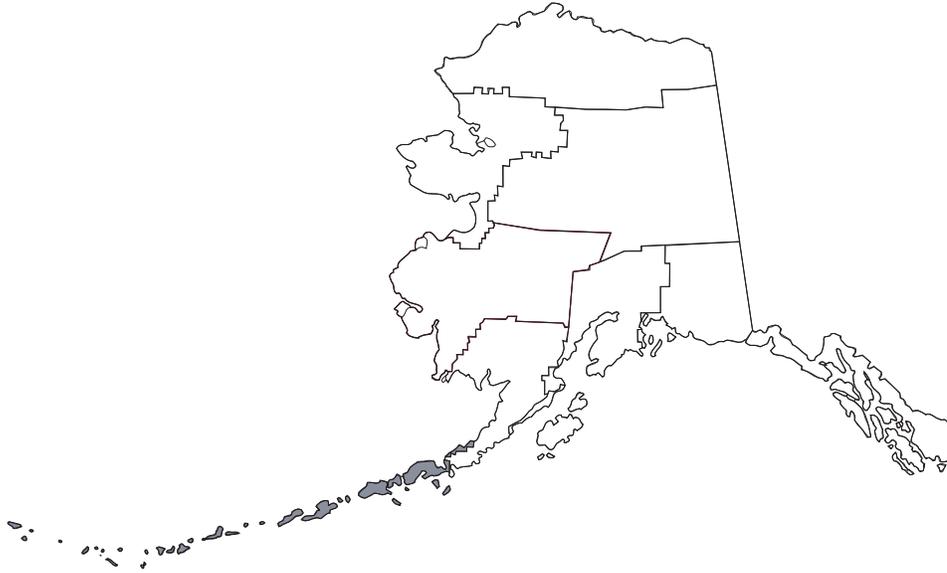


Section III: Spills by Subarea

A. Aleutians



The Aleutians 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.

The total number of spills in the Aleutians subarea has been on a steady decline since FY96. The average number of spills greater than 1,000 gallons is two per year.

Largest Spill in the Subarea: The M/V Kuroshima spill on November 26, 1997 (FY98) resulted in a release of 39,000 gallons of Bunker C product at Summers Bay in Dutch Harbor.

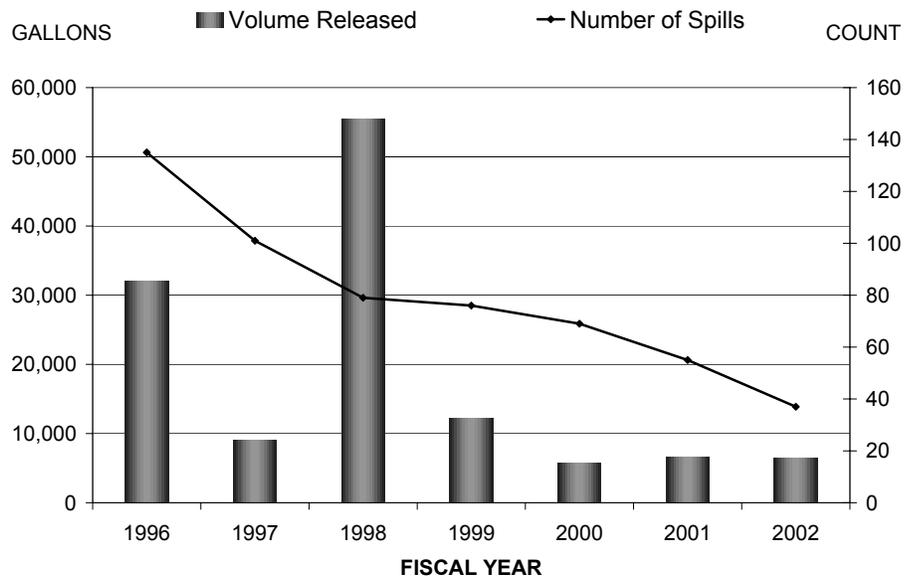
Discernible Trends:

- The number of spills per year for the Aleutians subarea are on a steady decline.
- Vessels contributed to 49 percent of the total number of spills in the Aleutians subarea, and also accounted for 59 percent of the total product released.
- The cause of 44 percent of the spills was Human Factors, although Accidents accounted for 51% of the total volume released.
- Almost all of the spills in the subarea involved noncrude oil, and nearly 98 percent of the total volume spilled consisted of noncrude oil products.

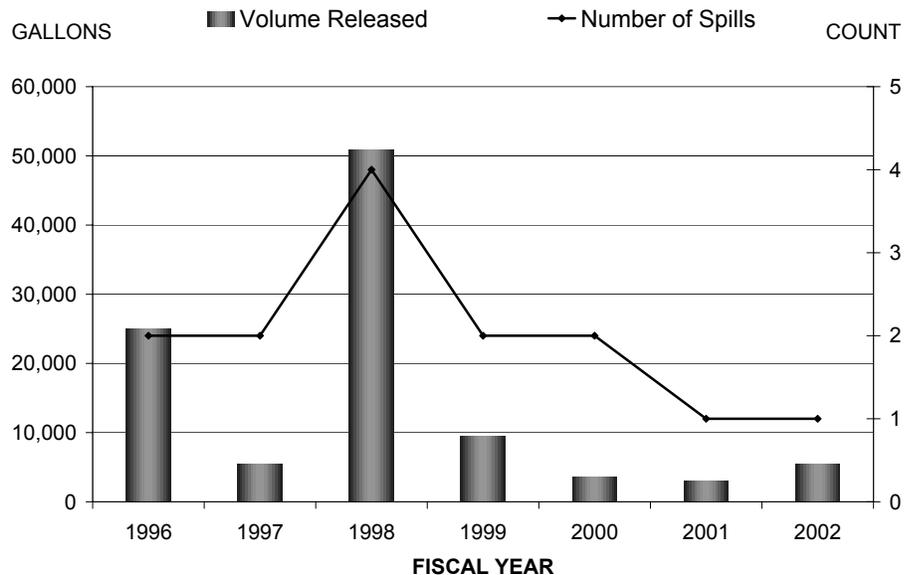
Spills Summary

Fiscal Year	All Spills		Spills >1,000 gallons	
	Number	Total Gallons	Number	Total Gallons
1996	135	32,027	2	25,000
1997	101	9,058	2	5,500
1998	79	55,470	4	50,875
1999	76	12,254	2	9,500
2000	69	5,789	2	3,529
2001	55	6,633	1	3,000
2002	36	6,443	1	5,500
Total	551	127,674	14	102,904
Average	79	18,239	2	14,701

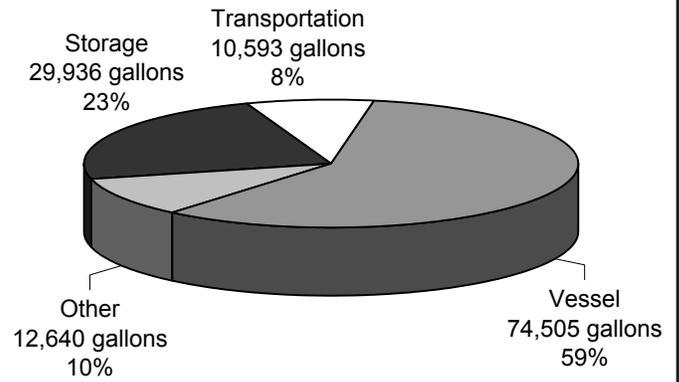
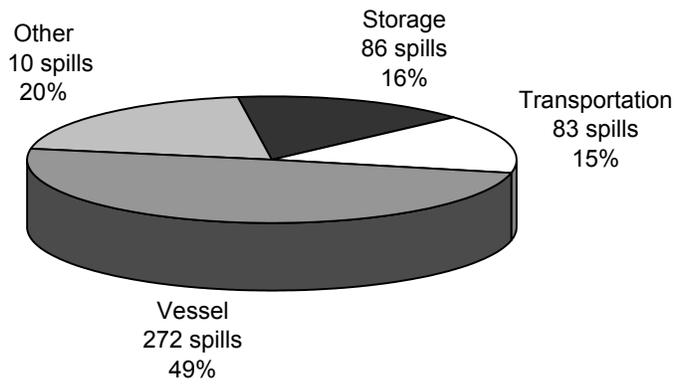
All Spills by Fiscal Year



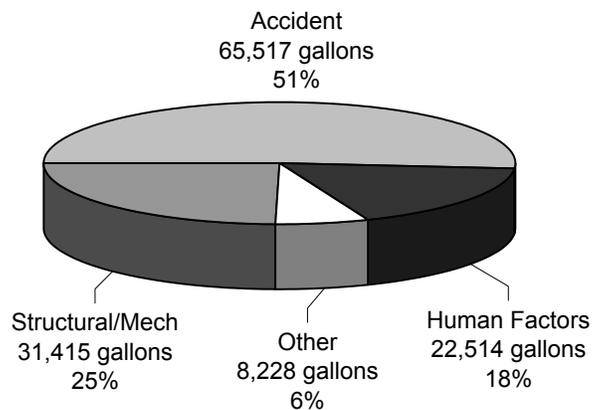
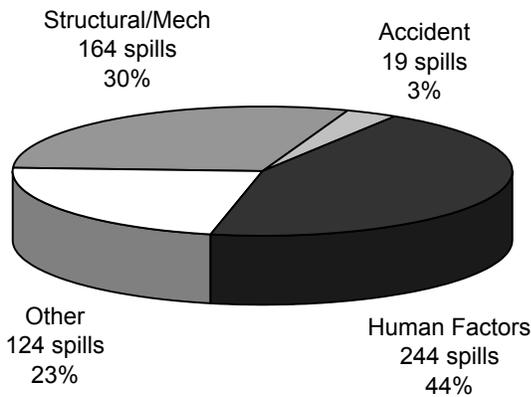
Spills >1,000 gallons



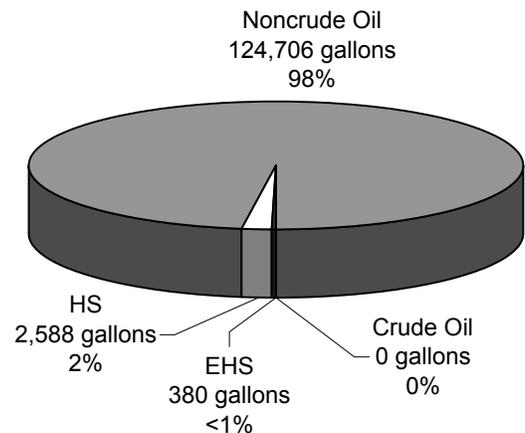
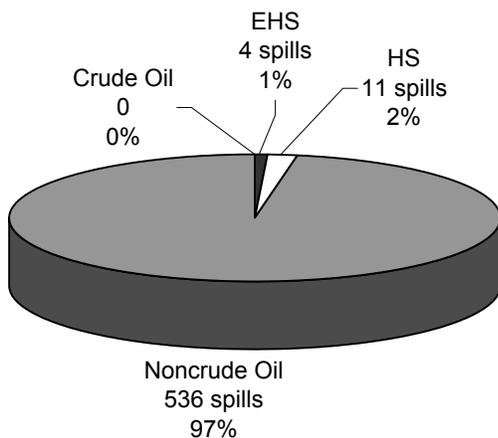
Aleutian Subarea Spills by Facility Type



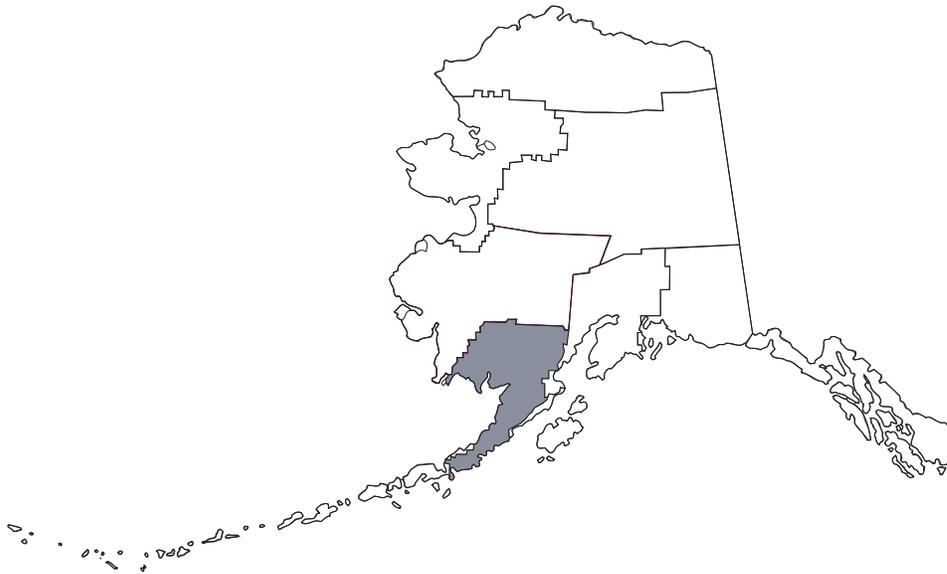
Aleutian Subarea Spills by Cause



Aleutian Subarea Spills by Product



B. Bristol Bay



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.

Largest Spill in the Subarea: The largest spill on record for this subarea is the Ivanof Bay spill which occurred on January 30, 2000. A total of 10,000 gallons of diesel was released.

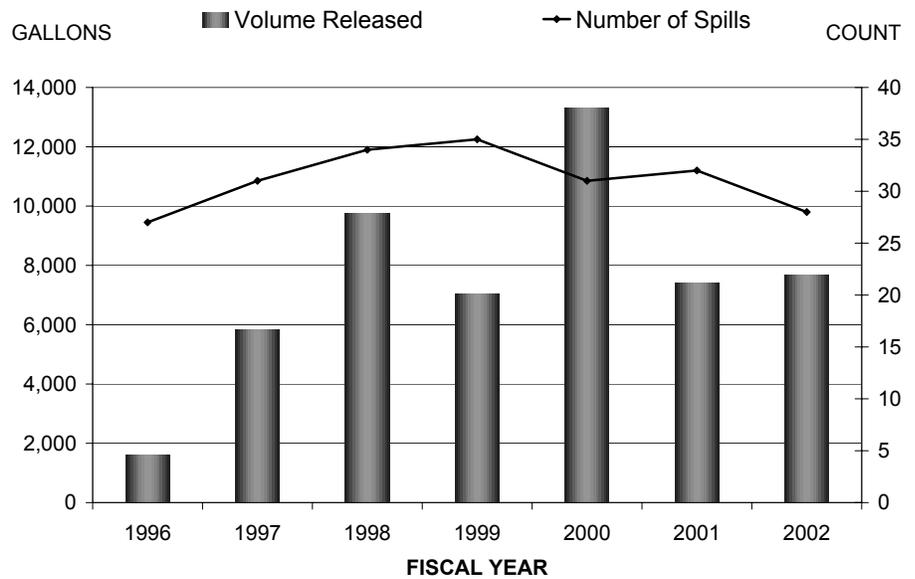
Discernible Trends:

- There were no significant trends for the subarea in terms of numbers of spills and total volume released.
- Fuel storage contributed to 43 percent of the total number of spills in the subarea, and also accounted for 76 percent of the total product released.
- The cause of 45 percent of the spills in the Bristol Bay subarea was associated with Structural/Mechanical problems, which also resulted in 69 percent of the total volume released.
- Almost all of the spills (97 percent) in the subarea involved noncrude oil, and 99 percent of the total volume spilled consisted of noncrude oil products.

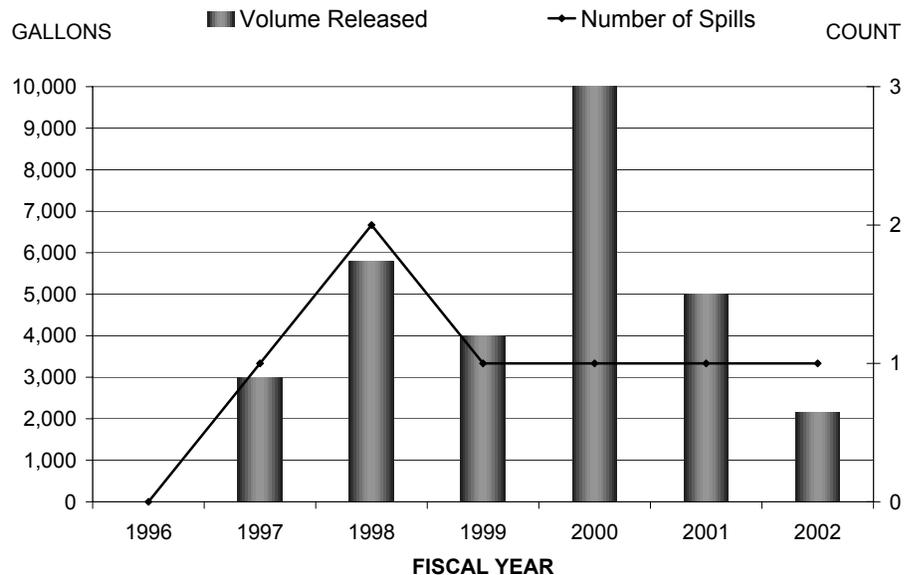
Spills Summary

Fiscal Year	All Spills		Spills >1,000 gallons	
	Number	Total Gallons	Number	Total Gallons
1996	27	1,614	0	0
1997	31	5,843	1	3,000
1998	34	9,756	2	5,796
1999	35	7,044	1	4,000
2000	31	13,319	1	10,000
2001	32	7,420	1	5,000
2002	28	7,663	1	2,164
Total	218	52,659	7	29,960
Average	31	7,523	1	4,280

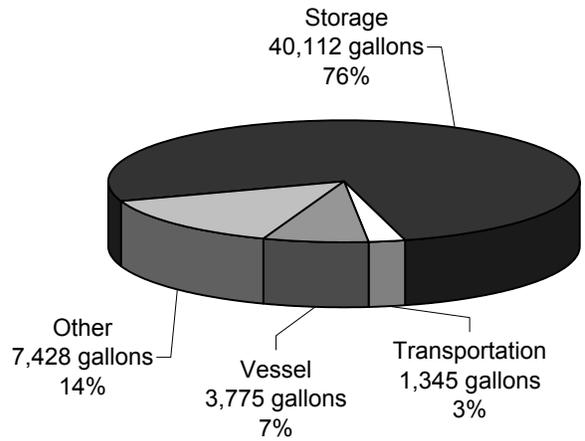
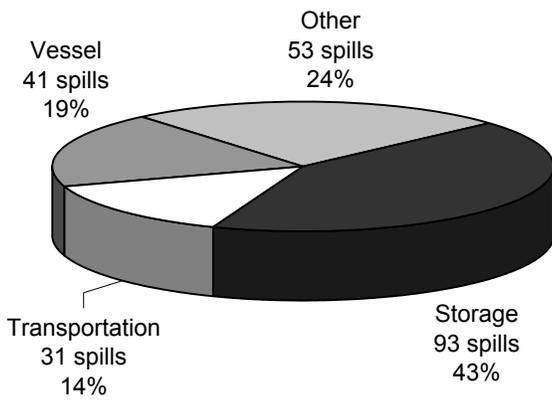
All Spills by Fiscal Year



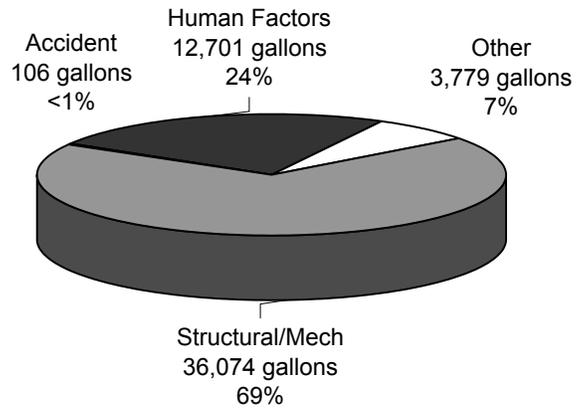
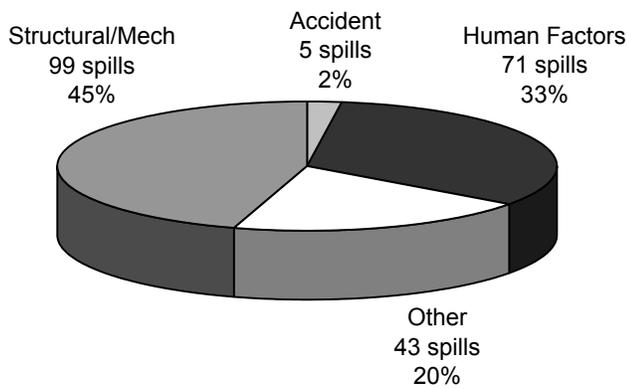
Spills >1,000 gallons



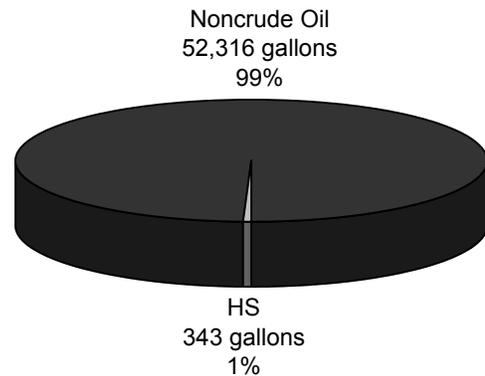
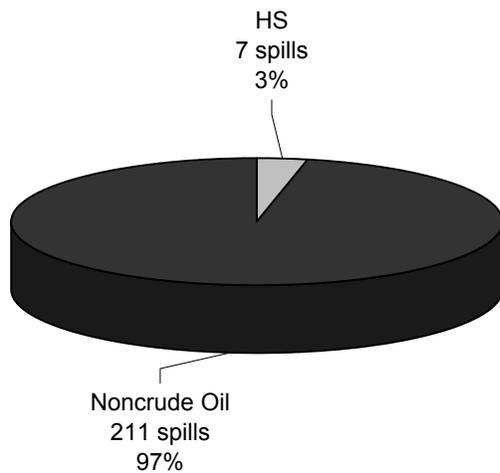
Bristol Bay Subarea Spills by Facility Type



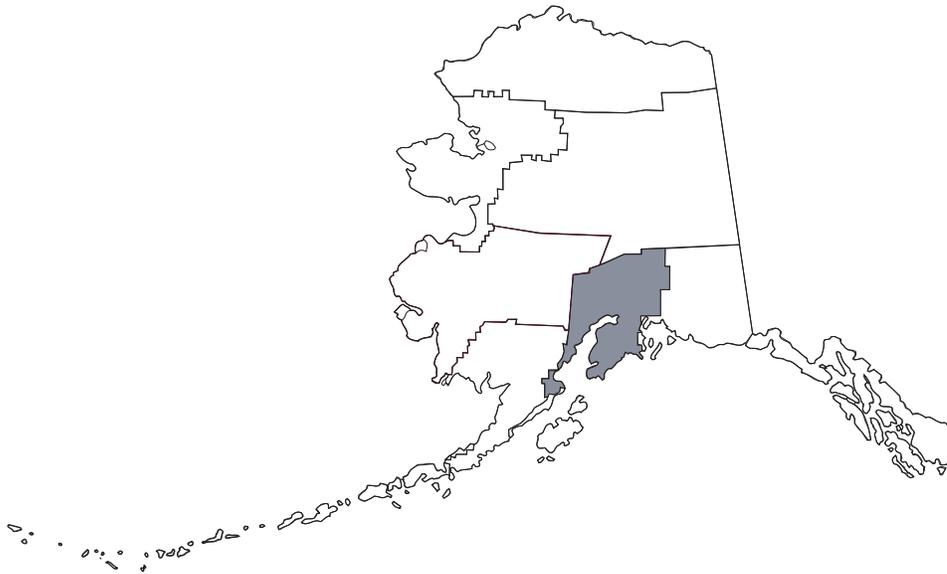
Bristol Bay Subarea Spills by Cause



Bristol Bay Subarea Spills by Product



C. Cook Inlet



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.

The region averages approximately 600 spills per year, with an average of 71,480 gallons released per year. The subarea also averages six spills greater than 1,000 gallons per year.

Largest Spill in the Subarea: The largest spill in this subarea (pre-spills database era) was the T/V Glacier Bay incident on July 2, 1987 with 210,000 gallons of crude oil released.

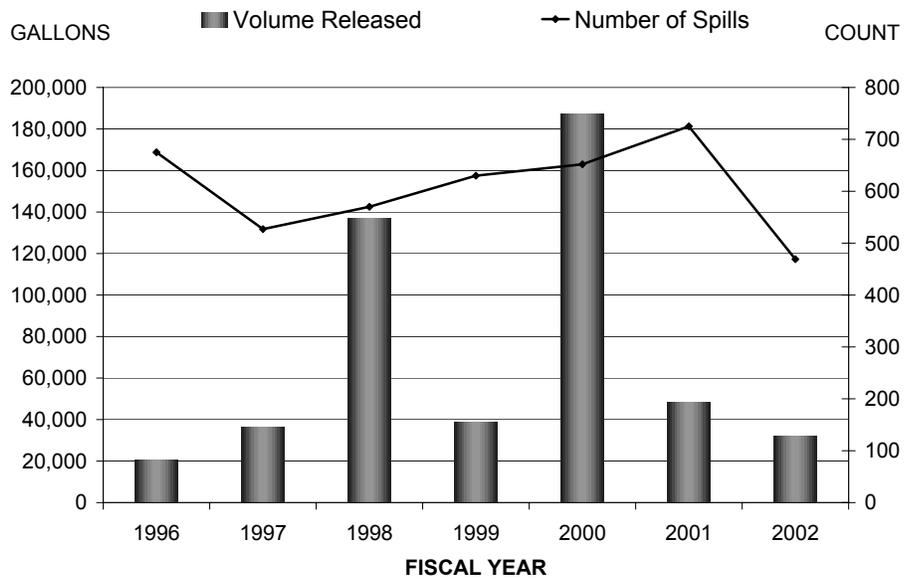
Discernible Trends:

- Transportation and Storage facilities accounted for 41 percent and 39 percent of the total spills, respectively, although spills from Transportation facilities accounted for 73 percent of the total volume released
- Structural/Mechanical causes (50 percent), followed by Human Factors causes (31 percent) were the two leading causes of spills for the Cook Inlet subarea.
- Noncrude oil spills (87 percent) constituted the majority of the type of product spilled in the subarea, and accounted for 79 percent of the total volume released during this reporting period.

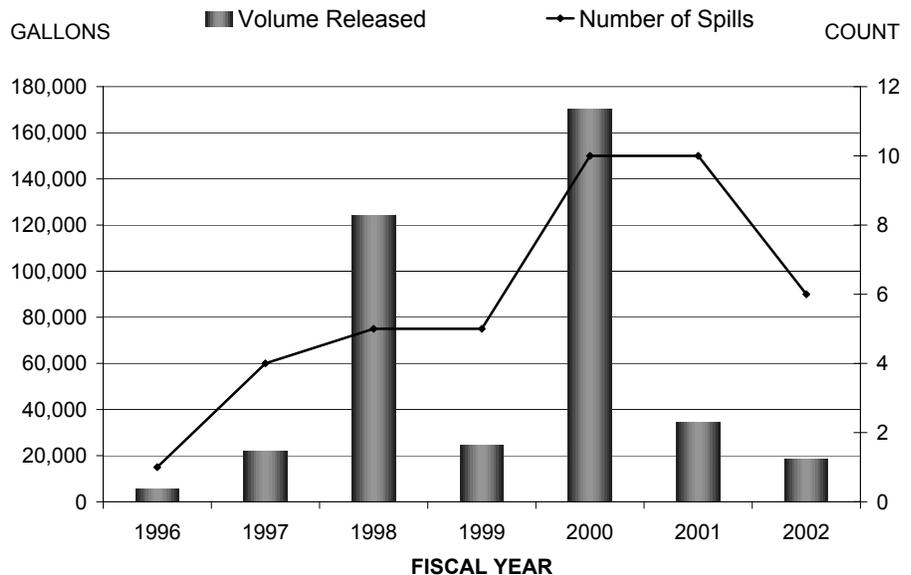
Spills Summary

Fiscal Year	All Spills		Spills >1,000 gallons	
	Number	Total Gallons	Number	Total Gallons
1996	675	20,544	1	5,700
1997	527	36,418	4	22,134
1998	570	136,814	5	124,100
1999	630	38,844	5	24,720
2000	652	187,332	10	170,278
2001	725	48,214	10	34,386
2002	466	32,193	6	18,560
Total	4,245	500,359	41	399,878
Average	606	71,480	6	57,125

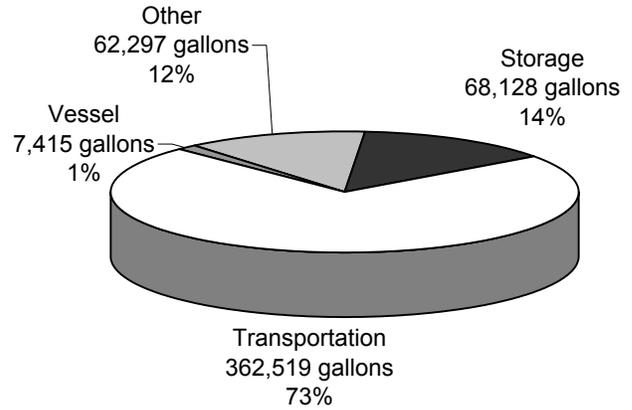
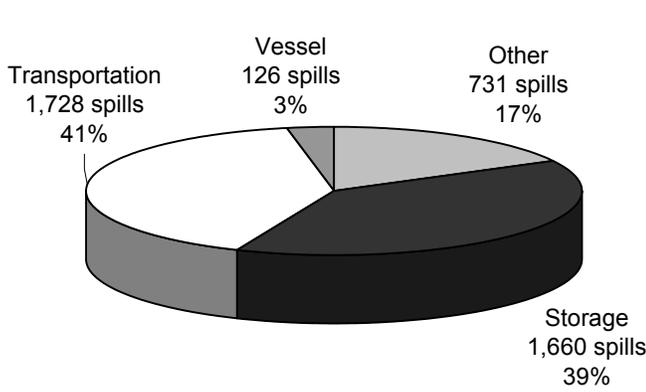
All Spills by Fiscal Year



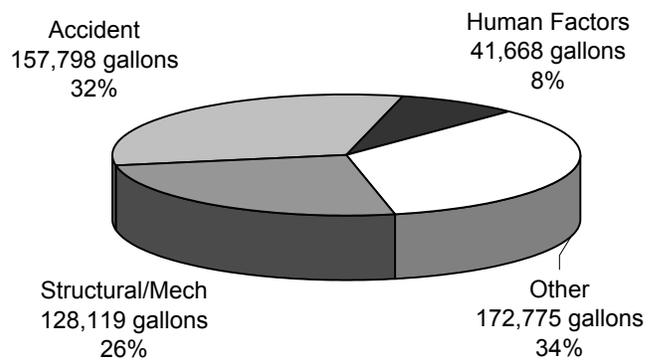
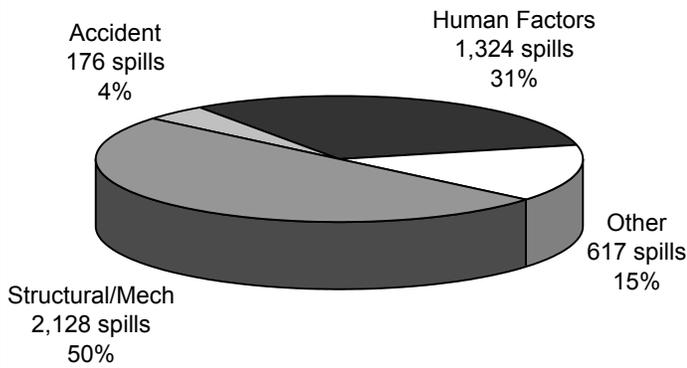
Spills >1,000 gallons



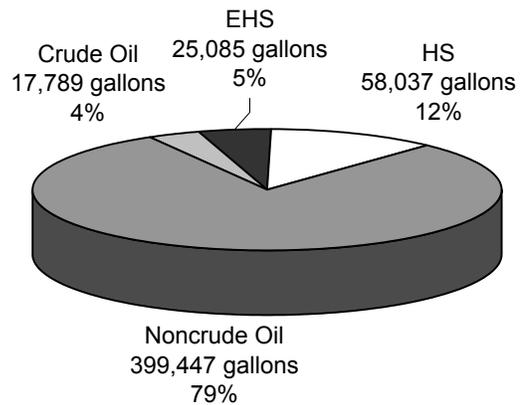
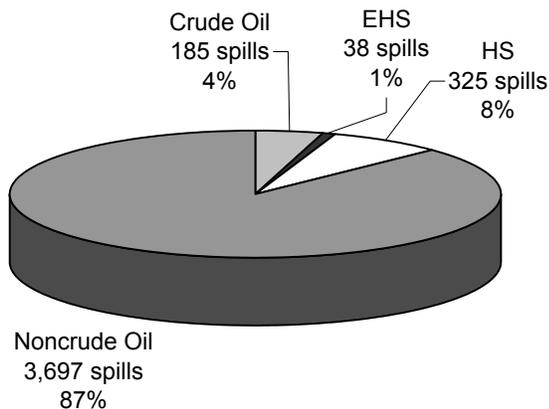
Cook Inlet Subarea Spills by Facility Type



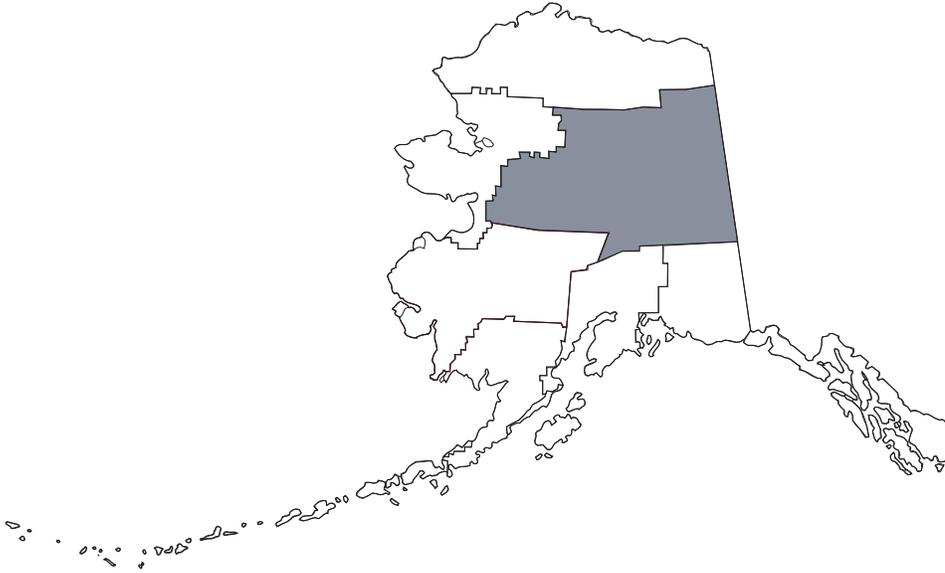
Cook Inlet Subarea Spills by Cause



Cook Inlet Subarea Spills by Product



D. Interior Alaska



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 Williams 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.

The region averages approximately 389 spills per year, with an average of 89,472 gallons released per year. Excluding the TAPS Milepost 400 release in FY02, the average volume released per year was 48,672 gallons. The subarea also averages six spills greater than 1,000 gallons per year.

Largest Spill in the Subarea: The largest spill in this subarea was the TAPS Milepost 400 bullet hole incident on October 4, 2001 with 285,600 gallons of crude oil released.

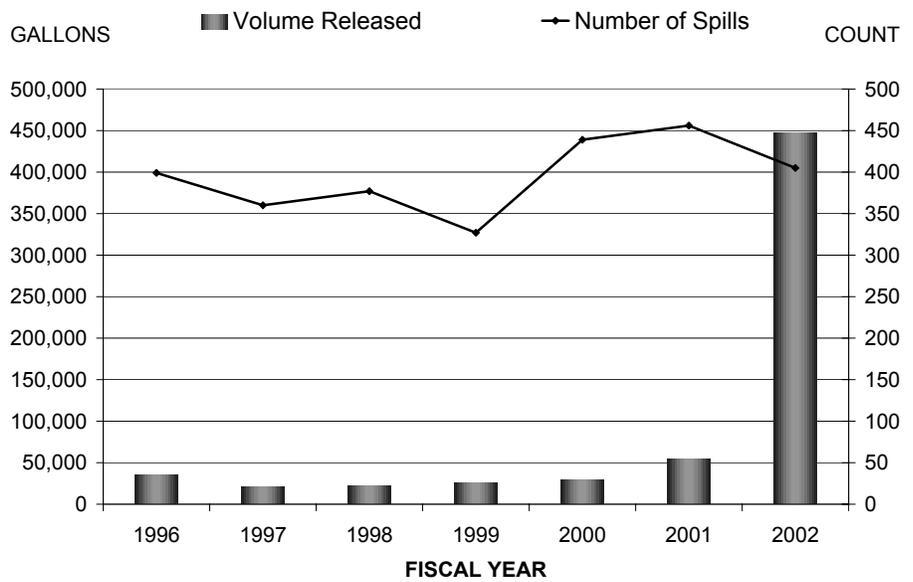
Discernible Trends:

- The number of spills in the Interior subarea remained fairly constant over the seven-year period.
- Transportation facilities accounted for nearly 57 percent of the total spills, and also accounted for 86 percent of the total volume released.
- Structural/Mechanical causes (63 percent) were the predominant cause, although Human Factors causes accounted for 55 percent of the total volume released.
- Noncrude oil spills (83 percent) constituted the majority of the type of product spilled in the subarea; however, crude oil (with the single TAPS Milepost 400 spill of 285,600 gallons) accounted for 47 percent of the total volume released during this reporting period.

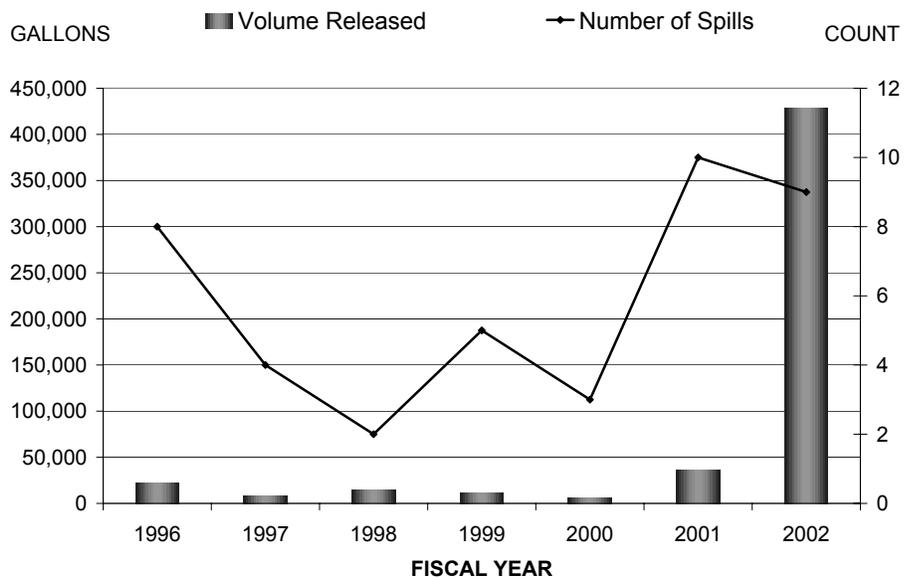
Spills Summary

Fiscal Year	All Spills		Spills >1,000 gallons	
	Number	Total Gallons	Number	Total Gallons
1996	399	34,806	8	21,740
1997	360	20,693	4	7,900
1998	377	22,342	2	14,950
1999	327	25,375	5	10,876
2000	438	28,791	3	6,400
2001	452	50,288	10	35,759
2002	373	444,006	9	428,237
Total	2,726	626,301	41	525,862
Average	389	89,472	6	75,123

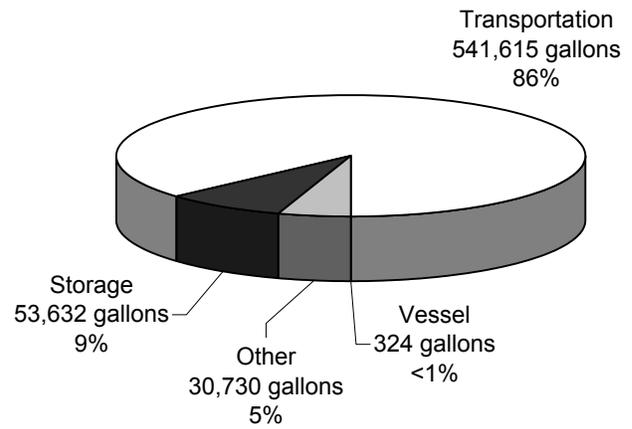
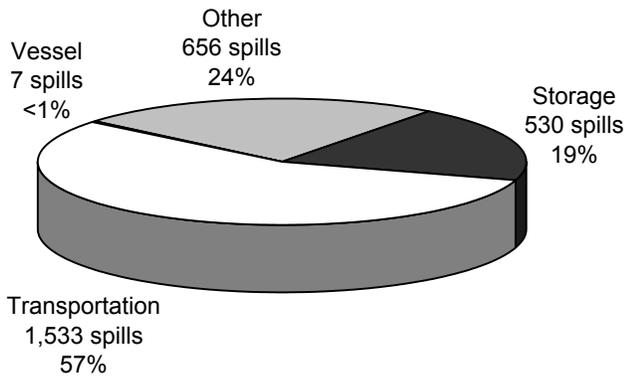
All Spills by Fiscal Year



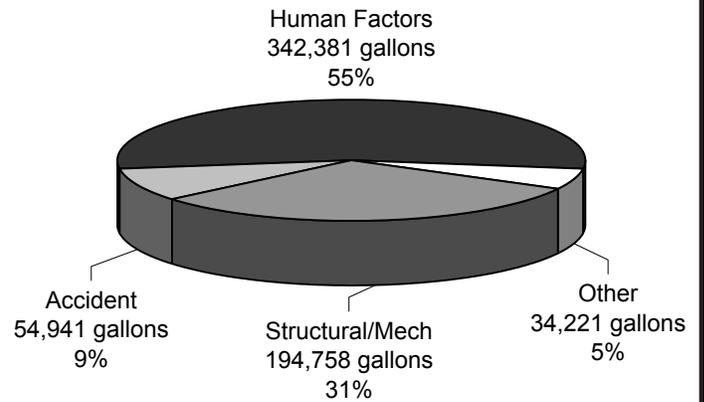
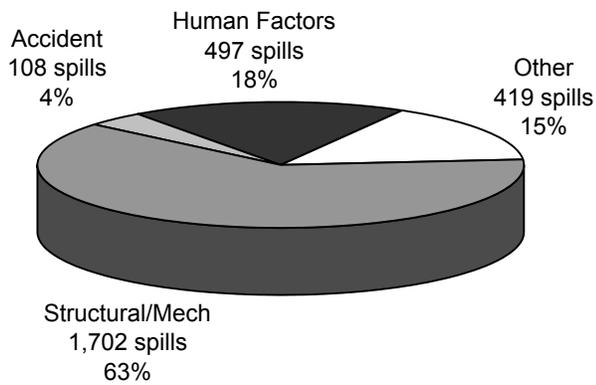
Spills >1,000 gallons



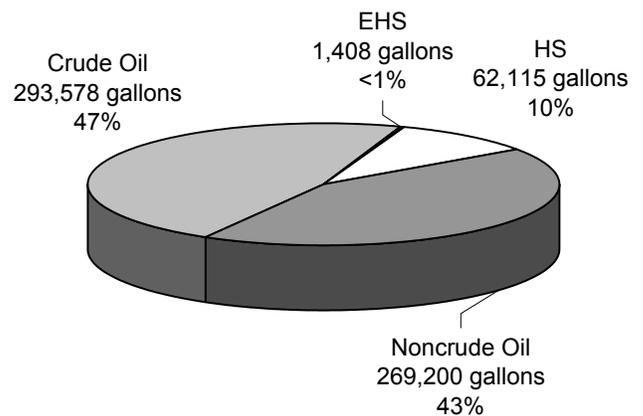
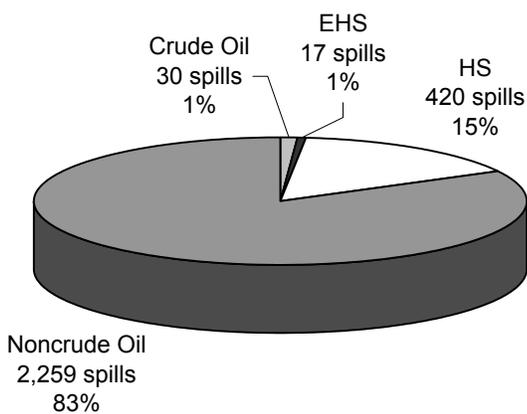
Interior Subarea Spills by Facility Type



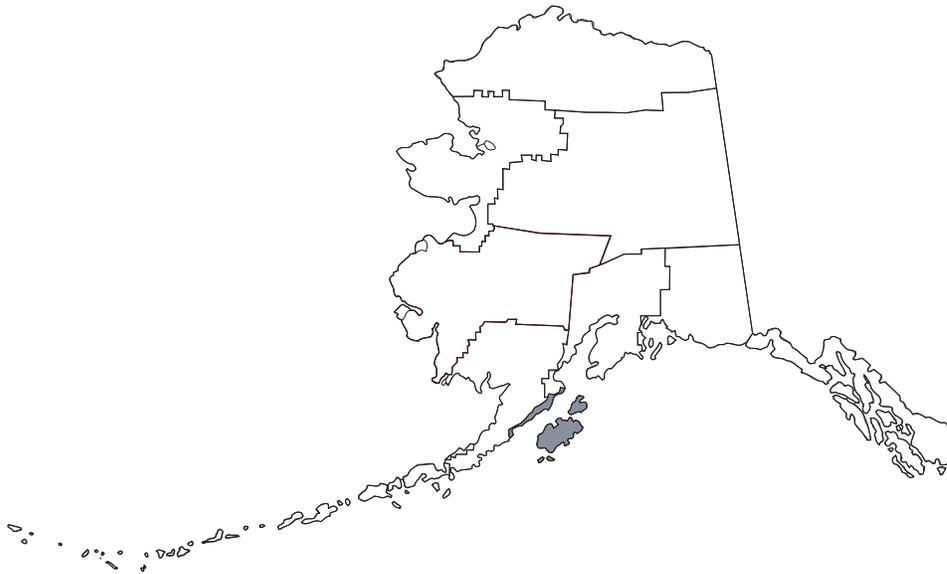
Interior Subarea Spills by Cause



Interior Subarea Spills by Product



E. Kodiak Island



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.

The region averages approximately 61 spills per year, with an average of 2,834 gallons released per year. Excluding the single spill of 7,000 gallons in FY00, the average volume released per year was 1,834 gallons. Spills greater than 1,000 gallons in size are also infrequent for the subarea.

Largest Spill in the Subarea: The largest spill in this subarea (pre-spills database era) was the USCG Air Station incident in April 1992 with 46,200 gallons of diesel released.

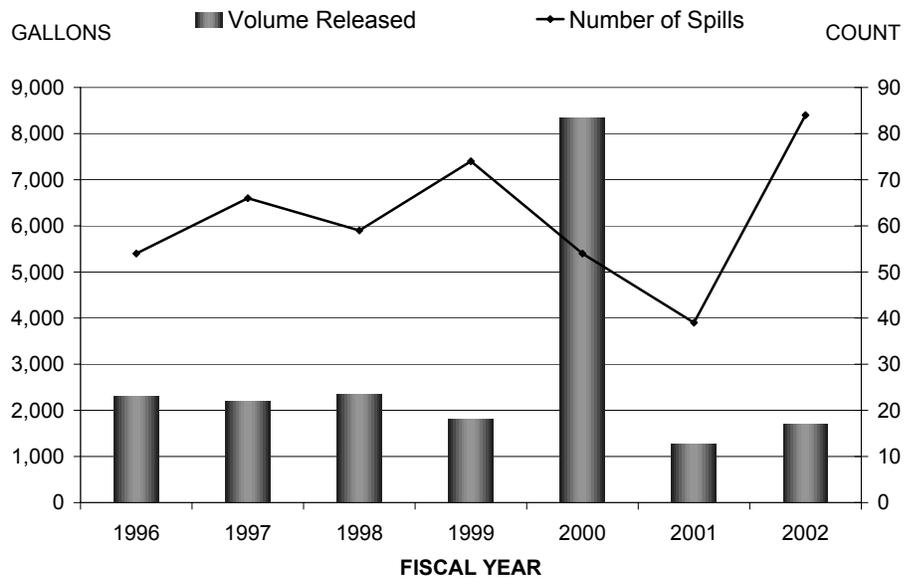
Discernible Trends:

- For Kodiak, the types of facilities responsible for spills was fairly evenly distributed with Storage at 27 percent, followed by Other facilities at 25 percent, and Transportation and Vessels each with 24 percent. Spills from Vessels, however, accounted for 65 percent of the total volume released.
- The causes of spills in the Kodiak subarea were led by Structural/Mechanical (41 percent), followed by Human Factors (36 percent), and Other causes (20 percent). In terms of total volume spilled, Human Factors accounted for 61 percent.
- Noncrude oil spills (94 percent) constituted the majority of the type of product spilled in the subarea, and also accounted for 99 percent of the total volume spilled in the subarea for this reporting period.

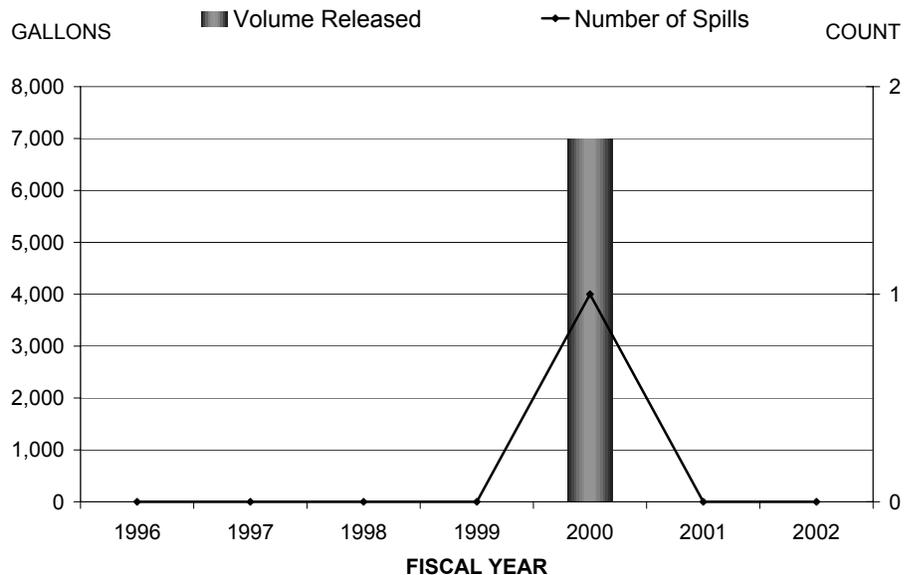
Spills Summary

Fiscal Year	All Spills		Spills >1,000 gallons	
	Number	Total Gallons	Number	Total Gallons
1996	54	2,295	0	0
1997	66	2,206	0	0
1998	59	2,340	0	0
1999	74	1,798	0	0
2000	54	8,349	1	7,000
2001	39	1,258	0	0
2002	82	1,594	0	0
Total	428	19,840	1	7,000
Average	61	2,834	<1	1,000

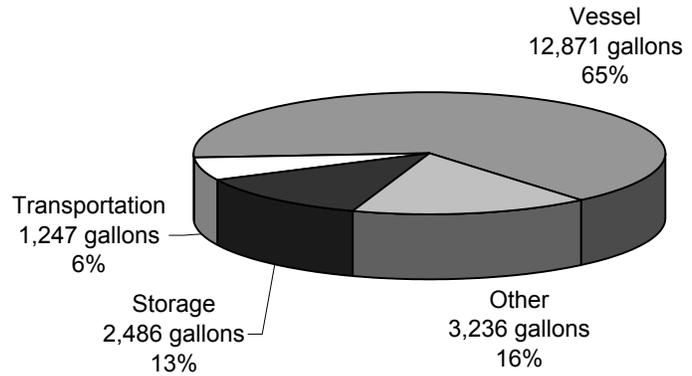
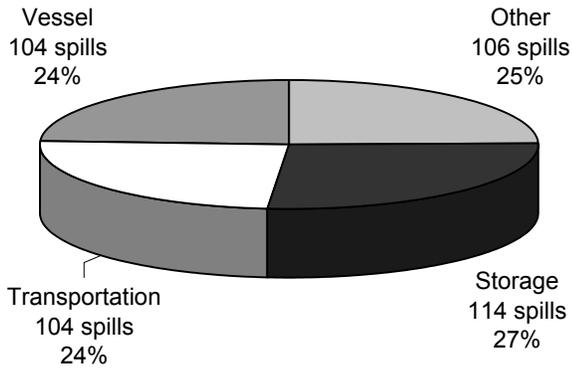
All Spills by Fiscal Year



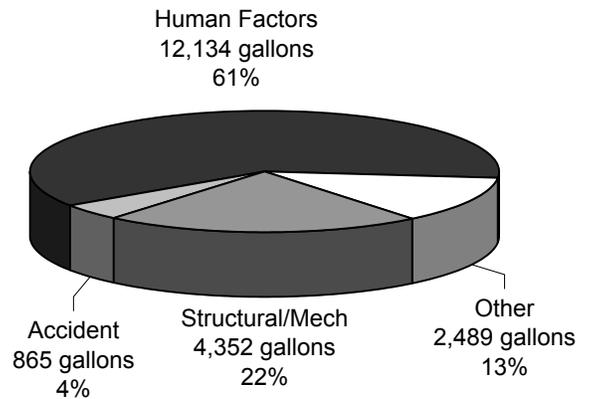
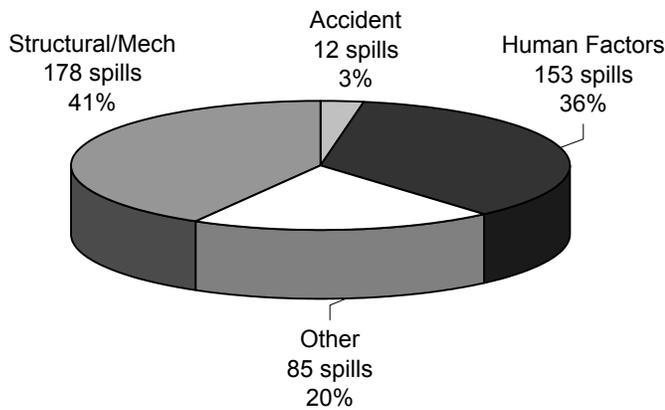
Spills >1,000 gallons



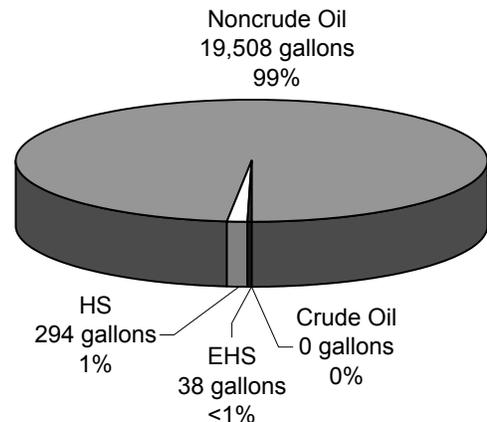
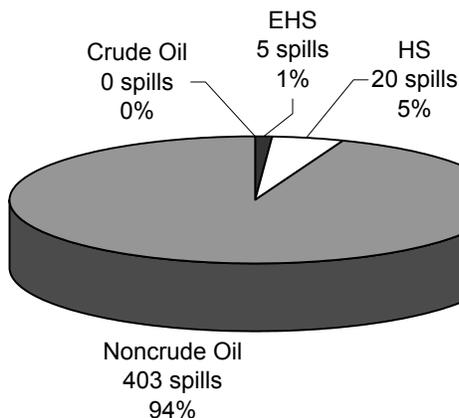
Kodiak Subarea Spills by Facility Type



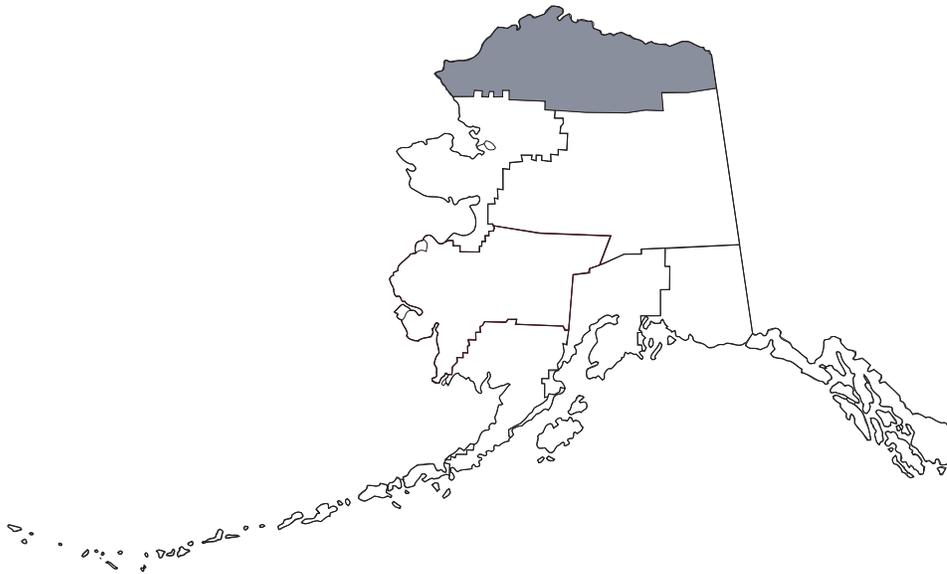
Kodiak Subarea Spills by Cause



Kodiak Subarea Spills by Product



F. North Slope



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.

The region averages 395 spills per year, with an average of 59,208 gallons released per year. An average of 8 spills greater than 1,000 gallons in size occur each year.

Largest Spill in the Subarea: The largest spill in this subarea was the Anaktuvuk Pass Power Plant incident on January 31, 1990 (pre-spills database era) with 100,000 gallons of diesel released.

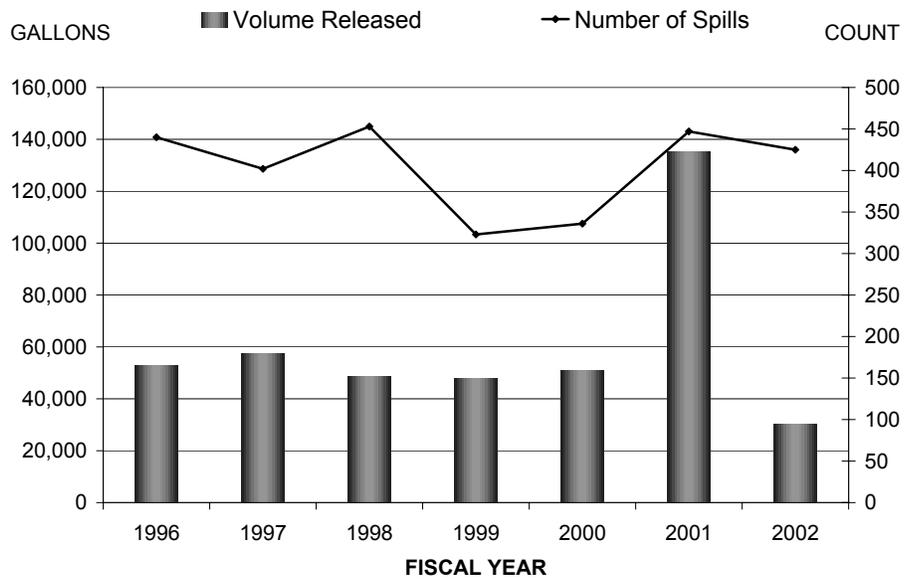
Discernible Trends:

- Transportation facilities were the source of the majority (83 percent) of the spills in the North Slope subarea, and also accounted for 75 percent of the total volume released during this reporting period.
- Structural/Mechanical causes were a primary factor in the majority of the spills (65 percent), and also accounted for 49 percent of the total volume released.
- Noncrude oil (54 percent) and hazardous substances (33 percent) were the notable substances spilled in the subarea. In terms of total volume, hazardous substances comprised 51 percent of the total volume spilled, while crude oil (27 percent) and noncrude oil (22 percent) accounted for most of the remaining volume released.

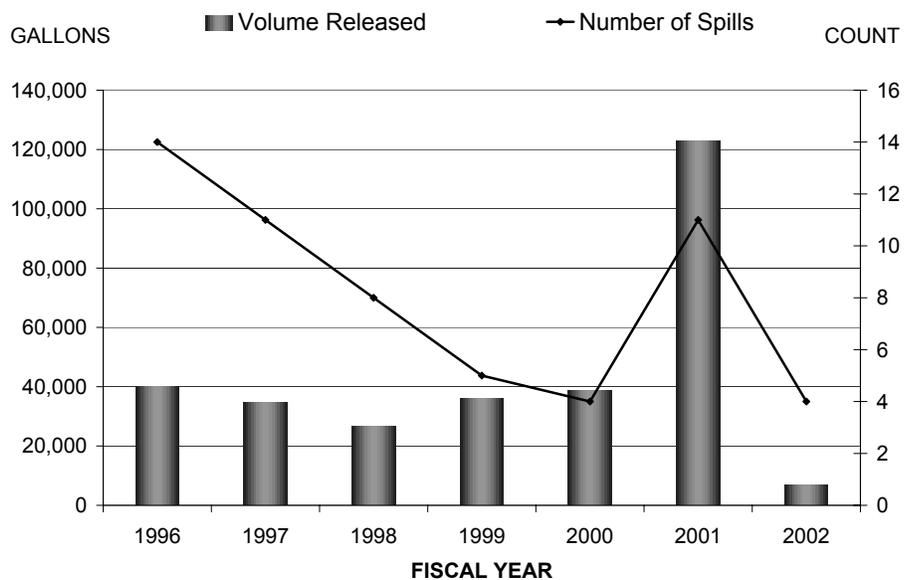
Spills Summary

Fiscal Year	All Spills		Spills >1,000 gallons	
	Number	Total Gallons	Number	Total Gallons
1996	440	52,846	14	39,976
1997	401	55,968	11	34,709
1998	452	48,428	8	26,745
1999	323	47,946	5	36,138
2000	332	50,771	4	38,700
2001	442	135,303	11	122,856
2002	374	23,196	4	6,974
Total	2,764	414,458	57	306,098
Average	395	59,208	8	43,728

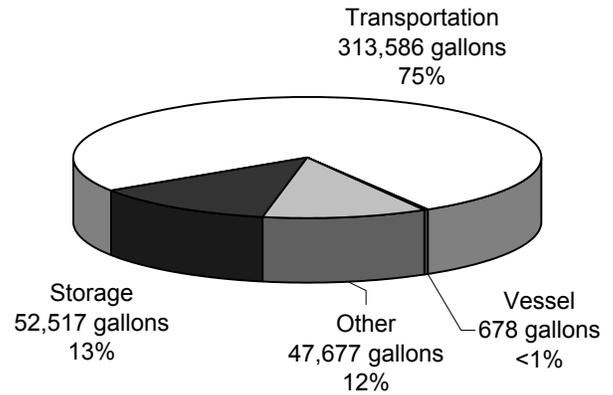
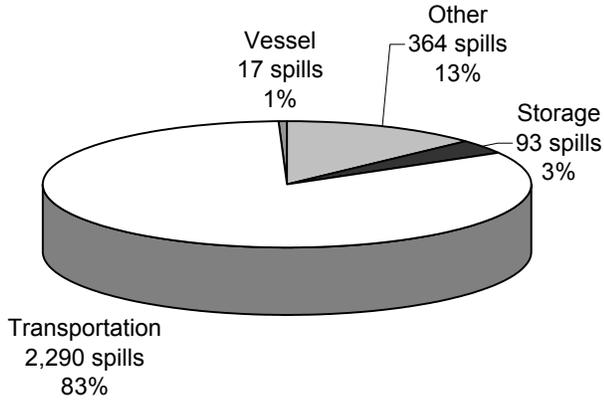
All Spills by Fiscal Year



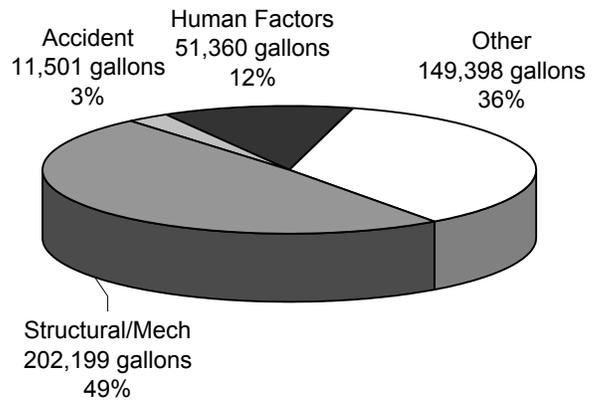
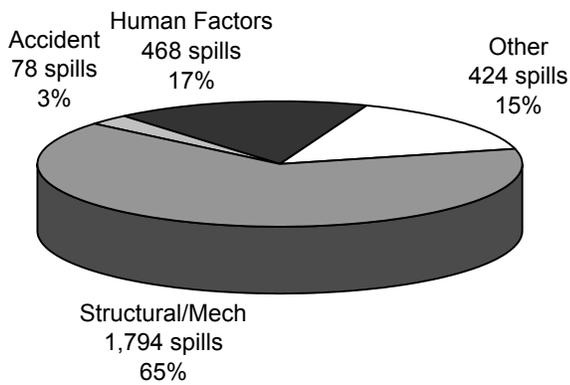
Spills >1,000 gallons



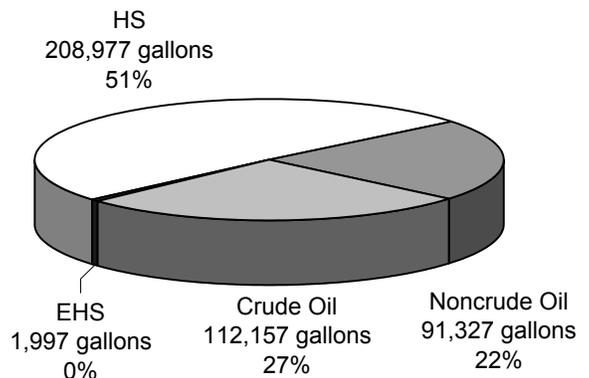
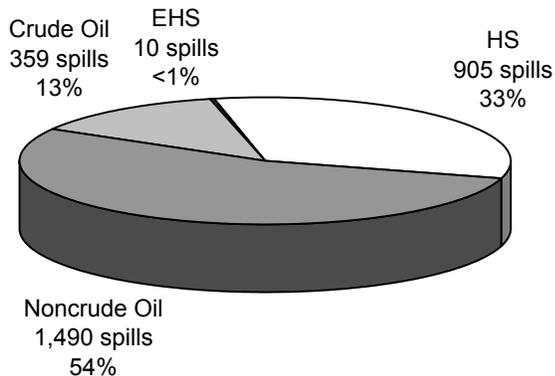
North Slope Subarea Spills by Facility Type



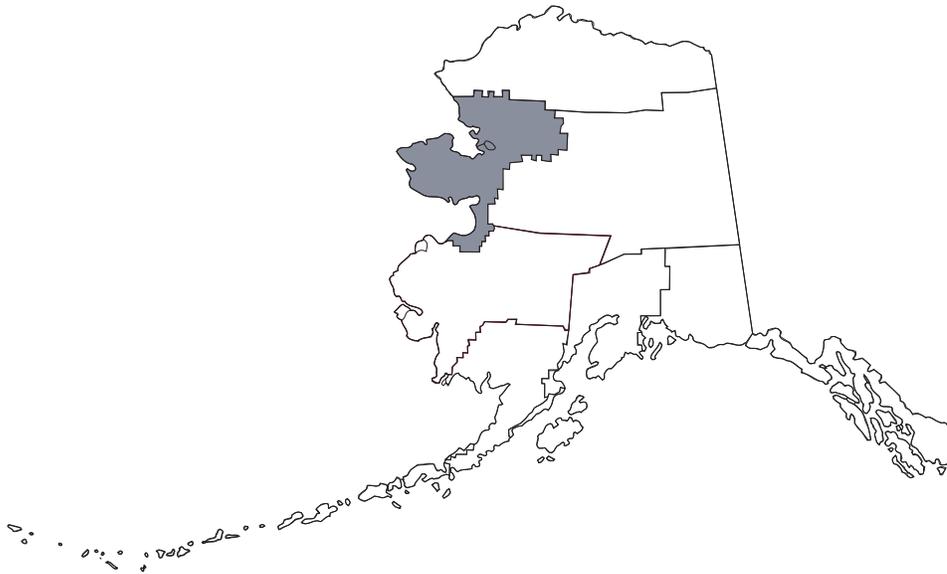
North Slope Subarea Spills by Cause



North Slope Subarea Spills by Product



G. Northwest Arctic



There are a total of 31 towns and villages in the subarea. Deliveries of noncrude oils 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.

The region averages 135 spills per year, with an average of 118,900 gallons released per year. An average of 5 spills greater than 1,000 gallons in size occur each year.

Largest Spill in the Subarea: The largest petroleum product spill in this subarea was a gasoline spill at an aviation tank farm in Unalakleet on March 24, 2000. A total of 84,360 gallons of gasoline was released. The largest hazardous substance spill occurred in May 1998 when 200,000 gallons of magnesium oxide was released at a mining facility.

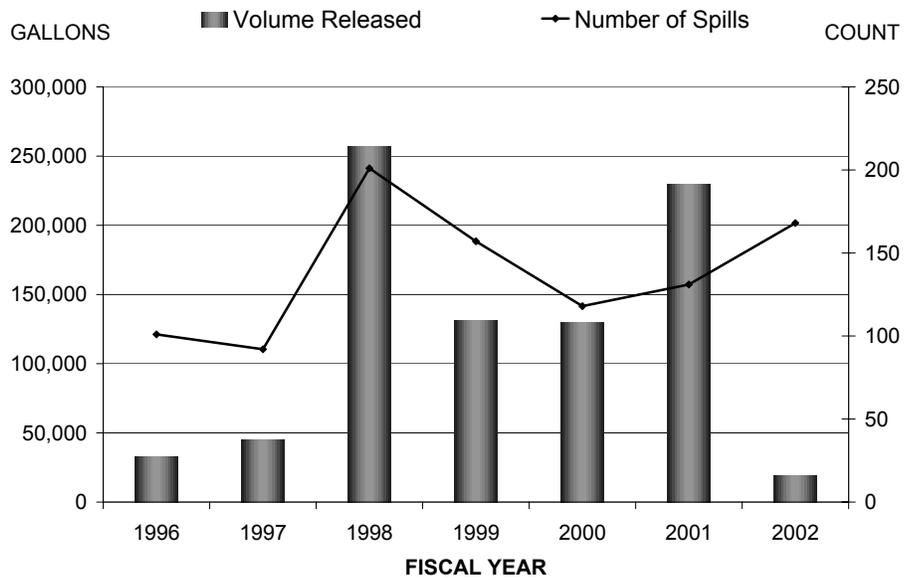
Discernible Trends:

- Storage (45 percent) and Transportation (43 percent) facilities were the primary sources for the majority of the spills in the Northwest Arctic. Storage facilities accounted for 67 percent of the total volume released during this reporting period.
- Structural/Mechanical causes were a primary factor in the majority of the spills (67 percent), while “Other” causes accounted for 52 percent of the total volume released.
- Noncrude oil (72 percent) was the primary product spilled in the majority of the spills. In terms of total volume, hazardous substances comprised 76 percent of the total volume spilled, followed by noncrude oil (24 percent).

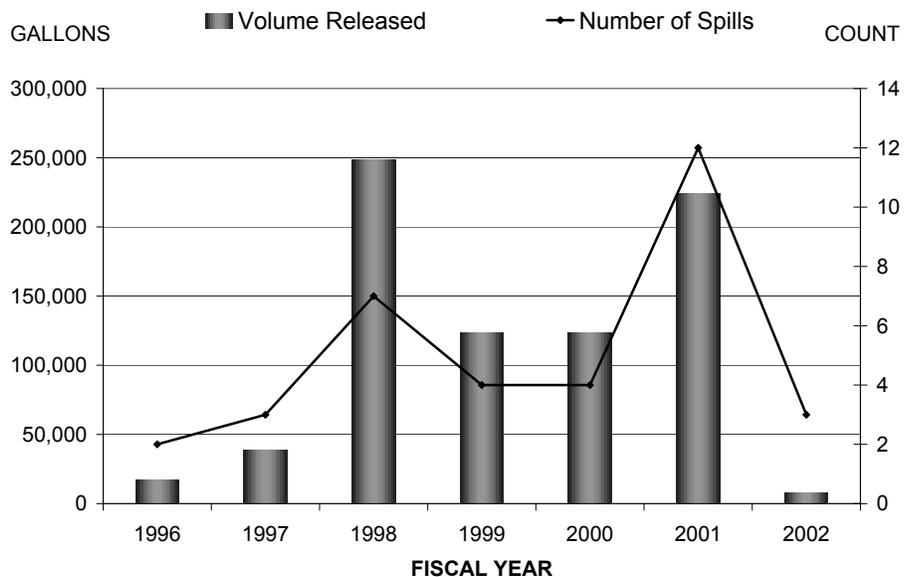
Spills Summary

Fiscal Year	All Spills		Spills >1,000 gallons	
	Number	Total Gallons	Number	Total Gallons
1996	100	25,664	2	17,000
1997	91	45,137	3	39,000
1998	201	256,823	7	248,500
1999	157	131,496	4	123,118
2000	116	129,218	4	123,360
2001	130	229,812	12	223,829
2002	148	14,152	3	7,800
Total	943	832,302	35	782,607
Average	135	118,900	5	111,801

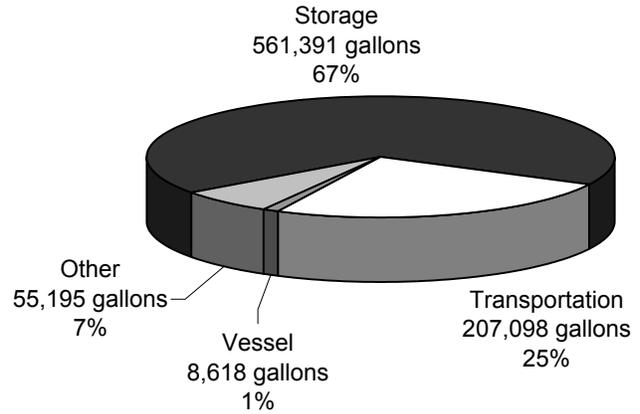
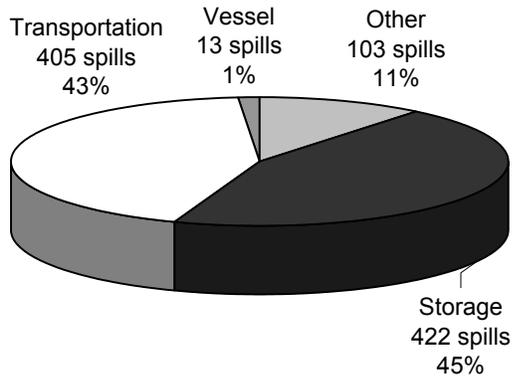
All Spills by Fiscal Year



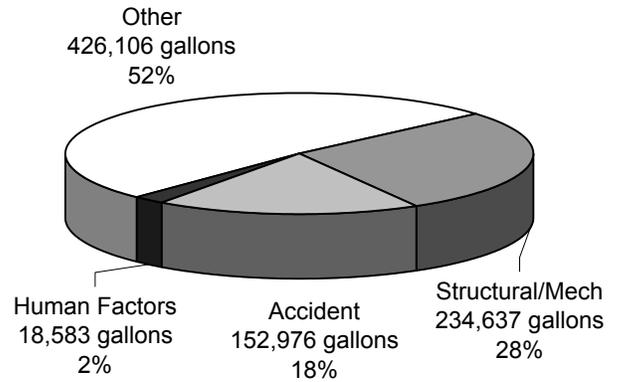
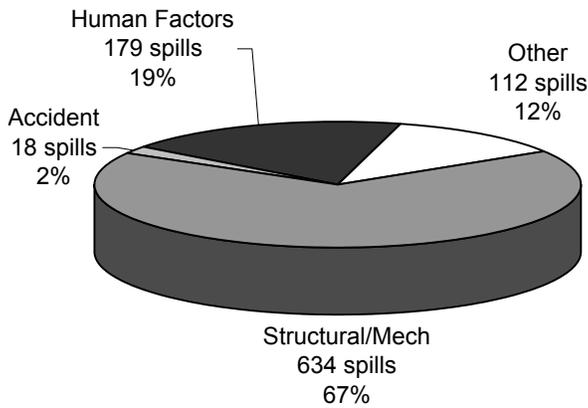
Spills >1,000 gallons



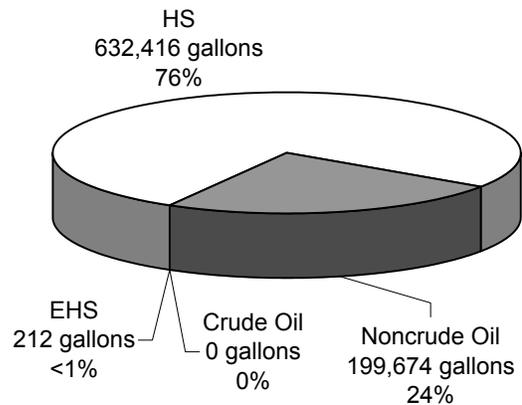
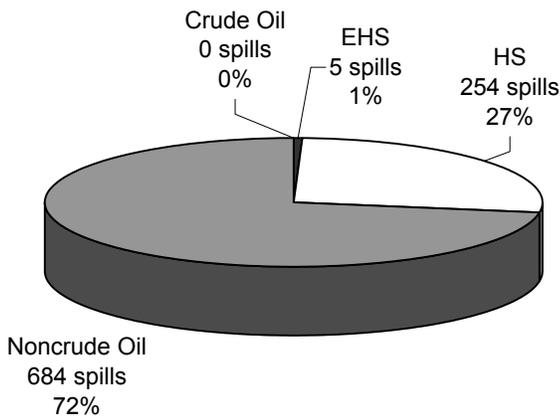
Northwest Arctic Subarea Spills by Facility Type



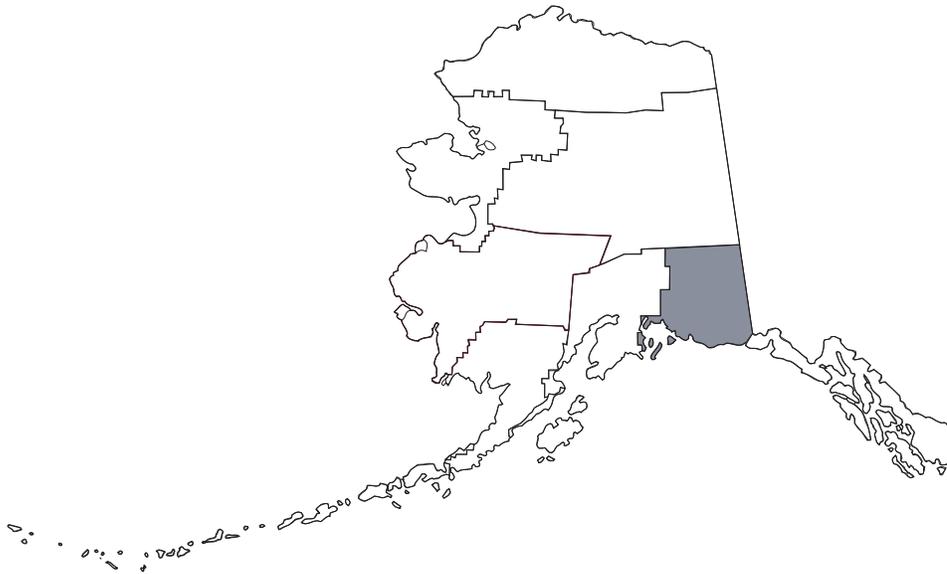
Northwest Arctic Subarea Spills by Cause



Northwest Arctic Subarea Spills by Product



H. Prince William Sound



The region averages 95 spills per year, with an average of 20,720 gallons released per year. An average of 2 spills greater than 1,000 gallons in size occur each year.

Largest Spill in the Subarea: The largest spill in this subarea (pre-spills database era) was the T/V ExxonValdez oil spill on March 24, 1989 with 10,800,000 gallons of North Slope crude oil released.

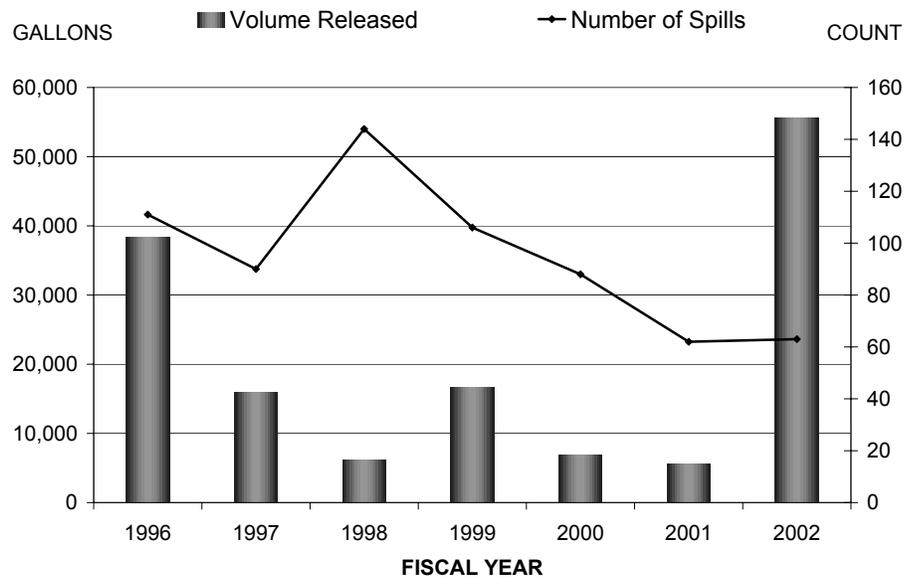
Discernible Trends:

- Since 1998, the number of spills in the Prince William Sound subarea has been declining with an average of approximately 62 spills during 2001 and 2002.
- Transportation, Storage, and Vessels were the primary types of facilities contributing to the majority of the spills in the subarea with each facility type accounting for 28 percent of the spills. In terms of total volume released, the same statistics were nearly true for the total volume released (Transportation - 31 percent; Storage – 30 percent; and Vessels – 29 percent).
- Structural/Mechanical causes were a primary factor in the majority of the spills (54 percent). Structural/Mechanical causes also accounted for 49 percent of the total volume released, followed by Human Factors (44 percent).
- Noncrude oil (76 percent) was the primary product spilled in the majority of the spills in the subarea. In terms of total volume, noncrude oil comprised 66 percent of the total volume spilled, followed by crude oil (27 percent).

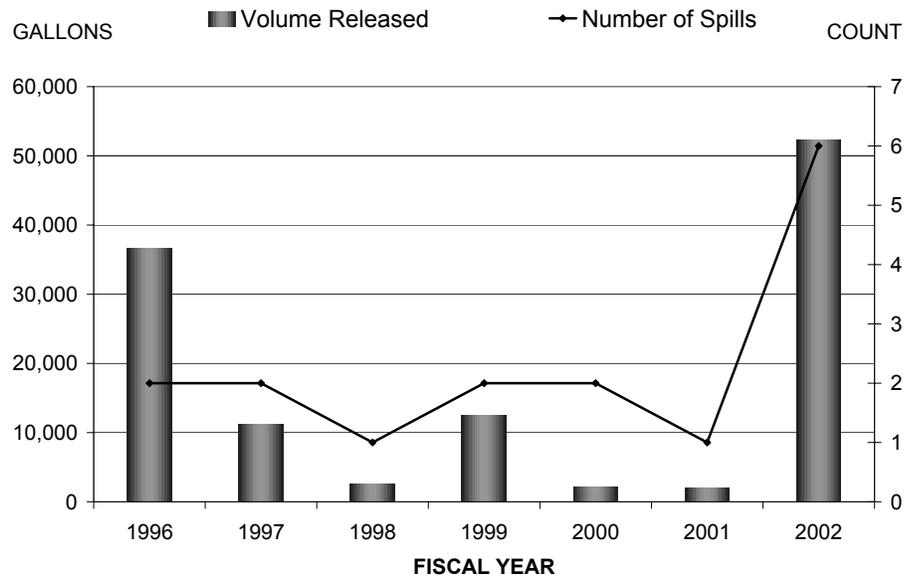
Spills Summary

Fiscal Year	All Spills		Spills >1,000 gallons	
	Number	Total Gallons	Number	Total Gallons
1996	111	38,400	2	36,653
1997	90	15,891	2	11,200
1998	144	6,153	1	2,604
1999	106	16,638	2	12,445
2000	87	6,834	2	2,200
2001	62	5,531	1	2,000
2002	62	55,590	6	52,275
Total	662	145,037	16	119,377
Average	95	20,720	2	17,054

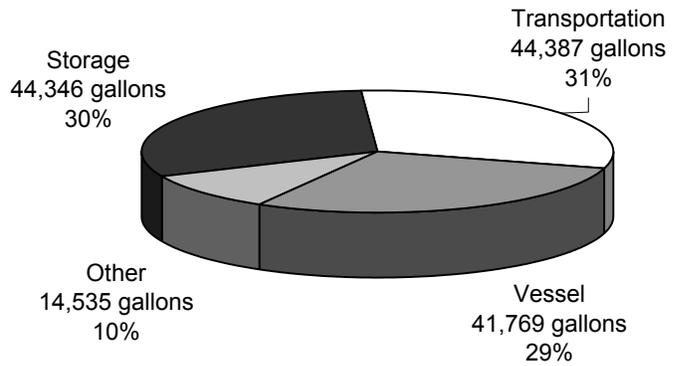
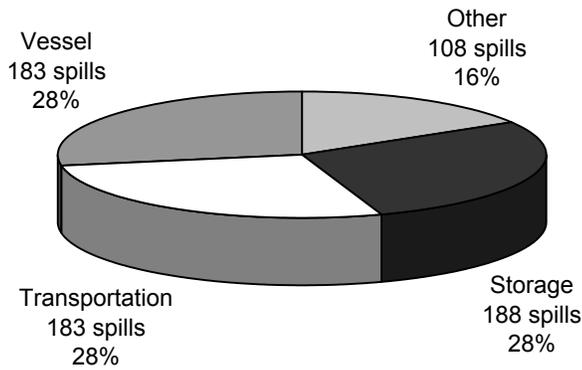
All Spills by Fiscal Year



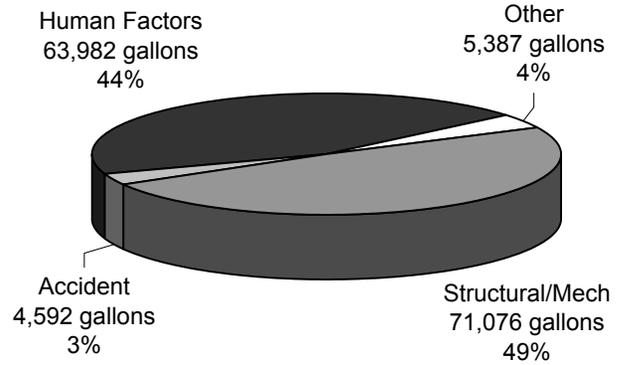
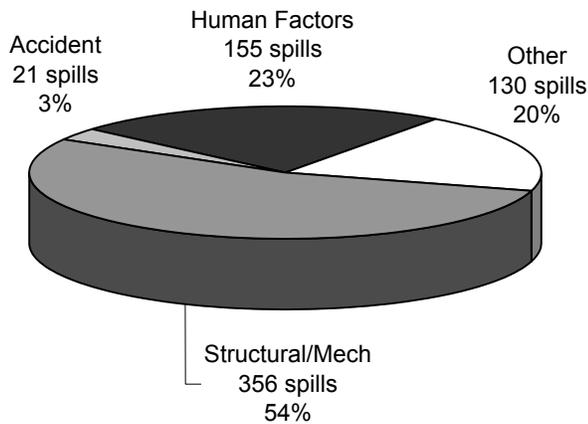
Spills >1,000 gallons



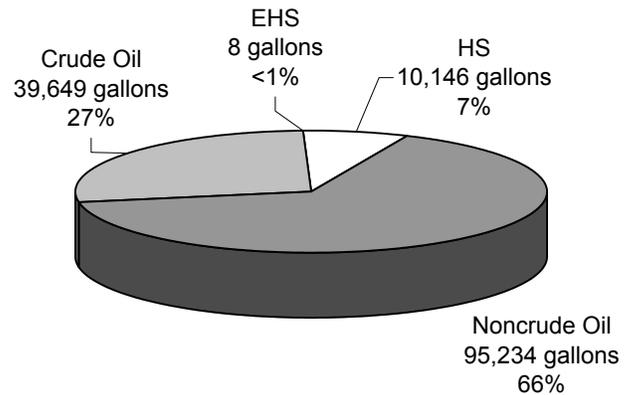
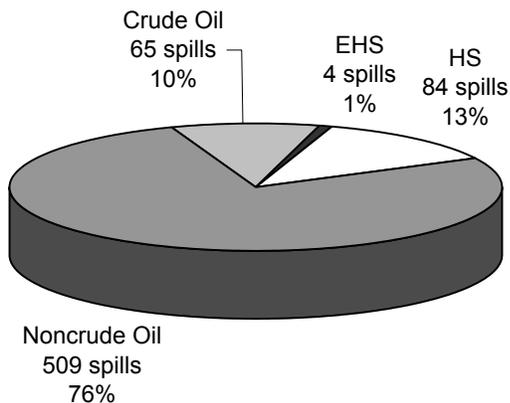
Prince William Sound Subarea Spills by Facility Type



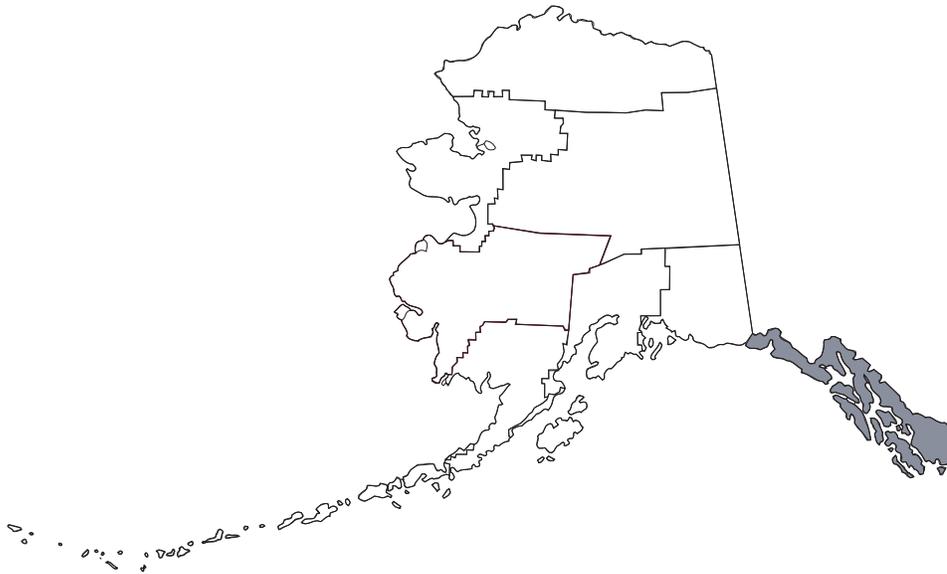
Prince William Sound Subarea Spills by Cause



Prince William Sound Subarea Spills by Product



I. Southeast Alaska



The region averages 377 spills per year, with an average volume of 21,921 gallons released per year. An average of 2 spills greater than 1,000 gallons in size occur each year.

Largest Spill in the Subarea: The largest spill in this subarea (pre-spills database era) was the M/V LeeWang Zin oil spill on December 25, 1979. The vessel capsized in the Dixon Entrance and 200,000 gallons of #6 bunker fuel was released.

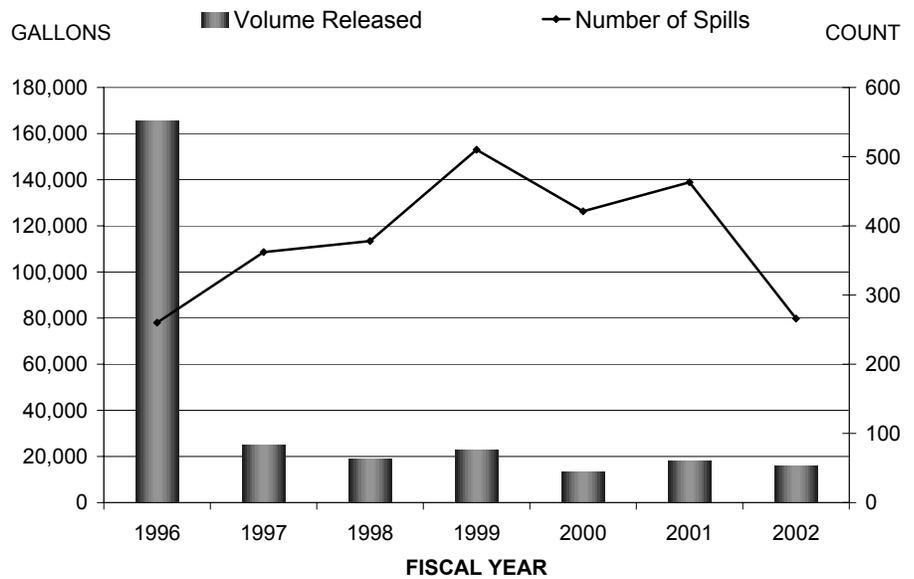
Discernible Trends:

- Other facilities (38 percent), Vessels (25 percent), Storage (20 percent), and Transportation (17 percent) constituted the primary facility types for spills in the subarea. In terms of total volume released, Storage facilities (38 percent) were by far the major contributors to the total volume released.
- For primary causes of spills in the subarea, Other causes (38 percent), followed by Structural/Mechanical causes (31 percent), and Human Factors (27 percent) were responsible for most of the spills. However, Structural/Mechanical and Human Factors causes resulted in 71 percent of the total volume released.
- Noncrude oil (90 percent) was the primary product spilled in the majority of the spills. In terms of total volume, noncrude oil comprised 90 percent of the total volume spilled.

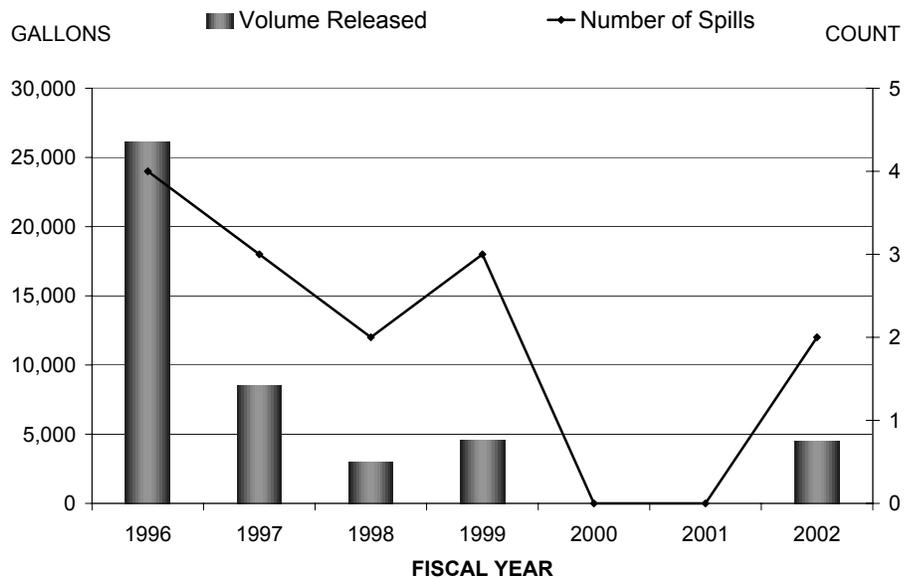
Spills Summary

Fiscal Year	All Spills		Spills >1,000 gallons	
	Number	Total Gallons	Number	Total Gallons
1996	259	40,294	4	26,110
1997	362	25,117	3	8,500
1998	378	18,896	2	3,000
1999	510	22,616	3	4,600
2000	421	13,158	0	0
2001	463	17,833	0	0
2002	249	15,534	2	4,500
Total	2,642	153,448	14	46,710
Average	377	21,921	2	6,673

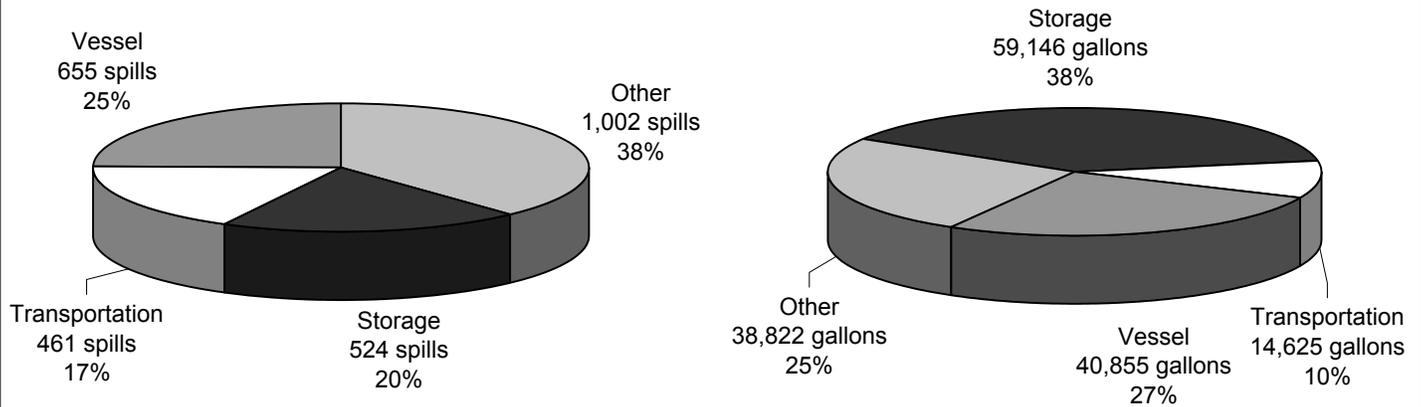
All Spills by Fiscal Year



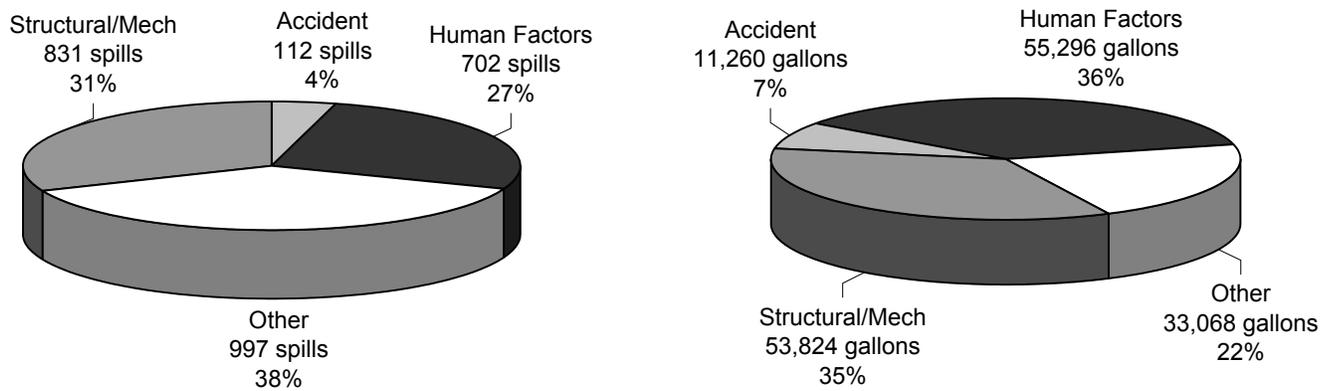
Spills >1,000 gallons



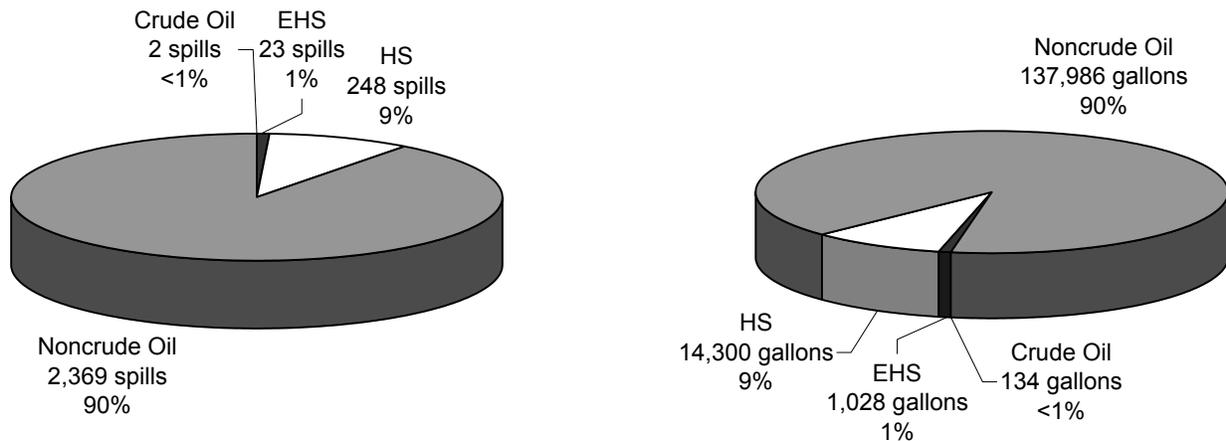
Southeast Alaska Subarea Spills by Facility Type



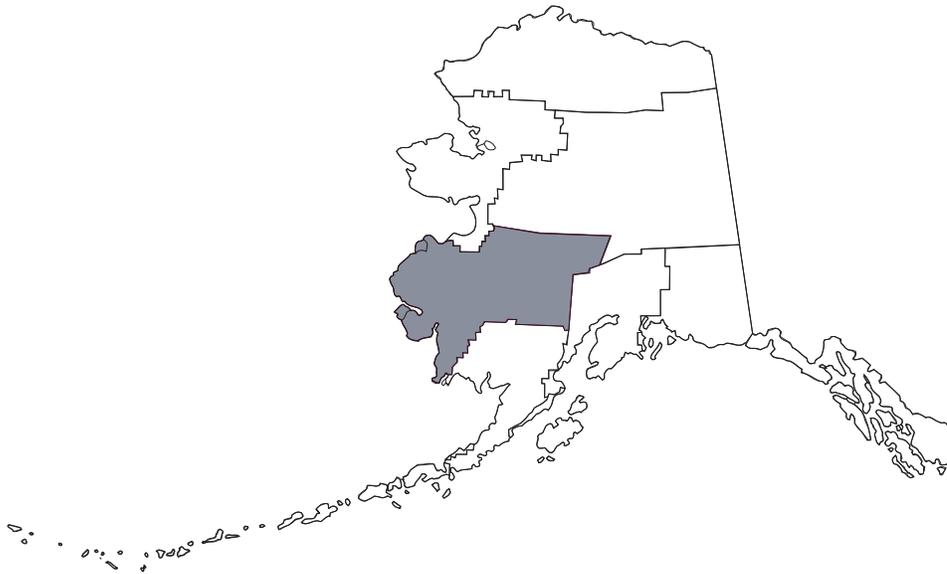
Southeast Alaska Subarea Spills by Cause



Southeast Alaska Subarea Spills by Product



J. Western Alaska



The region averages 79 spills per year, with an average volume of 10,176 gallons released per year. An average of 2 spills greater than 1,000 gallons in size occur each year.

Largest Spill in the Subarea: The largest spill in this subarea (pre-spills database era) was the BIA Tank Farm spill in Bethel on April 16, 1993 with 132,000 gallons of diesel released.

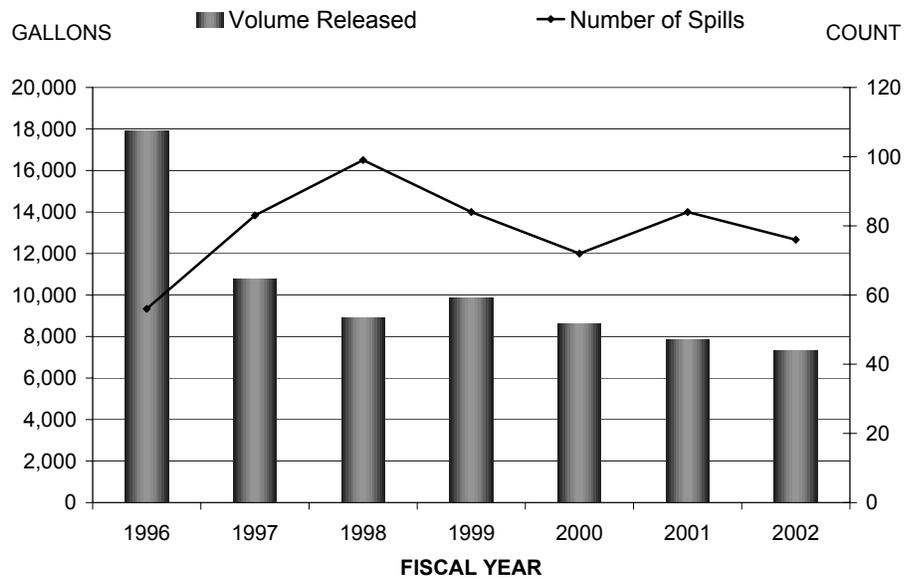
Discernible Trends:

- Storage (49 percent) constituted the primary facility type for the majority of the spills in the subarea, and also accounted for 76 percent of the total volume released.
- Human Factors (42 percent) and Structural/Mechanical causes (40 percent) were primary factors in the majority of the spills. Human Factors causes also led the way with 55 percent of the total volume released.
- Noncrude oil (99 percent) was the overwhelming product spilled in the subarea. In terms of total volume, nearly 100 percent of the total volume released was noncrude oil.

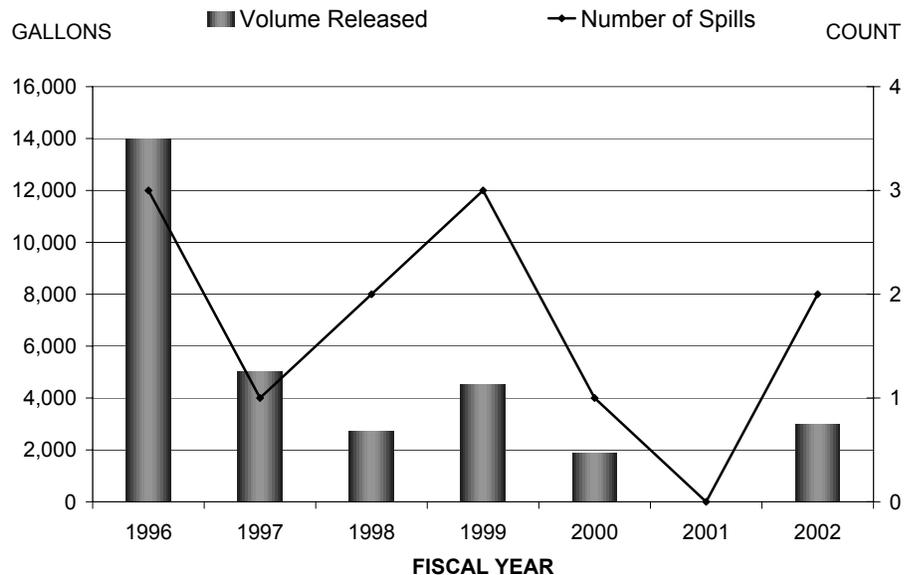
Spills Summary

Fiscal Year	All Spills		Spills >1,000 gallons	
	Number	Total Gallons	Number	Total Gallons
1996	56	17,919	3	14,000
1997	83	10,780	1	5,000
1998	99	8,891	2	2,700
1999	84	9,860	3	4,500
2000	72	8,604	1	1,886
2001	84	7,873	0	0
2002	74	7,306	2	3,000
Total	552	71,233	12	31,086
Average	79	10,176	2	4,441

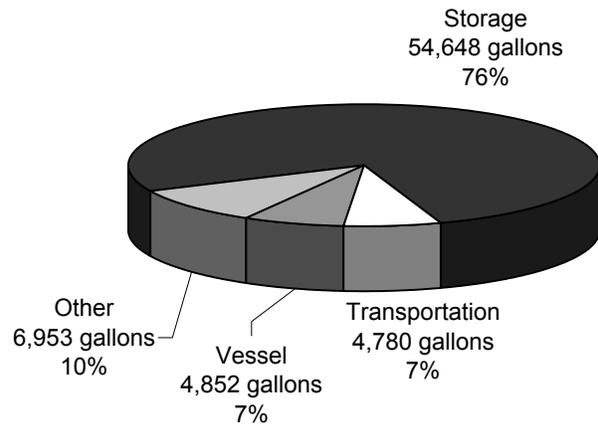
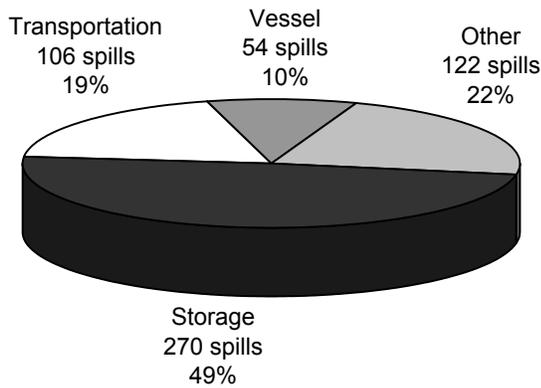
All Spills by Fiscal Year



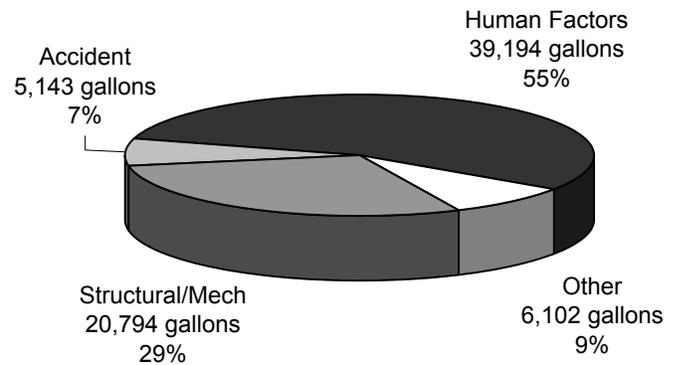
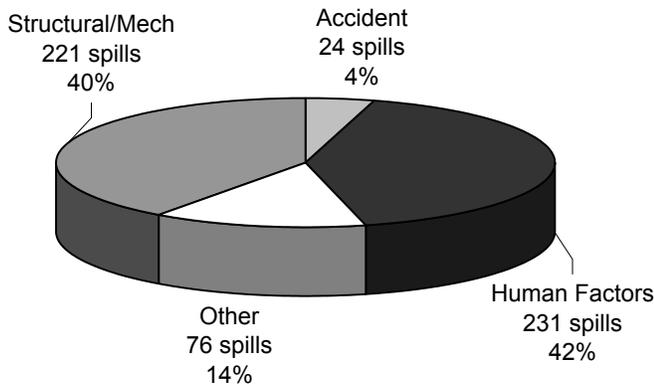
Spills >1,000 gallons



Western Alaska Subarea Spills by Facility Type



Western Alaska Subarea Spills by Cause



Western Alaska Subarea Spills by Product

