901,843
Noncrude Terminal	48	112,092
Other	74	71,466
School	31	6,084
Residence	23	4,169

NOTE: The data summary above excludes spills reported in pounds and potential spills.



Shoreline: 3,500 miles
Land Area: 38,100,000 acres or 59,500 square miles

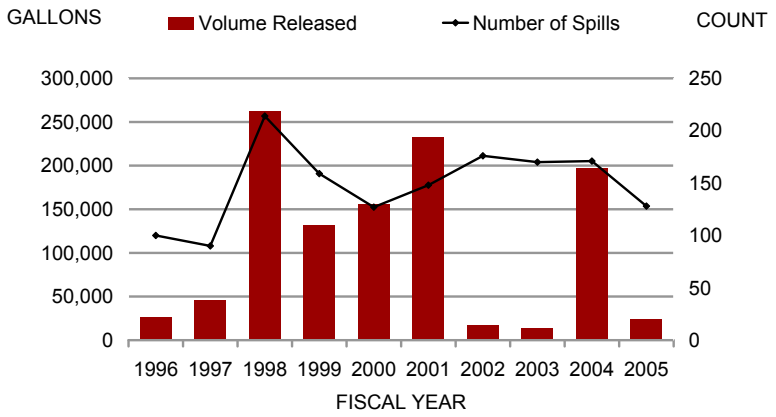
There are a total of 31 towns and villages in the subarea. Deliveries of noncrude oil are made to these locales primarily by barges operating from Dutch Harbor or Cook Inlet. Deliveries are ice dependent, and do not occur as ice forms.

The number of facilities storing, handling and transferring noncrude products is very small. These facilities typically provide fuel for the generation of electricity and for heating homes. The fuel is also used to power vehicles and vessels, which are relatively few in number as well. Tank barges provide fuel to these facilities no more than twice each year and only during the short open-water season.

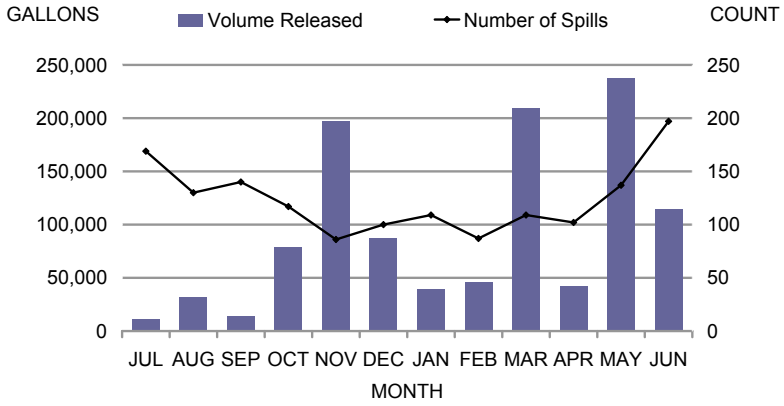
Discernible Trends

- There was no discernible trends in the average number of spills per year and the total volume released.
- There appears to be a similar seasonal trend in the average number of spills for the Northwest Arctic subarea. There is a noticeable decrease in the number of spills from October thru April. Again, this may be attributed to the onset of the winter season and the inability to detect spills due to ice and snow cover, plus the extreme cold temperatures. During Spring breakup, a large number of spills appear and are subsequently reported to DEC.
- Storage facilities accounted for 90% of the total number of spills, and 93% of the total volume spilled in the Northwest Arctic subarea during the ten-year period.
- Structural/Mechanical causes were the primary cause in 67% of the reported spills and also accounted for 46% of the total volume released.
- Noncrude oil (70%) was the product most often spilled in the Northwest Arctic subarea. Hazardous Substances made up 72% of the total volume released.
- Red Dog Mine, near Kotzebue, is the largest zinc producing mine in the world. The mine is a mainstay in the Northwest Arctic economy, employing over 400 people and profiting over one billion dollars in 2006. Red Dog is a traditional open pit mine, with some adaptations to accommodate the arctic climate. The mine was responsible for 1,190 of the 1,483 spills and 901,843 of the 1,105,220 gallons spilled in the Northwest Arctic subarea for the reporting period.

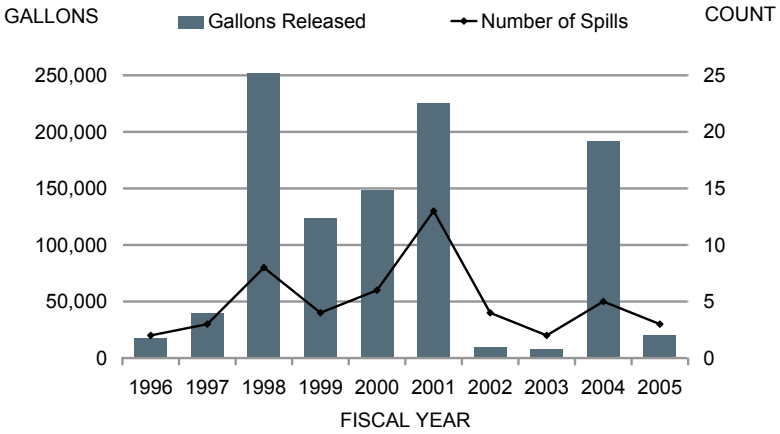
All Spills by Fiscal Year



All Spills by Month



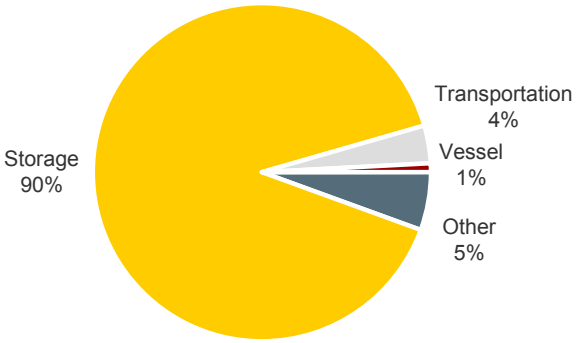
Spills >1,000 gallons



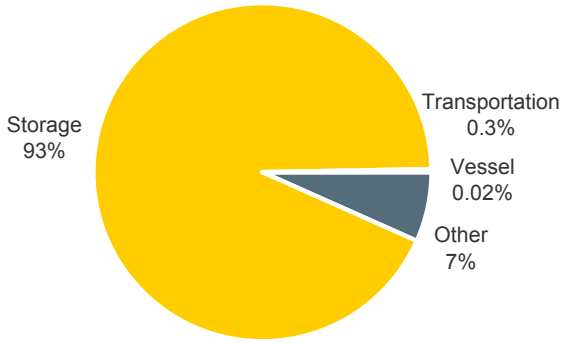
NOTE: Graphs do not include spills reported in pounds or potential spills.

Northwest Arctic Subarea Spills by Facility Type

Number of Spills

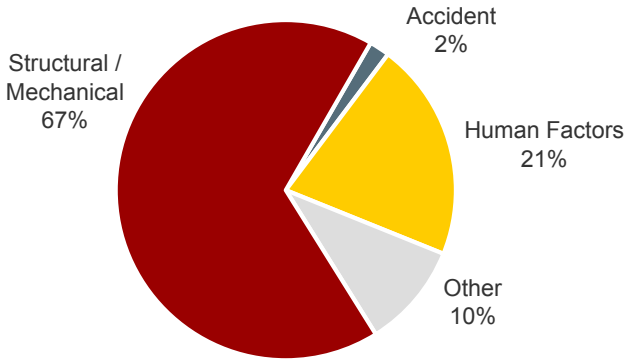


Gallons Released

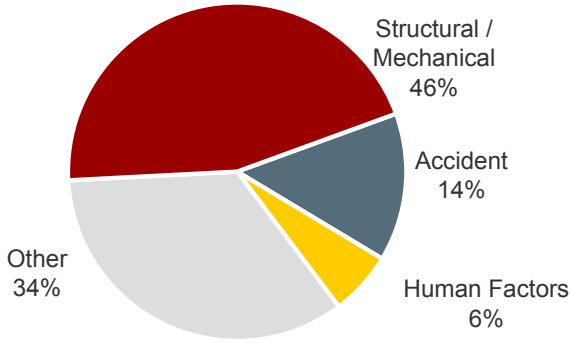


Northwest Arctic Subarea Spills by Cause

Number of Spills

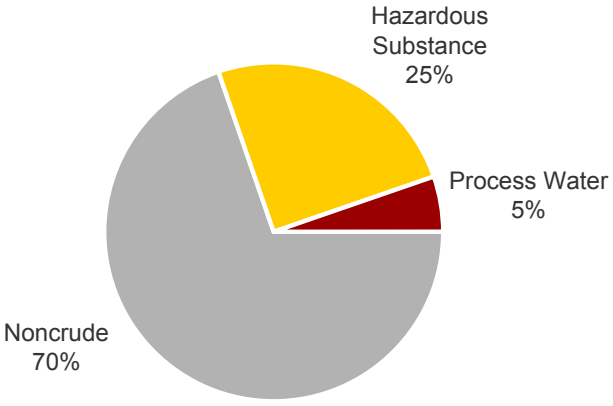


Gallons Released

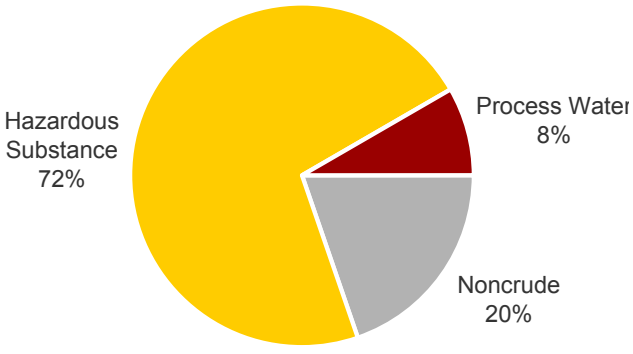


Northwest Arctic Subarea Spills by Product

Number of Spills



Gallons Released

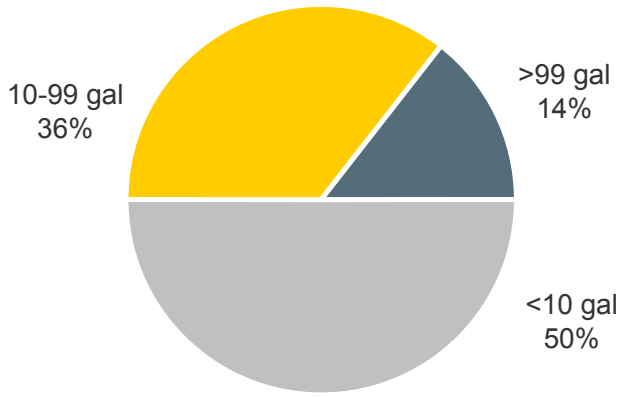


NOTE: Graphs do not include spills reported in pounds or potential spills.

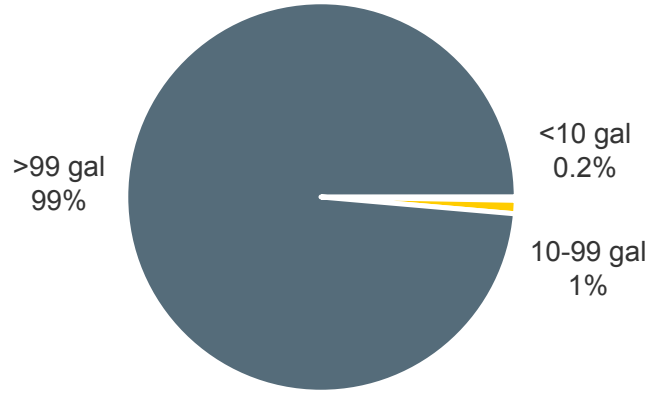
Northwest Arctic Subarea Spills by Size Class

- About half of the spills during the 10-year period were under 10 gallons.
- Virtually all the total volume released resulted from spills larger than 99 gallons.

Number of Spills



Gallons Released



NOTE: Graphs do not include spills reported in pounds or potential spills.

Northwest Arctic Subarea Spills at Regulated vs. Unregulated Facilities

Numerous oil facilities and vessels operating in Alaska are subject to Alaska's spill response planning and financial responsibility statutes. This section summarizes spills from:

- facilities and vessels required by statute to have an approved oil discharge prevention and contingency plan; and,
- non-tank vessels which are required to have an approved certificate of financial responsibility are also included.

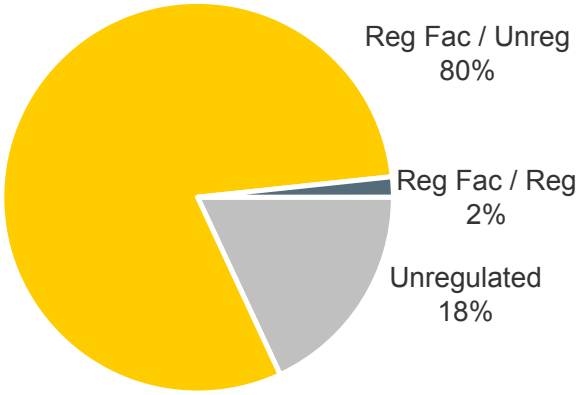
Spills from underground storage tanks are not included in this analysis.

Alaska's contingency planning requirements apply to specific aspects (components) of a facility's or vessel's operations. The analysis in this report distinguishes between spills from regulated versus unregulated components. Examples of spills from unregulated components include:

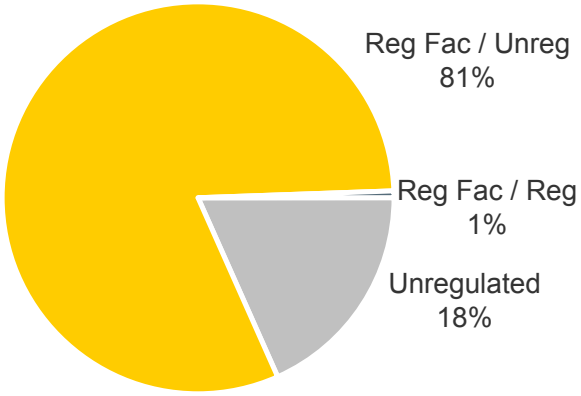
- a spill from a vehicle at a regulated facility;
- a spill from a fuel tank (below the regulatory threshold of 10,000 barrels) at a regulated facility

- Mining Operations were responsible for the majority of spills for the Northwest Arctic subarea. Most spills are from unregulated components of the mining operation which are not subject to contingency planning requirements.

Number of Spills

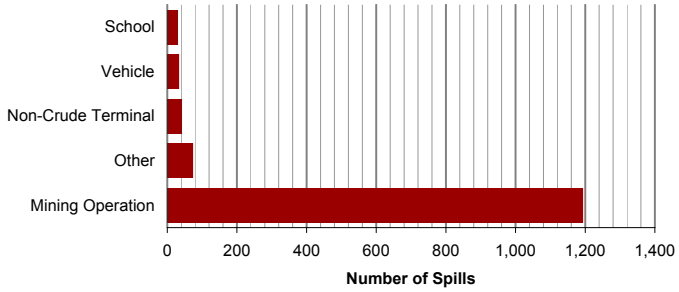


Gallons Released

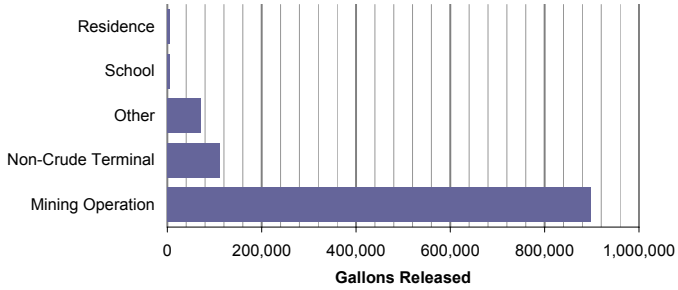


Top Unregulated Facilities

Number of Spills



Gallons Released



NOTE: Graphs do not include spills reported in pounds or potential spills.

Major Spills in the Northwest Arctic Subarea

Date	Spill Name	Product	Gallons
5/31/1998	Red Dog Mine	Magnesium Oxide (Slurry)	200,000
11/24/2003	Red Dog Mine	Tailings	158,398
3/2/1999	Red Dog Mine	Gray Water	100,000
3/24/2000	West Coast Aviation Tank Farm Spill	Gasoline	84,360
12/28/2000	Red Dog Mine Port Road	Zinc Concentrate	80,000
10/9/2000	Red Dog Mine Port Road	Lead	60,000
7/29/93	Cominco Red Dog mine port site, pit #2	Diesel	36,000
4/13/1998	Red Dog Mine	Process Water	36,000
6/2/2001	Red Dog Mine	Reclaim Water	29,000
6/15/2000	Nome Airport Drums of Tar	Other	27,500
11/15/1996	Arctic Sub Lab	Diesel	26,000
1/24/2004	Red Dog Mine	Process Water	21,000
8/10/94	Nome Grounding	Diesel	20,000
2/13/1999	Red Dog Mine	Reclaim Water	20,000
3/6/2000	Red Dog Mine	Produced Water	20,000
8/3/2000	Red Dog Mine	Process Water	20,000
5/4/2005	Red Dog Mine	Process Water	13,500
2/16/2001	Red Dog Mine Port Road	Zinc Concentrate	12,000
6/3/1996	Red Dog Mine	Tailings	10,000
6/6/2001	Red Dog Mine	Reclaim Water	10,000
6/11/2004	Red Dog Mine	Process Water	10,000
9/13/1995	Elim Native Store	Gasoline	7,000
11/8/1999	Red Dog Mine	Process Water	6,500
1/23/1997	Savoonga Tank Farm	Diesel	5,000
1/29/2000	Red Dog Mine	Produced Water	5,000
5/14/2000	Red Dog Mine	WTP Sludge	5,000
2/15/2003	Gambell Tank Farm	Diesel	4,600
6/11/2001	Kotzebue Airport	Other	4,125
10/2/2004	Red Dog Mine Port Site Tanker Diesel Spill	Diesel	4,075
6/9/1998	Red Dog Mine	Magnesium Oxide (Slurry)	3,500
2/1/2002	Teller School DayTank Overfill	Diesel	3,300
5/3/1998	Shungnak Tank Farm	Diesel	3,000
10/24/1997	Red Dog Mine	Produced Water	3,000
12/2/2001	Red Dog Mine	Zinc	3,000
8/29/2002	Red Dog Mine	Process Water	3,000
8/11/2004	Red Dog Mine	Diesel	2,700
5/31/2001	Red Dog Mine	Other	2,204
5/27/1999	Little Diomede	Diesel	2,000
6/7/1998	Red Dog Mine	Process Water	2,000
5/11/1998	Red Dog Mine	Magnesium Oxide (Slurry)	2,000
7/26/2000	Red Dog Mine	Process Water	2,000
5/20/2002	Red Dog Mine	Process Water	2,000
1/20/2001	Elim Water Power Plant	Diesel	1,500
8/29/2000	Nome, Lee's Camp	Diesel	1,500
10/16/2000	Red Dog Mine	Produced Water	1,500

Major Spills in the Northwest Arctic Subarea *(continued from previous page)*

Date	Spill Name	Product	Gallons
6/22/2001	Red Dog Mine	Tailings	1,500
2/25/2002	Red Dog Mine	Propylene Glycol	1,500
1/24/2004	Red Dog Mine	Propylene Glycol	1,200
11/2/1998	Nome	Diesel	1,118
7/7/2003	Stebbins Landfill	Waste Oil (all types)	1,100

Data Sources:

Department of Environmental Conservation

Northwest Arctic Subarea Contingency Plan for Oil and Hazardous Substance Discharges/Releases, June 2001

Contingency Plan Facilities in the Northwest Arctic Subarea

Facility Name	Facility Type
Island Tug and Barge, Ltd. Barges (1)	Barge
Crowley Barges (1)	Barge
Sea Coast Transportation Barges (1)	Barge
Sirius Maritime Barges	Barge
Sause Brothers, Inc. - Klamath	Barge
Crowley Tanker Vessel	Tank Vessel
Chembulk New Orleans	Tank Vessel
Renda	Tank Vessel
TeckCominco Alaska Red Dog Mine	Noncrude Terminal
Nome Joint Utility System Bulk Fuel Fac	Noncrude Terminal
Crowley Marine Services - Nome Tank Farm	Noncrude Terminal
Kotzebue Electric Association	Noncrude Terminal
Crowley Marine Kotzebue - Pac. AK Fuel S	Noncrude Terminal
USCG LORAN Station Port Clarence	Noncrude Terminal
Bonanza Fuel, Inc. Nome Fuel Terminal	Noncrude Terminal

NOTES:

(1) Authorized to operate statewide

Active Contaminated Sites in the Northwest Arctic Subarea

This table summarizes the number of active contaminated site cleanup projects in the Northwest Arctic subarea as of August 20, 2007.

Primary Contaminant	Sites	%
Petroleum	127	81%
Hazardous Substances	30	19%
Total	157	

Northwest Arctic Subarea Spill Preparedness and Response Initiatives

Response Corps and Equipment Depots

Community	CRSA	Conex	Nearshore	Other Equipment
Kotzebue	■	●		
Nome		●		
Unalakleet		●		

Northwest Arctic Contingency Plan for Oil and Hazardous Substance Spills and Releases

The current plan is dated June 2001. and a revision is planned for the 2008/2009 timeframe. The plan can be accessed at the following website: http://www.dec.state.ak.us/spar/perp/plans/scp_nw.htm

Prince William Sound Subarea

Total Spills:	813
Total Volume:	146,436
Average Spill Size:	180
Average Spills/Year:	81
Average Volume/Year:	14,644

Top 5 Causes

Cause	Spills	Gallons
Human Error	45	42,688
Valve Failure	34	37,300
Overfill	50	20,022
Leak	147	9,428
Line Failure	85	4,920

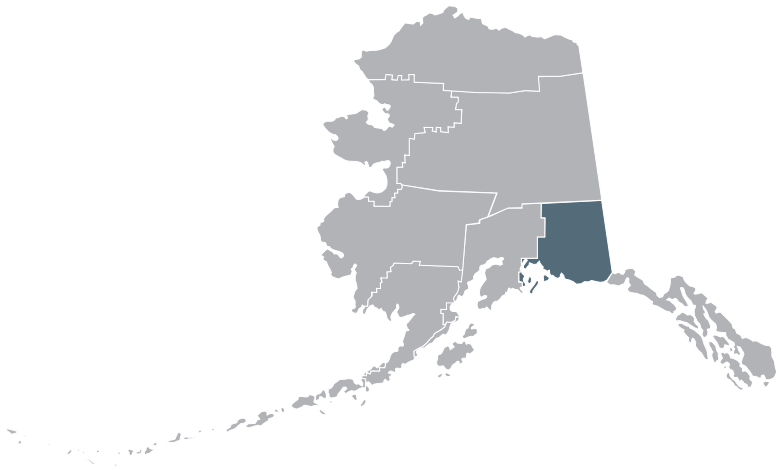
Top 5 Products

Product	Spills	Gallons
Diesel	255	79,724
Crude	71	39,613
Other	73	9,918
Unknown	10	5,518
Ballast Water (containing oil)	10	2,614

Top 5 Facility Types

Facility Type	Spills	Gallons
Vessel	221	42,997
Pipeline	62	36,114
Other	67	17,645
Refinery	46	15,075
Crude Terminal	173	13,486

NOTE: The data summary above excludes spills reported in pounds and potential spills.



Shoreline: 5,100 miles
Land Area: 29,100,000 acres or 45,500 square miles

Prince William Sound is an extensive body of water with an area of about 2,500 square miles and 3,500 miles of shoreline. The entrance to the Sound is 58 miles across and extends from Cape Puget to Point Whitshed. Most of the islands and peninsulas are tree-covered with rocky and sometimes precipitous shorelines. Located next to the entrance on the eastern part of the Sound is the Copper River Delta which has extensive tidal flats that support a variety of wildlife.

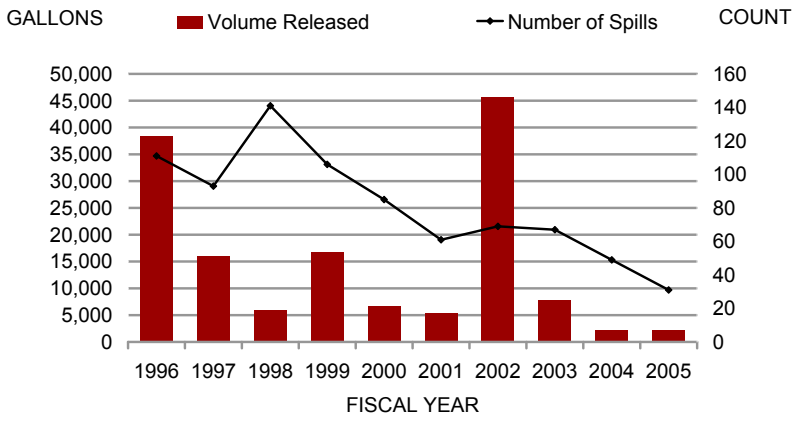
The Prince William Sound region is characterized by isolated coastal and inland communities. Valdez, Whittier and Cordova are the major communities along the coastline. The Glenn, Richardson, and Edgerton Highways transect the region. Several inland communities plus Valdez are connected to this interior highway network which provides transportation routes to the larger communities of Fairbanks and Anchorage.

Industrial facilities within the subarea include the Trans Alaska Pipeline System (TAPS) and Valdez Marine Terminal located in Valdez, and a number of seafood processing facilities, the majority in Cordova and Valdez.

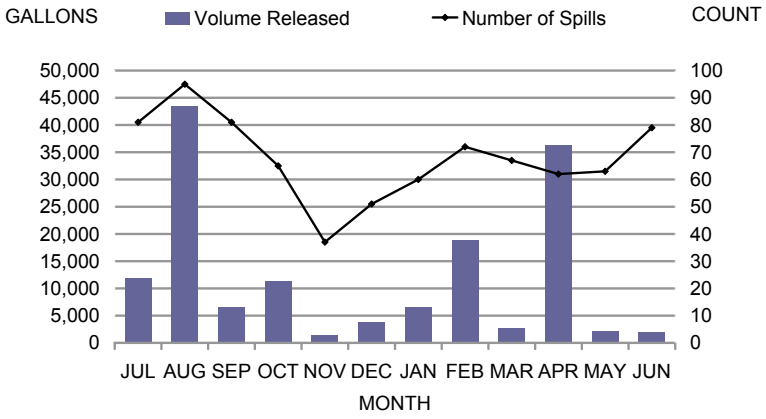
Discernible Trends

- The average number of spills per year in the Prince William Sound subarea have been on a general decline since FY98. The large volume spilled in FY02 is the result of the F/V Windy Bay spill on August 4, 2001. The vessel sank, releasing approximately 35,000 gallons of diesel into the marine waters of Prince William Sound. There were several other large spills including the Valdez Petroleum Terminal (a spill of 3,065 gallons of diesel on February 13, 2002) and the F/V Vanguard spill (2,000 gallons of diesel to marine waters on July 26, 2001). These three spills accounted for approximately 87% of the total volume for FY02.
- The same seasonal trend seems to apply for the Prince William Sound subarea. The number of spills appears to roughly reflect the fishing season (in this case, June thru August), with a lesser number of spills occurring during the October thru January-February timeframe.
- The number of spills greater than 1,000 gallons has been reduced significantly since FY 2002.
- The number of spills by Facility type was fairly evenly distributed between Storage (35%), Vessels (27%), Transportation (25%), and Other (13%). Transportation facilities (30%) had a slight edge over Vessels (29%) and Storage (27%) in terms of the total volume released by facility type.
- Structural/Mechanical problems were the primary cause of 54% of the spills, followed by Human Factors at 23%. In terms of total volume by cause, Human Factors (49%) and Structural/Mechanical causes (44%) accounted for 93% of the total volume released.
- The vast majority (78%) of the spills involved noncrude oil. Noncrude oil spills also accounted for 63% of the total volume released.

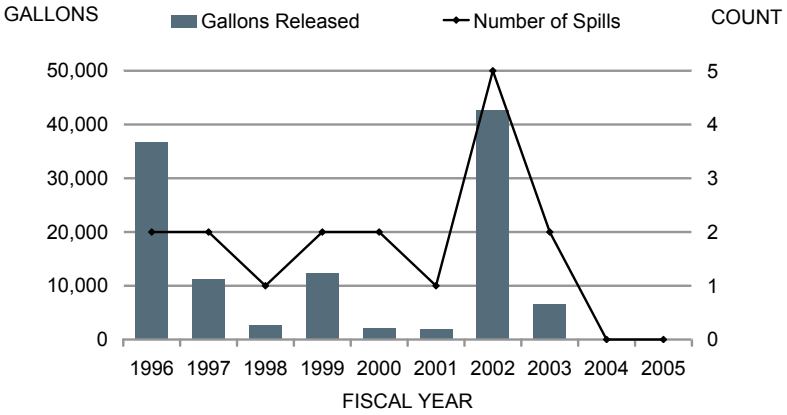
All Spills by Fiscal Year



All Spills by Month



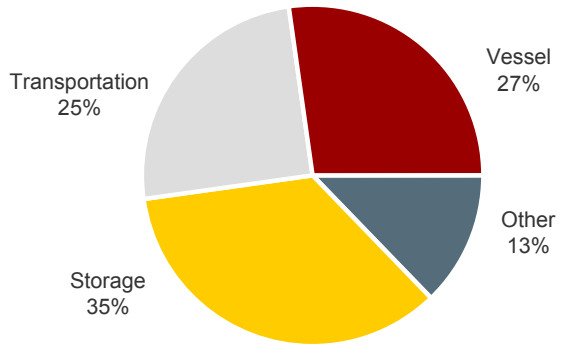
Spills >1,000 gallons



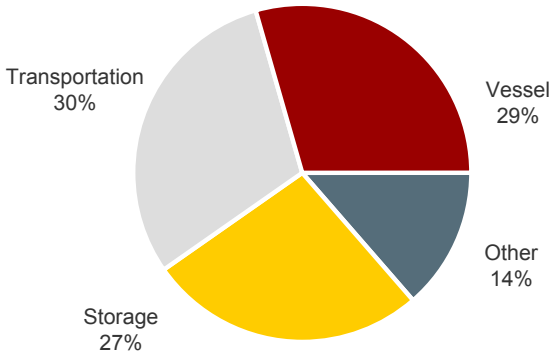
NOTE: Graphs do not include spills reported in pounds or potential spills.

Prince William Sound Subarea Spills by Facility Type

Number of Spills

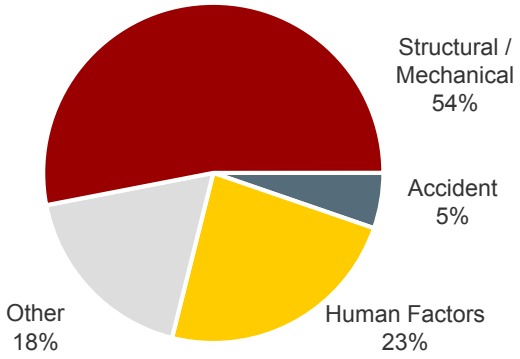


Gallons Released

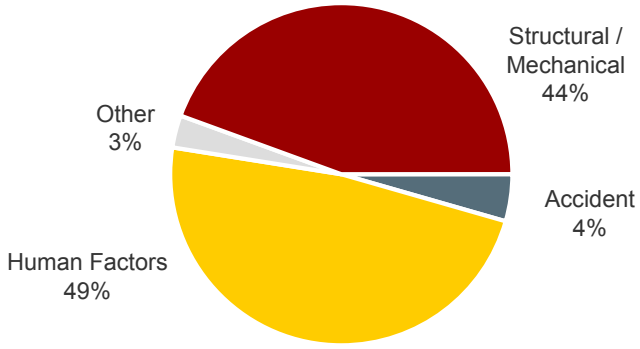


Prince William Sound Subarea Spills by Cause

Number of Spills

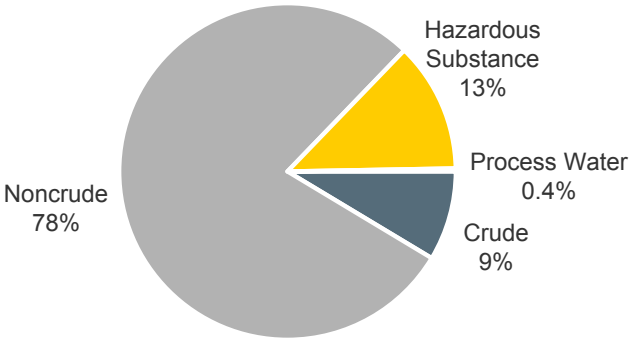


Gallons Released

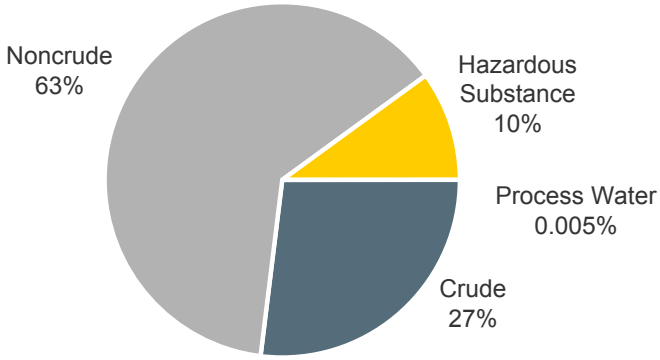


Prince William Sound Subarea Spills by Product

Number of Spills



Gallons Released

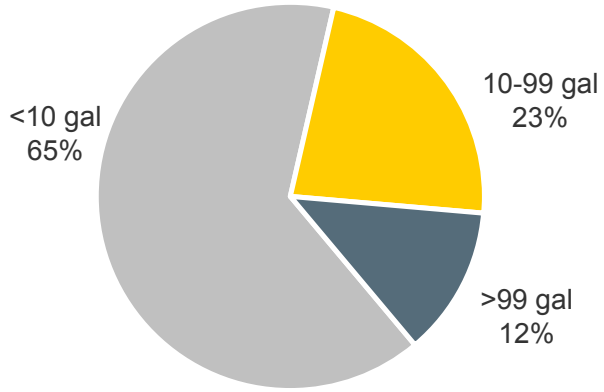


NOTE: Graphs do not include spills reported in pounds or potential spills.

Prince William Sound Subarea Spills by Size Class

- Nearly two-thirds of the spills during the report period were less than 10 gallons in volume.
- Approximately 95% of the total volume released resulted from spills larger than 99 gallons.

Number of Spills



Gallons Released

NOTE: Graphs do not include spills reported in pounds or potential spills.

Prince William Sound Subarea Spills at Regulated vs. Unregulated Facilities

Numerous oil facilities and vessels operating in Alaska are subject to Alaska's spill response planning and financial responsibility statutes. This section summarizes spills from:

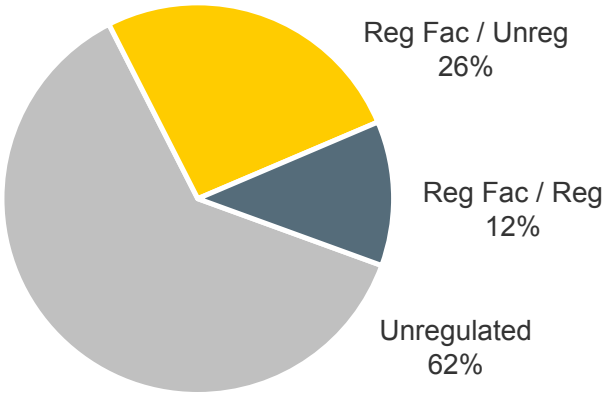
- facilities and vessels required by statute to have an approved oil discharge prevention and contingency plan; and,
- non-tank vessels which are required to have an approved certificate of financial responsibility are also included.
- Spills from underground storage tanks are not included in this analysis.

Alaska's contingency planning requirements apply to specific aspects (components) of a facility's or vessel's operations. The analysis in this report distinguishes between spills from regulated versus unregulated components. Examples of spills from unregulated components include:

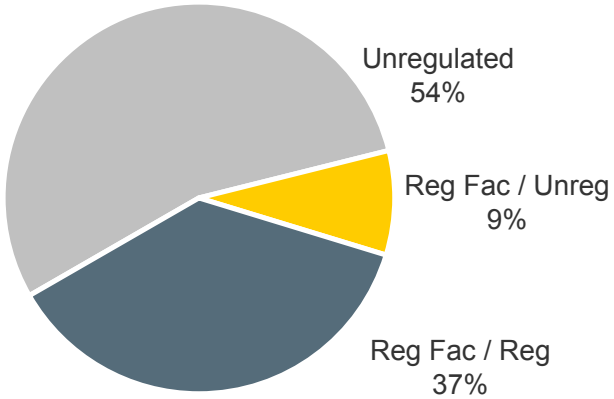
- a spill from a vehicle at a regulated facility;
- a spill from a fuel tank (below the regulatory threshold of 10,000 barrels) at a regulated facility
- certain piping at oil production facilities

- More than 60% of the spills and more than half of the total volume released during the 10-year period were from unregulated facilities.
- Unregulated vessels were the most frequent source of spills and accounted for the majority of the volume released.

Number of Spills

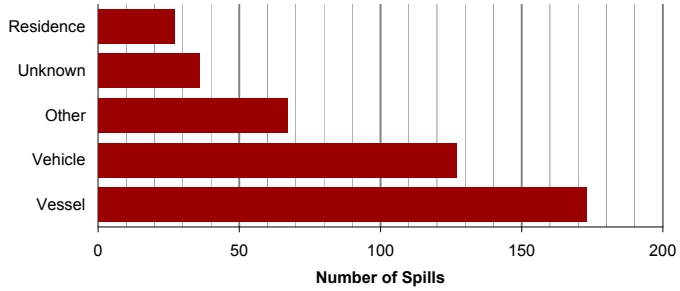


Gallons Released

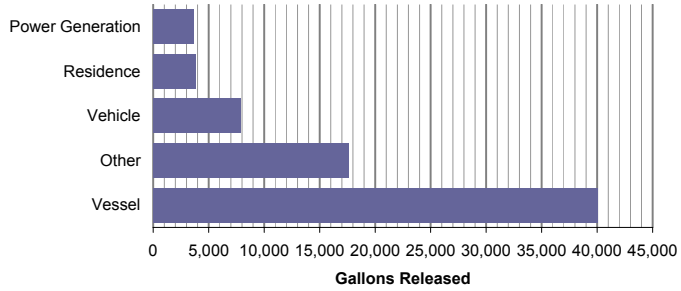


Top Unregulated Facilities

Number of Spills



Gallons Released

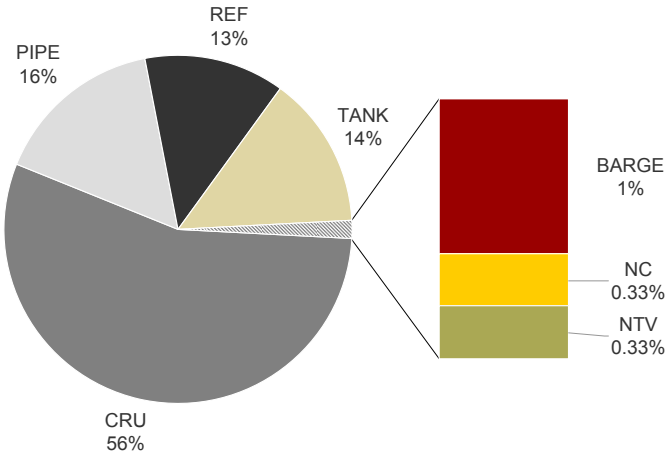


NOTE: Graphs do not include spills reported in pounds or potential spills.

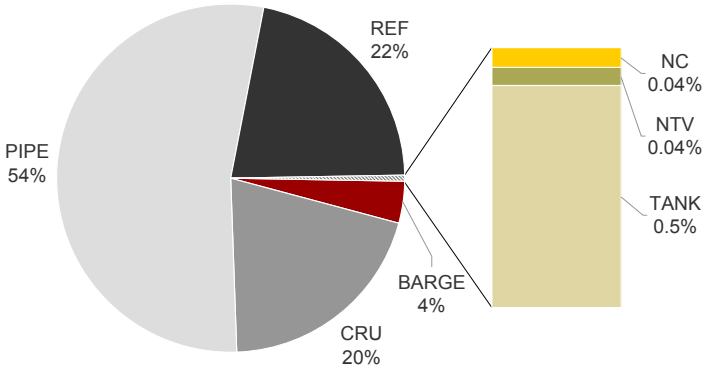
Prince William Sound Subarea Spills by Regulated Facility Type

- Spills at the Valdez Marine Terminal comprised 56% of the total number of regulated facility spills in the Prince William Sound subarea.
- Pipeline facilities (primarily TAPS) were the source of 54% of the total volume released from regulated facilities.

Number of Spills



Gallons Released



Valdez Marine Terminal

NOTE: Graphs do not include process water spills, spills reported in pounds, or potential spills.

Major Spills in the Prince William Sound Subarea

Date	Spill Name	Product	Gallons
3/24/1989	T/V Exxon Valdez, Bligh Reef	Crude	10,800,000
1/3/1989	T/V Thompson Pass, Valdez Marine Terminal	Crude	60,000 to 75,000
8/4/2001	F/V Windy Bay, Olsen Rock	Diesel	35,000
4/20/1996	TransAlaska Pipeline System (Check Valve 92)	Crude	34,073
4/25/1990	ADOT/PF, Cordova	Fuel Oil	15,000
6/5/1989	Stratton Oil Co., Mile 116 Glenn Highway	Gasoline	10,000
5/21/1994	T/V Eastern Lion	Crude	8,400
2/17/1999	Valdez Petroleum Terminal Tank #18	Diesel	8,400
2/15/1989	ADOT/PF, Thompson Pass	Diesel	7,000
10/9/1996	Gakona Junction, Gakona Roadhouse	Diesel	7,000
9/9/2002	Valdez Marine Terminal, Foam Shed	Fire Fighting Foam	5,500
12/15/1989	U.S. Army, Mile 139 Richardson Highway	Diesel	5,000
4/26/1992	USCG, Potato Point, Port Valdez	Diesel	5,000
1/26/1997	Petro Star Refinery (Valdez)	Crude	4,200
8/27/1998	Richardson Highway, MP 192.5	Other	4,045
4/26/1991	USCG, Potato Point, Port Valdez	Diesel	3,500
2/13/2002	Valdez Marine Terminal, Tank #10	Diesel	3,065
1/16/1989	T/V Cove Leader, Valdez Marine Terminal	Crude	2,500 to 3,000
7/21/1997	49er Barge, Between Kodiak And Cordova On Water	Diesel	2,604
2/13/1996	Valdez Marine Terminal-Land Vapor Recovery Powerhouse	Other	2,580
3/4/1990	Cannery Creek Hatchery	Diesel	2,200
8/1/1995	M/V Crane (Cordova)	Diesel	2,100
3/1/1996	F/V SS Viking (Montague Island)	Diesel	2,000
7/28/2000	Richardson Highway South MP 19	Asphalt	2,000
7/26/2001	M/V Vanguard, North Of Glacier Island West	Diesel	2,000
6/1/1991	F/V Kristine, Montague Island	Diesel	1,800
2/29/1992	F/V Granny Rosa, Galena Bay	Diesel	1,500
8/3/2001	Cordova Orca Generation Power Plant	Diesel	1,500
5/16/1989	Columbus Distributor, Mile 166 Glenn Highway	Gasoline	1,400
4/30/1990	ADOT/PF, Thompson Pass	Diesel	1,200
7/13/1999	Valdez Marine Terminal	Diesel	1,100
5/15/2002	Valdez Marine Terminal, West API Separator	Other	1,050
12/12/2002	Valdez Marine Terminal, Ballast Water Treatment Plant	Ballast Water	1,050
9/26/1988	Service Oil Co, Mile 30 Richardson Highway	Diesel	1,000
2/1/1994	Tesoro Fuel Dock	Diesel	1,000

Data Sources:

Department of Environmental Conservation

Prince William Sound Subarea Contingency Plan for Oil and Hazardous Substance Discharges/Releases, October 2005

Contingency Plan Facilities in the Prince William Sound Subarea

Facility Name	Facility Type
Island Tug and Barge, Ltd. Barges (1)	Barge
Crowley Barges (1)	Barge
Sea Coast Transportation Barges (1)	Barge
Sirius Maritime Barges	Barge
Sause Brothers, Inc - Klamath	Barge
Alyeska Trans Alaska Pipeline	Pipeline
Arizona Voyager (Cook Inlet)	Tank Vessel
Washington Voyager (Cook Inlet)	Tank Vessel
Colorado Voyager (Cook Inlet)	Tank Vessel
Tesoro Alaska Prince William Sound - Capt H A Downing	Tank Vessel
Tesoro Alaska Prince William Sound - Seabulk Pride	Tank Vessel
Tesoro Alaska Prince William Sound - Seabulk Arctic	Tank Vessel
Island Provider Transportation - Lady Nina	Tank Vessel
Polar California	Tank Vessel
Polar Discovery	Tank Vessel
Polar Adventure	Tank Vessel
Polar Endeavour	Tank Vessel
Polar Resolution	Tank Vessel
Polar Alaska	Tank Vessel
Alaska Tanker Company - Alaskan Navigator	Tank Vessel
Alaska Tanker Company - Alaskan Legend	Tank Vessel
Alaska Tanker Company - Denali	Tank Vessel
Alaska Tanker Company - T/V Prince William Sound	Tank Vessel
Alaska Tanker Company - Alaskan Explorer	Tank Vessel
Alaska Tanker Company - Alaskan Frontier	Tank Vessel
Chevron Shipping Company - Arizona Voyager	Tank Vessel
Chevron Shipping Company - Colorado Voyager	Tank Vessel
Chevron Shipping Company - Washington Voyager	Tank Vessel
SeaRiver Long Beach	Tank Vessel
SeaRiver American Progress	Tank Vessel
SeaRiver Sierra	Tank Vessel
SeaRiver Kodiak	Tank Vessel
SeaRiver Baytown	Tank Vessel
Petro Star Valdez Refinery	Crude Oil Terminal
Alyeska Valdez Marine Terminal	Crude Oil Terminal
Alyeska TAPS Pump Stations	Crude Oil Terminal
Orca Oil Bulk Fuel Storage Facility	Noncrude Terminal
Valdez Petroleum Terminal	Noncrude Terminal

NOTES:

(1) Authorized to operate statewide

Active Contaminated Sites in the Prince William Sound Subarea

This table summarizes the number of active contaminated site cleanup projects in the Prince William Sound subarea as of August 20, 2007.

Primary Contaminant	Sites	%
Petroleum	134	86%
Hazardous Substances	21	14%
Total	155	

Prince William Sound Subarea Spill Preparedness and Response Initiatives

Response Corps and Equipment Depots

Community	CRSA	Conex	Nearshore	Other Equipment
Whittier	■	●		
Cordova	■	●		
PS 10		●		
Tazlina		●		
Valdez	■	●		

Prince William Sound Contingency Plan for Oil and Hazardous Substance Spills and Releases

The current plan is dated October 2005. The latest revision included the addition of a Potential Places of Refuge section, plus updates to the GRS section. The plan can be accessed at the following website: http://www.dec.state.ak.us/spar/perp/plans/scp_pws.htm

Prince William Sound Potential Places of Refuge (PPOR) and Geographic Response Strategies (GRS) Development

The GRS workgroup developed GRS for Prince William Sound, and participants included State and Federal resource trustee agencies and local spill response experts.

The workgroup initially selected 43 sites from the list of candidate sites for GRS development. After those GRSs were completed, an additional 14 sites were selected for development. The site selection process involves a consideration of environmental sensitivity, risk of being impacted from a water borne spill; and feasibility of successfully protecting the site with existing technology. (see the website below for the latest updates).

A total of 16 maps were created to encompass the 67 Potential Places of Refuge sites selected in the Prince William Sound Subarea. Each of the 16 maps provides the locations of the sites, along with three tables for each map that give specific information for each individual site. This information includes site considerations, stakeholders, and physical and operational characteristics. (see the website below for the latest updates).

PWS GRS: http://www.dec.state.ak.us/spar/perp/grs/pws/home.htm

PWS PPOR: http://www.dec.state.ak.us/spar/perp/pwspor/home.htm

Southeast Alaska

Total Spills:	3,889
Total Volume:	400,517
Average Spill Size:	103
Average Spills/Year:	389
Average Volume/Year:	40,052

Top 5 Causes

Cause	Spills	Gallons
Line Failure	350	136,781
External Factors	28	76,290
Sinking	155	35,546
Leak	585	23,834
Unknown	854	20,231

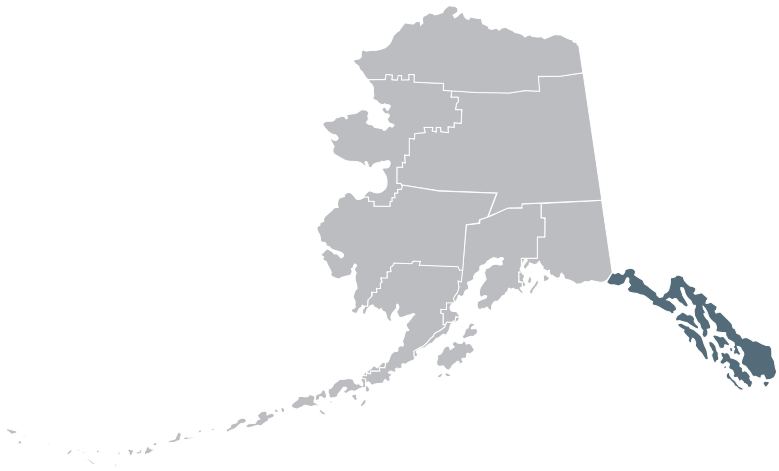
Top 5 Products

Product	Spills	Gallons
Diesel	1,824	141,502
Acid, Other	6	125,107
Process Water	2	74,400
Other	163	14,790
Hydraulic Oil	471	6,616

Top 5 Facility Types

Facility Type	Spills	Gallons
Log Processing	81	134,901
Mining Operation	177	77,611
Vessel	810	52,193
Other	703	44,980
Residence	304	30,368

NOTE: The data summary above excludes spills reported in pounds and potential spills.



Shoreline: 6,500 miles
Land Area: 23,000,000 acres or 35,900 square miles

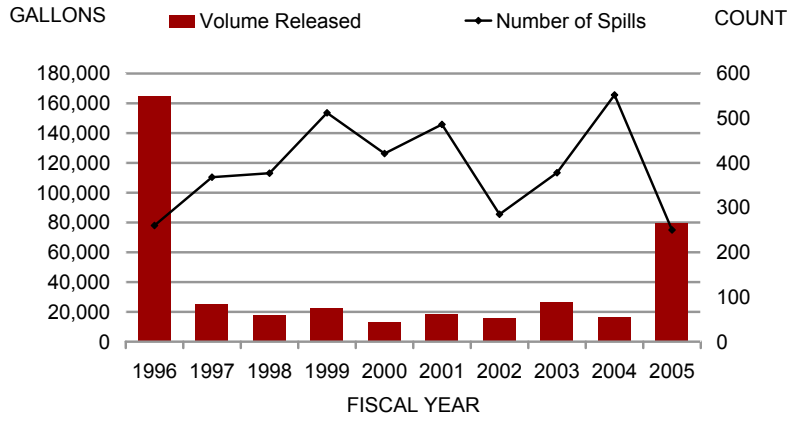
Southeast Alaska is a narrow panhandle 525 miles long and 120 miles from east to west composed of a narrow strip of mainland mountains and over a thousand offshore islands of the Alexander Archipelago. Towns are generally nestled along the narrow strips of flat land lying between the water's edge and the steep mountain slopes. Travel in the region is mostly facilitated by private vessel, state ferries, float planes and larger commercial aircraft.

The three largest cities in the Southeast Subarea are Juneau, the state capital with approximately 30,000 people, Ketchikan in the south with a borough population near 13,000, and Sitka, along the outer coast and site of the historic capital of Russian America, with a population just under 9,000. The primary industries are tourism, fishing, and logging.

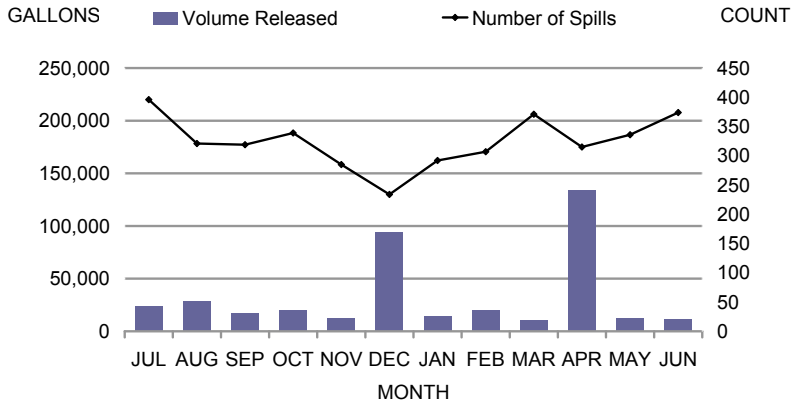
Discernible Trends

- With the exception of FY96, there is no apparent trend in the average number of spills and the annual average spill volume. The significant spills in FY96 included the acid spill at the Ketchikan Pulp Company Bleach Plant on April 9, 1996 (125,000 gallons of an acid substance). The other large spill for FY96 was a spill from the Tug Boat Tongass (December 1, 1995; 15,000 gallons of diesel).
- The same type of seasonal trend also seems to apply for the Southeast Alaska subarea. The number of spills decline from October thru March, and roughly correlates to the fishing season in Southeast Alaska.
- Spills from Other facility types accounted for 34% of the total number of spills, followed by Storage (25%), and Vessels (21%).
- The majority of the total volume spilled can be attributed to Storage facilities (68%), followed by Other (14%).
- Structural/Mechanical (35%), Other (33%), and Human Factors (28%) accounted for 96% of the total number of spills. In terms of total volume, incidents due to Structural/Mechanical causes resulted in 50% of the total volume released, followed by Other (29%)
- The vast majority (90%) of the spill count involved noncrude oil. Noncrude oil spills also accounted for 45% of the total volume released, while spills of hazardous substances contributed 36% of the total volume.

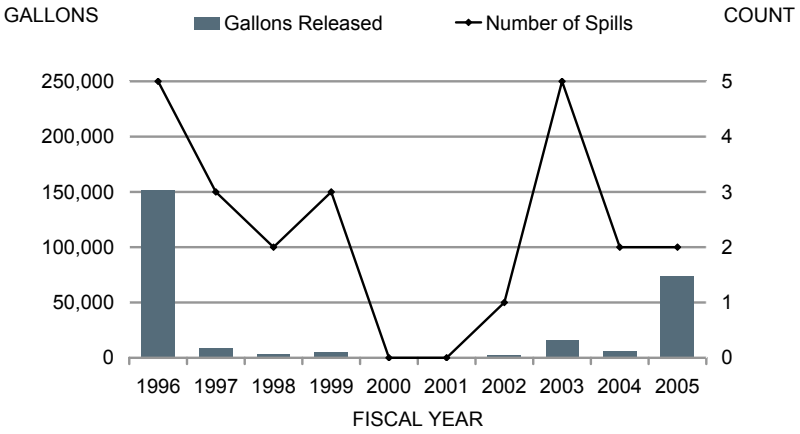
All Spills by Fiscal Year



All Spills by Month



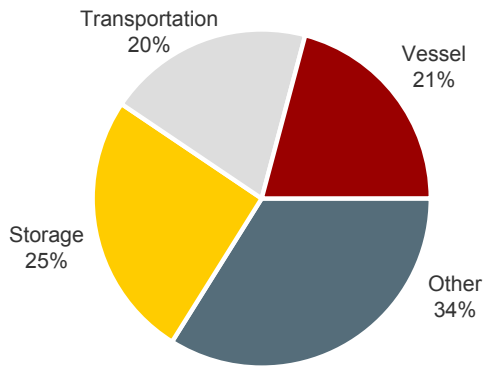
Spills >1,000 gallons



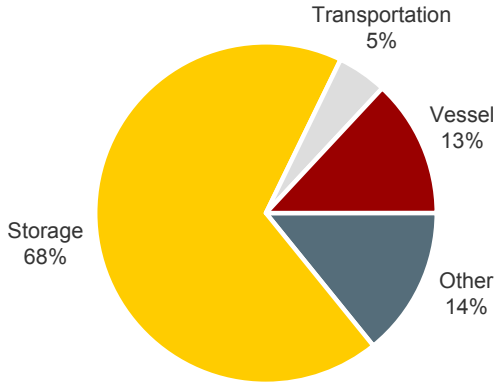
NOTE: Graphs do not include spills reported in pounds or potential spills.

Southeast Alaska Subarea Spills by Facility Type

Number of Spills

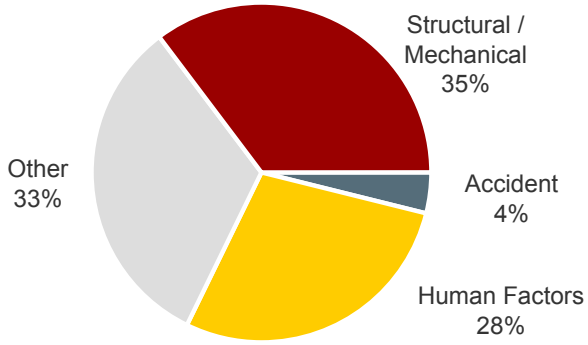


Gallons Released

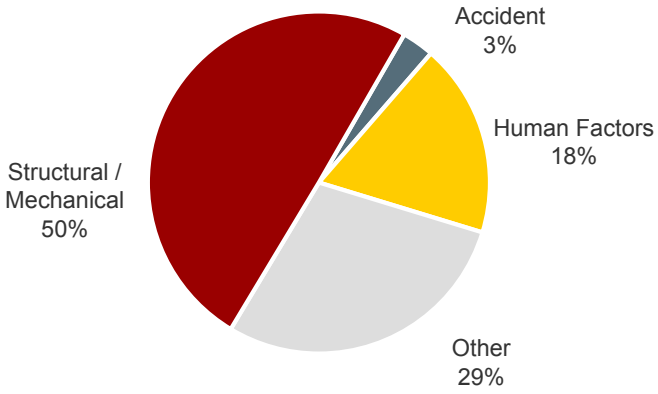


Southeast Alaska Subarea Spills by Cause

Number of Spills

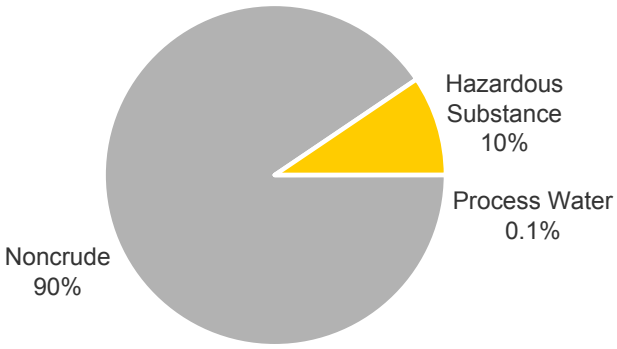


Gallons Released

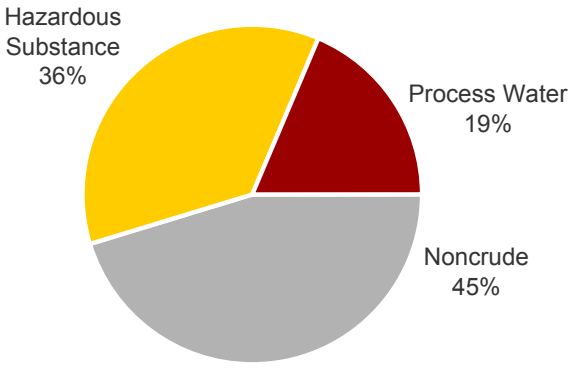


Southeast Alaska Subarea Spills by Product

Number of Spills



Gallons Released

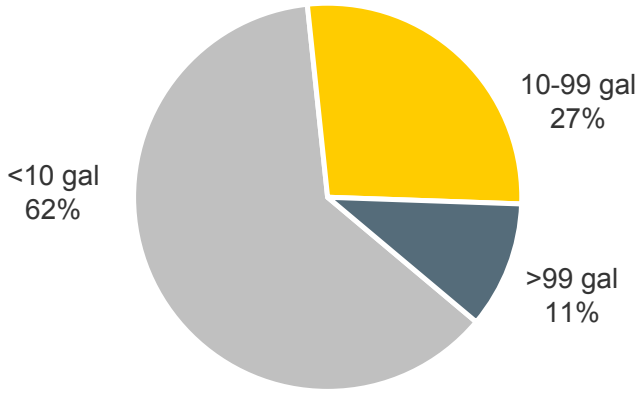


NOTE: Graphs do not include spills reported in pounds or potential spills.

Southeast Alaska Subarea Spills by Size Class

- More than 60% of the spills during the 10-year period were less than 10 gallons.
- More than 90% of the total volume released resulted from spills larger than 99 gallons.

Number of Spills



Gallons Released

NOTE: Graphs do not include spills reported in pounds or potential spills.

Southeast Alaska Subarea Spills at Regulated vs. Unregulated Facilities

Numerous oil facilities and vessels operating in Alaska are subject to Alaska's spill response planning and financial responsibility statutes. This section summarizes spills from:

- facilities and vessels required by statute to have an approved oil discharge prevention and contingency plan; and,
- non-tank vessels which are required to have an approved certificate of financial responsibility are also included.

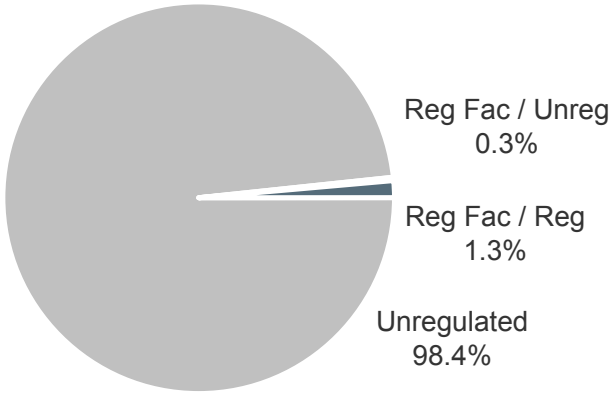
Spills from underground storage tanks are not included in this analysis.

Alaska's contingency planning requirements apply to specific aspects (components) of a facility's or vessel's operations. The analysis in this report distinguishes between spills from regulated versus unregulated components. Examples of spills from unregulated components include:

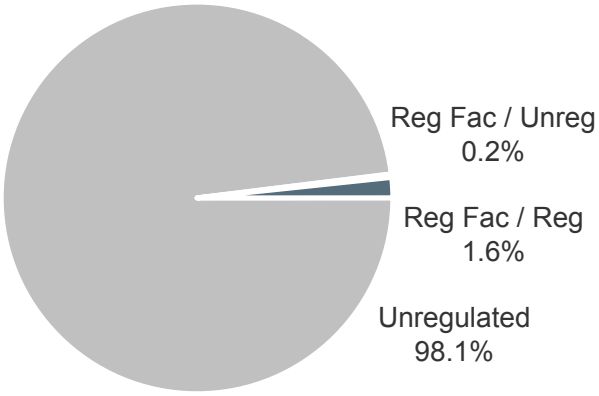
- a spill from a vehicle at a regulated facility;
- a spill from a fuel tank (below the regulatory threshold of 10,000 barrels) at a regulated facility

- More than 98% the spills during the 10-year period were from unregulated facilities, primarily vessels.
- Log Processing facilities were responsible for the greatest volume released during the period.

Number of Spills

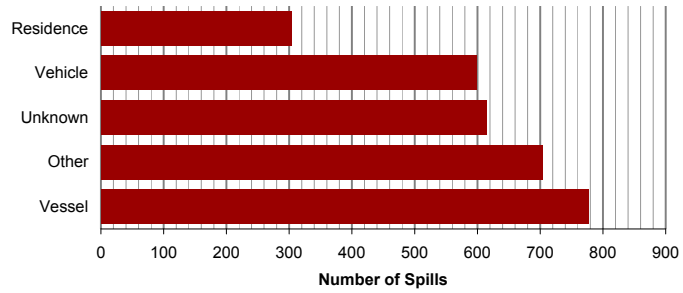


Gallons Released

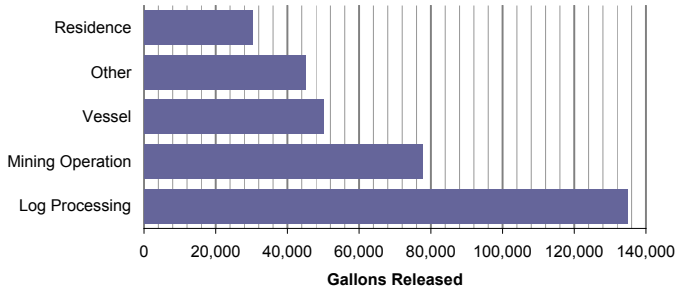


Top Unregulated Facilities

Number of Spills



Gallons Released



NOTE: Graphs do not include spills reported in pounds or potential spills.

Major Spills in the Southeast Alaska Subarea

Date	Spill Name	Product	Gallons
4/9/1996	Ketchikan Pulp Company	Acid, Other	125,000
1/14/1994	Juneau, Thane Bunker	Bunker	100,000
4/8/1986	Wrangell Narrows, Tank Barge	Diesel	77,280
12/24/2004	Greens Creek, Admiralty Island	Process Water	72,000
4/1/1983	Skagway	Diesel	50,000
4/8/1984	Hydaburg, Tank Barge	Diesel	40,000
11/15/1982	Wrangell Narrows, Tank Barge	Diesel	32,631
09/00/88	Dora Bay, Freight Ship	Diesel	30,000
11/18/1982	Frederick Sound, Tank Barge	Diesel	29,000
9/15/1989	Tongass Narrows, Fish Processor	Diesel	20,000
10/27/1987	Wrangell Narrows, Tank Barge	Diesel	16,597
12/1/1995	Lynn Canal, Hump Island, Tug Boat	Diesel	15,000
2/25/1987	Hydaburg, Tank Barge	Diesel	9,000
4/18/1996	Hoonah, Cargo Barge	Diesel	7,000
5/15/1984	Hoonah, Tank Barge	Diesel	7,000
2/5/1996	Petersburg Power	Diesel	6,800
7/26/2002	F/V Arctic Sun, Clarence Strait	Diesel	6,000
5/1/1995	Douglas, Heating Tank	Diesel	5,000
12/5/1973	Sitka Sound, Tank Barge	Diesel	4,500
1/26/1988	Wrangell Narrows, Tank Ship	Diesel	4,494
8/14/2002	AML Barge, near Ketchikan	Asphalt	4,000
10/21/1996	Ketchikan Pulp Company	Other	3,500
2/10/2004	Delta Western Tank Farm, Haines	Aviation Fuel	3,400
9/5/1996	Ketchikan Pulp Company	Diesel	3,000
8/5/1979	Sitka Sound , Tank Barge	Diesel	2,800
8/24/2001	F/V Revenge near Cape Ommaney	Diesel	2,500
6/30/2004	Zinc Creek, Admiralty Island	Process Water	2,400
10/13/1995	Thorne Bay, Land Fill	Waste Oil	2,310
8/16/2002	Angoon Elementary School	Diesel	2,000
7/26/1996	Dixon Entrance, BCc Spill	Diesel	2,000
8/17/2002	Ryandam, Juneau Tour Ship Dock	Other	2,000
10/5/1994	Skagway, Pipeline	Diesel	2,000
10/3/1995	Skagway, White Pass Delivery Pipeline (Mile 1)	Gasoline	2,000
8/18/1997	Haines	Asphalt	1,800
11/6/1998	Haines, Delta Western Tanker Truck Rollover	Diesel	1,800
9/21/2004	Auke Bay, Dehart's Marina	Diesel	1,600
7/14/1998	Juneau Airport	Other	1,600
10/25/1985	Tongass Narrows, Tank Barge	Diesel	1,500
10/15/2002	F/V Foggy Cape, Sockeye Island	Diesel	1,400
8/7/1998	Cube Cove Logging Camp Spills	Diesel	1,200
9/20/1997	North Tongass Highway, Ketchikan	Diesel	1,200

Data Sources:

Department of Environmental Conservation

Sourheast Alaska Subarea Contingency Plan for Oil and Hazardous Substance Discharges/Releases, March 2006

Contingency Plan Facilities in the Southeast Alaska Subarea

Facility Name	Facility Type
Island Tug and Barge, Ltd. Barges (1)	Barge
Crowley Barges (1)	Barge
Sea Coast Transportation Barges (1)	Barge
Sirius Maritime Barges	Barge
Sause Brothers, Inc. - Klamath	Barge
Power Systems and Supplies of Alaska - Spirit	Tank Vessel
Taku Oil Sales Bulk Plant	Noncrude Terminal
Petro Marine Skagway Bulk Plant	Noncrude Terminal
Anderes Oil Ward Cove Tank Farm	Noncrude Terminal
Anderes Oil, Inc.	Noncrude Terminal
Petro Marine Ketchikan Bulk Plant PMS	Noncrude Terminal
Petro Marine Tesoro Ketchikan Fac. PMS	Noncrude Terminal
Delta Western Haines II	Noncrude Terminal
Petro Marine Petersburg Bulk Plant	Noncrude Terminal
Petro Marine Sitka Bulk Plant PMS	Noncrude Terminal
Petro Marine Services, Sitka North	Noncrude Terminal
Delta Western Yakutat Bulk Plant	Noncrude Terminal
Delta Western Juneau Bulk Plant	Noncrude Terminal
Delta Western Haines	Noncrude Terminal
Petro Marine Juneau Terminal PMS	Noncrude Terminal
Petro Marine Services, Craig Bulk Plant	Noncrude Terminal

NOTES:

(1) Authorized to operate statewide

Active Contaminated Sites in the Southeast Alaska Subarea

This table summarizes the number of active contaminated site cleanup projects in the Southeast Alaska subarea as of August 20, 2007.

Primary Contaminant	Sites	%
Petroleum	150	68%
Hazardous Substances	71	32%
Total	221	

Southeast Alaska Subarea Spill Preparedness and Response Initiatives

Response Corps and Equipment Depots

Community	CRSA	Conex	Nearshore	Other Equipment
Angoon	■	●		
Bartlett Cove		●		
Craig	■	●		
Haines	■	●	▲	
Hoonah	■	●		
Hyder		●		
Juneau	■	●	▲	
Kake	■	●		
Ketchikan	■	●	▲	
Petersburg	■	●		
Port Alexander	■	●		
Sitka	■	●		
Skagway	■	●		
Tenakee Springs	■	●		
Thorne Bay	■	●		
Wrangell		●		
Yakutat	■	●		

Southeast Alaska Contingency Plan for Oil and Hazardous Substance Spills and Releases

The current plan is dated March 2006. The latest revision included the addition of a Geographic Response Strategies section.

http://www.dec.state.ak.us/spar/perp/plans/scp_se.htm

Southeast Alaska Geographic Response Strategies (GRS) Development

The GRS workgroup developed GRS for Southeast Alaska, and participants included State and Federal resource trustee agencies and local spill response experts.

The Southeast Alaska Subarea was divided into nine zones to facilitate GRS development. A total of 60 GRS were developed within these nine zones. The site selection process involves a consideration of environmental sensitivity, risk of being impacted from a water borne spill; and feasibility of successfully protecting the site with existing technology. (see the website below for the latest updates).

Southeast Alaska GRS: http://www.dec.state.ak.us/spar/perp/grs/se/home.htm

ESI Maps

DEC is co-sponsoring an initiative to further develop ESI maps for the Prince of Wales Island area in Southeast Alaska.

Western Alaska Subarea

Total Spills:	776
Total Volume:	88,597
Average Spill Size:	114
Average Spills/Year:	78
Average Volume/Year:	8,860

Top 5 Causes

Cause	Spills	Gallons
Human Error	55	19,561
Overfill	120	15,462
Line Failure	77	7,539
Valve Failure	49	7,130
Leak	109	6,558

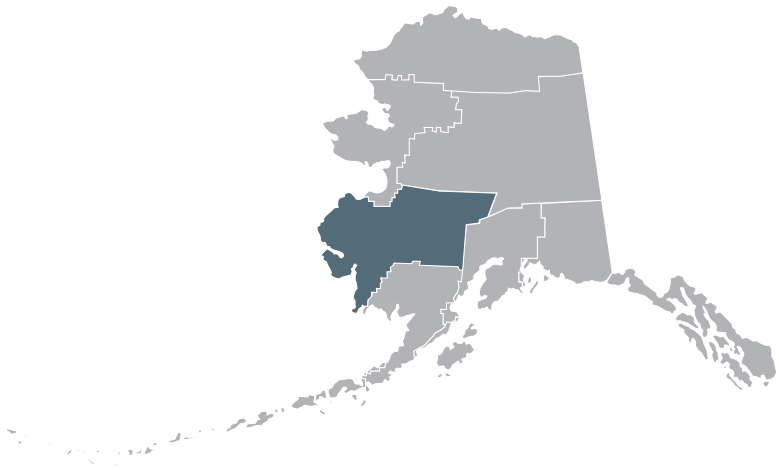
Top 5 Products

Product	Spills	Gallons
Diesel	521	67,327
Gasoline	68	16,945
Used Oil	38	838
Aviation Fuel	21	752
Hydraulic Oil	52	736

Top 5 Facility Types

Facility Type	Spills	Gallons
Noncrude Terminal	82	28,655
Other	151	13,086
School	102	9,852
Vessel	56	6,486
Residence	97	6,298

NOTE: The data summary above excludes spills reported in pounds and potential spills.



Shoreline: 2,900 miles
Land Area: 60,100,000 acres or 94,000 square miles

The Western Alaska subarea is characterized by the two major river systems (Yukon and Kuskokwim) that traverse through the subarea. Residents along the river depend on these waterways for commercial and subsistence fishing, as well as a means of transportation. The coastal communities likewise rely on the Bering Sea for commercial and subsistence fishing. The area is predominantly wetland tundra in the Yukon-Kuskokwim delta region, transitioning to rolling hills and several mountain ranges further inland.

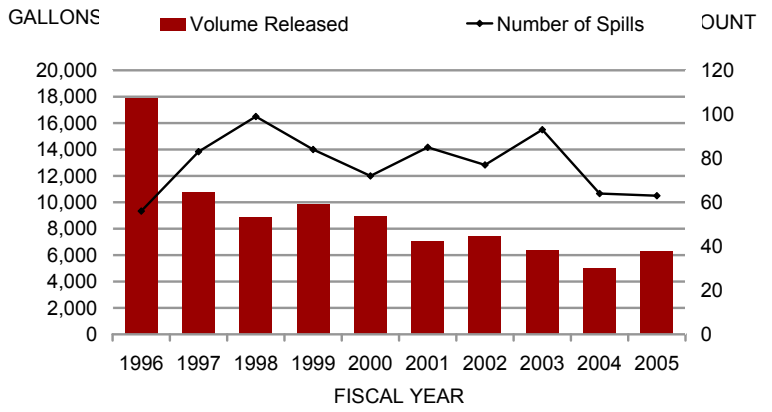
Bethel and McGrath are the principal employment centers of the subarea. Infrastructural development is minimal and the existing road network is minor and local. Most travel within the region is by plane (scheduled and charter), private boat or snow machine (during the winter). There is no connecting road network and the Alaska Marine Highway System does not service the Western Alaska subarea. The population centers of the region are thus physically isolated from one another. There are a total of 64 communities in the region, with the majority also identified as federally-recognized Native tribes.

Deliveries of noncrude oils are made to the villages in this area primarily by barges operating from Dutch Harbor or the Cook Inlet subarea. Deliveries are ice dependent and do not occur as ice forms. Small 300,000-gallon barges operate during the ice-free season to supply interior villages and some villages along the outer coast.

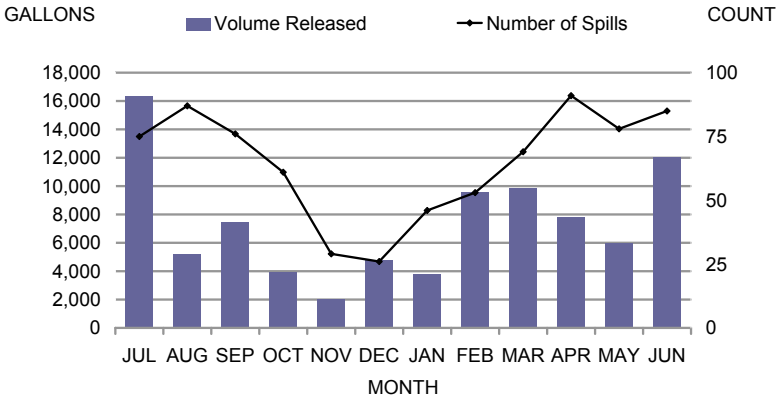
Discernible Trends:

- The largest spill in the subarea during this reporting period was a 9,000-gallon gasoline spill at Tuntuliak on June 17, 1996. A Bethel Fuels tank overfill resulted in a spill of 5,000 gallons of diesel on July 31, 1996. A line failure at an AVEC tank farm in Nunapitchuk on February 7, 2005 resulted in a spill of 8,000 gallons of diesel.
- There appears to be a definite seasonal trend for the spills in the Western Alaska subarea. Spills generally increase during the Spring breakup period, proceed thru the Summer months, then decline over the winter period (September thru February).
- Storage facilities contributed to 51% of the total number of spills, and also 72% of the total volume spilled.
- In terms of primary causes of spills, Structural/Mechanical (45%) and Human Factors (38%) accounted for 83% of the total number of spills. Similarly, both causes accounted for 85% of the total volume spilled.
- The overwhelming majority (98%) of the spill count involved noncrude oil. Noncrude oil spills also accounted for 99% of the total volume released.

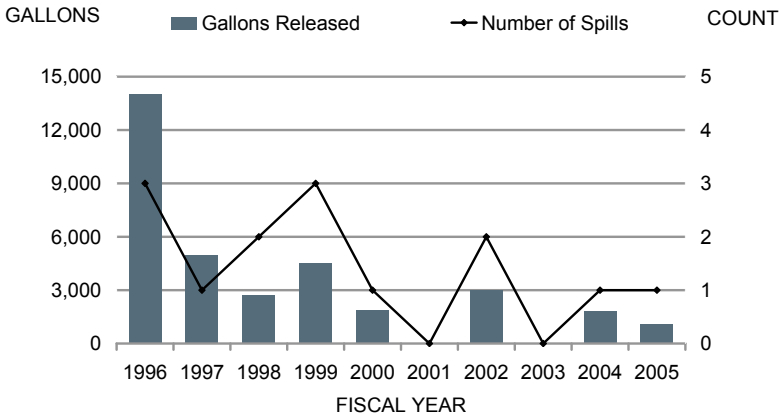
All Spills by Fiscal Year



All Spills by Month



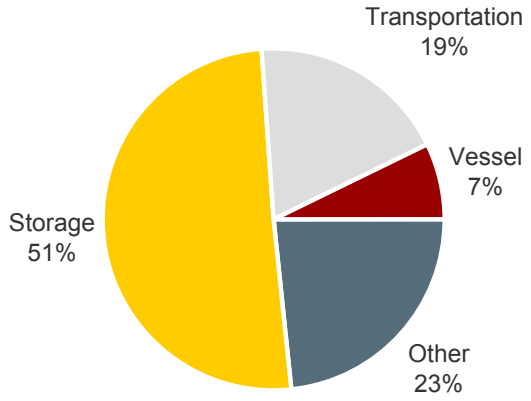
Spills >1,000 gallons



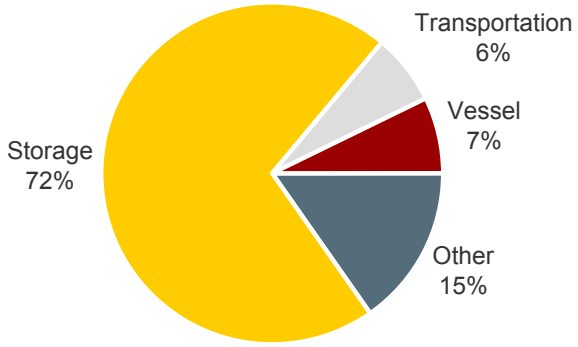
NOTE: Graphs do not include spills reported in pounds or potential spills.

Western Alaska Subarea Spills by Facility Type

Number of Spills

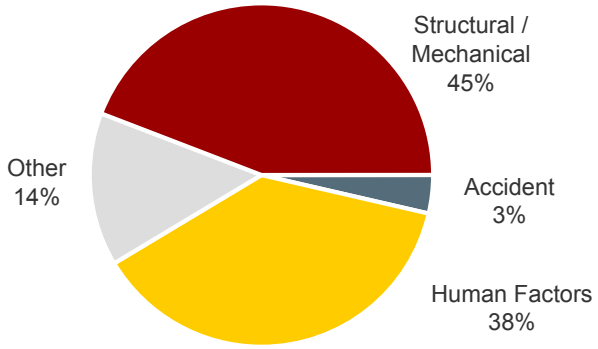


Gallons Released

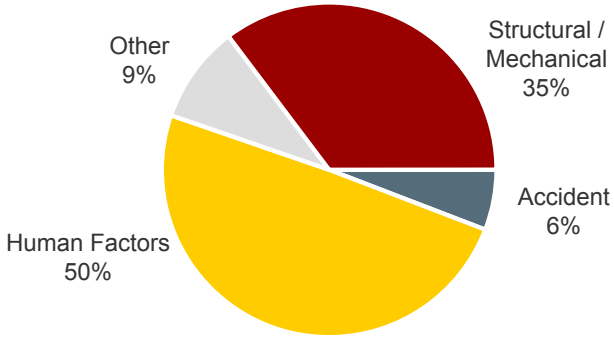


Western Alaska Subarea Spills by Cause

Number of Spills

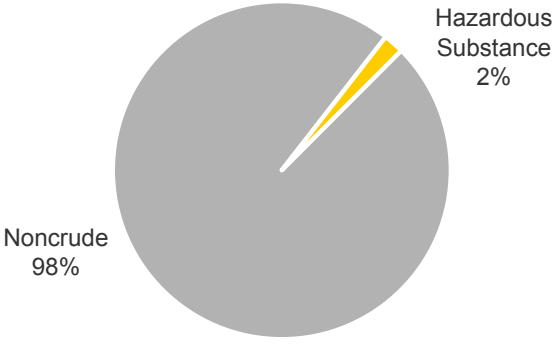


Gallons Released

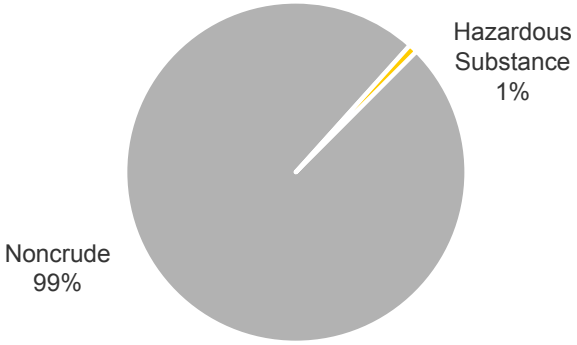


Western Alaska Subarea Spills by Product

Number of Spills



Gallons Released

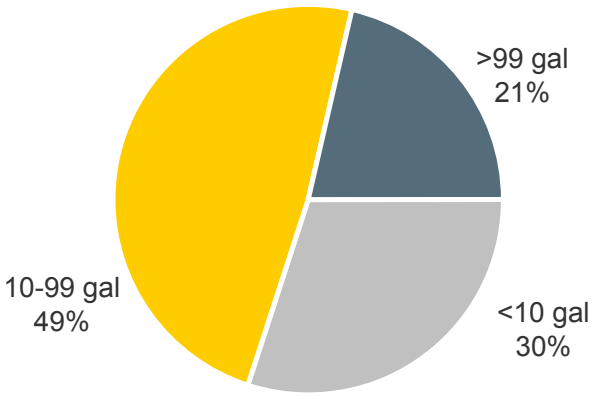


NOTE: Graphs do not include spills reported in pounds or potential spills.

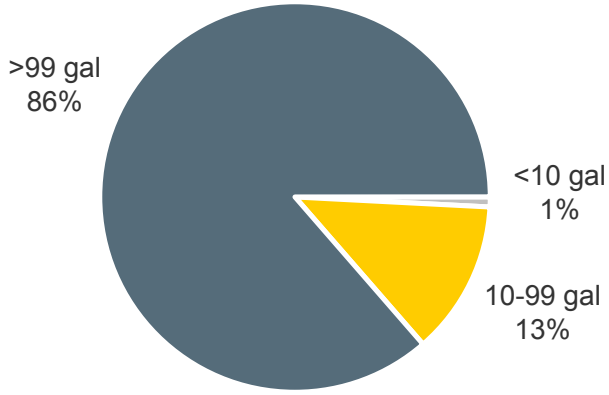
Western Alaska Subarea Spills by Size Class

- Nearly half of the spills during the 10-year period were between 10 and 99 gallons.
- Approximately 86% of the total volume released resulted from spills larger than 99 gallons.

Number of Spills



Gallons Released



NOTE: Graphs do not include spills reported in pounds or potential spills.

Western Alaska Subarea Spills at Regulated vs. Unregulated Facilities

Numerous oil facilities and vessels operating in Alaska are subject to Alaska's spill response planning and financial responsibility statutes. This section summarizes spills from:

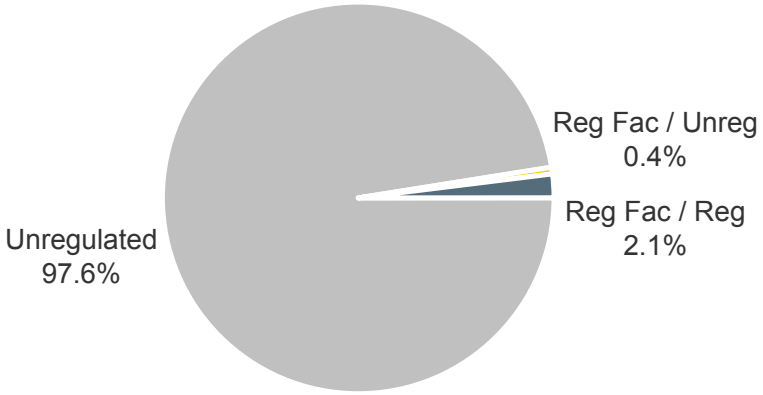
- facilities and vessels required by statute to have an approved oil discharge prevention and contingency plan; and,
- non-tank vessels which are required to have an approved certificate of financial responsibility are also included.

Spills from underground storage tanks are not included in this analysis.

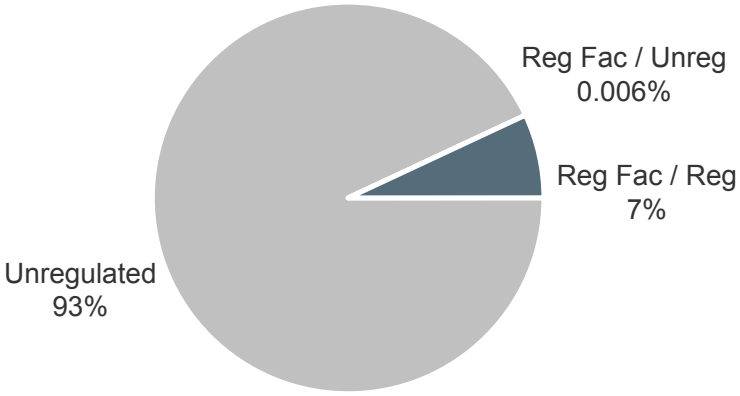
Alaska's contingency planning requirements apply to specific aspects (components) of a facility's or vessel's operations. The analysis in this report distinguishes between spills from regulated versus unregulated components. Examples of spills from unregulated components include:

- a spill from a vehicle at a regulated facility;
- a spill from a fuel tank (below the regulatory threshold of 10,000 barrels) at a regulated facility

Number of Spills



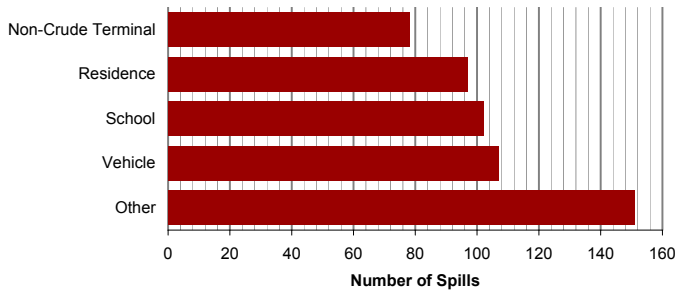
Gallons Released



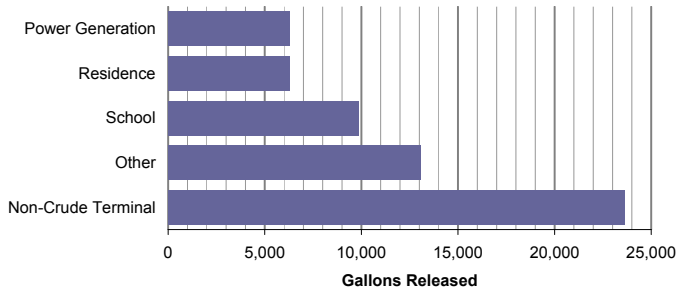
- More than 97% the spills during the 10-year period were from unregulated facilities.
- Non-Crude Terminal facilities were responsible for the greatest volume spilled during the report period.

Top Unregulated Facilities

Number of Spills



Gallons Released



NOTE: Graphs do not include spills reported in pounds or potential spills.

Major Spills in the Western Alaska Subarea

Date	Name	Product	Gallons
4/16/1993	BIA Tank Farm, Bethel	Diesel	132,000
6/17/1996	Tuntutuliak, Qinarnivit	Gasoline	9,000
7/31/1996	Bethel Fuels Tank Farm	Diesel	5,000
7/5/1995	F/V Mattie-O, Eek	Diesel (Lube Oil)	3,000
7/7/1995	Chevak Village Owned Tank Farm	Gasoline	2,000
2/25/1999	Tuluksak City Traditional Council Power Plant	Diesel	1,900
2/9/2000	Aniak Light and Power	Diesel	1,886
3/12/2004	Kongiganak Power Plant Diesel	Diesel	1,800
5/19/1999	Cape Romanzof Long Range Radar Site	Diesel	1,500
3/22/2002	Mountain Village Well #75	Diesel	1,500
4/2/2002	Kipnuk	Diesel	1,500
7/8/1997	Bethel	Diesel	1,500
5/22/1998	Marshall Enterprises Gas Station	Gasoline	1,200
12/19/1998	Emmonak Yukon Delta Fish Coop	Diesel	1,100
3/14/2005	Nixon Fork Mine	Diesel	1,070
8/15/1998	Faulkner Walsh Constructors, Johnson River	Diesel	1,000
4/14/1997	Federal Aviation Administration, Bethel	Diesel	1,000

Data Sources:

Department of Environmental Conservation

Western Alaska Subarea Contingency Plan for Oil and Hazardous Substance Discharges/Releases, June 2001

Contingency Plan Facilities in the Western Alaska Subarea

Facility Name	Facility Type
Island Tug and Barge, Ltd. Barges (1)	Barge
Crowley Barges (1)	Barge
Sea Coast Transportation Barges (1)	Barge
Sirius Maritime Barges	Barge
Sause Brothers, Inc. - Klamath	Barge
Ruby Marine - Melozi	Barge
Ruby Marine - Novi	Barge
Crowley Tanker Vessel	Tank Vessel
Chembulk New Orleans	Tank Vessel
Renda	Tank Vessel
Crowley Marine Services Bethel (BFS) Tan	Noncrude Terminal
Crowley Marine Services Bethel Tank Farm	Noncrude Terminal
Crowley Marine Services St. Mary's Tank	Noncrude Terminal
Crowley Marine Services St. Michael Tank	Noncrude Terminal

NOTES:

(1) Authorized to operate statewide

Active Contaminated Sites in the Western Alaska Subarea

This table summarizes the number of active contaminated site cleanup projects in the Western Alaska subarea as of August 20, 2007.

Primary Contaminant	Sites	%
Petroleum	152	92%
Hazardous Substances	14	8%
Total	166	

Western Alaska Subarea Spill Preparedness and Response Initiatives

Response Corps and Equipment Depots

Community	CRSA	Conex	Nearshore	Other Equipment
Aniak	■	●		
Bethel	■	●		
Goodnews Bay	■			
Mekoryuk	■			
Mountain Village	■	●		
Toksook Bay	■	●		

Western Alaska Contingency Plan for Oil and Hazardous Substance Spills and Releases

The current plan is dated June 2001, and a revision is planned for the 2008/2009 timeframe. The plan can be accessed at the following website: http://www.dec.state.ak.us/spar/perp/plans/scp_we.htm

Appendices

Acronyms

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AFB	Air Force Base
AL	Aleutian subarea
API	American Petroleum Institute
APL	Alyeska Pipeline
ARRC	Alaska Railroad Corporation
AS	Alaska Statute
AVEC	Alaska Village Electric Cooperative
BB	Bristol Bay subarea
bbl	Barrel of oil
BIA	Bureau of Indian Affairs
BWT	Ballast Water Treatment
CART	Central Alaska Response Team
CEPPO	Chemical Emergency Preparedness and Prevention Office
CFR	Code of Federal Regulations
CI	Cook Inlet subarea
CPF	Central Production Facility
CSites	Contaminated Sites Program (ADEC)
DFSC	Defense Fuels Supply Center
DOT	Department of Transportation (and Public Facilities)
DS	Drill Site
DWT	Dead Weight Ton
EHS	Extremely Hazardous Substance
EPA	Environmental Protection Agency
ERNS	Emergency Response Notification System
F/V	Fishing Vessel
FWS	US Fish and Wildlife Service
FY	Fiscal Year (State of Alaska fiscal year is July 1 to June 30)
gals	Gallons
GC	Gathering Center
GT	Gross Ton
HAGO	Heavy Atmospheric Gaseous Oil
HHOT	Home Heating Oil Tank
HS	Hazardous Substance
HVAC	Heating, Ventilation, and Air Conditioning
IN	Interior Alaska subarea
IPP	Industry Preparedness Program
KO	Kodiak Island subarea
KPL	Kenai Pipeline
lbs	Pounds
LEPC	Local Emergency Planning Committee
LEPD	Local Emergency Planning District
LPG	Liquid Propane Gas
LTF	Log Transfer Facility
LYSD	Lower Yukon School District
M/V	Motor Vessel
MINE	Mining Operations/Facilities

Acronyms *(continued from previous page)*

MP	Milepost
MSDS	Material Safety Data Sheet
NART	Northern Alaska Response Team
NH3	Anhydrous Ammonia
NRC	National Research Council (also National Response Center)
NS	North Slope subarea
NW Arctic	Northwest Arctic
NW	Northwest Arctic subarea
OE&P	Oil Exploration and Production
OILEX	Oil Exploration Facility
OILPD	Oil Production Facility
OILTERM	Oil Terminal Facility
PCB	Polychlorinated Biphenyl
PDF	Portable Document File
PERP	Prevention and Emergency Response Program (ADEC)
PIPE	Transmission Pipeline
PLMP	Pipeline Milepost
PWS	Prince William Sound
PWS	Prince William Sound subarea
QA/QC	Quality Assurance/Quality Control
REAA	Regional Educational Attendance Area
REF	Refinery Operation
RR	Railroad
SARA	Superfund Amendments and Reauthorization Act
SART	Southeast Alaska Response Team
SE	Southeast Alaska subarea
SERC	State Emergency Response Commission
SITREP	Situation Report (DEC generated)
SPAR	Spill Prevention and Response Division (ADEC)
SQL	Structured Query Language
Struct/Mech	Structural/Mechanical
T/B	tanker barge
T/V	Tanker Vessel
TANK	Tanker Vessel
TAPS	TransAlaska Pipeline System
TCSA	Tuntutuliak Community Service Association
TERM	Oil Terminal Facility
UAF	University of Alaska Fairbanks
USC	United States Code
USCG	United States Coast Guard
VMT	Valdez Marine Terminal
WE	Western Alaska subarea

The following tables provide a quick reference to the general classification scheme used in the ADEC SPILL database for Causes, Facilities, and Substances.

Cause Classification

Cause Type	Cause
Accident	Collision/Allision
	Derailment
	Grounding
	Rollover/Capsize
	Well Blow-Out
Human Factors	Bilge Discharge
	Cargo Not Secured
	Human Error
	Intentional Release
	Overfill
	Sabotage/Vandalism
	Sinking
Other	Explosion
	External Factors
	Other
Structural/Mechanical	Containment Overflow
	Corrosion
	Crack
	Equipment Failure
	Erosion
	Gauge/Site Glass Failure
	Hull Failure
	Leak
	Line Failure
	Puncture
	Seal Failure
	Support Structure Failure
	Tank Failure
	Tank Support Structure Failure
	Valve Failure
	Vehicle Leak, All
Unknown	Unknown

Facility Classification

Category	Type	SubType	Definition
Transportation	Air Transportation	Aircraft	Includes air taxi, air charter, airline, and private aircraft
	Air Transportation	Airport/Airfield	Includes all airport/aircraft support services, hangars, airline maintenance facilities and offices
	Harbor/Port Facility		Commercial marinas, harbors, ports
	Oil Exploration	Offshore	Offshore oil exploration activities, including drillships, platforms, and ice islands
	Oil Exploration	Onshore	Onshore oil exploration activities
	Oil Production	Offshore	Offshore oil production platforms, including platforms and gravel islands
	Oil Production	Onshore	Onshore production wells, fields and pads
	Oil Production	Flow Lines	Includes all pre-gathering-center lines, regardless of contents
	Oil Production	Field Processing	Includes flow stations, gathering centers, gas conditioning facilities, and other field processing facilities
	Railroad Operation		Self-explanatory
	Transmission Pipeline		Crude and noncrude (refined) oil and gas pipelines and associated pump stations
	Vehicle		All land-based vehicles except railroads, unless considered part of a larger facility
Vessel	Vessel 400 GT and over	Other	Vessel operation 400 GT and over not otherwise listed; includes pleasure craft
	Vessel 400 GT and over	Barge	All barges including IPP regulated oil barges
	Vessel 400 GT and over	Cargo	All self-propelled cargo vessels 400 GT and over (i.e., excludes cargo barges)
	Vessel 400 GT and over	Fishing	Commercial fishing vessels, floating fish processors 400 GT and over
	Vessel 400 GT and over	Passenger	Vessels 400 GT and over carrying paying passengers, including ferries and cruise ships
	Vessel 400 GT and over	Tanker	Oil tank vessels
	Vessel under 400 GT	Other	Vessel operation under 400 GT not otherwise listed; includes pleasure craft
	Vessel under 400 GT	Cargo	All self-propelled cargo vessels under 400 GT (i.e., excludes cargo barges)
	Vessel under 400 GT	Fishing	Commercial fishing vessels, floating fish processors under 400 GT
	Vessel under 400 GT	Passenger	Vessels under 400 GT carrying paying passengers, including ferries and cruise ships
Storage	Cannery		Land-based fish processing operations
	Farm/Aquaculture		All farms, hatcheries, mariculture facilities, and related activities

Facility Classification *(continued)*

Category	Type	SubType	Definition
Storage	Gas Station		All retail service stations which dispense gasoline and other fuels
	Laundry Service		Includes dry cleaners, laundromats, washeterias
	Log Processing		Includes veneer plants, sawmills, pulp mills and chipping operations
	Logging Operation		Includes log transfer facilities (LTFs), sort yards, logging camps
	Maintenance Yard/Shop		Self-explanatory
	Mining Operation		Self-explanatory
	Crude Oil Terminal		Crude oil terminals and tank farms of any size (includes both regulated and unregulated facilities)
	Non-Crude Oil Terminal		Non-crude oil terminals and tank farms of any size (includes both regulated and unregulated facilities)
	Power Generation		Power utilities and generators
	Refinery Operation		Refined (noncrude) oil processing
	Residence		Private residence
	School		Self-explanatory
	Telecommunications		Includes repeater stations, other communications-related sites
	Water/Wastewater Facility		Self-explanatory
Other	Drug Lab		Illicit methamphetamine laboratories
	Firing Range		Self-explanatory
	Landfill/Dump		Includes permitted landfills, legal and unauthorized dumps
	Other		Non-vessel operation not otherwise listed
	Salvage/Wrecking Yard		Self-explanatory
	Unknown		Self-explanatory

Substance Classification

Crude Oil
- Crude

Extremely Hazardous Substance
(Common to Alaska)
- Acrolein (Inhibited)
- Acrylamide
- Aldrin
- Ammonia (Anhydrous)
- Chlordane
- Chlorine
- Endrin
- Formaldehyde
- Furans
- Hydrazine (Anhydrous)
- Hydrochloric Acid
- Hydrofluoric Acid
- Hydrogen Cyanide
- Hydrogen Peroxide
- Hydrogen Sulfide
- Hydroquinone (Solid)
- Nitric Acid (>40% Solution)
- Phenol
- Phosphoric Acid, Dimethyl 4-(Methylthio)
- Phosphorus (Solid)
- Phosphorus (Solution)
- Sodium Azide (Solid)
- Sodium Cyanide (Solid)
- Sodium Cyanide (Solution)
- Sulfur (Dioxide)
- Sulfuric Acid
- Toluene 2,4-Diisocyanate
- Toxaphene

Hazardous Substance
- Acid, Other
- Arsenic
- Bases
- Biocide
- Calcium Chloride (Solid)
- Calcium Hypochlorite (Solid)
- Caustic Alkali Liquids (Caustic Soda)
- Compressed Gases
- Corrosion Inhibitor
- DDT
- Dieldrin
- Dioxins
- Drag Reducing Agent
- Drilling Muds
- Emulsion Breaker
- Ethyl Alcohol (Ethanol)
- Ethylene Glycol (Antifreeze)
- Freon (Dichlorodifluoromethane All Types)
- Glycol, Other
- Halon
- Heptachlor
- Herbicide/Pesticide
- Hexachlorobenzene (also a pesticide)
- Insecticide
- Lead
- Magnesium Oxide (Slurry)
- Methyl Alcohol (Methanol)
- Mirex
- Other
- PCB
- Pentachloroethane
- Perchloroethylene
- Propylene Glycol
- Reserve Pit Fluids
- Sodium Hypochlorite
- Solvent
- Sulfur (Solid)
- Tetrachloroethene
- Therminal
- Toluene
- Trichloroethene
- Urea (Solid)
- Zinc
- Zinc Concentrate
- Zinc Slurry

Noncrude Oil
- Asphalt
- Aviation Fuel
- Ballast Water (containing oil)
- Bilge Oil
- Bunker (all types)
- Creosote
- Diesel
- Engine Lube Oil
- Gasoline
- Grease
- Hydraulic Oil
- Kerosene
- Naphtha
- Natural Gas
- Natural Gas Liquids
- Other
- Propane (LPG)
- Synthetic Oil
- Transformer Oil
- Transmission Oil
- Turbine Fuel
- Waste Oil (all types)

Process Water
- Process Water
- Produced Water
- Seawater
- Source Water

Unknown
- Unknown

Appendix C: Glossary

Accidents (Cause): Spills caused by accidents may be categorized as follows: collision/allision; derailment; grounding; rollover/capsize; and well blow-out.

Causes: See Appendix A, for the cause classification scheme used in the SPILLS Database.

Crude Oil: Unrefined liquid petroleum, ranging in gravity from 9° API to 55° API and in color from yellow to black. May have a paraffin, asphalt, or mixed base. If the oil contains a sizable amount of sulfur or sulfur components, it is called a sour crude; if it has little or no sulfur, it is called a sweet crude. In addition, crude oil may be referred to as heavy or light, according to API gravity, the lighter oil having the higher gravities.

Diesel Fuel: A light hydrocarbon mixture for diesel engines, similar to furnace fuel oil; it has a boiling range just above that of kerosene.

Exploration Facility: means a platform, vessel, or other facility used to explore for hydrocarbons in or on the waters of the state or in or on land in the state; the term does not include platforms or vessels used for stratigraphic drilling or other operations that are not authorized or intended to drill to a producing formation.

Extremely Hazardous Substance (EHS): Although there is no definition for extremely hazardous, the Senate Report on the Clean Air Act provides criteria EPA may use to determine if a substance is extremely hazardous. The report expressed the intent that the term "extremely hazardous substance" would include any agent "which may or may not be listed or otherwise identified by any Government agency which may as the result of short-term exposures associated with spills to the air cause death, injury or property damage due to its toxicity, reactivity, flammability, volatility, or corrosivity". The term "EHS" otherwise includes substances listed in the appendices to 40 CFR part 355, Emergency Planning and Notification.

Facility: means any offshore or onshore structure, improvement, vessel, vehicle, land, enterprise, or endeavor. See Appendix A for the Facility Classification scheme used in the SPILLS Database.

Gasoline: A volatile, flammable liquid hydrocarbon refined from crude oils and used universally as a fuel for internal-combustion, spark ignition engines.

Hazardous Substance: means (A) an element or compound that, when it enters into or on the surface or subsurface land or water of the state, presents an imminent and substantial danger to the public health or welfare, or to fish, animals, vegetation, or any part of the natural habitat in which fish, animals, or wildlife may be found; or (B) a substance defined as a hazardous substance under 42 U.S.C. 9601-9657 (Co mprehensive Environmental Response, Compensation, and Liability Act of 1980); "hazardous substance" does not include uncontaminated crude oil or uncontaminated noncrude (refined) oil in an amount of 10 gallons or less.

Human Factors (Cause): Spills caused by human factors may be categorized as follows: bilge discharge; cargo not secured; human error; intentional release; overfill; sabotage/vandalism; and sinking.

Nontank Vessel: means a self-propelled watercraft of more than 400 gross registered tons; in this paragraph, "watercraft" includes commercial fishing vessels, commercial fish processor vessels, passenger vessels, and cargo vessels, but does not include a tank vessel, oil barge or public vessel.

Noncrude Oil: A petroleum product derived from crude oil.

Oil: means petroleum products of any kind and in any form, whether crude, noncrude (refined), or a petroleum by-product, including petroleum, fuel oil, gasoline, lubricating oils, oily sludge, oily refuse, oil mixed with other wastes, liquefied natural gas, propane, butane, and other liquid hydrocarbons regardless of specific gravity.

Oil Barge: means a vessel which is not self-propelled and which is constructed or converted to carry oil as cargo in bulk.

Oil Terminal Facility: means an onshore or offshore facility of any kind, and related appurtenances, including but not limited to a deepwater port, bulk storage facility, or marina, located in, on, or under the surface of the land or waters of the state, including tide and submerged land, that is used for the purpose of transferring, processing, refining or storing oil; a vessel, other than a nontank vessel, is considered an oil terminal facility only when it is used to make a ship-to-ship transfer of oil; and when it is traveling between the place of the ship-to-ship transfer of oil and an oil terminal facility.

Other (Cause): Spills resulting from "other" causes may be categorized as follows: explosion; external factors; and other causes.

Other (Facility Classification): "Other" facilities listed in the ADEC SPILLS Database are classified as follows: drug lab; firing range; landfill/dump; other; salvage/wrecking yard; amd unknown.

Pipeline: means the facilities, including piping, compressors, pump stations, and storage tanks, used to transport crude oil and associated hydrocarbons between production facilities or from one or more production facilities to marine vessels.

Process Water (Oil Exploration and Production Operations): Process water includes seawater (and occasionally freshwater) and produced water. Seawater is injected into a formation to pressurize the reservoir and force the oil toward the oil production wells. Gelled water is seawater and freshwater that is mixed with a gelling substance to increase the viscosity of the fluid for a number of purposes. Seawater is also used to maintain the existing wells or to detect leaks in pipelines. Produced water is the water mixture consisting of oil, gas, and sand that is pumped from oil production wells. The percentage of crude oil occurring in process water can vary somewhat based on the source of the spill.

Process Water (Mining Operations): Process water for mining operations include water taken from tailing ponds for the milling process (reclaim water), water that has been through the water treatment plant but not the sand filter (process water), water that has been through both the water treatment and sand filter (discharge water), water mixed with ground ore materials (slurry) or water used in the milling and product recovery process (process solution water).

Production Facility: means a drilling rig, drill site, flow station, gathering center, pump station, storage tank, well, and related appurtenances on other facilities to produce, gather, clean, dehydrate, condition, or store crude oil and associated hydrocarbons in or on the water of the state or on land in the state; and gathering and flow lines used to transport crude oil and associated hydrocarbons to the inlet of a pipeline system for delivery to a marine facility, refinery, or other production facility.

Public Vessel: means a vessel that is operated by and is either owned or bareboat chartered by the United States, a state or a political subdivision of that state, or a foreign nation, except when the vessel is engaged in commerce.

Railroad Tank Car: means rolling stock used to transport oil in bulk as cargo by rail.

Storage (Facility Classification): Storage facilities listed in the ADEC SPILLS Database are classified as follows: cannery; farm/aquaculture; gas station; laundry service; log processing; logging operation; maintenance yard/shop; mining operation; crude oil terminal; noncrude oil terminal; power generation; refinery operation; residence; school; telecommunications; and water/wastewater facility.

Structural/Mechanical (Cause): A structural/mechanical cause may include the following: containment/overflow; corrosion; crack; equipment failure; erosion; gauge/site glass failure; hull failure; leak; line failure; puncture; seal failure; support structure failure; tank failure; tank support structure failure; valve failure; and vehicle leaks.

Tank Vessel: means a self-propelled waterborne vessel that is constructed or converted to carry liquid bulk cargo in tanks and includes tankers, tankships, and combination carriers when carrying oil; the term does not include vessels carrying oil in drums, barrels, or other packages, or vessels carrying oil as fuel or stores for that vessel.

Train: means connected rolling stock operated as a single moving vehicle on rails; for purposes of this paragraph, "connected rolling stock" includes railroad tank cars.

Transportation (Facility Classification): Transportation facilities listed in the ADEC SPILLS Database are classified as follows: air transportation (aircraft); air transportation (airport/airfield); harbor/port facility; oil exploration (offshore); oil exploration (onshore); oil production (offshore); oil production (onshore); flow lines; field processing; railroad operation; transmission pipeline; and vehicle.

Vessel (Facility Classification): Vessels listed in the ADEC SPILLS Database are classified as follows: Vessels 400 gross tons (GT) or more (includes barges, cargo vessels, other vessels, fishing vessels, passenger vessels, and tankers); Vessels less than 400 GT (includes cargo vessels, other vessels, fishing vessels and passenger vessels).

Vessel: includes tank vessels, oil barges, and nontank vessels.

Sources:

Alaska Statutes (AS 46, Current Edition)

A Dictionary of Petroleum Terms (Third Edition), The University of Texas at Austin, Petroleum Extension Service, 1983

U.S. EPA Chemical Emergency Preparedness and Prevention Office (CEPPO) website

ADEC/SPAR Classification Scheme

Statewide Hazmat Commodity Flow Study, June 2005

Statewide Oil and Hazardous Substance Inventory, Tier Two Data Summary Report, January 2005

Prepared by:

Prevention and Emergency Response Program
Division of Spill Prevention and Response
Alaska Department of Environmental Conservation
555 Cordova Street
Anchorage, Alaska 99501

http://www.dec.state.ak.us/spar/perp/

October 2007